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MONTHLY SUMMARY AND REVIEW

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OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE YEARS 1881 AND 1882.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF JANUARY, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
FEBRUARY, 1882.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JANUARY, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for January, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
Algerian Series.	° ′	° ′																								
Mogador ‡	N. 31 30	W. 9 44	11.29 a.m.	56	17			30.03	762.8	65.8	18.8	76.6			1	18	2	2	2	4	2			5	0.73	18.5
Nemours	N. 35 06	W. 1 51	12.01 p.m.	20	6			29.96	761.0	64.4	18.0	75.0	5		8		6		9	3				2	0.94	23.9
Algiers ‡	N. 36 47	E. 3 04	0.20 p.m.	99	325			29.95	760.6	61.3	16.3	64.0	2	1	12	7	2	3	1	2	1			6	5.58	141.8
La Calle ‡	N. 36 54	E. 8 25	0.42 p.m.	36	11			29.98	761.4	64.0	17.8	67.2		5	15	6	2	1	2					6	0	0
Tunis ‡	N. 36 47	E. 10 11	0.49 p.m.	46	14			29.94	760.5																	
Sfax ‡	N. 34 45	E. 10 36	0.50 p.m.	?	?			30.06	763.5																	
Saida ‡	N. 34 51	E. 0 10	0.09 p.m.	2844	867			30.03	762.8	60.3	15.7	61.3	1		10	4	4	3	6	3				2	0	0
Tebessa ‡	N. 35 24	E. 8 06	0.40 p.m.	2890	881			30.03	762.7	57.6	14.2	38.6		4	17	2	5				3			5	0	0
Gerlville ‡	N. 33 45	E. 1 10	0.13 p.m.	4285	1306																					
Laghouat ‡	N. 33 48	E. 2 51	0.19 p.m.	2556	770			30.12	765.1	64.2	17.9	51.5		3	4	8	7	3	5	1				2	0	0
Biskra ‡	N. 34 51	E. 5 40	0.31 p.m.	410	125			30.08	764.0	64.0	17.8	65.6	1	19	1				9	1				5	0	0
Australian Series.																										
Melbourne	S. 37 49	E. 144 58	9.47 p.m.	91	28	29.85	758.2	29.94	760.5	64.0	17.8	70.4		1	4		7	10	8	1				5	0.74	18.8
Sub-Series.																										
Hobart Town	S. 42 52	E. 147 22	9.58 p.m.	105	32			29.99	761.7	73.2	22.9		1	7	2	6	2	11	1	1				5	0.52	13.2
Austro-Hungarian Series.																										
Agram	N. 45 47	E. 15 53	1.12 p.m.	512	156	29.43	747.4	29.99	761.8	28.6	--1.9	85.2	3	4	1	2	2	2		6	11			8	3.72	94.6
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.17	741.0	29.98	761.5	22.5	—5.3	88.5	1	5	16	6			1	2				6	0.30	7.6
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.03	737.3	29.95	760.6	23.9	—4.5	75.0	4	4			4	1			18			7	0.53	13.4
Gratz ‡	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.68	728.5	30.00	762.0	27.5	—2.5	73.5	2	1	3	3	16	4	1	1				4	0.19	4.9
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1355	412	28.47	723.2	29.99	761.7	25.3	—3.7	89.5		7	8	1	7	6	2					6	2.23	56.6
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1260	384	28.52	724.5	29.97	761.3	23.5	—4.7	88.4	1	1	4	1		6		2	16			5	0.38	9.6
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.88	733.5	29.92	759.9	24.1	- 4.4	77.7		15		4	3	6		3				7	0.34	8.7
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.76	755.9	29.87	758.8	41.7	5.4	74.7	3	3	1		1	3	10	10				8	5.30	134.7
Szathmar	N. 47 49	E. 22 51	1.39 p.m.	430	131	29.52	749.7	29.97	761.3	28.2	—2.1	85.9	2	1	2	5	6	7	5	2	1			7	2.34	59.5
Szegedin *b*	N. 46 15	E. 20 07	1.28 p.m.	256	78	29.65	753.0	29.95	760.7	28.6	—1.9	83.1	2	4	1	1	4	1	2		10			6	1.34	34.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.83	757.7	29.93	760.1	39.6	3.9	72.9	13			1			2		15			7	3.12	79.2
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.24	742.8	29.99	761.7	25.9	—3.4	76.4	4	2	10			10			5			6	0.86	21.9
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.68	753.9	29.89	759 2	30.0	—1.1	89.8		3	2	8	6		4	3	5			6	1.52	38.6
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6																					
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.77	756.1	29.89	759.3	30.9	—0.6	85.8	4	1	5	7	2		8	4				7	1.02	25.9
British Series.																										
Aberdeen	N. 57 10	W. 20 6	0.00 m.	86	26	29.82	757.4	29.92	760.0	31.1	—0.5	79.3	2	7	12	2	6	1	1					7	1.84	46.7
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63	29.68	753.9	29.93	760.2	32.8	0.4	86.5	2			13	3	4	3	6				7c		
Bidston	N. 53 24	W. 3 04	11.58 a.m.	180	85			29.91	759.7	33.1	0.6	84.1	1		3	7		9	5	6				6		
Bolton	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.39	746.5	29.95	760.7	31.6	—0.2	93.0	6	2	1	4	4	6	4	4				6		
Bradford *c*	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.49	749.0	29.89	759.2	32.1	0.1	81.9		3	1	4	1	10	2	5				7	0.22	5.6
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.00	762.0	30.03	762.7	80.3	26.8	71.7								31				4		
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33			29.88	758.9	32.5	0.3	87.4	4	7	7	1	4		4	4				6		
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.77	756.1	29.91	759.7	33.9	1.1	85.9		4	1	3	1		2	7	5			4		
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.63	752.6	29.86	758.4	38.9	3.8	79.5	4	1	2	1	4	4	6	9				8		
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.59	700.8	29.80	756.9	78.0a	25.6	83.9		3				4	2	22				4		
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.64	752.8	29.87	758.7	85.1	29.5	80.8		5	1	10	2	7		2	4			4		
Galway	N. 53 15	W. 9 03	11.32 a.m.	25	8			29.83	757.7	35.3	1.8	86.9	12		1	4	4	3	3	4				5		
Gibraltar	N. 36 06	W. 5 21	11.47 a.m.	50	15	29.94	760.5	29.99	761.7	61.0	16.1	93.3		3	7	11	1	2	6	1				7		
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.72	754.9	29.92	760.0	31.1	—0.5	88.4	10	1	2	3	1	1	4	9				4		
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.72	754.9	29.90	759.4	33.6	0.9	84.8	3	2	2	6	4	1	3	10				6		
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.60	751.8	29.82	757.4	40.0	4.4	78.1	1	5	1	2	2	4	2	14				5		
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.88	758.9	29.92	760.0	33.9	1.1	80.8	1	6	4	3	2	4	1	10				6		
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.67	753.6	29.94	760.5	32.5	0.3	90.0	3			10	2		1	14	1			8		
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	29.84	757.9	29.91	759.7	65.1	18.4	70.0		11	4	10		3	2	1				4		
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13			30.11	764.8	71.9	22.2	86.7	1	2		8	4	5	1	10				5		
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.38	746.2	29.93	760.2	31.6	--0.2	89.3	5	3	3	4	2	4	1	9				8		
Oxford	N. 51 46	W. 1 17	0.03 p.m.	232	70	29.66	753.4	29.92	760.0	32.5	0.3	89.9d	3	4	4	2	1	2	4	6	5			6		
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.78	756.4	29.85	758.2	36.8	2.7	85.4	4	4		1	3	4	1	10	4			6		
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29			29.89	759.2	34.0	1.1	96.0	5	2	5	4	3	6	3	2	1			6		
Scutari Cemet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	29.87	758.7	29.94	760.5	45.3	7.4	78.0	4	2		7	2	4	3	8	1			9		
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.62	752.3	29.92	760.0	34.3	1.3	90.3	3	4	1	3	6	1	1	8	4			7	0.22	5.6
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.90	759.4	29.93	760.2	31.4	—0.3	67.0	1		2	1	1	1	7	5	13			5	0.46	11.7
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110			29.92	760.0	32.0	0.0	81.5	8		4	3		1	3	11	1			6		
Strathfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.70e	754.4g	29.93g	760 2g	33.5	0.8	88.6	4	2	5	2	2	1	3	12				6		
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13					40.7	4.8	79.3	1	2	1	3	1	6	3	14				7		
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	29.84	757.9	29.87	758.7	40.6	4.8	77.1	5		3	1	2	4	12	4				6		

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for January, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Canadian Series	° ′	° ′																								
Bathurst *e*	N. 47 39	W. 65 43	7.45 a.m.	4	1	29.96	761.0	30.00	762.0	− 6.3	−21.3	.....	4	9	1	.....	.....	.....	.....	.....	12	.....	.....	6	1.90	48.3
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.84	757.9	29.89	759.2	12.3	−10.9	96.4	2	5	16	1	1	1	.....	2	3	4661	7509	6	7.05	179.1
Chatham	N. 47 03	W. 65 29	7.45 a.m.	50	15	29.88	758.9	29.95	760.7	3.3	−15.9	92.2	1	5	7	.....	.....	.....	.....	.....	18	2427	3906	6	2.26	57.4
Chicontimi	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.89	759.2	30.11	764.8	3.4	−15.9	96.4	.....	5	12	4	.....	.....	6	6	.....	.....	.....	7	1.98	50.3
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	30	9	29.91	759.7	29.95	760.7	5.8	−14.6	.....	.....	1	21	1	.....	.....	2	.....	4	.....	.....	5	2.70	68.6
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.00	762.0	30.03	762.7	4.8	−15.1	74.4	6	8	.....	11	2	1	.....	2	1	.....	.....	8	2.50	63.5
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	758	231	29.31	744.5	30.27	768.8	−15.4	−26.3	98.7	6	5	4	9	2	1	1	.....	3	5299	8528	2	0.12	3.0
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.95	760.7	30.02	762.5	3.8	−15.7	89.7	2	17	4	.....	.....	.....	2	.....	6	.....	.....	5	2.48	63.0
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.97	735.8	30.18	766.6	10.3	−12.1	87.3	2	3	7	1	2	1	.....	4	11	.....	.....	7	1.60	40.6
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.79	756.7	29.93	760.2	17.5	− 8.1	91.3	4	14	10	.....	.....	1	.....	1	1	.....	.....	3	3.60	91.4
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	332	101	29.73	755.1	30.16	766.1	1.4	−17.0	87.5	.....	4	1	22	.....	.....	.....	4	.....	.....	.....	8	2.08	52.8
Kingston	N. 44 14	W. 76 30	7.02 a.m.	335	102	29.75	755.6	30.12	765.0	7.8	−13.4	85.7	5	1	5	4	2	1	1	8	4	4105	6606	6	2.19	55.6
Little Glace Bay	N. 46 11	W. 59 58	8.08 a.m.	34	10	29.70*b*	754.4*b*	29.74*b*	755.4*b*	21.4*a*	− 5.9	94.1*a*	8	5	5	.....	5	3	1	2	2	.....	.....	6	3.65	92.7
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.90	759.4	30.12	765.0	6.2	−14.3	83.4	1	1	10	7	3	2	3	3	1	.....	.....	7	2.73	69.3
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	641	195	29.37	746.0	30.13	765.3	7.1	−13.8	78.8	3	1	2	2	1	5	14	1	2	5574	8970	9	2.70	68.6
Peterborough *c*	N. 44 17	W. 78 20	6.54 a.m.	688	210	29.32	744.7	30.13	765.3	6.1	−14.4	68.8	5	4	7	3	.....	.....	1	3	5	.....	.....	6	2.70	68.6
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.40	746.7	30.16	766.1	12.7	−10.7	94.4	6	4	2	10	.....	.....	.....	2	7	5144	8278	8	2.74	69.6
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.46	748.3	30.17	766.3	12.3	−10.9	90.8	3	3	15	3	.....	2	5	.....	.....	.....	.....	8	2.00	50.8
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.74	755.4	30.10	764.5	3.3	−15.9	82.0	.....	8	13	1	.....	.....	1	5	3	.....	.....	6	1.99	50.6
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.63	752.6	30.15	765.8	− 1.8	−18.8	81.2	.....	4	5	.....	.....	.....	5	1	.....	3795	6107	6	1.75	44.4
Saugeen	N. 44 30	W. 80 21	6.42 a.m.	641	208	29.35	745.5	30.12	765.0	1.6	−16.9	89.7	1	2	2	7	7	2	4	5	1	8691	13986	9	3.49	88.6
St. Andrews	.....	.....	.....	.....	.....	29.94	760.5	30.00	762.0	12.0	−11.1	82.1	6	17	2	.....	1	2	1	1	1	.....	.....	4	2.52	64.0
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.80	756.9	29.99	761.7	12.9	−10.6	95.4	5	17	4	.....	1	1	.....	3	.....	.....	.....	6	3.83	97.3
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.71	729.2	30.15	765.8	8.5	−13.1	93.5	.....	2	4	5	.....	2	1	.....	17	.....	.....	8	2.37	60.2
Sydney	N. 46 08	W. 60 10	8.07 a.m.	27	8	29.79	756.7	29.84	757.9	20.7	− 6.3	91.5	2	5	8	5	2	3	2	2	2	6956	11194	7	4.06	103.1
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	150	29.74	755.4	30.16	766.1	14.1	− 9.9	88.9	8	7	7	4	1	.....	.....	4	.....	7034	11320	8	2.13	54.1
Windsor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.96	735.6	30.15	765.8	10.4	−12.0	94.4	3	3	7	10	1	2	1	3	1	.....	.....	8	3.78	96.0
Yarmouth *f*	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.91	759.7	29.98	761.5	2.4	−16.4	78.5	6	9	.....	.....	.....	1	1	6	2	.....	.....	7	2.84	72.1
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	150	46	29.80	756.9	29.94	760.5	26.6	− 3.0	100.0	2	7	3	.....	5	7	.....	8	.....	.....	.....	4	3.91	99.3
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.69	754.1	25.2	− 3.8	.....	1	11	5	1	1	5	3	4	.....	.....	.....	.....	0.85	21.6
Cape Colony Series.																										
Cape St. Francis *a*	S. 34 10	E. 24 53	1.48 p.m.	25	7	29.90	759.4	.....	.....	70.8	21.6	80.0	.....	.....	2	12	1	6	9	.....	.....	.....	.....	4	1.27	32.3
Cape Town *a*	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.89	759.2	29.93	760.2	81.4	27.4	53.9	.....	8	.....	2	9	10	1	.....	.....	.....	.....	4	0.36	9.1
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.28	769.2	30.30	769.7	34.2	1.2	72.3	6	3	6	3	.....	8	.....	5	.....	.....	.....	2	0.03	0.7
Costa Rica Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	26.21	665.7	29.93	760.2	62.4	16.9	87.0	.....	.....	.....	.....	.....	7	.....	24	.....	.....	.....	3	.....	.....
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	46	13	29.84	758.0	29.89	759.2	26.6	− 3.0	83.4	4	6	3	6	1	5	2	2	2	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.88	759.0	29.90	759.5	28.2	− 2.1	85.7	1	2	.....	4	1	6	3	5	1	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.98	761.4	30.02	762.4	27.5	− 2.5	77.9	4	2	.....	1	8	1	1	11	3	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	30.09	764.3	30.13	765.3	17.2	− 8.2	90.5	.....	.....	2	2	2	1	13	6	5	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.84	757.9	29.87	758.8	34.3	1.3	78.9	11	.....	4	3	.....	1	1	8	3	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.79	756.6	29.88	759.0	27.9	− 2.3	92.5	.....	4	3	5	2	1	4	7	5	.....	.....	4	.....	.....
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.19	741.5	30.25	768.3	38.7	3.7	83.6	3	7	2	1	4	11	1	2	.....	.....	.....	.....	1.26	31.9
Alençon	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.37	746.1	29.93	760.1	31.8	− 0.1	92.6	6	1	1	5	5	.....	1	12	.....	.....	.....	7	2.83	72.0
Arras *a*	N. 50 17	E. 2 47	0.19 p.m.	239	73	29.63	752.6	29.88	758.9	30.0	− 1.1	90.0	3*e*	4	1	6	1	4	3	4	.....	.....	.....	.....	.....	.....
Avignon	N. 43 57	E. 4 38	0.26 p.m.	65	20	29.79	756.6	29.87	758.6	40.3	4.6	75.3	26	2	.....	.....	.....	2	.....	1	.....	.....	.....	5	4.62	117.3
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	517	157	29.33	744.9	29.91	759.7	33.1	0.6	78.4	.....	2	.....	.....	9	5	11	4	.....	.....	.....	7	2.27	57.7
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.63	752.6	29.91	759.7	32.4	0.2	85.1	2	1	5	2	5	5	4	7	.....	.....	.....	7	2.56	65.0
Besançon	N. 47 14	E. 6 01	0.32 p.m.	829	250	28.98	736.1	29.91	759.7	33.6	0.9	90.4	8	1	.....	1	8	.....	2	11	.....	.....	.....	5	3.82	97.0
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.56	750.9	29.83	757.7	39.2	4.0	78.2	3	3	3	3	3	9	2	5	.....	.....	.....	7	2.40	60.9
Bourges	N. 47 10	E. 2 24	0.17 p.m.	510	156	29.28	743.6	29.85	758.2	35.2	1.8	84.6	12	1	1	1	8	3	.....	5	.....	.....	.....	5	3.38	85.9
Brest	N. 48 23	W. 4 29	11.50 a.m.	213	65	29.62	752.3	29.86	758.4	40.5	4.7	72.8	8	2	1	5	.....	5	1	8	1	.....	.....	5	2.84	72.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.72	755.0	29.82	757.3	39.2	4.0	92.0	1	.....	4	6	10	1	3	5	1	.....	.....	6	2.24	56.9
Châlons-sur-Marne	N. 48 57	E. 4 23	0.25 p.m.	294	90	29.58	751.2	29.92	760.0	32.7	0.4	.....	1*e*	2	1	2	4	3	2	5	6	.....	.....	6	0.60	15.3
Charleville *c*	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.32	744.8	29.85	758.2	32.2	0.1	85.4	.....	.....	.....	5	9	6	6	2	.....	.....	.....	6	1.63	41.5
Clermont-Fd	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.46	722.8	29.86	758.5	35.1	1.7	69.7	5	6	.....	5	6	3	.....	6	.....	.....	.....	6	1.61	40.8
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.02	737.1	29.89	759.2	35.2	1.8	73.6*f*	12	.....	2	1	8	.....	.....	8	.....	.....	.....	5	0.11	2.7
Commercy	N. 48 45	E. 5 35	0.30 p.m.	817	249	29.03	737.3	29.93	760.1	29.5	− 1.4	87.0*f*	3	.....	6	6	2	2	8	4	.....	.....	.....	.....	2.47	62.8
Gap	N. 44 34	E. 6 04	0.32 p.m.	2427	740	27.28	692.9	29.89	759.1	35.1	1.7	79.1	10	1	4	4	1	3	1	7	.....	.....	.....	.....	2.81	71.4
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	28.73	729.7	29.87	758.7	42.4	5.8	71.7	5	8	1	1	.....	2	9	5	.....	.....	.....	7	3.20	81.4
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.04	737.6	29.90	759.4	33.4	0.8	.....	3	.....	6	.....	3	1	7	11	.....	.....	.....	.....	2.82	71.7
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.22	716.8	29.86	758.5	34.5	1.4	80.6	.....	1	1	12	.....	10	6	1	.....	.....	.....	5	1.50	38.2
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.54	750.3	29.82	757.4	37.0	2.8	86.5	6	5	3	1	5	3	6	2	.....	.....	.....	4	2.36	59.9
Lescar	N. 43 21	W. 0 26	0.06 p.m.	525	160	29.24	742.7	29.92	760.0	41.9	5.5	78.5	13	2	5	.....	4	.....	6	1	.....	.....	.....	6	4.76	120.9
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	29.78	756.4	29.88	758.9	39.9	4.4	71.0	5	2	2	3	2	2	2	13	.....	.....	.....	4	3.46	88.0
Lyons	N. 45 45	E. 4 49	0.27 p.m.	574	175	28.82	732.0	29.88	759.0	33.3	0.7	75.0	10	5	.....	1	7	4	1	3	.....	.....	.....	.....	1.10	27.8
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.57	751.1	29.89	759.3	33.6	0.9	91.8	3	2	1	5	1	3	12	4	.....	.....	.....	6	3.20	81.2
Marseilles	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.54	750.3	29.81	757.2	47.1	8.4	69.1	.....	11	4	1	.....	3	11	1	.....	.....	.....	6	2.70	68.6
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.55	623.6	29.78	756.4	31.6	− 0.2	72.7	4	3	7	14	2	.....	.....	1	.....	.....	.....	6	2.41	61.1
Montpelier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.74	755.3	29.85	758.2	41.9	5.5	75.5	19	5	2	1	.....	.....	1	3	.....	.....	.....	6	7.20	182.8
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.13	739.9	29.93	760.3	30.4	− 0.9	81.4	2	12	3	3	3	1	1	6	.....	.....	.....	6	1.25	31.7
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.76	755.8	29.92	760.0	36.7	2.6	83.4	4	2	6	1	4	4	1	9	.....	.....	.....	7	3.28	83.4
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.77	756.2	29.81	757.1	49.3	9.6	66.6	5	3	7	2	1	3	8	2	.....	.....	.....	6	5.76	146.2
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	98	30	29.72	754.9	29.83	757.8	44.8	7.1	67.8	3	5	2	7	2	5	1	6	.....	.....	.....	6	1.60	40.7
Pic du Midi (Pitde)	N. 42 15	E. 0 08	0.08 p.m.	7763	2366	22.20	563.8	.....	.....	24.3	− 4.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	11.20	284.4
Privas	N. 44 44	E. 4 35	0.26 p.m.	997	304	28.83	732.2	29.93	760.1	36.5	2.5	77.2*l*	6*b*	1	1	.....	3	.....	.....	1	17	.....	.....	7	0.24	6.0
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	24.77	629.2	.....	.....	23.0	− 5.0	84.5	3	2	4	9	1	3	5	4	.....	.....	.....	7	3.35	85.0
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.82	757.3	29.84	758.0	39.2	4.0	89.1	.....	1	.....	4	4	4	9	9	.....	.....	.....	5	9.25	235.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.14 p.m.	198	60	29.63	752.5	29.82	757.5	37.8	3.2	80.0	13	1	4	2	5	1	2	3	.....	.....	.....	6	2.20	55.9
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	27.66	702.5	29.89	759.1	35.1	1.7	75.9	1*e*	4	5	.....	.....	4	10	4	.....	.....	.....	8	1.52	38.7
Rouen	N. 49 26	E. 1 14	0.13 p.m.	80	24	29.80	756.8	29.88	759.0	35.4	1.9	74.5	5	2	.....	2	6	11	3	2	.....	.....	.....	5	0.47	12.0
Saint Lô *b*	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.67	753.7	29.83	757.7	35.2	1.8	83.5	1*e*	2	2	7	2	.....	9	5	.....	.....	.....	6	2.01	51.1
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.72	754.9	29.89	759.2	32.5	0.3	82.0	4	2	.....	2	8	2	3	10	.....	.....	.....	8	.....	.....
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.16	740.6	29.88	758.9	38.3	3.5	88.6	1	11	3	.....	1	14	.....	1	.....	.....	.....	7	3.63	92.1
Tours	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.66	753.3	29.85	758.3	.....	.....	.....	3	1	.....	5	1	5	2	14	.....	.....	.....	7	3.10	78.8
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.38	746.3	29.87	758.7	31.5	− 0.3	83.5*c*	1	3	4	6	1	4	3	9	.....	.....	.....	7	2.26	57.3
Sub-Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.18 p.m.	213	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
German Series.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 53	1.51 p.m.	774	236	29.07	738.4	29.91	759.8	26.2	—3.2	83.8	5	8	2	2	1	5	6	2	.....	.....	.....	4	0.76	19.4
Berlin	N. 52 30	E. 13 23	1.02 p.m.	157	48	29.75	755.6	29.93	760.3	26.6	—3.0	76.4	3	5	2	8	1	6	2	4	.....	.....	.....	4	0.97	24.7
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.43	747.5	29.97	761.2	24.8	—4.0	77.9	3	5	4	4	5	8	.....	1	1	.....	.....	6	0.08	2.0
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.53	750.1	29.97	761.3	30.2	—1.0	79.3	2	.....	.....	7	7	1	4	10	.....	.....	.....	6	1.79	45.4
Cassel	N. 51 19	E. 9 28	0.46 p.m.	561	171	29.29	744.0	29.90	759.4	25.9	—3.4	82.9	5	1	.....	3	10	3	6	3	.....	.....	.....	6	1.19	30.3
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.65	753.2	30.04	763.0	28.0	—2.2	73.0	11	1	2	4	12	.....	.....	.....	1	.....	.....	6	1.22	30.9
Friedrichshafen	N. 47 39	E. 9 29	0.45 p.m.	1355	413	28.43	722.2	29.94	760.5	29.1	—1.6	64.8	3	1	3	4	1	2	4	13	.....	.....	.....	6	0.97	24.6
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	66	20	29.86	758.4	29.93	760.2	25.5	—3.6	82.4	2	3	2	8	1	7	5	2	1	.....	.....	6	0.82	20.7
Kiel	N. 54 20	E. 10 04	0.49 p.m.	26	8	29.89	759.2	29.91	759.6	27.0	—2.8	81.8	2	2	3	7	3	2	4	2	6	.....	.....	6	0.52	13.3
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.52	749.9	29.97	761.2	24.4	—4.2	84.0	2	1	1	9	4	9	2	3	.....	.....	.....	7	0.74	18.9
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	210	64	29.70	754.4	29.94	760.5	24.1	—4.4	86.8	1	1	7	1	2	1	6	4	8	.....	.....	6	0.94	23.9
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.83	757.6	29.87	758.8	21.4	—5.9	85.7	2	4	9	2	2	8	1	3	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.04	712.3	29.90	759.4	26.2	—3.2	72.9	4	3	6	1	1	1	6	6	3	.....	.....	7	0.79	20.1
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.90	759.5	29.91	759.6	25.0	—3.9	76.5	2	4	5	3	9	5	1	1	1	.....	.....	7	0.99	25.1
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.34	745.1	29.86	758.5	30.6	—0.8	.....	3	2	5	3	4	2	1	7	4	.....	.....	5	3.04	77.2
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	879	268	28.94	735.0	29.88	758.9	29.3	—1.5	68.6	11	1	2	5	3	6	4	5	.....	.....	.....	5	0.68	17.2
Thorn	N. 53 01	E. 18 36	1.24 p.m.	171	52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1414	431	28.37	720.6	29.90	759.4	27.0	—2.8	84.7	.....	2	5	1	1	5	2	4	11	.....	.....	6	0.46	11.8
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.90	759.5	29.93	760.1	26.6	—3.0	92.7	4	1	3	6	.....	6	4	7	.....	.....	.....	7	0.65	16.5
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m	266	81	29.56	750.8	29.96	761.0	56.5	13.6	.....	.....	2	3	10	6	1	1	8	.....	.....	.....	6	.....	.....
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	30.22	762.5	30.07	763.8	75.6	24.2	45.0	1	.....	1	18	6	.....	1	4	.....	.....	.....	1	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	474	144	29.52	749.3	30.00	762.0	78.8	26.0	26.2	4	11	2	5	1	2	1	3	2	.....	.....	2	0	0
Bombay	N. 18 54	E. 72 49	4.59 p.m.	37	11	29.93	760.2	29.97	761.2	78.3	25.7	61.3	.....	25	6	.....	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	2000	610	28.10	713.7	29.94	760.5	82.8	28.2	21.4	3	1	4	5	1	4	8	5	.....	.....	.....	2	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.41	696.2	29.94	760.5	78.9	26.1	27.6	3	.....	.....	.....	1	2	10	15	.....	.....	.....	2	0	0
Lahore *a*	N. 31 34	E. 74 20	5.41 p.m.	732	223	29.31	744.5	30.08	764.0	64.8	18.2	40.3	.....	.....	5	.....	.....	.....	2	3	21	.....	.....	2	0.03	0.8
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.14	740.1	30.07	763.8	63.8	17.7	49.1	.....	15	5	.....	1	.....	1	.....	9	.....	.....	2	0.25	6.3
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	175	29.49	749.0	30.08	764.0	70.4	21.3	37.8	4	4	14	1	.....	1	3	2	2	.....	.....	1	0	0
Nagpur	N. 21 09	E. 71 11	4.52 p.m.	1025	312	28.97	735.8	30.02	762.5	78.8	26.0	31.8	.....	.....	.....	1	3	4	5	4	14	.....	.....	1	0.03	0.8
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.68	728.5	30.06	763.5	70.5	21.4	39.9	4	1	1	.....	1	.....	3	4	17	.....	.....	1	0.01	0.3
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.68	753.9	30.07	763.8	65.6	18.7	37.9	6	6	.....	.....	.....	.....	.....	.....	19	.....	.....	1	0.03	0.8
Alahabad *a*	N. 25 26	E. 81 52	5.36 p.m.	307	94	29.74	755.4	30.07	763.8	64.2	17.9	56.9	.....	.....	.....	.....	.....	.....	1	.....	30	.....	.....	0	0.18	4.6
Patna	N. 25 37	E. 85 08	5.48 p.m.	179	55	29.86	758.4	30.05	763.3	64.3	17.9	61.0	1	.....	27	.....	.....	.....	.....	.....	3	.....	.....	1	0.08	2.0
Hazaribagh	N. 24 00	E. 85 24	5.49 p.m.	2010	613	27.99	710.9	30.07	763.8	63.2	17.3	40.8	6	22	1	.....	.....	.....	.....	1	1	.....	.....	0	0.25	6.3
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.95	760.7	30.04	763.0	74.0	23.3	54.4	5	3	3	1	.....	1	1	6	11	.....	.....	1	0	0
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	18	5	30.01	762.2	30.03	762.7	67.4	19.7	59.6	8	9	4	.....	.....	.....	.....	1	9	.....	.....	0	0	0
Goalpara	N. 26 11	E. 90 40	6.11 p.m.	386	118	29.61	752.1	30 03	762.7	67.9	19.9	58.3	.....	1	.....	2	.....	1	5	4	18	.....	.....	0	0	0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	90	25	29.92	760.0	30.02	762.5	69.3	20.7	62.0	3	3	22	1	.....	.....	.....	.....	2	.....	.....	0	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m	332	101	29.72	754.9	30.07	763.8	60.6	15.9	84.1	.....	.....	.....	2	4	2	3	19	1	.....	.....	2	0.18	4.6
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.50	749.2	29.93	760.1	36.7	2.6	66.5	3	.....	.....	.....	.....	.....	10	3	15	.....	.....	7	5.32	135.1
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.39	746.6	29.93	760.2	32.9	0.5	84.1	3	.....	6	9	3	5	3	2	.....	.....	.....	4	4.14	105.2
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.81	757.1	29.92	759.9	36.9	2.7	78.3	14	6	.....	.....	.....	.....	1	7	.....	.....	.....	7	3.43	87.1
Moncalieri	N. 44 59	E. 7 41	0.39 p.m.	853	260	28.99	736.4	29.93	760.2	33.4	0.8	74.5	5	5	1	1	2	1	8	8	.....	.....	.....	5	4.95	125.7
Genoa	N. 44 25	E. 8 30	0.42 p.m.	157	48	29.65	753.2	29.85	758.1	41.0	5.0	57.1	19	3	1	.....	1	.....	1	6	.....	.....	.....	6	5.18	131.7
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	27.95	709.9	29.96	760.9	31.5	—0.3	67.8	1	.....	26	.....	2	.....	2	.....	.....	.....	.....	5	2.13	54.1
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.84	758.0	29.89	759.2	37.6	3.1	80.4	2	5	18	1	.....	1	1	2	1	.....	.....	9	4.92	124.9
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.57	751.1	29.83	757.8	42.4	5.8	68.0	6	.....	1	4	1	.....	4	13	.....	.....	.....	8	6.10	154.8
Leghorn *a*	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.74	755.3	29.82	757.5	44.1	6.7	70.6	1	3	1	2	1	.....	2	20	.....	.....	.....	7	12.15	308.7
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.64	752.8	29.82	757.3	51.8	11.0	68.5	7	2	4	6	4	2	2	1	3	.....	.....	7	7.87	199.9
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.63	752.5	29.88	759.0	54.0	12.2	73.2	3	4	.....	6	7	7	.....	4	.....	.....	.....	8	3.83	97.3
Cosenza	N. 39 18	E. 16 15	1.13 p.m.	840	256	29.00	736.7	29.91	759.6	54.5	12.5	68.5	1	8	2	8	.....	6	.....	.....	6	.....	.....	9	18.89	479.7
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.62	752.3	29.82	757.3	57.7	14.3	62.1	2	15	3	.....	1	4	1	.....	5	.....	.....	6	0.93	23.6
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.64	752.8	29.89	759.1	62.1	16.7	54.0	.....	4	8	14	.....	2	2	.....	1	.....	.....	8	2.44	61.9
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.86	758.4	29.90	759.5	61.3	16.3	68.1	.....	2	4	8	6	5	6	.....	.....	.....	.....	8	1.38	35.0
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.32	744.7	29.83	757.7	52.5	11.4	73.4	3	1	3	10	5	2	2	5	.....	.....	.....	8	5.60	142.2
Stelvio	N. 46 37	E. 10 32	0.50 p.m.	8343	2543	22.00	558.8	.....	.....	13.1	—10.6	68.7	1	.....	1	7	4	2	9	7	.....	.....	.....	4	32.68	830.0
Valdobbia	N. 45 47	E. 12 00	0.56 p.m.	8360	2548	21.82	554.2	.....	.....	15.4	—9.2	80.7	4	.....	2	1	3	3	12	6	.....	.....	.....	6	104.33	2650.0
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.07	763.7	30.09	764.2	33.8	1.0	76.4	8	1	.....	.....	.....	.....	9	13	.....	.....	.....	3	1.55	39.3
Kioto	N. 35 01	E. 135 46	9.14 p.m.	162	49	29.83	757.7	30.02	762.4	32.0	0.0	80.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	1.18	30.0
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	29.93	760.1	30.14	765.6	38.5	3.6	76.8	5	6	5	3	.....	3	.....	.....	9	.....	.....	8	4.77	121.1
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.81	757.1	29.88	759.0	33.6	0.9	66.7	7	11	4	3	1	2	.....	2	.....	.....	.....	3	1.74	44.2
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.98	761.6	30.04	763.0	36.5	2.5	71.2	7	11	6	.....	2	.....	3	1	1	.....	.....	4	1.16	29.5
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.74	755.4	29.93	760.2	79.8	26.6	68.9	7	3	.....	1	3	1	8	8	.....	.....	.....	7	4.55	115.6
Mexican Series.																										
Colima	N. 19 00	W. 103 07	5.13 a.m.	1663	507	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guadalajara	N. 20 41	W. 103 14	5.15 a.m.	5148	1569	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guanaxuato	N. 21 01	W. 100 48	4.50 a.m.	6683	2037	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.75	755.6	30.01	762.3	64.0	17.8	67.5	9	6	.....	.....	.....	1	4	11	.....	.....	.....	4	0.52	13.2
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morelia	N. 19 42	W. 100 59	5.24 a.m.	6365	1940	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vera-Cruz	N. 19 12	W. 96 00	5.44 a.m.	26	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8189	2496	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Result of Simultaneous Observations for January, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	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.
NETHERLAND SERIES.	° ′	° ′																								
Flushing *a*	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.83	757.6	29.83	757.6	32.2	0.1	.....	3	3	3	1	8	1	3	8	.....	.....	.....	.....	1.49	37.8
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.83*d*	757.7*d*	29.89*d*	759.2*d*	29.1*c*	−1.6	.....	4	.....	1	6	8	1	6	5	.....	.....	.....	.....	1.40	35.5
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.89	759.2	29.89	759.2	30.9	−0.6	.....	3	2	.....	4	4	5	5	8	.....	.....	.....	.....	1.40	35.5
Hellevoetsluis	N. 51 49	E. 4 80	0.25 p.m.	0	0	29.79	756.7	29.79	756.7	30.7	−0.7	.....	1	.....	4	3	6	2	4	8	3	.....	.....	.....	0.81	20.5
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.86	758.5	29.91	759.7	33.6	0.9	85.5	2	3	3	4	6	2	6	6	.....	.....	.....	5	1.21	30.8
NORWEGIAN SERIES.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	49	15	29.79	756.7	29.84	757.8	29.8	−1.2	76.1	2	4	.....	2	2	6	3	.....	12	.....	.....	6	2.41	61.3
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.70	754.3	29.85	758.3	19.6	−6.9	75.9	9	1	1	3	2	1	4	7	3	.....	.....	6	0.18	4.7
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.49	749.0	29.51	749.5	19.4	−7.0	.....	1	5	3	3	.....	1	.....	11	7	.....	.....	6	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.57	751.0	29.61	752.2	21.0	−6.1	76.9	9	2	6	4	.....	3	1	5	1	.....	.....	6	4.87	123.6
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.40	746.8	29.56	750.9	55.9	13.3	84.0	2	4	5	5	2	4	8	1	.....	.....	.....	5	14.65	372.0
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.86	733.1	29.87	758.8	52.5	11.4	75.7	5	.....	6	5	7	1	2	5	.....	.....	.....	8	10.27	260.9
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	29.84	758.0	29.93	760.2	65.5	18.6	76.2	.....	.....	11	11	4	1	2	1	1	.....	.....	7	9.27	235.4
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.52	749.9	29.89	759.1	51.4	10.8	81.7	2	1	2	11	3	1	2	9	.....	.....	.....	7	10.83	275.1
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	29.52	749.9	29.61	752.1	59.0	15.0	75.5	1	1	4	9	7	2	2	3	2	.....	.....	6	13.04	331.2
RUSSIAN SERIES.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	28.93	734.7	30.10	764.5	11.3	−11.5	96.3	2	.....	.....	11	5	1	3	1	8	.....	.....	3	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.47	748.6	29.49	749.1	0.1	−17.7	84.1	3	5	3	5	6	2	3	2	2	.....	.....	7	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	30.14	765.5	30.06	763.5	28.2	−2.1	77.8	2	3	6	4	3	2	7	3	1	.....	.....	8	.....	.....
Barnaul	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.68	753.9	30.22	767.7	14.5	−9.7	79.2	.....	1	1	15	1	1	.....	2	10	.....	.....	7	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.50	749.3	29.76	755.9	13.5	−10.3	84.2	1	4	5	13	2	1	4	.....	1	.....	.....	6	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	28.83	732.2	29.87	758.6	5.5	−14.7	74.1	.....	1	6	12	1	7	1	.....	3	.....	.....	7	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.53	750.0	29.82	757.5	6.1	−14.4	81.4	2	.....	2	12	6	7	.....	.....	2	.....	.....	7	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	29.95	760.8	29.97	761.3	31.5	−0.3	87.0	3	9	3	2	4	1	5	3	1	.....	.....	9	.....	.....
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.24	742.7	29.91	759.7	18.1	−7.7	79.3	2	6	8	2	5	5	3	.....	.....	.....	.....	7	.....	.....
Krotkowo	N. 53 47	E. 48 34	3.22 p.m.	436	133	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.73	755.2	29.94	760.4	22.1	−5.5	75.8	1	5	6	5	2	5	1	3	3	.....	.....	7	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.18	741.1	29.78	756.5	12.0	−11.1	75.5	3	2	.....	1	18	4	.....	.....	3	.....	.....	6	.....	.....
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	1942	592	27.86	707.7	30.55	775.9	−20.4	−29.1	79.2	.....	4	.....	.....	.....	.....	.....	.....	27	.....	.....	2	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.94	760.5	30.01	762.2	26.8	−2.9	81.2	6	5	1	4	5	2	4	3	1	.....	.....	7	.....	.....
Nikolaievsk *d*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.83	757.6	29.91	759.8	−12.6	−24.8	73.6	.....	.....	11	.....	.....	.....	.....	.....	16	.....	.....	4	.....	.....
Nukuss *a*	N. 42 27	E. 59 37	4.07 p.m.	216	66	30.01	762.2	30.25	768.3	39.2	4.0	77.0	3	5	1	4	5	4	2	5	1	.....	.....	6	.....	.....
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	30.13	765.2	30.27	768.8	23.5	−4.7	49.3	.....	7	.....	1	1	.....	.....	1	21	.....	.....	1	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	29.65	753.2	29.67	753.5	11.8	−11.2	82.5	3	3	10	6	1	6	.....	1	1	.....	.....	7	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.63	727.2	30.08	763.9	43.3	6.3	56.8	4	11	1	.....	1	1	1	.....	12	.....	.....	5	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.49	749.0	29.93	760.2	20.5	−6.4	79.5	3	2	10	5	2	8	1	.....	.....	.....	.....	6	.....	.....
Wilna	N. 54 51	E. 25 18	1.49 p.m.	387	118	29.44	747.8	29.88	759.0	18.0	−7.8	82.3	1	4	7	10	.....	4	1	2	2	.....	.....	7	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	29.95	760.7	30.29	769.2	0.7	−17.4	82.4	.....	.....	3	2	2	10	.....	3	11	.....	.....	5	.....	.....
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	29.95	760.7	32.4	0.2	89.8	.....	1	15	2	.....	2	7	4	.....	.....	.....	6	1.09	27.7
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.98	761.5	39.7	4.3	90.5	2	2	1	4	7	7	1	7	.....	.....	.....	8	2.20	55.9
North Unst	N. 60 51	W. 0 53	0.04 a.m.	230	70	.....	.....	29.83	757.7	.....	.....	.....	8	3	8	1	2	3	2	4	.....	.....	.....	9	.....	.....
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.72	755.0	29.84	757.8	51.4	10.8	66.5	4	3	9	4	2	.....	1	8	.....	.....	.....	5	3.64	92.5
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	56	17	29.82	757.4	29.88	759.0	48.2	9.0	73.9	1	5	4	2	3	10	6	.....	.....	.....	.....	8	6.16	156.6
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	26.85	681.9	.....	.....	38.7	3.7	80.6	2	.....	5	6	7	1	2	8	.....	.....	.....	8	7.89	200.5
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.62	701.5	29.89	759.2	45.5	7.5	76.1	4	2	3	9	6	1	.....	6	.....	.....	.....	7	5.15	130.7
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.76	755.8	29.90	759.5	59.7	15.4	68.0	.....	7	7	6	.....	5	1	5	.....	.....	.....	7	1.03	26.2
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	28.82	732.1	29.72	755.0	47.1	8.4	79.7	1	1	1	8	2	6	2	10	.....	.....	.....	8	19.57	497.0
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.01	762.3	30.08	764.1	69.6	20.9	89.3	3	.....	.....	1	.....	6	14	3	4	.....	.....	4	6.85	174.0
Manilla	N. 14 36	E. 121 00	8.12 p.m.	108	33	29.95	761.0	30.01	762.2	78.1	25.6	73.9	2	.....	.....	3	2	4	12	8	.....	.....	.....	3	0.16	4.1
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.90	759.4	29.99	761.8	57.2	14.0	80.4	2	1	2	8	9	1	2	4	2	.....	.....	8	11.44	290.5
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.02	762.5	30.11	764.7	74.7	23.7	87.8	.....	.....	2	1	8	15	3	2	.....	.....	.....	6	1.06	27.0
SWEDISH SERIES.																										
Haparanda	N. 65 47	E. 23 15	1.41 p.m.	29	9	29.61	752.1	29.65	753.1	7.0	−13.9	96.1	9	7	2	4	.....	1	3	1	4	.....	.....	7	0.35	9.0
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.63	752.5	29.69	754.0	13.6	−10.2	87.4	10	3	1	1	1	1	.....	6	8	.....	.....	8	1.13	28.8
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.69	754.1	29.75	755.6	18.5	−7.5	80.0	7	2	4	4	1	1	.....	3	9	.....	.....	7	0.70	17.8
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.60	751.7	29.78	756.4	20.5	−6.4	82.3	6	7	10	4	2	.....	2	.....	.....	.....	.....	6	0.40	10.2
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.69	754.0	29.74	755.4	27.1	−2.7	82.4	5	5	7	3	3	5	1	2	.....	.....	.....	7	0.64	16.2
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.65	753.1	29.74	755.3	18.3	−7.6	84.5	2	10	3	11	1	1	1	2	.....	.....	.....	6	0.47	12.0
SWISS SERIES.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.43	722.1	29.94	760.5	32.0	0.0	77.6	6	3	1	4	4	1	3	9	.....	.....	.....	8	2.28	57.9
Zurich	N. 47 22	E. 8 33	0.38 p.m.	1542	470	28.23	717.1	29.95	760.8	28.9	−1.7	75.1	1	.....	3	1	.....	1	8	.....	17	.....	.....	6	1.29	32.7
TURKISH SERIES.																										
Constantinople	N. 41 00	E. 28 59	2.02 p.m.	?	?	.....	.....	29.98	761.5	45.1	7.3	77.6	7	4	2	7	.....	2	2	7	.....	.....	.....	9	5.85	148.6
Valona	N. 40 27	E. 19 27	1.25 p.m.	?	?	.....	.....	29.88	758.9	56.7	13.7	.....	.....	6	6	3	9	3	2	2	.....	.....	.....	8	4.37	111.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 29	2.30 p.m.	98	30	.....	.....	30.22	767.6	59.9	15.5	64.1	.....	5	2	15	.....	1	.....	7	1	.....	.....	5	4.21	106.9

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for January, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.08	764.0	30.17	766.3	16.2	—8.8	75.3	6	4	3	2	3	.....	4	9	.....	3807	6127	7	2.85	72.6
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.44	747.8	30.14	765.5	8.9	—12.8	77.2	2	7	10	6	3	1	.....	2	.....	5497	8846	7	1.59	40.4
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.95	735.3	30.15	765.8	35.1	1.7	78.8	3	11	3	3	.....	.....	9	1	1	6792	10930	7	8.35	212.1
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.15	765.8	30.16	766.1	24.7	—4.1	81.2	11	7	7	.....	2	1	1	2	.....	7096	11420	6	7.18	182.4
Attou, Aleutian I.	N. 52 38	E. 172 30	11.38 p.m.	.....	.....	29.32	744.7	.....	.....	30.6	—0.8	93.1	4	2	1	2	13	3	.....	5	1	9933	15985	8	5.19	131.8
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	30.02	762.5	30.22	767.6	37.7	3.2	82.3	1	5	2	.....	1	1	1	8	12	2510	4039	7	8.69	220.7
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.14	765.5	30.19	766.8	26.2	—3.2	78.3	4	7	7	4	.....	1	2	2	4	3673	5911	5	4.84	122.9
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.12	765.0	30.14	765.5	23.9	—4.5	83.9	8	15	2	.....	3	.....	2	.....	1	9974	16051	6	8.43	214.1
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.28	718.3	30.14	765.5	—6.7	—21.5	96.8	1	10	3	.....	1	2	2	1	11	5691	9159	4	0.69	17.5
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.29	693.2	30.25	768.3	26.2	—3.2	82.8	3	10	4	.....	.....	11	.....	.....	3	2790	4490	8	3.62	91.9
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.94	760.5	30.11	764.8	17.3	—8.2	70.0	3	8	16	1	1	.....	1	1	.....	8372	13473	6	7.21	183.1
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	356	28.97	735.8	30.08	764.0	34.8	1.6	83.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	4613	7424	6	0.35	8.9
Brownsville	N. 26 00	W. 97 30	5.38 a.m.	43	13	30.10	764.5	30.14	765.5	45.9	7.7	90.7	12	2	1	.....	1	2	1	3	8	4722	7599	7	2.73	69.3
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.38	746.2	30.14	765.5	16.2	—8.8	81.3	.....	4	4	17	.....	.....	2	4	.....	6288	10119	9	2.31	58.7
Burlington	N. 40 49	W. 91 07	7.15 a.m.	268	82	29.88	758.9	30.20	767.1	11.2	—11.6	76.7	2	1	1	1	10	3	7	6	.....	5665	9117	7	0.88	22.4
Cairo	N. 37 00	W. 87 12	6.11 a.m.	377	115	29.83	757.7	30.25	768.3	25.0	—3.9	80.6	8	5	3	2	.....	8	.....	.....	5	4481	7210	5	3.56	90.4
Campo	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.50	698.5	30.06	763.5	31.8	—0.1	75.7	.....	1	4	2	8	1	12	2	1	4832	7776	3	1.74	44.2
Camp Thomas	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.32	693.9	.....	.....	25.8	—3.4	74.0	.....	.....	2	.....	.....	.....	.....	1	28	.....	.....	2	0.03	0.8
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.15	765.8	30.17	766.3	33.3	0.7	76.5	10	10	3	5	1	.....	.....	2	.....	7865	12657	5	4.03	102.4
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.12	765.0	30.16	766.1	27.0	—2.8	79.3	9	10	3	1	2	1	1	4	.....	11852	19073	6	7.36	186.9
Castroville	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.35	745.5	30.10	764.5	34.3	1.3	75.7	2	19	1	.....	1	1	4	.....	3	4611	7420	5	0.45	11.4
Cedar Keys	N. 28 12	W. 83 02	6.36 a.m.	22	7	30.12	765.0	30.14	765.5	50.6	10.3	88.8	8	2	.....	2	2	3	5	8	1	7056	11355	5	9.36	237.7
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.31	744.5	30.18	766.6	15.0	—9.4	66.8	2	5	3	6	4	4	1	4	2	7652	12313	6	0.89	22.6
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.13	765.3	30.19	766.8	43.0	6.1	82.4	14	5	6	2	3	.....	.....	1	.....	5263	8470	6	5.98	151.9
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.29	744.0	30.14	765.5	32.2	0.1	79.1	3	1	4	6	2	.....	3	11	1	3884	6250	6	6.81	173.0
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.36	745.7	30.20	767.1	31.9	—0.1	82.4	3	5	3	4	4	.....	1	8	3	4607	7414	8	4.70	119.4
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	23.92	607.6	29.86	758.4	18.2	—7.7	63.9	7	9	7	3	.....	2	.....	1	2	9855	15860	3	0.36	9.1
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.40	746.7	30.15	765.8	15.6	—9.1	70.1	7	4	6	4	3	1	2	1	3	5358	8623	4	0.87	22.1
Chincoteague	N. 37 55	W. 77 20	7.06 a.m.	18	5	30.15	765.8	30.17	766.3	28.2	—2.1	87.8	4	17	1	3	.....	2	.....	4	.....	9227	14849	7	4.04	102.6
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.52	749.8	30.22	767.6	25.5	—3.6	73.6	1	2	2	7	2	6	3	8	.....	4254	6846	8	3.76	95.5
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.40	746.7	30.18	766.6	17.5	—8.1	84.3	.....	4	5	7	4	8	1	2	.....	5925	9535	9	1.96	49.8
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1750	533	28.32	719.3	30.10	764.5	28.1	—2.2	68.9	7	6	.....	9	5	.....	.....	2	2	9077	14608	5	0.36	9.1
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.29	744.0	30.19	766.8	20.7	—6.3	81.8	6	2	6	4	7	1	1	4	.....	5446	8764	7	2.25	57.2
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.18	715.8	29.96	761.0	29.3	—1.5	77.5	5	4	3	11	1	.....	.....	3	4	7585	12208	4	0.22	5.6
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.73	755.1	30.23	767.8	32.4	0.2	74.2	9	3	.....	.....	9	.....	.....	.....	10	4910	7902	5	2.20	55.9
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.49	749.0	30.19	766.8	9.0	—12.8	76.7	1	6	7	1	4	1	1	4	6	4794	7715	6	1.34	34.0
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.40	721.3	30.17	766.3	25.3	—3.7	94.3	.....	.....	.....	14	5	1	.....	1	10	2911	4685	7	5.03	127.8
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.27	641.8	.....	.....	11.9	—11.2	97.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	3531	5682	5	3.10	78.7
Decatur	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.94	735.1	30.18	766.6	29.3	—1.5	81.7	10	3	1	.....	5	6	2	2	.....	8426	13560	4	0.93	23.6
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.14	765.5	30.16	766.1	27.2	—2.7	83.8	6	10	6	3	2	1	.....	3	.....	1063	1711	6	4.39	111.5
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.34	745.2	30.19	766.8	28.1	—2.2	86.2	9	7	1	4	3	2	1	2	.....	5758	9266	5	0.74	18.8
Denver	N. 39 45	W. 105 04	5.08 a.m.	5265	1605	24.71	627.6	29.93	760.2	19.4	—7.0	66.2	2	3	4	3	12	3	1	3	.....	4333	6973	4	0.49	12.4
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.24	742.7	30.21	767.3	9.1	—12.7	80.2	9	3	.....	3	.....	2	.....	2	11	3854	6202	6	1.55	39.4
Detroit	N. 41 21	W. 83 07	6.36 a.m.	645	197	29.43	747.5	30.15	765.8	14.8	—9.6	84.0	.....	3	2	15	.....	1	.....	3	7	3484	5606	6	2.39	60.7
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.44	697.0	29.92	760.0	14.8	—9.6	61.9	9	6	4	5	2	1	1	2	1	8549	13758	5	0.15	3.8
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.43	747.5	30.20	767.1	5.9	—14.5	81.3	2	7	2	3	3	2	.....	.....	12	2810	4522	6	1.87	47.5
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.42	747.3	30.19	766.8	0.6	—17.4	86.9	2	8	2	15	1	.....	.....	2	1	4599	7401	5	1.65	41.9
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.40	746.7	30.17	766.3	35.7	2.1	75.8	7	5	1	1	.....	10	.....	3	4	3760	6051	4	1.15	29.2
Eagle Rock	N. 43 30	W. 112 04	4.49 a.m.	4781	1457	25.27	641.8	29.92	760.0	10.1	—12.2	80.1	17	1	.....	9	1	.....	.....	.....	3	5877	9458	8	3.66	93.0
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.92	760.0	30.00	762.0	14.2	—9.9	71.3	6	13	4	2	1	2	1	1	1	10017	16119	7	1.64	41.7
Edinburg	N. 26 03	W. 98 03	5.36 a.m.	?	?	.....	.....	.....	.....	44.6	7.0	74.7	18	.....	.....	.....	8	1	.....	.....	4	.....	.....	7	2.79	70.9
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.26	667.0	.....	.....	30.4	—0.9	35.7	3	9	4	.....	1	2	2	4	6	3596	5787	2	0.35	8.9
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.37	746.0	30.14	765.5	20.2	—6.6	84.4	.....	2	7	6	10	2	.....	3	1	6527	10504	8	2.10	53.3
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.43	747.5	30.16	766.1	3.0	—16.1	84.5	7	4	4	5	5	.....	.....	.....	6	5464	8793	7	1.91	48.5
Florence	N. 33 03	W. 111 17	4.43 a.m.	1490	454	28.58	725.9	30.18	766.6	36.2	2.3	62.0	3	1	3	3	.....	1	4	7	9	1839	2960	4	0	0
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.02	635.5	30.47	773.9	22.3	—5.4	53.8	3	.....	2	1	.....	4	6	11	4	4204	6766	3	0.20	5.1
Fort Assiniboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.22	691.4	.....	.....	4.0	—15.6	70.2	9	.....	.....	13	.....	.....	.....	6	3	7503	12075	6	2.29	58.2
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.52	724.4	.....	.....	—0.3	—17.9	72.5	8	7	1	.....	.....	4	1	1	9	5074	8160	4	0.82	20.8
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.27	692.6	.....	.....	5.8	—14.6	82.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	4585	7379	7	2.27	57.7
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.12	714.2	30.21	767.3	—7.1	—21.7	88.4	1	4	4	1	1	.....	3	2	15	4118	6627	5	1.98	50.3
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.87	682.5	.....	.....	3.9	—15.6	79.9	8	3	2	4	6	5	.....	.....	3	4450	7162	7	2.84	72.1
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.16	639.1	30.12	765.0	28.1	—2.2	80.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	6226	10020	3	0.50	12.7
Fort Elliot	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.26	692.4	29.70	754.4	17.8	—7.9	44.1	7	11	2	3	1	3	.....	1	3	8746	14075	3	0.47	11.9
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.59	751.6	30.17	766.3	22.5	—5.3	76.3	9	3	1	2	3	4	2	1	6	5217	8396	6	1.76	44.7
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.19	639.8	29.99	761.7	34.0	1.1	52.0	7	2	1	.....	.....	.....	2	15	4	4918	7915	3	0.05	1.3
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.80	731.5	30.15	765.8	29.1	—1.6	66.5	6	4	3	.....	7	3	1	1	6	7231	11637	5	0.62	15.7
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.56	700.0	.....	.....	1.6	—16.9	79.4	4	4	1	6	1	1	2	.....	12	3673	5911	7	2.35	59.7
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.14	765.5	30.15	765.8	38.7	3.7	92.1	13	6	4	3	.....	1	.....	2	.....	8779	14128	7	5.66	143.8
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.76	679.7	.....	.....	33.3	0.7	94.9	4	3	1	4	2	2	2	1	12	1976	3180	7	8.22	208.8
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.83	706.9	29.86	758.4	29.5	—1.4	70.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	7347	11824	4	0.12	3.0
Fort St. Michael	N. 63 48	W. 161 00	1.24 a.m.	?	?	29.84	757.9	29.87	758.7	16.6	—8.6	100.0	12	1	.....	2	9	2	3	2	.....	8695	13961	6	0.06	1.5
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.38	670.0	.....	.....	9.0	—12.8	90.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	6687	10762	6	2.50	63.5
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.86	733.0	30.05	763.3	21.6	—5.8	78.5	10	3	.....	.....	3	1	1	1	12	6213	9999	5	1.92	48.8
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.23	717.0	.....	.....	—12.5	—24.7	85.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	5664	9115	4	0.72	18.3
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	26.3	—3.2	61.0	10	11	5	1	3	.....	1	.....	.....	.....	.....	3	0.07	1.8
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.33	719.6	30.01	762.2	34.1	1.2	81.4	13	2	7	.....	.....	1	.....	2	6	5635	9068	4	0.95	24.1
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	30.11	764.8	30.16	765.1	43.8	6.6	83.7	8	4	2	1	4	.....	6	6	.....	7654	12318	4	3.94	100.1
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.42	747.3	30.13	765.3	17.3	—8.2	82.5	5	1	6	3	.....	7	3	6	.....	5989	9638	7	2.24	56.9
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.12	765.0	30.14	765.5	38.5	3.6	83.7	11	7	4	5	.....	1	1	2	.....	10876	17503	6	7.27	184.7
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.82	655.8	.....	.....	6.9	—13.9	88.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	2876	4628	6	2.86	72.6
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.13	739.9	30.13	765.3	25.5	—3.6	75.1	4	9	1	4	4	3	.....	4	2	7661	12329	5	0.99	25.1
Indianapolis	N. 39 47	W. 86 05	6.24 a.m.	746	227	29.33	745.0	30.17	766.3	19.8	—6.8	74.8	6	5	6	2	3	2	3	2	2	4091	6584	7	2.10	53.3
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.15	765.8	30.18	766.6	41.0	5.0	84.0	12	6	.....	.....	4	1	1	5	2	11107	17874	5	3.07	78.0
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.96	735.6	30.16	766.1	30.3	—0.9	69.7	6	5	.....	6	2	2	.....	.....	10	5394	8681	5	0.48	12.2
Jacksonville	N. 30 24	W. 80 40	6.41 a.m.	43	13	30.13	765.3	30.18	766.6	48.1	8.9	81.8	6	4	3	3	1	1	.....	13	.....	5017	8074	6	9.12	231.6
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.48	748.8	30.19	766.8	14.5	—9.7	75.3	3	4	6	3	3	2	1	4	5	4341	6986	6	0.50	12.7
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.08	764.0	30.11	764.8	68.6	20.3	84.7	4	.....	2	1	8	1	6	9	.....	7159	11521	5	3.65	92.7
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.14	765.5	30.17	766.3	35.2	1.8	82.3	11	5	2	3	.....	.....	.....	9	1	10740	17284	5	7.34	186.4
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.15	740.4	30.21	767.3	30.5	—0.8	87.4	7	.....	3	5	.....	2	2	9	3	3812	6135	8	4.41	112.0
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.37	746.0	30.19	766.8	4.5	—15.3	80.9	8	1	3	.....	14	1	1	1	2	4514	7264	5	1.51	38.4
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.14	663.9	30.29	769.4	26.0	—3.3	65.1	10	1	2	1	3	2	1	2	9	1794	2887	3	0.04	1.0
Laredo	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.72	754.9	30.07	763.8	40.5	4.7	82.8	9	4	.....	.....	6	1	1	5	5	3672	5909	6	3.15	80.0
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.28	743.7	30.20	767.1	15.3	—9.3	75.5	9	9	.....	.....	9	1	.....	.....	3	5845	9405	7	0.44	11.2
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	6191	1881	29.36	745.7	30.05	763.3	27.9	—2.3	70.5	.....	1	4	1	3	.....	19	2	1	2564	4133	8	4.46	113.3
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.86	758.4	30.19	766.8	31.0	—0.6	85.0	8	6	2	.....	5	2	3	3	.....	4524	7280	6	2.07	52.6
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.76	755.9	30.11	764.8	44.4	6.9	72.1	10	4	.....	.....	1	2	14	.....	.....	3258	5243	2	1.43	36.3
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.58	751.3	30.18	766.6	25.5	—3.6	80.2	9	2	3	5	5	2	1	4	.....	5733	9226	7	3.24	82.3
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.46	748.3	30.18	766.6	28.9	—1.7	79.0	1	3	4	3	1	1	2	3	13	2134	3434	6	4.47	113.5
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.07	738.4	30.16	766.1	7.1	—13.8	74.6	5	5	8	3	6	2	1	1	.....	6505	10470	5	2.05	52.1
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.35	745.5	30.13	765.3	6.7	—14.1	70.2	3	5	11	5	1	1	2	3	.....	6215	10002	5	1.69	42.9
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.45	722.6	30.30	769.6	32.8	0.4	80.8	5	7	6	2	1	2	4	2	2	6751	10881	4	0.37	9.4
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.85	758.2	30.21	767.3	29.2	—1.6	81.2	5	6	3	.....	1	9	3	1	3	3857	6207	7	4.38	111.2
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.36	745.7	30.16	765.1	11.7	—11.3	81.0	1	14	6	5	3	1	.....	1	.....	7419	10940	6	1.86	47.2
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.09	764.3	30.17	766.3	43.2	6.2	86.4	7	6	3	.....	6	2	2	5	.....	5305	8538	7	7.62	193.6
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.95	760.7	30.20	767.1	39.3	4.1	86.3	9	6	3	2	.....	4	4	3	.....	4219	6790	7	3.58	90.9
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	953	293	29.13	739.9	30.17	766.3	28.2	—2.1	72.3	3	.....	2	9	.....	1	.....	2	14	3736	6012	8	3.08	78.2
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.15	740.4	30.24	768.1	—8.1	—22.3	71.3	8	7	1	.....	10	.....	1	.....	4	7575	12190	4	0.60	15.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for January, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
U.S. Series—*Continued.*	° ′	° ′																								
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6272	1902	23.39	594.1	29.75	755.6	2.2	-16.6	75.0	.....	24	1	.....	2	1	1	2	.....	28705	46195	5	3.94	100.1
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.64	752.8	30.20	767.1	29.8	—1.2	82.0	4	7	7	2	2	1	1	4	8	3002	4831	8	3.54	89.9
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	30.07	763.8	30.13	765.3	16.9	—8.4	73.0	10	6	5	1	1	.....	.....	7	1	5700	9173	5	4.79	121.7
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.06	763.5	30.12	765.0	20.1	—6.6	69.9	9	13	5	1	.....	.....	1	.....	2	4601	7469	5	6.76	171.7
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.09	764.3	30.15	765.8	46.0	7.8	78.3	9	3	1	1	4	4	4	5	.....	5804	9340	6	11.15	283.2
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.04	763.0	30.09	764.3	22.4	—5.3	79.5	8	7	9	3	1	.....	1	2	.....	7828	12598	4	5.70	144.8
New River	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.08	764.0	30.11	764.8	25.9	—3.4	74.4	8	12	2	.....	1	1	.....	7	.....	12629	21224	4	2.16	54.9
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.96	761.0	30.15	765.8	22.9	—5.1	87.8	8	9	7	3	1	.....	1	2	.....	5873	9452	6	5.41	137.4
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.12	765.0	30.18	766.6	32.4	0.2	77.4	16	1	4	3	2	1	.....	3	1	5551	8933	5	3.55	90.2
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.14	689.3	29.91	759.7	8.0	-13.3	78.3	7	9	4	2	1	.....	2	5	1	8462	13618	5	0.16	4.1
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	30.05	763.3	30.13	765.3	37.6	3.1	76.3	8	2	2	.....	9	2	1	6	1	3277	5274	1	8.90	226.1
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.98	736.1	30.20	767.1	7.0	-13.9	82.8	11	6	1	.....	8	1	.....	.....	4	7223	11624	6	0.61	15.5
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.78	756.4	30.13	765.3	18.8	—7.3	78.8	4	2	.....	6	6	9	1	3	.....	7094	11416	7	4.15	105.4
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.15	765.8	30.19	766.8	45.0	7.2	86.1	7	4	1	.....	1	2	8	7	1	5214	8391	6	7.49	190.2
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	30.11	764.8	30.17	766.3	23.6	—4.7	82.5	7	3	6	1	2	.....	3	7	2	7427	11952	5	3.66	93.0
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.98	736.1	30.90	784.8	31.6	—0.2	68.8	3	2	.....	.....	1	3	21	.....	1	1797	2892	2	0	0
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.44	443.0	29.65	753.1	—2.9	-19.4	67.2	6	7	7	5	1	.....	.....	2	3	17589	28306	3	2.58	65.5
Pilot Point	N. 33 20	W. 96 50	5.40 a.m.	800	244	29.31	744.5	30.25	768.3	34.3	1.3	67.2	10	6	5	1	6	4	.....	6	1	6786	10921	4	0.75	19.0
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.04	610.6	29.80	756.9	24.0	—4.4	61.5	6	6	.....	5	8	1	.....	1	4	5729	9220	4	0.47	11.9
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.31	744.5	30.17	766.3	24.7	—4.1	82.8	1	8	5	5	1	1	3	4	3	4452	7165	7	3.55	90.2
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.42	747.3	30.15	765.8	12.5	-10.8	80.3	2	3	6	1	12	2	.....	4	1	6206	9985	7	3.50	88.9
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.01	762.2	30.06	763.5	17.4	—8.1	70.3	4	15	7	.....	.....	.....	.....	4	1	5369	8640	5	4.30	109.2
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.07	763.8	30.15	765.8	37.0	2.8	83.7	1	6	1	1	5	5	7	4	1	3835	6172	7	8.57	217.7
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	38.6	3.7	82.4	6a	4	3	5	1	.....	.....	11	.....	11489	18489	7	2.72	69.1
Prescott *f*	N. 34 29	W. 112 31	4.38 a.m.	5300	1615	24.76	628.9	30.12	765.0	25.8	—3.4	65.0	2	2	2	4	6	2	.....	5	8	3296	5304	2	0.16	4.1
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.09	764.3	30.11	764.8	60.7	15.9	86.3	6	1	.....	2	1	4	3	14	.....	8025	12915	6	4.02	102.1
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.77	756.1	30.13	765.3	46.5	8.1	80.2	9	7	2	2	6	3	.....	1	1	6893	11093	5	9.40	238.8
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.97	761.2	30.20	767.1	43.1	6.2	79.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	4900	7886	7	3.48	88.4
Rochester	N. 43 08	W. 77 51	6.58 a.m.	589	179	29.46	748.3	30.12	765.0	17.8	—7.9	81.0	1	4	12	7	.....	5	1	1	.....	5316	9555	8	4.68	118.9
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.56	750.8	30.15	765.8	40.5	4.7	92.6	2	1	1	2	3	.....	3	2	17	1973	3175	7	11.60	294.6
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	30.07	763.8	30.15	765.8	45.7	7.6	89.7	7	1	.....	.....	7	11	4	1	.....	5548	8928	5	6.14	156.2
St. Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.58	751.3	30.20	767.1	18.2	—7.7	84.5	7	5	6	.....	7	2	4	.....	.....	7067	11373	6	0.49	12.4
St. Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.23	742.4	30.15	765.8	2.9	-16.2	78.7	3	8	3	2	.....	7	3	1	4	5570	8994	4	4.34	110.2
St. Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.27	743.4	30.18	766.6	-10.3	-23.5	98.0	1	8	5	3	10	1	.....	2	1	7065	11370	3	0.13	3.3
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.68	652.3	30.00	762.0	29.9	—1.2	46.9	6	.....	1	2	7	1	.....	.....	15	3360	5407	9	1.24	31.5
San Antonio *f*	N. 29 28	W. 98 22	5.34 a.m.	676	206	29.46	748.3	30.20	767.1	35.6	2.0	80.3	9	6	.....	1	2	.....	.....	4	9	3571	5747	5	0.58	14.7
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	30.07	763.8	30.14	765.5	46.4	8.0	70.6	4	1	1	.....	1	.....	6	14	4	4216	6785	3	0.52	13.2
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.45	748.0	30.17	766.3	20.1	—6.6	78.8	.....	5	.....	11	8	.....	3	2	2	8240	13261	8	1.31	33.3
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.11	764.8	30.15	765.8	23.3	—4.8	76.3	6	6	5	5	.....	1	1	6	1	9214	14828	5	5.03	127.8
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.07	763.8	30.13	765.3	51.6	10.9	78.4	7	2	1	3	3	8	1	4	2	5586	8990	6	8.69	220.7
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7049	2148	23.18	588.8	29.72	754.9	18.0	—7.8	68.5	13	.....	.....	1	.....	.....	3	.....	14	4232	6811	2	0.38	9.7
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.10	764.5	30.20	767.1	43.8	6.6	82.9	10	4	5	1	4	.....	2	5	.....	5067	8154	8	5.77	146.6
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.93	760.2	30.19	766.8	35.6	2.0	83.3	1	5	4	2	4	.....	2	5	8	3906	6286	6	2.24	56.9
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.24	615.7	30.72	780.3	24.5	—4.2	56.7	12	9	2	.....	1	.....	.....	.....	7	2500	4023	1	0.02	0.5
Smithville	N. 33 55	W. 78 01	6.56 a.m.	33	10	30.14	765.5	30.18	766.6	39.0	3.9	86.0	17	4	3	2	1	1	.....	.....	3	5831	9384	7	6.05	153.7
§Socorro *f*	N. 34 05	W. 106 55	5.01 a.m.	4565	1391	25.37	644.4	29.43	747.5	.....	.....	56.8	5	9	.....	5	1	2	3	5	1	4800	7725	2	0.55	14.0
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.47	748.5	30.20	767.1	17.9	—7.8	77.7	6	6	4	3	6	2	1	3	.....	6508	10473	6	0.84	21.3
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	30.00	762.0	30.14	765.5	15.1	—9.4	67.2	15	4	4	1	2	.....	1	.....	4	3575	5753	4	3.16	80.3
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.02	686.3	30.02	762.5	29.9	—1.2	77.6	9	1	1	10	7	.....	1	.....	2	6969	11215	4	0.20	5.1
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.03	762.7	30.09	764.3	22.4	—5.3	70.1	4	8	13	.....	.....	1	2	8	.....	14102	22694	7	4.56	115.8
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.43	747.5	30.16	766.1	19.5	—6.9	68.2	6	1	10	7	3	1	1	2	.....	5915	9519	4	0.54	13.7
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.59	700.8	30.14	765.5	33.7	0.9	52.5	.....	.....	2	2	21	3	1	.....	2	2981	4797	1	0.05	1.3
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.89	759.2	30.43	772.9	22.3	—5.4	86.5	1	5	6	3	2	8	3	2	1	4667	7511	7	2.45	62.2
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.21	741.9	30.08	764.0	35.1	1.7	68.6	12	4	1	.....	3	1	1	2	7	3002	4830	7	0.43	10.9
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.93	760.2	30.20	767.1	47.9	8.8	81.4	10	3	1	.....	5	4	3	3	2	4958	7979	7	3.37	85.6
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.77	756.1	30.15	765.8	42.9	6.1	88.9	2	5	.....	.....	1	10	11	1	1	1898	3054	4	2.71	68.8
Washington	N. 38 53	W. 77 01	7.00 a.m.	106	32	30.06	763.5	30.19	766.8	23.4	—4.8	85.6	5	10	2	1	2	2	1	5	3	3133	5042	7	5.14	130.6
Wickenburg *f*	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	31.0	—0.6	68.6	1	18	10	1	1	.....	.....	.....	.....	.....	.....	4	0.07	1.8
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	73	22	30.12	765.0	30.18	766.6	39.4	4.1	76.2	9	2	4	1	2	.....	2	6	5	4066	6544	4	5.06	128.5
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4342	1323	25.65	651.5	30.01	762.2	30.9	—0.6	71.6	.....	.....	.....	12	1	1	.....	16	1	6712	10802	3	3.08	78.2
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	30.03	762.7	30.07	763.8	23.6	—4.7	78.4	6	15	3	2	.....	2	1	2	.....	11267	18132	5	2.57	65.3
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.83	732.3	30.28	769.1	1.5	-16.9	73.9	10	6	1	2	1	1	.....	1	9	5557	8943	4	1.23	31.2
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.95	760.7	30.11	764.8	43.7	6.5	52.5	7	1	1	3	1	3	1	13	1	4248	6836	1	0	0
Sub-Series.																										
Bogota *a*	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.00	558.8	.....	.....	50.8	10.4	69.9	.....	.....	.....	.....	1	.....	2	.....	27	.....	.....	4	0.29	7.4
Buff Bay Town, Jam‡.	N. 18 15	W. 76 39	7.01 a.m.	?	?	29.89	759.2	30.20	767.1	68.2	20.1	88.1	*a*	.....	3	3	2	3	19	.....	.....	.....	.....	4	.....	.....
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.05	763.3	30.10	764.5	72.4	22.4	81.9	2	.....	.....	1	.....	7	.....	1	20	.....	.....	5	8.77	222.8
Jakobshavn	N. 69 13	W. 50 55	8.44 a.m.	43	13	30.00	762.0	30.06	763.5	18.3	—7.6	.....	3	1	10	4	3	2	.....	8	.....	.....	.....	5	0.67	17.0
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.04	763.0	30.05	763.3	67.1	19.5	81.9	10	.....	.....	.....	.....	.....	.....	.....	21	2439	3925	1	0.79	20.1
Navassa	N. 19 25	W. 75 03	7.43 a.m.	77	23	29.96	761.0	30.04	763.0	76.4	24.7	72.2	.....	.....	.....	.....	.....	.....	7	24	.....	.....	.....	6	2.03	51.6
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.01	762.2	30.01	762.2	76.7	24.8	87.7	.....	1	.....	.....	.....	4	26	.....	.....	.....	.....	9	15.05	382.3
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.40	746.7	29.98	761.5	82.0	27.8	87.6	.....	1	.....	.....	1	.....	.....	.....	29	.....	.....	2	0.97	24.6
Rivas	N. 11 26	W. 85 47	6.29 a.m.	150	46	.....	.....	.....	.....	73.4	23.0	.....	.....	.....	.....	.....	.....	11	10	10	.....	.....	.....	2	0.10	2.6
Santiago deCuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.02	762.5	30.05	763.3	73.6	23.1	77.0	11	1	.....	.....	.....	.....	.....	1	16	.....	.....	4	0.18	4.6
St. Thomas	N. 18 20	W. 64 55	7.48 a.m.	110	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	10	3	30.02	762.6	30.03	762.7	7.5	-13.6	.....	1	.....	14	1	2	4	1	.....	8	.....	.....	1	1.25	31.8
York Factory	N. 57 02	W. 92 56	5.58 a.m.	45	14	29.85	758.2	29.91	759.7	-32.9	-36.1	.....	3	9	4	7	8	.....	.....	.....	.....	.....	.....	4	0.49	12.4

The following table of Ocean Square mean data, from observations taken at 7.35 A. M, Washington or 0.43 P. M. Greenwich mean time, is computed from the isobars, isotherms and wind directions of the daily international charts, which latter are based upon the data obtained from the logs of vessels for the month of January, 1881.

Ocean Square Bounded by—	Barometer.		Temperature.		Prevail'g Wind.	Force 0–10.
	Inch.	Mill.	Fah.	Cent.		
N. 30° & 35° W. 10° & 15°	29.97	761.2	64.9	18.3	SW	3.1
N. 35 & 40 W. 10 & 15	29.87	758.7	58.7	14.8	SW	4.0
N. 35 & 40 W. 15 & 20	29.80	756.9	60.1	15.6	SW	4.6
N. 30 & 35 W. 15 & 20	29.89	759.2	65.0	18.3	SW	3.5
N. 40 & 45 W. 10 & 15	29.75	755.6	51.5	10.8	SE;NE	3.8
N. 45 & 50 W. 10 & 15	29.77	756.1	48.2	9.0	NE	4.7
N. 45 & 50 W. 15 & 20	29.73	755.1	50.4	10.2	NE;SE	5.3
N. 40 & 45 W. 15 & 20	29.70	754.4	53.6	12.0	SE	5.1
N. 50 & 55 W. 10 & 15	29.85	758.2	42.2	5.7	NE	4.0
N. 55 & 60 W. 10 & 15	29.91	759.7	39.5	4.2	NE	3.8
N. 55 & 60 W. 15 & 20	29.93	760.2	39.5	4.2	NE	4.1
N. 50 & 55 W. 15 & 20	29.87	758.7	44.1	6.7	NE	4.7
N. 10 & 15 W. 20 & 25	29.98	761.5	79.8	26.6	NE	2.0
N. 15 & 20 W. 20 & 25	30.02	762.5	76.3	24.6	NE	2.0
N. 15 & 20 W. 25 & 30	30.02	762.5	76.4	24.7	NE	2.0
N. 10 & 15 W. 25 & 30	30.00	762.0	79.3	26.3	NE	2.1
N. 20 & 25 W. 20 & 25	30.00	762.0	71.9	22.2	NE	2.6
N. 25 & 30 W. 20 & 25	29.95	760.7	68.2	20.1	SW	3.1
N. 25 & 30 W. 25 & 30	29.90	759.4	68.0	20.0	SW	3.4
N. 20 & 25 W. 25 & 30	29.97	761.2	71.5	21.9	NE	2.9
N. 30 & 35 W. 20 & 25	29.79	756.7	64.2	17.9	SW	4.4
N. 35 & 40 W. 20 & 25	29.67	753.6	60.0	15.6	SW	4.6
N. 35 & 40 W. 25 & 30	29.62	752.3	59.3	15.2	SW	3.8
N. 30 & 35 W. 25 & 30	29.72	754.9	63.1	17.3	SW	3.8
N. 40 & 45 W. 20 & 25	29.65	753.1	54.7	12.6	SE	4.9
N. 45 & 50 W. 20 & 25	29.67	753.6	51.2	10.7	NE;SE	5.4
N. 45 & 50 W. 25 & 30	29.61	752.1	51.4	10.8	SW	5.5
N. 40 & 45 W. 25 & 30	29.58	751.3	54.4	12.4	SE	4.9
N. 50 & 55 W. 20 & 25	29.80	756.9	45.1	7.3	NE	4.8
N. 55 & 60 W. 20 & 25	29.92	760.0	37.8	3.2	NE	4.4
N. 55 & 60 W. 25 & 30	29.90	759.4	38.0	3.3	NE	4.3
N. 50 & 55 W. 25 & 30	29.79	756.7	44.2	6.8	NE	4.9
N. 20 & 25 W. 30 & 35	29.96	761.0	71.0	21.7	NE	2.7
N. 25 & 30 W. 30 & 35	29.86	758.4	67.4	19.7	SW	3.1
N. 25 & 30 W. 35 & 40	29.87	758.7	67.1	19.5	SW	3.0
N. 20 & 25 W. 35 & 40	29.97	761.2	71.4	21.9	NE	2.1
N. 30 & 35 W. 30 & 35	29.70	754.4	62.5	16.9	SW	3.9
N. 35 & 40 W. 30 & 35	29.60	751.8	58.4	14.7	SW	3.8
N. 35 & 40 W. 35 & 40	29.62	752.3	57.9	14.4	SW	3.8
N. 30 & 35 W. 35 & 40	29.71	754.6	61.8	16.6	SW	3.2
N. 40 & 45 W. 30 & 35	29.53	750.0	54.1	12.3	SW	4.6
N. 45 & 50 W. 30 & 35	29.54	750.3	50.4	10.2	SE	5.6
N. 45 & 50 W. 35 & 40	29.52	749.8	49.0	9.4	NE	5.1
N. 40 & 45 W. 35 & 40	29.41	747.0	52.0	11.1	NE	4.8
N. 50 & 55 W. 30 & 35	29.73	755.1	43.2	6.2	NE	5.1
N. 55 & 60 W. 30 & 35	29.86	758.4	36.8	2.7	NE	4.4
N. 55 & 60 W. 35 & 40	29.84	757.9	35.9	2.2	NE	3.7
N. 50 & 55 W. 35 & 40	29.72	754.9	40.3	4.6	NE	4.5
N. 30 & 35 W. 40 & 45	29.77	756.1	61.5	16.4	SW	3.4

Ocean Square Bounded by—	Barometer.		Temperature.		Prevail'g Wind.	Force 0–10.
	Inch.	Mill.	Fah.	Cent.		
N. 35° & 40° W. 40° & 45°	29.67	753.6	58.3	14.6	SW	3.9
N. 35 & 40 W. 45 & 50	29.73	755.1	54.1	12.3	NW	4.2
N. 30 & 35 W. 45 & 50	29.82	757.4	61.1	16.2	NW	4.1
N. 40 & 45 W. 40 & 45	29.55	750.6	49.3	9.6	NE	4.5
N. 45 & 50 W. 40 & 45	29.54	750.3	43.9	6.6	NE	4.8
N. 45 & 50 W. 45 & 50	29.61	752.1	37.3	2.9	NE	4.1
N. 40 & 45 W. 45 & 50	29.62	752.3	41.9	5.5	NW	4.6
N. 50 & 55 W. 40 & 45	29.71	754.6	37.5	3.1	NE	4.1
N. 55 & 60 W. 40 & 45	29.84	757.9	33.7	0.9	NE	3.6
N. 55 & 60 W. 45 & 50	29.84	757.9	31.0	— 0.6	NE	3.3
N. 50 & 55 W. 45 & 50	29.76	755.9	31.2	— 0.5	NW	3.6
N. 30 & 35 W. 50 & 55	29.90	759.4	61.0	16.1	NW	3.7
N. 35 & 40 W. 50 & 55	29.80	756.9	53.0	11.7	NW	4.2
N. 35 & 40 W. 55 & 60	29.87	758.7	52.3	11.3	NW	4.1
N. 30 & 35 W. 55 & 60	29.96	761.0	60.8	16.0	NW	3.6
N. 40 & 45 W. 50 & 55	29.70	754.4	36.7	2.6	NW	4.2
N. 40 & 45 W. 55 & 60	29.78	756.4	31.9	— 0.1	NW	4.2
N. 30 & 35 W. 60 & 65	30.03	762.7	60.9	16.1	NW	3.7
N. 35 & 40 W. 60 & 65	29.96	761.0	49.6	9.8	NW	3.9
N. 35 & 40 W. 65 & 70	30.06	763.5	46.0	7.8	NW	3.9
N. 30 & 35 W. 65 & 70	30.08	764.0	56.5	13.6	NW	3.7
N. 40 & 45 W. 60 & 65	29.92	760.0	30.0	— 1.1	NW	4.0
N. 40 & 45 W. 65 & 70	30.01	762.2	24.6	— 4.1	NW	3.5
N. 25 & 30 W. 70 & 75	30.12	765.0	67.7	19.8	NW	3.2
N. 25 & 30 W. 75 & 80	30.14	765.5	61.4	16.3	NE	3.1
N. 30 & 35 W. 70 & 75	30.12	765.0	53.1	11.7	NW	3.4
N. 35 & 40 W. 70 & 75	30.10	764.5	38.5	3.6	NW	3.5
N. 30 & 35 W. 75 & 80	30.16	766.1	45.3	7.4	N	2.8

The following table shows the position of Ocean Squares, the total number of observations and the number of days on which observations were taken for each square during the month of Jannary, 1881.

Ocean Square Bounded by—	No. of Days.	No. of Observations.	Ocean Square Bounded by—	No. of Days.	No. of Observations.
N. 55 & 60 W. 5 & 10	1	1	N. 15 & 20 W. 55 & 60	3	3
N. 35 & 40 W. 10 & 15	1	1	N. 15 & 20 W. 60 & 65	5	5
N. 35 & 40 W. 15 & 20	10	10	N. 10 & 15 W. 20 & 25	1	1
N. 30 & 35 W. 15 & 20	12	15	N. 10 & 15 W. 40 & 45	3	3
N. 40 & 45 W. 10 & 15	4	4	N. 10 & 15 W. 45 & 50	1	1
N. 45 & 50 W. 10 & 15	12	13	N. 10 & 15 W. 50 & 55	1	1
N. 45 & 50 W. 15 & 20	7	8	N. 10 & 15 W. 55 & 60	4	6
N. 40 & 45 W. 15 & 20	2	2	N. 10 & 15 W. 60 & 65	6	6
N. 50 & 55 W. 10 & 15	7	9	N. 10 & 15 W. 70 & 75	1	1
N. 55 & 60 W. 10 & 15	1	1			
N. 55 & 60 W. 15 & 20	1	1			
N. 50 & 55 W. 15 & 20	11	16			
N. 10 & 15 W. 20 & 25	1	1			
N. 15 & 20 W. 25 & 30	3	3			
N. 20 & 25 W. 20 & 25	8	12			
N. 25 & 30 W. 20 & 25	7	10			
N. 20 & 25 W. 25 & 30	3	3			
N. 30 & 35 W. 20 & 25	10	12			
N. 35 & 40 W. 20 & 25	8	11			
N. 35 & 40 W. 25 & 30	1	1			
N. 40 & 45 W. 20 & 25	2	2			
N. 45 & 50 W. 20 & 25	8	9			
N. 45 & 50 W. 25 & 30	12	14			
N. 40 & 45 W. 25 & 30	1	1			
N. 50 & 55 W. 20 & 25	10	12			
N. 50 & 55 W. 25 & 30	9	10			
N. 50 & 55 W. 5 & 10	12	13			
N. 35 & 40 W. 30 & 35	2	2			
N. 35 & 40 W. 35 & 40	3	3			
N. 30 & 35 W. 35 & 40	1	1			
N. 40 & 45 W. 30 & 35	1	1			
N. 45 & 50 W. 30 & 35	13	15			
N. 45 & 50 W. 35 & 40	13	15			
N. 40 & 45 W. 35 & 40	1	1			
N. 50 & 55 W. 30 & 35	4	5			
N. 50 & 55 W. 35 & 40	2	3			
N. 35 & 40 W. 40 & 45	1	1			
N. 40 & 45 W. 40 & 45	5	5			
N. 45 & 50 W. 40 & 45	11	13			
N. 45 & 50 W. 45 & 50	14	16			
N. 40 & 45 W. 45 & 50	7	7			
N. 45 & 50 W. 50 & 55	3	4			
N. 45 & 50 W. 55 & 60	1	1			
N. 40 & 45 W. 50 & 55	14	17			
N. 40 & 45 W. 55 & 60	13	18			
N. 30 & 35 W. 60 & 65	2	2			
N. 35 & 40 W. 60 & 65	2	2			
N. 35 & 40 W. 65 & 70	3	3			
N. 30 & 35 W. 65 & 70	4	4			
N. 40 & 45 W. 60 & 65	13	22			
N. 40 & 45 W. 65 & 70	11	18			
N. 40 & 45 W. 70 & 75	2	2			
N. 30 & 35 W. 70 & 75	2	2			
N. 35 & 40 W. 70 & 75	9	13			
N. 30 & 35 W. 75 & 80	2	2			
N. 45 & 50 W. 5 & 10	11	12			
N. 35 & 40 W. 65 & 70	9	13			
N. 35 & 40 W. 70 & 75	6	6			
N. 25 & 30 W. 15 & 20	4	4			
N. 25 & 30 W. 40 & 45	2	2			
N. 25 & 30 W. 55 & 60	3	3			
N. 25 & 30 W. 60 & 65	3	3			
N. 20 & 25 W. 45 & 50	2	2			
N. 20 & 25 W. 55 & 60	2	2			
N. 20 & 25 W. 60 & 65	8	8			
N. 15 & 20 W. 30 & 35	2	2			
N. 15 & 20 W. 35 & 40	2	2			
N. 15 & 20 W. 50 & 55	2	2			

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error only, when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus, s, stratus; n, nimbus, d, scud; f, fracto; p, pallio, hz, haze; fg, fog; sk, smoke; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters heretofore given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms. At Hobart Town the barometer is given in English inches reduced to sea-level. The movement of the air is indicated in pounds pressure per square foot. The kind of clouds is given and indicated by abbreviating the English nomenclature.

AUSTRO-HUNGARIAN SERIES—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations the rain-fall is measured by local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz observations are made at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p, m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured by local time: Bradford, 9 a. m; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind directions are given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. The movement of the air is indicated by the Beaufort scale, except at St. Pierre, where it is given on a scale of 0 to 7. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4. while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San Jose the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made in kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force and is given on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds are given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLAND SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia, and Santiago as corrected for temperature only. The movement of the air, except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea disturbance is is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

BRITISH MERCHANT-MARINE SERIES.—Same as the Naval, except that frequently the direction of the wind is given to the true meridian.

GERMAN MERCHANT-MARINE SERIES.—Same as U. S. Naval, except that the S. S. Braunschweig gives the sea-swell occasionally on the scale of 0 to 9 and the S. S. Leipsig on the scale of 0 to 12.

SWEDISH MERCHANT-MARINE SERIES.—Same as Swedish Naval.

UNITED STATES MERCHANT-MARINE SERIES.—Same as U. S. Naval.

ERRATA.

DAILY BULLETIN, JANUARY, 1881—1st, page 11, White Star Line S. S Germanic, barometer reduced, 744.4, should read, 774.4. Swedish Merchant Marine Series, Barque Adolph Fredholm, should read. Barque Adolf Fredholm; make similar correction on the 2d, 4th, 5th, 6th, 7th, 8th, 10th, 12th, 14th, 16th, 18th, 20th, 22d, 24th, 26th, 28th, 30th.

2d, page 3, German Series, the following stations should read: Thorn, no observations; Wiessenburg, Bavaria, 28.90, &c.; Wustrow, 30.38, &c. Make similar corrections on the 3d, 4th, 5th, 6th, 7th, 8th.

5th, page 4, Italian Sub-Series, Stelvio, rain-fall, 11.811 inches or 300.0 m. m., should read, 1.181 inches or 30.0 m. m. Valdobbia, rain-fall, 59.055 inches or 1500.0 m. m.; should read 5.905 inches or 150.0 m. m.; total for 90 hours

6th, page 4, Italian Sub-Series, Stelvio, rain-fall, 5.118 inches or 130.0 m. m., should read, 0.512 inches or 13.0 m. m. Page 7, United States Series, New River, N. C., insert figure 2 in column for force.

10th, page 9, British Naval Series, H. M. S. Sea-Gull, E. 48° 09′, should read E. 48° 09′.

13th, page 9, British Naval Series, H. M. S. Superb, W. 15° 18′ should read, E. 15° 18′. Page 11, German Merchant Marine Series, S. S. Köln, rain and s'w, should read, rain and snow.

14th, page 4, Italian Series, Valdobbia, rain-fall, 11.811 inches, or 300.0 m. m., should read 1.181 inches or 30.0 m. m. Page 8, British Naval Series, H. M. S. Alexandra, reduced barometer 56.1, should read, 756.1

15th, page 5, Scottish Series, North Unst, barometer reduced, 29.71 in. or 754.6 m. m., should read 29.61 in. or 752.1 m. m.

20th, page 10, United States Naval Series, Alert, Hong-Kong, China, barometer reduced, 763.8, should read 763.5.

24th, page 9, British Naval Series, H. M. S., Tenedos, W. 90° 36′, should read W. 50° 36′.

MONTHLY SUMMARY, DECEMBER, 1880—Page 4, Russian Series, Barnaul, barometer reduced, 29.44, should read 30.44. Kieff. actual barometer, 740.6 should read 740.9.

Page 5, United States Series, Cleveland, temperature, Centigrade, 5.2, should read —5.2. McKavett, actual barometer, 25.84, should read 27.84. Jacksboro, total movement, 9584, should read 8584

Page 6, United States Series continued. San Diego, relative humidity, 90.3, should read 80.3. U. S. Sub-Series, Rivas, rain-fall, 0.16 inches or 4.1 m. m., should read ——. Santiago de Cuba, rain-fall, ——, should read 0.16 inches, or 4.1 m. m. St. Thomas, rain-fall, 0.005 inches or 0.13 m. m., should read ——. Upernavik, rain-fall, 0.26 inches or 6. m. m., should read 0.005 inches or 0.13 m. m. York Factory, rain-fall, ——, should read 0.26 inches or 6.6 m. m.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

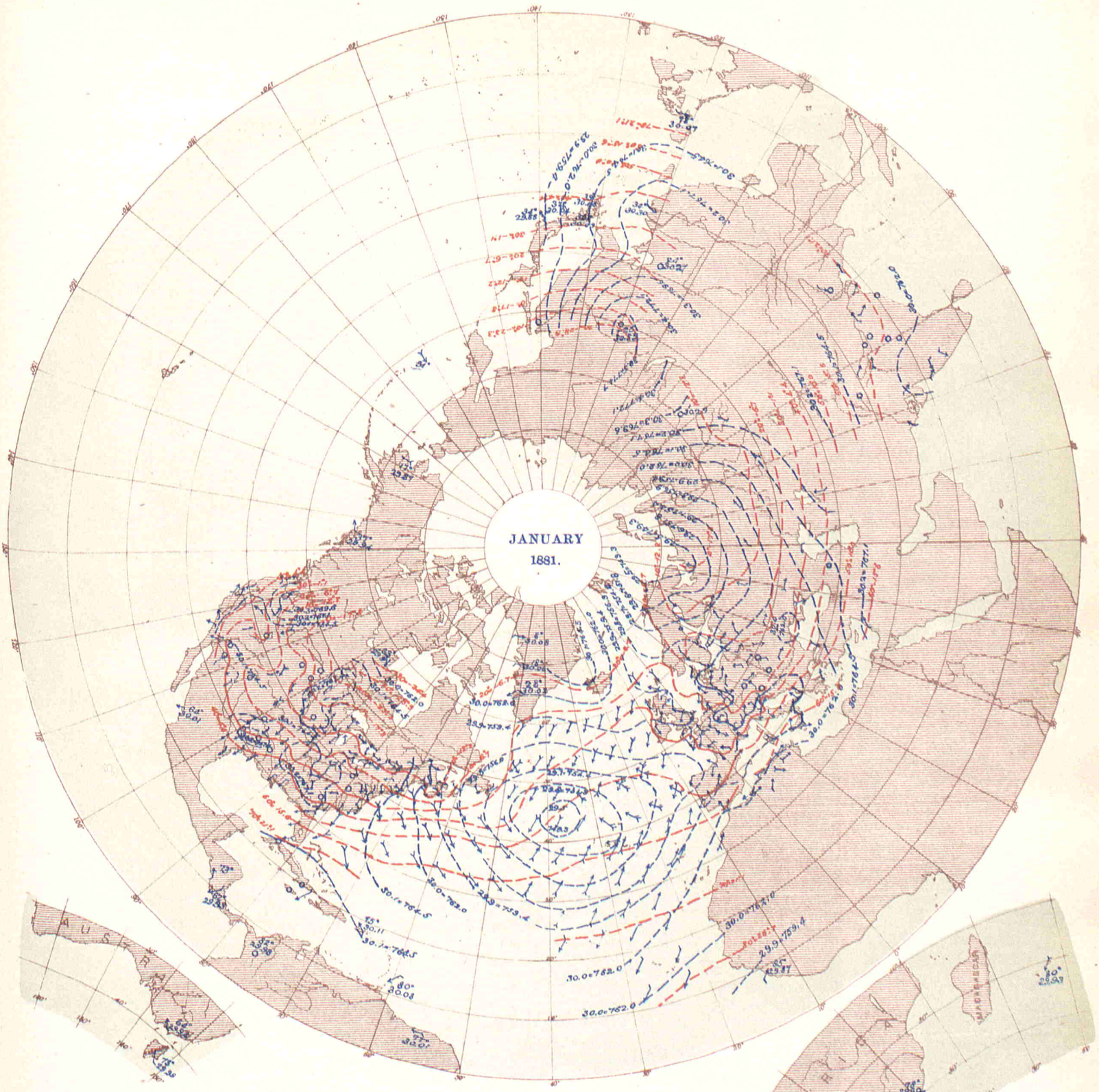
W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.



PREVAILING WINDS.

Arrows show the direction of and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
O	0	0	0
	1, 2	0 to 9	0 to 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

BRIG. & BVT. MAJ. GEN'L,
CHIEF SIGNAL OFFICER, U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *blue;* detached barometer means in English inches.

Isotherms in *red;* detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:35 A. M., Washington mean time, for the month of JANUARY, 1881., based on the daily charts of the International Bulletin.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF FEBRUARY, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
MARCH, 1882.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

FEBRUARY, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for February, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
Algerian Series.	° ′	° ′																								
Mogador ‡	N. 31 30	W. 9 44	11.29 a.m.	56	17			30.05	763.2	64.4	18.0	77.6		1	6	5		1		14	1			4	4.11	104.5
Nemours ‡	N. 35 06	W. 1 51	12.01 p.m.	20	6			29.92	759.9	64.4	18.0	84.0	3	5	7	6	4	2		1				2	1.10	27.8
Algiers ‡	N. 36 47	E. 3 04	0.20 p.m.	99	325			29.95	760.6	61.7	16.5	64.9	2	2	11	6	1	2	3		1			6	3.31	84.0
La Calle ‡	N. 36 54	E. 8 26	0.42 p.m.	36	11			29.94	760.5	61.0	16.1	76.1	2	10	4	1	5	3		3				5	4.52	114.8
Tunis ‡	N. 36 47	E. 10 11	0.49 p.m.	46	14			29.90	759.5																	
Sfax ‡	N. 34 45	E. 10 36	0.50 p.m.	?	?			30.00	762.0																	
Saida ‡	N. 34 51	E. 0 10	0.09 p.m.	2844	867			30.00	761.9	58.3	14.6	53.8		2	16	1	5	3	1					5	1.26	32.0
Tebessa ‡	N. 35 24	E. 8 06	0.40 p.m.	2890	881			30.00	762.1	55.2	12.9	45.7	5	7	5	1	2	4			4			6	1.25	31.7
Geriville ‡	N. 33 45	E. 1 10	0.13 p.m.	4285	1306																					
Laghouat ‡	N. 33 48	E. 2 51	0.19 p.m.	2556	770			30.03	762.8	59.9	15.5	59.6	3		6	4	7	4	3	1				3	1.25	31.7
Biskra ‡	N. 34 51	E. 5 40	0.31 p.m.	410	125			30.06	763.4																	
Australian Series.																										
Melbourne	S. 37 49	E. 144 58	9.47 p.m.	91	28	29.96	761.0	30.05	763.3	63.4	17.4	70.3	3	1		3	8	12			1			4	0.29	7.4
Sub-Series.																										
Hobart Town	S. 42 52	E. 147 22	9.58 p.m.	105	32																					
Austro-Hungarian Series.																										
Agram	N. 45 47	E. 15 53	1.12 p.m.	512	156	29.46	748.2	30.03	762.7	35.8	2.1	83.0												7	1.24	31.6
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.19	741.5	30.00	762.1	32.7	0.4	87.4		1	7	8		1	2	9				6	0.39	10.0
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.09	738.9	30.00	762.1	34.5	1.4	73.0	1	3			8	3			13			1	0.22	5.7
Gratz ‡	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.72	729.5	30.02	762.5	35.8	2.1	74.3		2	2	16	7	1						5	0.34	8.5
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1355	412	28.54	724.8	30.04	762.9	31.5	—0.3	86.4	2	2	1	1	6	9	6	1				6	3.31	84.0
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1260	384	28.57	725.7	29.97	761.2	32.0	0.0	89.3			2	5				8	13			8	0.66	16.7
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.00	736.5	30.02	762.6	30.9	- 0.6	73.1		5		3	1	15		4				7	0.49	12.4
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.84	757.9	29.96	760.9	47.3	8.5	66.7	1	1	6	3		7	4	5	1			6	4.86	123.5
Szathmar	N. 47 49	E. 22 51	1.39 p.m.	430	131	29.57	751.0	30.03	762.7	34.3	1.3	82.1	4	4	3	4	4	3	6					5	0.79	20.1
Szegedin *b*	N. 46 15	E. 20 07	1.28 p.m.	256	78	29.74	755.5	30.03	762.7	32.5	0.3	76.1	1	3			11	2			7			6	0.06	1.5
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.88	759.0	29.98	761.6	45.1	7.3	65.3	2		1	1			5	5	14			6	0.94	23.9
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.27	743.5	30.02	762.6	34.2	1.2	74.8	1	2	5		1	15	1		3			8	0.57	14.4
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.64	752.8	29.84	758.0	40.6	4.8	79.4	2	3	3	2	5	3	4	5	1			8	2.54	64.4
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	29.80	756.8	29.82	757.4	41.2	5.1	81.1	5	2	2	3	4	1	4	6				8	1.52	38.6
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.72	754.9	29.85	758.1	40.8	4.9	82.9	4		6	5	1		8	4				8	2.34	59.3
British Series.																										
Aberdeen	N. 57 10	W. 20 6	0.00 m.	86	26	29.74	755.4	29.84	757.9	35.9	2.2	83.7	2	7	3	2	5	4	3	2				8	4.46	113.3
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63	29.59	751.6	29.83	757.7	40.9	4.9	82.9	3	1	4	3	3	5	5	4				7		
Bidston	N. 53 24	W. 3 04	11.58 a.m.	180	85			29.80	756.9	39.3	4.1	80.4	3	4	1	6	1	6	6	1				7		
Bolton	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.25	742.9	29.79	756.7	37.5	3.1	85.8	3	4	2	3	2	8	2	4				8		
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.37	746.0	29.76	755.9	38.0	3.3	87.5		2	1	6		6	2	7				9	4.04	102.6
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.94	760.5	29.98	761.5	81.1	27.3	68.1												5		
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33			29.82	757.4	40.4	4.7	84.6	5	3	2	1	4	4	3	6				8		
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.74	755.4	29.88	758.9	40.0	4.4	77.8	2	3	3	4	2	3	1	6	4			8		
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.61	752.1	29.84	757.9	44.4	6.9	78.9	1	5	4	2	4	1	6	5				8		
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.59	700.8	29.80	756.9	75.0	23.9	84.3		3		1		3	1	20				4		
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.62	752.3	29.85	758.2	86.0	30.0	87.4		3	8	8	1	4	2	2				7		
Galway	N. 53 15	W. 9 03	11.32 a.m.	25	8			29.70	754.4				6	1	4	2	4	2	1	5	1			8		
Gibraltar	N. 36 06	W. 5 21	11.47 a.m.	50	15	29.96	761.0	30.01	762.2	61.0	16.4	92.5	2	5	10	4		1	3	3				5		
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.60	751.8	29.81	757.2	37.6	3.1	77.7	3	2	5	2	4	2	2	8				5		
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.67	753.6	29.85	758.2	39.7	4.3	84.5	5	3	1	5	5	1	1	7				9		
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.61	752.1	29.84	757.9	44.6	7.0	81.0	2	4	1	4	1	4	5	7				6		
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.78	756.4	29.82	757.4	39.8	4.3	78.0	8	4	2	1	6	3		4				9		
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.55	750.6	29.81	757.2	40.3	4.6	81.4	2			9	5	2		10				8		
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	29.78	756.4	29.86	758.4	59.7	15.4	73.9		9	1	5		9	1	3				5		
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13			30.10	764.5	71.0	21.7	70.5	2	3			5	4	5	9				6		
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.30	744.2	29.84	757.9	38.9	3.8	83.5	6	3	3	1	3	5		6	1			8		
Oxford	N. 51 46	W. 1 17	0.03 p.m.	232	70	29.61	752.1	29.87	758.7	39.7	4.3	83.9	7	4	1	2	3	6	2	1	2			9		
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.76	755.9	29.83	757.7	43.4	6.3	84.2		2	4	4		5	4	9				8		
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29			29.85	758.2	36.1	2.3	90.9	3	2	2		7	4	6	4				9		
Scutari Cemetery	N 41 00	E. 29 03	2.04 p.m.	60	18	29.88	758.9	29.95	760.7	42.9	6.1	80.3	11	1		2		1		13				8		
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.55	750.6	29.83	757.7	39.1	3.9	85.0	1		2	5	4	2	2	11	1			8		
Stilloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.77	756.1	29.80	759.9	40.3	4.6	83.5	4		5			4	9	1	5			7	3.31	84.1
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110			29.82	757.4	37.4	3.0	82.6	1	3	3	1	4	2	6	8				9		
Strathfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.64	752.8	29.86	758.4	40.2	4.6	82.6	2	2	3	3	3	7		8				9		
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.77	753.1	29.83	757.7	48.2	9.0	81.2	1	3	4	5	2	2	5	6				8		
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	29.77	756.1	29.79	756.7	45.5	7.5	78.7	4		2	2	2	6	5	7				8		

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
Canadian Series	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	4	1																					
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.97	761.2	30.01	762.2	17.1	— 8.3	94.0	4	6	6	3	2	2			5	5442	8758	6	4.20	106.7
Chatham	N. 47 03	W. 65 29	7.45 a.m.	50	15	29.98	761.5	30.05	763.3	11.6	—11.3	90.4	2	4	3	5				3	11	2858	4599	7	2.39	60.7
Chicoutimi																										
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53																					
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	30	9																					
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.07	763.8	30.09	764.3	12.9	—10.6	76.2	3	12	1	4	2	2		4		8376	13480	7	1.16	29.5
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	758	231	29.34	745.2	30.25	768.3	- 4.3	—20.2	98.9	4	4	1	5		8	2	4				6	3.74	95.0
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18																					
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309																					
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.92	760.0	30.06	763.5	22.7	— 5.2	90.0	2	9	8	2	2	2	1	2				6	3.69	93.7
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	332	101																					
Kingston	N. 44 14	W. 76 30	7.02 a.m.	335	102	29.81	757.2	30.17	766.3	14.4	— 9.8	87.1	3	5	2	4	5	3	2	2	2	3748	6032	6	2.80	71.1
Little Glace Bay	N. 46 11	W. 59 58	8.08 a.m.	34	10																					
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.95	760.7	30.16	766.1	13.5	—10.3	84.0	1	3	7	6	3	2	2	2	2			7	3.45	87.6
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9																					
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	641	195	29.42	747.3	30.15	765.8	9.8	—12.3	82.0	3		5	2	6	5	3		4	6837	11003	6	1.58	40.1
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210																					
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.47	748.5	30.19	766.8	15.2	— 9.3	96.4	3	7	1	7	3	1	1	1	4	4970	7998	7	1.77	45.0
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.48	748.8	30.19	766.8	14.5	— 9.7	88.8	3	3	8	1		1	11	1				8	4.95	102.9
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.80	756.9	30.15	765.8	9.1	—12.7	82.8	1	5	13	1			1	5	2			6	1.68	42.7
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.69	754.1	30.20	767.1	5.6	—14.7	84.8		6	3	1		1	9		8			5	1.68	42.7
Saugeen	N. 44 30	W. 80 21	6.42 a.m.	641	208	29.39	746.5	30.13	765.3	14.1	— 9.9	88.4	1	3	1	2	6	6	2	6	1	8103a	13040a	7	1.62	41.1
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	?	?	30.02	762.5	30.08	764.0	18.6	— 7.4	84.8	3	11		3	2	2		1	6			4	3.21	81.5
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46																					
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360																					
Sydney	N. 46 08	W. 60 10	8.07 a.m.	27	8	29.94	760.5	29.99	761.7	18.5	— 7.5	91.7	3	2	6	6	1	2	1	1	6	5487	8830	7	5.26	133.6
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	150	29.78	756.4	30.20	767.1	16.8	— 8.4	90.3	6	7	2	3	1	2	3	2	2	7136	11484	6	0.85	21.6
Windsor																										
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299																					
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.01	762.2	30.08	764.0	24.5	— 4.2	79.5	7	7		3	2	2	3	4				6	4.80	121.9
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.74	755.4	30.01	762.2	24.3	— 4.3	88.9	1	6	5	7	2	4		3				5	4.34	110.2
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?																					
Cape Colony Series.																										
Cape St. Francis	S. 34 10	E. 24 53	1.48 p.m.	25	7	29.92	760.0			68.9	20.5	86.0			7	6	2	7	6					4	0.25	6.3
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.92	760.0	29.96	761.0	45.5	7.5	51.4	1	3	2	1	19	2						4	0.11	2.8
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.23	767.8	30.26	768.5	41.0	5.0	87.3	8	1	2		1	3	7	6				7	2.11	53.5
Costa Rica Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	26.24	666.5	29.95	760.7	61.9	16.6	87.9						13		9	6			2	.0	.0
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	46	13	29.87	758.7	29.92	759.9	28.2	— 2.1	85.0	5	1		2	1	13	3	1	2			8		
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.85	758.2	29.87	758.6	29.1	— 1.6	90.6	5	1	2	1	3	2	8	5	1			8		
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.67	753.6	29.71	754.7	17.6	— 8.0	81.0	8	1	1		1	2		10	5			6		
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.80	757.0	29.85	758.1	14.5	— 9.7	88.8			1	1	4	1	18	2	1			5		
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.90	759.4	29.93	760.3	37.2	2.9	78.6	4		1		6		5	7	5			8		
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.83	757.6	29.92	760.0	26.6	— 3.0		4		1	1	2		6	10	4			8		
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.28	743.8	29.93	760.2	51.6	10.9	73.6	1	3	5	1	1	16		1					1.08	27.3
Alençon	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.37	749.0	29.92	760.0	42.3	5.7	90.9	3	6		7	5			7				7	2.16	54.9
Arras	N. 50 17	E. 2 47	0.19 p.m.	239	73	29.60	751.8	29.86	758.5	39.9	4.4	85.3	2a	4	2	4	3	3	1	8						
Avignon	N. 43 57	E. 4 38	0.26 p.m.	65	20	29.88	758.9	29.96	760.9	52.9	11.6	58.8	14	2		1		5	5	1				5	1.67	42.4
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	517	157	29.34	745.3	29.89	759.3	47.5	8.6	73.2		2	2	2	9	9	3	1				8	1.78	45.2
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.61	752.0	29.88	758.9	42.3	5.7	79.9	4	1	2	2	2	4	5	6	2			9	1.35	34.4
Besançon	N. 47 14	E. 6 01	0.32 p.m.	829	250	29.06	738.0	29.97	761.3	46.4	8.0	75.1			4	2	14	3	3	2					3.46	87.8
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.64	752.9	29.89	759.3	52.0	11.1	71.4	4	4	2	1	4	13						8	2.04	51.8
Bourges	N. 47 10	E. 2 24	0.17 p.m.	510	156	29.32	744.6	29.86	758.5	47.5	8.6	77.4a	1	2	1	4	5	4	4	7					2.85	72.4
Brest	N. 48 23	W. 4 29	11.50 a.m.	213	65	29.65	753.0	29.89	759.3	48.7	9.3	83.6	1	3	2	5	4	1		11	1			7	6.79	172.4
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.72	754.9	29.80	756.9	46.4	8.0	95.8	5	3	2	1	4	5	3	5				8	2.14	54.3
Châlons-sur-Marne	N. 48 57	E. 4 23	0.25 p.m.	294	90	29.57	751.1	29.91	759.6	45.3	7.4	84.7	2a	2	2	4	9	6	2					7	1.97	50.0
Charleville	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.34	745.1	29.88	759.0	43.5	6.4	73.1	2	2		3	10	6	5					6	3.64	92.5
Clermont-Fd.	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.53	724.6	29.92	759.9	49.1	9.5	59.4	1	5	3	2	8	6	3					7	1.91	48.5
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.09	738.9	29.94	760.4	49.3	9.6	74.6	4	2		3	7	9	1	2				4	0.87	22.0
Commercy	N. 48 45	E. 5 35	0.30 p.m.	817	249	29.02	737.0	29.91	759.6	42.8	6.0	82.6	2	1	5	3	3	6	8						2.49	63.2
Gap	N. 44 34	E. 6 04	0.32 p.m.	2427	740	27.39	695.8	29.98	761.5	41.9	5.5	62.5	4	2	2	1	13	3		3				5	0.98	25.0
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	28.84	732.5	29.98	761.6	50.2	10.1	59.5	1				5	7		15				6	1.26	31.9
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.17	741.0	29.96	760.9	46.2	7.9	67.5c	3	3	3	2	1	4		12					2.81	71.3
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.31	719.0	29.90	759.4	47.8	8.8	70.0		3	2	11	2	10							4.56	115.7
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.60	751.8	29.88	758.9	46.2	7.9	82.6	9				3	7	5	4					1.60	40.7
Lescar	N. 43 21	W. 0 26	0.05 p.m.	525	160	29.33	745.0	30.00	762.1	54.1	12.3	77.1	2a	2	6	2	1		7	7				5	3.70	94.1
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	29.80	752.8	29.90	759.4	49.5	9.7	85.2	6	2	2	3	1	5	3	6				7	4.56	115.7
Lyons	N. 45 45	E. 4 49	0.27 p.m.	574	175	28.87	733.3	29.92	759.9	48.0	8.9	63.6	1	3	1	1	11	8	3					5	1.22	31.0
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.60	751.7	29.92	759.9	44.1	6.7	85.4	3	2	3	1	7		6	6				6	2.28	57.9
Marseilles	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.66	753.4	29.93	760.3	53.8	12.1	62.9	1	6	4	2	1	1	13					6	1.37	34.8
Mont-Louis g	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.66	626.3	29.89	759.3	38.7	3.7	61.8	1	1	6	7		2	3	1				4	1.90	48.2
Montpelier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.84	757.9	29.95	760.7	52.5	11.4	70.3	4b	7	2	1	1	4	4	3				5	2.31	58.7
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.12	739.7	29.90	759.4	43.0	6.1	79.4	1	3	8	7	6	1		2				7	1.17	29.7
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.75	755.6	29.91	759.7	48.9	9.4	82.9	4	1	4	4	1	2	5	7				7	2.03	51.6
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.88	758.9	29.91	759.7	55.6	13.1	61.3	1	1	4	3		3	13	3				7	0.82	20.7
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	98	30	29.83	757.6	29.94	760.4	53.6	12.0	62.7	6	5		1	2	9	3	1	1			6	6.24	158.6
Pic du Midi (Pltde)	N. 42 15	E. 0 08	0.08 p.m.	7763	2366	22.35	567.8			30.2	— 1.0													6	9.60	243.7
Privas	N. 44 44	E. 4 35	0.26 p.m.	997	304	28.90	734.0	29.97	761.1	48.9	9.4	66.3a	8c	3	1		6	3		2				5	0.35	9.0
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	24.95	633.7			31.5	— 0.3	93.0	2	1	5	3	3	6	8					8	5.82	147.7
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.89	759.1	29.91	759.8	52.5	11.4	77.0	a	2	5	3	2	8	5	2				6	5.39	136.8
Roche-sur-Yon	N. 46 40	W. 1 26	0.14 p.m.	198	60	29.69	754.2	29.91	759.8	49.1	9.5	81.3	4	3	2	3	2	6	6	2				6	0.96	24.5
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	27.78	705.6	29.96	761.1	44.4	6.9	73.5		3	7		2	1	14	1				5	2.32	59.0
Rouen	N. 49 26	E. 1 14	0.13 p.m.	80	24	29.77	756.2	29.85	758.3	44.2	6.8	71.6	4	1	1	1	4	9	1	7				6	1.99	50.6
Saint Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.72	754.8	29.87	758.8	45.0	7.2	80.9	1	3	8	1	2	6	3	4				6	2.10	53.4
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.71	754.7	29.88	758.9	43.0	6.1	81.2	7	6	3	4	3	3	1	1				9	1.62	41.1
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.23	742.5	29.96	760.9	50.4	10.2	76.7		3	7	1	1	15	1					7	3.28	83.2
Tours	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.70	754.4	29.91	759.6	48.4	9.1	74.0	2	3	3	1	3	7	6	3				7	2.02	51.2
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.38	746.2	29.87	758.7	42.4	5.8	81.4	5	5	2	4	4	4		4					1.54	39.2
Sub-Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.18 p.m.	213	66																					

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for February, 1881. 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.
German Series.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 53	1.51 p.m.	774	236	29.04	737.5	29.90	759.4	37.8	3.2	73.9	3	2	4	1	3	8	4	1	2			5	1.59	40.4
Berlin	N. 52 30	E. 13 23	1.02 p.m.	157	48	29.73	755.1	29.91	759.6	35.1	1.7	71.5	1	8		5	2	8	2	2				7	1.19	30.2
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.44	747.8	29.97	761.2	33.6	0.9	74.7		1	5	3	3	10	3	1	2			7	0.56	14.2
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.48	748.8	29.91	759.7	37.8	3.2	77.5	1	1		3	8	2	3	9	4			7	2.46	62.4
Cassel	N. 51 19	E. 9 28	0.46 p.m.	561	171	29.24	742.8	29.85	758.3	38.3	3.5	78.2	3	1	3	3	5	7	4	2				6	1.76	44.6
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.59	751.6	29.97	761.2	39.6	4.2	74.2	3	6	6	10	3							7	2.50	63.5
Friedrichshafen	N. 47 39	E. 9 29	0.48 p.m.	1355	413	28.48	723.5	29.96	761.0	38.5	3.6	79.5	3	5	14	3	1		2					6	1.26	32.0
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	66	20	29.82	757.5	29.89	759.3	32.7	0.4	80.8	5	1	6	1	9	5	1					6	1.60	40.7
Kiel	N. 54 20	E. 10 04	0.49 p.m.	26	8	29.87	758.0	29.88	759.0	30.6	−0.8	86.8	1	2	3		3		10	3	6			7	0.99	25.2
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.49	749.0	29.92	760.0	35.4	1.9	77.5	3	2	5	5	3	4	6					7	1.00	25.3
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	210	64	29.67	753.6	29.90	759.5	34.0	1.1	81.2	1	2	4		2	6	7	3	3			7	0.94	23.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.97	761.3	30.02	762.6	27.5	−2.5	85.8	1		4	2	7	7	4	3				8		
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.08	713.1	29.92	760.0	36.7	2.6	70.8	8	2	7	1			4	3	3			6	0.84	21.2
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.97	761.3	29.99	761.7	30.9	−0.6	81.3	2	6	1	8	3	6	2					7	0.62	15.7
Neustadt *a*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.34	745.2	29.87	758.6	41.2	5.1	77.3		4	4	5	1				13			7	2.20	56.0
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	879	268	28.93	734.9	29.85	758.2	41.7	5.4	79.0	10	3	5	1	3		3	3				5	1.63	41.5
Thorn	N. 53 01	E. 18 36	1.24 p.m.	171	52	29.70	755.9	29.95	760.6	32.2	0.1	76.0		5	2	7	3	4	3	3	1			8	0.59	14.3
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1414	431	28.37	720.6	29.89	759.2	38.8	3.8	74.4		2	8	5	2	2	2	3	4			7	0.75	19.1
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.90	759.4	29.92	760.0	29.5	−1.4	95.2	3	2	3	2	4	3	9	1	1			8	1.20	30.5
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m.	266	81	29.53	750.0	29.94	760.4	51.4	10.8		2	3	2	3	1			17				6		
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.90	759.4	29.95	760.7	79.8	24.9	66.4			1	17	8			2				3	0.06	1.5
Deesa *a*	N. 24 16	E. 72 14	4.57 p.m.	474	144	29.46	748.3	29.93	760.2	85.6	29.8	20.4	2	4	9	6	2		1	3				4	0	0
Bombay	N. 18 54	E. 72 49	4.59 p.m.	37	11	29.91	759.7	29.95	760.7	81.5	27.5	66.1		16	9	2				1				1	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	2000	610	28.03	712.7	29.89	759.2	86.2	30.1	17.6	2	1	7	4	4	2	6	2				2	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.38	695.4	29.89	759.2	82.4	28.0	22.4	1		1	11	2	1	7	5				2	0	0
Lahore	N. 31 34	E. 74 20	5.41 p.m.	732	223	29.21	741.9	29.97	761.2	72.3	22.4	41.9	3	1	8				4	3	9			5	1.32	33.5
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.05	737.9	29.97	761.2	71.4	21.9	49.1	2	5	3		1	1		4	12			5	0.32	8.1
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	175	29.41	747.0	29.97	761.2	79.5	20.4	29.7	1	2	10	2	2	2	6	2	1			2	0	0
Nagpur	N. 21 09	E. 71 11	4.52 p.m.	1025	312	28.90	734.0	29.93	760.2	86.8	30.4	30.3		2		5	3	4	2	1	11			5	0	0
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.60	726.4	29.98	761.5	77.0	25.0	34.8	8	3	4				2	7	4			4	0.24	6.1
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.59	751.6	29.97	761.2	77.4	25.2	38.0	11	5	5			1		4	2			3	0.06	1.5
Alahabad *a*	N. 25 26	E. 81 52	5.36 p.m.	307	94	29.64	752.8	29.96	761.0	73.8	23.2	45.2	3	3	1					2	18			3	0.04	1.0
Patna	N. 25 37	E. 85 08	5.48 p.m.	179	55	29.81	757.2	29.99	761.7	74.6	23.7	59.7	1	1	25				1					3	0.04	1.0
Hazaribagh	N. 24 00	E. 85 24	5.49 p.m.	2010	613	27.93	709.4	29.97	761.2	73.0	22.8	30.9	4	18	4			1			1			2	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.88	758.9	29.96	761.0	82.8	28.2	42.2		1	1	1	5	3		1	10			1	0	0
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	18	5	29.92	760.0	29.95	760.7	77.5	25.3	46.4	1	6	4	7	3		1		6			1	0	0
Goalpara	N. 26 11	E. 90 40	6.11 p.m.	386	118	29.54	750.3	29.95	760.7	72.3	22.4	55.2	1	4	6	1				5	11			1	0.02	0.5
Chittagong *a*	N. 22 21	E. 91 50	6.15 p.m.	90	25	29.89	759.2	29.98	761.5	75.3	24.1	67.0		2	14	8	2			1				1	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	332	101	29.60	753.4	30.00	762.0	66.4	19.1	78.4		2	1	2		3	1	19				4	1.85	47.0
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.56	750.8	29.98	761.4	44.8	7.1	51.4				1			7		20			5	0.36	9.1
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.44	747.8	29.97	761.3	42.1	5.6	72.3	2	1	1	9	3	2	4	6				6	0	0
Padua	N. 45 24	E. 11 53	0.50 p.m.	102	31	29.87	758.6	29.98	761.5	43.3	6.3	70.9	5	5	1	1	1	3	1	9	2			6	0.30	7.5
Moncalieri	N. 44 59	E. 7 41	0.39 p.m.	853	260	29.06	738.0	29.98	761.6	40.5	4.7	69.0	2	0			1		16	3				5	0.44	11.3
Genoa	N. 44 25	E. 8 30	0.42 p.m.	157	48	29.75	755.7	29.95	760.7	49.5	9.7	55.0	17	1		2	1		2	5				6	1.7	44.7
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.03	711.9	30.01	762.2	40.5	4.7	60.0	3	6	14	1			3	1				4	0.11	2.7
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.91	759.8	29.97	761.3	41.1	6.7	78.9	1	21	2	2	1			1				7	0.72	18.3
Florence	N. 43 40	E. 11 14	0.53 p.m.	240	73	29.06	753.3	29.92	759.9	49.6	9.8	53.6	5	5	1	1				16				6	0.20	5.2
Leghorn *a*	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.81	757.2	29.90	759.5	50.4	10.2	64.4	3	1	1	1	1	1		19				7	0.01	0.2
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.71	754.7	29.89	759.2	53.8	12.1	48.1	9	5	2	2			3	1	0			5	0.96	24.5
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.65	753.1	29.90	759.4	52.5	11.4	64.6	5	5	5	1	3	3	6					5	1.42	36.1
Cosenza	N. 39 18	E. 16 15	1.13 p.m.	840	256	29.00	736.7	29.91	759.7	50.2	10.1	71.1	3	11	2			0	1	5				8	0.85	173.9
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.67	753.6	29.87	758.6	58.5	14.7	62.2		12			1	7	7		1			7	2.58	65.4
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.62	752.4	29.89	759.2	57.2	14.0	57.8	1	8	2	5	1	2	3	4	2			8	5.10	129.5
Syracuse *a*	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.84	757.8	29.87	758.8	57.2	14.0	69.1	1	1	4	3	1	5	11	1				8	3.82	97.0
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.36	745.8	29.89	759.2	53.6	12.0	60.6	4	5	2	3	3	1	4	6				4	1.46	37.0
Stelvio	N. 46 37	E. 10 32	0.50 p.m.	8343	2543	22.06	560.4			20.7	−6.3	70.7	1		1	6	6	2	6	6				4	0.71	18.0
Valdobbia	N. 45 47	E. 12 00	0.56 p.m.	8360	2548	21.97	558.1			23.0	−5.0	75.6	3	1			1	5	10	2				5	1.02	26.0
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.19	766.7	30.21	767.4	37.6	3.1	76.5	19	1	3	1	1			3				4	2.59	65.7
Kioto	N. 35 01	E. 135 46	9.14 p.m.	162	49	29.98	761.5	30.17	766.3	35.6	2.0	81.5												5	2.31	58.0
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	29.98	761.6	30.20	767.0	41.7	5.4	79.9	7	5	1	1	1	2		4	7			5	4.11	104.5
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	30.00	761.9	30.06	763.6	37.4	3.0	73.2	4	7	2	1	2	2	3	4	3			4	2.39	60.0
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.10	764.6	30.16	766.1	39.9	4.4	75.7	9	0	2			1	8	2				6	2.71	68.9
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.82	757.4	30.01	762.2	80.6	27.0	65.6		1	1	1	1	2	17	5				5	3.85	97.8
Mexican Series.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.45	621.0	30.24	768.2	50.0	10.0	82.7	13	6	4	3		1		1				4	0.13	3.4
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.76	755.8	30.02	762.5	65.5	18.6	84.4	7	3			1		11	6				3	0.09	2.2
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.10d	586.8d	30.2 d	768.6d	45.9	7.7	68.5		1	1	2					24			3	0.24	6.0
Puebllon *a*	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.91	607.2	30.00	762.1	47.8	8.8	70.2	3	2	1	2			1	1	17			4	0.18	4.5
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.38	593.7	30.29	769.3	43.2	6.2	45.7	1			1	2				24			2		
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	24.24	615.0	30.27	768.9	48.2	9.0	58.7			1	13	1	4	8	1				4		
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	30.01	762.2	30.02	762.5	67.5	19.7	90.5	8	3	2	1	6	1			7			6	0.38	9.6
Zacatecas *a*	N. 22 44	W. 102 26	5.18 a.m.	8189	2496	22.48	571.1	30.27	768.8	43.2	6.2	60.7	6			2	1		3		10			7	0.08	2.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for February, 1881. 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.
Netherland Series.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.85	758.2	29.85	758.2	39.7	4.3	.....	5	3	1	2	5	5	6	1	.....	.....	.....	.....	2.19	55.7
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.80	757.0	29.86	758.4	34.9	1.6	.....	6	.....	2	4	4	.....	8	4	.....	.....	.....	.....	1.35	34.4
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.82	757.5	29.82	757.5	34.5	1.4	.....	4	2	.....	2	7	2	4	7	.....	.....	.....	.....	2.77	70.3
Hellevoetsluis	N. 51 49	E. 4 80	0.25 p.m.	0	0	29.84	757.8	29.84	757.8	38.8	3.8	.....	1	2	1	2	3	5	11	1	2	.....	.....	.....	0.32	8.1
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.82	757.3	29.86	758.5	38.8	3.8	81.4	5	3	1	5	2	3	6	3	.....	.....	.....	2	3.08	78.1
Norwegian Series.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	49	15	29.86	758.5	29.93	760.1	32.0	0.0	71.1	1	.....	1	.....	2	3	.....	.....	21	.....	.....	5	1.64	41.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.89	759.1	30.04	763.1	22.8	—5.1	69.7	7	3	.....	.....	.....	5	3	8	2	.....	.....	6	0.68	17.4
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.93	760.2	29.95	760.7	21.4	—5.9	.....	3	1	4	4	3	6	.....	4	3	.....	.....	6	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.99	761.8	30.04	763.0	22.3	—5.4	71.1	4	.....	4	.....	5	2	2	3	8	.....	.....	4	1.06	27.0
Portuguese Series.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.97	735.8	29.98	761.5	54.3	12.4	59.2	1	.....	3	12	2	7	3	.....	.....	.....	.....	8	4.08	103.7
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.03	762.8	30.12	765.1	63.3	17.4	59.2	1	.....	3	12	2	7	3	.....	.....	.....	.....	5	1.33	33.8
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.67	753.5	30.03	762.8	55.6	13.1	74.9	5	5	4	6	3	.....	.....	3	2	.....	.....	7	3.85	97.7
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.10	764.6	30.17	766.4	58.6	14.8	71.9	6	3	3	9	4	.....	1	1	1	.....	.....	6	2.30	58.5
Russian Series.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	29.06	738.1	30.26	768.5	4.5	-15.3	79.6	1	1	3	10	1	3	2	2	5	.....	.....	5	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	30.07	763.7	30.09	764.2	10.2	-12.1	88.4	3	1	6	.....	7	4	3	1	3	.....	.....	8	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	30.27	768.9	30.19	766.8	26.4	—3.1	78.9	4	3	2	.....	.....	1	7	8	3	.....	.....	8	.....	.....
Barnaul	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.80	756.9	30.36	771.1	- 2.4	-19.1	70.6	.....	.....	.....	14	.....	.....	.....	2	12	.....	.....	4	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.82	757.3	30.08	764.0	19.9	—6.7	83.9	2	.....	3	1	5	4	11	2	.....	.....	.....	7	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	29.13	739.9	30.18	766.5	34.3	1.3	62.6	2	3	9	5	1	6	.....	.....	2	.....	.....	6	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.98	761.4	30.27	768.9	14.9	—9.5	72.3	6	.....	6	4	3	5	1	1	2	.....	.....	6	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	30.00	762.0	30.03	762.8	34.0	1.1	85.5	6	1	.....	.....	3	2	7	8	1	.....	.....	6	.....	.....
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.43	747.5	30.11	764.8	23.7	—4.6	86.7	5	2	1	1	3	5	7	4	.....	.....	.....	9	.....	.....
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.93	760.1	30.14	765.6	26.4	—3.1	79.3	3	.....	.....	1	.....	2	11	11	.....	.....	.....	8	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.05	753.1	30.24	768.2	19.6	—6.9	74.5	2	.....	1	1	12	5	2	3	2	.....	.....	7	.....	.....
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	1942	592	27.85	707.4	30.50	774.8	-13.5	-25.3	68.8	1	6	.....	.....	.....	.....	.....	.....	21	.....	.....	3	.....	.....
Nikolaiev	N. 46 58	E. 31 58	12.16 p.m.	62	19	30.03	762.7	30.10	764.5	27.3	—2.6	88.3	11	.....	.....	.....	2	1	5	9	.....	.....	.....	8	.....	.....
Nikolaievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.72	755.0	29.81	757.2	- 1.8	-18.8	74.4	.....	.....	17	.....	.....	.....	.....	.....	10	.....	.....	6	.....	.....
Nukuss *b*	N. 42 27	E. 59 37	4.07 p.m.	216	66	29.92	759.9	30.04	763.1	38.1	3.4	71.0	3	3	3	3	.....	1	2	7	4	.....	.....	5	.....	.....
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	30.17	766.2	30.31	769.8	25.5	—3.6	44.4	.....	5	.....	3	1	3	.....	1	15	.....	.....	2	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	30.11	764.7	30.13	765.3	18.7	—7.4	78.8	1	3	3	.....	3	11	4	1	2	.....	.....	7	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	28.57	725.7	30.17	766.2	45.3	7.4	67.1	1	3	.....	.....	.....	.....	1	2	21	.....	.....	7	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.61	726.8	30.06	763.4	46.8	8.2	61.9	1	5	.....	.....	3	7	5	.....	7	.....	.....	9	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.57	751.1	30.02	762.4	29.5	—1.4	74.4	3	3	1	4	1	11	3	.....	2	.....	.....	8	.....	.....
Wilna	N. 54 51	E. 25 18	1.49 p.m.	387	118	29.05	753.0	30.10	764.4	27.7	—2.4	80.0	2	1	1	3	8	8	1	1	3	.....	.....	8	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	30.00	761.9	30.32	770.1	—5.3	-20.7	73.4	.....	1	2	5	3	8	.....	.....	9	.....	.....	3	.....	.....
Scottish Series.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	29.83	757.7	38.3	3.5	79.1	2	2	6	3	4	1	6	4	.....	.....	.....	7	2.81	71.4
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.77	756.1	41.2	5.1	90.7	2	.....	2	1	3	10	6	4	.....	.....	.....	6	4.40	111.8
North Unst	N. 60 51	W. 0 53	0.04 a.m.	230	70	.....	.....	29.87	758.7	.....	.....	.....	3	2	.....	1	9	2	5	6	.....	.....	.....	6	.....	.....
Spanish Series.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.81	757.1	29.94	760.5	55.9	13.3	74.5	1	.....	5	2	2	4	9	5	.....	.....	.....	4	4.01	101.9
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	56	17	29.90	759.5	29.96	760.9	59.5	15.3	61.3	1	6	1	1	8	9	1	1	.....	.....	.....	6	3.04	77.2
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	26.99	685.5	.....	.....	46.4	8.0	71.3	3	1	4	7	3	5	1	4	.....	.....	.....	7	2.07	52.5
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.73	704.4	29.98	761.6	52.3	11.3	69.5	1	3	2	3	6	6	2	5	.....	.....	.....	7	1.67	42.5
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.79	759.6	29.94	760.5	64.2	17.9	60.9	.....	10	6	3	1	3	1	4	.....	.....	.....	6	2.70	68.6
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	28.99	736.3	29.88	759.0	53.6	12.0	81.2	2	2	1	11	4	7	.....	1	.....	.....	.....	8	7.39	187.6
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.02	762.4	30.09	764.2	68.2	20.1	80.2	6	2	.....	.....	.....	7	4	2	7	.....	.....	3	2.55	64.7
Manilla	N. 14 36	E. 121 00	8.12 p.m.	56	17	29.97	761.2	30.02	762.4	80.2	26.8	69.1	.....	.....	.....	1	.....	10	14	3	.....	.....	.....	1	0	0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.93	760.2	30.03	762.8	58.8	14.9	74.1	1	5	10	4	2	2	2	2	.....	.....	.....	7	3.72	94.6
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.97	761.1	30.06	763.4	72.7	22.6	88.1	2	.....	.....	10	3	6	4	3	.....	.....	.....	6	2.16	54.8
Tugnegarao	N. 17 37	E. 121 30	8.15 p.m.	?	?	29.94	760.4	30.08	764.1	75.2	24.0	79.9	.....	17	4	2	3	2	.....	.....	.....	.....	.....	4	0.01	0.2
Swedish Series.																										
Haparanda	N. 65 47	E. 23 15	1.41 p.m.	29	9	30.12	765.0	30.16	766.0	1.9	-16.7	96.5	11	.....	.....	1	6	1	2	2	5	.....	.....	5	0.38	9.6
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.10	764.5	30.15	765.8	12.2	-11.0	87.3	6	4	.....	1	5	.....	1	4	7	.....	.....	6	0.61	15.4
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	30.11	764.8	30.16	766.1	11.8	-11.2	83.4	8	1	.....	1	4	.....	.....	3	11	.....	.....	7	0.97	24.7
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.84	757.9	30.02	762.4	21.4	—5.9	85.4	10	.....	2	1	2	2	5	6	.....	.....	.....	9	1.35	34.4
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.86	758.4	29.92	760.0	28.8	—1.8	87.2	2	2	2	4	2	5	5	3	3	.....	.....	8	1.83	46.5
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.94	760.4	30.02	762.6	17.6	—8.0	91.4	14	2	.....	1	2	1	3	5	.....	.....	.....	8	1.07	27.1
Swiss Series.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.52	724.4	29.97	761.3	42.4	5.8	65.7	17	1	2	4	3	.....	.....	1	.....	.....	.....	6	1.72	43.8
Zurich	N. 47 22	E. 8 33	0.38 p.m.	1542	470	28.28	718.2	29.97	761.1	39.6	4.2	73.6	.....	2	15	.....	1	.....	.....	.....	10	.....	.....	5	3.18	80.7
Turkish Series.																										
Constantinople	N. 41 00	E. 28 59	2.02 p.m.	?	?	.....	.....	30.00	761.9	41.7	5.4	80.0	16	1	.....	1	.....	1	.....	9	.....	.....	.....	8	3.09	78.5
Valona	N. 40 27	E. 19 27	1.25 p.m.	?	?	.....	.....	29.86	758.5	56.1	13.4	.....	.....	13	8	6	.....	.....	1	.....	.....	.....	.....	4	1.85	47.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 29	2.30 p.m.	98	30	.....	.....	29.90	759.4	61.0	16.1	67.7	1	1	4	8	1	10	3	.....	.....	.....	.....	7	9.72	246.9

FEBRUARY, 1881.

‖ Below sea level.

RESULT OF SIMULTANEOUS OBSERVATIONS FOR FEBRUARY, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Altitude: Met'rs	Mean Barometer, Actual: Inch.	Actual: Mill.	Reduced: Inch.	Reduced: Mill.	Mean Temperature: Fah.	Cent.	Mean Rel. Humidity.	Wind Directions: N	NW	W	SW	S	SE	E	NE	C	Total Movement: Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation: Inch.	Mill.
U. S. SERIES.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.14	765.5	30.23	767.8	23.7	—4.6	78.8	3	4	5	......	7	......	1	7	1	4358	7013	6	2.50	63.5
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.45	748.0	30.18	766.6	8.1	—13.3	74.0	4	8	2	3	2	6	......	2	1	6345	10211	5	5.04	128.0
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.95	735.3	30.13	765.3	40.3	4.6	69.9	1	9	2	4	1	1	10	......	......	8527	13723	6	10.41	264.4
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.19	766.8	30.20	767.1	29.8	—1.2	84.0	10	5	2	1	2	4	1	2	1	6898	11101	4	5.03	127.8
Attou, Aleutian I.	N. 52 38	E. 172 30	11.38 p.m.	......	......	29.64	752.8	......	......	30.8	—0.7	84.2	3	2	......	......	13	3	......	5	2	7781	12522	8	2.91	73.9
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	30.01	762.2	30.22	767.6	43.6	6.4	81.3	......	1	4	2	3	6	3	1	8	3926	6318	5	3.98	101.1
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.18	766.6	30.23	767.8	30.5	—0.8	76.6	1	11	2	2	2	3	......	6	1	4332	6971	5	5.68	144.3
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.17	766.3	30.19	766.8	26.5	—3.1	83.9	9	5	2	1	5	2	2	2	......	9784	15745	6	5.39	136.9
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.22	716.8	30.08	764.0	5.0	—15.0	87.7	3	10	1	......	......	4	3	1	6	5658	9106	6	0.78	19.8
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.21	691.1	30.17	766.3	33.2	0.7	84.3	3	7	1	......	1	8	3	2	3	3313	5332	7	3.51	89.2
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	30.01	762.2	30.17	766.3	23.4	—4.8	79.4	......	10	6	4	2	2	3	......	1	7388	11890	5	4.89	124.2
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	355	28.87	733.3	29.95	760.7	43.1	6.2	79.1	9	1	......	......	2	5	6	1	4	4852	7808	4	0.39	9.9
Brownsville *a*	N. 26 00	W. 97 30	5.38 a.m	43	13	30.00	762.0	30.05	763.3	55.8	13.2	92.5	8	2	......	......	5	3	3	2	4	4614	7425	7	1.18	30.0
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.42	747.3	30.17	766.3	19.1	—7.2	78.1	2	2	1	13	1	3	3	3	......	6189	9960	8	2.43	61.7
Burlington	N. 40 49	W. 91 07	7.15 a.m.	268	82	29.90	759.4	30.21	767.3	18.6	—7.4	73.7	4	3	1	1	10	1	5	3	......	5798	9331	7	1.79	45.5
Cairo	N. 37 00	W. 87 12	6.11 a.m.	377	115	29.76	755.9	30.17	766.3	34.3	1.3	77.7	5	6	......	1	3	3	4	4	2	5797	9329	7	4.97	126.2
Campo	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.48	698.0	30.05	763.3	33.1	0.6	83.0	......	4	3	3	6	2	10	......	......	3419	5502	3	0.53	13.5
Camp Thomas	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.20	692.4	......	......	34.3	1.3	71.2	1	2	1	......	......	......	3	3	18	......	......	2	0.13	3.3
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.18	766.6	30.19	766.8	36.0	2.2	75.3	8	4	2	2	2	4	......	5	1	10459	16832	4	4.00	103.1
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.17	766.3	30.20	767.1	30.5	—0.8	76.0	4	9	1	1	2	5	......	5	1	13118	21111	4	4.23	107.4
Castroville *c*	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.26	743.2	29.98	761.5	45.1	7.3	81.3	......	12	......	2	2	3	3	1	2	4496	7236	5	0.85	21.6
Cedar Keys	N. 28 12	W. 83 02	6.36 a.m.	22	7	30.11	764.8	30.14	765.5	54.0	12.2	83.8	5	6	1	1	2	4	4	5	......	7830	12601	3	3.51	89.2
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.26	743.2	30.11	764.8	22.3	—5.4	71.5	2	3	3	3	4	5	2	5	1	9109	14659	8	6.49	164.8
Charleston	N. 32 45	W. 79 55	6.49 a.m	52	16	30.14	765.5	30.20	767.1	47.0	8.3	76.1	10	2	1	5	5	1	1	3	......	6540	10525	4	1.56	39.6
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.31	744.5	30.15	765.8	37.2	2.9	75.4	2	1	2	7	1	1	5	9	......	4988	8027	5	3.95	100.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.33	745.0	30.16	766.1	39.3	4.1	74.3	2	6	3	4	3	3	1	2	4	6280	10106	6	6.19	157.2
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	23.93	607.8	29.87	758.7	23.0	—5.0	60.4	5	14	5	3	......	......	......	......	1	9061	14582	4	0.22	5.6
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.38	746.2	30.12	765.0	21.5	—5.8	73.0	2	5	2	3	6	6	1	1	2	5723	9210	6	5.98	151.9
Chincoteague	N. 37 55	W. 77 20	7.06 a.m.	18	5	30.19	766.8	30.21	767.3	29.5	—1.4	85.0	4	8	3	4	......	4	2	3	......	10963	17643	4	4.72	119.9
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.50	749.3	30.19	766.8	31.7	—0.2	73.5	4	4	2	2	2	5	4	5	......	5054	8133	7	4.95	125.7
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.40	746.7	30.18	766.6	22.1	—5.5	82.9	4	1	2	5	5	8	......	3	......	6916	11130	8	2.57	65.3
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1750	533	28.25	717.5	29.99	761.7	34.5	1.4	72.8	7	5	1	8	1	2	......	......	4	7324	11787	4	0.61	15.5
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.28	743.7	30.17	766.3	25.7	—3.5	79.3	4	3	4	3	1	4	7	2	......	6471	10414	8	4.44	112.8
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.11	714.0	29.85	758.2	35.8	2.1	81.5	2	6	4	1	4	1	......	2	8	6570	10573	3	0.51	13.0
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.65	753.1	30.13	765.3	41.2	5.1	77.2	5	6	......	1	3	4	......	......	9	4609	7417	4	3.37	85.6
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.44	747.8	30.14	765.5	14.8	—9.6	81.4	3	3	4	2	2	2	6	5	1	7006	11275	7	4.14	105.2
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.28	718.3	30.01	762.2	33.4	0.8	87.5	2	2	......	2	......	14	......	1	7	3590	5777	8	5.04	128.0
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.27	641.8	......	......	20.8	—6.2	69.8	1	2	4	6	8	1	1	5	......	2348	3779	5	1.26	32.0
Decatur *b*	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.84	732.5	30.06	763.5	37.1	2.8	79.1	7	4	1	......	1	6	4	3	......	6945	11177	4	3.78	96.0
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.18	765.6	30.20	767.1	29.1	—1.6	85.4	6	8	1	......	5	2	1	5	......	12046	16105	3	2.92	74.2
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.27	743.4	30.10	764.5	36.4	2.4	83.9	7	4	3	2	4	4	2	1	1	5845*a*	9406*a*	5	4.85	123.2
Denver	N. 39 45	W. 105 04	5.08 a.m.	5265	1605	24.72	627.9	29.94	760.5	23.0	—5.0	65.8	4	2	3	2	6	9	......	2	......	3413	5493	3	1.22	31.0
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.22	742.2	30.17	766.3	16.6	—8.6	79.4	6	3	1	4	3	6	......	4	1	5372	8645	6	2.68	68.1
Detroit	N. 41 21	W. 83 07	6.36 a.m.	645	197	29.42	747.3	30.15	765.8	23.3	—4.8	88.7	4	2	6	2	5	3	3	3	......	6749	10861	6	6.41	162.8
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.38	695.4	29.81	757.2	21.2	—6.0	69.0	8	6	2	2	1	7	......	2	......	8934	14378	3	1.63	41.4
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.40	746.7	30.16	766.1	14.0	—10.0	79.3	2	8	3	3	3	3	5	......	1	4685	7540	7	3.75	95.2
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.44	747.8	30.19	766.8	11.2	—11.6	84.3	1	4	2	9	......	1	......	10	1	6556	10551	6	1.79	45.5
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.29	744.0	30.04	763.0	45.7	7.6	76.3	4	6	1	......	3	8	1	1	4	4141	6664	3	0.34	8.6
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4781	1457	25.27	641.8	29.92	760.0	18.4	—7.6	84.1	10	1	......	12	......	......	......	......	5	6034	9711	8	5.14	130.6
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	30.01	762.2	30.08	764.0	20.3	—6.5	71.2	3	11	4	2	5	1	2	......	......	8443	13587	4	4.11	104.4
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.22	666.0	......	......	39.9	4.4	45.6	5	10	4	2	......	2	1	2	2	3943	6350	1	0.24	6.1
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.40	746.7	30.16	766.1	22.2	—5.4	81.2	2	2	3	6	8	4	......	3	......	7932	12765	7	1.93	49.0
*Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.46	748.3	30.18	766.6	7.7	—13.5	82.6	11	4	1	1	5	1	1	......	4	4831	7775	6	2.10	53.3
Florence	N. 33 03	W. 111 17	4.43 a.m.	1490	454	28.45	722.9	30.12	765.0	42.9	6.1	56.3	......	......	2	5	4	2	3	5	7	2115	3404	1	0.03	0.8
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.01	635.2	30.46	773.7	27.4	—2.6	60.5	1	......	......	1	......	1	11	13	1	3984	6412	2	1.17	29.7
Fort Assinniboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.14	689.3	......	......	12.0	—11.1	70.2*a*	......	1	......	13	......	......	......	8	6	6377	10263	8	0.70	17.8
Fort Bennett *c*	N. 44 42	W. 100 38	5.25 a.m.	1510	457	28.47	723.1	......	......	7.8	—13.4	71.9	5	6	......	1	1	5	......	3	4	5290	8523	5	1.18	30.0
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.17	690.1	......	......	15.4	—9.2	78.4	2	3	7	3	......	......	......	1	12	4032	6489	7	0.66	16.8
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.03	711.9	30.05	763.5	2.8	—16.2	75.0	3	3	3	3	1	1	2	......	12	3908	6289	5	1.10	27.9
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.82	681.2	......	......	15.2	—9.3	85.2	8	1	1	5	2	1	......	......	10	3574	5752	7	0.51	13.0
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4040	1509	25.16	639.1	30.12	765.0	35.5	1.9	64.5	3	3	3	5	3	2	1	3	5	4850	7805	1	0.14	3.6
Fort Elliot *a*	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.24	691.9	29.64	752.8	23.8	—4.6	55.0	5	7	1	2	....	6	1	4	1	8343	13426	3	0.74	18.8
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.53	750.0	30.10	764.5	30.4	—0.9	80.7	7	5	1	......	1	5	1	......	8	6102	9820	6	4.14	105.2
Fort Grant*	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.17	639.3	29.97	761.2	43.0	6.1	40.5	6	7	......	......	1	1	2	9	2	5921	9529	2	0.33	8.4
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.70	729.0	30.02	762.5	35.1	1.7	71.1	3	7	3	1	3	4	......	......	7	7492	12057	3	1.39	35.3
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.50	698.5	......	......	—11.7	—11.3	79.1*f*	2	3	2	7	......	......	......	2	12	2401	3864	7	0.36	9.1
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.76	705.1	29.74	755.4	37.0	2.8	74.8	2	4	6	6	3	2	1	3	1	6118	9840	3	0.19	4.8
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.17	766.3	30.18	766.6	40.9	4.9	82.3	8	4	3	4	2	2	......	5	......	9738	15672	4	4.09	103.9
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.70	678.2	......	......	22.9	—5.1	91.6	1	2	......	2	7	3	3	1	9	2247	3616	8	2.40	61.0
Fort St. Michael	N. 63 48	W. 161 00	1.24 a.m.	?	?	30.04	763.0	30.07	763.8	—1.2	—18.4	100.0	14	......	......	......	......	......	......	2	12	7430	11957	1	......	......
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.31	668.3	......	......	22.5	—5.3	78.3	......	2	12	9	1	......	1	2	1	8101	13037	6	0.49	12.4
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.81	731.8	29.98	761.5	30.3	—0.9	79.5	9	4	......	1	6	1	2	2	3	7925	12754	4	3.45	87.6
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.19	716.0	......	......	4.7	—15.2	84.9	4	5	4	......	2	5	1	2	5	4770	7686	6	0.50	14.2
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	......	......	......	......	32.3	0.2	61.4	3	10	12	2	......	1	......	......	......	......	......	1	0.12	3.0
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.29	718.6	29.68	753.9	42.4	5.8	80.5	8	4	6	2	3	......	2	1	2	5436	8748	4	0.59	15.0
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	30.03	762.7	30.07	763.8	52.0	11.1	83.9	3	4	3	1	3	8	3	3	......	6945	11177	6	8.29	210.6
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.42	747.3	30.12	765.0	19.6	—6.9	87.6	1	2	4	1	2	2	8	5	3	7132	11478	8	6.13	155.7
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.16	766.1	30.18	766.6	39.9	4.4	86.5	5	4	2	1	4	2	2	8	......	12158	19506	4	5.87	149.1
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.75	654.0	......	......	22.1	—5.5	62.8	1	1	6	2	7	1	......	......	10	2782	4477	5	0.51	13.0
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.06	738.1	30.04	763.0	32.7	0.4	75.5	3	8	......	......	1	9	1	4	2	7886	12691	4	0.86	21.8
Indianapolis	N. 39 47	W. 86 05	6.24 a.m.	746	227	29.30	744.2	30.13	765.3	26.0	—3.3	76.8	4	2	4	1	2	5	6	2	2	5042	8114	8	6.43	163.3
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.03	762.7	30.06	763.5	52.1	11.2	85.4	8	2	1	......	6	8	......	3	......	9912	15952	5	4.21	106.9
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.89	733.8	30.07	763.8	35.6	2.0	......	6	4	2	1	2	5	3	......	5	6198	9975	......	2.08	52.8
Jacksonville	N. 30 24	W. 80 40	6.41 a.m.	43	13	30.12	765.0	30.17	766.3	53.0	11.7	75.0	9	1	3	3	2	3	3	4	......	6495	10452	5	1.12	28.4
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.43	747.5	30.13	765.3	20.2	—6.6	79.1	4	6	3	2	1	4	6	2	......	7677	12355	8	2.58	65.5
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.08	764.0	30.12	765.0	68.6	20.3	79.3	5	2	......	1	1	5	7	7	......	7641	12297	4	0.35	8.9
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.18	766.6	30.21	767.3	38.1	3.4	83.2	10	3	1	2	4	2	2	4	......	12464	20058	4	3.97	100.8
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.12	739.6	30.17	766.3	36.2	2.3	76.5	2	......	3	6	......	......	1	12	4	5253	8454	7	4.20	106.7
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.36	745.7	30.16	766.1	13.1	—10.5	76.9	7	2	1	2	9	4	2	1	......	5472	8806	7	1.26	32.0
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.10	662.9	30.24	768.1	34.4	1.3	52.9	6	4	4	......	1	1	......	2	10	2400	3862	2	Inap.	Inap
Laredo	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.61	752.1	29.96	761.0	51.2	10.7	83.3	5	1	......	2	3	2	1	3	11	2932	4718	4	0.31	7.9
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.21	741.9	30.12	765.0	19.8	—6.8	79.1	3	10	......	1	2	5	2	1	4	6320	10171	6	4.84	122.9
Lewiston	N. 46 25	W. 110 59	4.20 a.m.	610?	188?	29.23	742.4	29.90	759.4	34.2	1.2	84.3	......	1	4	2	3	1	11	6	......	2493	4012	7	4.33	110.0
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.78	756.4	30.11	764.8	38.5	3.6	81.9	3	8	2	2	1	4	2	3	3	4919	7916	6	6.34	161.0
Los Angeles	N. 34 03	W. 188 16	4.15 a.m.	371	113	29.71	754.6	30.08	764.0	50.0	10.0	75.0	4	4	2	2	......	1	3	7	5	4404	7184	2	0.36	9.1
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.56	750.8	30.14	765.5	31.8	—0.1	76.7	5	2	2	4	2	2	6	5	......	6983	11238	8	4.05	102.9
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.49	749.0	30.21	767.3	33.4	0.8	75.7	......	1	4	1	3	1	1	5	12	2588	4165	3	2.37	60.2
Madison	N. 43 03	W. 89 30	6.10 a.m.	940	289	29.06	738.1	30.12	765.0	14.7	—9.6	80.0	6	3	4	3	4	3	4	1	......	8128	13080	7	5.42	137.7
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.40	746.7	30.18	766.6	10.3	—12.1	68.8	3	9	7	1	5	1	......	1	1	6261	10076	7	2.80	71.1
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.40	721.3	30.22	767.6	40.4	4.7	79.6	1	10	5	2	2	4	3	......	1	5546	8925	3	0.70	17.8
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.78	756.4	30.13	765.3	38.3	3.5	81.4	......	5	2	1	1	1	7	4	7	2092	3367	6	6.41	162.8
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.35	745.5	30.13	765.3	20.3	—6.5	84.8	3	4	7	2	4	3	3	2	......	9172	14761	8	5.39	136.9
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.04	763.0	30.11	764.8	47.4	8.6	80.1	7	7	2	3	1	4	3	1	......	6907	11116	5	8.00	203.2
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.92	760.0	30.17	766.3	43.8	6.6	78.2	6	4	3	1	1	4	7	1	1	5849	9413	8	7.05	179.1
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.10	739.1	30.16	766.1	2.1	—16.6	78.9	6	3	2	2	3	8	......	2	2	8977	14447	6	2.13	54.1
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.14	740.1	30.18	766.6	30.4	—0.9	70.7	4	3	1	5	2	1	2	1	9	4398	7078	8	3.56	90.4
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6272	1902	23.51	597.1	29.87	758.7	6.8	—14.0	75.9	......	16	4	4	1	......	......	3	......	27190	43757	5	6.62	168.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
U.S. SERIES—*Continued.*	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.60	751.8	30.16	766.1	36.5	2.5	75.5	1	3	6	2	1	3	9	1	2	4102	6601	7	5.48	139.2
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	30.07	763.8	30.20	757.1	22.4	−5.3	76.4	7	4	1	.....	.....	.....	1	4	11	3488	5613	5	6.17	156.7
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.14	765.5	30.20	767.1	25.0	−3.9	77.5	9	8	2	2	2	.....	1	1	3	4419	7112	5	7.06	179.3
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.02	762.5	30.09	764.3	52.2	11.2	78.8	3	5	1	2	2	3	5	6	1	7082	11397	5	5.80	147.3
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.12	765.0	30.17	766.3	26.2	−3.2	81.6	5	5	5	1	1	3	2	2	4	6766	10888	4	8.28	210.3
New River *g*	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	41.1	5.1	88.0	8	.....	2	5	.....	1	1	3	1	.....	.....	4	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.15	765.8	30.18	756.6	28.6	−1.9	78.9	11	4	.....	1	3	3	1	2	3	11056	17793	5	4.74	120.4
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.02	762.5	30.21	767.3	26.1	−3.3	87.8	5	6	5	1	1	3	1	6	.....	6428	10345	5	5.06	128.5
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.18	766.6	30.20	767.1	36.4	2.4	75.0	12	2	.....	4	4	2	1	2	1	7159	11521	5	2.88	73.2
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.08	687.8	29.84	757.9	14.2	−9.9	80.0	5	3	10	2	3	1	1	2	1	8151	13117	3	0.76	19.3
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.90	759.4	29.94	760.5	41.6	5.3	91.2	4	.....	1	.....	19	2	1	.....	1	3201	5248	9	16.28	413.5
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.93	734.8	30.12	765.0	14.3	−9.8	84.4	8	2	.....	2	6	4	2	4	.....	8401	13520	7	3.09	78.5
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.84	757.9	30.18	766.6	21.0	−6.1	78.9	5	2	2	3	6	6	1	1	2	6701	10783	7	4.74	120.4
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.11	764.8	30.14	765.5	49.8	9.9	81.7	6	8	1	4	1	3	3	2	.....	6781	10913	5	8.99	228.3
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	30.16	766.1	30.21	767.3	26.3	−3.2	84.8	8	4	3	1	1	1	1	9	.....	8052	12958	6	4.76	120.9
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.91	734.3	30.79	782.1	40.9	4.9	65.0	.....	1	3	2	.....	.....	19	3	.....	2066	3325	2	0.20	5.1
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.49	444.2	29.70	754.4	1.3	−17.1	59.1	.....	10	10	6	.....	.....	.....	2	.....	18109	29143	4	1.47	37.3
Pilot Point	N. 33 20	W. 96 50	5.40 a.m.	800	244	29.29	744.0	30.17	766.3	35.5	1.9	83.1	6	5	1	2	2	5	4	3	.....	6438	10361	5	5.90	151.4
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.03	610.4	29.80	756.9	29.8	−1.2	56.3	1	10	5	2	5	1	.....	.....	4	4035	6494	8	0.29	7.4
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.33	745.0	30.19	766.8	25.7	−3.5	78.1	1	5	4	4	1	2	4	6	1	4503	7343	8	3.45	87.6
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	30.12	765.0	30.15	765.8	18.4	−7.6	82.0	5	3	1	3	9	3	1	3	.....	7146	11500	7	4.91	124.7
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.09	764.3	30.14	765.5	24.0	−4.4	72.2	.....	16	4	3	2	.....	1	1	1	5383	8663	5	5.30	134.6
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	29.95	760.7	30.03	762.7	42.4	5.8	91.0	1	2	.....	1	13	5	4	1	1	4531	7292	8	13.36	339.3
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	41.0	5.0	75.8	1	2	2	5	.....	3	.....	15	.....	13041	20987	4	5.98	151.9
Prescott	N. 34 29	W. 112 31	4.38 a.m.	5300	1615	24.76	628.9	30.12	765.0	30.3	−0.9	55.4	10	.....	1	1	10	1	2	.....	3	3904	6283	1	0.10	2.5
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.09	764.3	30.11	764.8	61.2	16.2	79.7	10	1	1	1	.....	3	7	5	.....	8454	13605	5	0.52	13.2
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.76	755.9	30.11	764.8	48.9	9.4	85.5	6	5	.....	.....	12	3	.....	1	1	4652	7487	6	2.79	70.9
Rio Grande City *a*	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.85	758.2	30.08	764.0	53.8	12.1	82.2	7	3	.....	1	.....	5	4	.....	7	5130	8256	7	1.06	26.9
Rochester	N. 43 08	W. 77 51	6.58 a.m.	589	179	29.52	749.8	30.18	766.6	20.6	−6.3	83.0	2	2	10	8	1	4	1	.....	.....	5324	8568	7	2.86	72.6
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.50	749.3	30.08	764.0	44.0	6.7	88.6	.....	2	.....	4	2	2	4	.....	14	1722	2771	7	8.19	208.0
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	30.07	763.8	30.14	765.5	49.9	9.9	90.9	2	3	.....	.....	1	19	1	1	1	4038	6498	5	5.00	128.5
St. Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.52	749.8	30.12	765.0	27.0	−2.8	82.2	2	8	3	.....	3	5	4	3	.....	8421	13552	8	4.16	105.7
St. Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.23	742.4	30.12	765.0	13.0	−10.6	79.4	3	8	.....	4	.....	6	6	.....	1	7003	11270	6	2.65	67.3
St. Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.26	743.2	30.15	765.8	−0.5	−18.1	98.7	3	9	.....	1	4	7	3	.....	1	7410	11925	6	0.56	14.2
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.66	651.8	29.98	761.5	34.3	1.3	58.2	2	3	.....	.....	1	5	2	1	14	2072	3334	5	2.44	62.0
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	676	206	29.38	746.2	30.10	764.5	46.2	7.9	82.3	7	3	1	.....	3	1	2	3	8	3221	5184	4	1.24	31.5
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	30.03	762.7	30.10	764.5	50.1	10.1	77.9	5	2	1	.....	1	.....	7	5	7	3521	5666	3	0.45	11.4
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.44	747.8	30.16	766.1	24.1	−4.4	78.9	2	6	2	6	4	3	2	3	.....	9778	15736	6	3.25	82.5
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.16	766.1	30.20	767.1	26.2	−3.2	77.4	9	4	4	1	1	1	.....	5	3	8059	12969	5	5.37	136.4
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.08	764.0	30.14	765.5	52.7	11.6	86.0	4	5	3	5	4	5	1	.....	1	4763	7665	5	4.65	118.1
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7049	2148	23.18	588.8	29.72	754.9	27.7	−2.4	69.2	15	.....	2	.....	.....	.....	3	2	6	4611	7420	2	0.22	5.6
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.09	764.3	30.19	766.8	48.1	8.9	75.1	1	4	5	5	1	3	1	8	.....	6580	10589	5	1.16	29.5
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.85	758.2	30.11	764.8	42.7	5.9	82.5	3	6	.....	.....	2	2	6	2	7	4542	7309	6	6.51	165.4
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.24	615.7	30.60	777.2	32.4	0.2	58.8	5	3	3	.....	.....	.....	.....	.....	17	1952	3141	2	0.73	18.5
Smithville	N. 35 55	W. 78 01	6.56 a.m.	33	10	30.20	767.1	30.21	767.3	42.7	5.9	84.4	12	2	1	5	2	1	1	4	.....	7522	12105	4	2.31	58.7
Socorro	N. 34 05	W. 106 55	5.01 a.m.	4555	1391	25.40	645.1	29.47	748.5	33.2	0.7	62.2	4	16	.....	.....	1	2	1	3	1	4914	7908	3	0.01	0.3
Spokane Falls, W. T.	N. 47 39	W. 117 24	4.18 a.m.	1200?	366?	27.98	710.7	29.91	759.7	24.4	−4.2	88.1	.....	.....	1	6	5	3	8	.....	5	3254	5237	8	3.85	97.8
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.42	747.3	30.13	765.3	25.2	−3.8	77.6	3	5	4	2	4	3	4	3	.....	7230	11645	6	5.85	148.6
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	30.06	763.5	30.20	767.1	21.4	−5.9	67.4	9	5	1	2	2	.....	.....	2	7	3497	5628	5	4.50	114.3
Stockton *a*	N. 30 50	W. 102 50	5.16 a.m.	3010	917	26.96	684.8	29.96	761.0	35.8	2.1	69.1	2	3	3	7	6	2	.....	.....	4	6177	9941	1	0.13	3.3
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.11	734.8	30.17	766.3	25.0	−3.9	77.7	4	7	3	4	2	4	.....	3	1	10782	17352	5	4.73	120.1
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.42	747.3	30.15	765.8	23.1	−4.9	81.5	6	1	7	2	5	.....	2	2	4	9301	10140	7	4.28	108.7
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.54	699.5	30.09	764.3	43.4	6.3	45.2	1	2	1	5	9	8	1	1	.....	2831	4556	1	0.25	6.3
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.74	755.4	30.26	768.6	30.4	−0.9	91.5	.....	6	8	1	.....	6	5	2	.....	3998	6434	8	1.92	48.8
Uvalde *b*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.15	740.4	29.99	761.7	44.3	6.8	70.8	7	2	.....	.....	4	8	2	1	2	3166	5095	4	0.82	20.8
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.84	757.9	30.11	764.8	45.5	7.5	78.5	2	3	4	2	2	6	5	4	.....	6120	9849	6	7.20	182.9
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.75	755.6	30.13	765.3	47.6	8.7	88.9	.....	9	2	.....	2	10	2	1	2	2011	3236	4	1.10	27.9
Washington	N. 38 53	W. 77 01	7.00 a.m.	106	32	30.09	764.3	30.25	768.3	27.7	−2.4	81.1	3	9	1	1	4	.....	2	5	3	3833	6168	5	4.01	101.9
Wickenburg	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	32.4	0.2	60.9	2	11	14	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	73	22	30.14	765.5	30.20	767.1	43.2	6.2	77.4	2	3	2	4	2	1	1	12	1	5107	8219	5	2.80	71.1
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4342	1323	25.65	651.5	30.01	762.2	34.9	1.6	76.8	3	.....	.....	13	4	2	.....	3	3	5470	8813	5	1.59	40.4
Wood's Holl	N. 41 33	W. 70 40	7.25 a.m.	35	11	30.12	765.0	30.16	766.1	26.0	−3.3	80.6	7	9	.....	2	1	6	2	.....	1	9981	16063	6	5.40	138.7
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.77	730.7	30.19	766.8	9.9	−12.3	54.5	8	3	3	1	2	2	4	1	4	7279	11714	0	2.70	68.6
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.86	758.4	30.02	762.5	51.5	10.8	70.5	3	2	2	4	2	.....	2	8	5	3097	5550	6	0	0
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.07	560.6	.....	.....	51.8	11.0	78.5	.....	.....	.....	.....	.....	.....	.....	.....	28	.....	.....	6	5.59	142.0
Buff Bay Town, Jamaica	N. 18 15	W. 76 39	7.01 a.m.	?	?	29.85	758.2	30.17	766.3	68.1	20.1	87.9	*a*	.....	2	1	1	5	15	.....	.....	.....	.....	1	.....	.....
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.04	763.0	30.09	764.3	70.9	21.6	73.0	4	1	.....	.....	.....	8	.....	3	12	.....	.....	3	2.52	64.0
Jakobshavn	N. 69 13	W. 50 55	8.44 a.m.	43	13	29.81	757.1	29.87	758.6	3.7	−15.7	.....	.....	1	11	2	8	.....	.....	.....	0	.....	.....	3	0.03	0.8
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.02	762.5	30.03	762.7	70.0	21.1	77.0	6	.....	.....	.....	.....	.....	.....	.....	22	1980	3186	.....	0.50	12.7
Navassa	N. 19 25	W. 75 03	7.43 a.m.	77	23	29.92	760.0	30.00	762.0	75.4	24.1	73.8	3	2	.....	.....	.....	.....	4	19	.....	.....	.....	10	0.90	22.9
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	0	2	29.98	761.5	29.98	761.5	77.5	25.3	85.0	.....	.....	.....	.....	.....	2	19	7	.....	.....	.....	5	6.56	166.6
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.42	747.3	29.98	761.5	79.0	26.1	83.5	3	.....	.....	.....	.....	.....	2	1	22	.....	.....	6	1.25	31.7
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	72.9	22.7	.....	.....	.....	.....	1	1	16	9	1	.....	.....	.....	2	0.45	11.5
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.03	762.7	30.06	763.5	73.5	23.1	73.0	15	4	.....	.....	.....	.....	1	2	6	.....	.....	3	0.88	22.4
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	110	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	10	3	29.82	757.5	29.90	759.4	−3.5	−19.7	.....	.....	2	12	.....	.....	2	.....	.....	12	.....	.....	2	0.38	9.7
York Factory	N. 57 02	W. 92 56	5.58 a.m.	45	14	30.17	756.3	30.22	767.6	−22.4	−30.2	.....	3	8	7	7	2	.....	.....	1	.....	.....	.....	2	0.60	15.2

The following table of Ocean Square mean data, from observations taken at 7 A. M. Washington or 0.08 P. M. Greenwich mean time, is computed from the isobars, isotherms and wind directions of the daily international charts, which latter are based upon the data obtained from the logs of vessels for the month of FEBRUARY, 1881.

OCEAN SQUARE BOUNDED BY—	BAROMETER.		TEMPERATURE.		PREVAIL'G WIND.	FORCE 0–10
	INCH.	MILL.	FAH.	CENT.		
° ° ° °						
N. 30 & 35 W. 10 & 15	30.05	763.3	63.5	17.5	NE	2.7
35 40 10 15	30.06	763.5	58.9	14.9	SW	3.2
35 40 15 20	30.10	764.5	59.0	15.0	SW	3.1
30 35 15 20	30.14	765.5	63.1	17.3	SW	2.8
40 45 10 15	29.92	760.0	54.8	12.7	SW	3.6
45 50 10 15	29.87	758.7	52.5	11.4	SW	4.5
45 50 15 20	29.88	758.9	52.5	11.4	SW	4.6
40 45 15 20	29.99	761.7	55.0	12.8	SW	4.1
50 55 10 15	29.79	756.7	45.8	7.7	NE	3.9
55 60 10 15	29.79	756.7	41.0	5.0	NE	4.1
55 60 15 20	29.78	756.4	39.6	4.2	NE	4.1
50 55 15 20	29.78	756.4	45.2	7.3	NE	4.3
10 15 20 25	29.99	761.7	78.1	25.6	NE	3.0
15 20 20 25	30.03	762.7	74.8	23.8	NE	3.2
15 20 25 30	30.05	763.3	74.9	23.8	NE	3.3
10 15 25 30	30.00	762.0	78.1	25.6	NE	3.2
20 25 20 25	30.10	764.5	70.4	21.3	NE	3.2
25 30 20 25	30.14	765.5	67.4	19.7	NE	3.0
25 30 25 30	30.16	766.1	67.8	19.9	NE	3.2
20 25 25 30	30.12	765.0	70.5	21.4	NE	3.3
30 35 20 25	30.16	766.1	63.3	17.4	SW	3.0
35 40 20 25	30.15	765.8	59.3	15.2	SW	3.0
35 40 25 30	30.15	765.8	59.0	15.0	SW	3.0
30 35 25 30	30.18	766.6	63.0	17.2	SW	2.9
40 45 20 25	29.97	761.2	54.8	12.7	SW	3.9
45 50 20 25	29.87	758.7	52.1	11.2	SW	4.6
45 50 25 30	29.85	758.2	51.4	10.8	SW	4.5
40 45 25 30	29.94	760.5	54.0	12.2	SW	4.2
50 55 20 25	29.76	755.9	45.0	7.2	SW	4.3
55 60 20 25	29.77	756.1	37.2	2.9	NE	4.2
55 60 25 30	29.76	755.9	35.6	2.0	NE	3.7
50 55 25 30	29.74	755.4	43.0	6.1	SW	4.2
10 15 30 35	30.08	762.0	78.6	25.9	NE	3.3
15 20 30 35	30.06	763.5	75.0	23.9	NE	3.4
15 20 35 40	30.07	763.8	75.6	24.2	NE	3.6
10 15 35 40	30.00	762.0	78.7	25.9	NE	3.4
20 25 30 35	30.13	765.3	71.1	21.7	NE	3.3
25 30 30 35	30.15	765.8	68.1	20.1	NE	3.4
25 30 35 40	30.14	765.5	68.1	20.1	NE	3.1
20 25 35 40	30.12	765.0	72.0	22.2	NE	3.6
30 35 30 35	30.15	765.8	63.1	17.3	NW; SW	3.1
35 40 30 35	30.11	764.8	58.9	14.9	SW	2.7
35 40 35 40	30.07	763.8	58.2	14.6	SW	3.2
30 35 35 40	30.11	764.8	63.0	17.2	SW	3.1
40 45 30 35	29.94	760.5	52.8	11.6	SW	4.2
45 50 30 35	29.82	757.4	49.3	9.6	NW	3.0
45 50 35 40	29.80	756.9	46.5	8.1	NW	4.4
40 45 36 40	29.88	758.9	49.1	9.5	SW	4.2
50 55 30 35	29.74	755.4	40.5	4.7	NW	4.4
55 60 30 35	29.74	755.4	33.7	0.9	NE	3.4
55 60 35 40	29.75	755.6	32.1	0.1	NE	3.5

OCEAN SQUARE BOUNDED BY—	BAROMETER.		TEMPERATURE.		PREVAIL'G WIND.	FORCE 0–10
	INCH.	MILL.	FAH.	CENT.		
° ° ° °						
N. 50 & 55 W. 35 & 40	29.74	755.4	36.5	2.5	NE	4.0
10 15 40 45	30.00	762.0	79.0	26.1	NE	3.2
15 20 40 45	30.07	763.8	76.1	24.5	NE	3.7
15 20 45 50	30.06	763.5	76.0	24.4	NE	3.8
10 15 45 50	30.00	762.0	79.2	26.2	NE	3.3
20 25 40 45	30.09	764.3	72.3	22.4	NE	3.4
25 30 40 45	30.11	764.8	68.5	20.3	NE	3.4
25 30 45 50	30.08	764.0	68.0	20.0	NE	3.4
20 25 45 50	30.08	764.0	72.7	22.6	NE	3.8
30 35 40 45	30.08	764.0	62.3	16.8	NE	3.4
35 40 40 45	30.05	763.3	57.1	13.9	SW	3.8
35 40 45 50	30.00	762.0	56.1	13.4	NW	4.1
30 35 45 50	30.02	762.5	61.6	16.4	NE	3.7
40 45 40 45	29.88	758.9	46.4	8.0	NW	4.5
45 50 40 45	29.81	757.2	40.9	4.9	NW	4.5
45 50 45 50	29.82	757.4	34.7	1.5	NW	4.3
40 45 45 50	29.87	758.7	39.6	4.2	NW	4.6
50 55 40 45	29.72	754.9	33.1	0.6	NW	4.2
55 60 40 45	29.74	755.4	29.3	— 1.5	NE	3.4
55 60 45 50	29.75	755.6	25.4	— 3.7	NW	3.2
50 55 45 50	29.78	756.4	25.3	— 3.7	NW	3.4
10 15 50 55	29.99	761.7	79.3	26.3	NE	3.1
15 20 50 55	30.03	762.7	75.9	24.4	NE	3.6
15 20 55 60	30.06	763.5	76.3	24.6	NE	3.5
10 15 55 60	29.98	761.5	79.2	26.2	NE	2.8
20 25 50 55	30.05	763.3	73.0	22.8	NE	3.6
25 30 50 55	30.04	763.0	69.4	20.8	NE	3.4
25 30 55 60	30.05	763.3	69.5	20.8	NE	3.6
20 25 55 60	30.06	763.5	73.5	23.1	NE	3.6
30 35 50 55	30.01	762.2	61.6	16.4	NE	3.8
35 40 50 55	30.00	762.0	54.3	12.4	NW	4.1
35 40 55 60	30.03	762.7	52.9	11.6	NW	4.1
30 35 55 60	30.06	763.5	59.8	15.4	NW	3.9
40 45 50 55	29.90	759.4	35.7	2.1	NW	4.4
40 45 55 60	29.98	761.5	32.1	0.1	NW	4.1
20 25 60 65	30.09	764.3	73.3	22.9	NE	3.6
25 30 60 65	30.09	764.3	69.6	20.9	NE	3.6
25 30 65 70	30.13	765.3	69.2	20.7	NE	3.6
20 25 65 70	30.11	764.8	73.1	22.8	NE	3.3
30 35 60 65	30.10	764.5	60.1	15.6	NE	3.5
35 40 60 65	30.08	764.0	50.5	10.3	NW	4.0
35 40 65 70	30.11	764.8	47.4	8.6	NW	4.0
30 35 65 70	30.14	765.5	54.4	12.4	NW	4.0
40 45 60 65	30.05	763.3	31.6	— 0.2	NW	3.9
40 45 65 70	30.10	764.5	28.7	— 1.8	NW	3.7
25 30 70 75	30.14	765.5	68.1	20.1	NE	3.6
25 30 75 80	30.15	765.8	63.4	17.4	NE	3.4
30 35 70 75	30.17	766.3	55.6	13.1	NE	4.3
35 40 70 75	30.17	766.3	41.8	5.4	NW; NE	4.0
30 35 75 80	30.19	766.8	49.5	9.7	NW	3.4

The following table shows the position of Ocean Squares, the total number of observations and the number of days on which observations were taken for each square during the month of FEBRUARY, 1881.

OCEAN SQUARE BOUNDED BY—	NO. DAYS.	NO. OBS.
° ° ° °		
N. 10 & 15 W. 20 & 25	1	1
15 20 20 25	3	3
15 20 50 55	9	10
15 20 55 60	7	7
20 25 25 30	3	3
20 25 30 35	4	4
20 25 35 40	1	1
20 25 40 45	2	2
20 25 45 50	1	1
20 25 50 55	4	4
20 25 55 60	3	3
20 25 60 65	6	7
20 25 65 70	2	2
20 25 70 75	4	4
25 30 20 25	3	3
25 30 25 30	3	3
25 30 30 35	1	1
25 30 45 50	2	2
25 30 55 60	1	1
25 30 60 65	8	9
25 30 65 70	1	1
25 30 70 75	4	4
25 30 75 80	3	3
30 35 10 15	1	1
30 35 15 20	6	7

OCEAN SQUARE BOUNDED BY—	NO. DAYS.	NO. OBS.
° ° ° °		
N. 30 & 35 W. 20 & 25	3	3
30 35 25 30	1	1
30 35 30 35	2	2
30 35 35 40	3	3
30 35 40 45	2	2
30 35 45 50	2	2
30 35 50 55	3	3
30 35 55 60	8	8
30 35 60 65	3	3
30 35 65 70	2	2
30 35 70 75	10	11
30 35 75 80	4	4
35 40 10 15	4	5
35 40 15 20	2	2
35 40 25 30	1	1
35 40 35 40	1	1
35 40 40 45	1	1
35 40 45 50	2	2
35 40 50 55	2	2
35 40 60 65	2	2
35 40 65 70	3	3
35 40 70 75	8	8
35 40 75 80	2	2
40 45 10 15	8	10
40 45 15 20	3	3

OCEAN SQUARE BOUNDED BY—	NO. DAYS.	NO. OBS.
° ° ° °		
N. 40 & 45 W. 25 & 30	1	1
40 45 30 35	2	2
40 45 35 40	3	3
40 45 40 45	4	5
40 45 45 50	10	14
40 45 50 55	15	19
40 45 55 60	14	18
40 45 60 65	10	12
40 45 65 70	10	17
40 45 70 75	3	3
45 50 10 15	11	14
45 50 15 20	7	8
45 50 20 25	5	5
45 50 25 30	12	12
45 50 30 35	17	22
45 50 35 40	15	18
45 50 40 45	9	12
45 50 45 50	6	7
45 50 50 55	1	1
50 55 10 15	7	7
50 55 15 20	11	14
50 55 20 25	11	14
50 55 25 30	6	6
50 55 30 35	2	2
55 60 10 15	1	1

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error only, when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters heretofore given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms. At Hobart Town the barometer is given in English inches reduced to sea-level. The movement of the air is indicated in pounds pressure per square foot. The kind of clouds is given and indicated by abbreviating the English nomenclature.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations the rain-fall is measured by local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz observations are made at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured by local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind directions are given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. The movement of the air is indicated by the Beaufort scale, except at St. Pierre, where it is given on a scale of 0 to 7. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San Jose the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made in kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force and is given on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds are given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLAND SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan barometer cistern below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia, and Santiago as corrected for temperature only. The movement of the air, except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

BRITISH MERCHANT-MARINE SERIES.—Same as the Naval, except that frequently the direction of the wind is given to the true meridian.

GERMAN MERCHANT-MARINE SERIES.—Same as U. S. Naval, except that the S. S. Braunschweig gives the sea-swell occasionally on the scale of 0 to 9 and the S. S. Leipsig on the scale of 0 to 12.

SWEDISH MERCHANT-MARINE SERIES.—Same as Swedish Naval.

UNITED STATES MERCHANT-MARINE SERIES.—Same as U. S. Naval.

ERRATA.

DAILY BULLETIN, JANUARY, 1881.—1st, page 1, Algerian Series, Mogador, Morocco, should read, Mogador, Morocco,‡; the double dagger should appear after each station in a similar manner; make similar corrections in each "BULLETIN" from 2d to 31st inclusive.

FEBRUARY, 1881—*1st, page 1*, Algerian Series, Mogador, Morocco, should read, Mogador, Morocco,‡; the double dagger should appear after each station in a similar manner; make similar corrections in each "BULLETIN" from 2d to 28th inclusive. Austro-Hungarian Series, Szegedin, barometer, 29.21, should read, 29.52. Page 2, Canadian Series, St. John's, Newfoundland, weather, fine, should read, fair. Page 5, Russian Series, Krotkowo, observations, 29.72, &c., should read, ——, so that each column of matter moves down one station, 29.72, &c., appearing opposite Lugan and 30.48, &c., opposite Yeniseisk. Page 6, United States Series, Fort Apache, New Mexico, should read, Fort Apache, Arizona; make similar correction in each "BULLETIN" from 2d to 28th inclusive. Page 9, British Naval Series, H. M. S. Zephyrs, should read, H. M. S. Zephyr; make similar corrections on the 3d, 5th, 7th, 9th, 11th, 13th, 15th, 17th, 19th, 21st, 23d, 25th, 27th. Page 7, United States Series, Socorro, New Mexico, barometer, 25.65, should read, 25.63; Springfield, Ill., barometer reduced, 707.1 m. m., should read, 767.1 m. m.; Yuma, Ariz., barometer, 701.5 m. m, should read 761.5 m. m. Page 10, United States Naval Series, S. S. Richmond, Hong-Kong, China, wind direction, ESE., should read, ENE. Page 11, German Merchant Marine Series, S. S. Leipzig, rain-fall, ¼ hour, should read, ½ hour.

2d, page 11, British Merchant Marine Series, S. S. Majastic, should read, S. S. Majestic; make similar correction on the 11th, 14th, 17th, 20th, 23d, 26th. Page 4, Indian Series, Nagpur, barometer, 29.90, should read, 28.90. Page 5, Russian Series, Krotkowo observations, 29.87, &c., should read, ——, so that each column of matter moves down one station, 29.87, &c., appearing opposite Lugan and 30.51, &c., opposite Yeniseisk. Page 7, United States Series, Savannah, Georgia, barometer, 29.94 inches or 760.5 m. m., should read 30.04 or 763.0. Page 11, S. S. Wyberton, position, N. 39° 27′, W. 9° 26′, should read, N. 39° 27′, W. 9° 36′.

3d, page 6, United States Series, Fort Verde, Arizona, wind direction, N., should read, W. Page 9, British Naval Series, H. M. S. Urgent, Port Royal, Jamaica, W. I., wind velocity, 1 meter per second, should read, force 1. Page 12, United States Merchant Marine Series, S. S. Pennsylvania, rain-fall, 25.40 m. m., should read 25 m. m.

5th, page 12, United States Merchant Marine Series, S. S. Senator, temperature, Centigrade, 13°, should read, 13°.9. S. S. Nederland, temperature, Centigrade, 3°.9, should read, 13°.9.

7th, page 5, Scottish Series, Monach Light-house, rain-fall, 12.7 m. m., should read, 13.0 m. m.

8th, page 1, Austro-Hungarian Series, Lemberg, barometer reduced, 29.86, should read, 29.80.

9th, page 12, United States Merchant Marine Series, S. S. Oceanic, rain-fall, 1.02 m. m., should read, 1.00 m. m.

10th, page 12, United States Merchant Marine Series, S. S. Illinois, Liverpool, England,*†, should read, S. S. Illinois, Liverpool, England; make similar correction on the 11th.

12th, page 4, Mauritius Series, Mauritius Observatory, Mauritius, temperature, Fahrenheit, 81°.0, should read, 81°.3. Page 11, Swedish Merchant Marine Series, Barque Adolph Fredholm, should read Barque Adolf Fredholm; make similar corrections on 15th, 18th, 21st, 24th, 28th. Indian Series, Angra, barometer, 29.40, should read, 29.41. Page 6, United States Series, Fort Apache, Arizona, barometer, 640.3 m. m., should read, 640.6 m. m. Page 10, United States Naval Series, move up figures in force column, so that S. S. New Hampshire, Port Royal, S. C, reads 1; S. S. Nipsic, 2; S. S. Onward, 1; S. S. Palos, 4; S. S. Passaic, 3; S. S. Pensacola, 6; S. S. Portsmouth, 2; S. S. Powhattan, 2; S. S. Quinnebaug, 2; S. S. Richmond, 1; S. S. Saratoga, 3; S. S. St. Louis, 1; S. S. Tennessee, 1; S. S. Ticonderoga, 1—2; S. S. Trenton, 1; S. S. Wabash, 2; S. S. Wachusetts, 3.

13th, page 4, Mexican Series, Pabellon, Aguascalientes, temperature, Fahrenheit, 36°.7, should read, 39°.7.

14th, page 5, Scottish Series, Monach Light-house, rain-fall, 10.2 m. m., should read, 10.0 m. m. Page 6, United States Series, Cheyenne, barometer, 23.90 inches or 608.0 m. m., should read, 23.96 inches or 608.6 m. m.

16th, Page 12, United States Merchant Marine Series, S. S. Illinois, Liverpool, England, †, should read, S. S. Illinois, Liverpool, England.

17th, page 4, Mexican Series, Puebla, Catholic Institute, barometer reduced, 771.4 m. m., should read, 768.3 m. m. Page 10, United States Naval Series, S. S. Tennessee, New Orleans, La., barometer, 73 7 m. m., should read, 773.7 m. m.

18th, page 2, Chinese Sub-Series, Zi-Ka-Wei, rain-fall, 0.08 inch, should read, 0.083 inch.

19th, page 5, Portuguese Series, Angra Azores, weather, raining, should read, ——. Campo Major, weather, ——, should read, raining.

20th, page 3, French Series, Arras, Engineer School, velocity, 2 m les per hour, should read, ——.

22d, page 6, United States Series, Indianola, Texas, temperature, Centigrade, —10.6, should read, 10.6.

24th, page 4, Japanese Series, Nagasaki, I. M. Observatory, velocity, 5.1 meters per second, should read, 0.6 meters.

26th, page 8, British Naval Series, H. M. S. Cockatrice, should read, H. M. S. Cockatrice.

MONTHLY SUMMARY, JANUARY, 1881.—Page 3, Italian Sub-Series, Stelvio, total precipitation, 32.68 inches or 830.0 m. m., should read, 3.27 inches or 83.0 m. m.; Valdobbia, total precipitation 104.33 inches or 2650.0 m. m., should read 10.43 inches or 265.0 m. m. Page 4, Russian Series, Barnaul, should read, Barnaul, ‡. Spanish Sub-Series, Manilla, elevation, 108 feet or 33 meters, should read, 56 feet or 17 meters. Page 7, ocean square mean data, from observations taken at 7.35 a. m. Washington or 0.43 p. m. Greenwich mean time, should read, ocean square mean data, from observations taken at 7 a. m. Washington or 0.08 p. m. Greenwich mean time.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

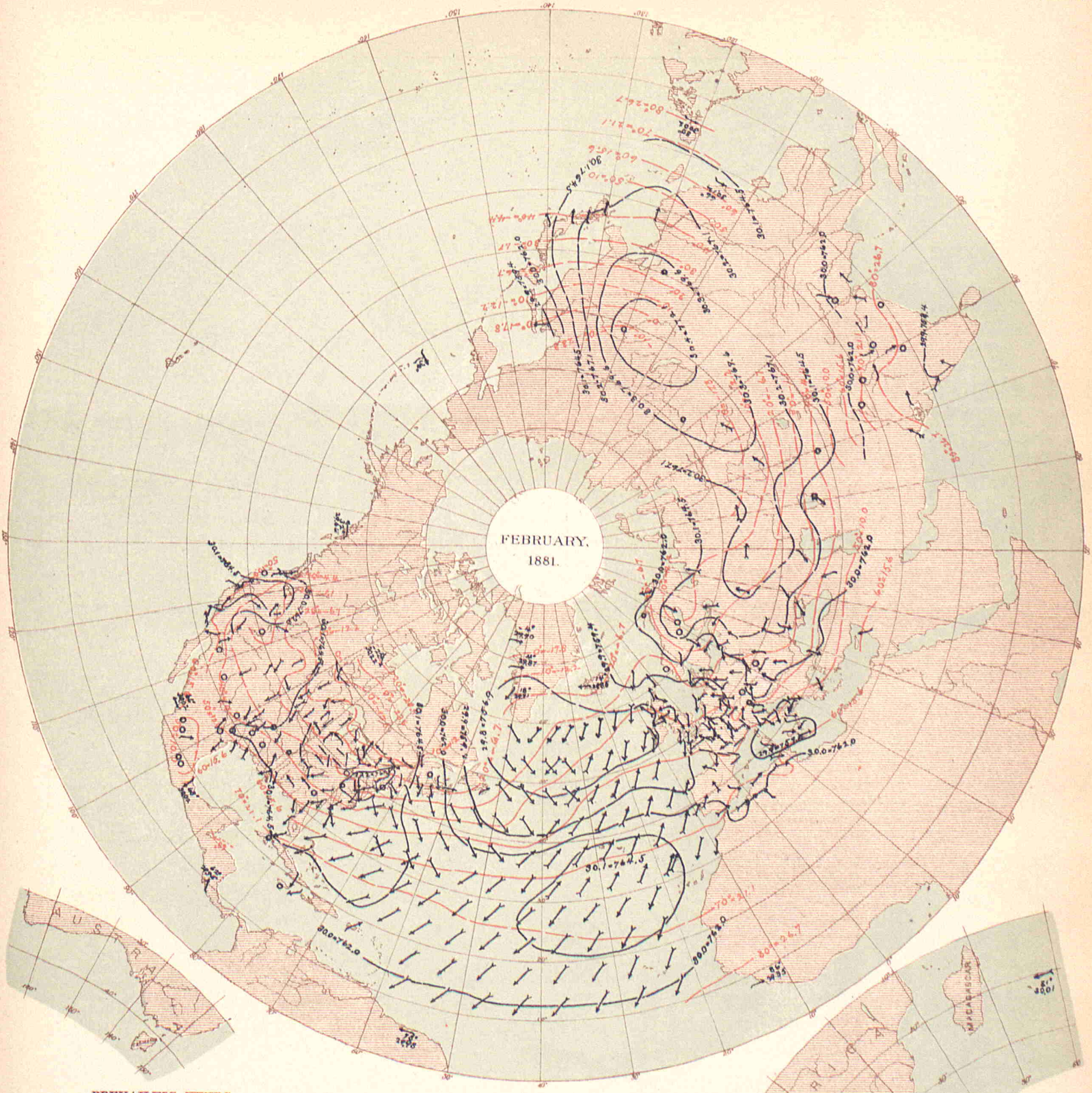
W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.



PREVAILING WINDS.

Arrows show the direction of and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
O	0	0	0
	1, 2	0 to 9	0 to 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

BRIG. & BVT. MAJ. GEN'L.
CHIEF SIGNAL OFFICER, U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *black*; detached barometer means in English inches.

Isotherms in *red*; detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of February, 1881, based on the daily charts of the International Bulletin.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF MARCH, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
APRIL, 1882.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MARCH, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Algerian Series.	° ′	° ′																								
Mogador ‡	N. 31 30	W. 9 44	11.29 a.m.	56	17			30.04	763.0	68.0	20.0	73.5	1	1	3	13		2	1	9	1			4	1.10	28.0
Nemours ‡	N. 35 06	W. 1 51	12.01 p.m.	20	6			29.98	761.4	68.2	20.1	81.8	10	2	5	5	4	1	3	1				1	0.35	8.8
Algiers ‡	N. 36 47	E. 3 04	0.20 p.m.	99	325			30.02	762.6	65.5	18.6	61.8	3	1	10	7	1	1		7	1			4	1.85	46.9
La Calle ‡	N. 36 54	E. 8 26	0.42 p.m.	36	11			30.04	763.1	66.9	19.4	6[illegible].4	3	9	8	3	4		1	3				3	2.06	52.4
Tunis ‡	N. 36 47	E. 10 11	0.49 p.m.	46	14			30.04	763.1																	
Sfax ‡	N. 34 45	E. 10 36	0.50 p.m.	?	?			30.11	764.7																	
Saida ‡	N. 34 51	E. 0 10	0.09 p.m.	2844	867			30.08	764.1	68.2	20.1	42.5	1	2	14	7	2	4	1					6	1.62	41.1
Tebessa ‡	N. 35 24	E. 8 06	0.40 p.m.	2890	881			30.13	765.3	66.2	19.0	31.8	4	3	8	6	3	5	1		1			6	1.52	38.7
Geriville ‡	N. 33 45	E. 1 10	0.13 p.m.	4285	1306																					
Laghouat ‡	N. 33 48	E. 2 51	0.19 p.m.	2556	770			30.11	764.9	68.5	20.3	47.2	5	4	1	3	7	6	4	1				1	0.10	2.6
Biskra ‡	N. 34 51	E. 5 40	0.31 p.m.	410	125			30.13	765.2																	
Australian Series.																										
Melbourne	S. 37 49	E. 144 58	9.47 p.m.	91	28	30.00	762.0	30.10	764.5	62.2	16.8	74.0	2	2	7	5	7	6		2				6	2.18	55.4
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 47	E. 15 53	1.12 p.m.	512	156	29.40	746.7	29.94	760.4	49.5	9.7	60.4		1	7	6	1	4	3	7	2			7	2.94	74.8
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.15	740.3	29.94	760.5	38.5	3.6	80.5	3	3	9	6		3	4	3				9	2.28	57.8
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	28.99	736.4	29.89	759.1	39.2	4.0	74.1	7	4			6	3			11			9	0.96	24.5
Gratz ‡	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.46	722.8	29.92	760.0	48.9	9.4	59.0	2	8	3	6	6	4	1	1				6	0.99	25.1
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1355	412	28.45	722.6	29.86	758.5	46.6	8.1	72.8	6	15	1	3	2	3	1					9	2.41	61.2
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1260	384	28.61	726.7	29.98	761.6	42.8	6.0	69.3	2	2	8	8			3	6	2			8	3.67	93.2
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.85	732.8	29.87	758.6	35.6	2.0	75.8		7	1	6	3	4	1	9				9	1.96	49.8
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.85	758.3	29.98	761.2	51.3	10.7	70.3	1	6	2	3	4	6	4	4	1			7	4.11	104.4
Szathmar	N. 47 49	E. 22 51	1.39 p.m.	430	131	29.45	748.0	29.89	759.2	43.7	6.5	79.9	2	9	3	5	4	4	3	1				8	5.11	129.7
Szegedin a	N. 46 15	E. 20 07	1.28 p.m.	256	78	29.62	752.3	29.90	759.5	45.7	7.6	79.4	8	2	1	5	7				7			8	2.22	56.3
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.89	759.2	29.99	761.7	49.1	9.5	73.6	1	1	1	3			2	6	17			8	4.75	120.8
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.24	742.7	29.97	761.1	42.8	6.0	64.4	2	9	9			3	1	1	6			7	4.04	102.7
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	29.72	754.9	29.93	760.1	46.4	8.0	69.0	1	1	12	7		3	6	1				7	3.21	81.6
Furnes d	N. 51 04	E. 2 40	0.19 p.m.	20	6	29.89	759.1	29.91	759.7	47.8	8.8	70.5	2	2	10	2	1	1	5	4				3	2.68	68.0
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.82	757.3	29.94	760.5	46.9	8.3	71.5		2	16	2	1	3	4	3				6	3.54	89.8
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	86	26	29.67	753.6	29.77	756.1	39.4	4.1	66.7	1	4	7	3	8	6	1	1				6	2.54	64.5
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63	29.60	751.8	29.83	757.7	44.2	6.8	75.3	2	1	7	9	3	2	6	1				7		
Bidston	N. 53 24	W. 3 04	11.58 a.m.	180	85			29.85	758.2	44.0	6.7	66.7	1	1	10	8	1	3	5	2				7		
Bolton	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.30	744.2	29.84	757.9	41.5	5.3	79.1	3	3	8	7	2	4	2	2				8		
Bradford d	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.47	748.5	29.86	758.4	41.8	5.4	84.6		6	2	9		5		4	1			6	4.08	103.6
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.96	761.0	29.99	761.7	83.0	28.3	63.8						9		22				4		
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33			29.87	758.7	48.0	8.9	70.0	3	6	8	3	1	5	4	1				6		
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.78	756.4	29.91	759.7	47.8	8.8	71.6	1	3	8	4	1	1	9	3	1			7		
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.69	754.1	29.92	760.0	47.9	8.8	71.4	2	4	9	1	5	3	6	1				7		
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.63	701.8	29.85	758.2	72.0	22.2	72.6	1					5	2	23				3		
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.64	752.8	29.87	758.7	86.7	30.4	88.2		3	7	11	3	2		2	3			3		
Galway a	N. 53 15	W. 9 03	11.32 a.m.	25	8			29.94	760.5	44.2	6.8	87.0	2	4	5	8	2	6	1	2				7		
Gibraltar	N. 36 06	W. 5 21	11.47 a.m.	50	15	29.98	761.5	30.03	762.7	63.7	17.6	88.0		2	8	4		1	12	4				5		
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.57	751.1	29.78	756.4	41.3	5.2	74.2	6	1	9	8	2		3	2				5		
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.74	755.4	29.92	760.0	47.2	8.4	66.5	1	1	5	11	3		6	4				6		
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.69	754.1	29.91	759.7	48.3	9.1	71.7	4		7	6	2	2	2	8				5		
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.89	759.2	29.92	760.0	48.4	9.1	65.4	2	3	6	8	2		6	4				6		
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.61	752.1	29.87	758.7	46.3	7.9	69.1	1	6	3	13	4			4				6		
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	29.90	759.4	29.98	761.5	64.5	18.1	65.2	4	10	6	5	1	4		1				4		
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29.97	761.2	30.01	762.2	70.5	21.4	74.0		9	3	5	5	3	1	5				5		
Oscott a	N. 52 28	W. 1 55	0.00 m.	483	147	29.37	746.0	29.90	759.4	45.7	7.6	70.5	1	2	7	4	3	1	5	5	2			7		
Oxford	N. 51 46	W. 1 17	0.03 p.m.	232	70	29.67	753.6	29.93	760.2	46.6	8.1	68.4	2	2	9	8	2		8					7		
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.83	757.7	29.90	759.4	48.1	8.9	75.3		6	4	4	3	5	5	4				7		
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29			29.65	753.1	37.7	3.2	89.9	4	2	8	4	4	5	2	2				4		
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.88	758.9	29.94	760.5	50.1	10.1	66.6	3	2	1	11	5	1		5	3			7		
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.61	752.1	29.89	759.2	44.9	7.2	79.1	4	1	6	10	3	3		2	2			7		
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.80	756.9	29.83	757.7	42.9	6.1	83.3	1	5	10	3		2	6	1	3			7	3.21	81.5
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110			29.46 a	748.3 a	42.0	5.6	75.4	1	2	11	5	2		4	6				8		
Straffield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.69	754.1	29.91	759.7	49.0	9.4	64.3		6	9	3	1	4	5	3				5	3.12	79.2
Truro a	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.83	757.7	29.89	759.2	50.8	10.4	73.9	5	9	3	4		4	4	1				7		
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	29.83	757.7	29.86	758.4	48.8	9.3	74.8		4	4	5	5	2	9	2				8		

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1881. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Canadian Series	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	4	1																					
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.67	753.6	29.71	754.6	27.7	— 2.4	86.4	8	2	7	2		6	1	3	2	6340	10203	7	1.75	44.4
Chatham	N. 47 03	W. 65 29	7.45 a.m.	50	15	29.69	754.1	29.75	755.6	24.8	— 4.0	88.9	9	1	1	5	4			5	6	3521	5666	6	6.40	164.1
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53																					
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	30	9																					
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.73	755.1	29.76	755.9	28.6	— 1.9	82.4	1	8		5	1	2		12	2	17516	28189	7	3.05	77.5
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	758	231	29.24	742.7	30.14	765.5	12.1	—11.1	95.1	6	4		5	2	4		7	3	6142	9884	5	0.50	12.7
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18																					
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309																					
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.56	750.8	29.70	754.4	30.3	— 0.9	86.8	8	3	5	1			7	4	3			6	6.36	161.5
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	332	101																					
Kingston	N. 44 14	W. 76 30	7.02 a.m.	335	102	29.42	747.3	29.77	756.1	27.1	— 2.7	86.0	3	8	6	2	3	2	1	5	1	4699	7562	8	2.76	70.1
Little Glace Bay	N. 46 11	W. 59 58	8.08 a.m.	34	10																					
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.54	750.3	29.75	755.6	27.3	— 2.6	85.5		4	8	3	2	2	3	8	1			8	4.59	116.6
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9																					
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	641	195	29.12	739.6	29.85	758.2	21.2	— 6.0	81.4	7	3	3		1	3	7	2	5	7463	12009	6	2.04	51.8
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210																					
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.10	739.1	29.83	757.7	26.0	— 3.3	94.2	4	6	8	1	2			4	6	5709	9188	7	3.11	79.0
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.17	740.9	29.84	757.9	25.7	— 3.5	85.9	1	7	14			1	7		1			7	2.95	74.9
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.42	747.3	29.76	755.9	26.5	— 3.1	90.7	2	2	7			1	9	8	2			6	4.96	126.0
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.34	745.2	29.83	757.7	22.5	— 5.3	78.8	2	12	4			1	5		7			7	1.60	40.6
Saugeen	N. 44 30	W. 80 21	6.42 a.m.	641	208	29.11	739.4	29.86	758.4	24.8	— 4.0	89.7	9	3	1	2	2	2	5	6	1	8859b	14390	6	1.55	39.4
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	?	?	29.64	752.8	29.69	754.1	30.3	— 0.9	82.0	3	8	1			5	6	6	2			6	3.44	87.4
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46																					
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360																					
Sydney	N. 46 08	W. 60 10	8.07 a.m.	27	8	29.67	753.6	29.71	754.6	29.5	— 1.4	84.9	6	1	4	6		3	2	4	5	6219	10008	7	2.89	73.4
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	150	29.43	747.5	29.83	757.7	27.5	— 2.5	85.7	5	10	3	3	1		3	4	2	9510	15305	7	2.01	51.1
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299																			6	4.26	108.2
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.59	751.6	29.66	753.4	32.2	0.1	88.6	1	7	2		2	4	8	6	1					
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.52	749.8	29.78	756.4	30.5	— 0.8	91.0		5		4	1	3	3	15					3.05	77.5
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?																					
Cape Colony Series.																										
Cape St. Francis	S. 34 10	E. 24 53	1.48 p.m.	25	7	29.95	760.7			66.8	19.3	85.8		1	6	11		4	8	1				6	1.99	50.5
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.94	760.5	29.98	761.5	79.0	20.1			10	1		17	3						3	0.85	21.6
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.33	770.3	30.35	770.8	40.5	4.7	84.2	9	4	2	1		5	7	3				6	5.84	148.4
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	26.23	666.2	29.95	760.7	64.2	17.9	85.4	10					16		11				5	0.39	10.0
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	46	13	29.78	756.4	29.83	757.6	32.7	0.4	78.1	1	10	4	5	6	1	1	3				7		
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.83	757.7	29.85	758.2	32.9	0.5	85.7		5	11	4	3	3	4	1				6		
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.79	756.6	29.83	757.7	20.7	— 6.3	85.5c	9	1			5	1	1	12	2			8		
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.66	753.4	29.71	754.5	8.2	—13.2		1			3	1	6	15	4	1			6		
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.61	752.2	29.65	753.1	34.3	1.3	79.1	5	3	2	2	4	8	1	4	2			7		
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.71	754.6	29.81	757.2	41.0	5.0		3	3	6	7	3	3	3	2	1			5		
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.34	745.2	29.99	761.7	57.2	14.0	66.7	2	4	2		7	13	1	2					1.75	44.5
Alençon	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.45	747.9	30.00	762.0	49.1	9.5	90.1	4	3	1	11	3			9				5	1.01	40.9
Arras	N. 50 17	E. 2 47	0.19 p.m.	239	73	29.67c	753.7c	29.94c	760.4c	46.4c	8.0c	73.5c	1g	8	5	2	1	4	1	3						
Avignon	N. 43 57	E. 4 38	0.25 p.m.	65	20	29.93	760.2	30.01	762.2	58.8	14.9	57.5	17	1			3	4	2	4				4	1.16	29.5
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	517	157	29.42	747.3	29.98	761.5	50.7	10.4	64.7			3	9	5	7	5	2				7	2.46	62.6
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.69	754.2	29.96	761.0	49.5	9.7	61.5	2	2	8	4	3		6	6				6	4.66	118.5
Besançon	N. 47 14	E. 6 01	0.32 p.m.	829	250	29.14	740.1	30.04	763.1	51.1	10.6	65.5				2	12	4		13				6	2.37	60.2
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.70	754.4	29.97	761.1	58.1	14.5	60.8	5		4	3	5	11	3					7	1.00	27.0
Bourges	N. 47 10	E. 2 24	0.17 p.m.	510	156	29.40	746.8	29.95	760.6	53.6	12.0	74.0	2	4	9	3	3	1		9					1.42	36.1
Brest	N. 48 23	W. 4 29	11.50 a.m.	213	65	29.72	754.8	29.95	760.8	51.1	10.6	80.8	7	2	3	6	4	1	3	4	1			7	1.90	48.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.84	757.9	29.97	761.1	53.1	11.7	83.3	4	7	4	5	3	4		4				5	1.46	37.2
Châlons-sur-Marne	N. 48 57	E. 4 23	0.25 p.m.	294	90	29.65	753.0	29.97	761.2	50.5	10.3	85.9a	1		1	10	4	6	4		5			4	1.41	35.7
Charleville	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.44	747.7	30.01	762.3	49.6	9.8	67.6		1	5	12	4	5	3	1				6	2.44	62.0
Clermont-Fd	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.60	726.4	29.95	760.7	56.1	13.4	47.0	5	4	2	3	1	6	3	7				3	1.26	31.9
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.17	741.0	30.02	762.4	55.4	13.0	63.5	6	4	1	8	7	3	1	1				6	1.87	47.6
Commercy	N. 48 45	E. 5 35	0.30 p.m.	817	249	29.11	739.4	29.99	761.7	47.3	8.5	65.1			10	9		1	5	4	2			5	3.59	91.1
Gap	N. 44 34	E. 6 04	0.32 p.m.	2427	740	27.45	697.2	29.98	761.5	54.1	12.3	54.7	4c	4	4	8	4	1	2	1					2.81	71.3
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	28.90	734.0	30.04	763.0	56.8	13.8	55.6	2				3	10	6	10				6	2.12	53.8
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.23	742.4	30.00	761.9	54.1	12.3	59.0	1	4	6	1	5	1	6	7					1.59	40.3
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.59	726.1	29.99	761.7	50.7	10.4	81.9	1		5	8	2	10	5						2.34	59.3
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.69	754.2	29.97	761.1	54.1	12.3	75.9	7	4	4	6	3	4	2	1				6	1.16	29.5
Lescar	N. 43 21	W. 0 26	0.06 p.m.	525	160	29.38	746.3	30.05	763.3	60.4	15.8	68.1	2	2	13	2	5	1	3	3					0.84	21.2
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	29.88	759.0	29.98	761.6	53.8	12.1	71.5	8	1	2	4	5	4	1	6				6	2.76	70.2
Lyons	N. 45 45	E. 4 49	0.27 p.m.	574	175	28.95	735.2	29.97	761.2	52.7	11.5	57.1	8	3	2		6	4	2	6				5	0.88	22.4
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.67g	753.5g	29.99g	761.7g	50.7	10.4	80.5	1	7	2	5	1	5	7	3				5	1.75	44.5
Marseilles	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.71	754.7	29.99	761.7	58.8	14.9	58.2		5	8	5	2	8	5					5	0.94	23.9
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.76	629.0	29.99	761.8	43.2	6.2	47.8		2	9	12	3	4	1					4	1.98	50.2
Montpelier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.89	759.3	30.00	762.1	57.6	14.2	70.3	5	5	2		4	6	2	7				4	1.78	45.3
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.19	741.5	29.97	761.2	48.9	9.4	62.6	3	4	5	7	7			5				5	3.05	77.5
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.82	757.5	29.98	761.6	53.6	12.0	72.5	3	2	3	5	5	1	5	7				7	2.39	60.6
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.94	760.4	29.97	761.3	59.0	15.0	70.0		1	7	1	2	11	7	2				5	1.38	35.1
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	98	30	29.92	760.0	30.03	762.8	57.6	14.2	60.1	5	1			5	15	1	2	2			5	2.59	65.8
Pic du Midi (Pitde)	N. 42 15	E. 0 08	0.08 p.m.	7763	2366	22.45	570.3			37.2	2.9													6	4.66	118.4
Privas	N. 44 44	E. 4 35	0.26 p.m.	997	304	28.97	735.7	30.04	762.9	54.7	12.6	69.7a	8i			1	9		3	1				4	0.96	24.3
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.07	636.7			38.7	3.7	77.6	1	2	8	7	3	3	3	4				5	2.64	67.0
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.98	761.6	30.02	762.4	57.6	14.2	63.8			3	4	4	7	5	7	1			7	3.67	93.3
Roche-sur-Yon	N. 46 40	W. 1 26	0.14 p.m.	198	60	29.76	755.9	29.98	761.5	54.0	12.2	68.1	2	2	5	3	2	1	14	2				6	1.28	32.4
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	27.85	707.3	29.98	761.6	52.9	11.6	55.3	4	9	5		2	1	9	1				4	2.03	51.5
Rouen	N. 49 26	E. 1 14	0.13 p.m.	80	24	29.85	758.5	29.95	760.7	50.4	10.2	59.7	1	3	6	2	3	10	5	1					2.03	51.5
Saint Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.81	757.1	29.97	761.2	47.8	8.8	69.9	3	7	6	4	4		4	3				6	1.11	28.1
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.80	756.9	29.97	761.2	52.2	11.2	56.2	3	3	4	9	2	1	4	5				6	1.49	37.8
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.31	744.4	30.03	762.7	55.6	13.1	71.7	1	13	1			16						5	1.89	48.1
Tours	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.75b	755.6b	29.95b	760.6b	54.7	12.6	59.9b	3	2	7	2	2	2	4	9				6	1.24	31.4
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	135	29.47	748.6	29.99	760.9	50.5	10.3	55.6	2	6	9	2	1	6	3	2					1.57	40.0
Sub-Series.																										

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	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.	Total Precipitation. Mill.
German Series.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 53	0.51 p.m.	774	236	29.11	739.3	29.95	760.8	44.2	6.8	64.6	1	2	8	7	1	2	5	3	2			5	3.45	87.6
Berlin	N. 52 30	E. 13 23	1.02 p.m.	157	48	29.74	755.3	29.92	760.0	40.8	4.9	65.1		7	5	6		5	3	5				6	3.03	77.0
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.42	747.2	29.95	760.8	38.3	3.5	73.7	2	5	10	2	3	2	3	3	1			8	2.08	52.9
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.54	750.2	29.97	761.3	49.1	9.5	57.9	3	1	4	14	1		6	2				6	4.37	110.9
Cassel	N. 51 19	E. 9 28	0.46 p.m.	561	171	29.31	744.4	29.91	759.7	43.9	6.6	64.2	2	6	3	1	2	5	8	4				6	3.52	89.5
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.65	753.0	30.02	762.4	48.0	8.9	56.9	2	3	5	15	6							5	3.36	85.3
Friedrichshafen	N. 47 39	E. 9 29	0.45 p.m.	1355	413	28.55	725.2	30.01	762.2	45.1	7.3	68.2			10	8	4		1	8				6	2.81	71.3
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	66	20	29.85	758.1	29.92	759.9	37.4	3.0	73.4	1	6	7	6		4	6		1			7	2.69	68.4
Kiel	N. 54 20	E. 10 04	0.49 p.m.	13	4	29.86	758.4	29.87	758.7	36.3	2.4	75.4	1	2	11	6	4		6	1				6	1.24	31.4
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.52	749.9	29.95	760.8	41.4	5.2	65.3		4	5	8	2	1	7	4				6	3.51	89.2
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	269	82	29.65	753.1	29.92	760.0	41.2	5.1	67.1		3	9	3	4	1	6	3	2			6	2.98	75.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.83	757.6	29.86	758.5	31.3	−0.4	81.9	5	1	9	4	4	1	2	5				8		
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.14	714.7	30.01	762.2	44.4	6.9	55.0	4	2	15	1	1		4	4				7	2.00	50.9
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.86	758.4	29.88	759.0	36.1	2.3	66.5	6	6	3	10	2	2		2				8	0.96	24.4
Neustadt b.	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.40	746.8	29.93	760.3	31.0	1.1	61.8		3	12	5	2				7			5	1.49	37.9
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	879	268	29.02	737.1	29.91	759.8	48.6	9.2	57.3	3		11	5	1	1	5	5				2	1.99	50.5
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1414	431	28.45	722.6	29.96	761.0	44.8	7.1	64.1		1	16	3		1	4	5	1			7	2.18	55.3
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.86	758.5	29.89	759.1	33.6	0.9	97.8	1	3	3	13	1	6	3	1				6	1.74	44.3
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m.	266	81	29.61	752.0	30.00	762.0	60.6	15.9		2	5		14	5			5				3		
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.85	758.4	29.91	759.7	80.2	26.8	58.0			9	18	3			1				2	0.35	8.9
Deesa	N. 24 16	E. 72 14	4.57 p.m.	474	144	29.39	746.5	29.86	758.4	90.9	32.2	27.8	5	4	8	6	5	1			2			4	0	0
Bombay	N. 18 54	E. 72 49	4.59 p.m.	37	11	29.86	758.4	29.90	759.4	83.0	28.3	63.9		19	11	1								0	0.04	1.0
Poona	N. 18 28	E. 74 10	5.05 p.m.	2000	610	28.00	711.2	29.80	756.9	91.3	32.9	18.1		6	18	6		1						1	0.01	0.2
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.34	694.4	29.84	757.9	84.5	29.2	37.5		1	7	15	4	1		3				1	0	0
Lahore	N. 31 34	E. 74 20	5.41 p.m.	732	223	29.15	740.4	29.90	759.4	74.7	23.7	46.0	2	6	11	1			6	2	3			5	2.35	59.7
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.97	735.8	29.89	759.2	73.4	23.0	55.7		11	4	2		3	1	1	9			5	4.59	116.6
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	175	29.31	744.5	29.88	758.9	80.9	27.2	35.1	3	2	18			4	4					3	0.20	5.1
Nagpur	N. 21 09	E. 71 11	4.52 p.m.	1025	312	28.80	731.5	29.82	757.4	90.4	32.4	26.7	4	5	4	3		3	2	3	7			4	1.93	49.0
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.52	724.4	29.88	758.9	82.6	28.1	30.0	5	6	6	2	2		2	4	4			4	2.10	53.4
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.50	749.3	29.87	758.7	79.3	26.3	45.2	4	14	5			2		3	3			4	0.61	15.6
Alahabad	N. 25 26	E. 81 52	5.36 p.m.	307	94	29.56	750.8	29.87	758.7	82.5	28.1	40.8	1	9	4			1	2	3	11			4	0.78	19.8
Patna	N. 25 37	E. 85 08	5.48 p.m.	179	55	29.69	754.1	29.87	758.7	79.2	26.2	49.1	1	7	13				3	7				4	2.75	69.9
Hazaribagh	N. 24 00	E. 85 24	5.49 p.m.	2010	613	27.86	707.6	29.88	758.9	75.7	24.3	39.7	6	11	7	2	2		3					3	2.01	51.0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.79	756.7	29.87	758.7	86.0	30.0	47.3	2		3		16	5		2	3			2	1.43	36.3
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	18	5	29.85	758.2	29.87	758.7	80.7	27.1	56.1	2	5	3	7	6		1	2	5			3	3.44	87.4
Goalpara	N. 26 11	E. 90 40	6.11 p.m.	386	118	29.46	748.3	29.86	758.4	74.7	23.7	56.3	2	4	8	3			2	3	9			2	7.39	187.6
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	90	25	29.82	757.4	29.91	759.7	79.5	23.4	71.0		4	12	6	4	2	1	2				3	0.01	0.2
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	332	101	29.57	751.1	29.92	760.0	70.4	21.3	74.7				9				22				7	2.29	58.1
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.58	751.2	29.98	761.6	50.0	10.0	61.1	1		4	4		4	1	1	16			7	4.79	121.6
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.44	747.7	29.96	761.0	54.0	12.2	57.5	2	1	7	9	7		2	3				6	1.70	43.2
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.87	758.8	30.00	762.0	50.5	10.3	67.6	12	1	2	1	3	5	1	6				7	2.46	62.4
Moncalieri	N. 44 59	E. 7 41	0.39 p.m.	853	260	29.02	737.0	30.00	761.9	52.2	11.2	57.2	4	2			3	5	15	2				5	1.29	32.7
Genoa	N. 44 25	E. 8 30	0.42 p.m.	157	48	29.80	756.9	29.99	761.8	54.3	12.4	66.3	5	4	1	5	2	11	2	1				7	2.10	53.2
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.05	712.4	29.98	761.4	50.4	10.2	55.0	1	8	12		1	3	4	2				4	1.11	28.2
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.93	760.1	29.98	761.5	50.5	10.3	68.2	6	10	1	3	2	1	2	6				7	2.37	60.3
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.71	754.7	29.97	761.3	55.8	13.2	57.5	4	2	5	6	2	1	2	9				7	2.42	61.4
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.90	759.4	29.98	761.6	56.1	13.4	63.1	1	1	7	7	7	1	3	4				7	1.30	33.1
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.80	755.8	29.98	761.4	58.8	14.9	51.4	6	4	1	5	8	1	4	2				5	1.82	46.2
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.72	754.9	29.97	761.3	58.5	14.7	52.8	2	6	2	6	5	5	3	2				5	0.36	9.1
Cosenza	N. 39 18	E. 16 15	1.13 p.m.	840	256	29.11	739.3	29.99	761.8	58.6	14.8	73.6	1	5	3	8	2	10	1	1				5	2.32	59.0
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.28	756.3	29.97	761.2	62.2	16.8	55.7		7	4	2	9	2	1	2	4			4	1.56	39.7
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.26	756.0	30.01	762.3	63.1	17.3	49.5	5	3	3	4		2	2	9	3			5	1.65	41.8
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.93	760.3	29.98	761.4	61.7	16.5	67.5	2	1	5	6	4	2	6	5				0	0.04	1.0
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.44	747.8	29.97	761.1	57.4	14.1	64.7	1		2	10	4	4	5	5				6	0.65	16.5
Stelvio	N. 46 37	E. 10 32	0.50 p.m.	8343	2543	22.11	561.6			27.3	−2.6	63.1	2		2	9	3	4	4	7				6	1.22	31.0
Valdobbia	N. 45 47	E. 12 00	0.56 p.m.	8360	2548	22.20	560.4			28.4	−2.0	70.6	12	2				1	7	9				5	2.17	55.0
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.21	767.3	30.23	767.8	41.2	5.1	74.9	19	5		1				5	1			5	5.10	129.6
Kioto	N. 35 01	E. 135 46	9.14 p.m.	162	49	30.01	762.2	30.19	766.9	38.5	3.6	75.6	2	10	3	1			6		3			4	3.55	90.2
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	30.02	762.4	30.22	767.5	44.1	6.7	76.8	9	5	3	2	1			8	3			5	7.37	187.1
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	30.07	763.7	30.14	765.5	39.8	4.3	83.0	4	7		1	5	4	4	6				6	6.57	166.9
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.14	765.6	30.19	766.8	42.1	5.6	72.6	9		4				6	5	7			4	3.54	90.0
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.77	756.1	29.95	760.7	81.3	27.4	66.7	2	2	2	1	1	2	14	7				6	2.18	55.4
Mexican Series.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.44	620.7	29.92	760.0	55.3	12.9	77.0	120	6	4	2	2		2					4	0.09	2.2
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.72	755.0	29.99	761.7	65.8	18.8	82.7		12				9	5	5				4	0	0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.13	586.7	30.19	766.8	49.8	9.9	62.0	a	1							29			2	0.03	0.7
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.94	608.0	29.98	761.4	51.3	10.7	63.0	2	4	3	2	1				19			5	0.04	0.9
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.37	593.5	30.20	767.1	47.8	8.8	53.0							2		29			1	1.41	35.7
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	24.19	614.3	30.17	766.3	56.3	13.5	60.1		1		14		4	10	2				4	0.48	12.1
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	29.96	760.9	30.02	762.5	68.7	20.4	86.0	20	5	3	2	13	2		1	2			5	0.62	15.7
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8189	2496	22.55	572.8	30.12	765.1	47.5	8.6	56.0	a			6			1		23			4	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. 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.
NETHERLAND SERIES.	° ′	° ′																								
Flushing .....a.	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.92	760.0	29.92	760.0	44.6	7.0	.....	1	2	11	4	2	1	7	2	.....	.....	.....	.....	3.72	94.5
Groningen .....a.	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.83	757.6	29.88	759.0	40.6	4.8	.....	2	6	8	1	4	.....	8	1	.....	.....	.....	.....	2.41	61.3
Helder.....	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.87	758.8	29.87	758.8	39.9	4.4	.....	2	3	2	13	1	1	6	3	.....	.....	.....	.....	2.35	59.6
Hellevoetsluis .a.	N. 51 49	E. 4 80	0.25 p.m.	0	0	29.91	759.6	29.91	759.6	42.4	5.8	89.8	1	2	7	9	1	1	6	3	.....	.....	.....	.....	2.39	60.6
Utrecht.....	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.87	758.8	29.92	760.0	41.7	5.4	73.3	2	4	5	9	2	3	5	1	.....	.....	.....	5	2.68	68.0
NORWEGIAN SERIES.																										
Bergen.....	N. 60 24	E. 5 20	0.29 p.m.	49	15	29.65	753.2	29.72	754.8	33.3	0.7	70.0	59	4	.....	1	10	3	1	.....	.....	.....	.....	5	5.80	147.3
Christiania.....	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.61	752.2	29.76	756.0	28.4	—2.0	62.6	1	3	3	12	1	1	4	5	1	.....	.....	5	0.97	24.6
Gjæsvær.....	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.38	746.2	29.40	746.8	14.7	—9.6	.....	4	2	2	7	2	7	3	2	2	.....	.....	8	.....	.....
Lodingen.....	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.43	747.6	29.47	748.4	25.3	—3.7	75.7	2	1	7	5	3	2	.....	4	7	.....	.....	6	4.52	114.7
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.59	751.6	29.74	755.3	57.2	14.0	86.2	2	6	6	1	7	8	1	.....	.....	.....	.....	5	7.24	183.9
Campo Major.....	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.95	735.4	29.94	760.4	60.6	15.9	64.8	2	1	4	.....	14	.....	8	2	.....	.....	.....	8	5.06	128.5
Funchal.....	N. 32 38	W. 16 55	11.00 a.m.	82	25	29.91	759.8	30.00	762.1	64.6	18.1	64.8	.....	.....	10	12	5	2	.....	2	.....	.....	.....	6	4.56	115.9
Lisbon.....	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.60	751.8	29.96	761.0	59.4	15.2	75.4	3	1	1	5	10	2	5	4	.....	.....	.....	8	4.72	120.0
Ponta Delgada.....	N. 37 45	W. 25 41	10.25 a.m.	66	20	29.73	755.1	29.80	757.0	60.4	15.8	72.8	1	4	8	3	8	3	3	.....	1	.....	.....	5	7.22	183.5
RUSSIAN SERIES.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	29.15	740.5	30.33	770.4	21.4	—5.9	73.7	6	1	2	3	5	1	5	4	4	.....	.....	2	.....	.....
Archangel.....	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.65	753.0	29.68	753.8	21.2	—6.0	83.5	.....	2	2	2	12	4	8	1	.....	.....	.....	7	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖ 72	‖ 22	30.13	765.4	30.05	763.3	40.5	4.7	67.0	1	5	1	1	2	7	8	5	1	.....	.....	7	.....	.....
Barnaul.....‡.	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.93	760.2	30.47	773.9	20.8	—6.2	60.3	1	1	1	7	2	.....	.....	5	14	.....	.....	4	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.57	751.0	29.82	757.4	27.1	—2.7	67.9	2	2	6	10	6	.....	3	2	.....	.....	.....	7	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	29.21	741.8	30.21	767.3	28.6	—1.9	49.5	.....	2	6	6	3	11	2	1	.....	.....	.....	5	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.83	757.7	30.08	764.0	25.7	—3.5	63.6	4	.....	2	4	6	10	2	3	.....	.....	.....	6	.....	.....
Kertch.....	N. 45 21	E. 36 29	2.34 p.m.	20	6	29.92	760.0	29.94	760.5	40.8	4.9	88.3	2	2	5	2	10	5	.....	5	.....	.....	.....	6	.....	.....
Kieff.....	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.20	741.7	29.86	758.5	32.0	0.0	76.3	6	6	1	1	4	6	3	2	2	.....	.....	9	.....	.....
Krotkowo .....d.	.....	.....	.....	.....	.....	29.67	753.5	30.19	766.7	26.6	—3.0	82.5	1	4	8	2	2	3	5	2	.....	.....	.....	6	.....	.....
Lugan.....	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.68	753.9	29.90	759.5	39.2	4.0	75.6	4	.....	2	5	7	3	7	2	1	.....	.....	5	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.35	745.6	29.93	760.3	28.4	—2.0	67.8	4	.....	.....	.....	14	8	3	2	.....	.....	.....	7	.....	.....
Nertchinsk.	N. 51 19	E. 119 37	8.07 p.m.	1942	592	28.03	712.0	30.54	775.7	29.8	—1.2	69.2	.....	4	3	1	1	1	1	.....	20	.....	.....	2	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.86	758.4	29.93	760.1	38.1	3.4	74.4	6	3	3	2	7	5	1	3	1	.....	.....	9	.....	.....
Nikolaievsk.....	N. 53 08	E. 140 45	9.31 p.m.	59	18	30.08	763.9	30.16	766.1	4.5	—15.3	61.9	.....	1	4	.....	.....	1	.....	1	24	.....	.....	3	.....	.....
Nukuss .....a.	N. 42 27	E. 59 37	4.07 p.m.	216	66	29.85	758.1	30.08	764.1	55.0	12.8	42.1	10	1	2	.....	.....	3	4	10	.....	.....	.....	4	.....	.....
Pekin.....	N. 39 57	E. 116 29	7.54 p.m.	125	38	30.22	767.7	30.37	771.4	41.0	5.0	37.4	.....	10	.....	3	.....	3	.....	2	13	.....	.....	2	.....	.....
St. Petersburg.....	N. 59 56	E. 30 16	2.09 p.m.	16	5	29.76	755.8	29.77	756.2	25.7	—3.5	74.3	4	1	6	7	6	2	3	2	.....	.....	.....	6	.....	.....
Tashkend.	N. 41 19	E. 69 16	4.45 p.m.	1621	494	28.48	723.4	30.03	762.8	59.2	15.1	45.6	4	3	.....	2	.....	.....	.....	1	21	.....	.....	7	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.56	725.3	29.97	761.2	57.4	14.1	42.5	4	9	1	.....	.....	3	5	.....	9	.....	.....	6	.....	.....
Warsaw.....	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.47	748.6	29.91	759.7	34.5	1.4	70.1	5	5	8	2	3	5	1	2	.....	.....	.....	8	.....	.....
Wilna	N. 54 51	E. 25 18	1.49 p.m.	387	118	29.46	748.2	29.90	759.4	31.1	—0.5	70.4	2	6	3	6	4	5	.....	1	4	.....	.....	7	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	30.19	766.9	30.50	774.7	20.3	—6.5	58.8	2	.....	2	5	5	6	1	.....	10	.....	.....	3	.....	.....
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	29.80	756.9	42.5	5.8	75.1	1	3	16	1	.....	5	3	2	.....	.....	.....	6	1.46	37.1
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.63	752.6	42.7	5.9	92.0	6	3	7	6	3	5	1	.....	.....	.....	.....	9	5.90	149.9
North Unst.....	N. 60 51	W. 0 53	0.04 a.m.	230	70	.....	.....	29.63	752.6	.....	.....	.....	9	4	3	3	5	6	1	.....	.....	.....	.....	8	.....	.....
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.90	759.5	30.01	762.3	60.3	15.7	68.1	1	.....	3	8	5	6	4	4	.....	.....	.....	4	0.41	10.4
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	56	17	29.91	759.6	29.97	761.1	66.2	19.0	57.1	2	8	4	3	2	7	4	1	.....	.....	.....	6	2.44	62.0
Burgos.....	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.03	686.5	.....	.....	54.1	12.3	61.9	.....	1	1	12	8	.....	.....	9	.....	.....	.....	6	1.66	42.2
Madrid.....	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.78	705.5	29.98	761.6	60.3	15.7	60.9	.....	5	1	7	8	5	3	2	.....	.....	.....	4	2.52	64.1
Murcia .....‡.	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.87	758.8	30.02	762.5	68.9	20.5	5[illegible]	.....	6	4	3	.....	4	4	10	.....	.....	.....	6	1.07	27.1
Santiago.....	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.09	738.8	29.85	758.1	58.6	14.8	70.5	2	1	1	5	8	6	.....	8	.....	.....	.....	7	10.84	275.4
Sub-Series.																										
Havana.....	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.95	761.0	30.02	762.6	71.6	22.0	76.7	6	4	1	.....	3	6	6	1	4	.....	.....	4	2.00	50.8
Manilla.....	N. 14 36	E. 121 00	8.12 p.m.	56	17	29.96	760.9	30.00	762.1	81.3	27.4	63.1	.....	.....	.....	1	3	3	20	.....	4	.....	.....	1	0.27	6.8
San Fernando.....	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.91	759.7	30.02	762.4	63.9	17.7	71.7	.....	2	2	5	5	5	9	2	1	.....	.....	8	8.74	222.1
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.92	760.0	30.05	763.2	74.1	23.4	84.0	2	1	3	5	7	10	1	2	.....	.....	.....	5	0.41	10.5
Tuguegarao.....	N. 17 37	E. 121 30	8.15 p.m.	?	?	29.95	760.7	30.10	764.6	75.4	24.1	76.2	5	14	2	1	3	2	4	.....	.....	.....	.....	5	0.09	2.2
SWEDISH SERIES.																										
Haparanda.....	N. 65 47	E. 23 15	1.41 p.m.	29	9	29.58	751.4	29.62	752.4	15.6	—9.1	85.3	7	2	2	6	11	1	.....	.....	2	.....	.....	5	0.61	15.5
Umea.....	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.60	751.9	29.66	753.3	26.4	—3.1	81.3	4	7	.....	9	4	.....	1	4	2	.....	.....	5	0.33	8.4
Hernosand.....	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.65	753.2	29.70	754.4	25.0	—3.9	65.1	2	2	3	2	8	2	.....	5	7	.....	.....	3	0.43	11.0
Stockholm.....	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.58	751.3	29.76	755.9	25.8	—2.9	64.2	2	5	12	2	3	.....	2	5	.....	.....	.....	6	0.73	18.5
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.69	754.1	29.74	755.5	28.2	—2.1	81.6	1	4	12	5	1	1	5	2	.....	.....	.....	6	1.69	43.0
Sub-Series.																										
Upsala.....	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.64	752.9	29.73	755.1	23.9	—4.5	76.8	5	5	4	8	5	1	2	1	.....	.....	.....	6	0.66	16.9
SWISS SERIES.																										
Geneva.....	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.58	725.9	30.02	762.6	48.7	9.3	57.8	16	3	.....	2	7	.....	1	2	.....	.....	.....	6	1.46	37.1
Zurich .....‡.	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.35	720.2	30.03	762.8	46.6	8.1	67.6	1	3	9	1	1	2	4	3	7	.....	.....	5	4.27	108.5
TURKISH SERIES.																										
Constantinople.. ..	N. 41 00	E. 28 59	2.02 p.m.	?	?	.....	.....	29.98	761.4	52.3	11.3	67.7	9	2	.....	14	3	1	.....	2	.....	.....	.....	6	1.79	45.4
Valona.....	N. 40 27	E. 19 27	1.25 p.m.	?	?	.....	.....	29.98	761.4	61.9	16.6	.....	.....	.....	3	3	4	4	3	14	.....	.....	.....	4	.....	.....
Sub-Series.																										
Beirut.....	N. 33 54	E. 35 29	2.30 p.m.	98	30	29.96	761.0	30.00	761.9	63.9	17.7	66.9	5	4	4	13	.....	.....	.....	4	1	.....	.....	4	5.35	135.9

‖ Below sea leve .

Result of Simultaneous Observations for March, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Altitude: Met'rs	Mean Barometer, Actual: Inch.	Actual: Mill.	Reduced: Inch.	Reduced: Mill.	Mean Temperature: Fah.	Cent.	Mean Rel. Humidity.	Wind Directions: N	NW	W	SW	S	SE	E	NE	C	Total Movement: Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation: Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.69	754.1	29.78	755.4	34.5	1.4	74.9	3	9	5	1	4	......	1	8	......	5589	8994	8	3.80	96.5
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.22	742.2	29.90	759.4	21.1	—6.1	85.1	4	14	2	1	1	......	4	3	2	8094	13026	6	3.04	77.2
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.73	729.7	29.89	759.2	42.5	5.8	68.4	1	12	6	4	1	1	5	1	......	9548	15366	6	10.98	278.9
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	29.75	755.6	29.77	756.1	35.2	1.8	80.9	4	10	7	1	2	......	3	3	1	9256	14912	6	4.71	119.6
Attou, Aleutian I.	N. 52 38	E. 172 30	11.38 p.m.	......	......	29.60	751.8	......	......	25.3	—3.2	93.6	7	5	1	......	5	3	......	4	6	10558	16991	8	2.43	61.7
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.76	755.9	29.96	761.0	45.1	7.3	75.3	3	......	8	8	2	1	2	3	4	5052	8130	5	7.54	191.5
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	29.76	755.9	29.81	757.2	37.8	3.2	73.5	2	7	13	2	1	......	......	4	2	6595	10513	7	7.59	192.8
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	29.72	754.9	29.75	755.6	34.6	1.4	80.2	5	9	7	3	......	......	5	2	......	12135	19529	5	7.58	192.5
Bismarck	N. 46 48	W. 100 38	5.25 a.m.	1693	516	28.20	716.3	30.05	763.3	18.0	—7.8	86.4	4	8	4	1	1	2	3	1	7	3614	5816	7	0.45	11.4
Boise City	N. 43 46	W. 116 05	4.24 a.m.	2750	838	27.22	691.4	30.18	766.6	35.4	1.9	78.8	2	6	10	1	......	4	2	4	2	4302	6923	4	0.64	16.3
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.56	750.8	29.71	754.6	34.0	1.1	82.7	4	5	8	3	1	......	4	5	1	9825	15813	7	9.86	250.4
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	356	28.81	731.8	29.87	758.7	50.7	10.4	70.5	2	2	7	1	......	......	12	3	4	6203	9983	4	0.81	20.6
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	29.93	760.2	29.98	761.5	62.1	16.7	86.8	3	4	......	3	4	9	2	3	3	5723	9210	6	0.20	5.1
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.08	738.6	29.90	759.4	26.6	—3.0	80.2	......	4	9	10	......	1	1	6	......	6759	10894	7	3.74	95.0
Burlington	N. 40 49	W. 91 07	7.15 a.m.	268	82	29.46	748.3	29.76	755.9	29.9	—1.2	73.2	10	4	1	......	3	7	3	3	......	5957	9587	8	1.56	39.6
Cairo	N. 37 00	W. 87 12	6.11 a.m.	377	115	29.56	750.8	29.96	751.0	40.3	4.6	72.5	3	9	2	3	3	3	2	1	5	7725	12432	6	1.33	33.8
Campo	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.43	696.7	30.00	762.0	33.7	0.9	77.4	......	3	4	3	4	6	10	1	......	5055	8135	3	5.00	127.0
Camp Thomas	N. 32 04	W. 110 06	4.49 a.m.	2710	825	27.24	691.9	......	......	37.2	2.9	70.9	3	......	1	......	2	2	2	......	21	......	......	3	1.21	30.7
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	29.78	756.4	29.80	756.9	42.1	5.6	71.5	3	8	2	6	5	2	1	3	1	10905	17551	5	4.66	118.4
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.74	755.4	29.77	756.1	38.4	3.6	74.7	10	10	4	4	1	......	2	6	2	16243	26140	7	4.94	125.5
Castroville	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.25	742.9	29.91	759.7	52.4	11.3	73.3	......	13	4	......	......	4	5	1	4	5451	8772	5	0.58	14.7
Cedar Keys	N. 28 12	W. 83 02	6.36 a.m.	22	7	30.01	762.2	30.04	763.0	53.8	12.1	71.5	5	13	1	3	4	1	......	4	......	10298	16428	3	3.86	98.0
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.03	737.3	29.86	758.4	29.2	—1.6	78.6	3	11	3	2	......	4	3	5	......	12100	19473	7	5.30	134.6
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	29.87	758.7	29.93	760.2	48.9	9.4	70.9	5	1	13	4	3	......	1	3	1	7233	11640	4	4.11	104.4
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.00	736.6	29.82	757.4	41.1	5.1	72.1	2	4	8	7	4	1	1	4	......	5542	8917	5	3.77	95.8
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.11	739.4	29.93	760.2	41.6	5.3	73.2	2	8	3	5	3	2	......	4	4	6634	10676	7	6.85	174.0
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	23.95	608.3	29.89	759.2	27.3	—2.6	61.1	4	19	5	2	......	1	......	......	......	10323	16618	3	0.32	8.1
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.16	740.7	29.87	758.7	29.3	—1.5	78.2	3	7	6	1	2	......	4	5	3	5774	9292	6	2.99	75.9
Chincoteague	N. 37 55	W. 77 20	7.05 a.m.	18	5	29.77	756.1	29.79	756.7	37.6	3.1	80.1	2	12	3	4	......	3	1	6	......	13168	21191	5	4.22	107.2
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.21	741.9	29.88	758.9	37.4	3.0	73.2	3	8	5	3	2	4	4	2	......	5755	9277	7	3.51	89.2
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.10	739.1	29.84	757.9	28.8	—1.8	89.2	3	9	6	2	2	3	2	4	......	7082	11396	7	2.82	71.6
Coleman City ...c	N. 31 55	W. 99 10	5.32 a.m.	1750	533	28.17	715.5	29.86	758.4	45.7	7.6	70.5	4	5	2	6	2	2	1	......	6	8291	13343	3	0.55	14.0
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	28.98	736.1	29.84	757.9	32.6	0.3	78.3	4	7	9	2	2	2	3	2	......	7547	12145	8	4.01	101.9
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.06	712.7	29.76	755.9	44.9	7.2	66.5	3	4	5	2	3	1	......	3	10	7417	11936	3	0.28	7.1
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.57	751.1	30.05	763.3	48.5	9.2	74.3	6	4	1	3	6	2	1	2	6	5815	9358	4	2.71	68.8
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.25	742.9	29.92	760.0	24.3	—4.3	81.2	5	10	6	1	......	......	4	5	......	7712	12411	6	3.33	84.6
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.30	718.8	30.00	762.0	39.1	3.9	75.9	6	2	1	5	9	3	......	5	......	4014	6460	4	1.84	45.7
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.28	642.1	......	......	27.1	—2.7	71.1	2	1	......	11	4	3	3	6	1	2971	4781	6	2.59	65.8
Decatur	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.79	731.3	29.98	761.5	45.8	7.7	63.3	9	8	......	1	1	7	2	3	......	9522	15485	4	1.81	46.0
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	29.75	755.6	29.77	756.1	35.7	2.6	80.5	2	8	4	5	3	......	3	6	......	15132	24352	7	2.94	74.7
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.19	741.4	30.00	762.0	45.5	7.5	80.5	5	8	3	3	4	5	1	2	......	7439	11972	4	1.62	41.1
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.72	627.9	29.94	760.5	29.8	—1.2	68.4	3	4	2	6	11	3	2	......	......	4678	7528	4	0.87	22.1
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.05	737.9	29.98	761.5	24.5	—4.2	77.6	10	7	1	1	......	3	2	7	......	6472	10415	5	1.78	45.2
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.13	739.9	29.85	758.2	30.7	—0.7	83.6	3	9	7	......	1	2	2	2	5	7193	11576	7	3.36	85.3
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.33	694.2	29.68	753.9	32.6	0.3	70.3	9	7	3	1	4	1	1	5	......	10590	17043	5	0.50	12.7
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.21	741.9	29.94	760.5	24.2	—4.3	77.7	3	12	7	1	......	1	3	2	2	5276	8491	7	3.78	96.0
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.32	744.7	30.04	763.0	22.6	—5.2	81.0	2	10	1	3	....	......	......	9	6	6181	9947	7	1.46	37.1
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.21	741.9	29.95	760.7	55.0	12.8	68.7	......	8	1	......	2	10	1	1	8	5075	8167	4	0.32	8.1
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4781	1457	25.27	641.8	29.92	760.0	25.3	—3.2	79.0	11	......	2	12	......	1	......	......	5	6131	9857	4	0.97	24.6
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.62	752.3	29.69	754.1	30.8	—0.7	74.3	5	7	2	1	1	1	5	8	1	11499	18505	6	6.78	172.2
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.20	665.5	......	......	41.3	5.2	35.1	5	11	4	......	......	2	3	2	4	5018	8075	1	0.01	0.3
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.08	738.6	29.81	757.2	29.1	—1.6	85.5	1	5	9	6	2	2	1	5	.....	7747	12467	7	2.39	60.7
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.27	743.4	29.96	761.0	18.5	—7.5	79.8	18	4	3	2	1	1	1	......	......	8031	12924	4	1.09	27.7
Florence	N. 33 03	W. 111 17	4.43 a.m.	1490	454	28.43	722.1	30.09	764.3	39.9	4.4	57.3	1	......	3	1	......	......	......	16	10	2531	4073	2	1.98	50.3
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.00	635.0	30.45	773.4	27.7	—2.4	64.5	1	......	1	1	1	2	11	13	1	5614	9035	3	2.45	62.2
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.12	688.8	......	......	30.9	—0.6	65.1	......	3	1	16	......	1	......	1	9	6662	10721	3	0.38	9.7
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.42	721.9	......	......	18.0	—7.8	73.2	8	7	......	1	1	6	......	2	6	4582	7374	6	1.57	39.9
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.15	689.6	......	......	33.5	0.8	68.1	......	2	9	......	......	......	2	1	17	6164	9920	4	0.29	7.4
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.00	711.2	29.94	760.5	22.1	—5.5	87.4	2	4	3	4	1	1	6	4	6	5356	8620	7	1.17	29.7
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	25.79	680.5	......	......	28.9	—1.7	83.1	2	3	2	2	5	12	......	......	5	5215	8392	4	0.17	4.3
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.15	638.8	30.11	764.8	39.0	3.9	63.9	4	4	7	9	2	2	......	......	3	6366	10245	2	0.27	6.9
Fort Elliott ......k	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.21	691.1	29.55	750.6	34.8	1.6	65.6	3	4	2	2	......	2	1	4	2	5438	8752	3	0	0
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.42	747.3	29.97	761.2	40.5	4.7	73.4	11	......	2	1	3	4	3	1	6	7557	12162	5	2.28	57.9
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.17	639.3	29.97	761.2	41.9	5.5	42.4	5	2	2	2	2	1	3	12	2	6492	10452	3	0.89	22.6
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1250	384	28.62	726.9	29.91	759.7	45.8	7.7	62.0	5	......	1	2	4	5	5	1	8	8349	13436	3	0.17	4.3
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.46	697.5	......	......	23.8	—1.8	79.9	2	4	......	4	......	1	......	1	19	3796	6109	5	0.31	7.9
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.68	703.1	29.65	753.1	46.9	8.3	64.1	1	4	3	8	3	6	1	5	......	7590	12376	4	0.51	13.0
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	29.84	757.9	29.85	758.2	45.1	7.3	69.6	7	6	5	7	......	2	2	2	......	9847	15847	4	5.29	134.4
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.74	679.2	......	......	30.7	—0.7	86.4	2	2	4	3	3	......	2	4	11	2542	4191	5	0.47	11.9
Fort St. Michael	N. 63 48	W. 161 00	1.24 a.m.	?	?	29.80	756.9	29.84	757.9	—0.5	-18.1	......	13	1	......	1	......	1	......	14	1	7259	11682	4	0.01	0.3
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.32	668.5	......	......	32.2	0.1	69.6	2	1	23	3	......	......	2	......	......	9029	14530	3	0.15	3.8
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.74	730.0	29.87	758.7	39.8	4.3	81.3	8	7	1	1	5	......	2	1	6	8074	12994	4	1.28	32.5
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.14	714.7	......	......	18.5	—7.5	82.4	3	5	3	......	3	7	4	1	5	5073	8164	7	0.14	3.6
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	......	......	......	......	35.6	2.0	64.4	7	7	8	4	......	5	......	......	......	......	......	2	2.64	67.1
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.26	717.8	29.83	757.7	50.6	10.3	69.7	5	6	3	2	4	......	1	4	3	5552	8935	5	1.13	28.7
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	29.97	761.2	30.01	762.2	57.8	14.3	75.8	2	3	4	3	7	4	2	6	......	7138	11487	4	1.47	37.3
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.20	741.7	29.87	758.7	27.9	—2.3	82.6	4	8	4	2	1	1	4	6	1	7322	11783	7	3.77	95.8
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	29.82	757.4	29.84	757.9	44.9	7.2	77.6	4	11	1	7	1	1	1	3	2	13480	21694	4	6.04	153.4
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.74	653.8	......	......	34.1	1.2	73.3	1	1	1	6	12	......	1	......	9	4607	7414	1	0	0
Henrietta ...c	N. 33 42	W. 98 00	5.36 a.m.	980	300	28.95	735.6	29.91	759.7	43.4	6.3	71.7	3	4	1	6	1	5	......	8	......	8294	13348	5	0.98	24.9
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	746	227	29.04	737.6	29.84	757.9	32.7	0.4	77.7	4	5	10	2	......	5	1	4	......	5705	9181	7	4.01	101.9
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.97	761.2	30.00	762.0	59.7	15.4	79.3	5	1	3	3	7	6	2	4	......	10422	16112	5	0.29	7.4
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.82	732.0	29.96	761.0	45.8	7.7	64.2	1	6	2	8	......	3	4	2	5	8001	12876	3	2.23	56.6
Jacksonville	N. 30 24	W. 80 40	6.41 a.m.	43	13	29.95	760.7	30.00	762.0	54.0	12.2	67.0	......	1	16	7	3	1	1	2	.....	8421	13552	3	2.89	73.4
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.24	742.7	29.91	759.7	29.6	—1.3	77.6	4	11	3	2	......	2	3	4	2	8011	12892	7	2.42	61.5
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.01	762.2	30.04	763.0	68.2	20.1	74.4	6	5	4	3	5	1	3	5	......	7378	11874	2	0.46	11.7
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	29.82	757.4	29.84	757.9	41.4	5.2	75.1	6	7	5	5	......	2	......	5	1	11997	19307	3	4.24	107.7
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	28.90	734.0	29.92	760.0	37.9	3.3	78.2	2	6	8	5	......	......	2	8	......	6451	10382	6	3.90	99.1
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.18	741.2	29.94	760.5	25.8	—3.4	74.9	17	1	2	3	3	......	4	......	1	5440	8755	7	1.01	25.7
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.08	662.4	30.23	767.8	36.2	2.3	45.7	6	4	2	2	......	1	......	......	16	3133	5042	3	0.14	3.6
Laredo	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.54	750.3	29.88	758.9	59.2	15.1	77.7	8	......	......	......	8	7	1	1	6	3841	6281	4	0.27	6.9
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.08	738.6	29.95	760.7	30.4	—0.9	76.3	6	16	3	......	......	4	2	......	......	7555	12158	4	2.21	56.1
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	619?	188?	29.25	742.9	29.90	759.4	40.1	4.5	64.2	......	3	1	2	1	3	11	8	2	2182	3512	5	0.49	12.4
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.65	753.1	29.98	761.5	44.0	6.7	71.1	2	7	4	5	2	4	3	1	3	6194	9958	3	2.38	60.5
Los Angeles	N. 34 03	W. 188 16	4.15 a.m.	371	113	29.66	753.4	30.03	762.7	47.5	8.6	79.3	5	1	......	......	......	2	3	8	12	4222	6794	2	1.66	42.2
Louisville	N. 38 18	W 85 52	6.25 a.m.	530	162	29.29	744.0	29.86	758.4	37.7	3.2	77.2	4	4	8	6	1	2	4	2	......	8320	13390	7	2.46	62.5
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.13	739.9	29.82	757.4	38.6	3.7	65.8	......	8	4	3	2	......	1	4	9	3733	6008	4	2.57	65.3
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	28.87	733.3	29.91	759.7	22.5	—5.3	77.4	7	9	7	1	......	2	4	1	......	8561	13777	6	4.36	110.7
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.22	742.2	29.97	761.2	21.0	—6.1	75.9	6	18	2	1	1	......	2	......	1	7362	11847	5	3.84	97.5
Mason ...a	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.33	719.6	30.10	764.5	50.3	10.2	78.9	1	11	4	2	3	3	2	......	4	7231	11637	4	0.85	21.6
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.63	752.6	29.98	761.5	43.3	6.3	72.4	1	4	5	6	1	2	1	3	8	4401	7083	5	3.23	82.0
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.14	740.1	29.90	759.4	25.9	—3.4	83.5	4	10	5	3	......	......	2	7	......	9217	14833	7	5.30	134.6
Mobile	N. 30 42	W. 87 59	6.16 a.m.	69	21	29.93	760.2	30.00	762.0	51.4	10.8	74.4	5	6	8	3	2	4	......	3	......	6983	11238	5	10.41	254.4
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.75	755.9	30.00	762.0	46.5	8.1	75.4	1	7	8	6	3	3	1	2	......	6439	10362	5	5.45	138.4
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.04	737.6	30.08	764.0	11.5	-11.4	80.9	12	3	......	1	6	4	1	2	2	5256	8459	5	0.62	15.7
Morgantown	N. 39 35	W. 79 52	6.48 a.m.	963	293	28.81	731.8	29.81	757.2	37.8	3.2	68.7	4	2	7	6	......	2	......	3	7	6440	10364	8	2.12	53.8
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6272	1902	23.27	591.0	29.63	752.6	13.5	-10.3	83.9	1	11	1	2	2	5	2	7	......	20547	32111	5	8.51	210.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for February, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
U.S. SERIES—*Continued.*	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.38	746.2	29.93	760.2	41.5	5.3	72.1	1	3	13	6	.....	4	4	.....	.....	4705	7572	5	2.79	70.9
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.62	752.3	29.74	755.4	33.1	0.6	75.5	6	5	4	4	.....	.....	1	9	2	7244	11658	7	10.42	264.7
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	29.68	753.9	29.73	755.1	35.1	1.7	79.7	11	8	4	1	1	.....	3	.....	3	6270	10090	6	8.07	205.0
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.95	760.7	30.01	762.2	55.1	12.8	71.4	2	5	7	2	4	3	3	2	3	7172	11542	5	2.75	69.8
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.66	753.4	29.71	754.6	35.3	1.8	79.5	4	4	5	6	.....	.....	2	10	.....	8396	13512	6	8.24	209.3
New River	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	82.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	29.68	753.9	29.72	754.9	35.0	1.7	80.1	5	9	4	3	.....	1	1	7	1	12451	20037	6	5.08	129.0
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.58	751.3	29.76	755.9	33.7	0.9	83.7	4	8	7	5	.....	.....	1	6	.....	9848	15849	7	6.78	172.2
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	29.75	755.6	29.81	757.2	41.3	5.2	72.7	5	3	7	4	3	1	2	6	.....	7677	12355	5	3.38	85.9
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.03	686.5	29.70	754.4	26.5	—3.1	83.5	9	13	2	1	1	1	3	1	.....	9450	15208	5	1.26	32.0
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.99	761.7	30.03	762.7	42.0	5.6	90.8	3	.....	2	3	19	2	1	1	.....	3472	5586	7	4.03	102.4
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.83	732.3	29.99	761.7	22.8	—5.1	81.8	9	12	1	1	.....	5	.....	2	1	8751	11483	4	0.72	18.3
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.45	748.0	29.77	756.1	31.3	—0.4	80.1	5	7	3	1	3	6	1	4	1	7480	12038	7	5.08	129.0
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.00	762.0	30.03	762.7	52.6	11.4	76.7	3	11	6	3	1	3	1	2	1	7210	11603	4	3.80	96.5
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	29.72	754.9	29.77	756.1	35.2	1.8	79.6	7	6	7	.....	.....	.....	6	3	2	11174	1889	7	3.83	97.3
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.90	734.0	30.76	781.3	44.5	6.9	69.6	1	.....	2	2	3	1	18	2	2	1992	3206	2	1.46	37.1
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.54	445.5	29.75	755.6	1.1	—17.2	58.9	3	9	1	8	.....	.....	.....	10	.....	18620	29965	4	4.44	112.8
Pilot Point	N. 33 20	W. 96 50	5.40 a.m.	800	244	29.30	744.2	30.07	763.8	45.2	7.3	73.8	5	4	7	1	5	6	1	2	.....	8147	13111	5	2.72	69.1
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.00	609.6	29.77	756.1	30.6	—0.8	48.1	3	14	2	2	6	1	.....	.....	3	5152	8291	3	0.47	11.9
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	28.99	736.3	29.82	757.4	32.9	0.5	75.1	1	4	13	1	2	.....	2	.....	8	5800	9334	6	3.35	85.1
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.15	740.4	29.84	757.9	25.7	—3.6	84.8	5	10	5	2	.....	3	.....	3	3	7398	11906	7	4.60	116.8
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.65	753.1	29.70	754.4	35.5	1.9	76.4	3	7	4	3	1	1	2	9	1	7985	12850	8	5.09	129.3
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.02	762.5	30.09	764.3	43.7	6.5	88.5	1	3	2	2	13	2	1	.....	7	3657	5885	7	2.83	71.9
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	46.5	8.1	79.7	2	9	1	9	1	1	.....	8	.....	13575	21846	5	6.57	166.9
Prescott	N. 34 29	W. 112 31	4.38 a.m.	5300	1615	24.72	627.9	30.08	764.0	28.8	—1.8	62.3	5	1	1	.....	21	.....	.....	1	2	4636	7461	2	2.91	73.9
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.00	762.0	30.01	762.2	61.4	16.3	74.7	7	6	1	3	4	1	4	5	.....	10394	16727	4	1.18	30.0
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.71	754.6	30.06	763.5	47.0	8.3	76.3	12	12	.....	2	1	.....	1	.....	3	4762	7665	2	0.51	13.0
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.81	757.2	30.03	762.7	58.7	14.8	79.2	5	3	.....	.....	.....	7	10	2	4	6062	9755	5	0.07	1.8
Rochester	N. 43 08	W. 77 51	6.58 a.m.	589	179	29.15	740.4	29.78	756.4	29.7	—1.3	83.8	.....	7	12	3	2	4	1	2	.....	6382	10270	7	5.33	135.4
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.55	750.6	30.13	765.3	41.8	5.4	89.2	.....	.....	1	4	4	2	3	1	16	2132	3431	5	1.95	49.5
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.99	761.7	30.07	763.8	49.8	9.9	82.5	6	3	1	5	5	8	1	1	1	4804	7731	1	1.37	34.8
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.32	744.7	29.91	759.7	33.2	0.7	83.1	7	7	5	2	1	3	3	1	2	9528	15334	6	1.95	49.5
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.10	739.1	29.97	761.2	24.3	—4.3	80.2	1	12	1	6	.....	1	3	4	3	6791	10929	5	1.06	26.9
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.20	741.7	30.06	763.5	12.0	—11.1	92.9	5	10	1	1	5	2	2	2	3	6710	10798	6	0.08	2.0
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.64	651.2	29.97	761.2	35.5	1.9	48.2	4	3	1	.....	1	7	2	3	10	4045	6510	4	0.88	22.4
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	676	206	29.31	744.5	30.01	762.2	53.6	12.0	76.1	6	1	1	1	2	2	.....	3	15	3666	5900	5	1.06	26.9
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.96	761.0	30.03	762.7	49.2	9.6	82.1	5	2	3	1	.....	3	7	6	4	5645	9084	4	1.88	47.8
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.15	740.4	29.84	757.9	30.5	—0.8	82.6	3	9	5	4	2	2	2	3	1	11152	17947	6	2.75	69.8
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	34	10	29.72	754.9	29.75	755.6	35.1	1.7	76.4	3	9	9	2	.....	2	4	2	.....	12294	19785	5	6.92	175.8
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.02	762.5	30.09	764.3	50.2	10.1	77.3	13	10	6	2	1	2	.....	2	5	6172	9933	1	0.90	22.9
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7049	2148	23.16	588.3	29.70	754.4	28.9	—1.7	62.3	9	1	1	1	1	3	6	7	2	5204	8375	3	0.57	14.5
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.86	758.4	29.96	761.0	50.0	10.0	66.6	1	4	14	4	3	.....	3	1	1	7718	12421	4	3.79	96.3
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.78	756.4	30.03	762.7	47.3	8.5	78.1	1	3	5	2	2	2	2	2	12	4920	7918	4	1.80	45.7
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.21	614.9	30.57	776.5	32.6	0.3	54.8	8	7	3	1	2	.....	.....	.....	10	2778	4471	2	0.91	23.1
Smithville	N. 33 55	W. 78 01	6.56 a.m.	33	10	29.85	758.2	29.89	759.2	45.3	7.4	79.5	3	5	11	7	2	.....	2	1	.....	7705	12400	4	3.92	99.6
Socorro	N. 34 05	W. 106 55	5.01 a.m.	4565	1391	25.36	644.1	29.43	747.5	33.9	1.1	48.3	4	9	.....	4	3	4	.....	6	1	6580	10589	1	0.07	1.8
Spokane Falls, W. T.	N. 47 39	W. 117 24	4.18 a.m.	1200?	366?	28.00	711.2	29.89	759.2	33.8	1.0	77.4	.....	.....	2	9	5	4	4	.....	7	3898	6273	5	1.07	27.2
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.22	742.2	29.91	759.7	32.5	0.3	78.7	5	9	4	2	1	4	3	2	1	7752	12475	7	4.45	113.0
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.61	752.1	29.74	755.4	34.1	1.2	74.8	8	7	3	1	4	.....	.....	7	1	5555	8940	7	4.40	111.8
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	26.94	684.3	29.94	760.5	41.5	5.3	59.0	1	1	2	10	8	.....	.....	.....	9	6342	10206	1	0.06	1.5
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.65	753.1	29.70	754.4	35.7	2.1	81.4	3	8	5	3	.....	.....	5	7	.....	13245	21315	8	9.96	253.0
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.15	740.4	29.85	758.2	31.0	—0.6	82.9	3	4	10	4	1	2	.....	5	2	6955	11193	8	1.90	48.3
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.53	699.2	30.08	764.0	45.1	7.3	54.2	.....	5	3	6	9	5	1	2	.....	3231	5200	2	1.17	29.7
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.73	755.1	30.24	768.1	40.2	4.6	84.8	.....	4	4	5	1	9	7	1	.....	5854	9421	5	0.44	11.2
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.03	737.3	29.86	758.4	53.0	—11.7	72.1	5	4	.....	5	3	4	6	.....	4	3402	5571	5	0.59	15.0
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.76	755.9	30.02	762.5	48.7	9.3	68.1	2	1	7	4	7	3	6	1	.....	7167	11437	4	3.53	89.7
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.66	753.4	30.03	762.7	46.4	8.0	85.6	3	5	2	1	2	10	6	.....	2	2863	4607	2	1.20	30.5
Washington	N. 38 53	W. 77 01	7.00 a.m.	106	32	29.70	754.4	29.82	757.4	35.6	2.0	74.9	2	12	7	1	1	.....	.....	6	2	5646	9086	6	6.61	167.9
Wickenburg	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	38.4	3.6	70.6	1	8	21	.....	.....	.....	.....	.....	1	.....	.....	2	1.70	43.2
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	29.82	757.4	29.86	758.4	45.1	7.8	69.0	3	8	9	2	.....	1	3	1	4	6360	10235	4	5.14	130.6
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.64	651.2	30.00	762.0	32.7	0.4	66.7	2	1	1	5	9	.....	.....	12	1	5982	9627	2	0.87	22.1
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	29.65	753.1	29.69	754.1	35.6	2.0	80.6	4	9	1	5	.....	2	6	3	1	12397	19951	7	4.22	107.2
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.71	729.2	30.10	764.5	17.3	—8.2	81.5	2	7	6	3	.....	3	2	5	3	7171	11540	8	1.74	44.2
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.82	757.4	29.97	761.2	51.1	10.6	61.1	11	.....	2	1	1	1	2	1	12	4390	7065	1	Inap.	Inap.
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.10	561.3	.....	.....	52.3	11.3	79.8	1	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	7	1.02	25.9
Baff Bay Town, Jam‡a	N. 18 15	W. 76 39	7.01 a.m.	?	?	29.83	757.7	30.14	765.5	69.3	20.7	80.4	.....	.....	1	3	.....	2	23	.....	.....	.....	.....	2	.....	.....
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.98	761.5	30.03	762.7	71.6	22.0	70.4	5	3	1	.....	3	6	.....	1	12	.....	.....	4	1.31	33.3
Jakobshavn	N. 69 13	W. 50 55	8.44 a.m.	43	13	29.95	760.6	30.00	762.1	—3.5	—19.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	0.76	19.2
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.01	762.2	30.02	762.5	72.7	22.6	78.3	7	1	.....	.....	.....	.....	.....	.....	23	2900	4667	2	2.53	64.3
Navassa	N. 19 25	W. 75 03	7.43 a.m.	77	23	29.92	760.0	30.00	762.0	76.1	24.5	73.4	1	1	.....	.....	.....	.....	13	16	.....	.....	.....	8	0.06	1.5
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.00	762.0	30.00	762.0	77.8	25.4	85.5	.....	.....	.....	.....	.....	1	29	1	.....	.....	.....	6	2.96	75.2
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.42	747.3	29.98	761.5	78.9	26.1	82.9	1	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	9	7.31	185.7
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	74.1	23.4	.....	.....	.....	.....	.....	1	22	6	2	.....	.....	.....	3	0.08	2.0
Santiago deCuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.01	762.2	30.04	763.0	73.1	22.8	73.1	9	1	.....	.....	1	.....	.....	2	18	.....	.....	4	1.35	34.3
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	110	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	10	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory	N. 57 02	W. 92 56	5.58 a.m.	45	14	30.23	767.8	30.28	769.1	—9.5	—23.1	83.3*m*	6	6	5	3	7	.....	1	3	.....	.....	.....	3	0.19	4.8

The following table of Ocean Square mean data, from observations taken at 7 A. M. Washington or 0.08 P. M. Greenwich mean time, is computed from the isobars, isotherms and wind directions of the daily international charts, which latter are based upon the data obtained from the logs of vessels for the month of MARCH, 1881.

OCEAN SQUARE BOUNDED BY—	BAROMETER.		TEMPERATURE.		PREVAIL'G WIND.	FORCE 0–10
	INCH.	MILL.	FAH.	CENT.		
° ° ° °						
N. 30 & 35 W. 10 & 15	30.02	762.5	65.9	18.8	SW	2.4
35 40 10 15	29.95	760.7	62.1	16.7	SW	3.2
35 40 15 20	29.93	760.2	61.8	16.6	SW	3.2
30 35 15 20	30.00	762.0	65.0	18.3	SW	2.5
40 45 10 15	29.85	758.2	57.5	14.2	SSW	3.6
45 50 10 15	29.84	757.9	53.9	12.2	SE	4.2
45 50 15 20	29.79	756.7	53.5	11.9	SW	4.5
40 45 15 20	29.79	756.7	56.7	13.7	SW	4.0
50 55 10 15	29.80	756.9	48.5	9.2	SE	4.5
55 60 10 15	29.71	754.6	40.6	4.8	SW	4.5
55 60 15 20	29.72	754.9	38.8	3.8	NE	4.5
50 55 15 20	29.74	755.4	46.6	8.1	SE	4.7
10 15 20 25	29.99	761.7	80.2	26.8	NE	2.4
15 20 20 25	30.01	762.2	77.6	25.3	NE	2.4
15 20 25 30	30.00	762.0	77.2	25.1	NE	2.3
10 15 25 30	30.01	762.2	79.5	26.4	NE	2.5
20 25 20 25	30.01	762.2	72.4	22.4	NE	2.4
25 30 20 25	29.99	761.7	69.0	20.6	SW	2.6
25 30 25 30	29.94	760.5	69.2	20.7	SW	2.9
20 25 25 30	29.96	761.0	71.6	22.0	NE	2.6
30 35 20 25	29.92	760.0	64.3	17.9	SW	2.8
35 40 20 25	29.86	758.4	61.2	16.2	SW	3.0
35 40 25 30	29.81	757.2	60.4	15.8	SW	3.0
30 35 25 30	29.85	758.2	63.6	17.6	SW	3.2
40 45 20 25	29.73	755.1	56.3	13.5	SW	3.6
45 50 20 25	29.70	754.4	53.0	11.7	SW	4.5
45 50 25 30	29.63	752.6	52.5	11.4	SE	4.9
40 45 25 30	29.66	753.4	55.5	13.1	SW	4.3
50 55 20 25	29.71	754.6	46.0	7.8	SW	4.6
55 60 20 25	29.69	754.1	36.1	2.3	NE	4.2
55 60 25 30	29.68	753.9	38.3	3.5	NE	3.9
50 55 25 30	29.66	753.4	44.5	6.9	NE; SW	4.6
10 15 30 35	30.02	762.5	78.6	25.9	NE	2.6
15 20 30 35	30.00	762.0	76.0	24.4	NE	2.6
15 20 35 40	29.99	761.7	76.2	24.6	NE	2.5
10 15 35 40	30.03	762.7	78.8	26.0	NE	2.5
20 25 30 35	29.93	760.2	71.7	22.1	NE	2.7
25 30 30 35	29.89	759.2	68.3	20.2	SW	3.0
25 30 35 40	29.85	758.2	68.3	20.2	SW	3.1
20 25 35 40	29.94	760.5	71.9	22.2	NE	2.9
30 35 30 35	29.80	756.9	63.5	17.5	SW	3.4
35 40 30 35	29.71	754.6	59.4	15.2	SW	3.4
35 40 35 40	29.65	753.1	58.0	14.4	SW	3.0
30 35 35 40	29.71	754.6	61.8	16.6	SW	3.6
40 45 30 35	29.61	752.1	54.9	12.7	SW	4.6
45 50 30 35	29.57	751.1	51.8	11.0	NE	4.9
45 50 35 40	29.55	750.6	49.8	9.9	NE	4.8
40 45 35 40	29.54	750.3	52.7	11.5	SW	4.7
50 55 30 35	29.63	752.6	43.5	6.4	NE	4.6
55 60 30 35	29.67	753.6	35.9	2.2	NE	3.7
55 60 35 40	29.66	753.4	34.6	1.4	NE	3.6

OCEAN SQUARE BOUNDED BY—	BAROMETER.		TEMPERATURE.		PREVAIL'G WIND.	FORCE 0–10
	INCH.	MILL.	FAH.	CENT.		
° ° ° °						
N. 50 & 55 W. 35 & 40	29.62	752.3	40.8	4.9	NE	4.3
10 15 40 45	30.02	762.5	78.9	26.1	NE	2.5
15 20 40 45	29.99	761.7	76.1	24.5	NE	2.5
15 20 45 50	29.98	761.5	75.7	24.3	NE	2.6
10 15 45 50	30.02	762.5	78.7	25.9	NE	2.4
20 25 40 45	29.90	759.4	71.5	21.9	SW	2.7
25 30 40 45	29.82	757.4	67.8	19.9	SW	3.1
25 30 45 50	29.82	757.4	67.4	19.7	S	3.2
20 25 45 50	29.89	759.2	71.1	21.7	W	3.0
30 35 40 45	29.70	754.4	61.2	16.2	SW	3.6
35 40 40 45	29.60	751.8	56.5	13.6	SW	4.3
35 40 45 50	29.60	751.8	54.6	12.6	SW	4.5
30 35 45 50	29.68	753.9	60.1	15.6	SW	4.0
40 45 40 45	29.52	749.8	49.8	9.9	SW	4.8
45 50 40 45	29.52	749.8	45.8	7.7	NE	4.3
45 50 45 50	29.53	750.0	39.0	3.9	NE	4.2
40 45 45 50	29.51	749.5	44.4	6.9	NE	4.7
50 55 40 45	29.62	752.3	38.5	3.6	NE	4.5
55 60 40 45	29.67	753.6	32.6	0.3	NE	3.5
55 60 45 50	29.69	754.1	29.6	— 1.3	NE	3.1
50 55 45 50	29.65	753.1	32.1	0.1	NE	3.4
10 15 50 55	29.99	761.7	78.8	26.0	NE	2.2
15 20 50 55	29.97	761.2	75.5	24.2	NE	2.3
15 20 55 60	29.99	761.7	76.4	24.7	NE	2.4
10 15 55 60	29.99	761.7	79.8	26.6	NE	2.1
20 25 50 55	29.91	759.7	71.1	21.7	W	2.7
25 30 50 55	29.83	757.7	67.2	19.6	W	3.3
25 30 55 60	29.84	757.9	67.8	19.9	NW	3.6
20 25 55 60	29.92	760.0	71.2	21.8	W	2.1
30 35 50 55	29.69	754.1	59.8	15.4	SW	4.3
35 40 50 55	29.61	752.1	53.1	11.7	NW	4.8
35 40 55 60	29.64	752.8	52.9	11.6	NW	4.7
30 35 55 60	29.71	754.6	59.3	15.2	NW	4.3
40 45 50 55	29.53	750.0	40.6	4.8	NE	4.9
40 45 55 60	29.60	751.8	38.6	3.7	N	5.1
20 25 60 65	29.96	761.0	71.8	22.1	W	3.3
25 30 60 65	29.90	759.4	68.1	20.1	NW	3.6
25 30 65 70	29.93	760.2	68.3	20.2	NW	3.9
20 25 65 70	29.99	761.7	71.6	22.0	E; W	3.3
30 35 60 65	29.75	755.6	60.2	15.7	NW	4.1
35 40 60 65	29.67	753.6	52.3	11.3	NW	4.8
35 40 65 70	29.71	754.6	50.9	10.5	NW	4.7
30 35 65 70	29.78	756.4	57.5	14.2	SW	4.8
40 45 60 65	29.61	752.1	38.1	3.4	NW; NE	4.7
40 45 65 70	29.65	753.1	36.4	2.4	NE	4.3
25 30 70 75	29.96	761.0	67.3	19.6	NW	3.5
25 30 75 80	29.99	761.7	62.7	17.1	NW	3.4
30 35 70 75	29.85	758.2	56.9	13.8	SW	4.4
35 40 70 75	29.76	755.9	45.5	7.5	NW	3.3
30 35 75 80	29.91	759.7	51.7	10.9	SW	3.5

The following table shows the position of Ocean Squares, the total number of observations and the number of days on which observations were taken for each square during the month of MARCH, 1881.

OCEAN SQUARE BOUNDED BY—	No. DAYS.	No. OBS.	OCEAN SQUARE BOUNDED BY—	No. DAYS.	No. OBS.	OCEAN SQUARE BOUNDED BY—	No. DAYS.	No. OBS.
° ° ° °			° ° ° °			° ° ° °		
N. 5 & 10 W. 15 & 20	1	1	N. 25 & 30 W. 35 & 40	1	1	N. 40 & 45 W. 25 & 30	1	2
5 10 25 30	4	4	25 30 40 45	3	3	40 45 30 35	3	3
5 10 30 35	4	4	25 30 50 55	1	1	40 45 40 45	3	3
5 10 35 40	2	2	25 30 55 60	1	1	40 45 45 50	12	17
10 15 25 30	2	2	25 30 60 65	1	1	40 45 50 55	16	22
10 15 30 35	2	2	25 30 65 70	12	15	40 45 55 60	21	25
10 15 35 40	3	3	25 30 70 75	3	3	40 45 60 65	13	18
10 15 40 45	1	1	30 35 15 20	1	1	40 45 65 70	12	16
10 15 55 60	1	33	30 35 30 35	4	4	45 50 5 10	9	11
10 15 60 65	2	2	30 35 35 40	3	3	45 50 10 15	5	7
10 15 65 70	4	4	30 35 45 50	3	3	45 50 15 20	6	8
15 20 20 25	3	3	30 35 55 60	1	1	45 50 20 25	10	12
15 20 25 30	1	1	30 35 60 65	5	6	45 50 25 30	14	16
15 20 35 40	4	4	30 35 65 70	6	6	45 50 30 35	16	21
15 20 40 45	4	4	30 35 70 75	3	6	45 50 35 40	11	15
15 20 60 65	5	8	35 40 10 15	2	2	45 50 40 45	9	14
15 20 65 70	3	4	35 40 15 20	5	5	45 50 45 50	5	5
20 25 20 25	4	4	35 40 25 30	2	2	45 50 50 55	2	2
20 25 35 40	6	6	35 40 30 35	1	1	50 55 10 15	9	12
20 25 40 45	5	5	35 40 35 40	3	3	50 55 15 20	9	11
20 25 45 50	1	1	35 40 60 65	2	3	50 55 20 25	10	11
20 25 50 55	1	1	35 40 65 70	7	8	50 55 25 30	2	2
20 25 60 65	5	5	35 40 70 75	14	22	50 55 30 35	2	2
20 25 65 70	4	6	40 45 10 15	4	4	50 55 35 40	2	2
20 25 70 75	4	4	40 45 20 25	3	3	55 60 10 15	2	2

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms. At Hobart Town the barometer is given in English inches reduced to sea-level. The movement of the air is indicated in pounds pressure per square foot. The kind of clouds is given and indicated by abbreviating the English nomenclature.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.25 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. The movement of the air is indicated by the Beaufort scale, except at St. Pierre, where it is given on a scale of 0 to 7. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San Jose the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air, except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.18 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind-direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters. At Buff Bay Town, Jamaica, observations are taken at 7.36 a. m., local time.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

BRITISH MERCHANT-MARINE SERIES.—Same as the Naval, except that frequently the direction of the wind is given to the true meridian.

GERMAN MERCHANT-MARINE SERIES.—Same as U. S. Naval.

SWEDISH MERCHANT-MARINE SERIES.—Same as Swedish Naval.

UNITED STATES MERCHANT-MARINE SERIES.—Same as U. S. Naval.

ERRATA.

DAILY BULLETIN, JANUARY, 1881.—1st, page 5, Swiss Series, Zurich, should read Zurich, ‡; make similar correction to the 31st, inclusive.

FEBRUARY, 1881.—1st, page 5, Swiss Series, Zurich, should read Zurich, ‡; make similar correction to the 28th, inclusive.

MARCH, 1881.—1st, page 1, Algerian Series, Mogador, Morocco, should read Mogador, Morocco, ‡; the double dagger should appear after each station throughout the Series in a similar manner. Page 6, United States Series, Fort Apache, New Mexico, should read, Fort Apache, Arizona; make similar correction on the 2d, 3d, 4th, 5th, 6th, 7th, 8th. Page 8, British Naval Series, H. M. S. Boadicea, N. 29° 51′, E. 31° 04′, should read, H. M. S. Boadicea, S. 29° 51′, E. 31° 04′; make similar correction to 25th, inclusive.

3d, page 5, Spanish Series, San Juan de Porto Rico, W. I., velocity in miles per hour, —, should read, 14.2. Page 9, British Naval Series, H. M. S. Orontes, N. 31° 35′, W. 35° 00′, should read, H. M. S. Orontes, N. 31° 53′, W. 35° 00′.

4th, page 9, Portuguese Naval Series, Rio Lima, Porto Praya, Cape Verd Islands, weather, D. clouds, should read, Blue sky. Page 10, United States Naval Series, Navy Yard, Portsmouth, N. H., rain-fall in millimeters, 2.3, should read, 23.

6th, page 4, Netherlands Series, Groningen, rain-fall in inches, 0.43, should read, 0.433. Page 10, United States Series, Colorado, New York, N. Y., velocity in miles per hour, 7, should read, 8. Page 11, British Merchant Marine Series, S. Algeria should read, S. S. Algeria.

7th, page 3, French Series, Besançon, Normal School, reduced barometer, 30.56 inches, or 776.3 m. m., should read, 29.78 inches, or 756.3 m. m. Page 11, British Merchant Marine Series, S. S. Baltic, N. 44° 52′, W. 45° 50,′ temperature centigrade, 3°.9, should read, 13°.9.

8th, page 2, Chinese Sub-Series, Zi-Ka-Wei, rain fall in inches, 0.42, should read, 0.425. Page 12, United States Merchant Marine Series, S. S. Oceanic, N. 30° 44′, E. 129° 22′, rain-fall in millimeters, 15., should read 15.7.

10th, page 5, Scottish Series, North Unst, Shetland Islands, rain-fall, 0.008 inches, or 0.20 m. m., should read, —, —.

11th, page 7, United States Series, York Factory, B. A., rain-fall, —, —, should read, 0, 0.

14th, page 12, United States Merchant Marine Series, S. S. Pennsylvania, N. 48° 22′, W. 33° 30′, rain-fall in millimeters, 25.4, should read, 25.

18th, page 1, Austro-Hungarian Series, Agram, direction of wind, ——, and force ——, should read, calm and 0 respectively.

19th, page 4, Netherlands Series, Flushing, barometer reduced, 30.21 inches, or 767.1 m. m., should read, 30.21 inches, or 767.3 m. m. Page 6, United States Series, Keokuk, Iowa, actual barometer, 28.8, should read, 28.88.

20th, page 3, Danish Series, Stykkisholm, Iceland, temperature, Fahrenheit, 9°.0, should read, —9°.0. Page 10, United States Naval Series, Navy Yard, League Island, Pa., rain-fall in millimeters, 13, should read, 12.7 m. m.

21st, page 4, Indian Series, Hazaribagh, rain-fall, 0, 0, should read, ——, ——.

22d, page 4, Italian Sub-Series, Naples, S. R., rain-fall, ——, ——, should read, 0, 0.

28th, page 2, British Series, Aberdeen, rain-fall, 0.60 inch, should read, 0.060 inch. Page 4, Mexican Series, Pabellon, Aguascalientes, rain-fall, 0.04 inch, should read, 0.024 inch. Page 9, British Naval Series, H. M. S. Salamis, reduced barometer, 751.8 m. m., should read, 751.3 m. m.

29th, page 3, German Series, Berlin, reduced barometer, 29.50, should read, 29.56; Carlsruhe, reduced barometer, 29.03, should read, 29.63; Memel, reduced barometer, 29.70, should read, 29.76; Neustadt, Palatinate, reduced barometer, 29.01, should read, 29.61. Page 5, Turkish Series, Valona, reduced barometer, 702.5 m. m., should read, 762.5 m. m. Page 6, United States Series, Galveston, actual barometer, 701.7 m. m., should read, 761.7 m. m.; La Cross, reduced barometer, 707.1 m. m., should read, 767.1 m. m. Page 7, St. Paul, reduced barometer, 708.6 m. m., should read, 768.6 m. m.; Stockton, Texas, reduced barometer, 705.6 m. m., should read, 766.6 m. m.

30th, page 1, Algerian Series, Nemours, temperature, Fahrenheit, 75°.5, should read, 75°.6. Page 3, French Series, Beauvais, Normal School, reduced barometer, 700.4 m. m., should read, 760.4 m. m.; Charleville, Normal School, reduced barometer, 700.9 m. m., should read, 760.9 m. m. German Series, Frankfort on the Main, reduced barometer, 701.8 m. m., should read, 761.8 m. m.; Hamburg, reduced barometer, 700.8 m. m., should read, 760.8 m. m. Page 4, Mexican Series, Mexico, Central Observatory, reduced barometer, 709.6 m. m., should read, 769.6 m. m. Page 5, Russian Series, Krotkowo, reduced barometer, 703.1 m. m., should read, 763.1 m. m.; Spanish Series, San Juan de Porto Rico, W. I., reduced barometer, 702.9 m. m., should read, 762.9 m. m. Page 6, United States Series, Fort Buford, Dakota, reduced barometer, 708.8 m. m., should read, 768.8 m. m.; Indianola, Texas, actual barometer, 705.0 m. m., should read, 765.0 m. m. Page 7, United States Series, Mobile, actual barometer, 700.0 m. m., should read, 760.0 m. m.; New Orleans, actual barometer, 702.0 m. m., should read, 762.0 m. m.; Dodge City, reduced barometer, 700.7 m. m., should read, 760.7 m. m.; Fort Gibson, reduced barometer, 706.1 m. m., should read, 766.1 m. m.; North Platte, actual barometer, 693.2 m. m., should read, 693.2 m. m.; Portland, Or., actual barometer, 702.2 m. m., should read, 762.2 m. m.; Pensacola, Florida, actual barometer, 701.0 m. m., should read, 761.0 m. m.; Pike's Peak, Colorado, reduced barometer, 702.0 m. m., should read, 762.0 m. m.; Punta Rassa, actual barometer, 700.5 m. m., should read, 760.5 m. m.; Rio Grande City, actual barometer, 703.0 m. m., should read, 763.0 m. m.; Sacramento, actual barometer, 701.0 m. m., should read, 761.0 m. m.; St. Vincent, actual barometer, 740.5 m. m., should read, 746.5 m. m.; Silver City, N. M., actual barometer, 617.7 m. m., should read, 617.7 m. m.; Omaha, reduced barometer, 707.6 m. m., should read, 767.6 m. m.; San Francisco, actual barometer, 702.5 m. m., should read, 762.5 m. m. United States Sub Series, Havana, Cuba, W. I., actual barometer, 701.0 m. m., should read, 761.0 m. m. Page 9, Portuguese Naval Series, Tamega, Macao, China, reduced barometer, 76.49 m. m., should read, 764.9 m. m. Page 12, United States Merchant Marine Series, schooner Abby K. Bently, N. 38° 38′, W. 74° 25′, rain-fall in millimeters, 3, should read, 25.

MONTHLY SUMMARY, JANUARY, 1881.—Page 4, Swiss series, Zurich, N. 47° 22′, E. 8° 33′, 0.38 p. m., should read, Zurich, ‡, N. 47° 22′, E. 8° 40′, 0.43 p. m. Page 5, United States series, Denver, altitude of barometer cistern, 5265 feet, or 1605 meters, should read, 5294 feet or 1614 meters; Detroit, altitude of barometer cistern, 645 feet, or 197 meters, should read, 661 feet or 201 meters; Mobile, altitude of barometer cistern, 41 feet or 12 meters, should read, 69 feet or 21 meters. Page 6, Sandy Hook, altitude of barometer cistern, 28 feet or 8 meters, should read, 34 feet or 10 meters; Wilmington, altitude of barometer cistern, 73 feet or 22 meters, should read, 52 feet or 16 meters; Winnemucca, altitude of barometer cistern, 4342 feet or 1323 meters, should read, 4327 feet or 1319 meters. Page 8, general remarks, German Series, after the words, "No distinction is made between upper and lower clouds," add the words, except at Magdeburg, where distinction is also made as to direction and kind, but not as to amount. Russian Series, add the remarks, At Barnaul, observations are taken at 6.18 p. m., local time. Swiss Series, after the words, "the rainfall at Zurich is measured at 9 a. m., local time," add the words, and the remainder of the observation is taken at 1.18 p. m., local time. United States Series, add the remarks, At Buff Bay Town, Jamaica, observations are taken at 7.36 p. m., local time.

FEBRUARY, 1881.—Page 4, Russian Series, Barnaul, should read, Barnaul, ‡. Swiss Series, Zurich, N. 47° 22′, E. 8° 33′, 0.38 p. m., should read, Zurich, ‡, N. 47° 22′, E. 8° 40′, 0.43 p. m. Page 5, United States Series, Denver, altitude of barometer cistern, 5265 feet or 1605 meters, should read, 5294 feet or 1614 meters; Detroit, altitude of barometer cistern, 645 feet or 197 meters, should read, 661 feet or 201 meters; Fort Grant, *, should read, Fort Grant; Mobile, altitude of barometer cistern, 41 feet or 12 meters, should read 69 feet or 21 meters. Page 6, Sandy Hook, altitude of barometer cistern, 28 feet or 8 meters, should read, 34 feet or 10 meters; Wilmington, altitude of barometer cistern, 73 feet or 22 meters, should read, 52 feet or 16 meters; Winnemucca, altitude of barometer cistern, 4342 feet or 1323 meters, should read, 4327 feet or 1319 meters. Russian Series, add the remarks, At Barnaul observations are taken at 6.18 p. m., local time. Page 8, general remarks, German Series, after the words, "No distinction is made between upper and lower clouds," add the words, except at Magdeburg, where distinction is also made as to direction and kind, but not as to amount. Swiss Series, after the words, "the rainfall at Zurich is measured at 9 a. m., local time, add the words, and the remainder of the observation is taken at 1.18 p. m., local time. United States Series add the remarks At Buff Bay Town, Jamaica, observations are taken at 7.36 p. m., local time.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

W. B. HAZEN,

Brig. & Bvt. Maj. Gen'l,

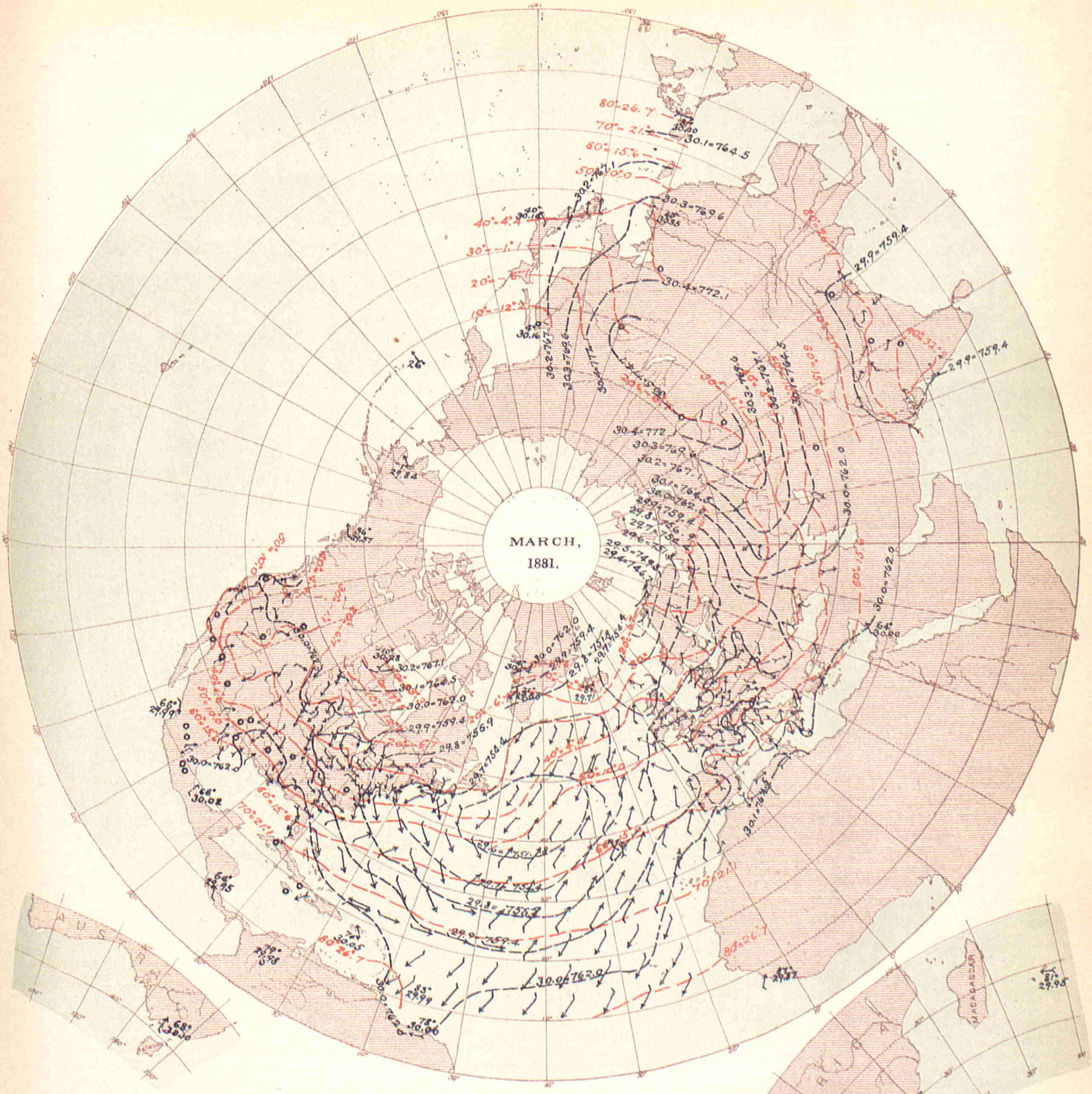
Chief Signal Officer, U. S. A.

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.



PREVAILING WINDS.

Arrows show the direction of and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
O	0	0	0
	1, 2	0 to 9	0 to 4.0
	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 & over.

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BRIG. & BVT. MAJ. GEN'L,
CHIEF SIGNAL OFFICER, U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *black*; detached barometer means in English inches.

Isotherms in *red*; detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of March, 1881, based on the daily charts of the International Bulletin.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

APRIL, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for April, 1881. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
Algerian Series.	° ′	° ′																								
Mogador ‡	N. 31 30	W. 9 44	11.29 a.m.	56	17			30.04	762.9	67.5	19.7	78.2	1	5		15				9				3	6.61	168.0
Nemours ‡	N. 35 06	W. 1 51	12.01 p.m.	20	6			29.92	759.9	69.6	20.9	79.2	4	3	11	4	3	3	1	1				2	0.78	19.7
Algiers ‡	N. 36 47	E. 3 04	0.20 p.m.	99	325			29.94	760.5	66.7	19.3	62.7	7	3	10	6			2	2				4	1.45	36.9
La Calle ‡	N. 36 54	E. 8 26	0.42 p.m.	36	11			29.94	760.5	70.2	21.2	67.1	3	15	5	2	2		1	2				4	2.55	64.8
Tunis ‡	N. 36 47	E. 10 11	0.49 p.m.	46	14			29.89	759.1																	
Sfax *f* ‡	N. 34 45	E. 10 36	0.50 p.m.	?	?			29.99	761.8																	
Saida ‡	N. 34 51	E. 0 10	0.09 p.m.	2844	867			30.00	762.1	68.0	20.0	42.1	11	5	6	2	1	1		4				4	1.27	32.2
Tebessa ‡	N. 35 24	E. 8 06	0.40 p.m.	2890	881			30.02	762.6	69.3	20.7	29.2	6	4	7	4	5		1		3			5	0.70	17.9
Geriville *d* ‡	N. 33 45	E. 1 10	0.13 p.m.	4285	1306					69.1	20.6	35.3	4	9	3	3	1	5		1				1	1.11	28.3
Laghouat ‡	N. 33 48	E. 2 51	0.19 p.m.	2556	770			30.02	762.5	72.0	22.2	31.9	4	6	6		12		1	1				1	0.11	2.8
Biskra *f* ‡	N. 34 51	E. 5 40	0.31 p.m.	410	125			30.01	762.2																	
Australian Series.																										
Melbourne	S. 37 49	E. 144 58	9.47 p.m.	91	28	30.09	764.3	30.18	766.6	57.0	13.9	76.3	7	4	1	1	5	9	1	2				5	1.24	31.5
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 47	E. 15 53	1.12 p.m.	512	156	29.35	745.6	29.91	759.6	53.1	11.7	61.3	3	1	2	3	2	1	9	7	2			9	3.48	88.5
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.19	741.3	29.98	761.5	46.4	8.0	58.5	5	1	4	1		3	10	6				7	0.80	20.2
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.05	737.8	29.91	759.8	47.8	8.8	60.7	16	1			1	2		2	8			8	1.49	37.9
Gratz ‡	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.67	728.1	29.95	760.7	50.7	10.4	65.5	1	2	1	4	6	2	12	2				8	1.38	35.0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1355	412	28.44	722.3	29.85	758.3	54.9	12.7	66.8	1	11	1	2	1	9	5					8	3.25	82.6
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1200	384	28.54	724.9	29.89	759.2	47.3	8.5	73.0		2	5	4	1		2	10				7	2.54	64.6
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.95	735.2	29.97	761.2	44.4	6.9	66.7		4		1	5	10	1	9				7	2.98	75.7
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.77	756.1	29.88	759.0	58.5	14.7	67.7		1	6	3	1	6	12	1				6	2.22	56.4
Szathmar	N. 47 49	E. 22 51	1.39 p.m.	430	131	29.44	747.8	29.90	759.5	53.4	11.9	62.0	4	7	2	5	1	4	4	3				7	3.34	84.9
Szegedin *a*	N. 46 15	E. 20 07	1.28 p.m.	256	78	29.60	751.8	29.88	758.9	53.1	11.7	69.8	5	5		2	5	3	2	1	6			9	3.82	96.9
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.80	756.8	29.90	759.5	57.9	14.4	65.5		3	2	2				12	11			6	4.26	108.1
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.22	742.3	29.95	760.6	48.9	9.4	62.1	3	8	1	1		11	1	2	3			8	0.96	24.5
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.25 p.m.	187	57	29.72	754.9	29.92	760.0	50.7	10.4	60.5	3	2	5	4		2	9	4	1			5	2.16	54.8
Furnes *b*	N. 51 04	E. 2 40	0.19 p.m.	20	6	29.90	759.5	29.92	760.0	53.4	11.9	58.3	3	4	3		2	1	3	12				5	0.85	21.7
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	29.82	757.3	29.94	760.5	51.4	10.8	63.2	2	3	3	4	3	1	7	7				7	2.13	54.1
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	86	26	29.95	760.7	30.05	763.3	44.9	7.2	70.3	3	2	2	1	5	10	3	4				6	0.95	24.1
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63	29.77	756.1	30.00	762.0	48.0	8.9	67.8	2	2	1	3	2	5	5	10				6		
Bidston	N. 53 24	W. 3 04	11.58 a.m.	180	85			29.98	761.5	48.6	9.2	61.5	1	3	7			2	10	7				6		
Bolton	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.43	747.5	29.98	761.5	48.1	8.9	65.0	1	3	6	1	2	3	10	4				6		
Bradford *g*	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.57	751.1	29.95	761.0	46.3	7.9	70.0		7	1	1		5	4	5				5	1.48	37.6
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.97	761.2	30.00	762.0	83.4	28.6	64.4								30				5		
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33			29.94	760.5	53.1	11.7	61.1	3	3	2	2	2	2	13	3				6		
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.82	757.4	29.95	760.7	50.0	10.0	67.8	6		2	2	3		15	1	1			7		
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.70	754.4	29.92	760.0	49.0	9.4	68.3	3	2	4	2	1	4	9	5				7		
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.72	704.1	29.93	760.2	72.2	22.3	77.7		3	1		1	2	7	13	3			2		
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.59	751.6	29.83	757.7	87.5	30.8	89.6		3	2	13	5	2		5				4		
Galway	N. 53 15	W. 9 03	11.32 a.m.	25	8			29.82	757.4	51.6	10.9	72.0	9	4	2	3	4	2	2	4				7		
Gibraltar	N. 36 06	W. 5 21	11.47 a.m.	50	15	29.92	760.0	29.97	761.2	65.3	18.5	83.1			11	11			3	5				4		
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.80	756.9	30.00	762.0	47.7	8.7	60.0	3		4	4			12	7				6		
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.78	756.4	29.95	760.7	52.5	11.4	57.3	3	5		2	6		4	10				7		
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.07	753.6	29.89	759.2	49.2	9.6	79.9		2	4	4	1	2	2	15				6		
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.91	759.7	29.95	760.7	51.7	10.9	55.9	4	4	2	2	4	1	2	11				7		
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.70	754.4	29.96	761.0	50.7	10.4	62.9	2	2	5	4		3	2	12				6		
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	29.80	756.9	29.88	758.9	68.2	20.1	68.1	1	11	3	2	2	7	4							
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.03	762.7	30.08	764.0	73.3	24.1	72.9	1	7	1	2	3	8	2	0				5		
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.44	747.8	29.97	761.2	50.1	10.1	62.2	4	1	6	1	2	1	2	13				6		
Oxford *a*	N. 51 46	W. 1 17	0.03 p.m.	212	64	29.72	754.9	29.95	760.7	51.0	10.6	57.7	3	3	4	3	3	2	2	9				7		
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.84	757.9	29.91	759.7	51.6	10.9	65.1	1	4	1	2	5	3	5	9				7		
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29			30.03	762.7	43.1	6.2	80.2	5	1	8		4	9	1	2				7		
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.81	757.2	29.88	758.9	57.7	14.3	70.8	3		2	9	7			9				7		
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.74	755.4	30.01	762.2	49.0	9.4	72.2	2	2	3	3	2			17	1			7	0.80	20.3
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.97	761.2	30.00	762.0	50.5	10.3	67.3			7	3		3	10	1				4	1.80	45.7
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110			30.00	762.0	46.6	8.1	63.8	2	2	7		2		11	6				6		
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.73	755.1	29.94	760.5	53.7	12.1	52.7		3	7	5	1		6	8				5		
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.88	758.9	29.92	760.0	54.6	12.6	74.5	2	7	3	1	3	1	11	2				7		
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	29.90	759.4	29.93	760.2	51.1	10.6	67.5	2	3	4	3	2	2	6	8				7		

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for April, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Canadian Series	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	4	1																					
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.61	752.1	29.66	753.4	32.0	0.0	76.7	5	1	10	3	6	1	1	2	1	5487	8830	6	2.32	58.9
Chatham	N. 47 03	W. 65 29	7.45 a.m.	50	15	29.64	752.8	29.68	753.9	31.2	— 0.4	73.30	1	4	6	5	4		1	4	5	3474	5591	6	1.88	47.8
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53																					
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	30	9																					
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.68	753.9	29.70	754.4	30.7	— 0.7	86.4	5	17		3	1			3	1	13731	22097	6	1.34	34.0
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	758	231	29.19	741.4	30.07	763.8	22.3	— 5.4	91.9	6	2	3	4	4	3	2	1	5	6592	10609	5	0.10	2.5
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18																					
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309																					
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.57	751.1	29.68	753.9	35.3	1.8	77.4	1	10	6	4	1		3	3	2			5	1.77	45.0
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	332	101																					
Kingston	N. 44 14	W. 76 30	7.02 a.m.	335	102	29.54	750.3	29.88	758.9	35.2	1.8	70.1	7	7	7	4	1			2	2	4221	6793	5	0.08	2.0
Little Glace Bay	N. 46 11	W. 59 58	8.08 a.m.	34	10																					
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.62	752.3	29.82	757.4	35.4	1.9	62.1	4	2	11	2	2			7	2			5	0.06	1.5
Moose Factory	N. 51 16	W. 80 50	6.44 a.m.	30	9																					
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	641	195	29.21	741.9	29.96	761.0	30.2	— 1.0	74.7	8	6	3		1	2		3	7	6153	9902	3	0.06	1.5
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210																					
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.25	742.9	29.97	761.2	33.8	1.0	85.4	2	9	6	2	3			5	3	5190	8352	5	0.38	9.7
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.31	744.5	29.98	761.5	32.0	0.0	80.8	3	6	11	1	1		6	2				3	0.28	7.1
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.45	748.0	29.78	756.4	30.3	— 0.9	81.2	3	11	5				3	7	1			5	0.83	21.1
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.44	747.8	29.92	760.0	29.5	— 1.4	72.8		15	5				4		6			5		
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	641	208	29.23	742.4	29.97	761.2	33.0	0.6	85.1	3	5	4	4	2	2	4	6		7583	12203	4	0.36	9.1
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	?	?	29.05	753.1	29.71	754.6	34.3	1.3	71.3	2	16	2	1	1	3		4	1			3	0.56	14.2
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46																					
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360																					
Sydney	N. 46 08	W. 60 10	8.07 a.m.	27	8	29.61	752.1	29.65	753.1	35.4	1.9	74.5	1	3	8	8	1		3	2	4	4986	8024	7	1.65	41.9
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	150	29.56	750.8	29.96	761.0	35.7	2.1	69.2	5	11	6	2				6		8288	13338	4	0.02	0.5
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299																					
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.64	752.8	29.71	754.6	36.1	2.3	79.2	6	11	2	2	1	1	4	2	1	3177	5113	5	1.43	36.3
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.43	747.5	29.69	754.1	35.1	1.7	85.6	1	3	5	5	2	8	3	3				2	2.51	64.0
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?																					
Cape Colony Series.																										
Cape St. Francis	S. 34 10	E. 24 53	1.48 p.m.	25	7	30.05	763.3			65.7	18.7	80.6		2	13	5	3	2	3	1	1			4	3.06	77.7
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	30.07	703.8	30.11	764.8	70.7	21.5			11	2		11	5	1					4	2.40	61.0
Worcester †.*	S. 34 10	E. 24 50	1.47 p.m.	?	?	29.01	730.8			71.7	22.1	43.0		10	4		4	6	4	2				4	0.21	5.3
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.96	761.0	29.99	761.8	55.2	12.9	87.4	3	2	1		3	7	11	3				7	4.66	118.4
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	26.24	666.5	29.96	761.0	65.7	18.7	88.4		1				7	1	18	3			4	1.50	38.0
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	46	13	29.98	761.5	30.03	762.7	40.6	4.8	63.8	3	6	2	2	2	9	6					4		
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.99	761.7	30.01	762.2	44.8	7.1	62.4		4	6	4		3	9	4				4		
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.09	754.0	29.73	755.1	33.8	1.0	75.6	3	2			6	1		11	7			7		
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.84	758.0	29.89	759.2	38.3	3.5				5	1	5	13	3		3			7		
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.99	701.7	30.02	762.6	42.3	5.7	76.7	4		3	2	3	8	5	3	2			7		
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.93	760.1	30.02	762.4	43.0	6.1	66.5	1	5	5	5			10	2	2			3		
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184																					
Alençon d.	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.37	745.9	29.92	759.9	52.0	11.1	88.8	2	1	2	5	3	2		15				7	2.74	69.6
Arras	N. 50 17	E. 2 47	0.19 p.m.	239	73	29.00	753.3	29.93	760.1	50.4	10.2	66.6	4	3	1	2	3	1	7	5					1.13	28.8
Avignon	N. 43 57	E. 4 38	0.20 p.m.	65	20	29.78	750.4	29.80	758.4	62.8	17.1	57.7	13	3			3	8	2	1				5	2.82	71.6
Bar-sur-Seine	N. 48 00	E. 4 22	0.25 p.m.	518	158	29.32	744.8	29.87	758.8	55.9	13.3	62.7	2	2	2	5	1	9	4	5				8	2.89	73.4
Beauvais	N. 49 25	E. 2 04	0.16 p.m.	246	75	29.04	752.8	29.91	759.7	54.0	12.2	58.5	3	3	6		1	5	8	4				7	1.27	32.3
Besançon	N. 47 14	E. 6 01	0.32 p.m.	829	250	29.01	730.8	29.89	759.2	54.7	12.6				2	2	5		4	17					3.37	85.6
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.00	751.7	29.86	758.4	59.5	15.3	61.8	5	7	3		7	6		2				9	3.82	97.0
Bourges	N. 47 10	E. 2 24	0.17 p.m.	510	156	29.30	744.3	29.85	758.2	51.3	10.7	63.0	3	5	4	3	4		3	8					3.67	93.2
Brest	N. 48 23	W. 4 29	11.50 a.m.	213	65	29.00	753.3	29.90	759.5	53.8	12.1	77.1	4	1	2	6	1	2	4	9	1			8	1.23	31.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.80	750.9	29.87	758.8	54.1	12.3	89.1	3	6	4	1	2	3		11				6	1.47	37.4
Châlons-sur-Marne j	N. 48 57	E. 4 23	0.25 p.m.	294	90	29.57	751.1	29.89	759.2	55.6	13.1			1	1	3	5	5	5					7	2.15	54.5
Charleville d.	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.40	740.8	29.91	759.8	54.5	12.5	61.8	1	1	3	2	3	6	5					3	0.92	23.5
Clermont-Fd	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.50	723.8	29.83	757.7	57.9	14.4	54.9	5	4	4	1	5	8	1	2				8	4.02	102.0
Cluny	N. 46 20	E. 4 39	0.27 p.m.	787	240	29.03	737.3	29.87	758.8	58.5	14.7	68.5	8	5	2	3	3	7		2					1.93	49.1
Commercy	N. 48 45	E. 5 35	0.30 p.m.	817	249	29.04	737.7	29.91	759.8	50.9	10.5	63.5	1	3	8	2	1	1	8	6				6	2.16	54.8
Gap	N. 44 34	E. 6 04	0.32 p.m.	2427	740	27.34	094.5	29.84	757.9	56.5	13.0	65.3	56		1	8	8	3		2					3.32	84.3
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	28.78	730.9	29.92	759.9	59.7	15.4	54.3	1					13	8	8				6	1.32	33.6
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.08	738.7	29.85	758.2	57.6	14.2	60.5	4	17	3	1			4	1					1.89	48.0
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1480	453	28.34	719.7	29.91	759.8	54.0	12.2	69.9	2	2	1	13	2	6	1	3					4.39	111.4
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.01	752.0	29.88	758.9	54.3	12.4	69.8	7	5	2	3	2	3	4	4					1.97	50.1
Lescar	N. 43 21	W. 0 26	0.05 p.m.	525	160	29.30	744.3	29.97	761.2	60.1	15.6	67.6	1	4	5		3	2	9	6					4.96	126.1
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	29.84	757.8	29.93	760.3	54.9	12.7	76.3	1	2	2	6	2	3	3	11				8	2.41	61.1
Lyons	N. 45 45	E. 4 49	0.27 p.m.	574	175	28.83	732.2	29.88	759.0	55.9	13.3	59.0	6	9		3	4	5		3				8	2.02	51.2
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.59	751.5	29.89	759.3	53.2	11.8	78.4a	4	2	5		4	4	5	6				7	2.85	72.5
Marseilles	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.58	751.4	29.85	758.2	62.6	17.0	58.3		5	8	3	4	5	5					6	1.10	27.8
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	28.61	720.7	29.91	759.6	44.8	7.1	61.0	1	4	6	9	3	3	2	2				6	3.35	85.0
Montpelier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.74	755.5	29.85	758.3	61.7	16.5	75.3	2	7	1	4	4	9	2	1				5	2.27	57.7
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.13	739.8	29.88	759.0	52.9	11.6	63.6a	5	7	5	4	1	1		7				7	2.77	70.4
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.75	755.7	29.91	759.8	55.9	13.3	72.1	5	2	3	4	2		7	6	1			8	3.61	91.8
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.81	757.2	29.84	758.0	62.6	17.0	65.9	1		5	1	5	10	8					5	2.02	51.3
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	98	30	29.75	755.7	29.80	758.4	60.6	15.9	55.3	6	3		1	8	7	1	4				7	0.81	20.6
Pic du Midi (Pitde) a	N. 42 15	W. 0 08	0.08 p.m.	7763	2366	22.35	567.8			33.8	1.0													8	9.09	230.9
Privas	N. 44 44	E. 4 35	0.26 p.m.	997	304	28.84	732.6	29.89	759.3	57.7	14.3	69.2	3	5			9	1		2				6	3.27	83.0
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	24.97	634.2			37.6	3.1	89.5	3	2	9	4	3	6		3				8	6.22	158.1
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.85	758.3	29.89	759.1	60.6	15.9	65.5	1	1	5	5	3	7	1	6	1			8	10.90	277.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.14 p.m.	198	60	29.67	753.5	29.87	758.8	57.4	14.1	71.4	4	5	4	3		2	2	10				8	2.90	73.7
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	27.71	703.9	29.85	758.2	54.7	12.6	59.0	2	8	7		1	1	10	1				6	4.73	120.1
Rouen	N. 49 26	E. 1 14	0.13 p.m.	80	24	29.83	757.7	29.91	759.7	54.7	12.6	65.1	3	2	4	2	1	6	1	11				7	1.57	40.0
Saint Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.74	755.3	29.89	759.3	52.9	11.6	65.6	3	2	6	1	3	1	8	6				8	0.84	21.3
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.73	755.2	29.90	759.4	55.0	12.8	56.9	6	3	1	2	6	2	1	10				2	1.60	40.5
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.19	741.4	29.91	759.7	61.2	16.2	65.3		14	1			13	2					7	2.67	67.8
Tours a	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.68	753.9	29.86	758.5	56.3	13.5	64.5		4	2	7		2	6	8				8	4.31	109.4
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.40	746.8	29.89	759.2	53.6	12.0	59.1	4	2	3	2	3	2	7	6	1				2.12	53.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for April, 1881. 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.
German Series.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 53	0.51 p.m.	774	236	29.08	738.6	29.93	760.1	49.6	9.8	54.4	4	4	5	1	.....	8	3	5	.....	.....	.....	5	1.65	41.9
Berlin	N. 52 30	E. 13 23	1.02 p.m.	157	48	29.82	757.4	29.99	761.7	51.3	10.7	38.5	1	6	.....	3	1	13	2	4	.....	.....	.....	5	0.17	4.4
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.48	748.8	30.02	762.6	46.9	8.3	45.5	4	3	4	.....	2	4	11	2	.....	.....	.....	6	6.04	153.5
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.48	748.9	29.91	759.7	52.9	11.6	62.2	5	2	.....	6	.....	.....	7	10	.....	.....	.....	6	3.84	97.6
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.23	742.5	29.84	757.9	50.2	10.1	49.8	4	2	5	3	2	5	3	6	.....	.....	.....	5	0.88	22.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.62	752.4	30.00	761.9	53.6	12.0	43.9	8	1	1	5	1	3	7	4	.....	.....	.....	6	0.92	23.3
Friedrichshafen	N. 47 39	E. 9 29	0.45 p.m.	1355	413	28.47	723.0	29.90	759.5	50.4	10.2	71.7	.....	.....	.....	10	6	.....	1	7	.....	.....	.....	7	2.97	75.5
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	66	20	29.93	760.3	30.00	762.0	46.8	8.2	57.5	1	.....	6	5	.....	7	4	7	.....	.....	.....	5	0.37	9.4
Kiel	N. 54 20	E. 10 04	0.49 p.m.	13	4	30.08	763.9	30.10	764.6	45.5	7.5	58.5	4	.....	4	5	1	.....	9	7	.....	.....	.....	5	0.27	6.9
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.55	750.6	29.98	761.5	48.7	9.3	54.8	1	5	1	5	1	4	9	4	.....	.....	.....	7	0.50	12.8
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	209	82	29.69	754.0	29.98	761.0	49.5	9.7	57.3	3	1	6	4	1	2	5	8	.....	.....	.....	6	0.35	8.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.04	763.1	30.09	764.3	39.9	4.4	67.3	1	9	6	5	1	3	1	4	.....	.....	.....	3	.....	.....
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.08	713.1	29.93	760.2	48.2	9.0	61.5	3	5	6	.....	1	.....	6	7	2	.....	.....	7	1.57	39.8
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.06	763.4	30.07	763.8	42.3	5.7	58.9	6	1	1	5	1	1	.....	15	.....	.....	.....	4	0.35	9.0
Neustadt *a.*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.39	746.6	29.92	760.0	53.2	11.8	57.0	3	3	4	.....	2	1	2	9	5	.....	.....	5	1.10	27.9
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	879	268	28.95	735.3	29.85	758.1	53.1	11.7	50.7	11	3	4	.....	.....	1	6	5	.....	.....	.....	7	2.37	60.1
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1414	431	28.41	721.7	29.92	760.0	49.5	9.7	59.8	3	6	3	.....	1	3	4	5	.....	.....	.....	8	1.28	32.4
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.01	762.2	30.04	762.9	44.1	6.7	97.5	3	1	5	3	1	1	8	8	5	.....	.....	4	0.14	3.5
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m.	266	81	29.54	750.4	29.93	760.2	68.0	20.0	.....	.....	.....	1	18	3	.....	.....	8	.....	.....	.....	4	.....	.....
Indian Series.																										
Kurachee *b.*	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.76	755.9	29.81	757.2	81.5	27.5	75.5	.....	.....	2	18	6	1	1	.....	.....	.....	.....	3	4.85	123.2
Deesa	N. 24 16	E. 72 14	4.57 p.m.	474	144	29.29	744.0	29.75	755.6	96.5	35.8	25.0	1	.....	20	8	1	.....	.....	.....	.....	.....	.....	4	0.06	1.5
Bombay	N. 18 54	E. 72 49	4.59 p.m.	37	11	29.81	757.2	29.85	758.2	85.4	29.7	69.3	.....	19	11	.....	.....	.....	.....	.....	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	2000	610	27.94	709.7	29.73	755.1	90.9	32.7	22.3	1	5	21	2	.....	1	.....	.....	.....	.....	.....	2	1.35	34.3
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.27	692.6	29.70	755.9	86.5	30.3	49.5	.....	.....	10	16	1	.....	2	.....	1	.....	.....	4	0.51	13.0
Lahore	N. 31 34	E. 74 20	5.41 p.m.	732	223	28.95	735.3	29.68	753.9	90.0	32.2	29.3	.....	7	10	3	.....	.....	3	4	3	.....	.....	4	0.48	12.2
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.79	731.3	29.66	753.4	90.3	32.4	27.8	.....	17	5	2	.....	.....	1	1	4	.....	.....	4	0.15	3.8
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	175	29.13	739.9	29.67	753.6	96.2	35.7	21.4	4	2	23	1	.....	.....	.....	.....	.....	.....	.....	2	0	0
Nagpur	N. 21 09	E. 79 05	5.24 p.m.	1025	312	28.67	728.2	29.68	753.9	100.7	38.2	19.0	1	8	4	4	1	1	1	.....	10	.....	.....	5	0	0
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.39	721.1	29.70	754.4	97.3	36.3	10.8	9	8	11	.....	.....	.....	.....	1	1	.....	.....	2	0.05	1.3
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.32	744.7	29.68	753.9	93.9	34.4	22.1	4	13	8	4	.....	.....	.....	1	.....	.....	.....	1	0	0
Alahabad	N. 25 26	E. 81 52	5.36 p.m.	307	94	29.36	745.7	29.66	753.4	98.0	36.7	23.1	.....	12	10	1	.....	.....	1	4	2	.....	.....	2	0	0
Patna	N. 25 37	E. 85 08	5.48 p.m.	179	55	29.47	748.5	29.64	752.8	94.7	34.8	32.6	1	7	16	.....	.....	.....	2	4	.....	.....	.....	2	0.97	24.6
Hazaribagh	N. 24 00	E. 85 24	5.49 p.m.	2010	613	27.71	703.8	29.67	753.6	91.1	32.8	18.3	3	13	12	1	1	.....	.....	.....	.....	.....	.....	1	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.93	752.6	29.71	754.0	91.8	33.2	50.0	.....	.....	.....	.....	22	6	2	.....	.....	.....	.....	2	0	0
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	18	5	29.66	753.4	29.68	753.9	88.7	31.5	58.5	.....	.....	5	7	18	.....	.....	.....	.....	.....	.....	2	1.97	50.0
Dhubri *i.*	.....	.....	.....	119	36	29.56	750.8	29.68	753.9	82.8	28.2	65.4	.....	2	.....	.....	.....	.....	10	2	7	.....	.....	1	2.32	58.9
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	90	25	29.70	754.4	29.78	756.4	82.0	27.8	80.1	1	.....	1	7	14	3	1	1	2	.....	.....	6	0.95	24.1
Sibsagar	N. 26 59	E. 91 40	6.15 p.m.	332	101	29.44	747.8	29.78	756.4	73.7	23.2	83.2	1	.....	.....	4	1	6	.....	18	.....	.....	.....	9	13.15	334.0
Zanzibar *g.*	S. 6 10	E. 39 11	2.45 p.m.	22	7	.....	.....	29.88	758.9	84.1	28.9	71.3	.....	.....	.....	3	14	6	.....	.....	.....	.....	.....	7	6.81	173.0
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.49	749.0	29.90	759.4	56.5	13.6	58.5	.....	.....	1	3	4	.....	10	1	11	.....	.....	8	7.57	192.3
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.34	745.2	29.85	758.2	58.6	14.8	62.9	2	.....	6	4	2	2	11	3	.....	.....	.....	7	0	0
Padua	N. 45 24	E. 11 53	0.50 p.m.	102	31	29.78	756.4	29.89	759.2	58.5	14.7	62.6	4	1	1	2	4	3	6	9	.....	.....	.....	8	1.94	49.2
Moncalieri	N. 44 59	E. 7 41	0.39 p.m.	853	260	28.95	735.2	29.85	758.1	57.6	14.2	59.2	6	7	1	.....	.....	7	7	2	.....	.....	.....	6	5.13	130.2
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.68	753.8	29.87	758.6	59.9	15.5	62.6	10	2	.....	5	4	7	.....	2	.....	.....	.....	6	3.14	79.7
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	27.94	709.7	29.85	758.3	54.5	12.5	63.7	4	3	18	.....	.....	1	1	3	.....	.....	.....	5	2.97	75.4
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.83	757.6	29.87	758.7	58.5	14.7	68.2	2	3	.....	6	1	.....	7	11	.....	.....	.....	7	2.14	54.4
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.59	751.6	29.84	758.0	63.7	17.6	53.1	5	5	4	3	.....	.....	3	10	.....	.....	.....	6	2.30	60.0
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.78	756.4	29.86	758.5	63.3	17.4	60.6	.....	3	6	12	5	1	1	2	.....	.....	.....	6	2.95	75.0
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.69	754.0	29.86	758.4	65.8	18.8	49.9	3	3	4	8	11	1	.....	.....	.....	.....	.....	7	2.00	50.7
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.63	752.6	29.88	758.9	64.8	18.2	56.6	3	5	6	3	0	5	2	.....	.....	.....	.....	6	1.47	37.3
Cosenza	N. 39 18	E. 16 15	1.13 p.m.	840	256	29.01	730.8	29.88	759.0	64.4	18.0	74.5	.....	8	7	7	.....	4	4	.....	.....	.....	.....	7	3.17	80.6
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.68	753.8	29.87	758.7	66.6	19.2	53.4	.....	9	5	.....	3	8	3	.....	2	.....	.....	6	2.31	58.6
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.65	753.2	29.89	759.3	68.9	20.5	45.5	2	10	5	2	1	2	.....	8	.....	.....	.....	7	2.75	69.9
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.85	758.1	29.89	759.2	66.0	18.9	68.8	1	1	3	6	3	6	5	5	.....	.....	.....	7	3.15	79.9
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.34	745.1	29.85	758.2	64.9	18.3	60.3	2	.....	.....	14	8	5	1	.....	.....	.....	.....	7	1.62	41.2
Stelvio	N. 46 37	E. 10 32	0.50 p.m.	8343	2543	22.00	558.7	.....	.....	41.5	5.3	70.0	.....	.....	2	13	5	2	.....	6	.....	.....	.....	8	3.19	81.0
Valdobbia	N. 45 47	E. 12 00	0.56 p.m.	8360	2548	22.00	558.9	.....	.....	52.0	11.1	75.4	6	.....	4	3	.....	2	11	4	.....	.....	.....	8	4.80	122.0
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.00	761.9	30.02	762.4	46.2	7.9	70.6	14	.....	3	4	1	.....	1	2	5	.....	.....	5	8.70	222.4
Kioto	N. 35 01	E. 135 46	9.14 p.m.	162	49	29.85*a*	758.1*a*	30.02*a*	762.5*a*	51.4	10.8	70.0	6	7	1	.....	1	4	4	2	5	.....	.....	5	4.80	121.8
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	29.81	757.1	30.01	762.3	55.6	13.1	80.1	4	5	1	5	6	3	2	2	2	.....	.....	6	8.82	224.1
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.95	760.0	30.02	762.4	51.1	10.6	82.1	4	7	.....	1	9	.....	4	5	.....	.....	.....	5	4.44	112.8
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.96	760.9	30.01	762.2	55.4	13.0	73.5	11	1	1	.....	9	.....	6	.....	2	.....	.....	5	2.01	51.1
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.79	756.7	29.98	761.5	79.7	26.5	72.2	1	2	.....	1	1	2	17	5	1	.....	.....	6	8.35	212.2
Mexican Series.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.73	755.1	30.00	761.9	66.9	19.4	89.7	1	3	1	.....	.....	.....	15	10	.....	.....	.....	3	0	0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8189	2496	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
NETHERLAND SERIES.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.95	760.8	29.95	760.8	50.4	10.2	.....	3	3	6	2	2	1	7	6	.....	.....	.....	.....	1.20	30.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.93	760.2	29.98	761.5	47.1	8.4	.....	3	7	.....	4	3	.....	7	6	.....	.....	.....	.....	0.45	11.5
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.97	761.3	29.97	761.3	44.1	6.7	.....	2	2	4	4	2	.....	5	11	.....	.....	.....	.....	0.56	14.3
Hellevoetsluis	N. 51 49	E. 4 80	0.25 p.m.	0	0	29.95	760.8	29.95	760.8	50.5	10.3	73.7	3	4	4	3	1	1	6	7	1	.....	.....	.....	1.02	25.8
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.92	759.9	29.97	761.2	50.9	10.5	55.9	4	3	4	3	1	4	5	6	.....	.....	.....	5	0.92	23.4
NORWEGIAN SERIES.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	49	15	29.95	760.8	30.02	762.4	41.2	5.1	54.3	5	9	.....	.....	8	5	.....	.....	3	.....	.....	3	2.48	63.0
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.83	757.6	29.98	761.4	41.4	5.2	49.0	2	2	2	10	4	5	.....	1	4	.....	.....	4	0.19	4.8
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.64	752.9	29.67	753.6	37.0	2.8	.....	2	4	7	6	2	1	.....	4	4	.....	.....	9	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.78	756.5	29.84	757.8	34.3	1.3	68.4	3	3	8	7	1	.....	.....	2	6	.....	.....	3	2.01	51.0
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.86	758.5	30.02	762.5	59.0	15.0	84.1	3	9	7	3	2	4	1	1	.....	.....	.....	4	3.28	83.3
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.89	733.8	29.88	758.9	61.7	16.5	60.3	4	4	5	4	8	1	4	.....	.....	.....	.....	7	1.73	43.9
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	29.93	760.3	30.02	762.5	64.9	18.3	65.7	.....	1	9	12	2	1	1	2	2	.....	.....	6	3.35	85.2
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.56	750.7	29.91	759.8	61.2	16.2	65.8	7	1	4	4	8	3	1	2	.....	.....	.....	6	7.36	186.9
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	29.97	761.2	30.04	762.9	61.7	16.5	70.6	7	2	6	8	2	1	1	.....	3	.....	.....	5	4.32	109.7
RUSSIAN SERIES.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	28.82	731.9	29.88	759.0	51.8	11.0	45.7	3	2	.....	5	1	1	5	10	3	.....	.....	4	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.80	756.8	29.81	757.1	30.2	—1.0	71.7	.....	3	7	3	9	1	2	1	4	.....	.....	7	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	29.97	761.2	29.89	759.1	60.3	15.7	51.4	4	1	1	4	2	7	4	6	1	.....	.....	7	.....	.....
Barnaul ‡	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.48	748.8	29.99	761.7	48.0	8.9	41.1	3	4	2	.....	.....	.....	2	7	12	.....	.....	4	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.78	756.5	30.04	763.0	38.5	3.6	57.6	2	.....	9	12	5	.....	.....	2	.....	.....	.....	3	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	28.97	735.8	29.93	760.2	49.1	9.5	49.7	3	2	11	4	.....	5	2	1	2	.....	.....	7	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.70	754.4	29.97	761.3	48.9	9.4	51.7	2	2	5	8	1	6	2	2	2	.....	.....	5	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	29.86	758.5	29.88	759.0	50.5	10.3	83.8	4	2	1	1	8	4	.....	9	1	.....	.....	5	.....	.....
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.29	744.0	29.94	760.5	44.8	7.1	57.9	12	1	1	.....	3	3	5	4	1	.....	.....	7	.....	.....
Krotkowo c	.....	.....	.....	.....	.....	29.53	750.0	30.00	762.0	50.7	10.4	67.3	8	4	9	2	2	1	1	.....	.....	.....	.....	5	.....	.....
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.70	754.3	29.90	759.4	54.3	12.4	54.0	4	1	2	3	3	3	6	7	1	.....	.....	7	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.45	748.1	30.02	762.6	41.4	5.2	55.3	6	.....	.....	2	10	5	2	1	4	.....	.....	4	.....	.....
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	1942	592	27.68	703.1	30.02	762.5	33.4	0.8	48.3	4	4	3	2	1	.....	.....	3	13	.....	.....	4	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.86	758.4	29.93	760.1	54.1	12.3	64.5	5	2	.....	1	5	2	1	10	4	.....	.....	8	.....	.....
Nikolaievsk a	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.80	756.8	29.88	759.0	26.1	—3.3	68.3	.....	1	.....	.....	.....	3	.....	.....	25	.....	.....	5	.....	.....
Nukuss	N. 42 27	E. 59 37	4.07 p.m.	216	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	29.80	757.0	29.94	760.5	55.9	13.3	39.0	.....	8	.....	6	.....	6	.....	1	9	.....	.....	5	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	29.95	760.6	29.97	761.1	36.9	2.7	60.7	1	13	6	4	2	3	1	.....	.....	.....	.....	4	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	28.28	718.2	29.80	756.8	70.2	21.2	57.1	2	3	.....	.....	1	1	3	1	19	.....	.....	6	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.46	722.8	29.84	757.9	62.6	17.0	53.9	1	7	5	.....	4	7	.....	.....	6	.....	.....	7	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.60	751.7	30.02	762.6	46.2	7.9	43.3	3	2	5	1	2	3	11	3	.....	.....	.....	5	.....	.....
Wilna	N. 54 51	E. 25 18	1.49 p.m.	387	118	29.63	752.6	30.06	763.6	44.4	6.9	46.1	3	5	4	5	1	3	.....	4	5	.....	.....	4	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	29.79	756.7	30.09	764.3	35.8	2.1	50.6	6	6	6	3	2	4	1	.....	2	.....	.....	5	.....	.....
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	30.04	763.0	46.3	7.9	70.4	.....	1	5	.....	.....	2	12	10	.....	.....	.....	6	1.26	32.0
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	30.01	762.2	47.1	8.4	92.7	3	3	3	2	2	7	5	4	1	.....	.....	6	0.90	22.9
North Unst	N. 60 51	W. 0 53	0.04 a.m.	230	70	.....	.....	29.99	761.7	.....	.....	.....	7	1	7	2	3	5	1	2	2	.....	.....	4	.....	.....
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.78	756.4	29.89	759.2	51.4	10.8	69.5	.....	.....	.....	3	9	5	8	5	.....	.....	.....	3	2.43	61.8
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	56	17	29.85	758.1	29.91	759.6	63.7	17.6	65.6	2	13	2	2	1	8	1	1	.....	.....	.....	7	4.54	115.3
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	26.93	684.0	.....	.....	54.9	12.7	63.1	4	1	2	9	7	4	.....	3	.....	.....	.....	7	3.34	84.8
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.07	702.9	29.88	758.9	59.7	15.4	66.9	1	.....	4	9	5	5	3	3	.....	.....	.....	7	3.20	81.3
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.74	755.5	29.89	759.3	72.1	22.3	47.5	1	9	3	1	6	3	5	2	.....	.....	.....	6	2.61	66.3
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	28.93	734.9	29.82	757.4	59.2	15.1	73.1	6	2	2	9	3	6	.....	2	.....	.....	.....	8	4.09	104.0
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.00	762.0	30.07	763.7	70.3	21.3	78.5	4	1	1	1	1	3	7	10	2	.....	.....	3	1.25	31.7
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.89	759.2	29.94	760.4	84.6	29.2	64.7	.....	.....	.....	1	2	10	16	1	.....	.....	.....	1	0.28	7.1
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.87	758.7	29.95	761.0	63.9	17.7	68.1	3	1	10	5	3	4	2	1	1	.....	.....	7	10.62	269.8
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.98	761.6	30.07	763.7	78.6	25.9	83.0	1	.....	.....	5	1	17	3	3	.....	.....	.....	5	3.71	94.3
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.84	757.9	29.99	761.7	75.9	24.4	71.7	1	10	4	6	4	3	2	.....	.....	.....	.....	3	0.31	8.0
SWEDISH SERIES.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.80	756.8	29.84	757.8	30.0	—1.1	71.1	6	5	.....	5	10	.....	.....	3	1	.....	.....	7	0.17	4.3
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.85	758.2	29.90	759.5	37.0	2.8	70.3	4	8	1	9	1	1	.....	5	1	.....	.....	7	0.71	18.1
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.88	758.9	29.93	760.3	38.5	3.6	56.0	5	3	4	3	9	2	.....	2	2	.....	.....	5	0.70	17.8
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.80	756.9	29.98	761.4	49.3	4.6	47.3	2	4	10	7	3	1	.....	3	.....	.....	.....	4	0.97	24.6
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.91	759.7	29.97	761.2	37.0	2.8	68.1	.....	6	14	5	.....	.....	1	3	1	.....	.....	3	0.67	17.1
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.86	758.5	29.95	760.7	38.3	3.5	61.6	5	3	4	10	3	2	.....	3	.....	.....	.....	4	0.34	8.5
SWISS SERIES.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.47	723.0	29.90	759.4	51.8	11.0	63.6	17	1	.....	2	3	1	1	5	.....	.....	.....	7	2.50	63.6
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.28	718.2	29.92	760.0	51.1	10.6	70.8	1	2	5	.....	.....	2	5	3	12	.....	.....	7	4.60	116.7
TURKISH SERIES.																										
Constantinople	N. 41 00	E. 28 59	2.02 p.m.	?	?	.....	.....	29.91	759.7	58.8	14.9	59.3	10	4	.....	10	.....	3	.....	3	.....	.....	.....	7	0.59	15.0
Valona	N. 40 27	E. 19 27	1.25 p.m.	?	?	.....	.....	29.92	760.0	68.2	20.1	.....	.....	6	8	12	4	.....	.....	.....	.....	.....	.....	6	2.80	71.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 29	2.30 p.m.	98	30	.....	.....	29.90	759.5	70.5	21.4	65.5	5	5	5	10	3	.....	.....	2	.....	.....	.....	6	0.12	3.0

RESULT OF SIMULTANEOUS OBSERVATIONS FOR APRIL, 1881.

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Met'rs	Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.81	757.2	29.90	759.4	43.8	6.6	61.0	3	5	9	4	4	......	......	5	......	5222	8404	7	1.34	34.0
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.34	745.2	30.01	762.2	29.6	—1.3	74.6	2	13	7	1	3	1	2	1	......	6295	10132	4	0.88	22.4
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.85	732.8	30.00	762.0	52.8	11.6	68.5	......	10	7	4	......	2	5	1	1	7130	11474	6	4.58	116.3
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	29.91	759.7	29.92	760.0	42.8	6.0	75.1	6	8	7	1	......	1	3	3	1	7187	11556	5	2.85	72.4
Attou, Aleutians	N. 52 38	E. 172 30	11.38 p.m.	......	......	29.70	754.4	......	......	33.9	1.1	89.8	3	3	......	1	7	3	2	8	2	10922	17574	10	2.10	54.9
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.86	758.4	30.05	763.5	55.3	12.9	72.6	1	5	7	2	4	5	2	2	2	3985	6413	5	4.71	119.6
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	29.91	759.7	29.95	761.0	47.1	8.4	66.2	2	9	9	......	3	......	2	3	2	4919	7954	6	2.00	50.8
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	29.88	758.9	29.90	759.4	42.6	5.9	72.1	7	8	5	3	2	2	2	1	......	9108	14658	6	1.36	34.5
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.19	716.0	30.04	763.0	29.5	—1.4	80.2	1	10	5	1	1	2	4	2	4	6192	9965	4	1.02	25.9
Boise City	N. 43 46	W. 116 05	4.24 a.m.	2750	838	27.16	689.9	30.12	765.0	43.2	6.2	75.5	4	3	7	5	1	3	......	2	5	3234	5204	5	1.34	34.0
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.68	753.9	29.83	757.7	39.3	4.1	64.2	1	6	11	3	......	1	2	2	4	7673	12348	4	1.66	42.2
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	355	28.79	731.3	29.83	757.7	60.1	15.6	75.7	4	2	1	2	......	3	14	1	3	6525	10501	5	3.43	87.1
Brownsville	N. 25 00	W. 97 30	5.38 a.m.	43	13	29.90	759.4	29.94	760.5	68.6	20.3	88.1	......	2	......	1	4	15	2	5	1	6454	10385	6	0.30	7.6
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.22	742.2	29.94	760.5	32.3	0.2	75.7	......	2	9	13	......	......	1	5	......	5805	9342	4	0.75	19.3
Burlington	N. 44 29	W. 73 13	7.15 a.m.	258	82	29.55	750.6	29.85	758.2	35.3	2.4	64.9	9	6	4	1	6	......	1	3	......	5813	9355	5	0.62	15.7
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.66	753.4	30.05	763.3	50.6	10.3	74.2	2	4	4	2	2	1	3	2	10	5330	8578	5	3.62	91.9
Campe *d*	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.41	696.2	29.98	761.5	43.8	6.6	83.1	......	1	5	5	7	2	2	2	2	3329	5357	3	1.52	38.6
Camp Thomas	N. 32 04	W. 110 05	4.49 a.m.	2710	825	27.20	690.9	......	......	50.1	10.1	61.5	4	2	2	1	1	......	1	......	19	......	......	1	0.03	16.0
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	29.93	760.2	29.95	760.7	48.8	9.3	73.1	4	5	7	6	4	......	......	3	1	10373	16693	7	6.03	153.2
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.89	759.2	29.92	760.0	43.1	6.2	77.3	5	9	5	1	2	1	2	4	6	11717	18855	5	1.34	34.0
Castroville *b*	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.20	741.7	29.90	759.4	59.1	15.1	80.5	1	6	1	......	3	8	4	1	4	4472	7197	5	3.05	77.7
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.07	763.8	30.09	764.3	62.5	16.9	79.1	2	10	4	2	4	5	1	1	1	8032	12925	3	3.45	87.6
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.18	741.2	30.00	762.0	39.3	4.1	75.0	4	8	1	3	2	4	3	5	......	8991	14469	7	1.36	34.5
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	29.97	761.2	30.03	762.7	55.0	13.3	73.8	3	2	4	9	1	1	1	6	3	5857	9425	5	3.37	85.6
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.16	740.7	29.95	760.7	50.2	10.1	72.5	2	3	6	8	2	1	......	7	1	4653	7488	7	3.61	91.7
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.23	742.4	30.03	762.7	51.6	10.9	75.6	......	6	4	5	2	1	2	4	6	5475	8811	5	4.56	115.8
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1855	24.00	609.6	29.94	760.5	35.3	1.8	68.3	5	11	4	4	1	1	1	2	1	7297	11743	4	2.32	58.9
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.30	744.2	30.00	762.0	38.1	3.4	69.2	1	8	4	5	2	3	1	5	1	5083	8180	6	1.84	46.7
Chincoteague	N. 37 55	W. 75 20	7.05 a.m.	18	5	29.93	760.2	29.95	760.7	43.8	6.6	80.9	2	10	3	6	2	......	4	3	......	11515	18531	6	4.33	110.0
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.36	745.7	30.02	762.5	45.1	7.3	72.8	5	7	2	3	......	3	5	4	1	4526	7284	6	3.25	82.5
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.25	742.9	29.99	761.7	36.5	2.5	81.3	2	5	6	3	2	5	3	4	......	5206	8378	5	1.75	44.5
Coleman City *b*	N. 31 55	W. 99 10	5.32 a.m.	1750	533	28.16	715.3	29.82	757.4	52.7	11.5	73.0	6	2	......	7	4	2	......	2	5	7672	12347	4	1.65	41.9
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.13	739.9	29.98	761.5	41.7	5.4	72.2	8	5	7	1	2	1	4	2	......	5385	8666	5	2.04	51.8
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.04	712.2	29.71	751.6	51.0	12.2	74.8	2	......	5	3	5	3	1	1	10	7803	12558	5	1.87	47.5
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.55	750.6	30.01	762.2	58.8	14.9	70.4	5	......	......	2	12	2	2	2	5	5631	9067	5	3.73	94.7
Davenport	N. 41 32	W. 90 30	6.05 a.m.	615	187	29.38	746.2	30.04	763.0	38.8	3.8	77.5	1	10	4	1	1	3	6	4	......	4713	7585	7	1.11	28.2
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.27	718.0	29.94	760.5	45.9	7.7	74.5	......	......	......	4	13	2	2	7	2	3800	6115	6	3.51	89.2
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.33	643.4	......	......	34.2	1.2	72.3	3	......	1	12	6	......	......	8	......	2746	4419	6	2.05	52.1
Decatur *a*	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.79	731.3	29.95	760.7	55.4	13.0	57.5	7	4	1	2	4	10	1	......	......	8610	13855	4	2.98	75.7
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	29.90	759.4	29.92	760.0	43.6	6.4	79.7	4	8	5	4	1	1	2	4	1	11005	17712	6	1.08	27.4
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.20	741.7	29.99	761.7	55.2	13.4	77.4	8	......	1	5	8	2	1	5	......	6593	10610	4	3.31	84.1
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.76	628.9	29.98	761.5	42.5	5.8	65.9	4	4	2	2	9	2	2	4	1	4422	7138	4	0.50	12.7
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.15	740.4	30.05	763.3	37.2	2.9	82.1	8	4	......	1	5	3	1	7	1	5412	8710	6	3.35	85.3
Detroit	N. 41 21	W. 83 07	6.35 a.m.	661	201	29.28	743.7	29.99	761.7	38.5	3.6	74.6	5	8	8	2	3	......	1	3	......	6673	10739	4	2.37	60.2
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.37	695.2	29.68	753.9	42.6	5.9	67.7	9	1	1	4	4	3	1	7	......	9667	15557	5	2.38	60.5
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.32	744.7	30.01	763.0	37.[illegible]	2.8	71.4	5	6	3	3	3	5	2	1	2	4075	6558	6	1.30	33.0
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.35	745.5	30.05	763.5	31.1	—0.5	80.9	3	2	5	4	......	......	......	12	4	4590	7387	5	1.10	27.9
Eagle Pass	N. 28 40	W. 100 15	5.25 a.m.	780	238	29.19	741.4	29.91	759.7	62.2	16.8	74.7	......	5	1	1	3	15	1	......	4	5207	8380	4	0.87	22.1
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1417	25.25	641.3	29.90	759.4	35.9	2.2	71.9	12	......	1	10	4	1	......	......	2	9009	14498	4	3.13	79.5
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.64	752.8	29.71	754.6	35.2	1.8	65.6	4	10	6	2	4	......	1	3	......	7604	12237	4	1.66	42.2
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.19	665.2	......	......	51.8	11.0	40.4	4	8	6	......	......	1	2	1	8	4105	6605	2	0.22	5.6
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.21	741.7	29.93	761.0	37.5	3.1	75.5	......	2	5	14	......	1	3	5	......	5940	9559	4	1.25	32.0
Escanaba	N. 45 45	W. 87 14	6.20 a.m.	612	186	29.35	745.7	30.04	763.0	28.1	—2.2	75.5	12	2	4	......	2	1	1	2	6	5895	9487	3	0.44	11.2
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.43	722.1	30.03	762.7	55.1	12.8	48.1	1	......	4	......	......	......	1	15	8	1842	2964	2	0.86	21.8
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.01	635.2	30.46	773.7	39.4	4.1	69.9	......	......	1	1	......	2	16	9	1	5503	8856	3	1.53	38.9
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	825	27.13	689.1	......	......	32.1	0.1	62.3	......	5	6	7	......	......	......	6	6	8071	12989	3	0.20	5.1
Fort Bennett *b*	N. 44 42	W. 100 38	5.25 a.m.	1510	457	28.44	722.4	......	......	29.5	—1.4	72.8	3	5	1	1	......	9	......	1	8	5696	9167	4	0.93	23.6
Fort Benton *f*	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.18	690.4	......	......	35.0	1.7	61.7	2	2	6	......	......	......	1	2	11	5057	8138	4	0.18	4.6
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.99	710.9	29.90	759.4	31.1	—0.5	82.4	2	5	6	......	2	1	8	1	5	7245	11659	5	1.34	34.0
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.82	681.2	......	......	35.1	1.7	74.6	3	9	......	6	4	3	1	1	3	5960	9592	5	0.78	19.8
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.16	639.1	30.12	765.0	48.9	9.4	61.8	5	1	4	7	4	......	1	2	6	5749	9252	3	1.04	26.4
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.21	691.1	29.50	749.3	45.1	7.3	68.9	2	5	4	2	5	5	1	6	......	9010	14500	4	1.26	32.0
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.14	747.8	29.98	761.5	52.3	11.3	71.2	6	1	......	......	1	6	6	1	9	6213	9999	6	2.64	67.1
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4850	1481	25.18	639.6	29.98	761.5	53.5	11.9	37.5	11	4	1	1	1	......	5	5	2	6204	9984	3	0.84	21.3
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.61	726.7	29.87	758.7	56.3	13.5	62.1	6	2	1	2	7	6	1	2	3	9230	14854	4	3.71	94.2
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.45	697.5	......	......	37.1	2.8	77.2	1	4	3	3	......	3	1	5	10	5692	9160	4	0.35	8.9
Fort Macon	N. 30 48	W. 99 58	5.28 a.m.	2240	683	29.98	751.5	29.99	761.7	50.7	10.4	81.3	7	8	3	7	1	1	1	2	......	9335	15023	6	4.56	115.8
Fort McKavett *a*	N. 34 42	W. 76 40	7.01 a.m.	11	3	27.72	704.1	29.61	752.1	56.7	13.7	69.9	2	3	1	5	9	2	5	2	......	7409	11923	5	2.27	57.7
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.72	678.7	......	......	42.6	5.9	81.4	3	6	2	4	......	5	2	6	2	3718	5984	5	1.38	35.1
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.91	759.7	29.94	760.5	21.0	—6.1	100.0	4	1	3	5	6	......	5	4	2	7112	11445	7	0.39	9.9
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.34	669.0	......	......	32.7	0.4	71.4	2	2	22	3	......	......	......	1	......	7933	12767	5	0.35	8.9
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.74	730.0	29.85	758.2	50.8	10.4	77.1	13	......	1	......	6	......	1	1	8	8421	13552	5	2.63	66.8
Fort Stevenson *b*	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.15	715.0	......	......	27.8	—2.3	81.8	4	......	10	......	3	2	7	1	1	6441	10366	4	0.60	15.2
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	......	......	......	......	49.5	9.7	51.7	......	4	10	7	3	5	......	1	......	......	......	3	0.97	24.6
Fredericksburg *a*	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.24	717.3	29.78	756.4	57.4	14.1	75.2	4	3	4	6	4	......	1	4	3	5775	9294	6	2.13	54.1
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	29.97	761.2	30.02	762.5	64.9	18.3	81.9	1	2	2	6	12	2	3	2	......	8214	13219	5	4.76	120.9
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.34	745.2	30.01	762.2	35.3	1.8	83.0	3	3	1	4	2	2	5	6	4	5674	9131	5	1.89	48.0
Hatteras	N. 35 14	W. 75 30	7.05 a.m.	19	6	29.96	761.0	29.98	761.5	50.3	10.2	81.3	2	7	6	6	1	......	2	6	......	12670	20390	6	6.88	174.8
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.75	654.0	......	......	44.4	6.9	60.6	11	1	1	1	7	1	......	......	8	5301	8528	4	1.55	39.4
Henrietta *d*	N. 33 42	W. 98 00	5.36 a.m.	980	300	28.96	735.6	29.89	759.2	52.4	11.3	71.7	1	5	......	1	5	6	1	5	2	6979	11231	5	4.87	123.7
Indianapolis	N. 39 47	W. 86 05	6.24 a.m.	753	229	29.19	741.4	29.98	761.5	42.6	5.9	70.7	6	4	7	1	2	2	3	5	......	4415	7105	5	2.60	66.0
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.97	761.2	29.99	761.7	65.4	18.6	81.3	3	......	2	......	15	5	......	3	2	10382	16708	7	3.29	83.6
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.81	731.8	29.93	760.2	51.8	12.7	66.4	5	3	......	5	5	4	2	4	2	6805	10951	4	2.36	59.9
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.02	762.5	30.07	763.8	62.2	16.8	72.4	1	3	5	11	6	2	2	......	......	6657	10714	3	4.57	116.1
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.35	745.7	30.02	762.5	41.6	5.3	78.9	3	6	4	2	1	3	6	3	2	6131	9867	7	3.12	79.2
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.05	763.5	30.10	764.5	72.0	22.2	74.4	8	2	......	2	2	3	8	4	1	6168	9926	3	4.99	126.7
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	29.97	761.2	29.99	761.7	48.1	8.9	75.4	3	7	4	6	1	2	1	6	......	11447	18422	6	4.97	126.2
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.02	737.1	30.03	762.7	47.9	8.8	77.5	2	5	9	4	......	1	2	6	1	5067	8154	7	2.99	75.9
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.27	743.4	30.02	762.5	38.3	3.5	71.0	7	3	1	2	6	7	......	3	1	5258	8462	5	1.35	34.3
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.07	662.2	30.22	767.6	46.8	8.2	55.1	1	3	2	......	......	1	......	......	23	2405	3870	2	0.09	2.3
Laredo	N. 27 32	W. 99 26	5.30 a.m.	460	135	29.50	719.3	29.84	757.9	65.5	18.6	83.1	4	......	......	......	3	15	......	5	3	4000	6437	4	2.53	64.3
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.15	740.4	30.01	762.2	43.3	6.3	72.9	5	7	......	......	3	5	3	4	3	6631	10671	6	1.86	47.2
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.18	741.2	29.83	757.7	46.1	7.8	62.8	......	......	5	2	2	3	12	2	4	2271	3655	5	2.60	66.0
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.59	751.1	30.01	762.2	53.8	12.1	80.0	4	2	3	1	4	3	3	4	6	4719	7594	5	1.94	49.3
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.64	752.8	30.00	762.0	54.5	12.5	84.1	2	1	2	2	2	5	2	5	9	3794	6105	6	0.46	11.7
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.12	717.3	29.99	761.7	47.1	8.4	75.4	6	5	6	......	5	1	2	4	1	6287	10118	6	3.45	87.6
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.28	743.7	29.96	761.0	49.0	9.4	67.6	......	5	1	4	2	......	......	2	16	2516	4049	5	2.14	54.4
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.00	736.6	30.02	762.5	33.7	0.9	77.6	4	6	3	3	3	2	5	4	......	6228	10023	6	1.50	38.1
Marquette	N. 46 33	W. 87 35	6.19 a.m.	673	205	29.29	744.0	30.02	762.5	32.1	0.1	64.0	2	7	11	......	1	2	2	2	3	5429	8737	3	0.52	13.2
Mason *d*	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.33	719.6	30.08	764.0	57.0	13.9	79.9	2	3	3	1	3	7	1	3	3	6110	9833	5	2.95	74.9
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.59	751.1	30.04	763.0	53.9	12.2	78.8	1	3	3	4	4	4	3	3	5	3977	6400	6	5.74	145.8
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.27	743.4	30.02	762.5	35.4	2.4	78.4	8	6	7	1	......	......	......	2	6	6049	9735	5	0.78	19.8
Mobile	N. 30 42	W. 87 59	6.16 a.m.	69	21	30.00	762.0	30.07	763.8	60.0	15.6	82.5	8	5	3	1	7	4	......	2	......	6294	10129	5	9.21	233.9
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.84	757.9	30.08	764.0	55.8	13.2	75.9	3	7	4	7	6	3	......	......	......	4773	7681	5	4.52	114.8
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.02	737.1	30.02	762.5	26.5	—3.1	80.3	7	5	......	3	7	3	1	2	2	7579	12197	4	0.77	19.6
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	28.96	735.6	29.96	761.0	45.0	7.2	74.1	1	1	3	4	......	......	3	3	15	4280	6888	8	2.30	58.4
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6272	1902	23.35	593.1	29.71	754.6	14.3	—9.8	75.7	2	20	2	3	......	1	......	2	......	25080	40352	3	5.08	129.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
U.S. Series—*Continued.*	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.49	749.0	30.03	762.7	51.3	10.7	74.5	.....	3	8	3	2	4	2	1	7	3542	5700	6	5.12	130.0
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.75	755.6	29.87	758.7	40.5	4.7	65.9	6	5	6	3	.....	1	1	8	.....	6353	10224	6	1.71	43.4
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	29.82	757.4	29.87	758.7	42.2	5.7	68.3	9	11	4	2	1	1	1	.....	1	5844	9405	4	2.23	56.6
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.00	762.0	30.06	763.5	61.8	16.6	80.6	3	2	3	6	6	4	2	2	2	6102	9820	5	3.92	99.6
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.79	756.7	29.84	757.9	39.9	4.4	70.7	8	4	10	4	1	.....	2	1	.....	7932	12765	4	2.11	53.6
New River	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	29.82	757.4	29.85	758.2	40.4	4.7	71.8	1	12	3	3	2	1	.....	7	1	10803	17472	4	1.91	48.5
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.73	755.1	29.91	759.7	41.9	5.5	72.4	4	6	9	3	.....	2	1	5	.....	6566	10567	6	1.00	25.4
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	29.91	759.7	29.97	761.2	48.6	9.2	73.3	4	7	3	6	3	1	1	4	1	7187	11565	6	4.06	103.1
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.68	687.8	29.70	754.4	37.8	3.2	79.7	6	8	3	2	1	3	4	3	.....	10590	17043	6	0.87	22.1
Olympia	N 47 02	W. 122 50	3.50 a.m.	36	11	29.68	761.5	30.02	762.5	44.1	6.7	90.8	5	2	2	5	13	1	1	1	.....	3257	5242	7	4.93	125.2
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.89	733.8	30.01	762.2	38.1	3.4	80.5	8	6	.....	.....	7	3	3	1	2	8185	13172	7	4.23	107.4
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.57	751.1	29.90	759.4	38.2	3.4	69.2	5	5	10	2	1	2	2	3	.....	6362	10238	4	1.19	30.2
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.04	763.0	30.07	763.8	60.2	15.7	85.3	6	4	6	5	5	2	1	1	.....	6279	10105	4	4.53	115.1
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	29.87	758.7	29.92	760.0	44.0	6.7	68.6	6	8	6	1	.....	1	2	7	.....	8514	13702	6	0.61	15.5
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.82	732.0	30.63	778.0	53.7	12.1	56.2	.....	1	1	1	1	3	21	.....	2	2064	3321	3	1.10	27.9
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.74	450.6	29.95	760.7	14.2	−9.9	69.4	1	11	6	10	.....	.....	.....	2	.....	13503	21730	4	4.64	117.9
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.00	609.6	29.77	756.1	43.5	6.4	48.8	.....	9	5	2	11	1	.....	.....	2	4926	7928	3	1.08	27.4
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.14	740.1	29.96	761.0	41.0	5.0	76.7	1	11	4	6	2	.....	1	4	1	4636	7461	5	1.81	146.0
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.00	763.5	30.07	763.8	63.7	17.6	90.6	1	2	6	1	2	5	2	1	1	5321	8563	3	7.18	82.4
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.31	744.5	29.99	761.7	33.5	0.8	78.8	8	5	6	1	3	1	.....	6	.....	6586	10599	5	0.76	19.3
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.73	755.1	29.78	756.4	40.1	4.5	61.4	3	11	9	1	2	2	.....	2	.....	6652	10705	4	1.43	36.3
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	29.98	761.5	30.06	763.5	48.9	9.4	84.0	2	7	3	1	8	5	1	.....	3	4200	6759	8	3.51	89.2
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	51.2	10.7	83.6	.....	10	2	8	1	1	.....	8	.....	12886	20738	6	4.70	119.4
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.74	628.4	30.10	764.5	41.6	5.3	60.7	.....	.....	2	7	16	1	.....	.....	4	5278	8494	2	0.67	17.0
Punta Rasa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.05	763.3	30.07	763.8	65.8	18.8	75.7	4	4	1	.....	2	4	7	8	.....	7879	12680	3	0.54	13.7
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.62	752.3	29.97	761.2	54.9	12.7	84.1	8	11	.....	3	4	3	.....	.....	1	3734	6009	3	1.83	46.5
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.76	755.9	29.98	761.5	60.0	18.9	81.3	3	1	.....	.....	.....	14	5	1	6	6945	11177	5	2.12	53.8
Rochester	N. 43 08	W. 77 51	6.58 a.m.	589	179	29.28	743.7	29.91	759.7	37.7	3.2	73.3	1	3	19	1	.....	3	2	1	.....	5289	8512	5	1.15	29.2
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.50	749.3	30.08	764.0	47.4	8.6	87.1	1	3	3	3	1	2	2	2	13	2271	3655	6	1.07	27.2
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.92	760.0	30.00	762.0	53.7	12.1	88.7	1	.....	1	3	8	15	1	.....	1	4787	7704	3	1.64	41.7
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.45	748.0	30.03	762.7	44.3	6.8	78.3	5	8	1	1	3	6	3	3	.....	7232	11638	6	3.14	79.8
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.15	740.4	30.00	762.0	30.0	2.2	72.9	4	8	3	2	....	7	3	2	1	6168	9926	5	0.47	11.9
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.14	740.1	29.98	761.5	23.9	−4.5	86.4	.....	11	3	3	5	4	1	2	1	6898	11101	5	0.81	20.6
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.60	650.2	29.93	760.2	40.9	8.3	53.6	6	.....	.....	.....	1	7	.....	3	14	3174	5108	5	2.37	60.2
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	676	206	29.29	744.0	29.99	761.7	59.9	15.5	82.3	2	.....	.....	.....	.....	3	1	3	21	3442	5539	6	3.25	82.5
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.89	759.2	29.96	761.0	57.1	13.9	80.8	4	1	2	1	2	3	2	4	11	4249	6838	8	1.35	34.3
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.30	744.2	29.99	761.7	39.4	4.1	76.2	4	4	8	2	5	.....	1	5	1	9150	14725	4	2.47	62.7
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	34	10	29.88	758.9	29.91	759.7	41.9	5.5	77.2	4	9	7	1	1	4	1	2	1	9123	14682	5	1.41	35.8
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.96	761.0	30.03	762.7	53.7	12.1	83.0	1	4	12	8	2	.....	.....	.....	3	6337	10198	5	2.00	50.8
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7049	2148	23.25	590.5	29.79	756.7	42.2	5.7	49.4	6	2	1	3	1	3	9	3	2	4900	7886	3	0.58	24.9
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.90	761.0	30.05	763.3	59.0	15.0	73.2	.....	4	7	9	3	.....	3	4	.....	6370	10251	5	3.32	84.3
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.78	756.4	30.03	762.7	58.2	14.6	82.1	4	2	2	3	4	2	3	2	8	4126	7445	5	2.81	71.4
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.23	615.4	30.43	772.9	44.6	7.0	51.4	11	10	1	.....	1	.....	.....	.....	7	2975	4788	2	0.48	12.2
Sitka	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5924	9534	.....	4.21	106.9
Smithville	N. 33 55	W. 78 01	6.56 a.m.	33	10	29.98	761.5	30.02	762.5	52.6	11.4	89.0	10	5	3	7	3	.....	.....	1	1	7350	11893	5	4.76	120.9
Socorro	N. 34 05	W. 106 55	5.01 a.m.	4505	1391	25.36	644.1	29.43	747.5	47.0	8.3	31.2	1	2	4	3	4	3	.....	5	8	5822	9369	4	0.23	5.8
Spokane Falls, W. T.	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.96	710.2	29.82	757.4	40.6	4.8	77.1	2	3	.....	8	6	2	1	3	5	4780	7692	5	1.20	30.5
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.35	745.5	30.04	763.0	42.5	5.8	76.6	5	6	3	1	3	3	4	5	.....	5959	9590	6	1.96	49.8
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.73	755.1	29.87	758.7	42.2	5.7	68.7	10	2	9	....	5	1	.....	3	.....	4707	7672	6	2.49	63.2
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	26.92	683.8	29.92	760.0	52.7	11.5	69.5	1	1	4	2	16	2	.....	....	4	7008	11374	4	0.46	11.7
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.76	755.9	29.82	757.4	39.2	4.0	77.8	5	6	10	2	1	1	1	4	.....	10832	17442	5	1.56	39.6
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.29	744.0	29.99	761.7	39.9	4.4	78.3	5	6	9	2	2	.....	.....	3	8	5605	9117	5	1.76	44.7
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.50	698.5	30.05	763.3	55.1	12.8	51.7	1	.....	1	7	5	14	2	.....	.....	2683	4318	1	0.62	15.7
Umatilla	N 45 55	W. 119 21	4.11 a.m.	340	103	29.68	753.9	30.18	766.0	47.2	8.4	77.8	3	1	6	6	2	7	3	2	.....	6763	10884	6	0.89	22.6
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	28.99	730.3	29.80	756.9	59.3	15.2	74.1	2	3	.....	.....	5	11	3	1	5	3108	5002	5	2.39	60.7
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.80	756.9	30.06	763.5	57.7	14.3	74.9	3	2	1	1	6	11	3	1	2	5775	9294	5	1.48	37.6
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.59	751.6	29.96	761.0	54.2	12.3	84.4	.....	14	2	1	1	7	.....	1	4	2424	3901	3	0.86	21.8
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	29.85	758.2	29.96	761.0	45.3	7.4	76.3	2	10	5	2	5	.....	.....	5	1	4064	7506	5	2.08	52.8
Wickenburg	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	49.9	9.9	62.5	1	4	1	1	2	.....	1	1	16	.....	.....	5	0.70	17.8
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	29.95	760.7	30.01	762.2	53.2	11.8	71.1	4	6	4	6	1	1	1	3	4	5882	9466	5	3.47	88.1
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.60	650.2	29.96	761.0	41.4	5.2	64.5	.....	.....	.....	10	7	.....	.....	10	3	6553	9741	2	1.04	26.4
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	29.79	756.7	29.83	757.7	40.0	4.4	75.7	4	12	2	5	.....	3	1	1	2	10743	17289	5	2.12	53.8
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.70	730.5	30.10	764.5	33.7	0.9	81.1	1	8	2	3	6	.....	5	5	.....	6632	10673	5	2.49	63.2
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.74	755.4	29.89	759.2	60.8	16.0	66.9	1	4	1	5	.....	2	2	2	13	3912	6296	1	0.55	14.0
Sub-Series.																										
Bo ota	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.11	561.6	.....	.....	53.7	12.1	84.5	.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	8	9.85	250.2
Buff Bay Town, Jam.	N. 18 15	W. 76 39	7.01 a.m.	?	?	.....	.....	.....	.....	.....	.....	83.5	.....	1	2	1	.....	1	23	.....	.....	.....	.....	3	.....	.....
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.03	762.7	30.08	764.0	74.1	23.4	67.7	4	1	.....	.....	1	.....	.....	1	20	.....	.....	3	0.48	12.2
Jakobshavn	N. 69 13	W. 50 55	8.44 a.m.	43	13	29.77	756.1	29.79	757.6	31.1	−0.5	.....	3	.....	3	3	4	1	.....	.....	16	.....	.....	5	0.48	12.1
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.03	762.7	30.04	763.0	77.8	25.4	71.3	9	.....	.....	.....	.....	.....	1	.....	20	.....	.....	4	1.30	33.0
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.94	760.5	30.02	762.5	70.0	24.4	74.1	2	.....	.....	.....	.....	.....	10	18	.....	.....	.....	9	1.09	27.7
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	0	2	30.01	762.2	30.01	762.2	79.1	26.2	84.7	.....	.....	.....	.....	.....	1	27	2	.....	.....	.....	8	8.50	215.9
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.45	748.0	30.01	762.2	77.7	25.4	88.2	1	.....	.....	.....	1	.....	.....	.....	28	.....	.....	9	18.34	465.8
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	75.9	24.4	.....	.....	1	.....	1	.....	17	3	8	.....	.....	.....	3	0.12	3.0
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.04	763.0	30.06	763.5	77.2	25.1	72.1	13	1	1	.....	1	1	.....	2	11	.....	.....	4	2.08	52.8
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	110	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory	N. 57 02	W. 92 56	5.58 a.m.	45	14	29.98	761.5	30.04	763.0	5.6	−14.7	87.2	5	7	2	7	6	1	1	1	.....	.....	.....	5	0.23	5.8

The following table of Ocean Square mean data, from observations taken at 7 A. M. Washington or 0.08 P. M. Greenwich mean time, is computed from the isobars, isotherms and wind directions of the daily international charts, which latter are based upon the data obtained from the logs of vessels for the month of APRIL, 1881.

OCEAN SQUARE BOUNDED BY—	BAROMETER.		TEMPERATURE.		PREVAIL'G WIND.	FORCE 0-10
	INCH.	MILL.	FAH.	CENT.		
° ° ° °						
N. 30 & 35 W. 10 & 15	30.02	762.5	65.8	18.8	SW	3.0
35 40 10 15	29.95	760.7	62.7	17.1	W	3.7
35 40 15 20	29.98	761.5	63.0	17.2	W	3.5
30 35 15 20	30.02	762.5	64.9	18.3	W	2.6
40 45 10 15	29.85	758.2	57.3	14.1	SW	3.6
45 50 10 15	29.87	758.7	55.6	13.1	NE	4.3
45 50 15 20	29.85	758.2	55.4	13.0	E	4.4
40 45 15 20	29.87	758.7	57.5	14.2	SW	4.1
50 55 10 15	29.93	760.2	51.5	10.8	NE	4.3
55 60 10 15	29.97	761.2	47.2	8.4	SE	4.0
55 60 15 20	29.93	760.2	47.2	8.4	N;E	4.3
50 55 15 20	29.90	759.4	55.1	12.8	SW;E	4.9
10 15 20 25	30.01	762.2	79.9	26.6	NE	3.9
15 20 20 25	30.04	763.0	77.5	25.3	NE	3.9
15 20 25 30	30.06	763.5	76.6	24.8	NE	3.7
10 15 25 30	30.03	762.7	78.7	25.9	NE	3.7
20 25 20 25	30.04	763.0	72.5	22.5	NE	3.5
25 30 20 25	30.05	763.3	70.2	21.2	NE	3.5
25 30 25 30	30.05	763.3	69.1	20.6	NE	3.5
20 25 25 30	30.06	763.5	72.4	22.4	NE	3.6
30 35 20 25	30.04	763.0	65.0	18.3	W	3.2
35 40 20 25	30.02	762.5	62.1	16.7	W	3.7
35 40 25 30	30.04	763.0	61.8	16.6	W	3.7
30 35 25 30	30.08	764.0	64.8	18.2	W	3.7
40 45 20 25	29.91	759.7	57.7	14.3	NE	4.1
45 50 20 25	29.84	757.9	55.8	13.2	E	4.8
45 50 25 30	29.82	757.4	53.9	12.2	SW	5.0
40 45 25 30	29.91	759.7	57.5	14.2	SW	4.6
50 55 20 25	29.85	758.2	51.6	10.9	SW	4.6
55 60 20 25	29.86	758.4	47.1	8.4	NE	4.3
55 60 25 30	29.82	757.4	47.4	8.6	N;E	4.3
50 55 25 30	29.79	756.7	51.5	10.8	SW	4.7
20 25 30 35	30.05	763.3	71.2	21.8	NE	3.6
25 30 30 35	30.04	763.0	67.9	19.9	NE	3.4
25 30 35 40	30.03	762.7	67.3	19.6	NE	3.4
20 25 35 40	30.02	762.5	71.3	21.8	NE	3.5
30 35 30 35	30.02	762.5	64.0	17.8	W	3.8
35 40 30 35	29.99	761.7	60.3	15.7	W	3.8
35 40 35 40	29.95	760.7	59.3	15.2	SW	4.0
30 35 35 40	30.01	762.2	63.1	17.3	SW	3.9
40 45 30 35	29.85	758.2	56.8	13.8	SW	4.1
45 50 30 35	29.79	756.7	53.9	12.2	SW; SE	4.6
45 50 35 40	29.74	755.4	52.4	11.3	SW	5.0
40 45 35 40	29.83	757.7	55.2	12.9	SW	4.8
50 55 30 35	29.75	755.6	48.9	9.4	SW; SE	4.4
55 60 30 35	29.77	756.1	45.0	7.2	NE	4.2
55 60 35 40	29.74	755.4	44.0	6.7	SW	4.2
50 55 35 40	29.71	754.6	48.9	9.4	SW	4.3
20 25 40 45	30.05	763.3	71.9	22.2	NE	3.6
25 30 40 45	30.03	762.7	67.7	19.8	NE	3.5
25 30 45 50	30.03	762.7	67.6	19.8	NE	3.6

OCEAN SQUARE BOUNDED BY—	BAROMETER.		TEMPERATURE.		PREVAIL'G WIND.	FORCE 0-10
	INCH.	MILL.	FAH.	CENT.		
° ° ° °						
N. 20 & 25 W. 45 & 50	30.05	763.3	72.1	22.3	NE	3.6
30 35 40 45	29.97	761.2	61.5	16.4	SW	3.8
35 40 40 45	29.87	758.7	58.7	14.8	SW	4.3
35 40 45 50	29.85	758.2	57.0	13.9	W	4.3
30 35 45 50	29.92	760.0	60.8	16.0	SW	4.2
40 45 40 45	29.74	755.4	52.1	11.2	SW	5.0
45 50 40 45	29.67	753.6	48.4	9.1	W	4.9
45 50 45 50	29.65	753.1	43.6	6.4	SW	5.1
40 45 45 50	29.68	753.9	47.0	8.3	SW	4.9
50 55 40 45	29.68	753.9	42.8	6.0	SE	4.0
55 60 40 45	29.69	754.1	40.5	4.7	NW; SE	3.9
55 60 45 50	29.66	753.4	38.7	3.7	W	3.9
50 55 45 50	29.64	752.8	39.0	3.9	SW	4.0
20 25 50 55	30.04	763.0	71.7	22.1	NE	3.4
25 30 50 55	30.02	762.5	65.5	18.6	NE	3.6
25 30 55 60	30.02	762.5	70.3	21.3	NE	3.4
20 25 55 60	30.05	763.3	73.9	23.3	NE	3.5
30 35 50 55	29.90	759.4	60.9	16.1	SE	4.2
35 40 50 55	29.82	757.4	56.8	13.8	SE	4.4
35 40 55 60	29.80	756.9	57.4	14.1	NW	4.6
30 35 55 60	29.91	759.7	62.0	16.7	SW	4.6
40 45 50 55	29.66	753.4	43.9	6.6	SW	4.6
40 45 55 60	29.67	753.6	42.1	5.6	W	4.7
20 25 60 65	30.07	763.8	74.9	23.8	SE; NE	3.3
25 30 60 65	30.02	762.5	71.3	21.8	SE	3.8
25 30 65 70	30.02	762.5	72.5	22.5	SW	4.3
20 25 65 70	30.06	763.5	76.1	24.5	SW; SE	3.9
30 35 60 65	29.94	760.5	64.2	17.9	W	4.3
35 40 60 65	29.83	757.7	57.5	14.2	NW	4.4
35 40 65 70	29.85	758.2	57.7	14.3	W; NW	5.0
30 35 65 70	29.94	760.5	63.8	17.7	W; SW	4.7
40 45 60 65	29.70	754.4	39.7	4.3	NW	4.2
40 45 65 70	29.72	754.9	38.5	3.6	W	4.1
25 30 70 75	30.06	763.5	71.7	22.1	SE	3.0
25 30 75 80	30.07	763.8	71.4	21.9	SE	2.5
30 35 70 75	29.98	761.5	61.2	16.2	NW	3.1
35 40 70 75	29.90	759.4	51.8	11.0	NW	4.4
30 35 75 80	30.00	762.0	58.2	14.6	SW	3.2

The following table shows the position of Ocean Squares, the total number of observations and the number of days on which observations were taken for each square during the month of APRIL, 1881.

OCEAN SQUARE BOUNDED BY—	NO. DAYS.	NO. OBS.
° ° ° °		
N. 5 & 10 W. 25 & 30	1	1
5 10 30 35	1	1
10 15 50 55	1	1
10 15 55 60	15	17
10 15 60 65	5	5
15 20 45 50	3	3
15 20 50 55	1	1
15 20 55 60	2	2
15 20 60 65	18	21
15 20 65 70	6	6
20 25 25 30	3	3
20 25 30 35	1	1
20 25 35 40	2	2
20 25 40 45	3	3
20 25 60 65	6	6
20 25 65 70	5	5
20 25 70 75	9	9
25 30 20 25	4	4
25 30 30 35	1	1
25 30 35 40	1	1
25 30 50 55	3	3
25 30 55 60	2	2
25 30 60 65	3	3
25 30 65 70	3	3
25 30 70 75	7	7

OCEAN SQUARE BOUNDED BY—	NO. DAYS.	NO. OBS.
° ° ° °		
N. 25 & 30 W. 75 & 80	5	6
30 35 5 10	1	1
30 35 10 15	3	3
30 35 15 20	5	5
30 35 35 40	2	2
30 35 45 50	1	1
30 35 50 55	2	2
30 35 60 65	1	1
30 35 65 70	15	17
30 35 70 75	5	5
30 35 75 80	7	9
35 40 5 10	7	7
35 40 15 20	4	6
35 40 30 35	2	2
35 40 40 45	3	3
35 40 45 50	1	1
35 40 50 55	2	2
35 40 55 60	2	4
35 40 60 65	6	8
35 40 65 70	10	11
35 40 70 75	17	27
40 45 10 15	2	4
40 45 25 30	3	3
40 45 30 35	3	3
40 45 35 40	4	4

OCEAN SQUARE BOUNDED BY—	NO. DAYS.	NO. OBS.
° ° ° °		
N. 40 & 45 W. 40 & 45	6	7
40 45 45 50	17	21
40 45 50 55	15	23
40 45 55 60	14	17
40 45 60 65	18	28
40 45 65 70	12	13
45 50 5 10	11	12
45 50 10 15	7	9
45 50 15 20	12	15
45 50 20 25	12	22
45 50 25 30	11	14
45 50 30 35	15	23
45 50 35 40	16	20
45 50 40 45	13	17
45 50 45 50	4	4
45 50 50 55	1	1
45 50 55 60	9	9
50 55 10 15	10	12
50 55 15 20	12	16
50 55 20 25	11	12
50 55 25 30	3	3
50 55 35 40	1	1
55 60 10 15	1	1

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k. cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms. At Hobart Town the barometer is given in English inches reduced to sea-level. The movement of the air is indicated in pounds pressure per square foot. The kind of clouds is given and indicated by abbreviating the English nomenclature.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.25 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation. At Oxford, on April 1st, the elevation of barometer cistern changes from 232 feet or 70 meters, to 212 feet or 64 meters.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. The movement of the air is indicated by the Beaufort scale, except at St. Pierre, where it is given on a scale of 0 to 7. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San Jose the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Cassel, on April 1st, the elevation of the barometer cistern changes from 561 feet or 171 meters, to 669 feet or 204 meters.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air, except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters. At Buff Bay Town, Jamaica, observations are taken at 7.30 a. m., local time.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

BRITISH MERCHANT-MARINE SERIES.—Same as the Naval, except that frequently the direction of the wind is given to the true meridian.

GERMAN MERCHANT-MARINE SERIES.—Same as U. S. Naval.

SWEDISH MERCHANT-MARINE SERIES.—Same as Swedish Naval.

UNITED STATES MERCHANT-MARINE SERIES.—Same as U. S. Naval.

ERRATA.

DAILY BULLETIN, APRIL 1881.—1st, page 3, German Series, Memel rain-fall 0.0 should be ——, make similar correction for entire month.

2d, page 8, H. M. S. Coquette, Beirut, Lyria should read, Beirut, Syria.

3d, page 12, Miscellaneous, Schr. Annie R. Lewis, Force 9, should read 6.

4th, page 8, H. M. S. Druid, S. 31° 46′, should read N. 31° 46′.

6th, page 11, Ship Iron Cross, N. 40° 58′, should read S. 40° 58′.

7th, page 8, H. M. S. Bittern, Chios, Indian Archipelago, should read Chios, Grecian Archipelago; similar correction to be made on 8th, 9th, 10th, 11th, 12th and 13th.

9th, page 5, Russian Series, Astrakhan, barometers reversed, should read, actual barometer 29.99 inches 761.7 m. m., reduced barometer 29.91 inches 759.7 m. m.

11th, page 5, Russian Series, the following imperfections in printing are noted; Ekaterinburg, reduced barometer should read 764.2 m. m., Nertchinsk, reduced barometer 768.1 m. m., Nikolaiev, actual barometer, 768.6 m. m., Tiflis, reduced barometer 760.5 m. m. Spanish Series, Madrid reduced barometer 765.4 m. m., San Fernando, actual barometer 756.0 m. m., reduced 758.5 m. m.

12th, page 2, Canadian Series, Kingston reduced barometer, 701.0 m. m., should read 761.0 m. m. Page 3, French and German Series, the second figure of reduced millimeter barometer should be a 6 throughout the entire column. The actual barometer in the following stations also contain illegible sixes; Brest should read 29.63 inches, Clermont 28.63 inches, Cluny 29.16 inches, Montlouis 24.76 inches, Rochefort 761.0 m. m., Rodez 706.6 m. m. In the German Series, the actual barometer at Berlin should read 760.8 m. m., Breslau 29.65 inches, Frankfort 29.69 inches, Hamburg 762.4 m. m., Magdeburg 756.1 m. m., Wustrow 766.2 m. m.

16th, page 5, Norwegian Series, at Gjæsvær the weather should be —— and the word "snowing" appear opposite Lodingen.

18th, page 5, Russian Series, Wilna, reduced barometer 29.05 inches, should read 30.05 inches.

20th, page 2, Canadian Series, Parry Sound reduced barometer 764.0 m. m., should read 764.5 m. m.

21st, page 10, U. S. Naval, Powhatan, temperature Fahrenheit 49°, should be 45°.

23rd, page 2, British Series, Cardington reduced barometer should read 30.01 inches.

25th, page 2, Canadian Series, Fort Garry rain-fall 3.4 m. m., should read 9.4 m. m. Page 3, German Series, Bamberg rain-fall 0.0 should be ——, same correction for Berlin. Page 4, Indian Series, temperature Centigrade 58.7°, should read 38.7°.

26th, page 4, Japanese Series, at Kioto the weather should not be queried.

28th, page 5, Scottish Series, North Unst rain-fall 0.0, should be ——, same correction on 29th and 30th. Page 6, Keokuk rain-fall 0.00 inches, should be 0.09 inches.

MONTHLY SUMMARY, MARCH, 1881, 2nd, page, Canadian Series, Saugeen W. 80°21′ should read W. 81°21′. French Series, Pic-du-Midi E. 0°08′ should be W. 0°08′. Page 3, Indian Series, Nagpur, E. 71°11′, 4.52 p.m., should read E. 79°05′, 5.24 p. m. Sibsagar, E. 94°40′, 6.27 p. m., should read E. 91°40′, 6.15 p. m. Italian Series, Genoa, E. 8°30′, 0.44 p. m., should read E. 8°55′, 0.44 p. m. Page 4, Swedish Series, Haparanda, E. 23′ 15′, 1.41 p. m., should read E. 24°03′, 1.44 p. m. Page 5, Burlington, Vt., N. 40°49′, W. 91°07′, should read N. 44°29′, W. 73° 13′. Cedar Keys, N. 28°12′, should read N. 29° 12′. Chincoteague, W. 77°20′, should read W. 75°20′. Florence, elevation of barometer cistern 1490 feet or 454 meters, should read 1480 feet or 451 meters. Eagle Rock, elevation of barometer cistern 4781 feet or 1457 meters, should read 4650 feet or 1417 meters. Fort St. Michael, W. 161°00′, 1.24 a. m., should read W. 162°00′, 1.20 a. m. Jacksonville, W. 80°40′, should read W. 81°40′. Lewiston, elevation of barometer cistern 619? feet, or 188? meters, should read 780 feet or 238 meters. Los Angeles, W. 188°16′, should read W. 118°16′. Page 6, Prescott, W. 112°31′, should read W. 112°13′, elevation of barometer cistern 5300 feet or 1615 meters, should read 5340 feet or 1628 meters. Spokane Falls, elevation of barometer cistern 1200? feet or 366? meters, should read 1910 feet or 582 meters. Heading of page 6, "Result of Simultaneous observations for February, 1881," should read March 1881.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.

PREVAILING WINDS.

Arrows show the direction of and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
O	0	0	0
	1, 2	0 to 9	0 to 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

BRIG. & BVT. MAJ. GEN'L.

CHIEF SIGNAL OFFICER, U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *black*; detached barometer means in English inches.

Isotherms in *red*; detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of April 1881, based on the daily charts of the International Bulletin.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF MAY, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
JUNE, 1882.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MAY, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for May, 1881. 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.
Algerian Series.	° ′	° ′																								
Mogador ‡	N. 31 30	W. 9 44	11.29 a.m.	56	17			30.06	763.4	70.5	21.4	78.0			1	7			1	20	2			2	0.08	2.0
Nemours ‡	N. 35 06	W. 1 51	12.01 p.m.	20	6			30.01	762.2	70.9	21.6	88.1	6	4	6	5	4		2	4				2	0.26	6.7
Algiers ‡	N. 36 47	E. 3 04	0.20 p.m.	325	99			30.05	763.2	69.1	20.6	65.3	8	3	6	2	1		1	10				3	1.44	36.7
La Calle ‡	N. 36 54	E. 8 26	0.42 p.m.	36	11			30.04	763.0	68.9	20.5	73.6	5	10	2	2	1	2	3	6				4	1.78	45.2
Tunis ‡	N. 36 47	E. 10 11	0.49 p.m.	46	14			30.03	762.7																	
Sfax ‡	N. 34 45	E. 10 36	0.50 p.m.	?	?			30.11	764.7																	
Saida ‡	N. 34 51	E. 0 10	0.09 p.m.	2844	867			30.06	763.5	70.3	21.3	50.3	9	8	5	1	2		3	3				6	1.56	39.5
Tebessa ‡	N. 35 24	E. 8 06	0.40 p.m.	2890	881			30.08	764.0	64.8	18.2	47.1	3	2	9	2	1	3			11			6	4.43	112.6
Geriville ‡	N. 33 45	E. 1 10	0.13 p.m.	4285	1306																					
Laghouat ‡	N. 33 48	E. 2 51	0.19 p.m.	2556	770			30.07	763.7	73.9	23.3	32.6	10	2	5		10		4					1	2.20	56.0
Biskra ‡	N. 34 51	E. 5 40	0.31 p.m.	410	125			30.06	763.5																	
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.99	761.7	30.08	764.0	55.6	13.1	79.2	14	4	1	3	3	2	1	3				6	1.99	50.5
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 47	E. 15 53	1.12 p.m.	536	163	29.44	747.7	29.97	761.2	66.0	18.9	51.7	1	2	2	4		7	4	9	2			5	0.89	22.6
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.20	743.2	30.01	762.2	61.9	16.6	62.1	5	6	3	3	1	1	9	3				7	2.12	53.8
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.09	738.8	29.95	760.7	64.0	17.8	53.1	18				2	4			7			6	2.60	65.9
Gratz ‡	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.75	730.2	29.97	761.2	64.0	17.8	54.4	1	4	4	6	8	3	1	4				4	0.35	8.8
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.50	723.9	29.89	759.3	66.0	18.9	60.2	5	6			7	5	4	4				6	6.80	172.6
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1260	384	28.68	728.4	30.00	762.1	59.4	15.2	67.7	5		3	9	3			10	1			5	11.58	294.1
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.99	736.3	29.93	760.1	62.4	16.9	61.4		7		5		8	2	9				6	1.41	35.8
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.88	759.0	29.99	761.8	66.6	19.2	55.8		4	7	1		9	8	2				4	1.78	45.1
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.47	748.4	29.91	759.8	68.9	20.5	52.2	5	11	3	2	3	2	1	4				4	2.29	58.1
Szegedin	N. 46 15	E. 36 49	2.35 p.m.	256	78	29.67b	753.5b	29.95b	760.6b	65.7	18.7	61.6b	5a	4	3	5	3	2	2		6			5	3.82	97.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.91	759.6	30.01	762.3	67.5	19.7	48.8		4		1		2	3	11	10			5	2.41	61.2
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.32	744.7	30.06	763.4	62.2	16.8	56.4	4	10	4		1	7	4	1				5	3.81	96.7
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57																					
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6																					
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35																					
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	86	26	29.94	760.5	30.04	763.0	51.6	10.9	69.3	1	2	1	1	5	12	5	4				5	2.55	64.8
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63			30.05	763.3	56.7	13.7	71.1	2	2	2	11	3	3	2	6				5		
Bidston	N. 53 24	W. 3 04	11.58 a.m.	180	85			30.00	763.5	56.5	13.6	62.8	1	4	12	4	3	2	3	2				5		
Bolton	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.52	749.8	30.05	763.3	57.8	14.3	63.8	2	2	8	2	6	4	4	3				6		
Bradford	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.65	753.1	30.05	763.3	57.2	14.0	60.9		3	5	5	2	4	3	4				4	8.78	223.0
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.91	759.7	29.94	760.5	84.8	29.3	70.1						5	1	25				5		
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33			30.07	763.8	63.6	17.6	61.6	5	7	4	6		3	2	4				5		
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.99	761.7	30.12	765.0	58.9	14.9	66.2	3	1	4	9	1	1	4	8				6		
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.91	759.7	30.14	765.5	57.2	14.0	67.8		5	3	9	2	4	8					5		
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.60	701.0	29.82	757.4	71.1	21.7	69.6		1	2	3	1	3	2	10	9			1		
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.60	751.8	29.83	757.7	88.0	31.1	86.5		9	9	8		2	1	2				3		
Galway	N. 53 15	W. 9 03	11.32 a.m.	25	8			29.92b	760.0b	59.8	15.4	71.8	1	3	18	6	1	1	1					6	2.72	69.1
Gibraltar	N. 36 06	W. 5 21	11.47 a.m.	50	15	30.01	762.2	30.06	763.5	70.2	21.2	82.3			7	6			7	11				3		
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.75	755.6	29.95	760.7	56.0	13.3	62.4	2		2	9	3	2	5	8				7		
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.93	760.2	30.10	764.5	61.4	16.3	60.7	5	3		11	2		4	6				6		
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.89	759.2	30.11	764.8	55.4	13.0	77.3	1	3	3	6	4	2		12				4		
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.07	763.8	30.11	764.8	60.3	15.7	54.3	5	3	1	10	2		5	5				6		
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.82	757.4	30.07	763.8	60.2	15.7	60.7	4	1	1	14	1	2		7	1			7		
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	29.91	759.7	29.98	761.5	68.2	20.1	72.7	1	7	4	1		6		12				4	1.67	42.4
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29.93	760.2	29.98	761.5	78.6	25.9	82.5	2	1	2	1	6	8	2	9				7		
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.56	750.8	30.08	764.0	58.8	14.9	65.9	7	1	2	3	10	2	1	3	2			6		
Oxford	N. 51 46	W. 1 17	0.03 p.m.	212	64	29.87	758.7	30.10	764.5	59.8	15.4	63.0	4	2	3	8	4	2	2	4	2			7		
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.05	763.3	30.12	765.0	59.8	15.4	67.7	1	3	2	10	6	3	6					5		
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29			30.02	762.5	50.7	10.4	77.2		3	5	4	5	6	5	3				5		
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.84a	757.9a	29.90a	759.4a	66.1	18.9	71.0	5	1		8	7	1		9				5		
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.81	757.2	30.09	764.3	60.6	15.9	67.8	1		1	11	3		1	12	2			6		
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	30.02	762.5	30.05	763.3	58.8	14.9	69.5		1	18	3		6	1		2			4	3.01	76.5
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110			30.07	763.8	57.2a	14.0a	62.7a		1	4	11	4		6	5				7		
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.88	758.9	30.10	764.5	62.1	16.7	57.2		2	5	9			7	8				6		
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	30.11	764.8	30.13	765.3	63.1	17.3	65.1	2	10	3	7	1	1	5	2				4		
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	30.05	763.3	30.08	764.0	58.1	14.5	67.9	1	5	6	10	1	5	3					5		

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
Canadian Series	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	4	1																					
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.06	763.5	30.10	764.5	44.6	7.0	80.5	3	4	2	2	6	3	3	7	1	4814	7747	8	2.53	64.3
Chatham	N. 47 03	W. 65 29	7.45 a.m.	50	15	30.06	763.5	30.12	765.0	44.6	7.0	81.1	5	4	3		5	1	1	7	5	3403	5476	7	4.97	126.2
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53																					
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	30	9																					
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.08	764.0	30.11	764.8	41.6	5.3	85.2	3	11		1				15	1	11400	18346	5	2.70	68.6
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	758	231	29.15	740.4	29.96	761.0	48.4	9.1	87.5	3	3	5	1	8	3	5	1	2	6263	10079	6	2.07	52.6
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18																					
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309																					
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.98	761.5	30.11	764.8	45.5	7.5	82.8	3	6	2	2	2	3	7	5	1			5	2.48	63.0
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	332	101																					
Kingston	N. 44 14	W. 76 30	7.02 a.m.	335	102	29.69	754.1	30.02	762.5	52.8	11.6	85.5	2	1	3	2	9	3	2	8	1	3632	5845	5	3.57	90.7
Little Glace Bay	N. 46 11	W. 59 58	8.08 a.m.	34	10																					
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.85	758.2	30.04	763.0	52.9	11.6	75.3	4	1	4	3	3	3	1	12				7	3.25	82.5
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9																					
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	641	195	29.36	745.7	30.05	763.3	53.1	11.7	77.0	1	2	1	2	3	4	4	6	8	4507	7253	5	3.75	95.2
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210																					
Port Hope	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.36	745.7	30.05	763.3	54.5	12.5	76.8	3	3	1	3	6	1		9	5	4650	7483	5	1.08	27.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.41	747.0	30.05	763.3	54.2	12.3	83.5	3	3	4	1	1	2	13	4				4	1.57	39.9
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.74	755.4	30.06	763.5	46.9	8.3	78.6	1	5	4				6	12	3			4	2.03	51.6
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.59	751.6	30.05	763.3	49.6	9.8	83.2	1	3	3			4	2	1	17	4914	7908	6	4.23	107.4
Sangeen	N. 44 30	W. 81 21	6.42 a.m.	641	208	29.32	744.7	30.03	762.7	54.0	12.2	80.1	6	2	2	5	4	8	3	1		5999	9654	4	1.47	37.3
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	?	?	29.02	737.1	30.07	763.8	46.4	8.0	82.2	2	5		4	2	4	6	4	4			4	8.71	221.2
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46																					
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360																					
Sydney	N. 46 08	W. 60 10	8.07 a.m.	27	8	30.08	764.0	30.12	765.0	45.3	7.4	75.1	3	3	3	6	4	2	2	6	2	4117	6626	8	3.01	76.5
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	150	29.68	753.9	30.06	763.5	54.9	12.7	78.8	4	4	2	3	1		4	5	8	5254	8455	5	2.23	56.6
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299																					
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.00	736.6	30.07	763.8	47.4	8.6	86.1	2	2	4	4	3	3	7	2	4	3778	6080	5	7.76	197.1
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.91	759.7	30.16	766.1	41.0	5.0	89.7		1	5	1	2	5	3	14				5	3.95	100.3
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?																					
Cape Colony Series.																										
Cape St. Francis	S. 34 10	E. 24 53	1.48 p.m.	25	7	29.93	760.2			62.6	17.0	87.4			8	11	4	1	6		1			6	7.05	179.0
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.96	761.0	30.00	762.0	63.1	17.3		2	13	1	1	10	3			1			7	6.81	173.0
Worcester *..†	S. 33 36	E. 19 26	1.26 p.m.	?	?	28.87	733.3			63.6	17.6	55.7	1	15	3		1	5	6					6	2.35	59.7
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.95	760.7	29.97	761.3	61.5	16.4	88.5		3	2		1	9	10	5	1			7	3.49	88.6
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	26.19	665.2	29.91	759.7	67.5	19.7							13		7	11			5	6.97	177.0
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	46	13	30.02	762.6	30.07	763.8	54.5	12.5	64.2	3	6	1	2	8	2	7	1	1			5		
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	30.05	763.2	30.07	763.8	54.5	12.5	72.4	1	4	10	9	1		5	1				5		
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.69	754.1	29.73	755.2	36.7	2.6	79.8	9	3	1	4	3			4	7			7		
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.82	757.4	29.86	758.5	43.5	6.4					2	4	14	7	1	3			5		
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.97	761.3	30.01	762.2	47.3	8.5	75.7		1	1	4	4	4	4	9	4			7		
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.95	760.8	30.05	763.3	52.3	11.3	76.4	2	5	3	10	3	1	2	5				4		
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.46	748.2	30.17	766.3	65.8	18.8	50.4	9	7	5	1	1	5	2	1					0.85	21.5
Alençon	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.60	751.9	30.15	765.9	59.9	15.5	73.4	9	3	4	4	4		2	5				5	2.50	63.6
Arras	N. 50 17	E. 2 47	0.19 p.m.	239	73	29.87c	758.8c	30.13c	765.3c	59.4c	15.2c	54.1d	d	4	6	4		2	4	7					0.16	4.2
Avignon	N. 43 57	E. 4 38	0.26 p.m.	65	20	29.94	760.4	30.02	762.4	70.0	21.1	44.8	17	1	5		4	4						1	2.91	73.8
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	518	158	29.54	750.4	30.09	764.3	61.9	16.6	58.1	3	2	1	6	3	4	8	4				7	1.32	33.6
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.86	758.5	30.12	765.0	62.2	16.8	48.1	5	2	8	3	1	1	6	5				5	1.46	37.2
Besançon	N. 47 14	E. 6 01	0.32 p.m.	829	250	29.22	742.2	30.09	764.3	61.3	16.3	60.7	2	2		2	10	3	1	11					2.31	58.7
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.84	757.8	30.10	764.4	65.5	18.6	53.6	3	5	1	2	3	4	7	6				6	2.30	58.5
Bourges	N. 47 10	E. 2 24	0.17 p.m.	510	156	29.56	750.7	30.10	764.6	63.5	17.5	52.4	8	3	9	1	2		3	5					1.75	44.4
Brest	N. 48 23	W. 4 29	11.50 a.m.	213	65	29.91	759.8	30.16	766.0	62.6	17.0	65.1	4	2	2	11	3	2		7				6	4.97	126.3
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.03	762.7	30.11	764.7	62.4	16.9	71.6	4	6	7	6	1	1	1	5				4	1.52	38.6
Châlons-sur-Marne	N. 48 57	E. 4 23	0.25 p.m.	294	90	29.77	756.1	30.09	764.2	65.8	18.8	59.2	2	3	5	5	7	1	4	2	2			5	0.82	20.9
Charleville	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.58	751.4	30.09	764.3	62.4	16.9	59.7	1	3	5	8	4	2	6	2				4	1.32	33.4
Clermont-Fd	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.72	729.5	30.06	763.4	63.0	17.2	51.7	14	6	2		2	3	2	2				5	2.64	67.0
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.26	743.2	30.09	764.2	63.9	17.7	56.5	9	4	4	1	4	2		7				4	1.60	40.7
Commercy	N. 48 46	E. 5 35	0.30 p.m.	817	249	29.23	742.5	30.10	764.4	62.6	17.0	53.0	6	4	11	3	2		2	3				5	0.91	23.0
Gap	N. 44 34	E. 6 04	0.32 p.m.	2427	740	27.48	697.9	29.96	760.9	64.4	18.0	50.5	4	1		1	4	5	3	13					2.18	55.5
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	28.92	734.6	30.06	763.6	68.9	20.5	42.4					2	14	10	4				4	1.21	30.8
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.26	743.2	30.02	762.4	63.9	17.7	50.8	4	15	7	2			1	2					3.34	84.9
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.53	724.6	30.10	764.6	59.7	15.4	53.9	4	5	4	7			4	7					2.39	60.7
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.89	759.2	30.16	766.0	60.4	15.8	64.5	13	5	3	1	5	1	2	1					1.43	36.3
Lescar	N. 43 21	W. 0 26	0.06 p.m.	525	160	29.55	750.6	30.22	767.6	64.4	18.0	70.4	6	5	9	5		1	3	2					3.96	100.7
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	30.09	764.2	30.19	766.8	63.5	17.5	58.3	2	1	1	13	4	2	1	7				5	1.18	29.9
Lyons	N. 45 45	E. 4 49	0.27 p.m.	574	175	29.02	737.1	30.06	763.6	62.2	16.8	50.6	11	8		1	2	4	2	3				5	1.87	47.6
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.84	757.8	30.14	765.6	60.8	16.0	58.4	5	6	6	2	1	2	5	4				5	1.32	33.6
Marseilles	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.73	755.1	30.00	762.0	68.5	20.3	46.5		5	14	6	1	3	1	1				3	1.67	42.5
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.93	633.1	30.10	764.6	51.6	10.9	53.5	2	9	4	4	3	3	4	2				5	0.71	17.9
Montpelier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.91	759.6	30.01	762.3	69.6	20.9	56.6	7a	8		1	6	5	1	2				2	1.12	28.5
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.33	744.9	30.08	764.1	61.7	16.5	49.8	8	3	8	1	4	2		5				5	0.69	17.6
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.00	762.0	30.15	765.9	63.5	17.5	56.0	5	5	2	9	3			7				6	2.08	52.7
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.95	760.8	29.98	761.6	66.4	19.1	64.4			4	2	4	10	11					5	3.16	80.4
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	98	30	29.95	760.7	30.03	762.7	67.8	19.9	42.5	10	4		1	6	5		5				3	0.29	7.4
Pic du Midi (Pitde)	N. 42 15	W. 0 08	0.08 p.m.	7763	2306	22.58	573.5			39.6	4.2													4	6.93	176.1
Privas	N. 44 45	E. 4 35	0.26 p.m.	997	304	28.99	736.3	30.03	762.7	66.6	19.2	44.7	18a			6	6							3	1.32	33.5
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.21	640.2			42.3	5.7	83.5	5	4	4	4	3	2	2	7				6	3.56	90.5
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.12	765.0	30.15	765.9	67.8	19.9	55.6	2	3	5	7	3	1	1	9				5	0.44?	11.1?
Roche-sur-Yon	N. 46 40	W. 1 26	0.14 p.m.	198	60	29.92	759.9	30.14	765.5	64.6	18.1	58.7	2	3	5	8	1	1	2	9				4	1.11	28.3
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	27.93	709.5	30.05	763.3	61.3	16.3	52.6	b	17	2		1	2	2	5				4	2.07	52.6
Rouen	N. 49 26	E. 1 14	0.13 p.m.	80	24	30.04	762.9	30.12	765.0	62.6	17.0	56.1	4	1	6	3	5	3	2	7				5	0.98	25.0
Saint Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.99	761.8	30.15	765.8	59.4	15.2	65.1	2	6	6	4	4	1	4	4				5	1.93	49.1
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49			30.11	764.9	63.0	17.2	49.4	9	3	2	5	6			6				2	2.82	71.6
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.40	746.8	30.13	765.3	67.3	19.6	55.5		22	1			8							2.32	58.9
Tours	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.92a	759.9a	30.11a	764.8a	63.3a	17.4a	50.7a	1	4	5	7			6	8				6	2.46	62.4
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.62	752.3	30.11	764.8	61.7	16.5	49.6	4	5	5	5	1		2	9					1.53	38.9
Sub Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.18 p.m.	256	78	29.84	757.9	30.13	765.3	62.8	17.1	51.8	5	4	2	8	4		2	6					1.36	34.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
German Series.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 53	0.51 p.m.	774	236	29.22	742.1	30.08	764.1	62.6	17.0	45.5	7	.....	5	5	.....	2	2	7	3	.....	.....	4	3.18	80.8
Berlin	N. 52 30	E. 13 23	1.02 p.m.	157	48	29.90	759.5	30.08	763.9	66.0	18.9	39.5	2	4	3	7	.....	2	5	7	1	.....	.....	6	1.50	38.1
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.54	750.4	30.08	763.9	63.3	17.4	45.8	2	4	5	.....	6	1	3	10	.....	.....	.....	6	0.80	20.2
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.65	753.1	30.07	763.8	62.4	16.9	62.2	4	2	2	10	.....	2	2	9	.....	.....	.....	6	0.99	25.2
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.35	745.5	30.07	763.7	63.1	17.3	43.4	8	7	2	1	10	1	1	1	.....	.....	.....	5	0.71	18.0
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.75	755.6	30.11	764.7	65.7	18.7	39.4	6	3	2	9	2	1	2	6	.....	.....	.....	5	0.39	9.8
Friedrichshafen	N. 47 39	E. 9 29	0.45 p.m.	1355	413	28.63	727.1	30.05	763.2	59.7	15.4	60.8	.....	.....	2	8	5	3	4	9	.....	.....	.....	6	3.21	81.6
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	66	20	30.03	762.8	30.10	764.5	59.7	15.4	61.0	3	5	3	10	.....	1	3	5	1	.....	.....	6	1.12	28.4
Kiel	N. 54 20	E. 10 04	0.49 p.m.	13	4	30.06	763.6	30.08	764.0	49.5	9.7	61.1	4	2	7	9	1	.....	2	6	.....	.....	.....	5	1.32	33.4
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.67	753.5	30.08	764.0	62.6	17.0	50.7	3	3	1	8	3	.....	2	11	.....	.....	.....	7	3.35	85.1
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	269	82	29.80	756.8	30.08	764.0	63.9	17.7	54.8	5	2	4	5	4	.....	2	7	2	.....	.....	6	1.18	30.0
Memel ....a.	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.06	763.6	30.11	764.8	54.7	12.6	60.0	3	10	6	3	3	1	.....	4	.....	.....	.....	5	.....	.....
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.24	717.3	30.11	764.8	59.4	15.2	53.5	1	4	8	2	.....	3	3	8	2	.....	.....	6	6.82	173.1
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.10	764.4	30.11	764.8	55.9	13.3	58.0	10	5	3	1	4	1	2	5	.....	.....	.....	5	0.47	11.9
Neustadt .....c.	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.54	750.3	30.07	763.8	63.5	17.5	52.2	1	5	17	3	1	.....	.....	.....	1	.....	.....	5	0.59	14.9
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	879	268	29.11	739.5	29.99	761.8	63.0	17.2	49.0	10	2	7	4	.....	.....	5	3	.....	.....	.....	5	1.37	34.9
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1414	431	28.57	725.7	30.06	763.6	61.2	16.2	50.3	3	5	9	1	.....	2	4	6	1	.....	.....	7	3.44	87.3
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.08	764.1	30.11	764.7	55.8	13.2	76.2	8	.....	7	5	3	.....	1	7	.....	.....	.....	5	0.14	3.5
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m.	266	81	29.56	750.9	29.95	760.6	72.0	22.2	.....	1	1	3	7	9	.....	.....	10	.....	.....	.....	3	.....	.....
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.65	753.1	29.70	754.4	89.1	31.7	71.5	.....	.....	2	17	12	.....	.....	.....	.....	.....	.....	1	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.16	740.7	29.01	752.1	104.9	40.5	19.3	2	3	16	6	3	.....	.....	1	.....	.....	.....	2	0.28	7.1
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.72	754.9	29.75	755.6	87.9	31.1	71.0	.....	3	18	8	2	.....	.....	.....	.....	.....	.....	2	0.23	5.8
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.88	708.1	29.08	753.9	93.8	34.3	30.6	1	2	20	8	.....	.....	.....	.....	.....	.....	.....	2	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.24	691.9	29.73	755.1	84.0	28.9	59.4	1	1	6	19	3	1	.....	.....	.....	.....	.....	4	1.26	32.0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.83	732.3	29.54	750.3	100.9	38.3	22.7	3	6	9	3	.....	1	5	2	2	.....	.....	2	0.95	24.1
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.70	729.0	29.56	750.8	96.2	35.7	32.0	.....	7	6	2	2	1	3	.....	10	.....	.....	1	0.90	22.9
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.02	737.1	29.55	750.6	104.2	40.1	24.7	5	5	8	1	3	4	3	1	1	.....	.....	0	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.56	725.4	29.55	750.6	104.6	40.3	19.2	3	16	4	3	1	2	.....	1	1	.....	.....	4	0.76	19.3
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.29	718.6	29.58	751.3	100.9	38.3	15.9	3	14	2	1	2	.....	1	1	7	.....	.....	3	0.27	6.9
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.22	742.2	29.58	751.3	97.3	36.3	32.2	4	8	3	.....	.....	2	4	6	4	.....	.....	0	0.62	15.7
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.26	743.2	29.56	750.8	99.4	37.4	33.3	3	3	1	.....	.....	.....	7	8	9	.....	.....	1	0.76	19.3
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.43	747.5	29.60	751.8	92.8	33.8	50.7	8	.....	.....	.....	.....	.....	12	11	.....	.....	.....	4	5.02	127.5
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.04	702.0	29.59	751.6	90.2	32.3	38.7	5	6	2	2	.....	2	10	3	1	.....	.....	4	3.79	96.3
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.56	750.8	29.64	752.8	89.3	31.8	59.3	1	.....	3	2	16	4	2	2	1	.....	.....	5	1.13	28.7
Calcutta	N. 22 33	E. 88 19	6.01 p.m.	21	7	29.62	752.3	29.64	752.8	85.8	29.9	70.6	1	.....	.....	5	13	3	5	2	2	.....	.....	4	7.49	190.2
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.56	750.8	29.64	752.8	81.5	27.5	78.5	.....	1	.....	3	1	2	13	3	8	.....	.....	4	14.08	357.6
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.63	752.6	29.72	754.9	82.5	28.1	80.2	.....	.....	4	6	8	3	3	3	4	.....	.....	5	0.70	17.8
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.39	746.5	29.72	754.9	81.5	27.5	79.9	.....	.....	.....	6	6	2	3	14	.....	.....	.....	7	11.86	301.2
Zanzibar .....a.	S. 6 10	E. 39 11	2.45 p.m.	22	7	.....	.....	29.97	761.2	84.2	29.0	78.4	6	.....	1	5	15	6	.....	.....	1	.....	.....	7	11.96	303.8
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.61	752.1	30.01	762.3	67.1	19.5	48.7	4	.....	1	7	3	4	2	2	8	.....	.....	6	3.70	94.0
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.47	748.5	29.98	761.5	68.7	20.4	48.4	1	3	1	8	2	5	8	3	.....	.....	.....	5	0	0
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.91	759.7	30.01	762.2	67.1	19.5	50.0	4	1	1	3	2	8	7	3	2	.....	.....	5	3.09	78.5
Moncalieri	N. 44 59	E. 7 41	0.39 p.m.	853	260	29.09	738.9	29.98	761.4	65.5	18.6	54.1	5	4	.....	.....	5	9	4	4	.....	.....	.....	5	5.20	132.1
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.82	757.3	30.01	762.3	65.3	18.5	57.3	3	3	1	14	3	3	1	3	.....	.....	.....	4	3.61	91.6
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.10	713.6	29.98	761.4	62.6	17.0	51.2	6	7	12	.....	2	1	1	2	.....	.....	.....	5	4.98	126.6
Pesaro	N. 43 55	E. 12.53	1.00 p.m.	46	14	29.94	760.5	29.99	761.8	63.9	17.7	63.6	5	7	2	1	.....	.....	8	8	.....	.....	.....	5	1.09	27.6
Florence .....a.	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.72	754.8	29.97	761.2	68.9	20.5	45.2	3	3	6	9	1	1	3	4	.....	.....	.....	5	2.15	54.5
Leghorn .....j.	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.91	759.7	29.99	761.8	67.5	19.7	59.7	.....	4	5	4	2	.....	2	4	.....	.....	.....	0	0	0
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.80	756.8	29.97	761.1	70.2	21.2	47.4	1	1	6	13	4	3	2	1	.....	.....	.....	5	4.18	106.1
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.71	754.5	29.90	760.9	69.1	20.6	52.7	3	10	4	1	8	2	.....	2	1	.....	.....	4	1.23	31.3
Cosenza	N. 39 18	E. 16 15	1.13 p.m.	840	256	29.09	738.8	29.97	761.1	68.5	20.3	71.5	.....	4	2	7	6	7	4	1	.....	.....	.....	6	3.88	98.6
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.77	756.1	29.97	761.1	68.5	20.3	52.9	.....	8	3	.....	6	11	1	2	.....	.....	.....	4	0.89	22.6
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.75	755.7	30.01	762.2	67.6	19.8	56.3	2	5	3	1	1	.....	4	13	2	.....	.....	6	1.07	27.1
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.92	760.0	29.97	761.1	69.1	20.6	62.3	.....	.....	.....	2	5	5	14	5	.....	.....	.....	7	0.43	11.0
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.43	747.6	29.95	760.8	68.0	20.0	62.9	.....	2	6	11	4	3	5	.....	.....	.....	.....	6	3.63	92.1
Stelvio	N. 46 37	E. 10 32	0.50 p.m.	8343	2543	22.20	563.9	.....	.....	38.5	3.6	55.3	1	.....	2	8	1	6	6	7	.....	.....	.....	6	1.28	32.6
Valdobbia	N. 45 47	E. 12 00	0.56 p.m.	8360	2548	22.22	564.3	.....	.....	41.7	5.4	71.0	3	2	3	.....	.....	10	12	1	.....	.....	.....	4	4.84	123.0
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	29.93	760.3	29.95	760.6	62.4	16.9	79.7	10	.....	4	9	6	.....	1	.....	1	.....	.....	6	11.86	301.2
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.81	757.1	29.98	761.4	60.1	15.6	80.9	6	9	.....	.....	6	1	2	6	1	.....	.....	5	8.41	213.6
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	29.78	756.3	29.98	761.4	63.9	17.7	83.5	3	.....	2	15	3	.....	2	5	1	.....	.....	7	0	0
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.92	759.9	29.98	761.6	61.0	16.1	86.3	1a	1	.....	1	10	3	4	3	1	.....	.....	6	2.00	52.4
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.92	760.0	29.97	761.2	63.5	17.5	78.4	2	.....	3	2	8	1	2	7	6	.....	.....	5	6.74	171.1
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.88	758.9	30.07	763.8	76.5	24.7	71.6	2		1	.....	.....	2	19	7	.....	.....	.....	5	4.77	121.2
Mexican Series.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.65	753.2	29.91	759.7	71.8	22.1	89.1	4	1	1	.....	1	.....	17	7	.....	.....	.....	4	Inap.	Inap.
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for May, 1881. 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.
Netherland Series.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.13	765.2	30.13	765.2	58.8	14.9	.....	6	2	12	4	.....	.....	4	3	.....	.....	.....	.....	2.98	75.7
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	30.04	763.0	30.10	764.4	58.1	14.5	.....	6	6	2	7	.....	.....	3	7	.....	.....	.....	.....	1.48	37.5
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.10	764.4	30.10	764.4	53.1	11.7	.....	2	3	1	6	7	.....	.....	12	.....	.....	.....	.....	1.99	50.5
Hellevoetsluis	N. 51 49	E. 4 80	0.25 p.m.	0	0	30.11	764.7	30.11	764.7	65.3	18.5	71.2	5	3	4	8	1	1	1	7	1	.....	.....	.....	3.32	84.3
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.06	763.6	30.11	764.9	61.3	16.3	56.9	5	3	2	10	1	3	3	4	.....	.....	.....	5	3.39	86.0
Norwegian Series.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	49	15	29.95	760.6	30.00	762.1	53.8	12.1	58.8	3	9	6	.....	10	2	.....	.....	1	.....	.....	5	5.10	129.4
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.91	759.8	29.98	761.5	57.2	14.0	50.5	2	1	.....	10	12	2	1	3	.....	.....	.....	6	1.38	35.1
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.82	757.5	29.85	758.1	31.6	—0.2	.....	1	3	9	6	1	3	.....	4	4	.....	.....	9	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.90	759.5	29.95	760.7	37.6	3.1	70.2	6	1	4	10	1	.....	.....	5	4	.....	.....	7	3.36	85.4
Portuguese Series.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.10	764.5	30.25	768.4	61.9	16.6	81.6	3	2	10	2	2	2	4	6	.....	.....	.....	5	1.22	31.0
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.05	737.9	30.03	762.7	70.7	21.5	40.5	6	1	11	2	1	.....	3	6	1	.....	.....	5	1.34	33.9
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.04	762.9	30.13	765.2	68.4	20.2	57.9	1	.....	1	21	1	1	1	1	4	.....	.....	4	0.80	20.2
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.75	755.6	30.10	764.6	67.3	19.6	52.7	9	5	2	.....	3	2	.....	10	.....	.....	.....	4	1.17	29.8
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.19	766.9	30.27	768.8	65.1	18.4	68.0	6	3	2	4	5	1	1	6	3	.....	.....	5	1.14	28.9
Russian Series.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.94	760.4	29.95	760.8	41.9	5.5	70.1	1	7	6	5	3	2	3	1	3	.....	.....	8	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	29.99	761.7	29.90	759.5	71.4	21.9	51.5	3	3	1	2	5	9	4	3	1	.....	.....	7	.....	.....
Barnaul ‡	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.47	748.5	29.96	761.0	59.0	15.0	34.4	6	7	5	5	3	.....	1	.....	4	.....	.....	5	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.83	757.6	30.07	763.8	55.8	13.2	50.8	4	.....	6	7	3	.....	4	6	1	.....	.....	5	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	28.98	736.2	29.93	760.1	61.3	16.3	36.2	.....	2	13	7	.....	5	2	1	1	.....	.....	8	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.70	754.4	29.97	761.2	63.3	17.4	43.8	3	5	3	7	1	4	1	2	5	.....	.....	7	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	29.92	759.9	29.94	760.5	63.1	17.3	82.3	2	6	1	1	8	4	.....	5	4	.....	.....	4	.....	.....
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.31	744.5	29.94	760.5	63.0	17.2	52.6	12	2	1	.....	4	2	2	8	.....	.....	.....	5	.....	.....
Krotkowo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.69	754.2	29.89	759.3	69.8	21.0	45.2	3	4	2	4	4	2	8	3	1	.....	.....	6	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.48	748.7	30.02	762.4	60.8	16.0	45.8	9	4	3	1	10	2	1	.....	1	.....	.....	5	.....	.....
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	1942	592	27.58	700.5	29.87	758.6	44.4	6.9	42.2	4	8	2	3	1	.....	1	1	11	.....	.....	4	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.88	759.0	29.95	760.8	68.0	20.0	65.6	7	2	1	3	6	1	4	6	1	.....	.....	6	.....	.....
Nikolaievsk a	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.67	753.6	29.76	755.8	37.2	2.9	75.5	.....	.....	2	.....	.....	5	4	.....	19	.....	.....	.....	0.80	20.2
Nukuss	N. 42 27	E. 59 37	4.07 p.m.	216	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	29.72	755.0	29.87	758.6	70.5	21.4	45.9	.....	3	.....	7	2	2	.....	1	16	.....	.....	4	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	30.03	762.7	30.04	763.0	49.1	9.5	58.3	3	8	9	4	1	2	.....	3	1	.....	.....	6	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	28.37	720.6	29.86	758.5	77.9	25.5	49.9	.....	1	2	.....	.....	2	1	.....	25	.....	.....	4	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.52	724.5	29.89	759.3	70.3	21.3	49.2	.....	8	4	1	2	9	2	.....	5	.....	.....	7	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.63	752.5	30.04	763.0	62.4	16.9	49.2	7	4	3	2	3	2	4	6	.....	.....	.....	5	.....	.....
Wilna	N. 54 51	E. 25 18	1.49 p.m.	387	118	29.64	752.9	30.05	763.3	62.1	16.7	47.5	6	3	5	5	5	2	1	3	1	.....	.....	5	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	29.69	754.0	29.98	761.6	43.0	6.1	58.8	8	3	5	3	8	2	.....	1	1	.....	.....	7	.....	.....
Scottish Series.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	30.09	764.3	52.3	11.3	67.1	1	2	10	4	.....	1	11	2	.....	.....	.....	6	1.76	44.7
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	30.00	762.0	53.0	11.7	93.6	.....	1	3	5	8	5	4	5	.....	.....	.....	6	2.30	58.4
North Unst	N. 60 51	W. 0 53	0.04 a.m.	230	70	.....	.....	30.02	762.5	.....	.....	.....	2	1	5	6	3	4	3	7	.....	.....	.....	6	.....	.....
Spanish Series.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.95	760.6	30.05	763.3	68.7	20.4	56.4	.....	.....	.....	5	5	14	6	1	.....	.....	.....	1	0.24	6.1
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.09	764.2	30.14	765.6	68.7	20.4	62.5	9	14	1	.....	1	1	4	1	.....	.....	.....	6	3.37	85.5
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.16	689.9	.....	.....	59.4	15.2	74.6	4	.....	.....	3	5	.....	.....	19	.....	.....	.....	4	2.31	58.6
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.85	707.3	30.02	762.5	69.3	20.7	47.2	.....	2	1	10	4	2	3	9	.....	.....	.....	3	0.09	2.4
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.90	759.4	30.04	763.1	78.4	25.8	44.1	2	5	.....	.....	1	6	12	4	1	.....	.....	5	2.51	63.8
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.17	741.0	30.05	763.3	65.8	18.8	58.2	4	4	1	9	.....	.....	.....	13	.....	.....	.....	4	2.12	53.9
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.88	759.0	29.95	760.8	76.3	24.6	80.6	.....	1	1	2	1	4	12	8	2	.....	.....	3	3.37	85.5
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.82	757.4	29.87	758.7	85.5	29.7	67.9	2	3	1	.....	6	8	10	1	.....	.....	.....	2	6.82	173.2
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.98	761.5	30.08	764.1	69.4	20.8	59.1	.....	1	12	2	1	2	9	4	.....	.....	.....	4	1.53	38.8
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.88	759.0	29.98	761.4	79.2	26.2	86.2	.....	.....	.....	.....	4	21	6	.....	.....	.....	.....	7	5.74	145.7
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.78	756.4	29.92	759.9	82.8	28.2	74.0	7	12	5	1	2	2	1	1	.....	.....	.....	5	0.65	16.4
Swedish Series.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.93	760.1	29.96	761.0	40.6	4.8	65.0	8	2	1	5	13	.....	.....	2	.....	.....	.....	7	1.63	41.5
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.94	760.5	30.00	761.9	47.7	8.7	56.7	3	5	.....	10	5	2	.....	5	1	.....	.....	6	1.12	28.5
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.97	761.1	30.02	762.4	48.2	9.0	54.6	1	2	4	4	9	4	2	5	.....	.....	.....	5	0.73	18.5
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.84	758.0	30.02	762.5	52.9	11.6	53.8	3	2	6	4	7	1	2	5	1	.....	.....	6	1.63	41.4
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.98	761.5	30.04	763.0	48.7	9.3	67.4	7	4	7	7	.....	2	1	3	.....	.....	.....	4	1.15	29.2
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.91	759.7	30.00	761.9	53.4	11.9	56.8	7	2	4	6	4	3	.....	5		.....	.....	6	1.41	35.7
Swiss Series.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.63	727.3	30.04	763.0	61.0	16.1	50.7	20	.....	.....	7	3	.....	.....	1	.....	.....	.....	5	2.01	51.0
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.44	722.4	30.06	763.5	61.7	16.5	59.0	2	6	7	.....	.....	.....	10	2	4	.....	.....	5	2.60	66.1
Turkish Series.																										
Constantinople	N. 41 00	E. 28 59	2.02 p.m.	?	?	.....	.....	29.94	760.5	65.1	18.4	62.3	8	2	.....	9	.....	1	2	9	.....	.....	.....	6	2.54	64.5
Valona	N. 40 27	E. 19 27	1.25 p.m.	?	?	.....	.....	30.02	762.5	70.2	21.2	.....	.....	2	11	15	2	1	.....	.....	.....	.....	.....	4	4.45	113.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.92	759.9	75.6	24.2	63.0	2	5	4	13	.....	.....	.....	7	.....	.....	.....	3	0	0

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.00	762.0	30.08	764.0	61.6	16.4	70.1	5	.....	4	2	13	.....	1	6	.....	3944	6347	6	3.90	99.1
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.41	747.0	30.05	753.3	50.9	10.5	80.8	3	8	8	1	4	.....	5	1	1	5464	8793	4	5.02	127.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.90	734.0	30.02	752.5	64.5	18.1	75.3	1	5	2	.....	.....	2	14	6	1	5912	9514	5	1.27	32.3
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.08	734.0	30.09	754.3	56.1	13.4	89.4	2	1	3	4	5	1	4	10	1	7125	11468	4	1.68	42.7
Attou, Aleutian Is.	N. 52 38	E. 172 30	11.38 p.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.90	759.4	30.10	764.5	68.0	20.0	73.7	1	4	1	2	.....	5	7	8	3	3259	5245	3	1.35	34.3
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.05	763.3	30.09	764.3	63.1	17.3	71.7	7	4	2	.....	8	2	5	3	.....	3844	6186	4	2.30	58.4
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.05	763.3	30.07	763.8	56.8	13.8	85.1	3	.....	1	6	4	2	6	9	.....	8077	12998	4	1.77	45.0
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.16	715.3	30.01	762.2	52.5	11.4	74.1	3	6	1	.....	.....	7	5	3	6	8302	13940	5	2.27	57.7
Boise City	N. 43 46	W. 116 05	4.24 a.m.	2750	838	27.17	690.1	30.13	765.3	46.9	8.3	68.0	3	5	11	1	2	3	1	2	3	4347	6995	4	0.07	1.8
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.93	760.2	30.08	764.0	53.4	11.9	77.7	2	2	3	7	.....	1	5	7	4	5530	8900	6	4.16	105.7
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	356	28.75	730.2	29.77	755.1	67.1	19.5	89.5	1	1	3	.....	1	4	16	.....	2	6290	10123	6	5.29	134.4
Brownsville	N. 26 00	W. 97 30	5.38 a.m.	43	13	29.83	758.4	29.91	759.7	74.7	23.7	85.0	1	.....	.....	.....	2	16	4	2	6	4688	7544	4	3.43	87.1
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.34	745.2	30.04	763.0	53.0	11.7	79.9	1	.....	3	15	.....	.....	4	8	.....	4800	7725	4	2.18	55.4
Burlington	N. 44 29	W. 73 13	7.15 a.m.	258	82	29.75	755.9	30.05	763.3	55.1	12.8	80.6	12	.....	2	3	11	2	1	.....	.....	5217	8395	7	2.27	57.7
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.56	753.4	30.04	763.0	68.1	20.1	80.9	2	.....	.....	.....	5	2	5	4	13	3316	5336	4	2.44	62.0
Campo	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.35	694.7	29.92	760.0	45.2	7.3	72.3	.....	5	7	4	11	.....	3	1	.....	4517	7269	3	0.12	3.0
Camp Thomas	N. 32 04	W. 110 05	4.49 a.m.	2710	825	27.13	689.1	.....	.....	51.3	12.4	50.2	.....	.....	1	.....	.....	1	.....	.....	29	.....	.....	1	0.07	1.8
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.05	763.5	30.08	764.0	62.8	17.1	81.0	2	4	3	4	4	5	1	7	1	8763	14102	4	1.34	34.0
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.04	763.0	30.07	763.8	57.4	14.1	84.9	3	.....	1	1	9	3	2	10	.....	8922	14358	4	3.51	89.2
Castroville	N. 29 25	W. 98 50	5.33 a.m.	789	238	29.14	740.1	29.82	757.4	69.0	20.6	82.8	1	2	5	3	8	7	2	1	2	3803	6120	7	3.09	93.7
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.00	762.0	30.02	762.5	72.3	22.4	79.9	3	4	2	1	1	.....	3	16	1	6757	10890	2	2.25	57.1
Champaign	N. 40 07	W. 88 14	6.15 a.m.	757	234	29.22	742.2	30.00	762.0	60.8	15.0	78.2	6	.....	1	4	5	7	4	3	1	7883	12685	3	3.63	92.2
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.00	762.0	30.05	763.5	69.7	20.9	79.3	6	3	1	2	.....	3	6	10	.....	6474	10419	3	0.48	12.2
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.23	742.4	30.02	762.5	66.1	18.9	69.9	8	.....	.....	5	4	2	2	10	.....	3770	6057	4	2.25	57.4
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.27	743.4	30.05	763.5	64.9	18.3	80.6	1	5	2	.....	4	3	2	4	10	3352	5877	4	4.46	113.3
Cheyenne	N. 41 08	W. 104 42	5.09 a.m.	6089	1856	24.06	611.1	30.00	762.0	43.0	6.1	73.9	4	10	2	6	4	.....	.....	2	3	6532	10512	3	1.14	29.0
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.33	745.0	30.01	762.2	58.6	14.8	72.2	6	2	2	8	1	4	5	2	1	5538	8951	2	1.85	47.0
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.05	763.5	30.08	764.0	57.5	14.2	91.3	2	.....	2	8	2	5	.....	12	.....	10318	16605	3	1.73	43.9
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.42	747.3	30.05	763.5	64.0	17.8	71.3	2	2	.....	2	5	5	8	7	.....	3543	5702	3	2.23	56.6
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.34	745.2	30.05	763.5	57.4	14.1	75.7	5	.....	1	3	7	9	1	5	.....	5300	9012	4	0.74	18.8
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1750	533	28.15	715.0	29.78	756.4	62.3	16.8	88.2	1	1	.....	1	6	7	.....	1	8	4570	7355	5	2.70	68.6
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.22	742.2	30.04	763.0	61.2	16.2	72.1	4	2	2	3	5	1	5	7	2	4628	7448	4	2.00	50.8
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.03	711.9	29.66	753.4	62.7	17.1	88.0	.....	1	1	1	6	1	4	1	16	6167	9925	6	6.82	173.2
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.51	749.5	29.96	761.0	69.2	20.7	81.2	1	2	1	1	12	3	.....	1	10	3829	6162	5	14.33	364.0
Davenport	N. 41 32	W. 90 30	6.05 a.m.	615	187	29.38	746.2	30.00	762.0	62.4	16.9	69.1	1	2	1	4	4	8	5	2	2	5345	8602	4	1.34	34.0
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	505	28.30	718.8	29.98	761.5	45.5	7.5	63.0	8	1	2	6	9	2	.....	1	2	3029	5840	3	0.45	11.4
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.38	644.6	.....	.....	45.6	7.6	74.4	1	.....	2	14	3	1	3	5	2	2771	4459	4	3.70	94.0
Decatur	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.75	730.2	29.88	758.9	67.8	19.9	79.7	1	1	2	1	2	17	1	1	.....	4044	7474	7	5.82	147.8
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.06	763.5	30.08	764.0	57.7	14.3	88.4	.....	1	1	9	2	2	.....	14	2	9565	15554	5	1.23	31.2
Denison	N. 33 50	W. 96 40	5.41 a.m.	757	234	29.16	740.7	29.92	760.0	69.5	20.8	84.7	3	2	1	3	11	5	6	.....	.....	3984	6412	7	8.03	204.0
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.80	629.9	30.02	762.5	49.2	9.6	73.7	3	2	5	2	13	4	1	1	.....	4992	7551	3	2.21	56.1
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.11	739.4	29.97	761.2	60.3	15.7	84.3	2	1	1	4	7	7	2	6	1	4594	7393	7	3.82	97.0
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.35	745.7	30.04	763.0	58.6	14.8	74.2	9	1	2	3	6	4	2	4	.....	6593	10610	4	2.45	62.2
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.37	695.2	29.51	752.1	57.0	13.9	88.3	5	4	1	3	8	5	.....	4	1	10570	17020	6	12.82	325.6
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.32	744.7	30.01	762.2	60.6	15.9	70.9	1	5	1	.....	9	4	7	2	2	3759	6049	5	2.20	55.9
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.35	745.5	30.03	762.7	47.1	8.4	83.4	3	1	1	.....	.....	.....	1	21	4	3318	5340	5	1.77	45.0
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.14	740.1	29.85	758.2	68.8	20.4	83.3	.....	3	.....	1	1	17	1	.....	8	5122	8243	5	8.10	207.3
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1417	25.24	641.1	29.89	759.2	41.1	5.1	60.5	10	3	1	11	3	.....	1	.....	2	8025	12910	3	0.74	18.8
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	30.01	762.2	30.08	764.0	45.7	7.6	78.2	4	5	.....	2	7	1	2	9	1	7183	11560	5	13.22	335.8
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3750	1145	26.16	664.5	.....	.....	60.1	15.6	51.1	.....	7	3	.....	1	1	5	8	6	3732	6005	2	1.83	46.5
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.33	745.0	30.04	763.0	57.7	14.3	78.5	1	3	5	4	6	3	1	8	.....	5840	9398	4	2.10	54.9
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	185	29.39	745.5	30.04	763.0	50.0	10.0	80.4	14	1	1	1	3	3	2	2	4	5208	8381	4	7.91	200.9
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.33	719.6	29.93	760.2	59.8	15.4	41.1	.....	.....	3	2	.....	.....	.....	18	8	2164	3482	1	0.13	3.3
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	24.98	634.5	30.42	772.7	42.3	5.7	54.8	.....	.....	.....	.....	.....	1	15	15	.....	6322	10174	2	0.35	8.9
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	825	27.12a	688.8a	.....	.....	44.0a	6.7	59.7	2	1	11	7	.....	.....	1	4	4	4004	6444	3	0.90	22.9
Fort Bennett	N. 44 42	W. 100 38	5.25 a.m.	1510	457	28.37	720.6	.....	.....	54.6	12.6	78.4	3	8	2	2	2	10	2	1	1	7991	11412	7	4.10	104.1
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.15	689.6	.....	.....	45.0	7.8	61.5	.....	1	7	5	.....	.....	1	3	6	1816	2923	4	1.43	36.3
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.98	710.7	29.81	757.2	46.7	8.2	79.1	1	5	3	1	2	2	3	5	9	6245	10050	4	1.00	25.4
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	25.84	681.7	.....	.....	46.0	7.8	78.6	3	6	2	2	2	10	4	1	1	5462	8790	4	1.80	45.7
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1505	25.15	638.8	30.11	764.8	56.4	13.6	71.1	2	.....	4	10	4	2	4	3	2	4573	7359	3	6.31	160.3
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2550	808	27.21	691.1	29.44	747.8	56.8	13.8	77.8	2	8	.....	.....	4	8	2	4	3	9200	14815	7	5.27	133.9
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.40	746.7	29.92	760.0	67.3	19.6	87.5	.....	.....	.....	.....	4	11	8	.....	8	3523	5970	6	6.95	176.8
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4850	1481	25.17	639.3	29.97	761.2	57.4	14.1	28.6	6	2	.....	1	2	1	8	9	2	0030	9704	2	0.25	6.6
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1250	384	28.58	725.9	29.80	756.9	66.5	19.2	80.6	5	.....	1	2	4	5	5	1	8	5904	9501	6	3.70	94.0
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.47	697.7	.....	.....	47.2	8.4	75.2	2	6	3	1	.....	6	2	6	5	0122	9852	3	0.75	19.3
Fort Macon	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.09	703.3	29.56	750.8	63.4	17.4	82.0	1	.....	2	8	9	4	6	1	.....	5931	9545	5	5.25	133.6
Fort McKavett	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.05	753.3	30.06	763.5	66.2	19.0	85.5	9	2	1	2	3	3	4	7	.....	7705	12401	5	1.74	44.2
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	25.73	678.9	.....	.....	47.8	8.8	71.9	3	7	3	5	2	2	1	5	3	3990	6421	4	0.29	7.4
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.80	758.4	29.90	759.4	27.3	−2.6	106.0	10	2	4	4	3	2	2	1	3	7290	11732	5	2.60	67.6
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.38	670.0	.....	.....	39.4	4.1	67.7	3	3	14	3	1	1	1	5	.....	6395	10243	4	1.46	37.1
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.71	729.2	29.78	756.4	63.8	17.7	90.2	7	3	.....	1	9	.....	4	2	5	6787	10922	6	6.04	153.4
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.11	714.0	.....	.....	51.6	10.9	82.8	3	4	2	.....	4	3	4	1	6	5928	9540	5	2.31	58.7
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	53.4	11.9	73.7	2	3	7	10	8	.....	.....	1	.....	.....	.....	2	0.07	1.8
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.21	716.5	29.73	755.1	64.8	18.2	88.5	1	2	4	9	1	3	.....	.....	11	4973	7520	5	6.30	160.0
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	29.93	760.2	29.97	761.2	74.4	23.6	84.7	.....	3	4	6	10	5	.....	.....	3	6523	10502	5	3.50	88.9
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.39	746.5	30.03	762.7	59.3	15.2	71.9	1	4	.....	4	3	1	2	11	5	6844	11014	3	1.19	30.2
Hatteras	N. 35 14	W. 75 30	7.05 a.m.	19	6	30.04	763.0	30.05	763.5	65.9	18.8	84.9	3	1	3	2	2	4	3	13	.....	10520	16940	4	1.13	28.7
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.80	655.3	.....	.....	48.5	9.2	56.3	9	.....	1	1	16	.....	.....	.....	4	5131	8257	3	1.60	40.6
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	28.94	735.1	29.85	758.2	66.2	19.0	85.4	.....	1	1	2	.....	15	2	2	2	4529	7289	7	3.00	76.2
Indianapolis	N. 39 47	W. 86 05	6.24 a.m.	753	229	29.24	742.7	30.00	762.0	64.4	18.0	65.4	8	1	2	.....	4	4	4	2	6	2803	4511	3	3.78	95.6
Indianola	N. 28 32	W. 96 38	5.42 a.m.	25	8	29.93	760.2	29.95	761.0	73.7	23.2	88.2	.....	2	1	1	15	9	1	.....	2	7958	12807	5	2.62	66.5
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.78	731.0	29.88	758.9	65.6	18.7	83.9	.....	2	.....	4	7	13	2	2	.....	5084	8182	7	3.53	89.7
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	29.98	761.5	30.03	762.7	73.6	23.1	77.0	1	1	2	3	3	.....	6	15	.....	5227	8412	2	2.01	66.3
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.35	745.5	29.98	761.5	63.3	17.4	79.1	1	1	.....	2	8	5	8	5	1	5590	9005	6	1.35	34.3
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	29.94	760.5	29.98	761.5	78.0	25.6	73.7	3	1	3	.....	1	6	8	7	2	6325	10179	3	4.01	101.9
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.08	764.0	30.10	764.5	62.3	16.8	85.1	3	2	3	5	1	2	1	12	2	10430	16785	5	0.80	20.3
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.08	738.6	30.07	763.8	63.0	17.2	80.7	2	1	1	3	4	.....	3	10	6	3459	5567	4	1.14	29.0
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.25	742.9	29.95	760.7	62.4	16.9	69.4	4	1	2	2	10	6	3	3	.....	4730	7022	5	3.13	79.5
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.03	661.2	30.18	766.6	55.2	12.9	58.1	2	1	.....	1	1	3	.....	.....	23	1981	3188	3	1.75	44.4
Laredo	N. 27 32	W. 99 25	5.30 a.m.	460	136	29.47	748.5	29.80	756.9	71.5	21.9	88.4	4	.....	.....	.....	1	18	2	3	3	3902	6280	6	7.75	195.8
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.10	739.1	29.92	760.0	64.2	17.9	77.5	4	2	1	.....	5	9	7	2	1	4941	7952	7	3.05	92.7
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.21	741.9	29.85	758.4	47.2	8.4	51.2	.....	2	5	4	1	.....	8	5	6	2981	4797	5	0.23	5.8
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.68	753.9	29.99	761.7	66.9	19.4	90.7	1	2	.....	2	5	.....	5	3	13	3117	5016	6	5.51	140.0
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.57	751.1	29.93	760.2	54.5	12.4	83.6	1	.....	2	1	2	5	5	12	3	4327	6964	5	0.01	0.3
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.47	748.5	30.01	762.2	65.7	18.7	77.4	8	.....	5	4	4	2	3	5	.....	4157	7173	3	2.35	59.7
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.41	747.0	30.07	763.8	65.7	18.7	67.9	.....	2	1	1	3	1	2	8	13	1935	3210	3	2.20	55.9
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.02	737.1	29.99	761.7	58.1	14.5	79.5	2	3	3	.....	8	3	8	4	.....	5750	9254	3	4.25	107.9
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.33	745.0	30.04	763.0	52.0	11.1	71.7	1	8	2	6	2	1	3	1	7	4618	7754	4	4.47	113.5
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.30	718.8	30.02	762.5	65.7	18.7	83.4	.....	3	3	3	13	.....	1	.....	8	4035	6494	4	5.29	134.4
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.70	754.4	30.03	762.7	69.6	20.9	78.1	1	.....	.....	.....	3	1	4	1	21	1830	2993	5	2.80	71.1
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.30	744.2	30.02	762.5	55.0	12.8	75.2	10	3	.....	6	2	1	2	4	3	5555	8950	3	2.55	64.8
Mobile	N. 30 42	W. 87 59	6.16 a.m.	69	21	29.95	760.7	30.02	762.5	70.5	21.4	81.1	8	7	1	.....	1	8	2	4	.....	5352	8613	4	1.44	36.6
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.82	757.4	30.05	763.3	68.0	20.0	79.2	3	1	1	.....	1	6	10	9	.....	3933	5847	4	1.41	35.8
Moorhead	N. 46 52	W. 95 40	5.41 a.m.	923	281	28.98	736.1	29.92	760.0	53.3	11.8	82.2	4	3	1	.....	7	10	2	3	1	8659	13935	6	2.80	71.1
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	953	293	29.07	738.4	30.04	763.0	60.9	16.1	79.0	5	1	1	4	1	1	.....	1	17	3112	5008	4	3.28	83.3
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6272	1902	23.83	605.3	30.19	766.8	37.1	2.8	83.7	1	14	1	1	2	5	3	3	1	20133	32400	6	12.50	317.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
U.S. Series—*Continued.*	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.52	749.8	30.04	763.0	67.2	19.6	78.5	2	2	5	2	3	6	6	2	3	2663	4286	4	3.67	93.2
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.96	761.0	30.08	764.0	55.6	13.1	80.7	6	2	.....	4	4	2	3	8	2	4676	7525	6	3.89	98.8
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.05	763.3	30.10	764.5	56.3	13.5	81.1	5	3	5	5	4	2	6	1	.....	4775	7684	5	4.85	123.2
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.95	760.7	30.00	762.0	72.6	22.6	81.0	.....	1	2	1	3	9	5	2	8	4426	7123	3	3.20	81.3
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.03	762.7	30.08	764.0	53.0	11.7	84.4	10	1	1	9	.....	2	4	2	2	5477	8814	5	2.90	73.7
New River	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.05	763.3	30.08	764.0	51.6	10.9	85.5	4	.....	1	6	2	1	1	9	7	9007	14495	3	5.51	140.0
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.91	759.7	30.09	764.3	56.5	13.6	84.4	4	1	4	2	2	3	9	6	.....	5826	9376	6	2.33	59.2
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.04	763.0	30.09	764.3	64.1	17.8	80.0	2	2	3	6	2	1	2	10	3	5677	9136	5	1.49	37.8
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.08	687.8	29.61	752.1	53.4	11.9	85.1	4	8	1	.....	6	5	3	4	.....	11418	18375	7	4.84	122.9
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	30.03	762.7	30.07	763.8	42.8	6.0	88.6	8	.....	1	.....	8	9	.....	3	2	3294	5301	7	1.54	39.1
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.84	732.5	29.91	759.7	61.9	16.6	82.9	6	1	1	1	10	6	2	4	.....	6511	10478	8	7.94	201.7
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.72	754.9	30.04	763.0	55.2	12.9	80.1	1	1	5	4	10	3	.....	6	1	4381	7050	4	2.41	61.2
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	29.99	761.7	30.02	762.5	71.9	22.2	81.1	5	5	2	2	4	3	2	8	.....	5432	8742	3	1.40	35.6
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	30.03	762.7	30.08	764.0	58.3	14.6	83.2	.....	.....	9	1	2	2	11	6	.....	6781	10913	5	2.71	68.8
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.72	729.5	30.50	774.7	59.4	15.2	66.2	3	.....	1	2	1	.....	18	1	5	1721	2770	2	0.12	3.0
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.84	453.1	30.05	763.3	21.6	—5.8	52.2	2	2	1	13	1	.....	.....	9	3	11269	18135	3	3.71	94.2
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	23.98	609.1	29.75	755.6	47.2	8.4	41.3	3	7	3	3	11	.....	.....	.....	4	5360	8626	2	0.21	5.3
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.25	742.9	30.05	763.3	59.3	15.2	78.5	6	3	6	2	2	.....	1	7	4	3668	5903	4	2.34	59.4
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.00	762.0	30.01	762.2	72.8	22.7	87.6	2	3	.....	2	3	7	12	2	.....	7221	11621	2	0.41	10.4
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.39	746.5	30.05	763.3	53.6	12.0	78.9	10	.....	.....	4	7	1	3	6	.....	6470	10412	4	1.66	42.2
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.02	762.5	30.07	763.8	52.9	11.6	75.8	4	3	3	4	2	3	1	10	1	6456	10390	6	5.64	143.3
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.02	762.5	30.09	764.3	47.9	8.8	78.8	4	10	1	2	7	3	1	.....	3	4787	7704	5	1.38	35.1
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	66.3	19.1	78.4	2	3	2	4	.....	.....	3	16	1	10870	17493	5	2.13	54.1
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.70	627.4	30.06	763.5	44.2	6.8	49.7	.....	1	.....	12	16	.....	.....	.....	2	5383	8663	2	0.44	11.2
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	29.95	760.7	29.97	761.2	74.3	23.5	76.5	2	2	2	1	.....	1	8	14	1	7429	11956	3	3.13	79.5
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.57	751.1	29.91	759.7	58.3	14.6	65.5	10	8	.....	1	8	2	.....	.....	2	4728	7609	3	0.79	20.1
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.76	755.9	29.94	760.5	72.0	22.2	87.2	.....	1	.....	.....	.....	21	3	1	5	7008	11278	6	2.93	74.4
Rochester	N. 43 08	W. 77 51	6.58 a.m.	589	179	29.42	747.3	30.03	762.7	57.3	14.1	78.6	.....	2	9	5	1	2	5	4	3	4724	7602	4	5.86	148.8
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.52	749.8	30.09	764.3	45.3	7.4	82.3	7	1	.....	1	.....	1	2	1	18	3092	4976	4	0.73	18.5
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.85	758.2	29.93	760.2	55.7	13.2	77.8	2	.....	.....	2	9	13	.....	2	3	5428	8735	2	Inap.	Inap.
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.44	747.8	30.08	764.0	64.2	17.9	79.7	3	2	.....	2	9	5	5	5	.....	6041	9722	6	3.96	100.6
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.14	740.1	29.95	760.7	57.4	14.1	78.3	5	4	.....	2	.....	11	5	1	3	6147	9892	6	4.34	110.2
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.11	739.4	29.89	759.2	50.9	10.5	82.6	1	9	2	1	5	8	2	1	2	7450	11989	6	4.00	101.6
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.58	649.7	29.90	759.4	52.0	11.1	43.8	2	1	.....	.....	.....	3	.....	4	21	3773	6072	4	2.55	64.8
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	676	206	29.25	742.9	29.93	760.2	68.7	20.4	88.9	.....	.....	.....	1	1	6	1	1	21	2595	4176	6	4.70	119.4
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.83	757.7	29.90	759.4	59.0	15.0	78.9	4	6	3	4	3	.....	2	4	5	5045	8119	9	0.04	1.0
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.38	746.2	30.04	763.0	60.1	15.6	74.5	3	3	2	7	5	2	2	7	.....	8459	13597	4	0.98	24.9
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	34	10	30.05	763.3	30.08	764.0	57.4	14.1	86.8	.....	2	5	6	.....	5	5	7	1	7229	11634	5	3.33	84.6
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.90	759.4	29.97	761.2	52.8	11.6	85.2	.....	1	10	11	3	1	1	.....	4	8776	14123	5	0.22	5.6
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7049	2148	23.27	591.0	29.81	757.2	49.0	9.4	53.5	6	2	.....	1	.....	9	6	1	6	4964	7989	4	2.31	58.7
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.97	761.2	30.06	763.5	70.8	21.6	78.6	6	2	3	1	3	1	5	11	.....	5349	8608	4	0.83	21.1
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.76	755.9	29.99	761.7	69.8	21.0	87.5	.....	.....	1	2	5	10	6	5	2	3455	5560	6	8.63	219.2
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.22	615.2	30.34	770.6	49.5	9.7	51.1	7	4	.....	.....	2	.....	.....	.....	18	2324	3740	2	1.01	25.7
Sitka	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6519	10491	.....	3.10	78.7
Smithville	N. 33 55	W. 78 01	6.56 a.m.	33	10	30.04	763.0	30.07	763.8	66.7	19.3	88.2	11	4	2	.....	2	1	4	3	4	6460	10396	5	2.25	57.1
Socorro *h*	N. 34 05	W. 106 55	5.01 a.m.	4565	1391	25.35	643.9	29.41	747.0	55.6	13.1	36.9	1	2	.....	2	4	7	.....	4	3	4588	7384	2	0.51	13.0
Spokane Falls, W. T.	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.99	710.9	29.85	758.2	41.7	5.4	63.5	1	.....	1	4	11	1	2	4	7	4897	7881	5	0.50	12.7
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.36	745.7	30.02	762.5	63.0	17.2	78.0	.....	2	2	3	9	2	5	8	.....	5347	8605	3	2.86	72.6
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.95	760.7	30.08	764.0	56.5	13.6	79.9	8	1	.....	1	13	1	2	5	.....	3377	5435	7	4.85	123.2
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	26.90	683.2	29.90	759.4	60.4	15.8	89.6	1	3	2	6	4	8	.....	.....	7	8662	13940	5	2.26	57.4
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.03	762.7	30.09	764.3	50.4	10.2	87.7	5	4	1	3	8	1	.....	9	.....	9196	14799	5	7.22	183.4
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.37	746.0	30.04	763.0	61.0	16.1	72.5	7	1	6	3	6	.....	1	6	1	6106	9826	5	0.45	11.4
Tucson *a*	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.42	696.5	29.97	761.2	60.0	15.6	38.8	1	.....	.....	2	2	19	5	1	.....	3215	5174	1	0.04	1.0
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.72	754.9	30.22	767.6	46.6	8.1	68.8	1	1	6	5	5	9	4	.....	.....	6208	9991	4	0.06	1.5
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	28.96	735.6	29.76	755.9	67.4	19.7	84.0	2	.....	.....	1	4	11	7	.....	6	2611	4202	6	6.44	163.6
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.77	756.1	30.02	762.5	69.2	20.7	81.5	3	.....	.....	1	1	16	6	1	3	3757	6046	5	4.39	111.5
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.52	749.8	29.89	759.2	56.5	13.6	69.5	5	14	2	2	.....	5	2	1	.....	2944	4738	1	0.29	7.4
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	29.98	761.5	30.09	764.3	61.9	16.6	76.2	4	2	2	2	10	1	2	6	2	3422	5507	4	1.86	47.2
Wickenburg	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	55.0	12.8	47.9	2	1	2	1	2	.....	.....	.....	23	.....	.....	2	0.07	1.8
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.01	762.2	30.06	763.5	66.6	19.2	81.4	5	1	2	2	1	2	5	5	8	3588	5774	4	2.11	53.6
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.60	650.2	29.96	761.0	44.7	7.1	50.0	1	.....	.....	6	6	.....	.....	18	.....	6128	9862	3	1.02	25.9
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	30.04	763.0	30.08	764.0	53.4	11.9	84.0	6	3	3	7	1	2	3	2	4	7504	12076	5	2.39	60.7
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.69	728.7	29.96	761.0	60.0	15.6	78.2	5	1	1	1	5	8	2	6	2	6721	10816	5	9.88	251.0
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.65	753.1	29.79	756.7	65.2	18.4	63.0	4	3	3	3	4	4	1	3	6	4141	6664	1	0	0
Sub-Series.																										
Bozota *a*	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.09	561.1	.....	.....	54.1	12.3	81.7	.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	7	4.25	107.9
Buff Bay Town, Jam. *c*	N. 18 15	W. 76 39	7.01 a.m.	?	?	.....	.....	.....	.....	.....	.....	82.8	.....	.....	1	.....	.....	3	24	.....	.....	.....	.....	3	.....	.....
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.95	760.7	30.00	762.0	78.0	25.6	74.7	.....	1	.....	.....	.....	2	.....	.....	28	.....	.....	7	3.02	76.7
Jakobshavn	N. 69 13	W. 50 55	8.44 a.m.	43	13	29.77	756.1	29.82	757.4	36.3	2.4	.....	7	3	5	4	1	2	.....	.....	9	.....	.....	5	0	0
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	29.93	760.2	29.94	760.5	86.3	30.2	76.8	8	.....	.....	.....	.....	.....	.....	.....	23	.....	.....	5	12.14	308.4
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.86	758.4	29.94	760.5	79.5	26.4	81.2	5	.....	.....	.....	.....	5	14	7	.....	.....	.....	6	15.85	402.6
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	0	2	30.00	762.0	30.00	762.0	79.4	26.3	86.3	.....	.....	.....	.....	.....	4	26	1	.....	.....	.....	9	11.27	286.2
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.41	747.0	29.97	761.2	78.1	25.6	87.1	1	.....	.....	.....	5	.....	.....	.....	25	.....	.....	9	14.38	365.2
Rivas *c*	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	77.5	25.3	.....	2	3	2	5	1	5	3	7	.....	.....	.....	7	5.08	129.0
Santiago deCuba *c*	N. 19 55	W. 75 50	7.04 a.m.	21	6	29.92	760.0	29.94	760.5	77.5	25.3	79.9	8	.....	.....	1	1	.....	.....	1	20	.....	.....	9	14.32	363.7
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	110	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory	N. 57 02	W. 92 56	5.58 a.m.	45	14	30.03	762.7	30.08	764.0	28.3	— 2.1	94.6	2	5	5	2	3	1	3	10	.....	.....	.....	7	3.79	96.3

The following table of Ocean Square mean data, from observations taken at 7 A. M. Washington or 0.08 P. M. Greenwich mean time, is computed from the isobars, isotherms and wind directions of the daily international charts, which latter are based upon the data obtained from the logs of vessels for the month of MAY, 1881.

Ocean Square Bounded By—	Barometer. Inch.	Barometer. Mill.	Temperature. Fah.	Temperature. Cent.	Prevail'g Wind.	Force 0–10
N. 30° & 35° W. 10° & 15°	30.10	764.5	68.2	20.1	NE	2.9
35 40 10 15	30.12	765.0	65.6	18.7	NE	3.5
35 40 15 20	30.16	766.1	64.7	18.2	SW	3.2
30 35 15 20	30.13	765.3	67.5	19.7	SW	1.8
40 45 10 15	30.10	764.5	63.9	17.7	NE	3.1
45 50 10 15	30.11	764.8	59.2	15.1	SW	3.7
45 50 15 20	30.11	764.8	59.1	15.1	SW	4.1
40 45 15 20	30.14	765.5	61.5	16.4	SW	3.9
50 55 10 15	30.05	763.3	56.6	13.7	SW	4.3
55 60 10 15	29.99	761.7	52.4	11.3	SW	4.1
55 60 15 20	29.97	761.2	51.6	10.9	SW	3.8
50 55 15 20	30.04	763.0	55.1	12.8	SW	4.4
10 15 20 25	29.99	761.7	79.8	26.6	NE	3.4
15 20 20 25	30.03	762.7	76.6	24.8	NE	3.3
15 20 25 30	30.06	763.5	75.7	24.3	NE	3.4
10 15 25 30	30.02	762.5	78.5	25.8	NE	3.5
20 25 20 25	30.09	764.3	73.6	23.1	NE	3.2
25 30 20 25	30.14	765.5	70.9	21.6	NE	3.3
25 30 25 30	30.17	766.3	70.5	21.4	NE	3.4
20 25 25 30	30.13	765.3	70.7	21.5	NE	3.5
30 35 20 25	30.20	767.1	67.2	19.6	SW	2.6
35 40 20 25	30.23	767.8	64.3	17.9	NE	2.8
35 40 25 30	30.25	768.3	63.6	17.6	NE	2.8
30 35 25 30	30.23	767.8	66.6	19.2	NE	3.2
40 45 20 25	30.17	766.3	60.5	15.8	SW	3.3
45 50 20 25	30.08	764.0	57.1	13.9	SW	4.1
45 50 25 30	30.07	763.8	56.5	13.6	SW	4.1
40 45 25 30	30.17	766.3	59.9	15.5	SW	3.8
50 55 20 25	30.01	762.2	53.5	11.9	SW	4.0
55 60 20 25	29.95	760.7	49.8	9.9	NE; SW	3.9
55 60 25 30	29.93	760.2	48.8	9.3	SW	3.5
50 55 25 30	29.98	761.5	51.7	10.9	SW	4.2
10 15 30 35	30.05	763.3	78.3	25.7	NE	3.5
15 20 30 35	30.08	764.0	75.9	24.4	NE	3.5
15 20 35 40	30.10	764.5	76.4	24.7	NE	3.7
10 15 35 40	30.05	763.3	78.1	25.6	NE	3.5
20 25 30 35	30.15	765.8	72.8	22.7	NE	3.4
25 30 30 35	30.19	766.8	70.0	21.1	NE	3.3
25 30 35 40	30.19	766.8	70.1	21.2	NE	3.8
20 25 35 40	30.15	765.8	73.1	22.8	NE	3.8
30 35 30 35	30.23	767.8	66.1	18.9	SW; NE	3.2
35 40 30 35	30.23	767.8	62.5	16.9	SW	3.2
35 40 35 40	30.22	767.6	61.6	16.4	NW; SW	3.5
30 35 35 40	30.23	767.8	65.7	18.7	SW	3.5
40 45 30 35	30.17	766.3	58.8	14.9	SW	4.0
45 50 30 35	30.05	763.3	54.7	12.6	SW	4.4
45 50 35 40	30.05	763.3	53.3	11.8	SW; NW	4.6
40 45 35 40	30.11	764.8	56.9	13.8	SW	4.0
50 55 30 35	29.97	761.2	49.7	9.8	SW	3.7
55 60 30 35	29.89	759.2	45.9	7.7	SW	3.2
55 60 35 40	29.88	758.9	44.7	7.1	NE;SW	3.5
N. 50° & 55° W. 35° & 40°	29.96	761.0	47.9	8.8	NW	3.9
10 15 40 55	30.05	763.3	77.9	25.5	NE	3.6
15 20 40 45	30.09	764.3	76.8	24.9	NE	3.6
15 20 45 50	30.08	764.0	76.9	24.9	NE	3.5
10 15 45 50	30.05	763.3	78.4	25.8	NE	3.3
20 25 40 45	30.14	765.5	74.1	23.4	E	3.5
25 30 40 45	30.18	766.6	70.3	21.3	NE	3.5
25 30 45 50	30.14	765.5	70.6	21.4	NE	3.6
20 25 45 50	30.11	764.8	75.0	23.9	E	3.6
30 35 40 45	30.20	767.1	64.7	18.2	NE	3.5
35 40 40 45	30.18	766.6	60.7	15.9	NE	3.5
35 40 45 50	30.15	765.8	60.6	15.9	NE; NW	3.6
30 35 45 50	30.16	766.1	65.5	18.6	SE	3.4
40 45 40 45	30.13	765.3	55.2	12.9	SW	3.8
45 50 40 45	30.04	763.0	50.2	10.1	NW	4.1
45 50 45 50	30.09	764.3	46.8	8.2	SW; NE	3.7
40 45 45 50	30.12	765.0	53.1	11.7	NE; W	3.9
50 55 40 45	29.96	761.0	45.5	7.5	NW	3.5
55 60 40 45	29.86	758.4	42.3	5.7	NE	3.3
55 60 45 50	29.84	757.9	40.6	4.8	NW	3.2
50 55 45 50	29.99	761.7	43.5	6.4	NE	3.5
10 15 50 55	30.02	762.5	79.4	26.3	NE	2.8
15 20 50 55	30.04	763.0	77.8	25.4	E	2.7
15 20 55 60	30.00	762.0	81.0	27.2	NE	2.4
20 25 50 55	30.08	764.0	75.5	24.2	E	3.2
25 30 50 55	30.10	764.5	71.5	21.9	NE	3.2
25 30 55 60	30.08	764.0	73.2	22.9	NE	3.4
20 25 55 60	30.05	763.3	76.7	24.8	E	3.2
30 35 50 55	30.11	764.8	64.2	17.9	SE	3.3
35 40 50 55	30.11	764.8	61.1	16.2	SE	3.6
35 40 55 60	30.08	764.0	62.3	16.8	SE; S	3.5
30 35 55 60	30.08	764.0	68.4	20.2	SE	3.1
40 45 50 55	30.11	764.8	49.6	9.8	E	3.4
40 45 55 60	30.10	764.5	49.6	9.8	NW	3.4
20 25 60 65	30.03	762.7	77.7	25.4	SE	2.8
25 30 60 65	30.05	763.3	73.8	23.2	NE	3.5
25 30 65 70	30.04	763.0	74.1	23.4	NE	3.3
20 25 65 70	30.01	762.2	77.0	25.0	SE	3.1
30 35 60 65	30.04	763.0	71.0	21.7	SE	2.9
35 40 60 65	30.06	763.5	62.7	17.1	SW	3.5
35 40 65 70	30.06	763.5	62.9	17.2	NE; S	4.0
30 35 65 70	30.04	763.0	70.2	21.2	NE	3.1
40 45 60 65	30.08	764.0	49.6	9.8	NE; SE	3.1
40 45 65 70	30.07	763.8	49.2	9.6	NW; NE	3.3
25 30 70 75	30.01	762.2	75.5	24.2	NE	2.5
25 30 75 80	29.98	761.5	76.9	24.9	NE	2.3
30 35 70 75	30.06	763.5	68.6	20.3	NE	3.1
35 40 70 75	30.08	764.0	61.2	16.2	NE	3.4
30 35 75 80	30.06	763.5	67.4	19.7	NE; SW	2.8

The following table shows the position of Ocean Squares, the total number of observations and the number of days on which observations were taken for each square during the month of MAY, 1881.

Ocean Square Bounded By—	No. Days.	No. Obs.
N. 0° & 5° W. 20° & 25°	1	1
0 5 25 30	2	2
5 10 25 30	8	8
5 10 30 35	1	1
5 10 45 50	2	2
5 10 50 55	2	2
10 15 15 20	2	2
10 15 20 25	2	2
10 15 25 30	2	2
10 15 30 35	1	1
10 15 35 40	2	2
10 15 40 45	2	2
10 15 45 50	1	1
10 15 55 60	5	6
10 15 60 65	2	2
10 15 65 70	3	3
10 15 70 75	2	2
15 20 20 25	2	2
15 20 25 30	4	5
15 20 30 35	1	1
15 20 35 40	4	4
15 20 40 45	2	2
15 20 50 55	1	1
15 20 55 60	2	2
15 20 60 65	24	24
15 20 65 70	2	2
15 20 70 75	7	7
20 25 15 20	1	1
20 25 20 25	5	5
20 25 25 30	2	2
20 25 30 35	5	5
20 25 35 40	7	7
20 25 40 45	7	8
20 25 45 50	6	6
20 25 50 55	12	12
20 25 55 60	6	6
20 25 60 65	4	4
20 25 65 70	2	2
N. 20° & 25° W. 70° & 75°	5	5
20 25 75 80	2	2
25 30 15 20	2	2
25 30 20 25	2	2
25 30 25 30	2	3
25 30 30 35	4	5
25 30 35 40	1	1
25 30 40 45	1	1
25 30 45 50	2	2
25 30 55 60	1	1
25 30 60 65	8	8
25 30 65 70	2	2
25 30 70 75	1	1
25 30 75 80	3	3
30 35 5 10	1	1
30 35 10 15	4	4
30 35 15 20	4	4
30 35 20 25	3	5
30 35 25 30	1	1
30 35 35 40	1	1
30 35 40 45	4	6
30 35 45 50	1	1
30 35 50 55	1	1
30 35 55 60	1	1
30 35 60 65	9	9
30 35 65 70	3	3
30 35 70 75	3	3
30 35 75 80	9	16
30 35 80 85	3	3
35 40 5 10	27	34
35 40 10 15	8	9
35 40 15 20	2	2
35 40 20 25	1	1
35 40 35 40	3	4
35 40 40 45	3	3
35 40 45 50	2	2
35 40 55 60	6	6
35 40 60 65	7	9
N. 35° & 40° W. 65° & 70°	9	10
35 40 70 75	15	24
35 40 75 80	11	14
40 45 5 10	3	3
40 45 10 15	2	2
40 45 15 20	4	6
40 45 20 25	3	3
40 45 25 30	4	4
40 45 30 35	5	6
40 45 35 40	6	7
40 45 40 45	7	7
40 45 45 50	14	20
40 45 50 55	17	22
40 45 55 60	15	21
40 45 60 65	18	19
40 45 65 70	11	13
40 45 70 75	10	11
45 50 5 10	6	6
45 50 10 15	10	12
45 50 15 20	12	13
45 50 20 25	10	11
45 50 25 30	14	21
45 50 30 35	15	21
45 50 35 40	10	15
45 50 40 45	7	8
45 50 45 50	2	2
45 50 50 55	27	29
50 55 5 10	5	7
50 55 10 15	9	13
50 55 15 20	9	13
50 55 20 25	8	8
50 55 25 30	3	3
50 55 30 35	4	4
50 55 35 40	2	2
55 60 5 10	2	2
55 60 10 15	2	2
55 60 15 20	1	1
55 60 20 25	2	2

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San Jose the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols. Attention is called to changes made in the latitude, longitude and elevation of stations of this series, on advice received from the Indian Meteorological office since last summary was published; all previous issues should be corrected to conform to the present.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air, except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off, and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters. At Buff Bay Town, Jamaica, observations are taken at 7.36 a. m., local time. On May 12th, the elevation of barometer cistern at La Crosse, changes from 702 feet, or 214 meters, to 725 feet, or 221 meters, and at Indianapolis, on April 30th, from 746 feet, or 227 meters, to 753 feet, or 229 meters.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

BRITISH MERCHANT-MARINE SERIES.—Same as the Naval, except that frequently the direction of the wind is given to the true meridian.

GERMAN MERCHANT-MARINE SERIES.—Same as U. S. Naval.

SWEDISH MERCHANT-MARINE SERIES.—Same as Swedish Naval.

UNITED STATES MERCHANT-MARINE SERIES.—Same as U. S. Naval.

ERRATA.

DAILY BULLETIN, MAY, 1881—2d, page 6, United States Series, Cape May, temperature 39° Fahrenheit, or 3.9° Centigrade, should read 59° Fahrenheit, or 15.0° Centigrade.

5th, page 5, Swiss Series, the weather at Geneva should be ———, and the word "cloudy" appear opposite Zurich.

7th, page 8th, British Naval Series, H. M. S. Garnet, N. 35° 54′, should read S. 35° 54′.

9th, page 3, French Series, Cluny, reduced barometer 30.20 inches, should read 30.29 inches; Gréasque, reduced barometer 30.07 inches, should read 30.06 inches; German Series, Berlin, temperature, Fahrenheit 48.6°, should read 46.8°.

10th, page 2, British Series, Glasgow, barometers 1.00 inch, or 25.40 millimeters too low, should read, actual barometer 30.50 inches, or 774.7 m. m.; reduced barometer 30.71 inches, or 780.6 m. m.

11th, page 5, Norwegian Series, Gjæsvær, reduced millimeter barometer 746.4, should read 764.4; Scottish Series, North Unst, rainfall 0.0, should be —, same correction on 22d.

14th, page 5, Turkish Series, Beirut, reduced barometer 29.93 inches, should read 29.95.

17th, page 10, United States Naval Series, Jamestown, Sitka Alaska, barometer 29.69 inches, or 754.1 m. m., should read 29.99 inches, or 761.7 m. m.

18th, page 1, Austro-Hungarian Series, Eperies, rainfall 0.030 inches, should read 0.039 inches.

23d, page 1, Austro-Hungarian Series, Kremsmunster, rainfall 0.848 inches, should read 0.846 inches.

25th, page 4, Indian Series, Hazaribagh, rainfall 0.0, should be —.

26th, page 9, British Naval Series, H. M. S. Wolverene, humidity 36, should read 56.

31st, page 9, British Naval Series, H. M. S. Phœnix, N. 0° 37′, should read N. 10° 37′.

Monthly Summary.—See note under head of Indian Series, in General Remarks.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.

PREVAILING WINDS.

Arrows show the direction of and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
O	0	0	0
	1, 2	0 to 9	0 to 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

BRIG. & BVT. MAJ. GEN'L.

CHIEF SIGNAL OFFICER, U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *black*; detached barometer means in English inches.

Isotherms in *red*; detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of May 1881. based on the daily charts of the International Bulletin.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF JUNE, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
JULY, 1882.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JUNE, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for June, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Algerian Series.	° ′	° ′																								
Nemours ‡	N. 35 06	W. 1 51	12.01 p.m.	20	6	.....	.....	29.98	761.5	74.5	23.6	84.0	14	2	11	.....	.....	.....	3	.....	.....	.....	.....	2	0.73	18.5
Algiers ‡	N. 36 47	E. 3 04	0.20 p.m.	325	99	.....	.....	30.02	762.6	73.4	23.0	70.2	9	3	8	.....	.....	.....	.....	10	.....	.....	.....	2	1.84	46.6
La Calle ‡	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.02	762.6	75.7	24.3	73.7	.....	10	1	6	2	3	4	4	.....	.....	.....	3	0.92	23.5
Tunis ‡	N. 36 47	E. 10 11	0.49 p.m.	46	14	.....	.....	30.02	762.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sfax ‡	N. 34 45	E. 10 36	0.50 p.m.	?	?	.....	.....	30.11f	764.7f	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida ‡	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.03	762.7	78.4	25.8	39.1	17	6	.....	2	3	1	.....	1	.....	.....	.....	3	1.44	36.7
Tebessa ‡	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.04	763.1	77.5	25.3	28.5	4	5	3	3	2	2	3	.....	8	.....	.....	4	0.78	19.9
Geriville ‡	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	82.6	28.1	29.5	3	7	2	3	.....	13	.....	2	.....	.....	.....	1	0.28	7.1
Laghouat ‡	N. 33 48	E. 2 51	0.19 p.m.	2526	770	.....	.....	30.03	762.8	85.3	29.6	19.3	8	.....	4	1	6	1	9	1	.....	.....	.....	1	0.05	1.2
Biskra ‡	N. 34 51	E. 5 40	0.31 p.m.	410	125	.....	.....	30.06	763.4	89.4	31.9	52.3	.....	10	.....	.....	.....	20	.....	.....	.....	.....	.....	1	0	0
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.93	760.2	30.02	762.5	47.1	8.4	82.4	11a	2	4	5	2	3	1	1	.....	.....	.....	6	2.24	56.9
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.37	746.0	29.91	759.6	72.9	22.7	54.0	2	.....	2	6	5	5	2	6	2	.....	.....	5	3.05	77.4
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.13	739.9	29.87	758.8	66.6	19.2	62.1	3	4	16	2	2	1	2	.....	.....	.....	.....	8	3.91	99.3
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	28.98	736.2	29.84	757.9	68.4	20.2	63.9	7	4	.....	.....	5	2	.....	.....	12	.....	.....	8	3.91	99.4
Gratz ‡	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.70	729.0	29.91	759.8	68.9	20.5	67.2	2	4	1	6	10	3	3	1	.....	.....	.....	6	4.79	121.7
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.48	723.3	29.85	758.2	71.2	21.8	55.3	3	17	2	2	1	3	1	1	.....	.....	.....	6	4.28	108.7
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1260	384	28.61	726.8	29.92	759.9	66.0	18.9	67.3	.....	2	5	9	2	4	.....	8	.....	.....	.....	7	4.62	117.4
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.86	733.1	29.83	757.7	66.4	19.1	66.7	.....	12	.....	4	.....	8	1	5	.....	.....	.....	8	2.41	61.3
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.84	757.8	29.93	760.3	74.8	23.8	58.3	.....	.....	10	2	6	8	3	1	.....	.....	.....	4	1.88	47.8
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.41	747.1	29.86	758.5	70.5	21.4	69.9	1	7	4	5	4	6	1	2	.....	.....	.....	7	4.73	120.2
Szegedin a	N. 46 15	E. 36 49	2.35 p.m.	256	78	29.61	752.0	29.87	758.8	71.4a	21.9a	69.0a	2a	4	3	5	9	.....	.....	1	4	.....	.....	5	0.79	20.1
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.86	758.4	29.96	761.0	74.1	23.4	58.3	2	6	4	5	2	2	2	2	5	.....	.....	6	3.94	100.1
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.24	742.6	29.93	760.1	68.5	20.3	57.3	3	9	8	1	1	5	2	1	.....	.....	.....	6	1.01	30.8
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	86	26	29.78	756.4	29.87	758.7	54.3	12.4	67.6	4	5	.....	2	8	10	2	.....	.....	.....	.....	7	2.98	75.7
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63	29.67	753.6	29.89	759.2	57.8a	14.3a	71.1a	5	3	3	9	3	7	.....	.....	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	180	85	.....	.....	29.93	760.2	57.3	14.1	65.8	.....	3	11	5	3	6	2	.....	.....	.....	.....	6	.....	.....
Bolton k	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.45	748.0	29.99	761.7	57.4	14.1	63.1	2	4	3	4	3	1	2	.....	.....	.....	.....	7	.....	.....
Bradford c	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.53	750.0	29.93	760.2	59.9	15.5	65.6	2	3	1	10	2	3	1	3	.....	.....	.....	7	2.13	54.1
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.96	761.0	29.99	761.7	84.1	28.9	72.0	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	5	.....	.....
Cardington l	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.98	761.5	69.4	20.8	59.6	.....	5	1	5	6	.....	1	.....	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.86	758.4	29.99	761.7	63.4	17.4	64.8	6	4	.....	8	4	2	1	4	1	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.78	756.4	30.01	762.2	60.4	15.8	68.5	1	11	2	6	7	3	.....	.....	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	.....	.....	30.06	763.5	68.0	20.0	68.1	1	3	1	2	.....	3	1	7	12	.....	.....	1	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.64	752.8	29.87	758.7	85.8	29.9	84.1g	.....	2	12	10	2	2	.....	.....	2	.....	.....	1	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	25	8	.....	.....	29.85a	758.2	58.6	14.8	72.9	3	5	8	10	2	.....	2	.....	.....	.....	.....	7	3.16	80.3
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.00	762.0	30.05	763.3	73.0c	22.8	85.4c	.....	1	5	7	1	.....	12	4	.....	.....	.....	3	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.65	753.1	29.85	758.2	58.0	14.4	64.0	3	.....	5	9	5	2	1	5	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.81	757.2	29.98	761.5	65.4	18.6	58.3	6	1	3	7	6	3	2	2	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.78	756.4	29.99	761.7	60.5	15.8	71.1d	.....	8	4	3	8	5	1	3	.....	.....	.....	4	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.95	760.7	29.98	761.5	64.2	17.9	54.4	4	5	3	7	8	2	.....	1	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.70	754.4	29.95	760.7	62.6	17.0	69.6	.....	7	1	15	2	1	.....	8	1	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	29.90	759.4	29.98	761.5	75.1	23.9	68.3	2	9	2	1	2	2	4	8	.....	.....	.....	2	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29.98	761.5	30.03	762.7	84.8	29.3	79.0	3	1	1	1	8	5	9	2	.....	.....	.....	5	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.41	747.0	29.85	758.2	61.2	16.2	68.3	3	6	4	4	8	4	.....	1	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	212	64	29.75	755.6	29.98	761.5	62.2	16.8	60.5	2	3	7	7	6	2	.....	2	1	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.91	759.7	29.99	761.7	62.2	16.8	74.2	4	3	3	7	13	.....	.....	.....	.....	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.97	761.2	51.1	10.6	78.9	7	3	5	4	2	7	1	.....	1	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	29.82	757.4	29.88	758.9	77.3	25.2	60.2	4	.....	1	10	4	.....	.....	9	2	.....	.....	3	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.70	754.4	29.97	761.2	63.3	17.4	73.1	1	2	3	11	6	.....	2	4	1	.....	.....	7	.....	.....
Silloth Rectory a	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.88	758.9	29.91	759.7	61.0	16.1	73.3	.....	3	12	6	4	.....	1	.....	3	.....	.....	6	3.15	80.0
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110	.....	.....	29.96	761.0	59.0a	15.0a	65.6b	2	.....	7	9	6	1	2	3	.....	.....	.....	8	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.78	756.4	29.99	761.7	64.5	18.1	60.2	2	2	3	15	2	1	.....	5	.....	.....	.....	6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.99	761.7	30.00	762.0	64.3	17.9	66.1	8	9	2	4	6	1	.....	.....	.....	.....	.....	6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	29.88	758.9	29.90	759.4	57.7	14.3	75.3	2	8	4	6	4	6	.....	.....	.....	.....	.....	8	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for June, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CANADIAN SERIES	° ′	° ′																								
Bathurst ....d..	N. 47 39	W. 65 43	7.45 a.m.	9	3	.....	.....	.....	.....	54.4	12.4	.....	4	6	1	3	3	1	1	2	5	.....	.....	6	.....	.....
Charlottetown.....	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.81	757.1	29.85	758.2	52.6	11.4	78.2	.....	5	3	6	7	3	2	2	2	4924	7924	6	4.86	123.4
Chatham.....	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.79	756.7	29.85	758.2	51.3	10.7	80.9	2	5	5	2	7	3	1	3	2	3541	5699	6	3.61	91.7
Chicontimi.....	.....	.....	.....	159	48	.....	.....	.....	.....	50.0f	f10.0	.....	1h	15	.....	.....	.....	4	.....	.....	2	.....	.....	4	0.39	9.9
Cornwall.....	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.68	753.9	29.87	758.7	55.0	12.8	79.9	3	7	6	5	2	2	3	2	.....	.....	.....	6	1.08	27.4
Dalhousie ... .c..	N. 48 04	W. 66 21	7.32 a.m.	150	46	29.78	756.4	29.81	757.2	52.8	11.6	.....	.....	2	14	.....	.....	1	9	.....	1	.....	.....	.....	1.61	40.9
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.81	757.2	29.83	757.7	50.7	10.4	79.8	4	12	3	2	1	.....	.....	3	5	10533	16951	4	1.76	44.7
Fort Garry.....	N. 49 51	W. 97 07	5.39 a.m.	758	231	29.05	737.9	29.85	758.2	56.0	13.3	87.7	3	2	3	4	2	6	3	4	3	4956	7976	5	2.56	65.0
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.82	757.4	29.88	758.9	53.8	12.3	73.8	1	7	7	2	1	6	1	3	2	.....	.....	5	4.12	104.6
Granton.....	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.86	733.0	29.95	760.7	54.1	12.1	86.5	4	4	4	.....	1	1	4	4	8	.....	.....	4	5.23	132.8
Halifax.....	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.73	755.1	29.88	758.9	52.1	11.2	88.7	1	6	3	2	3	6	5	3	1	.....	.....	6	5.36	136.1
Hamilton.....	N. 43 16	W. 79 53	6.49 a.m.	338	103	29.55	750.6	29.93	760.2	58.5	14.7	82.1	2	.....	2	12	.....	1	1	12	.....	.....	.....	4	2.21	56.1
Kingston.....	N. 44 14	W. 76 30	7.02 a.m.	335	102	29.57	751.1	29.90	759.4	57.1	13.9	77.6	8	5	4	4	3	1	2	2	1	3797	6111	5	2.06	52.3
Little Glace Bay ..	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.81	757.2	29.85	758.2	51.7	10.9	77.4	3	1	4	11	4	2	1	1	3	.....	.....	6	3.72	94.5
Montreal.....	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.68	753.9	29.87	758.7	58.0	14.4	67.7	1	7	7	6	3	1	1	4	.....	.....	.....	5	1.38	35.1
Moose Factory ...	N. 51 16	W. 80 56	6.44 a.m.	30	9	29.89	759.2	29.93	760.2	47.7	8.7	73.4	8	3	3	6	1	4	.....	2	3	.....	.....	6	3.53	89.7
Parry Sound.....	N. 45 19	W. 80 01	6.48 a.m.	641	195	29.26	743.2	29.94	760.5	55.2	12.9	76.4	6	1	5	.....	.....	7	1	6	4	5173	8325	4	1.41	35.8
Peterborough ...e..	N. 44 17	W. 78 20	6.54 a.m.	688	210	29.21	741.9	29.95	760.7	59.5	15.3	70.9	2	2	8	.....	.....	1	6	1	5	.....	.....	5	1.74	44.2
Port Dover.....	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.25	742.9	29.93	760.2	56.8	13.8	91.1	8	2	1	4	1	.....	1	9	4	4720	7596	6	4.18	106.2
Port Stanley.....	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.29	744.0	29.93	760.2	57.0	13.9	85.7	5	5	6	1	.....	.....	7	6	.....	.....	.....	5	5.52	140.2
Quebec.....	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.56	750.8	29.88	758.9	52.4	11.3	75.9	2	5	7	.....	.....	1	1	11	5	.....	.....	4	1.32	33.5
Rockliffe.....	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.47	748.5	29.93	760.2	52.0	11.1	76.3	4	16	2	.....	.....	.....	2	2	4	4413	7102	4	1.77	45.0
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	641	208	29.23	742.4	29.94	760.5	53.4	11.9	81.8	5	1	1	4	3	4	6	5	1	5694	9163	5	1.60	40.6
St. Andrews.....	N. 43 04	W. 81 06	6.34 a.m.	?	?	29.81	757.2	29.86	758.4	50.5	10.3	82.2	2	8	2	.....	4	7	.....	4	3	.....	.....	3	4.96	126.0
St. John, N.B.....	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.69	754.1	29.86	758.4	52.3	11.3	77.0	3	6	.....	5	8	4	1	2	1	.....	.....	5	3.67	93.2
Stratford.....	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.67	728.2	29.93	760.2	54.1	12.3	85.9	2	7	2	1	.....	6	6	2	4	.....	.....	5	3.21	81.5
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.83	757.7	29.87	758.7	53.5	11.9	79.6	1	.....	5	13	3	.....	3	4	1	4668	7512	7	3.89	98.8
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.57	751.1	29.95	760.7	57.2	14.0	76.2	6	8	2	.....	2	.....	4	7	1	6279	10105	5	2.56	65.0
Windsor.....	N. 44 59	W. 63 58	7.53 a.m.	87	20	29.77	756.1	29.87	758.7	52.5	11.4	84.4	5b	1	7	2	8	1	4	.....	.....	.....	.....	7	5.17	131.3
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.88	733.5	29.92	760.0	57.6	14.2	78.9	3	10	3	3	.....	2	1	8	.....	.....	.....	5	4.49	114.0
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.81	757.2	29.87	758.7	50.9	10.5	89.2	.....	4	6	3	6	2	5	1	3	.....	.....	4	4.06	103.1
Sub-Series.																										
St. Johns, N. F.....	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.77	756.1	30.02	762.5	54.4	12.4	83.7	2	.....	2	10	3	6	3	4	.....	.....	.....	5	6.24	158.5
St. Pierre...	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.82	757.4	49.6	9.8	.....	1	6	3	11	3	2	1	1	2	.....	.....	.....	14.27	362.4
CAPE COLONY SERIES.																										
Cape St. Francis‡..	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.17	766.3	30.20	767.1	64.2a	a17.9	72.3a	2a	8	7	6	1	1	2	1	1	.....	.....	6	2.89	73.4
Cape Town.....	S. 34 05	E. 18 29	1.22 p.m.	27	8	30.15	765.8	30.19	766.8	51.2	10.7	.....	2	14	2	2	3	7	.....	.....	.....	.....	.....	6	3.27	83.1
Worcester.....	S. 33 36	E. 19 26	1.26 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHINESE SERIES.																										
Zi-Ka-Wei.....	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.77	756.2	29.80	756.8	72.3	22.4	90.9	.....	1	.....	1	3	14	7	.....	4	.....	.....	8	6.70	170.3
COSTA RICAN SERIES.																										
San José.....	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	26.20	665.5	29.92	760.0	68.2	20.1	90.7	.....	.....	.....	.....	.....	14	.....	7	9	.....	.....	8	0.61	15.4
DANISH SERIES.																										
Copenhagen.....	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.87	758.7	29.92	759.9	61.9	16.6	60.6	5	10	4	2	3	2	1	3	.....	.....	.....	6	.....	.....
Fanöe.....b..	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.90	759.5	29.92	760.0	59.9	15.5	72.7	.....	6	12	5	2	2	.....	1	.....	.....	.....	6	.....	.....
Godthaab.. .....j..	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.73	755.1	29.77	756.2	40.6	4.8	78.1	2	3	1	4	4	.....	.....	4	2	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.69	754.1	29.73	755.2	47.3	8.5	.....	1	4	3	2	5	5	5	5	.....	.....	.....	7	.....	.....
Thorshavn.....	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.81	757.1	29.84	758.0	48.6	9.2	78.4	4	.....	2	7	2	4	4	6	1	.....	.....	7	.....	.....
Vestervig.....	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.80	757.0	29.90	759.4	58.3	14.6	.....	2	8	4	7	4	2	1	.....	2	.....	.....	6	.....	.....
FRENCH SERIES.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.42	747.2	30.05	763.3	70.0	21.1	54.7	2	11	2	6	2	5	.....	2	.....	.....	.....	.....	7.28	184.8
Alençon	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.53	750.0	30.08	764.0	65.1	18.4	78.9	7	3	1	8	6	1	.....	4	.....	.....	.....	5	1.67	42.5
Arras..... .b..	N. 50 18	E. 2 47	0.19 p.m.	239	73	29.74	755.4	29.98	761.6	63.9	17.7	59.8a	5	6	4	5	2	2	2	2	.....	.....	.....	.....	0	0
Avignon	N. 43 57	E. 4 38	0.26 p.m.	65	20	29.90	759.5	29.98	761.5	77.5	25.3	43.5	17	3	1	3	2	4	.....	.....	.....	.....	.....	3	0.75	19.0
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	518	158	29.45	748.0	29.99	761.8	69.4	20.8	51.6a	2	4	4	5	3	1	3	8	.....	.....	.....	7	1.61	40.8
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.76	756.0	30.02	762.5	67.3	19.6	53.1	4	2	8	6	3	2	.....	5	.....	.....	.....	7	2.28	57.9
Besançon	N. 47 14	E. 6 01	0.32 p.m.	829	252	29.13	739.9	29.95	760.7	69.1	20.6	56.6	1	1	1	6	11	.....	.....	10	.....	.....	.....	.....	5.41	37.5
Bordeaux.....	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.79	756.6	30.04	763.0	71.2	21.8	51.4	3	4	4	5	3	4	3	4	.....	.....	.....	7	1.46	137.1
Bourges.....	N. 47 10	E. 2 24	0.17 p.m.	510	156	29.49	749.1	30.03	762.7	69.6	20.9	50.9	9	1	10	2	2	2	.....	4	.....	.....	.....	.....	2.16	54.9
Brest.....	N. 48 23	W. 4 29	11.50 a.m.	213	65	29.84	758.0	30.08	764.1	64.4	18.0	70.8	6	5	2	10	4	.....	.....	1	2	.....	.....	7	1.88	47.7
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.94	760.4	30.01	762.2	66.6	19.2	67.9	7	6	5	2	8	1	.....	1	.....	.....	.....	4	1.85	46.9
Châlons-sur-Marne	N. 48 57	E. 4 23	0.25 p.m.	294	90	29.66	753.4	29.97	761.2	71.8	22.1	55.3	8	.....	3	3	2	3	3	6	2	.....	.....	5	2.02	51.2
Charleville	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.49	749.1	29.99	761.7	69.1	20.6	64.6	1	3	3	10	5	1	6	.....	1	.....	.....	.....	1.56	39.6
Clermont-Fd.....	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.66	728.0	29.98	761.5	69.1	20.6	55.5	10	3	3	2	6	.....	1	5	.....	.....	.....	6	3.52	89.4
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.19	741.5	30.00	762.1	72.7	22.6	55.3	5	2	3	4	7	2	1	6	.....	.....	.....	4	3.02	76.8
Commercy.....o..	N. 48 45	E. 5 35	0.30 p.m.	817	249	29.14	740.2	29.98	761.6	68.9	20.5	49.0	1	5	17	1	.....	2	1	3	.....	.....	.....	6	1.52	38.6
Gap	N. 44 34	E. 6 04	0.32 p.m.	2427	740	27.48	697.9	29.92	760.0	71.6	22.0	43.3	7a	3	2	6	2	5	2	2	.....	.....	.....	.....	0.87	22.1
Gréasque..... ...	N. 43 24	E. 5 37	0.31 p.m.	1056	322	28.90	734.1	30.04	763.1	76.1	24.5	38.2	.....	.....	.....	.....	2	13	8	7	.....	.....	.....	4	1.27	32.2
Grenoble.....	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.21	741.9	29.95	760.7	71.4	21.9	53.0	1	15	8	.....	1	.....	3	2	.....	.....	.....	.....	1.36	34.5
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.47	723.2	30.03	762.7	65.3	18.5	57.1	1	4	3	11	1	3	4	3	.....	.....	.....	.....	2.68	68.1
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.79	756.7	30.06	763.5	63.9	17.7	69.8	6	7	4	3	4	3	3	.....	.....	.....	.....	.....	2.35	59.6
Lescar	N. 43 21	W. 0 26	0.06 p.m.	525	160	29.48	748.8	30.14	765.6	68.5	20.3	67.8	3	3	14	2	2	1	2	3	.....	.....	.....	.....	7.27	184.7
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	30.00	762.0	30.10	764.5	66.4	19.1	64.2	3	2	8	6	9	2	.....	.....	.....	.....	.....	7	1.66	42.2
Lyons.....	N. 45 45	E. 4 49	0.27 p.m.	574	175	28.97	735.7	30.00	761.9	69.8	21.0	53.2	9	6	1	3	1	4	5	1	.....	.....	.....	7	2.59	65.8
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.74	755.3	30.03	762.8	65.8	18.8	64.9	8	4	5	5	4	.....	1	3	.....	.....	.....	5	1.81	46.0
Marseilles.....	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.69	754.1	30.95	760.8	74.3	23.5	45.7	.....	5	11	7	2	5	.....	.....	.....	.....	.....	4	0.14	3.5
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.84	631.0	30.08	764.0	56.3	13.5	63.2	2	5	4	6	.....	2	10	1	.....	.....	.....	6	1.69	43.0
Montpelier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.87	758.7	29.98	761.4	74.8	23.8	58.6	6	3	4	2	9	5	.....	1	.....	.....	.....	3	0.48	12.2
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.23	742.5	29.98	761.5	68.9	20.5	49.3	2	10	8	6	4	.....	.....	.....	.....	.....	.....	5	1.61	41.0
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.89	759.3	30.06	763.4	68.2	20.1	57.3	30	5	6	7	4	.....	2	2	.....	.....	.....	8	1.96	49.7
Nice.....	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.90	759.4	29.93	760.3	72.7	22.6	58.7	1	.....	4	1	2	8	14	.....	.....	.....	.....	3	0.42	10.8
Perpignan	N. 42 41	E. 2 53	0.19 p.m.	98	30	29.90	759.5	30.00	762.1	71.1	21.7	52.7	11	1	.....	1	2	14	.....	1	.....	.....	.....	5	0.78	19.8
Pic du Midi (Pltde)	N. 42 15	W. 0 08	0.08 p.m.	7763	2366	22.61	574.2	.....	.....	43.7	6.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	11.36	288.5
Privas.....	N. 44 45	E. 4 35	0.26 p.m.	997	304	28.97	735.7	30.00	761.9	72.9	22.7	45.2	14	2	.....	.....	12	.....	.....	2	.....	.....	.....	3	0.56	14.2
Puy de Dome.....	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.20	640.1	.....	.....	48.4	9.1	85.3	1	7	4	5	3	5	2	3	.....	.....	.....	8	5.39	136.8
Rochefort.....	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.05	763.2	30.08	764.0	72.1	22.3	71.7	1	4	6	6	3	3	1	5	1	.....	.....	7	1.77	44.9?
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.84	757.8	30.04	763.0	69.3	20.7	59.9	8	3	14	3	.....	.....	2	.....	.....	.....	.....	5	0.49¼	12.4
Rodez.....	N. 44 21	E. 2 35	0.18 p.m.	2050	625	27.91	708.8	30.00	762.0	65.1	18.4	65.1	1a	11	10	1	1	2	3	.....	.....	.....	.....	7	3.12	79.3
Rouen.....	N. 49 26	E. 1 14	0.13 p.m.	80	24	29.93	760.1	30.01	762.3	67.5	19.7	57.7	4	2	8	3	4	6	1	2	.....	.....	.....	6	1.46	37.0
Saint Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.89	759.1	30.04	763.1	63.9	17.7	64.0	4	9	8	4	5	.....	.....	.....	.....	.....	.....	5	7.15	181.5
Saint Maur.....	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.85	758.3	30.02	762.5	68.0	20.0	54.1	6	4	6	5	7	.....	.....	1	.....	.....	.....	2	1.06	26.8
Toulouse.....	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.37	746.0	30.10	764.5	70.9	21.6	62.8	.....	14	6	1	.....	8	1	.....	.....	.....	.....	6	2.50	63.6
Tours .....a.	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.84	757.8	30.03	762.8	69.3	20.7	56.7	3	3	3	9	3	2	3	3	.....	.....	.....	7	1.83	46.5
Versailles.....	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.53	750.1	30.02	762.6	67.1	19.5	53.2	5	6	3	12	.....	1	.....	3	.....	.....	.....	6	1.55	39.4
SUB SERIES.																										
Paris, Montsouris.	N. 48 50	E. 2 20	0.18 p.m.	256	78	29.74	755.4	30.03	762.8	67.6	19.8	54.9	6	4	6	6	6	1	.....	1	.....	.....	.....	7	1.37	34.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	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.
	° ′	° ′																								
German Series.																										
Bamberg	N. 49 54	E. 10 53	0.51 p.m.	774	236	29.20	741.7	29.97	761.3	68.7	20.4	50.4	4	7	9	2	1	3	1	.....	3	.....	.....	4	1.59	40.3
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.75	755.0	29.91	759.8	68.2	20.1	53.1	5	7	5	5	1	1	4	2	.....	.....	.....	7	2.18	55.4
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.41	747.1	29.94	760.4	66.7	19.3	55.0	3	8	11	1	1	3	1	2	.....	.....	.....	6	1.60	40.7
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.55	750.5	29.97	761.1	70.5	21.4	61.5	2	5	3	11	2	2	.....	5	.....	.....	.....	7	1.53	38.9
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.23	742.5	29.95	760.7	68.2	20.1	49.5	3	11	7	5	3	1	.....	.....	.....	.....	.....	6	1.32	33.5
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.64	752.9	29.99	761.8	71.2	21.8	44.9	6	7	4	8	3	.....	.....	2	.....	.....	.....	6	1.19	30.2
Friedrichshafen	N. 47 39	E. 9 29	0.45 p.m.	1355	413	28.58	725.8	29.97	761.2	67.1	19.5	65.2	.....	.....	2	13	11	2	.....	2	.....	.....	.....	6	3.53	89.7
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	66	20	29.87	758.7	29.94	760.5	64.9	18.3	61.7	5	3	9	8	3	2	.....	.....	.....	.....	.....	7	0.63	16.0
Kiel	N. 54 20	E. 10 04	0.49 p.m.	13	4	29.90	759.4	29.91	759.8	62.4	16.9	61.9	3	2	14	4	.....	.....	2	5	.....	.....	.....	6	1.06	26.9
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.54	750.3	29.95	760.8	66.6	19.2	58.5	1	12	3	4	3	3	1	3	.....	.....	.....	8	4.94	125.5
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	269	82	29.74	755.5	29.93	760.2	66.2	19.0	59.7	1	7	7	3	5	1	2	3	1	.....	.....	7	2.55	64.7
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.80	757.0	29.85	758.2	63.1	17.3	65.5	1	16	3	5	1	3	1	.....	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.18	715.8	30.04	763.0	66.4	19.1	48.8	4	6	4	3	.....	1	3	4	5	.....	.....	6	4.41	112.1
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.87	758.6	29.88	759.0	63.1	17.3	62.8	7	6	3	3	1	2	.....	8	.....	.....	.....	7	2.07	52.6
Neustadt c.	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.47	748.6	30.00	761.9	71.1	21.7	50.7	4	.....	9	3	3	1	5	.....	2	.....	.....	6	0.87	22.1
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	879	268	29.04	737.5	29.90	759.4	68.4	20.2	50.6	7	6	10	3	2	.....	1	1	.....	.....	.....	6	3.30	83.9
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1414	431	28.50	723.8	29.96	760.9	66.9	19.4	50.0	2	6	9	2	3	1	3	1	3	.....	.....	7	4.32	109.6
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.89	759.2	29.92	759.9	61.5	16.4	74.0	5	5	11	5	1	1	2	.....	.....	.....	.....	7	1.58	40.2
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m.	359	110	29.56	750.9	29.95	760.6	79.9	26.6	.....	.....	.....	.....	21	3	.....	.....	6	.....	.....	.....	1	.....	.....
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.52	749.8	29.57	751.1	88.6	31.4	77.1	.....	.....	1	20	9	.....	.....	.....	.....	.....	.....	3	0.04	1.0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.07	738.4	29.52	749.8	97.3	36.3	37.6	.....	.....	6	14	9	1	.....	.....	.....	.....	.....	5	2.29	58.2
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.68	753.9	29.72	754.9	85.0	29.4	77.8	1	.....	13	14	2	.....	.....	.....	.....	.....	.....	7	17.86	453.6
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.87	707.9	29.70	754.4	82.5	28.1	54.0	.....	.....	13	16	1	.....	.....	.....	.....	.....	.....	5	0.43	10.9
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.23	691.6	29.75	755.6	76.2	24.6	71.5	.....	.....	6	23	1	.....	.....	.....	.....	.....	.....	7	0.86	21.8
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.69	728.7	29.39	746.5	100.4	38.0	29.2	3	2	15	4	.....	.....	3	3	.....	.....	.....	2	0.44	11.2
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.56	725.4	29.43	747.5	93.9	34.4	53.4	2	3	3	6	.....	3	9	4	4	.....	.....	5	2.95	74.9
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.90	734.0	29.44	747.8	98.3	36.8	43.5	2	5	5	6	.....	.....	7	3	2	.....	.....	4	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.52	724.4	29.54	750.3	86.9	30.5	61.9	4	9	6	7	2	.....	.....	1	1	.....	.....	8	19.70	500.4
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.24	717.3	29.53	750.0	87.3	30.7	60.6	3	6	9	1	4	1	2	2	2	.....	.....	8	6.81	173.0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.12	739.6	29.48	748.8	91.2	32.9	56.2	11	3	2	2	.....	1	2	8	1	.....	.....	5	3.13	79.5
Alahabad a.	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.16	740.7	29.46	748.3	92.5	33.6	58.4	.....	3	2	4	.....	2	5	7	6	.....	.....	6	5.85	148.6
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.32	744.7	29.50	749.3	86.9	30.5	76.7	.....	6	.....	.....	.....	4	16	3	1	.....	.....	8	10.03	254.8
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.54	699.5	29.52	749.8	82.9	28.3	72.1	2	6	1	5	3	9	3	1	.....	.....	.....	8	8.07	205.0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.46	748.3	29.54	750.3	85.0	29.4	76.7	1	1	2	10	4	1	.....	1	10	.....	.....	9	13.70	348.0
Calcutta	N. 22 33	E. 88 19	6.01 p.m.	21	7	29.50	749.3	29.52	749.8	83.2	28.4	86.2	.....	.....	2	2	13	5	6	2	.....	.....	.....	9	15.12	384.0
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.44	747.8	29.56	750.8	80.5	26.9	85.1	.....	.....	1	2	2	1	3	3	18	.....	.....	7	13.48	342.4
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.53	750.0	29.62	752.3	81.9	27.7	86.7	.....	.....	.....	4	9	8	5	1	3	.....	.....	8	0.67	17.0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.25	742.9	29.58	751.3	84.2	29.0	82.4	.....	.....	.....	7	6	3	.....	14	.....	.....	.....	9	16.18	411.0
Zanzibar a.	S. 6 10	E. 39 11	2.45 p.m.	22	7	.....	.....	30.05	763.3	82.2	27.9	61.9	.....	.....	.....	1	21	7	.....	.....	.....	.....	.....	5	0.26	6.6
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.55	750.5	29.95	760.6	73.0	22.8	53.6	1	1	9	10	3	1	1	2	2	.....	.....	7	7.24	183.8
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.42	747.2	29.92	759.9	75.6	24.2	42.8	.....	3	3	11	2	5	6	.....	.....	.....	.....	6	1.31	33.3
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.86	758.4	29.92	760.0	73.8	23.2	52.8	3	3	4	4	4	7	4	1	.....	.....	.....	6	1.81	46.0
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.04	737.7	29.93	760.1	73.8	23.2	47.1	1	3	1	2	.....	8	12	3	.....	.....	.....	5	1.11	28.3
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.81	757.1	29.99	761.8	71.1	21.7	53.8	3	1	1	15	2	6	1	1	.....	.....	.....	4	1.80	45.6
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.07	713.0	29.93	760.1	70.5	21.4	49.2	5	5	8	.....	1	2	5	4	.....	.....	.....	3	1.85	46.9
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.90	759.4	29.93	760.2	70.9	21.6	64.0	9	6	1	3	1	.....	3	7	.....	.....	.....	4	2.32	58.9
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.69	754.1	29.93	760.3	76.3	24.6	41.9	3	5	11	5	2	2	.....	2	.....	.....	.....	4	1.23	31.3
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.89	759.1	29.97	761.2	73.4	23.0	56.0	.....	4	11	11	1	1	.....	2	.....	.....	.....	5	3.30	83.8
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.79	756.7	29.96	761.0	78.3	25.7	44.4	1	.....	2	24	3	.....	.....	.....	.....	.....	.....	5	2.49	63.3
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.72	754.8	29.96	760.9	78.3	25.7	43.8	4	7	5	2	.....	8	.....	3	1	.....	.....	3	0.46	11.7
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.10	739.1	29.97	761.1	77.2	25.1	69.6	.....	3	2	6	4	10	5	.....	.....	.....	.....	5	3.54	89.9
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.76b	756.0b	29.96b	760.9b	80.1	26.7	53.7a	a	9	.....	.....	5	14	1	.....	.....	.....	.....	4	1.08	27.4
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.76	755.9	30.00	762.1	73.4	23.0	53.4	2	2	1	2	.....	.....	6	16	1	.....	.....	5	2.02	51.4
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.93	760.2	29.97	761.3	75.7	24.3	60.3	.....	.....	1	4	4	4	14	3	.....	.....	.....	6	0.69	17.5
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.30	744.3	29.82	757.3	73.6	23.1	64.0	.....	2	7	9	5	6	1	.....	.....	.....	.....	5	1.68	42.7
Stelvio	N. 46 37	E. 10 32	0.50 p.m.	8343	2543	22.23	564.7	.....	.....	44.6	7.0	53.0	.....	.....	2	11	3	6	2	6	.....	.....	.....	7	1.77	44.9
Valdobbia	N. 45 47	E. 12 00	0.56 p.m.	8360	2548	22.20	565.4	.....	.....	45.0	7.2	73.7	12	.....	2	.....	.....	1	10	5	.....	.....	.....	8	0.02	0.4
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	29.82	757.5	29.84	757.9	70.0	21.1	90.4	3	1	10	8	1	1	.....	1	5	.....	.....	8	15.89	403.7
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.70	754.4	29.87	758.8	70.3	21.3	82.9	5	9	.....	4	7	3	1	1	.....	.....	.....	7	14.45	367.1
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	29.67	753.5	29.86	758.4	70.9	21.6	89.7	1	.....	.....	16	7	1	2	2	1	.....	.....	8	21.69	551.0
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.82	757.5	29.89	759.2	68.5	20.3	87.8	2	1	.....	3	12	2	4	5	1	.....	.....	7	8.11	206.0
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.82	757.4	29.87	758.7	72.0	22.2	83.7	3	2	1	4	11	1	1	1	6	.....	.....	6	13.38	339.9
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.97	761.2	30.16	766.1	73.7a	23.2a	66.6a	.....	1	1	1	.....	8	17	2	.....	.....	.....	5	2.53	64.3
Mexican Series.																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.41	619.7	30.04	763.0	65.5	18.6	77	10	4	2	5	2	1	4	2	.....	.....	.....	5	1.88	47.8
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.64	752.9	29.90	759.4	77.9	25.4	86	1	4	.....	5	1	9	4	4	2	.....	.....	3	2.12	53.8
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.11	587.0	30.05	763.2	56.9	13.9	79	1	4	.....	.....	.....	.....	1	.....	24	3.1	5	6	3.57	90.6
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.95	608.2	29.88	758.8	64.0	17.8	75	2	4	2	3	2	1	1	3	12	.....	.....	4	1.85	47.1
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.43	595.1	30.15	765.9	56.3	13.5	45	2	.....	1	.....	.....	.....	.....	.....	27	.....	.....	5	4.82	122.4
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	4	.....	1	4	4	16	.....	.....	3	1.54	39.1
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.57	573.2	30.14	765.5	57.4	14.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Result of Simultaneous Observations for June, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	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.
NETHERLAND SERIES.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.05	763.3	30.05	763.3	64.4	18.0	.....	3	5	13	3	3	1	2	.....	.....	.....	.....	.....	2.97	75.5
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.91	759.6	29.96	761.0	62.8	17.1	.....	5	9	5	3	4	.....	1	3	.....	.....	.....	.....	2.48	63.0
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.96	761.0	29.96	761.0	58.8	14.9	.....	4	6	3	9	4	.....	2	2	.....	.....	.....	.....	1.48	37.7
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.98	761.6	29.98	761.6	64.6	18.1	73.5	4	3	7	10	3	.....	3	.....	.....	.....	.....	.....	3.62	92.0
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.94	760.5	29.99	761.7	65.8	18.8	62.8	3	2	11	6	4	1	1	2	.....	.....	.....	6	2.87	72.9
NORWEGIAN SERIES.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	49	15	29.76	756.0	29.83	757.6	56.3	13.5	70.9	1	7	6	3	7	1	.....	.....	5	.....	.....	5	4.86	123.4
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.64	752.8	29.78	756.4	64.9	18.3	49.8	2	.....	1	12	8	2	1	4	.....	.....	.....	6	1.51	38.3
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.82	757.4	29.84	758.0	42.1	5.6	.....	2	1	7	4	.....	2	5	1	8	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.78	756.3	29.82	757.5	49.6	9.8	60.2	8	.....	1	6	2	.....	1	5	7	.....	.....	5	4.89	124.2
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.13	765.4	30.15	765.9	66.9	19.4	85.4	5	2	7	.....	7	8	.....	1	.....	.....	.....	4	0.84	21.2
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.06	738.0	30.04	763.0	79.0	26.1	32.4	3	5	5	7	2	1	2	4	1	.....	.....	5	0.95	24.2
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.10	764.4	30.18	766.6	71.4	21.9	66.2	.....	.....	1	21	3	.....	1	1	3	.....	.....	6	1.51	38.4
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.74	755.4	30.09	764.3	72.0	22.2	51.7	10	5	.....	6	6	.....	1	2	.....	.....	.....	4	0.41	10.3
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.24	768.0	30.31	769.8	69.6	20.9	72.3	4	3	3	5	1	1	.....	8	5	.....	.....	5	1.19	30.2
RUSSIAN SERIES.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	28.64	727.5	29.67	753.6	72.1	22.3	35.2	4	3	7	11	2	1	.....	2	.....	.....	.....	5	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.80	757.0	29.82	757.5	55.9	13.3	60.0	3	7	7	2	3	2	2	3	1	.....	.....	7	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	29.95	760.7	29.87	758.6	77.2	25.1	44.3	3	2	4	8	2	3	4	2	2	.....	.....	6	.....	.....
Barnaul ‡	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.25	742.9	29.72	754.9	69.6	20.9	42.3	3	9	2	7	2	1	.....	4	2	.....	.....	7	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.54	750.4	29.78	756.4	68.5	20.3	50.1	6	3	7	3	3	1	2	5	.....	.....	.....	6	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	28.74	730.1	29.68	753.8	64.0	17.8	57.1	5	6	3	6	.....	5	3	1	1	.....	.....	5	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.46	748.2	29.71	754.7	70.2	21.2	48.8	3	7	4	6	6	1	.....	2	1	.....	.....	7	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	29.90	759.5	29.92	760.0	71.6	22.0	71.8	2	1	.....	5	10	4	.....	2	6	.....	.....	4	.....	.....
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.16	740.7	29.77	756.2	68.4	20.2	40.7	9	5	7	1	2	4	1	1	.....	.....	.....	7	.....	.....
Krotkowo																										
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.59	751.6	29.79	756.6	73.4	23.0	43.6	.....	3	13	4	5	2	2	1	.....	.....	.....	6	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.21	742.0	29.74	755.4	66.0	18.9	59.7	2	11	1	1	9	2	2	.....	2	.....	.....	6	.....	.....
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	1942	592	27.48	698.1	29.73	755.1	51.8	11.0	76.2	2	5	1	.....	.....	.....	.....	.....	22	.....	.....	7	5.95	151.2
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.83	757.7	29.90	759.5	74.8	23.8	56.8	5	2	3	6	7	.....	2	2	3	.....	.....	5	.....	.....
Nikolaievsk a	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.70	754.4	29.79	756.6	50.7	10.4	83.3	1	1	.....	.....	.....	7	2	1	17	.....	.....	7	3.05	77.4
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	29.49	749.0	29.63	752.6	75.9	24.4	62.0	.....	4	.....	4	2	4	.....	2	14	.....	.....	5	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	29.76	755.9	29.78	756.3	64.0	17.8	54.8	1	8	4	1	3	3	1	9	.....	.....	.....	5	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	28.24	717.2	29.71	754.6	83.5	28.6	49.4	.....	3	.....	.....	1	.....	.....	1	25	.....	.....	3	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.51	724.1	29.85	758.3	79.5	26.4	35.9	.....	11	3	.....	5	6	.....	1	4	.....	.....	5	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.44	747.8	29.84	758.0	66.7	19.3	59.4	3	7	9	.....	3	3	2	1	2	.....	.....	7	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	387	118	29.40	746.7	29.80	756.9	68.9	20.5	53.5	3	6	6	4	4	4	1	.....	2	.....	.....	6	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	29.54	750.3	29.82	757.5	60.6	15.9	56.6	6	1	3	4	7	1	5	.....	3	.....	.....	6	.....	.....
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	29.86	758.4	58.6	14.8	65.3	3	.....	10	4	1	2	8	2	.....	.....	.....	7	1.99	50.5
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.83	757.7	55.5	13.1	94.2	4	2	1	7	4	6	3	3	.....	.....	.....	9	3.60	91.4
North Unst	N. 60 51	W. 0 53	0.04 a.m.	230	70	.....	.....	29.79	756.7	.....	.....	.....	8	1	3	5	6	1	4	2	.....	.....	.....	4	.....	.....
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.91	759.8	30.02	762.5	72.7	22.6	60.3	.....	.....	2	2	10	10	6	.....	.....	.....	.....	3	0.04	0.9
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.04	763.0	30.10	764.4	72.9	22.7	64.1	4	15	.....	.....	3	1	6	1	.....	.....	.....	2	3.43	87.1
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.15	689.6	.....	.....	66.4	19.1	53.9	6	.....	.....	10	1	.....	.....	13	.....	.....	.....	4	0.97	24.7
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.83	706.9	29.97	761.1	77.0	25.0	37.9	3	3	2	10	2	5	2	3	.....	.....	.....	4	1.01	25.7
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.87	758.6	30.01	762.3	80.2	26.8	50.1	.....	3	1	2	2	8	5	9	.....	.....	.....	6	2.01	51.1
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.16	740.6	30.03	762.7	68.2	20.1	63.0	9	2	1	4	4	.....	.....	10	.....	.....	.....	5	2.23	56.6
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.93	760.3	30.00	762.0	80.6	27.0	79.5	.....	4	14	6	3	.....	.....	.....	3	.....	.....	5	2.38	60.5
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.80	757.0	29.85	758.3	83.5	28.6	79.1	2	1	1	.....	5	8	9	4	.....	.....	.....	6	17.09	434.0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.97	761.2	30.06	763.6	74.7	23.7	55.7	.....	3	6	8	2	1	8	2	.....	.....	.....	5	0.02	0.4
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.95	760.8	30.04	763.1	80.6	27.0	91.8	.....	.....	.....	2	6	15	6	1	.....	.....	.....	6	7.15	181.7
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.75	755.6	29.89	759.3	82.6	28.1	78.2	2	5	6	5	4	3	3	2	.....	.....	.....	6	2.21	56.1
SWEDISH SERIES.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.82	757.4	29.86	758.4	55.0	12.8	54.2	3	2	.....	8	8	1	.....	7	1	.....	.....	4	0.63	16.0
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.79	756.7	29.84	758.0	57.7	14.3	48.3	.....	4	.....	9	5	.....	4	8	.....	.....	.....	6	0.92	23.3
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.79	756.7	29.84	758.0	55.8	13.2	56.1	4	2	.....	2	9	1	3	9	.....	.....	.....	5	0.71	18.0
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.65	753.0	29.82	757.5	61.7	16.5	58.8	6	2	8	2	3	3	2	4	.....	.....	.....	6	1.31	33.2
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.74	755.3	29.80	756.8	57.9	14.4	71.4	6	4	7	6	1	2	.....	4	.....	.....	.....	5	1.74	44.1
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.61	752.2	29.70	754.4	62.2	16.8	54.8	9	3	2	4	6	5	.....	1	.....	.....	.....	7	1.03	26.2
SWISS SERIES.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.60	726.3	29.98	761.5	68.5	20.3	50.1	19	1	1	3	3	1	.....	2	.....	.....	.....	6	1.51	38.3
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.39	721.1	29.98	761.5	68.5	20.3	59.0	1	2	12	1	.....	1	3	2	8	.....	.....	5	4.80	121.8
TURKISH SERIES.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.93	760.3	75.4	24.1	50.4	3	2	1	6	2	1	.....	15	.....	.....	.....	2	1.24	31.6
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.07	763.8	75.4	24.1	.....	.....	2	.....	11	1	.....	.....	.....	16	.....	.....	2	4.45	113.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.91	759.6	81.1	27.3	60.5	7	3	7	12	.....	.....	1	1	.....	.....	.....	1	0.11	2.8

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for June, 1881.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.85	758.2	29.93	760.2	62.5	16.9	67.0	7	3	7	......	7	1	......	5	......	3979	6404	5	3.76	95.5
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.32	744.7	29.97	761.2	52.5	11.4	77.9	.....	13	3	......	1	3	7	1	2	6053	9741	4	3.23	82.0
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.85	732.8	30.00	762.0	73.3	22.9	72.7	.....	10	7	3	1	2	3	3	1	5331	8579	5	2.40	62.5
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	29.92	760.0	29.93	760.2	62.9	17.2	82.5	11	.....	2	4	5	2	2	4	......	6737	10842	5	3.82	97.0
Attou, Aleutian	N. 52 38	E. 172 30	11.38 p.m.	......	......	......	......	......	......	......	......	......	.....	.....	......	......	......	......	......	......	......	......	......	......	......	......
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.81	757.2	29.99	761.7	74.7	23.7	74.4	2	2	5	4	8	3	2	1	3	2947	4743	3	2.11	53.6
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	29.90	759.4	29.95	760.7	67.7	19.8	75.0	4	5	8	2	2	2	3	3	1	3873	6233	7	7.81	198.4
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	29.89	759.2	29.91	759.7	63.0	17.2	82.7	6	6	2	5	2	1	3	5	......	8260	13292	7	6.18	157.0
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.08	713.2	29.82	757.4	58.7	14.8	81.2	2	3	6	2	......	6	5	4	2	6917	11132	6	4.11	104.4
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.11	688.6	29.87	758.7	52.8	11.6	65.7	1	5	14	3	......	......	1	2	4	3264	5253	4	0.29	7.4
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.75	755.6	29.90	759.4	58.8	14.9	73.3	5	3	9	2	2	......	3	3	3	5374	8648	5	7.79	197.9
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	356	28.76	730.5	29.77	756.1	74.3	23.5	80.7	.....	......	......	......	......	1	26	1	2	6983	11238	4	0.01	0.3
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	29.84	757.9	29.88	758.9	79.8	26.6	82.8	1	......	......	......	6	8	......	......	15	4299	6918	2	Inap.	Inap.
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.22	742.2	29.91	759.7	57.1	13.9	79.0	.....	4	1	8	1	......	2	14	......	4706	7670	5	4.15	105.4
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.61	752.1	29.89	759.2	58.1	14.5	71.5	13	1	2	......	12	1	1	......	......	5130	8256	5	1.89	48.0
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.60	751.8	29.99	761.7	73.7	23.2	78.9	3	1	3	9	2	5	3	4	......	5541	8917	5	1.81	46.0
Campo	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.36	694.9	29.93	760.2	39.7	4.3	66.1	.....	2	2	3	20	2	1	......	......	4160	6695	1	0.04	1.0
Camp Thomas	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.16	689.9	......	......	62.6	17.0	41.9	.....	2	......	......	......	3	......	......	25	......	......	3	0	0
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	29.91	759.7	29.93	760.2	70.9	21.6	77.3	3	8	3	8	3	2	1	2	......	8496	13673	5	3.93	99.8
Cape May *a*	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.84	757.9	29.92	760.0	64.6	18.1	82.0	5	3	3	3	4	4	1	6	......	8029	12921	5	5.11	129.8
Castroville	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.16	740.7	29.83	757.7	77.2	25.1	73.7	.....	3	2	......	11	9	1	......	4	4438	7142	8	Inap.	Inap.
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	29.99	761.7	30.01	762.2	80.3	26.8	75.6	1	......	9	3	4	2	4	6	1	6632	10673	4	1.69	42.9
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.12	739.6	29.89	759.2	64.9	18.3	83.9	3	3	3	3	4	9	......	5	......	8082	13006	6	4.71	119.6
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	29.93	760.2	29.99	761.7	79.1	26.2	73.7	5	1	4	15	......	......	1	4	......	6301	10140	3	1.47	37.3
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.12	739.6	29.98	761.5	75.1	23.9	62.6	6	1	6	6	5	1	2	3	......	3011	5811	4	1.35	34.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.20	741.7	30.00	762.0	71.1	21.7	81.9*a*	2	1	4	7	1	2	1	4	8	3512	5652	4	5.24	133.1
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	29.05	737.9	29.86	758.4	53.9	12.2	58.3	3	13	5	6	1	1	......	1	......	6906	11114	3	1.22	31.0
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.23	742.4	29.91	759.7	60.4	15.8	78.2	9	3	1	5	5	......	1	6	......	5768	9282	6	5.93	150.6
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	29.91	759.7	29.93	760.2	66.4	19.1	83.8	4	8	1	5	2	5	2	3	......	9415	15152	6	2.34	59.4
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.32	744.7	29.96	761.0	68.2	20.1	77.8	3	2	2	7	1	7	5	2	1	4006	6447	6	7.82	198.6
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.22	742.2	29.94	760.5	61.3	16.3	75.7	5	1	3	2	2	7	5	5	......	5746	9247	5	8.07	205.0
Coleman City *j*	N. 31 55	W. 99 10	5.32 a.m.	1750	533	28.13	714.5	29.72	754.9	71.2	21.8	74.6	.....	1	......	2	9	5	......	......	3	3667	5901	2	0.02	0.5
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.10	739.1	29.92	760.0	64.6	18.1	75.3	4	3	4	6	3	3	2	5	......	5121	8241	5	4.02	102.1
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.03	711.9	29.91	759.7	71.7	22.1	79.9	.....	......	......	......	7	9	1	......	13	7623	12265	2	0.27	6.9
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.51	749.5	29.97	761.2	76.8	24.9	78.1	2	......	......	1	21	......	......	......	6	4932	7937	2	0	0
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.28	743.7	29.92	760.0	64.7	18.2	77.0	1	4	3	4	1	2	6	6	3	5187	8348	7	7.94	201.7
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.21	716.5	29.96	761.0	51.5	10.8	72.8	2	......	......	1	26	1	......	......	......	3888	6257	5	1.61	40.9
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.33	643.4	29.88	758.9	54.9	12.7	65.4	.....	3	2	17	2	1	1	2	2	1555	2502	4	3.04	77.2
Decatur *e*	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.74	730.0	29.85	758.2	77.2	25.1	70.3	3	......	......	......	6	16	......	......	......	8067	12982	1	0.01	0.3
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	29.91	759.7	29.93	760.2	64.7	18.2	85.2	4	6	4	2	4	2	1	7	......	9344	15037	6	3.44	87.4
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.14	740.1	29.92	760.0	77.2	25.1	78.6	1	2	2	......	19	5	1	......	......	6173	9934	2	0	0
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.64	625.8	29.82	757.4	58.9	14.9	54.5	2	1	......	1	22	3	1	......	......	5391	8676	1	0.09	2.3
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.02	737.1	29.90	759.4	65.2	18.4	86.0	2	2	3	3	7	5	3	4	1	4886	7853	6	15.80	401.3
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.24	742.7	29.91	759.7	60.1	15.6	77.6	10	6	3	2	1	3	2	3	......	6797	10938	5	5.90	149.9
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.30	693.4	29.79	756.7	67.1	19.5	72.8	1	1	1	3	7	10	3	3	1	9238	14867	3	1.77	45.0
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.22	742.2	29.90	759.4	62.4	16.9	77.5	1	3	4	2	3	6	4	4	3	4031	6487	6	7.56	192.0
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.23	742.4	29.91	759.7	53.6	12.1	83.2	4	3	3	......	......	......	......	18	2	5251	8450	5	2.52	64.0
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.15	740.4	29.96	761.0	76.5	24.7	78.2	.....	1	1	......	......	26	......	......	2	5739	9236	1	0	0
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1417	25.21	640.3	29.92	760.0	49.4	9.7	60.8	12	1	2	11	2	......	......	1	1	8729	14048	2	1.09	27.7
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.80	756.9	29.87	758.7	51.6	10.9	75.8	4	6	3	1	10	2	......	2	2	5089	8190	5	4.47	113.5
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.17	664.7	29.82	757.4	67.5	19.7	43.9	1	10	3	2	......	3	6	4	1	3451	5554	2	0.02	0.5
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.21	741.9	29.90	759.4	60.0	15.6	80.3	.....	2	3	4	4	4	2	11	......	6209	9992	6	6.37	161.8
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.29	744.0	29.93	760.2	55.4	13.0	78.5	13	2	1	......	3	4	2	2	3	6190	9962	5	6.21	157.7
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.34	719.8	29.95	760.7	66.8	19.3	30.6	1	......	7	......	1	......	1	9	11	1880	3026	0	0	0
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.03	635.8	29.81	757.2	51.4	10.8	33.8	.....	......	1	......	......	......	19	10	......	6291	10124	2	Inap.	Inap.
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	......	......	......	......	......	......	......	.....	......	......	......	......	......	......	......	......	......	......	......	......	......
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.28	718.3	29.75	755.6	61.3	16.3	78.6	4	4	6	......	1	8	3	2	2	6260	10074	5	3.07	78.0
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.08	687.8	29.82	757.4	55.8	13.2	63.9	.....	2	3	5	......	1	2	7	10	6008	9669	3	3.46	87.9
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.90	708.6	29.82	757.4	56.7	13.7	83.9	1	1	1	3	2	......	8	4	10	6692	10770	5	3.44	87.4
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.73	678.9	29.82	757.4	56.5	13.6	73.5	2	5	4	3	2	6	3	3	2	5541	8917	3	1.57	39.9
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.19	639.8	30.15	765.8	67.2	19.6	54.7	.....	1	11	4	8	1	1	1	3	4701	7565	1	0.07	1.8
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.17	690.1	30.24	768.1	66.3	19.1	62.3	1	1	1	2	13	5	1	4	2	9097	14640	3	0.10	2.5
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.36	745.7	29.89	759.2	75.2	24.0	79.5	.....	......	......	......	5	15	3	1	6	4973	8003	3	3.80	96.5
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.24*j*	641.1*j*	30.04*j*	763.0*j*	67.1	19.5	25.4	13	2	......	......	......	1	6	7	1	5872	9450	3	Inap.	Inap.
Fort Griffin *b*	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.64	727.4	29.85	758.2	75.5	24.2	65.1	.....	......	......	......	......	4	12	2	10	6200	9978	2	0.09	2.3
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.38	695.4	29.79	756.7	56.3	13.5	79.3	1	4	1	9	......	4	......	7	4	7236	11640	4	4.44	112.8
Fort [illegible]on	N. 34 42	W. 76 40	7.01 a.m.	11	3	29.94	760.5	29.95	760.7	74.2	23.4	64.1	4	2	6	11	1	......	3	2	1	8977	14447	5	7.71	195.8
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.70	703.6	29.54	750.3	70.6	21.4	72.8	.....	......	3	6	13	7	1	......	......	7232	11638	6	0.07	1.8
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	25.65	676.9	30.03	762.7	54.2	12.3	74.1	3	4	1	5	7	4	3	......	3	3909	6291	5	2.75	69.8
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.82	757.4	29.85	758.2	41.0	5.0	91.7	7	2	1	6	5	4	3	1	1	6201	9979	8	0.65	16.5
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.30	668.0	29.75	755.6	50.7	10.4	75.7	3	2	13	4	1	1	3	3	......	6345	10211	6	3.76	95.5
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.68	728.5	29.73	755.1	74.1	23.4	74.4	2	2	......	......	23	1	......	1	1	10418	16764	3	0.21	5.3
Fort Stevenson *d*	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.04	712.2	29.82	757.4	58.6	14.8	88.5	1	1	9	......	......	3	7	3	2	5999	9654	5	5.83	148.1
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	......	......	......	......	58.9	14.9	35.2	1	1	11	9	7	1	......	......	......	......	......	2	Inap.	Inap.
Fredericksburg *a*	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.24	717.3	29.74	755.4	71.9	22.2	80.1	.....	1	1	13	3	1	......	......	10	5078	8172	4	0	0
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	29.94	760.5	29.98	761.5	81.8	27.7	77.4	1	4	3	4	16	......	......	......	2	6583	10594	2	0.03	0.8
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.28	743.7	29.93	760.2	60.2	15.7	76.5	3	......	2	1	2	5	5	11	1	5613	9033	6	3.44	87.4
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	29.94	760.5	29.96	761.0	73.3	22.9	86.5	3	1	1	10	6	1	1	6	1	11403	18351	5	4.99	126.7
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.74	653.8	29.94	760.5	55.0	12.8	63.3	5	2	......	2	10	1	......	......	10	4732	7615	3	3.51	89.2
Henrietta *c*	N. 33 42	W. 98 00	5.36 a.m.	980	300	28.90	734.0	29.77	756.1	78.4	25.8	71.1	.....	1	......	2	5	15	......	......	2	7093	11415	2	0.88	22.4
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.14	740.1	29.91	759.7	68.5	20.3	74.6	2	2	4	6	4	3	3	5	1	3291	5296	6	3.92	99.6
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.93	760.2	29.95	761.0	79.9	26.6	82.5	.....	.....	1	......	15	8	......	2	4	7395	11901	2	Inap.	Inap.
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.77	730.7	29.84	757.9	76.0	24.4	73.2	.....	1	......	8	10	8	1	1	1	7102	11429	2	0.04	1.0
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	29.97	761.2	29.99	761.7	80.9	27.2	74.1	1	......	2	17	4	1	1	4	......	6081	9786	3	2.82	71.6
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.20	743.2	29.89	759.2	67.6	19.8	79.3	1	2	1	7	4	5	4	6	......	6104	9823	7	8.70	221.0
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	29.99	761.7	30.02	762.5	82.4	28.0	75.7	.....	1	......	3	2	7	16	......	1	5280	8507	5	7.47	189.7
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	29.94	760.5	29.96	761.0	71.7	22.1	82.0	5	2	9	5	1	......	5	3	......	9717	15638	5	5.00	128.5
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.01	736.8	30.01	762.2	67.9	19.9	86.9	2	2	1	12	1	......	2	6	4	3913	6297	6	5.13	130.3
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.13	739.9	29.84	757.9	63.8	17.7	75.8	4	4	2	5	4	5	2	3	1	5000	8047	6	2.75	69.8
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.04	661.4	30.20	767.1	63.3	17.4	44.9	.....	2	......	......	2	1	......	......	25	1511	2432	2	0.43	10.9
Laredo	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.46	748.3	29.78	756.4	78.0	25.6	84.7	.....	......	......	......	......	27	......	......	3	4461	7179	1	0	0
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.02	737.1	29.89	759.2	70.7	21.5	76.8	2	3	......	3	9	8	3	1	1	6225	10019	5	5.27	133.9
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.10	739.1	29.93	760.2	55.6	13.1	71.9	.....	1	1	6	......	3	9	6	4	2250	3631	6	2.30	58.4
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.63	752.6	29.94	760.5	74.3	23.5	86.7	1	2	3	6	3	2	1	4	8	3423	5509	2	6.02	152.9
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.56	750.8	29.93	760.2	56.7	13.7	87.0	4	......	......	5	4	4	5	4	4	4218	6788	5	0	0
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.38	746.2	29.93	760.2	69.9	21.1	78.9	5	1	3	7	4	1	3	4	2	5085	8183	6	3.78	96.0
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.28	743.7	29.95	760.7	71.8	22.1	67.3	.....	3	......	1	......	......	1	1	24	1198	1928	5	1.67	42.4
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	28.92	734.6	29.90	759.4	60.0	15.6	83.7	4	5	1	3	4	3	9	1	......	6227	10021	7	4.15	105.4
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.23	742.4	29.94	760.5	54.5	12.5	75.7	4	9	4	1	5	3	......	2	2	4991	8032	5	3.47	88.1
Mason *a*	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.32	719.3	30.01	762.2	73.9	23.3	74.2	.....	2	1	1	19	2	......	......	4	6294	10129	2	0	0
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.66	753.4	29.99	761.7	75.7	24.3	78.7	1	2	1	2	2	6	3	4	9	2829	4553	4	2.83	71.9
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.20	741.7	29.93	760.2	56.2	13.4	81.9	14	2	1	5	3	1	1	1	2	6839	11167	6	3.77	95.8
Mobile	N. 30 42	W. 87 59	6.16 a.m.	69	21	29.93	760.2	30.00	762.0	77.7	25.4	82.9	13	8	3	1	2	......	1	2	......	4769	7675	3	4.85	123.2
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.78	756.4	30.00	762.0	75.5	24.2	79.5	6	2	6	3	2	5	2	4	......	3346	5385	4	3.04	77.2
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.88	733.5	29.84	757.9	59.7	15.4	82.8	5	2	4	1	3	6	2	4	3	7482	12041	6	5.59	142.0
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	28.96	735.6	29.91	759.7	65.7	18.7	83.0	3	......	1	7	2	......	1	5	11	3207	5161	7	4.77	121.2
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6272	1902	23.70	602.0	29.73	755.1	37.4	3.0	78.5	2	16	2	1	......	3	2	2	2	18323	29487	4	7.03	178.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
U.S. Series—*Continued.*	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.45	748.0	29.97	761.2	72.7	22.6	76.4	3	3	4	7	1	2	2	4	4	2860	4603	5	3.70	94.0
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.80	756.9	29.91	759.7	60.1	15.6	74.6	8	5	1	3	1	.....	1	7	4	4838	7784	6	5.14	130.6
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	29.87	758.7	29.92	760.0	60.4	15.8	81.6	7	3	5	.....	2	2	5	5	1	4177	6722	4	3.75	95.2
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.93	760.2	29.98	761.5	80.5	26.9	77.5	3	2	6	5	8	3	1	.....	2	3952	6360	2	2.84	72.1
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.85	758.2	29.90	759.4	60.3	15.7	80.5	6	2	6	7	1	.....	2	6	.....	5363	8470	6	5.94	150.9
New River	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	29.89	759.2	29.92	760.0	58.7	14.8	85.6	4	7	3	4	1	1	1	7	2	8657	13932	4	12.93	328.4
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.76	755.9	29.93	760.2	61.2	16.2	80.0	10	2	4	4	1	2	3	4	.....	5898	9493	5	6.23	158.2
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	29.91	759.7	29.95	760.7	72.6	22.6	74.2	7	6	2	8	1	4	.....	2	.....	4868	7834	5	3.74	95.0
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	26.99	685.5	29.81	757.2	62.4	16.9	82.4	2	6	2	1	3	8	3	3	2	9450	15208	5	6.12	155.4
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.93	760.2	29.97	761.2	49.4	9.7	88.9	8	.....	4	1	14	.....	.....	2	1	3073	4945	7	1.93	49.0
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.74	730.0	29.88	758.9	69.4	20.8	79.0	5	1	1	3	7	8	1	2	2	6703	10787	6	5.56	141.2
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.60	751.8	29.92	760.0	56.3	13.5	79.4	3	2	8	1	4	3	2	6	1	4932	7937	5	2.98	75.7
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	29.97	761.2	30.00	762.0	78.8	26.0	83.6	6	3	4	10	3	1	.....	1	2	5485	8947	3	4.27	108.5
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	29.88	758.9	29.94	760.5	63.6	17.6	80.1	4	3	5	3	2	1	7	5	.....	7017	11293	6	3.87	98.3
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.72	729.5	30.48	774.2	65.9	18.8	49.1	1	.....	3	.....	.....	2	21	2	1	1780	2865	1	0	0
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.97	456.4	30.18	766.6	35.5	1.9	44.4	1	3	23	.....	.....	.....	.....	1	2	11178	17989	1	0.87	22.1
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.00	609.6	29.85	758.2	55.6	13.1	28.1	.....	4	1	2	20	1	.....	.....	2	6697	10788	2	0.03	0.8
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.14	740.1	29.93	760.2	63.4	17.4	81.5	1	6	5	3	3	1	1	7	3	4042	6505	5	6.95	176.5
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	29.99	761.7	30.00	762.0	80.2	26.8	87.5	4	1	7	5	5	1	1	1	1	6151	9899	2	0.94	23.9
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.27	743.4	29.93	760.2	56.2	13.4	81.7	9	.....	5	1	3	1	1	9	1	6367	10246	6	3.82	97.0
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.84	757.9	29.88	758.9	57.9	14.4	92.4	2	7	5	3	4	2	2	5	.....	5344	8600	6	3.99	101.3
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	29.93	760.2	30.00	762.0	53.6	12.0	84.1	1	7	1	1	6	6	1	1	6	3635	5850	8	2.34	59.4
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	73.9	23.3	82.7	1	2	3	10	1	.....	3	10	.....	11800	18990	6	4.95	125.7
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.75	628.6	29.82	757.4	50.5	10.3	34.7	.....	.....	.....	16	13	.....	.....	.....	1	5877	9458	1	Inap.	Inap.
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	29.99	761.7	30.00	762.0	80.6	27.0	77.0	1	.....	3	3	3	4	11	5	.....	6759	10877	4	2.53	64.3
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.54	750.3	29.87	758.7	61.4	16.3	63.4	7	8	.....	2	9	2	.....	.....	2	4355	7008	2	0.51	13.0
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.73	755.1	29.94	760.5	77.0	25.0	80.9	.....	.....	.....	.....	.....	21	5	.....	4	7631	12281	2	0	0
Rochester	N. 43 08	W. 77 51	6.58 a.m.	589	179	29.31	744.5	29.93	760.2	57.3	14.1	79.0	2	4	14	.....	.....	4	4	2	.....	5123	8244	5	3.20	81.3
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.46	748.3	30.02	762.5	51.3	10.7	85.7	2	2	1	1	2	1	4	3	14	2687	4324	6	2.92	74.2
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.84	757.9	29.91	759.7	56.8	13.8	80.6	.....	.....	.....	1	12	16	.....	.....	1	5684	9147	2	0.50	12.7
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.36	745.7	29.94	760.5	68.8	20.4	83.3	3	2	1	4	11	2	4	2	1	7257	11679	8	2.74	69.6
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.03	737.3	29.87	758.7	61.6	16.4	80.7	4	3	2	3	1	4	9	1	3	5911	9513	6	2.87	72.9
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.02	737.1	29.86	758.4	56.1	13.4	86.2	1	7	2	2	3	9	2	3	1	6050	9736	5	3.47	88.1
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.56	649.2	29.76	755.9	61.1	16.2	37.0	1	.....	.....	.....	.....	8	1	2	18	3759	6049	2	0.28	7.1
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	676	206	29.28	743.7	29.97	761.2	75.9	24.4	84.3	1	.....	.....	.....	.....	.....	.....	14	15	3306	5320	5	Inap.	Inap.
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.82	757.4	29.90	759.4	60.1	15.6	78.8	3	1	2	3	1	3	1	3	13	4460	7178	8	0.05	1.3
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.26	743.2	29.92	760.0	64.1	17.8	79.0	5	2	1	5	7	5	.....	5	.....	9425	15168	6	10.09	256.3
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	34	10	29.90	759.4	29.93	760.2	62.3	10.8	83.5	2	8	4	3	.....	5	3	5	.....	7881	12683	6	6.80	172.7
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.89	759.2	29.96	761.0	53.7	12.1	87.3	.....	1	12	11	2	1	.....	1	2	10183	16388	5	0.69	17.5
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7049	2148	23.33	592.6	29.84	757.9	57.7	14.3	34.3	1	1	.....	.....	1	7	11	4	5	4396	7075	1	0.08	2.0
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.91	759.7	30.00	762.0	78.9	26.1	71.4	5	1	7	13	.....	1	1	2	.....	5237	8428	3	0.91	23.1
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.75	755.6	29.98	761.5	77.5	25.3	83.1	.....	2	.....	3	13	2	1	1	8	3479	5599	3	0.38	9.7
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.35	618.5	29.81	757.2	63.5	17.5	38.5	7	14	.....	1	2	.....	.....	.....	6	1910	3074	2	9.62	244.3
Sitka	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4461	7179	.....	1.54	39.1
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	29.94	760.5	29.97	761.2	76.3	24.6	81.5	1	3	.....	13	5	2	1	4	1	8030	12939	5	0.52	13.2
Spokane Falls, W. T.	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.91	708.9	29.87	758.7	49.5	9.7	79.7	2	.....	4	5	10	2	4	1	2	4527	7285	7	1.23	31.2
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.27	743.4	29.93	760.2	66.7	19.3	81.6	5	2	1	5	5	3	5	4	.....	5821	9368	7	4.96	126.0
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.78	756.4	29.91	759.7	61.6	16.4	73.5	15	3	3	1	6	.....	.....	2	.....	3542	5700	6	9.07	230.4
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	26.90	683.2	29.89	759.2	68.9	20.5	76.7	.....	.....	.....	2	13	11	.....	.....	4	9441	15193	1	1.05	26.7
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.85	758.2	29.90	759.4	56.9	13.8	88.8	6	7	2	6	1	.....	6	2	.....	8386	13496	5	7.51	190.8
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.24	742.7	29.92	760.0	63.0	17.2	79.9	10	4	5	3	4	.....	1	3	.....	6283	10111	5	7.36	186.9
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.45	697.2	29.74	755.4	68.3	20.2	29.5	.....	.....	.....	2	3	19	5	1	.....	2821	4540	2	0	0
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.61	752.1	30.01	762.2	54.8	12.7	71.1	2	2	2	13	1	.....	8	2	.....	7848	12628	5	0.96	24.4
Uvalde a	N. 29 13	W. 99 40	5.29 a.m.	930	283	28.98	736.1	29.77	756.1	74.2	23.4	84.7	.....	.....	.....	.....	4	17	4	1	3	2772	4461	4	0	0
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.76	755.9	30.02	762.5	77.0	25.0	78.1	2	2	.....	4	9	5	3	2	3	3761	6053	3	1.94	49.3
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.51	749.5	29.86	758.4	59.8	15.4	66.3	3	24	1	1	.....	1	.....	.....	.....	3061	4926	1	0	0
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	29.83	757.7	29.94	760.5	66.5	19.2	81.3	7	7	1	.....	4	2	1	3	5	2939	4730	7	5.71	145.0
Wickenburg	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	61.4	16.3	33.2	1	1	.....	.....	.....	.....	.....	.....	28	.....	.....	1	Inap.	Inap.
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	29.90	759.4	29.96	761.0	74.9	23.8	80.9	2	4	9	4	1	.....	3	4	3	4792	7712	5	3.48	88.4
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.52	648.2	29.76	755.9	50.4	10.2	51.1	.....	.....	.....	20	2	1	.....	7	.....	6681	10752	2	0.62	15.7
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	29.86	758.4	29.89	759.2	59.7	15.4	85.1	2	6	.....	8	2	4	2	5	1	7411	11927	6	6.25	158.7
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.61	726.7	29.87	758.7	66.3	19.1	78.5	1	4	3	1	2	6	3	6	4	6701	10784	4	3.51	89.2
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.63	752.6	29.77	756.1	70.3	21.3	58.5	3	3	3	4	1	1	5	4	6	3518	5662	1	Inap.	Inap.
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.10	561.3	.....	.....	52.0	11.1	79.3	1	.....	.....	.....	.....	.....	.....	.....	29	.....	.....	6	2.71	68.8
Buff Bay Town, Jam. ‡.b	N. 18 15	W. 76 39	7.01 a.m.	?	?	29.77	756.1	30.08	764.0	77.2	25.1	81.6	.....	.....	2	.....	1	.....	.....	.....	25	.....	.....	3	.....	.....
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.98	761.5	30.03	762.7	82.0	27.8	80.3	.....	.....	.....	.....	1	4	.....	.....	25	.....	.....	5	2.18	55.4
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	.....	.....	29.98	761.5	80.8	27.1	74.8	5	.....	.....	.....	.....	3	2	.....	20	.....	.....	6	0.85	21.6
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.89	759.2	29.97	761.2	81.5	27.5	78.9	.....	.....	.....	.....	.....	1	19	10	.....	.....	.....	7	3.02	76.7
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.05	763.3	30.05	763.3	79.2	26.2	85.7	.....	.....	.....	.....	.....	12	18	.....	.....	.....	.....	9	10.95	278.1
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.41	747.0	29.96	761.0	79.2	26.2	84.6	3	.....	.....	.....	.....	.....	.....	.....	27	.....	.....	9	11.75	298.4
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	76.1	24.5	.....	1	6	4	2	1	2	2	12	.....	.....	.....	7	13.17	334.0
Santiago deCuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	110	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory	N. 57 02	W. 92 56	5.58 a.m.	45	14	29.89	759.2	29.94	760.5	50.0	10.0	91.8	2	3	4	2	4	3	5	7	.....	.....	.....	4	1.45	36.8

The following table of Ocean Square mean data, from observations taken at 7 A. M. Washington or 0.08 P. M. Greenwich mean time, is computed from the isobars, isotherms and wind directions of the daily international charts, which latter are based upon the data obtained from the logs of vessels for the month of JUNE, 1881.

OCEAN SQUARE BOUNDED BY—	BAROMETER.		TEMPERATURE.		PREVAIL'G WIND.	FORCE 0-10
	INCH.	MILL.	FAH.	CENT.		
° ° ° °						
N. 30 & 35 W. 10 & 15	30.14	765.5	70.5	21.4	NE	3.3
35 40 10 15	30.14	765.5	68.0	20.0	SW	3.9
35 40 15 20	30.21	767.3	66.0	18.9	NE	4.0
30 35 15 20	30.18	766.6	69.7	20.9	SW	2.5
40 45 10 15	30.10	764.5	65.0	18.3	NE	3.6
45 50 10 15	30.04	763.0	60.0	15.6	SW	4.0
45 50 15 20	30.03	762.7	60.0	15.6	SW	4.0
40 45 15 20	30.15	765.8	63.0	17.2	SW	4.0
50 55 10 15	29.94	760.5	58.0	14.4	SW	4.3
55 60 10 15	29.85	758.2	53.8	12.1	SW	4.0
55 60 15 20	29.85	758.2	52.9	11.6	SW	4.2
50 55 15 20	29.92	760.0	56.4	13.6	SW	4.3
10 15 20 25	30.03	762.7	80.0	26.7	NE	3.4
15 20 20 25	30.07	763.8	78.3	25.7	NE	3.1
15 20 25 30	30.11	764.8	77.4	25.2	NE	3.2
10 15 25 30	30.05	763.3	80.1	26.7	NE	3.3
20 25 20 25	30.16	766.1	73.7	23.2	NE	3.6
25 30 20 25	30.21	767.3	71.8	22.1	NE	4.0
25 30 25 30	30.22	767.6	72.7	22.6	NE	3.8
20 25 25 30	30.19	766.8	73.9	23.3	NE	3.8
30 35 20 25	30.24	768.1	69.7	20.9	NE	3.6
35 40 20 25	30.27	768.8	68.3	20.2	NE	3.3
35 40 25 30	30.24	768.1	68.3	20.2	SW	3.0
30 35 25 30	30.26	768.6	70.8	21.6	NE	3.2
40 45 20 25	30.14	765.5	62.7	17.1	NE	3.7
45 50 20 25	30.02	762.5	58.3	14.6	SW	4.2
45 50 25 30	30.03	762.7	58.3	14.6	SW	4.1
40 45 25 30	30.13	765.3	63.4	17.4	SW; NW	3.7
50 55 20 25	29.92	760.0	56.1	13.4	SW	4.7
55 60 20 25	29.87	758.7	51.2	10.7	SW	4.1
55 60 25 30	29.86	758.4	50.7	10.4	SW	4.2
50 55 25 30	29.93	760.2	55.6	13.1	SW	4.4
20 25 30 35	30.19	766.8	74.3	23.5	NE	4.0
25 30 30 35	30.23	767.8	73.4	23.0	NE	3.7
25 30 35 40	30.23	767.8	74.2	23.4	NE	3.7
20 25 35 40	30.21	767.3	72.5	22.5	NE	4.0
30 35 30 35	30.25	768.3	70.6	21.4	NE	3.2
35 40 30 35	30.23	767.8	68.1	20.1	SW; NE	2.9
35 40 35 40	30.17	766.3	68.4	20.2	NE; SE	3.4
30 35 35 40	30.23	767.8	72.0	22.2	NE	3.3
40 45 30 35	30.13	765.3	62.3	16.8	SW	4.1
45 50 30 35	30.03	762.7	58.5	14.7	SW	4.2
45 50 35 40	30.03	762.7	57.8	14.3	SW	4.0
40 45 35 40	30.10	764.5	62.0	16.7	SW	4.1
50 55 30 35	29.95	760.7	53.3	11.8	SW	4.2
55 60 30 35	29.88	758.9	50.0	10.0	NE	4.2

OCEAN SQUARE BOUNDED BY—	BAROMETER.		TEMPERATURE.		PREVAIL'G WIND.	FORCE 0-10
	INCH.	MILL.	FAH.	CENT.		
° ° ° °						
N. 55 & 60 W. 35 & 40	29.82	757.4	47.2	8.4	NW	3.9
50 55 35 40	29.90	759.4	52.1	11.2	SW	4.1
20 25 40 45	30.19	766.8	75.9	24.4	NE	3.7
25 30 40 45	30.21	767.3	74.0	23.3	NE	3.7
25 30 45 50	30.17	766.3	74.0	23.3	NE	3.5
20 25 45 50	30.15	765.8	77.6	25.3	NE	3.5
30 35 40 45	30.20	767.1	71.8	22.1	NE	3.8
35 40 40 45	30.14	765.5	68.7	20.4	SW	3.5
35 40 45 50	30.11	764.8	67.8	19.9	SW	3.7
30 35 45 50	30.16	766.1	72.2	22.3	SW	3.3
40 45 40 45	30.08	764.0	63.0	17.2	SW	3.9
45 50 40 45	29.97	761.2	54.9	12.7	SW	3.9
45 50 45 50	29.97	761.2	52.2	11.2	SW	3.2
40 45 45 50	30.06	763.5	62.7	17.1	SW	3.9
50 55 40 45	29.90	759.4	50.5	10.3	SW	3.1
55 60 40 45	29.83	757.7	46.8	8.2	SW	3.4
55 60 45 50	29.83	757.7	45.0	7.2	SW	3.3
50 55 45 50	29.90	759.4	49.3	9.6	SW	2.9
15 20 50 55	30.07	763.8	80.9	27.2	NE	2.4
15 20 55 60	30.05	763.3	81.3	27.4	NE	3.0
20 25 50 55	30.11	764.8	78.6	25.9	NE	3.2
25 30 50 55	30.13	765.3	76.0	24.4	NE	3.3
25 30 55 60	30.09	764.3	78.7	25.9	E	3.8
20 25 55 60	30.08	764.0	80.3	26.8	E	3.2
30 35 50 55	30.11	764.8	73.4	23.0	SW	3.4
35 40 50 55	30.05	763.3	69.2	20.7	SW	3.8
35 40 55 60	30.02	762.5	70.4	21.3	SW	4.1
30 35 55 60	30.06	763.5	74.0	23.3	SW	3.3
40 45 50 55	30.07	763.8	62.3	16.8	SW	3.5
40 45 55 60	29.96	761.0	61.9	16.6	SW	4.0
20 25 60 65	30.07	763.8	80.2	26.8	SE	3.0
25 30 60 65	30.08	764.0	79.5	26.4	SW	3.1
25 30 65 70	30.06	763.5	79.8	26.6	SW; SE	4.4
20 25 65 70	30.06	763.5	80.9	27.2	SE	3.0
30 35 60 65	30.05	763.3	79.0	26.1	SW	3.2
35 40 60 65	29.98	761.5	69.2	20.7	SW	3.6
35 40 65 70	29.94	760.5	66.1	18.9	SW	3.6
30 35 65 70	30.03	762.7	79.1	26.2	SW	3.4
40 45 60 65	29.92	760.0	58.9	14.9	SW	3.4
40 45 65 70	29.90	759.4	54.4	12.4	W	3.1
25 30 70 75	30.05	763.3	80.9	27.2	SE	3.0
25 30 75 80	30.03	762.7	83.2	28.4	SE	2.4
30 35 70 75	30.01	762.2	76.4	24.7	SW	3.3
35 40 70 75	29.94	760.5	66.8	19.3	SW	3.5
30 35 75 80	29.99	761.7	76.3	24.6	SW	3.1

The following table shows the position of Ocean Squares, the total number of observations and the number of days on which observations were taken for each square during the month of JUNE, 1881.

OCEAN SQUARE BOUNDED BY—	NO. DAYS.	NO. OBS.
° ° ° °		
N. 5 & 10 W. 15 & 20	2	2
5 10 20 25	9	9
10 15 20 25	5	5
10 15 25 30	3	3
10 15 30 35	4	4
10 15 35 40	2	2
10 15 50 55	1	1
10 15 55 60	4	6
15 20 20 25	4	4
15 20 25 30	7	7
15 20 30 35	2	2
15 20 35 40	3	3
15 20 40 45	3	3
15 20 45 50	1	1
20 25 20 25	6	6
20 25 25 30	5	6
20 25 30 35	4	4
20 25 35 40	3	3
20 25 40 45	2	2
20 25 45 50	1	1
20 25 55 60	3	3
20 25 60 65	3	3
20 25 65 70	2	2
20 25 70 75	5	8
25 30 20 25	10	12
25 30 25 30	1	1
25 30 30 35	2	2
25 30 35 40	3	3
25 30 40 45	2	2
25 30 60 65	6	6

OCEAN SQUARE BOUNDED BY—	NO. DAYS.	NO. OBS.
° ° ° °		
N. 25 & 30 W. 65 & 70	2	2
25 30 70 75	1	1
25 30 75 80	7	7
25 30 80 85	2	2
30 35 10 15	2	2
30 35 15 20	11	13
30 35 20 25	2	2
30 35 25 30	4	4
30 35 30 35	1	1
30 35 40 45	6	6
30 35 60 65	1	1
30 35 65 70	3	3
30 35 70 75	2	2
30 35 75 80	4	4
35 40 10 15	10	12
35 40 15 20	13	13
35 40 20 25	1	1
35 40 25 30	1	1
35 40 30 35	1	1
35 40 35 40	3	3
35 40 50 55	2	2
35 40 55 60	3	3
35 40 60 65	8	9
35 40 65 70	10	10
35 40 70 75	14	30
35 40 75 80	5	5
40 45 10 15	11	16
40 45 15 20	4	4
40 45 20 25	4	4
40 45 25 30	2	2

OCEAN SQUARE BOUNDED BY—	NO. DAYS.	NO. OBS.
° ° ° °		
N. 40 & 45 W. 30 & 35	2	2
40 45 35 40	6	9
40 45 40 45	14	15
40 45 45 50	16	22
40 45 50 55	14	20
40 45 55 60	12	15
40 45 60 65	13	15
40 45 65 70	9	9
40 45 70 75	10	11
45 50 10 15	15	19
45 50 15 20	10	14
45 50 20 25	12	15
45 50 25 30	10	11
45 50 30 35	19	25
45 50 35 40	13	15
45 50 40 45	6	6
45 50 45 50	6	6
45 50 50 55	17	19
50 55 10 15	13	14
50 55 15 20	8	9
50 55 20 25	8	9
50 55 25 30	1	1
50 55 30 35	2	2
50 55 35 40	2	2
50 55 40 45	3	3
50 55 45 50	3	3
50 55 50 55	2	2
55 60 10 15	2	2
55 60 20 25	1	1
55 60 30 35	1	1

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.25 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San Jose the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. On June 1st, the elevation of barometer cistern at Madgeburg, changes from 269 feet or 82 meters, to 177 feet or 54 meters.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air, except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off, and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters. At Buff Bay Town, Jamaica, observations are taken at 7.36 a. m., local time.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

BRITISH MERCHANT-MARINE SERIES.—Same as the Naval, except that frequently the direction of the wind is given to the true meridian.

GERMAN MERCHANT-MARINE SERIES.—Same as U. S. Naval.

SWEDISH MERCHANT-MARINE SERIES.—Same as Swedish Naval.

UNITED STATES MERCHANT-MARINE SERIES.—Same as U. S. Naval.

ERRATA.

DAILY BULLETIN, JUNE, 1881—4th, page 9, H. M. S. Seraphis, barometer 747.5 m.m., should read 748.5 m. m.

11th, page 10, Navy Yard, Portsmouth, rainfall 1.8 m. m., should read 18 m. m. Page 12, Miscellaneous, U. S. F. C. S. Fish Hawk, clouds, 3, should read 8.

18th, page 12, Pacific Mail Steamship Companys S. S. Granada, longitude W. 82° 52′, should read W. 82° 25′.

21st, page 6, Dodge City, weather, clear, should read cloudy.

24th, page 7, Springfield, Ill., temperature 69.5 Fahrenheit or 20.8 Centigrade, should read 59.5 Fahrenheit or 15.3 Centigrade.

29th, page 6, Eagle Rock, weather, cloudy, should read clear.

Monthly Summary, April 1881, page 5, Fort Macon should read, N. 34° 42′, W. 76° 40′, 7.01 a. m., 11 feet 3 meters, 29.98 inches, &c. Fort McKavett should read N. 30° 48′, W. 99° 58′, 5.28 a. m., 2240 feet, 683 meters, 27.72 inches, &c.

May 1881, page 5, transpose names of stations, Fort Macon and Fort McKavett, so that the former will read, N. 34° 42′, &c., and the latter, N. 34° 48′, &c.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

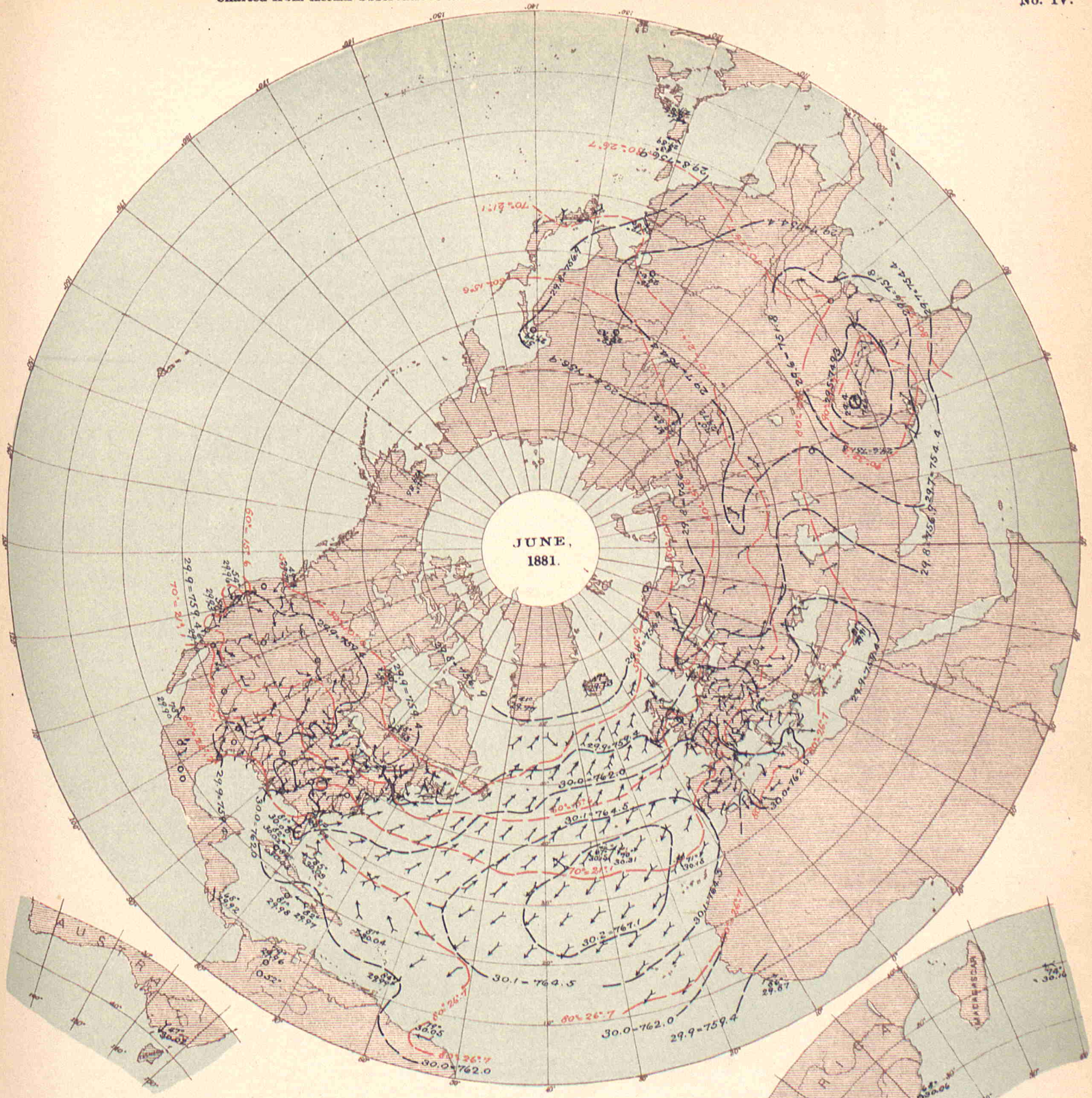
W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.



PREVAILING WINDS.

Arrows show the direction of and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
O	0	0	0
	1, 2	0 to 9	0 to 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

BRIG. & BVT. MAJ. GEN'L,

CHIEF SIGNAL OFFICER, U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *black*; detached barometer means in English inches.

Isotherms in *red*; detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7.00 A. M., Washington mean time, for the month of June, 1881. based on the daily charts of the International Bulletin.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF JULY, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
AUGUST, 1882.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JULY, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for July, 1881. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
Algerian Series.	° ′	° ′																								
Nemours	N. 35 06	W. 1 51	12.01 p.m.	20	6	.....	.....	30.01	762.3	80.8	27.1	85.9	4	5	14	.....	2	.....	3	2	1	.....	.....	2	0	0
Algiers	N. 36 47	E. 3 04	0.20 p.m.	325	99	.....	.....	30.05	763.2	81.0	27.2	69.1	11	3	2	1	1	.....	.....	13	.....	.....	.....	1	0	0
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.07	763.7	83.8	28.8	72.0	3	1	9	5	6	1	4	2	.....	.....	.....	2	0	0
Tunis	N. 36 47	E. 10 11	0.49 p.m.	46	14	.....	.....	30.06	763.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		0	0
Sfax	N. 34 45	E. 10 36	0.50 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.04	763.0	95.2	35.1	22.2	13	1	2	6	6	1	1	1	.....	.....	.....	2	0.18	4.6
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.09	764.2	90.3	32.4	15.8	8	5	2	.....	1	.....	2	.....	13	.....	.....	3	0.08	2.1
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	96.3	35.7	11.6	3	6	1	3	2	13	3	.....	.....	.....	.....	1	0.24	6.0
Laghouat	N. 33 48	E. 2 51	0.19 p.m.	2526	770	.....	.....	30.07	763.7	97.9	36.6	11.5	3	3	1	4	10	3	6	1	.....	.....	.....	1	0	0
Biskra	N. 34 51	E. 5 40	0.31 p.m.	410	125	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.18	766.6	30.27	768.8	48.2	9.0	81.5	12	3	5	6	3	1	.....	1	.....	.....	.....	5	0.67	17.0
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.49	749.0	30.01	762.2	80.2	26.8	48.3	2	2	.....	4	2	10	4	7	.....	.....	.....	6	2.11	53.5
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.25	743.0	29.99	761.8	69.4	20.8	62.1	2	4	11	8	1	2	1	2	.....	.....	.....	5	2.95	75.0
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.09	738.8	29.93	760.2	74.7	23.7	54.8	10	5	.....	1	7	2	.....	.....	6	.....	.....	6	2.51	63.8
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.81	731.7	30.01	762.3	74.1	23.4	71.0	1	6	3	7	8	5	.....	1	.....	.....	.....	3	3.10	78.7
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	413	28.56	725.4	29.93	760.1	75.0	23.9	61.1	7	10	.....	.....	2	5	5	2	.....	.....	.....	5	5.64	143.2
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1260	384	28.72	729.4	30.00	762.0	74.5	23.6	62.1	2	2	9	5	5	1	2	5	.....	.....	.....	5	5.32	135.1
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.96	735.5	29.90	759.5	72.7	22.6	65.0	.....	14	1	2	5	4	.....	5	.....	.....	.....	7	3.07	77.9
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.92	759.9	30.03	762.7	83.8	28.8	59.5	.....	.....	14	3	4	5	4	1	.....	.....	.....	3	0.64	16.3
Szathmar	N. 47 46	E. 22.53	1.39 p.m.	430	131	29.51	749.5	29.95	760.7	76.8	24.9	56.5	5	15	3	2	2	3	1	.....	.....	.....	.....	6	3.08	78.3
Szegedin	N. 46 15	E. 36 49	2.35 p.m.	256	78	b29.67	b753.5	b29.93	b760.3	76.6	24.8	c8.0h	12a	4	4	2	2	3	.....	.....	3	.....	.....	4	2.08	52.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.94	760.5	30.04	763.1	83.1	28.4	51.2	2	2	3	7	.....	1	4	6	8	.....	.....	3	1.35	34.3
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.34	745.1	30.02	762.5	75.9	24.4	52.9	2	11	9	1	.....	4	2	.....	2	.....	.....	5	1.53	38.8
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	86	26	29.71	754.6	29.80	756.9	60.4	15.8	68.0	1	6	6	6	9	3	.....	.....	.....	.....	.....	7	4.77	121.2
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63	29.70	754.4	29.93	760.2	60.5	15.8	80.0	2a	4	3	10	11	.....	.....	.....	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	180	85	.....	.....	29.95	760.7	63.6	17.6	67.2	2	17	11	.....	1	.....	.....	.....	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.41	747.0	29.94	760.5	62.7	17.1	73.2	.....	4	5	13	8	.....	.....	1	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.54	750.3	29.94	760.5	65.0	18.3	66.3	.....	5	4	11	2	3	.....	1	.....	.....	.....	6	2.78	70.6
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.96	761.0	73.9	23.3	59.0	2	7	16	3	3	.....	.....	.....	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.89	759.2	30.02	762.5	72.1	22.3	59.8	2	4	1	11	5	.....	.....	4	4	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.88	758.9	30.10	764.5	64.3	17.9	72.1	3	5	3	11	3	5	1	.....	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.78	705.6	30.00	762.0	66.3	19.1	40.0d	2	3	2	2	1	6	5	6	4	.....	.....	2	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.71	754.6	29.94	760.5	85.2	29.6	82.8	.....	2	6	6	5	1	1	2	8	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	25	8	.....	.....	29.92	760.0	61.3	16.3	77.1	1	7	13	8	.....	.....	.....	2	.....	.....	.....	3	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.01	762.2	30.06	763.5	77.7a	25.4a	82.1d	.....	.....	1	9	1	3	4	13	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.64	752.8	29.84	757.9	58.6	14.8	74.3	1	.....	9	16	4	.....	.....	1	.....	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.83	757.7	29.99	761.7	72.6	22.6	60.3	3	4	2	13	8	1	.....	.....	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.83	757.7	30.05	763.3	64.9	18.3	72.9e	2	2	8	9	4	.....	1	5	.....	.....	.....	3	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.97	761.2	30.00	762.0	70.2	21.2	55.4	3	2	6	16	4	.....	.....	.....	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.69	754.1	29.94	760.5	67.8	19.9	61.8	1	8	6	10	3	.....	.....	1	2	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	29.96	761.0	30.02	762.5	84.4	29.1	63.7	2	10	.....	3	.....	1	1	14	.....	.....	.....	1	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.00	762.0	30.05	763.3	85.2	29.6	77.2	.....	.....	.....	.....	12	10	3	6	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	212	64	29.77	756.1	30.00	762.0	68.6	20.3	61.5	1	3	9	10	6	.....	.....	.....	2	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.98	761.5	30.05	763.3	67.7	19.8	71.5	1	5	3	13	7	.....	1	.....	1	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.77	756.1	55.9	13.3	82.7	1	5	9	8	4	3	.....	1	.....	.....	.....	6	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.80	756.9	29.87	758.7	83.4	28.6	53.7	12	1	.....	2	2	.....	.....	14	.....	.....	.....	3	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.68	753.9	29.95	760.7	68.9	20.5	74.3	.....	1	7	19	2	1	.....	1	.....	.....	.....	8	.....	.....
Stilloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.87	758.7	29.90	759.4	61.7	16.5	77.3	.....	1	13	13	2	.....	1	1	.....	.....	.....	7	2.86	72.6
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110	.....	.....	29.96	761.0	61.9	16.6	74.5	.....	.....	16	12	2	1	.....	.....	.....	.....	.....	5	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.79	756.7	30.01	762.2	72.6	22.6	58.8	2	3	10	15	.....	.....	.....	1	.....	.....	.....	5	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	30.06	763.5	30.07	763.8	70.0	21.1	65.6	7	7	8	5	2	1	1	.....	.....	.....	.....	6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	29.98	761.5	30.01	762.2	60.3	15.7	82.2	8	4	9	9	1	.....	.....	.....	.....	.....	.....	9	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
Result of Simultaneous Observations for July, 1881.																										
Canadian Series	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	9	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.81	757.2	29.85	758.2	60.5	15.8	83.1	5	5	3	5	2	5	1	.....	5	4310	6936	7	3.30	83.8
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.81	757.2	29.87	758.7	60.3	15.7	84.8	7	4	1	3	9	1	.....	3	3	2977	4791	7	5.35	135.9
Chicontimi	.....	.....	.....	159	48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.84	757.9	29.86	758.4	53.7	12.1	87.6	3	4	6	6	1	1	.....	6	4	10170	16367	5	5.05	135.9
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	758	231	29.12	739.6	29.92	760.0	61.2	16.2	86.9	1	5	4	10	4	.....	.....	2	5	5329	8576	4	0.87	22.1
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.76	755.9	29.89	759.2	59.9	15.5	89.5	3	4	6	6	3	1	5	1	2	.....	.....	5	3.17	80.5
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston	N. 44 14	W. 76 30	7.02 a.m.	335	102	29.59	751.6	29.91	759.7	66.9	19.4	81.0	7	2	5	4	9	2	.....	2	.....	3717	5992	4	0.56	14.2
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.69	754.1	29.88	758.9	66.0	18.9	77.0	2	3	13	6	3	1	.....	3	.....	.....	.....	7	3.31	84.1
Moose Factory	N. 51 16	W. 80 50	6.44 a.m.	30	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	641	195	29.27	743.4	29.94	760.5	65.6	18.7	81.0	5	2	7	1	4	2	.....	6	4	5023*d*	8083*d*	4	1.47	37.3
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.29	744.0	29.67	753.6	65.6	18.7	92.8	11	3	4	3	.....	.....	1	1	8	4055	6526	5	1.87	47.5
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.34	745.2	29.97	761.2	65.1	18.4	91.9	3	2	12	.....	.....	1	9	2	.....	.....	.....	4	1.67	42.4
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.57	751.1	29.88	758.9	61.3	16.3	84.5	2	1	11	.....	2	.....	3	9	3	.....	.....	4	3.19	81.0
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.47	748.5	29.92	760.0	61.7	16.5	81.3	3	10	4	.....	1	2	2	1	8	.....	.....	4	1.86	47.2
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	641	208	29.26	743.2	29.95	760.7	64.6	18.1	83.7	5	2	2	7	5	6	1	2	1	6383	10272	3	1.36	34.5
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	?	?	29.85	758.2	29.87	758.7	59.2	15.1	80.3	2	10	.....	2	5	4	.....	2	6	.....	.....	4	4.92	125.0
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.83	757.7	29.86	758.4	60.5	15.8	82.6	4	2	4	11	5	2	2	1	.....	4161	6696	8	3.95	100.3
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.59	751.6	29.96	761.0	67.4	19.7	75.4	9	5	4	5	.....	.....	1	5	2	6270	10096	4	1.78	45.2
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.84	757.9	29.90	759.4	57.4	14.1	93.0	4	6	3	6	5	.....	1	1	5	3481	5602	3	2.73	69.3
Sub-Series.																										
St. Johns, N. F. *a*	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.86	758.4	30.11	764.8	56.0	13.3	86.2	3	.....	3	12	3	6	1	2	.....	.....	.....	7	6.81	173.0
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Colony Series.																										
Cape St. Francis *a*	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.18	766.6	30.21	767.3	60.1	15.6	85.9	2	3	13	8	2	2	.....	.....	.....	.....	.....	4	2.74	69.6
Cape Town	S. 34 05	E. 18 29	1.22 p.m.	27	8	30.21	767.3	30.25	768.3	62.5	16.9	.....	1	9	3	1	12	5	.....	.....	.....	.....	.....	3	3.83	97.3
Worcester	S. 33 36	E. 19 26	1.26 p.m.	?	?	29.42	747.3	.....	.....	59.0	15.0	60.0	.....	5	4	5	1	.....	12	4	.....	.....	.....	2	1.51	38.4
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.70	754.4	29.72	755.0	77.9	25.5	91.1	1	1	.....	2	2	15	7	1	2	.....	.....	6	4.33	110.0
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.84	757.9	29.89	759.1	64.8	18.2	64.4	.....	10	8	2	10	1	.....	.....	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.89	759.1	29.91	759.6	63.5	17.5	78.0	.....	5	13	9	2	2	.....	.....	.....	.....	.....	7	.....	.....
Godthaab *a*	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.65	753.2	29.70	754.3	43.0	6.1	83.2	5	1	1	5	5	.....	.....	2	3	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.63	752.6	29.67	753.7	50.4	10.2	79.0	3	.....	9	.....	.....	10	7	2	.....	.....	.....	6	.....	.....
Thorshavn *a*	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.68	753.8	29.71	754.7	53.1	11.7	82.6	4	1	4	5	1	4	5	3	3	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.76	755.9	29.85	758.3	61.0	16.1	79.3	.....	4	10	10	4	2	.....	1	.....	.....	.....	6	.....	.....
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.47	748.6	30.09	764.3	82.0	27.8	42.1	1	9	6	1	3	9	.....	2	.....	.....	.....	.....	0.46	11.8
Alençon	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.58	751.2	30.05	763.2	72.7	22.6	72.0	5	2	4	8	5	1	2	4	.....	.....	.....	5	1.94	49.3
Arras *a*	N. 50 18	E. 2 47	0.19 p.m.	239	73	29.60	751.7	29.84	758.0	74.5	23.6	52.2	3	3	7	2	5	.....	1	1	.....	.....	.....	.....	0	0
Avignon	N. 43 57	E. 4 38	0.26 p.m.	65	20	29.98	761.6	30.06	763.6	88.0	31.1	36.3	7	7	4	3	5	5	.....	.....	.....	.....	.....	1	0.08	2.0
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	518	158	29.52	749.9	30.06	763.5	76.6	24.8	50.2	.....	3	2	9	4	6	3	4	.....	.....	.....	5	2.79	70.9
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.81	757.1	30.06	763.6	75.4	24.1	47.0	.....	4	10	3	4	4	3	3	.....	.....	.....	5	2.35	59.8
Besançon	N. 47 14	E. 6 01	0.32 p.m.	829	252	29.21	741.8	30.04	762.9	79.2	26.2	50.1	1	.....	.....	10	11	.....	2	7	.....	.....	.....	2	0	0
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.83	757.6	30.08	764.0	81.5	27.5	44.0	.....	5	8	6	3	2	4	3	.....	.....	.....	5	0.91	23.0
Bourges	N. 47 10	E. 2 24	0.17 p.m.	510	156	29.53	750.1	30.06	763.4	80.6	27.0	39.5	4	5	8	3	4	2	1	4	.....	.....	.....	.....	1.49	37.8
Brest	N. 48 23	W. 4 29	11.50 a.m.	213	65	29.87	758.7	30.11	764.9	71.2	21.8	66.5	4	4	3	11	1	1	.....	3	4	.....	.....	5	1.41	35.7
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.99	761.8	30.06	763.5	74.1	23.4	56.2	3	5	10	2	6	.....	1	4	.....	.....	.....	4	1.30	33.0
Châlons-sur-Marne	N. 48 57	E. 4 23	0.25 p.m.	294	90	29.70	754.4	30.01	762.3	77.5	25.3	55.8	3	1	4	3	8	.....	1	1	10	.....	.....	4	1.85	46.9
Charleville	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.54	750.3	30.04	762.9	76.8	24.9	46.5	2	1	5	8	9	4	1	1	.....	.....	.....	5	1.68	42.7
Clermont-Fd	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.73	729.8	30.02	762.6	81.1	27.3	41.3	9	1	4	5	3	.....	1	7	1	.....	.....	4	0.56	14.3
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.25	742.9	30.06	763.4	84.2	29.0	44.4	8	1	4	4	3	5	6	.....	.....	.....	.....	3	1.24	31.4
Commercy	N. 48 45	E. 5 35	0.30 p.m.	817	249	29.21	742.0	30.05	763.3	76.8	24.9	43.6	3	3	10	5	.....	1	6	3	.....	.....	.....	4	2.26	57.3
Gap	N. 44 34	E. 6 04	0.32 p.m.	2427	740	27.65	702.3	30.04	763.1	83.5	28.6	35.1	8*h*	1	4	3	5	.....	1	1	.....	.....	.....	.....	0.52	13.2
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	29.02	737.1	30.16	766.1	88.0	31.1	26.6	1	8	3	4	10	5	.....	.....	.....	.....	.....	1	0	0
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.29	743.9	30.09	764.3	83.1	28.4	38.1	1	17	8	1	.....	1	3	.....	.....	.....	.....	.....	0.32	8.1
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.56*j*	725.4*j*	30.09*j*	764.2*j*	77.5	25.3	42.3	2	3	2	16	2	.....	5	1	.....	.....	.....	.....	0.60	15.2
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.82	757.5	30.09	764.3	72.3	22.4	61.3	9	13	3	3	.....	2	1	.....	.....	.....	.....	.....	1.42	36.0
Lescar	N. 43 21	W. 0 26	0.06 p.m.	525	160	29.53	750.0	30.17	766.4	78.8	26.0	60.9	1	8	14	.....	.....	1	4	2	1	.....	.....	.....	1.27	32.3
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	30.01	762.2	30.11	764.8	76.8	24.9	53.3	3	4	5	8	6	2	3	.....	.....	.....	.....	4	1.62	41.2
Lyons	N. 45 45	E. 4 49	0.27 p.m.	574	175	29.05	737.8	30.06	763.5	84.9	29.4	30.4	7	6	1	1	5	8	1	2	.....	.....	.....	3	0.62	15.8
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.79	756.7	30.09	764.2	74.7	23.7	54.8	9	4	5	6	3	1	2	1	.....	.....	.....	4	1.29	32.7
Marseilles	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.80	756.8	30.06	763.5	81.7	27.6	44.3	.....	4	9	13	2	1	.....	2	.....	.....	.....	2	.....	.....
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	25.03	635.8	30.27	768.8	70.7	21.5	49.8	.....	2	3	3	5	5	11	2	.....	.....	.....	2	0.46	11.8
Montpelier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.95	760.8	30.06	763.4	85.8	29.9	46.9*a*	5	4	.....	7	10	5	.....	.....	.....	.....	.....	1	0.16	4.0
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.31	744.4	30.04	763.1	77.7	25.4	45.8	6	6	8	4	4	1	1	1	.....	.....	.....	3	4.19	106.5
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.94	760.5	30.10	764.6	78.8	26.0	49.6	.....	6	3	10	1	2	4	5	.....	.....	.....	5	1.86	47.2
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.97	761.3	30.02	762.5	82.4	28.0	56.9	.....	.....	2	1	11	14	1	.....	2	.....	.....	1	0.03	0.8
Perpignan	N. 42 41	E. 2 53	0.19 p.m.	98	30	29.96	761.0	30.06	763.6	82.6	28.1	48.2	6	.....	.....	1	6	12	1	5	.....	.....	.....	2	.....	.....
Pic du Midi (Pitde)	N. 42 15	W. 0 08	0.08 p.m.	7763	2366	22.78	578.6	.....	.....	60.1	15.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	2.40	60.9
Privas	N. 44 45	E. 4 35	0.26 p.m.	997	304	29.06	738.1	30.07	763.8	84.0	28.9	33.1*f*	70	.....	.....	.....	3	2	.....	3	.....	.....	.....	2	0.20	5.0
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.34	643.6	.....	.....	60.8	16.0	64.6	2	2	8	10	2	1	3	3	.....	.....	.....	4	1.04	26.3
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.08	764.1	30.11	764.9	79.9	26.6	64.7	*g*	2	4	12	3	1	1	1	.....	.....	.....	3	0.62	15.7
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.88	759.0	30.09	764.2	78.8	26.0	55.1	4	6	3	6	4	.....	7	1	.....	.....	.....	4	1.87	47.4
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rouen	N. 49 26	E. 1 14	0.13 p.m.	80	24	29.97	761.3	30.06	763.5	75.2	24.0	51.9	4	2	8	2	8	7	.....	.....	.....	.....	.....	4	1.16	29.5
Saint Lô *a*	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.91	759.6	30.06	763.6	71.6	22.0	62.1	5	8	8	1	.....	2	5	1	.....	.....	.....	4	1.62	41.1
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.98	761.5	30.07	763.7	77.5	25.3	44.4	3	5	5	5	4	4	4	1	.....	.....	.....	5	1.82	46.3
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.43	747.6	30.16	766.0	85.3	29.0	45.2	.....	14	2	.....	.....	15	.....	.....	.....	.....	.....	.....	0.24	6.1
Tours	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.87	758.8	30.07	763.8	79.3	26.3	47.2	1	5	.....	14	.....	3	5	3	.....	.....	.....	5	2.48	63.1
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.58	751.4	30.08	763.9	76.1	24.5	44.4*a*	2	8	3	9	3	1	1	4	.....	.....	.....	.....	1.18	30.0
Sub Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.18 p.m.	256	78	29.79	756.7	30.08	764.1	76.8	24.9	45.1	3	.....	8	10	2	3	3	2	.....	.....	.....	6	1.30	33.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for July, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
	° ′	° ′																								
German Series.																										
Bamberg	N. 49 54	E. 10 53	0.51 p.m.	787	240	29.19	741.4	30.05	763.2	75.9	24.4	48.8	1	7	6	6	1	3	.....	1	6	.....	.....	3	2.36	60.0
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.79	756.0	29.95	760.7	74.5	23.6	50.1	.....	9	8	7	1	3	1	2	.....	.....	.....	6	1.89	48.0
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.51	749.6	30.04	763.0	74.3	23.5	48.1	2	7	8	3	8	1	.....	1	1	.....	.....	6	1.70	43.1
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.61	752.1	30.02	762.6	77.4	25.2	57.2	1	.....	4	14	1	2	5	4	.....	.....	.....	5	2.65	67.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.29	744.0	30.02	762.4	77.4	25.2	46.1	1	6	5	9	7	.....	.....	3	1	.....	.....	5	1.47	37.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.65	753.2	30.00	762.0	77.7	25.4	44.9	4	2	5	10	5	5	.....	.....	.....	.....	.....	5	1.93	49.1
Friedrichshafen	N. 47 39	E. 9 29	0.45 p.m.	1355	413	28.67	728.1	30.04	763.1	74.1	23.4	64.2	.....	.....	4	12	11	3	.....	1	.....	.....	.....	4	2.51	63.7
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	66	20	29.92	759.9	29.99	761.7	69.3	20.7	70.9	.....	7	7	12	1	2	2	.....	.....	.....	.....	7	4.70	119.5
Kiel	N. 54 20	E. 10 04	0.49 p.m.	13	4	29.93	760.1	29.94	760.5	67.3	19.6	64.0	.....	4	11	11	3	1	.....	1	.....	.....	.....	7	3.67	93.2
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.61	752.0	30.01	762.3	74.5	23.6	51.5	1	7	5	9	5	1	3	.....	.....	.....	.....	6	1.91	48.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	269	82	29.81	757.1	29.99	761.8	74.3	23.5	52.8	1	1	10	9	3	3	3	.....	1	.....	.....	6	1.68	42.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.89	759.3	29.94	760.4	67.5*h*	19.7*h*	68.3*h*	.....	9	14	4	2	2	.....	.....	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.28	718.3	30.13	765.2	76.1	24.5	44.9	2	9	8	2	.....	.....	2	0	2	.....	.....	5	2.34	59.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.95	760.6	29.96	761.0	69.6	20.9	59.6	4	8	1	8	5	.....	1	4	.....	.....	.....	6	1.34	34.0
Neustadt *a*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.50	749.3	30.02	762.6	77.0	25.0	51.1	1	.....	11	3	3	.....	2	1	9	.....	.....	4	.....	.....
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	879	268	29.11	739.3	29.96	761.0	76.6	24.8	49.5	9	6	3	5	4	1	2	1	.....	.....	.....	4	3.20	81.2
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1414	431	28.59	726.2	30.05	763.2	74.7	23.7	49.9	1	5	12	8	3	1	1	.....	.....	.....	.....	5	1.17	29.8
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.93	760.2	29.95	760.8	66.4	19.1	73.2	1	2	14	9	2	1	.....	2	.....	.....	.....	7	2.56	65.1
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m	359	110	29.54	750.2	29.91	759.7	86.4	30.2	.....	1	.....	1	5	5	.....	.....	19	.....	.....	.....	1	.....	.....
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.47	748.5	29.52	749.8	87.1	30.6	75.0	.....	.....	.....	25	6	.....	.....	.....	.....	.....	.....	4	1.64	41.7
Deesa *b*	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.02	737.1	29.49	749.0	86.3	30.2	81.2	1	.....	4	15	9	.....	.....	.....	.....	.....	.....	9	28.50	723.9
Bombay	N 18 54	E. 72 49	5.00 p.m.	37	11	29.66	753.4	29.70	754.4	81.3	27.4	86.7	.....	.....	8	21	.....	2	.....	.....	.....	.....	.....	9	29.70	754.5
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.86	707.6	29.71	754.6	75.5	24.2	76.0	.....	.....	19	11	1	.....	.....	.....	.....	.....	.....	8	7.88	200.2
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.25	692.1	29.81	757.2	71.1	21.7	90.4	.....	.....	.....	30	1	.....	.....	.....	.....	.....	.....	7	19.73	501.1
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.73	729.7	29.43	747.5	93.5	34.2	57.3	1	1	3	1	.....	2	11	9	3	.....	.....	4	12.38	314.4
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.59	726.2	29.47	748.5	88.4	31.3	70.1	3	4	2	3	1	3	6	4	5	.....	.....	7	11.16	283.4
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.90	734.0	29.47	748.5	86.9	30.5	75.1	5	4	2	2	2	2	9	3	2	.....	.....	7	.....	.....
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.52	724.4	29.56	750.8	82.5	28.1	60.3	1	6	7	14	1	.....	.....	.....	2	.....	.....	9	14.28	362.7
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.19	716.0	29.53	750.0	80.8	27.1	79.8	1	8	16	3	2	.....	.....	.....	3	.....	.....	9	20.50	520.7
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.11	739.4	29.48	748.8	88.6	31.4	68.3	5	1	3	3	5	1	3	9	1	.....	.....	8	10.59	269.0
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.16	740.7	29.47	748.5	87.3	30.7	74.7	1	1	2	9	2	1	4	8	3	.....	.....	8	10.65	270.5
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.33	745.0	29.51	749.5	86.9	30.5	76.7	1	2	1	3	2	2	11	8	1	.....	.....	7	16.28	413.5
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.52	699.0	29.51	749.5	79.4	26.3	82.9	.....	5	5	3	.....	8	6	3	1	.....	.....	9	13.21	335.5
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.47	748.5	29.55	750.6	82.6	28.1	80.4	.....	1	6	13	4	.....	.....	.....	7	.....	.....	9	15.06	382.5
Calcutta	N. 22 33	E. 88 19	6.01 p.m.	21	7	29.48	748.8	29.50	749.3	82.9	28.3	85.1	1	1	.....	7	9	7	2	2	2	.....	.....	9	13.15	334.0
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.42	747.3	29.54	750.3	84.6	29.2	83.4	.....	.....	.....	1	.....	3	4	2	21	.....	.....	7	9.05	229.9
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.51	749.5	29.60	751.8	81.3	27.4	86.1	.....	.....	.....	5	10	14	.....	.....	2	.....	.....	8	2.85	72.4
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.22	742.2	29.55	750.6	84.5	29.2	79.0	.....	.....	2	2	9	3	1	14	.....	.....	.....	6	16.22	412.0
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.07	713.0	29.49	749.0	86.3	30.2	72.8	4	7	3	2	1	2	11	1	.....	.....	.....	8	12.24	310.9
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	22	7	.....	.....	30.03	762.7	80.8	27.1	62.2	1	.....	.....	2	10	14	1	1	.....	.....	.....	7	0.65	16.5
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.64	752.9	30.04	762.9	81.9	27.7	44.5	1	.....	4	11	4	1	2	1	7	.....	.....	4	2.62	66.4
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.51	749.5	30.00	762.0	86.2	30.1	37.3	1	1	2	3	6	16	2	.....	.....	.....	.....	4	0.14	3.5
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.93	760.1	30.03	762.8	83.1	28.4	44.8	1	.....	1	5	10	10	4	.....	.....	.....	.....	2	1.02	25.8
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.12	739.7	29.99	761.7	84.9	29.4	37.8	4	4	3	2	4	4	6	4	.....	.....	.....	2	0.24	6.2
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.87	758.7	30.06	763.5	79.2	26.2	61.7	1	1	.....	20	2	6	.....	1	.....	.....	.....	2	0.02	0.4
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.17	715.5	29.99	761.7	84.6	29.2	39.1	3	2	12	.....	1	3	4	6	.....	.....	.....	1	0.04	1.0
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.98	761.6	30.03	762.8	79.9	26.6	53.4	5	3	2	.....	.....	.....	6	15	.....	.....	.....	1	0	0
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.76	756.0	30.01	762.2	87.1	30.6	31.9	2	7	12	5	2	1	1	1	.....	.....	.....	2	0	0
Leghorn	N. 43 32	E. 10 18	0.49 p.m	79	24	29.98	761.4	30.06	763.4	81.5	27.5	57.0	.....	2	17	8	1	.....	.....	3	.....	.....	.....	3	0	0
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.85	758.1	30.01	762.3	89.1	31.7	31.7*a*	4	1	.....	22	2	1	.....	.....	1	.....	.....	1	0	0
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.74	755.3	30.02	762.5	85.6	29.8	39.4	10	9	3	1	1	1	1	4	1	.....	.....	1	0.16	4.2
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.14	740.1	29.98	761.5	86.7	30.4	62.2	.....	8	1	7	.....	12	2	1	.....	.....	.....	1	1.10	29.6
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.84	758.0	30.03	762.8	83.5	28.6	49.1	.....	5	1	.....	10	15	.....	.....	.....	.....	.....	1	0	0
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.81	757.2	30.05	763.3	83.5	28.6	49.1	3	1	.....	1	.....	.....	5	21	.....	.....	.....	1	0	0
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.93	760.3	29.98	761.4	86.2	30.1	47.2	3	.....	.....	1	11	.....	13	3	.....	.....	.....	3	0	0
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.49*a*	749.1*a*	29.99*a*	761.7*a*	85.3	29.6	47.5	4	2	1	4	8	8	1	3	.....	.....	.....	1	0	0
Stelvio	N. 46 37	E. 10 26	0.50 p.m.	8343	2543	22.41	569.2	.....	.....	54.7	12.6	49.2	.....	1	5	11	1	2	1	10	.....	.....	.....	5	0.94	23.8
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.46	570.4	.....	.....	57.6	14.2	67.8	10	.....	1	.....	1	4	8	7	.....	.....	.....	5	1.41	35.7
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	29.78	756.4	29.80	756.8	77.7	25.4	82.3	2	2	8	9	8	.....	.....	2	.....	.....	.....	6	8.68	220.5
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.68	753.8	29.84	758.0	76.5	24.7	81.2	3	7	1	1	14	2	3	.....	.....	.....	.....	7	6.96	176.7
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	29.64	752.9	29.84	757.8	77.4	25.2	86.0	1	1	.....	16	5	5	.....	1	2	.....	.....	5	5.60	142.2
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.82	757.3	29.84	757.9	73.4	23.0	85.5	3	.....	4	4	3	6	2	7	3	.....	.....	5	7.10	180.3
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.85	758.3	29.87	758.7	68.4	20.2	91.2	2	2	.....	1	9	5	6	6	.....	.....	.....	6	5.01	127.3
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.81	757.1	29.87	758.6	73.6	23.1	86.9	1	.....	.....	2	15	4	3	6	.....	.....	.....	6	2.05	52.1
Wakuyama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.79	756.7	29.84	757.9	77.7	25.4	81.4	1	2	.....	8	12	1	3	2	2	.....	.....	4	5.22	132.7
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.99	761.7	30.18	766.6	72.3	22.4	68.2	.....	1	.....	.....	.....	4	22	4	.....	.....	.....	5	4.43	112.5
Mexican Series.																										
Guadalajara																										
Guanajuato																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.45	621.0	30.08	764.0	63.4	17.4	86.0	6	3	5	7	4	1	5	.....	.....	.....	.....	5	6.04	152.3
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.68	754.0	29.94	760.6	78.4	25.7	88.0	1	4	.....	.....	1	7	4	14	.....	.....	.....	4	9.70	246.2
Mexico *a*	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.14	587.7	30.15	765.9	56.7	13.7	85.0	.....	8	2	1	.....	.....	1	.....	18	.....	.....	7	4.74	120.9
Pabellon *a*	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.96	608.4	29.90	759.5	63.0	17.2	85.0	.....	6	3	4	2	1	1	.....	13	.....	.....	6	5.00	142.6
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.46	596.0	30.20	767.1	55.8	13.4	54.0	1	.....	.....	.....	.....	.....	2	1	27	.....	.....	6	6.22	157.1
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	6	10	1	13	.....	.....	5	4.12	103.6
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zera Cruz																										
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.61	574.4	30.23	767.7	54.0	12.2	85.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for July, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Netherland Series.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.04	763.1	30.04	763.1	71.4	21.9	.....	2	4	11	7	4	.....	2	1	.....	.....	.....	.....	0.94	23.8
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.93	760.2	29.98	761.6	69.1	20.6	.....	2	4	10	6	9	.....	.....	.....	.....	.....	.....	.....	2.67	67.9
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.97	761.3	29.97	761.3	64.6	18.1	.....	3	1	5	16	5	1	.....	.....	.....	.....	.....	.....	1.44	36.6
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.01	762.3	30.01	762.3	71.1	21.7	69.3	1	4	9	12	3	.....	.....	.....	2	.....	.....	.....	0.80	20.4
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.97	761.2	30.02	762.4	72.9	22.7	60.8	2	3	10	11	4	1	.....	.....	.....	.....	.....	5	1.38	35.1
Norwegian Series.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.69	754.1	29.75	755.7	57.6	14.2	76.1	2	2	5	6	12	3	.....	.....	1	.....	.....	8	8.55	217.11
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.57	751.1	29.71	754.7	66.9	19.4	51.8	.....	1	1	13	9	2	3	1	1	.....	.....	7	2.00	65.9
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.65	753.1	29.67	753.7	52.0	11.1	.....	1	1	5	4	2	3	2	4	9	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.61	752.2	29.66	753.4	55.6	13.1	67.3	2	2	3	12	.....	2	.....	4	6	.....	.....	8	3.00	76.1
Portuguese Series.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.17	766.2	30.32	770.0	74.1	23.4	85.6	6	.....	9	5	2	3	3	3	.....	.....	.....	3	0	0
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.05	737.6	29.99	761.8	86.2	30.1	32.2	1	1	2	8	6	2	8	3	.....	.....	.....	5	1.21	30.8
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.11	764.9	30.20	767.1	72.0	22.2	67.8	.....	.....	.....	27	2	.....	.....	.....	2	.....	.....	5	0	0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.73	755.2	30.08	764.1	76.8	24.9	56.4	10	3	.....	5	5	3	3	2	.....	.....	.....	4	0.11	2.7
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.28	769.1	30.35	770.8	76.8	24.9	68.5	2	.....	6	4	1	.....	.....	7	11	.....	.....	4	0.62	15.7
Russian Series.																										
Akmolinski c.	N. 51 03	E. 71 22	4.54 p.m.	?	?	28.51	724.1	29.52	749.8	75.7	24.3	43.8	2	3	4	13	3	.....	.....	3	.....	.....	.....	5	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.71	754.6	29.73	755.1	70.0	21.1	63.6	1	4	8	2	2	3	2	.....	9	.....	.....	7	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	29.77	756.2	29.69	754.1	81.5	27.5	41.7	9	.....	5	5	2	4	1	1	4	.....	.....	5	.....	.....
Barnaul ‡	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.13	740.0	29.61	752.0	73.0	23.1	52.2	6	2	1	3	3	3	2	6	5	.....	.....	7	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.58	751.3	29.81	757.1	69.4	20.8	56.6	2	2	10	7	6	2	1	1	.....	.....	.....	7	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	28.72	729.4	29.64	752.8	68.9	20.5	60.0	9	3	4	5	3	1	1	5	.....	.....	.....	0	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.43	747.6	29.69	754.0	74.7	23.7	46.1	8	4	4	5	2	1	1	5	1	.....	.....	5	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	29.81	757.2	29.83	757.7	77.4	25.2	68.0	5	9	2	1	2	4	.....	8	.....	.....	.....	3	.....	.....
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.19	741.5	29.80	756.9	74.3	23.5	53.7	7	8	6	2	1	4	1	2	.....	.....	.....	0	.....	.....
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.54	750.4	29.74	755.4	78.4	25.8	52.0	1	2	9	5	1	1	4	8	.....	.....	.....	7	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.24	742.7	29.69	754.0	73.4	23.0	53.9	5	6	.....	.....	10	3	2	.....	5	.....	.....	5	.....	.....
Nertchinsk	N. 51 19	E. 119 37	8.07 p.m.	1942	592	27.55	699.7	29.74	755.5	62.6	17.0	81.2	.....	2	.....	1	.....	.....	2	.....	26	.....	.....	0	8.70	221.1
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.81	757.2	29.88	759.0	80.8	27.1	57.0	0	5	4	3	3	.....	3	5	2	.....	.....	5	.....	.....
Nikolaievsk a.	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.72	754.8	29.80	757.0	57.6	14.2	86.6	...	1	.....	.....	.....	5	7	.....	18	.....	.....	9	3.33	84.6
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	29.50	749.4	29.65	753.0	82.2	28.9	63.6	.....	5	.....	1	2	1	.....	1	21	.....	.....	4	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	29.74	755.5	29.76	755.9	68.4	20.2	64.0	1	9	6	5	2	1	3	4	.....	.....	.....	6	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	29.54	750.4	29.62	752.3	88.5	31.4	44.8	.....	4	.....	.....	1	.....	.....	.....	26	.....	.....	1	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.44	722.4	29.78	756.3	82.0	27.8	45.8	1	14	1	.....	6	7	1	.....	1	.....	.....	5	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.54	750.4	29.95	760.8	72.3	22.4	50.3	3	8	9	3	3	3	.....	.....	2	.....	.....	0	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	387	118	29.47	748.5	29.87	758.8	69.8	21.0	57.8	2	11	5	5	3	3	.....	.....	2	.....	.....	7	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	29.43	747.5	29.71	754.5	68.4	20.2	63.6	2	1	2	5	10	6	2	.....	3	.....	.....	4	.....	.....
Scottish Series.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	29.86	758.4	62.1	16.7	70.6	.....	3	18	4	.....	.....	3	3	.....	.....	.....	8	3.81	96.8
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.78	756.4	56.5	13.6	94.4	2	4	6	10	7	2	.....	.....	.....	.....	.....	9	4.40	111.8
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.72	754.9	.....		.....	1	3	9	5	3	2	4	4	.....	.....	.....	9	.....	.....
Spanish Series.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.98	761.4	30.08	764.0	82.2	27.9	58.6	1	.....	.....	4	12	8	4	2	.....	.....	.....	1	0	0
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.09	764.3	30.15	765.7	81.0	27.3	65.8	3	15	1	.....	1	7	2	2	.....	.....	.....	9	3.66	93.0
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.21	691.0	.....	.....	77.0	25.0	48.7	4	.....	1	3	4	1	1	17	.....	.....	.....	2	3.05	77.5
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.88	708.2	29.98	761.6	87.4	30.8	39.4	.....	.....	4	3	7	6	6	5	.....	.....	.....	3	0.73	18.6
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.90	759.5	30.05	763.2	90.1	32.3	43.0	.....	1	.....	1	2	4	11	12	.....	.....	.....	4	0.02	0.6
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.17	740.8	30.02	762.5	78.4	25.8	55.0	11	.....	1	6	1	3	1	8	.....	.....	.....	4	0.88	22.4
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.96	761.0	30.03	762.7	79.7	26.5	82.3	.....	.....	.....	3	3	6	7	1	11	.....	.....	4	11.41	289.7
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.78	756.4	29.83	757.7	81.9	27.7	81.4	1	.....	3	11	9	2	3	2	.....	.....	.....	5	18.82	477.8
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.97	761.2	30.06	763.5	80.2	26.8	61.2	.....	2	5	7	2	4	8	3	.....	.....	.....	5	1.00	25.4
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.98	761.4	30.07	763.7	82.0	27.8	87.9	.....	.....	.....	4	2	14	11	.....	.....	.....	.....	6	5.80	147.3
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.69	754.2	29.84	757.8	79.9	26.6	84.9	3	14	2	1	6	4	.....	1	.....	.....	.....	7	8.42	214.2
Swedish Series.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.69	754.1	29.73	755.1	60.4	15.8	72.0	2	3	2	5	15	1	1	2	.....	.....	.....	5	1.36	34.5
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.67	753.5	29.72	754.8	61.7	16.5	63.1	3	5	.....	10	11	.....	1	1	.....	.....	.....	7	2.13	54.0
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.69	754.0	29.74	755.3	59.4	15.2	65.2	.....	5	1	4	10	2	3	4	2	.....	.....	6	2.94	74.7
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.61	752.2	29.79	756.7	66.6	19.2	55.4	1	2	8	10	5	3	1	1	.....	.....	.....	7	2.16	54.8
Wisby a.	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.76	756.0	29.82	757.5	64.6	18.1	65.2	1	4	16	4	3	1	1	.....	.....	.....	.....	4	0.79	20.0
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.65	753.2	29.74	755.4	66.6	19.2	55.8	2	5	3	7	9	3	2	.....	.....	.....	.....	7	1.49	37.9
Swiss Series.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.69	728.8	30.04	763.0	79.3	26.3	42.5	16	2	1	2	8	1	.....	1	.....	.....	.....	3	1.84	46.6
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.48	723.4	30.05	763.2	78.8	26.0	52.2	.....	3	18	.....	.....	.....	3	.....	7	.....	.....	3	2.92	74.1
Turkish Series.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.93	760.1	78.1	25.6	55.5	17	1	.....	1	1	1	1	9	.....	.....	.....	4	2.26	57.3
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.10	764.6	81.0	27.2	.....	1	16	9	2	3	.....	.....	.....	.....	.....	.....	2	1.34	34.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.78	756.3	86.2	30.1	60.1	.....	4	10	16	1	.....	.....	.....	.....	.....	.....	2	0	0

JULY, 1881.

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Altitude: Met'rs	Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
U. S. SERIES.	° ′	°																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.87	758.7	29.95	760.7	71.3	21.8	67.4	5	5	2	1	9	.....	3	4	2	3636	5852	6	2.22	56.4
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.34	745.2	29.99	761.7	64.1	17.8	77.2	.....	14	8	1	2	3	3	.....	.....	6032	9707	5	2.09	53.1
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.88	733.5	30.03	762.7	75.3	24.1	72.2	2	14	2	1	1	.....	9	2	.....	6355	10227	5	0.56	14.2
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	29.95	760.7	29.90	761.0	70.9	21.6	81.9	10	1	5	2	6	.....	3	4	.....	5942	9562	5	1.01	25.7
Attou, Aleutian	N. 52 38	E. 172 30	11.38 p.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.85	758.2	30.03	762.7	77.9	25.5	76.4	1	.....	1	5	5	6	5	7	1	2728	4390	5	3.46	87.9
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	29.95	760.7	30.00	762.0	74.1	23.4	68.5	7	4	11	1	.....	4	.....	4	.....	3867	6223	5	1.40	35.6
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	29.92	760.0	29.94	760.5	71.6	22.0	80.4	3	4	6	4	4	1	4	5	.....	7411	11927	5	1.99	50.5
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.17	715.5	29.91	759.7	64.4	18.0	79.1	1	5	3	.....	1	10	5	5	1	8681	13970	4	1.28	32.5
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.17	690.1	29.93	760.2	57.9	14.4	56.7	2	8	10	3	1	3	.....	1	3	3449	5550	3	0.13	3.3
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.78	756.4	29.93	760.2	66.9	19.4	75.9	.....	3	6	6	2	1	.....	4	9	4240	6824	5	2.96	75.2
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	356	28.81	731.8	29.82	757.4	76.1	24.5	76.5	.....	.....	.....	.....	.....	3	27	1	.....	7213	11606	4	0.90	22.9
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	29.91	759.7	29.95	760.7	79.7	26.5	87.9	1	.....	.....	.....	10	11	1	.....	8	4519	7772	2	1.49	37.8
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.26	743.2	29.96	761.0	66.9	19.4	76.9	2	4	3	12	.....	1	5	4	.....	5347	8605	5	2.17	55.1
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.63	752.6	29.91	759.7	66.9	19.4	74.3	8	4	.....	1	14	1	.....	1	2	4843	7794	7	2.22	56.4
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.68	753.9	30.07	763.8	77.5	25.3	75.5	3	2	1	9	4	.....	2	8	2	4071	6552	2	0.18	4.6
Campo	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.40	695.9	29.97	761.2	50.0	10.0	64.8	.....	2	14	1	14	.....	.....	.....	.....	4014	6460	1	0.07	1.8
Camp Thomas	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.22	691.4	.....	.....	72.4	22.4	77.9	4	4	3	.....	4	3	3	.....	10	.....	.....	4	4.18	106.2
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	29.95	760.7	29.97	761.2	75.8	24.3	76.9	5	5	4	10	2	1	.....	4	.....	7904	12720	5	8.57	217.7
Cape May .... c.	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.92	760.0	29.95	760.7	73.0	22.8	75.8	4	5	3	3	3	3	2	4	1	7780	12520	5	1.20	30.5
Castroville	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.21	741.9	29.88	758.9	78.0	25.6	75.9	.....	1	4	2	5	5	3	.....	11	3443	5541	6	1.98	50.3
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.01	762.2	30.03	762 7	80.7	27.1	80.0	2	3	9	3	3	1	4	6	.....	6604	10628	4	11.86	301.2
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.24	742.7	30.01	762.2	70.5	21.4	74.0	13	3	.....	8	4	.....	.....	3	.....	6687	10762	4	1.07	27.2
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	29.96	761.0	30.02	762.5	80.6	27.0	76.2	8	1	6	9	1	1	2	3	.....	6663	10723	3	4.99	126.7
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.18	741.2	30.04	763.0	78.1	25.6	59.8	7	4	3	5	4	1	.....	7	.....	3613	5814	4	1.83	46.5
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.25	742.9	30.05	763.3	74.4	23.6	78.9	1	3	5	3	.....	.....	1	5	13	3616	5819	3	2.09	53.1
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	24.16	613.7	29.97	761.2	58.8	14.9	78.1	6	4	5	7	4	.....	1	3	1	7069	11376	4	1.40	35.6
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.33	745.0	30.01	762.2	69.4	20.8	77.5	6	7	8	4	.....	1	2	3	.....	4862	7824	4	4.31	109.5
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	29.94	760.5	29.96	761.0	73.9	23.3	81.5	2	8	2	7	.....	5	.....	7	.....	9434	15182	5	1.53	38.9
Cincinnati	N. 39 05	W. 84 26	6.30 a.m.	620	189	29.40	746.7	30.04	763.0	74.5	23.6	72.8	3	7	3	5	1	3	4	2	3	3505	5641	3	3.12	79.2
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.29	744.0	30.01	762.2	70.3	21.3	73.5	4	3	5	3	3	10	.....	3	.....	5205	8378	5	0.90	22.9
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.18	741.2	30.00	762.0	71.6	22.0	71.3	6	8	3	4	2	2	2	4	.....	4534	7297	4	5.33	135.4
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.11	714.0	29.99	761.7	74.0	23.3	81.6	.....	.....	1	3	4	7	6	1	9	6700	10782	3	0.51	13.0
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.57	751.1	30.03	762.7	78.2	25.7	77.0	.....	.....	.....	3	14	3	1	3	7	4051	6519	3	2.36	59.9
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.40	746.7	30.04	763.0	71.2	21.8	76.4	3	4	1	5	.....	3	7	5	3	4385	7057	4	0.91	23.1
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.26	717.8	30.02	762.5	54.7	12.6	64.1	2	1	2	16	4	1	1	2	2	3805	6123	3	0.65	16.5
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Decatur .... a.	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.84	732.5	29.95	760.7	78.7	25.9	67.8	.....	1	.....	.....	5	18	1	5	.....	6461	10398	2	2.66	67.6
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	29.95	760.7	29.97	761.2	71.2	21.8	84.6	5	4	6	2	4	.....	.....	7	3	7938	12775	5	0.67	17.0
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.25	742.9	30.01	762.2	78.1	25.6	78.6	2	1	1	1	12	4	6	3	1	4487	7221	4	1.14	29.0
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.85	631.2	29.92	760.0	66.4	19.1	63.1	2	7	1	5	11	5	.....	.....	.....	5521	8885	3	2.50	63.5
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.15	740.4	30.03	762.7	69.4	20.8	86.8	5	.....	1	6	5	5	1	4	4	4097	6593	4	5.57	141.5
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.31	744.5	30.00	762.0	68.1	20.1	73.9	8	6	7	4	1	.....	4	.....	1	6151	9899	4	3.33	84.6
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.45	697.2	29.94	760.5	69.9	21.1	81.9	.....	.....	.....	2	6	11	4	3	5	7791	12538	4	5.06	128.5
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.34	745.2	30.02	762.5	69.0	20.6	78.5	2	8	4	3	4	3	4	.....	3	2984	4802	4	10.53	267.5
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.31	744.5	29.99	761.7	65.8	18.8	73.9	2	8	5	6	.....	1	.....	7	2	4876	7847	4	1.84	46.7
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.20	741.7	30.01	762.2	78.6	25.9	71.9	.....	1	.....	.....	.....	28	.....	.....	2	5431	8740	2	1.74	44.2
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.29	642.4	30.00	762.0	53.1	11.7	60.2	11	3	2	10	2	.....	.....	1	2	8175	13156	2	1.21	30.7
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.82	757.4	29.89	759.2	59.9	15.5	79.8	4	4	7	1	14	.....	.....	1	.....	4902	7889	4	3.73	94.7
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.25	666.7	29.90	759.4	70.5	21.4	76.1a	2	10	2	1	.....	2	5	4	5	3142	5056	5	8.18	207.8
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.27	743.4	29.95	760.7	70.3	21.3	76.5	3	3	5	5	8	1	3	3	.....	5959	9590	4	1.39	35.3
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.34	745.2	29.98	761.5	65.5	18.6	73.5	9	4	4	1	5	.....	.....	2	6	5195	8360	3	1.10	27.9
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.41	721.6	30.01	762.2	76.9	24.9	47.8	.....	.....	2	.....	1	.....	16	1	11	2351	3784	3	2.25	57.1
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.08	637.0	29.86	758.4	61.9	16.6	79.1	1	.....	.....	1	.....	1	25	2	1	4718	7593	5	5.63	143.0
Fort Assinnaboine f	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.14	689.3	29.83	757.7	59.2	15.1	65.5	.....	.....	1	8	1	.....	.....	8	7	4440	7145	2	3.45	87.6
Fort Bennett ... r.	N. 44 42	W. 100 38	5.26 a.m.	1510	457	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.18	690.4	29.92	760.0	59.5	15.3	60.2	.....	2	1	3	1	2	2	2	18	4436	7139	2	2.28	57.9
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.97	710.4	29.91	759.7	60.9	16.1	83.9	.....	1	5	2	1	1	12	7	2	7018	11294	3	1.32	33.5
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.81	681.0	29.90	759.4	64.2	17.9	60.7	7	2	.....	4	7	2	5	.....	4	5674	9131	3	1.41	35.8
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.25	641.3	30.21	767.3	67.5	19.7	69.4	2	.....	7	.....	4	4	5	.....	9	3859	6210	1	4.27	108.5
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.28	692.9	30.35	770.9	68.8	20.4	73.2	2	3	.....	.....	7	8	1	4	6	7278	11713	5	3.28	83.3
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.47	748.5	30.00	762.0	76.3	24.6	77.3	.....	.....	1	.....	2	4	11	1	12	3884	6250	3	0.76	19.3
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	.....	.....	.....	.....	67.4	19.7	77.7	3	3	2	4	7	6	3	3	.....	4381	7050	6	5.53	140.5
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.72	729.5	29.93	760.2	77.7	25.4	68.2	1	.....	.....	3	1	12	.....	1	13	5164	8310	4	0.81	20.6
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.44	697.0	29.85	758.2	64.1	17.8	72.2	.....	3	3	2	.....	10	4	8	1	7985	12850	4	0.39	9.9
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	29.98	761.5	29.98	761.5	76.5	24.7	85.6	4	7	10	6	1	.....	1	2	.....	7503	12075	5	9.70	246.4
Fort McKavett . r.	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.80	706.1	29.64	752.8	73.7	23.2	78.4	.....	.....	1	4	7	9	6	2	2	6243	10047	3	2.05	52.1
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.73	678.9	30.11	764.8	53.6	12.0	73.5	3	8	2	11	3	.....	.....	3	1	3520	5665	3	0.71	18.0
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.38	670.0	29.83	757.7	52.9	11.6	79.2	.....	1	23	2	1	.....	2	.....	2	5610	9028	2	1.67	42.4
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.79	731.3	30.00	762.0	76.2	24.6	70.5	9	1	.....	.....	10	6	3	1	1	8904	14329	4	1.97	50.0
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.12	714.2	29.90	759.4	63.2	17.3	84.5	1	2	6	.....	2	7	12	.....	1	6374	10258	3	2.01	51.1
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	71.3	21.8	53.6	.....	3	14	5	2	6	.....	.....	1	.....	.....	4	1.41	35.8
Fredericksburg c.	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.30	718.8	29.79	756.7	75.2	24.0	80.9	.....	.....	.....	3	2	1	1	.....	21	2837	4566	4	4.28	108.5
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	29.98	761.5	30.02	762.5	81.7	27.6	80.5	.....	1	7	9	4	1	2	5	2	6697	10778	5	4.92	125.0
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.36	745.7	30.01	762.2	69.0	20.6	79.2	3	2	5	5	1	1	4	5	5	5437	8750	4	4.78	121.4
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	29.97	761.2	29.99	761.7	76.9	24.9	81.9	7	1	4	10	1	2	2	4	.....	10543	16968	5	6.16	156.5
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.81	655.6	30.01	762.2	62.5	16.9	57.6	1	1	.....	2	22	.....	.....	.....	5	4936	7944	2	1.95	49.5
Henrietta .... c.	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.01	736.8	29.85	758.2	79.5	26.4	69.3	.....	2	1	1	2	14	3	1	4	6114	9839	4	1.86	47.2
Huron	N 44 21	W. 98 17	5 35 a.m.	1305	398	28.62	726.9	29.95	760.7	64.4	18.0	89.7	4	6	.....	.....	6	11	.....	3	1	8856	14252	5	3.58	90.9
Indianapolis	N. 39 47	W. 86 00	6.24 a.m.	753	229	29.24	742.7	30.01	762.2	73.7	23.2	70.6	5	3	4	3	2	1	3	0	4	3276	5272	3	0.82	20.8
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.98	761.5	30.01	762.2	80.8	27.1	84.8	.....	.....	.....	9	10	6	1	4	1	8173	13153	5	1.30	33.0
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.85	732.8	29.93	760.2	76.9	24.9	75.5	.....	.....	.....	7	5	13	3	2	1	5849	9413	4	0.12	3.0
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	29.99	761.7	30.03	762.7	81.8	27.7	77.7	.....	1	.....	17	3	.....	1	9	.....	5340	8994	3	7.61	193.3
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.39	746.5	30.03	762.7	73.1	22.8	78.8	3	1	2	7	4	4	7	2	1	4469	7192	4	3.08	78.2
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.00	762.0	30.03	762.7	83.7	28.7	73.6	.....	2	2	3	4	9	9	.....	2	3742	6022	5	5.97	151.6
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	29.98	761.5	30.00	762.0	75.8	24.3	80.5	5	.....	8	4	2	1	2	9	.....	9082	14616	5	5.00	127.0
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.07	738.4	30.07	763.8	72.1	22.3	80.0	6	.....	.....	5	.....	.....	2	10	2	3365	5415	3	4.05	102.9
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.25	742.9	29.98	761.5	68.7	20.4	81.2	3	3	2	4	10	4	.....	3	2	4366	7026	4	8.86	225.0
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.13	663.7	30.28	769.1	68.7	20.4	75.2	2	4	.....	.....	.....	.....	.....	.....	25	1406	2263	5	3.90	99.1
Laredo	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.51	749.5	29.83	757.7	78.8	26.0	81.1	.....	.....	.....	.....	2	26	.....	1	2	4430	7129	2	0.12	3.0
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.16	740.7	30.03	762.7	73.9	23.3	75.6	7	.....	.....	.....	13	2	4	.....	5	4520	7274	3	1.72	43.7
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.13	739.9	29.96	761.0	60.8	16.0	58.4	.....	2	1	4	.....	1	11	12	.....	2709	4360	4	0.89	22.6
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.70	754.4	30.01	762.2	75.6	24.2	83.7	.....	4	2	3	3	1	4	6	8	3037	4888	2	1.95	49.5
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.59	751.6	29.96	761.0	59.3	15.2	80.8	.....	2	2	11	10	3	.....	2	1	4242	6828	5	0	0
Louisville	N. 38 18	W 85 52	6.25 a.m.	530	162	29.46	748.3	30.01	762.2	75.2	24.0	72.5	7	1	2	9	2	.....	3	2	5	3471	5586	3	2.18	55.4
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.34	745.2	30.01	762.2	76.9	24.9	65.4	1	1	12	1	1	1	2	6	6	2526	4065	5	3.88	98.6
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.03	737.3	30.01	762.2	67.2	19.6	85.4	3	6	6	4	5	1	5	1	.....	5321	8563	5	9.47	240.5
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.27	743.4	29.98	761.5	67.2	19.6	66.4	1	7	12	1	1	1	.....	.....	8	5186	8346	4	2.49	63.2
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.39	721.1	30.07	763.8	75.8	24.3	77.2	1	.....	1	3	7	4	2	.....	13	4653	7488	3	1.98	50.3
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.72	754.9	30.05	763.3	77.2	25.1	72.6	3	1	1	1	1	1	.....	5	18	2063	3320	3	0.89	22.6
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.29	744.0	30.02	762.5	67.0	19.4	79.2	7	7	5	7	1	1	.....	2	1	5499	8350	3	5.34	135.6
Mobile	N. 30 42	W. 87 59	6.16 a.m.	69	21	29.96	761.0	30.03	762.7	78.3	25.7	83.5	4	12	5	1	.....	3	4	2	.....	4875	7845	5	2.77	70.4
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.81	757.2	30.03	762.7	78.0	25.6	76.5	1	3	5	4	2	3	8	5	.....	3711	5972	6	2.18	55.4
Moorhead	N. 46 52	W. 96 40	5.41 a m.	923	281	28.99	736.3	29.95	760.7	63.9	17.7	80.3	5	3	3	.....	10	4	.....	5	1	9657	15541	3	1.97	50.0
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.04	737.6	29.99	761.7	69.6	20.9	83.6	2	1	1	5	2	1	4	1	14	2855	4594	3	5.61	142.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
U.S. SERIES—*Continued.*	° ′	° ′																								
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.84	605.5	29.86	758.4	46.5	8.1	83.7	1	16	2	2	2	1	.....	5	2	14442	23242	5	9.93	252.2
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.52	749.8	30.04	763.0	75.2	24.0	73.8	7	9	3	2	1	1	2	2	4	2721	4379	3	0.86	21.8
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.82	757.4	29.94	760.5	67.5	19.7	79.2	5	4	1	4	4	.....	.....	9	4	4124	6637	5	3.53	89.7
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	29.90	759.4	29.95	760.7	68.2	20.1	81.5	6	5	4	.....	2	3	3	5	3	3857	6207	4	2.72	69.1
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.96	761.0	30.01	762.2	81.5	27.5	78.0	6	1	7	6	1	3	1	8	3	4569	7353	5	6.97	177.0
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.89	759.2	29.94	760.5	67.5	19.7	80.9	6	4	3	7	4	4	1	2	.....	4955	7974	5	0.87	22.1
New River ..... *d*	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	79.4	6	4	6	5	.....	.....	.....	2	4	.....	.....	4	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	29.91	759.7	29.94	760.5	66.3	19.1	87.0	2	8	4	4	1	2	1	7	2	8057	12966	3	1.61	40.9
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.79	756.7	29.96	761.0	68.8	20.4	80.9	5	3	5	4	4	1	3	6	.....	5984	9630	4	1.31	33.3
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	29.96	761.0	29.98	761.5	77.4	25.2	74.6	8	5	2	8	1	1	1	5	.....	4374	7039	5	6.47	164.3
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.13	689.1	29.95	760.7	66.0	18.9	84.6	3	2	.....	1	8	9	2	6	.....	11319	18216	6	3.09	78.5
Olympia	N. 47 02	W. 122 55	3.56 a.m.	36	11	30.00	762.0	30.04	763.0	50.4	10.2	87.1	3	1	2	3	14	1	1	6	.....	3257	5242	5	0.98	24.9
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.89	733.8	30.03	762.7	73.1	22.8	79.0	5	3	1	1	10	7	.....	3	1	5596	9006	6	5.89	149.6
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.61	752.1	29.93	760.2	68.0	20.0	76.1	1	6	5	3	8	2	.....	5	1	4821	7558	5	1.73	43.9
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	29.99	761.7	30.02	762.5	79.5	26.4	83.3	1	8	5	6	3	3	.....	6	.....	5100	8208	5	5.59	142.0
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	29.91	759.7	29.97	761.2	71.0	21.7	75.1	5	5	7	.....	2	1	7	4	.....	6973	11223	3	0.96	24.4
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.76	730.5	30.49	774.4	76.2	24.6	50.9	.....	.....	1	2	1	5	16	.....	6	1986	3196	3	2.03	51.6
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	18.09	459.5	30.30	769.6	39.5	4.2	63.8	.....	1	.....	15	2	.....	1	6	6	6884	11078	2	6.55	166.4
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.10	612.1	29.95	760.7	61.7	16.5	50.9	1	5	.....	4	16	2	.....	.....	3	5770	9286	2	0.23	5.8
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.22	742.2	30.01	762.2	68.7	20.4	82.0	3	9	2	3	2	.....	1	4	7	3538	5694	5	3.86	98.0
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.02	762.5	30.03	762.7	80.6	27.0	84.7	6	2	6	4	4	2	2	4	1	7130	11474	5	10.44	265.2
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.33	745.0	29.99	761.7	66.4	19.1	78.8	9	5	7	3	1	.....	1	4	1	5933	9550	5	1.30	33.0
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.86	758.4	29.90	759.4	65.6	18.7	77.9	2	7	3	8	3	1	2	5	.....	4829	7571	4	3.94	100.1
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.00	762.0	30.07	763.8	55.3	12.9	81.2	9	4	.....	.....	3	3	2	1	9	4004	6444	5	1.16	29.5
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	78.3	25.7	76.8	1	3	3	10	2	1	.....	11	.....	10175	16375	5	6.33	160.8
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.83	630.7	29.90	759.4	62.0	16.7	69.0	1	.....	.....	11	13	1	1	1	3	4726	7606	3	3.27	83.1
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.00	762.0	30.01	762.2	82.3	27.9	75.4	1	.....	4	6	.....	3	15	2	.....	5985	9632	5	3.60	91.4
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.57	751.1	29.90	759.4	65.6	18.7	49.0	6	7	1	1	5	2	.....	.....	9	4469	7192	1	inap.	inap.
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.77	756.1	29.98	761.5	77.4	25.2	85.7	1	.....	.....	.....	.....	24	3	.....	3	7204	11594	2	1.34	34.0
Rochester	N. 43 08	W. 77 51	6.58 a.m.	589	179	29.33	745.0	29.95	760.7	67.3	19.6	77.1	3	2	22	.....	.....	.....	2	2	.....	5200	8368	4	2.20	55.9
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.53	750.0	30.09	764.3	52.7	11.5	83.6	1	4	2	.....	.....	1	2	3	18	2688	4326	5	0.79	20.1
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.85	758.2	29.92	760.0	60.2	15.7	67.1	3	.....	.....	1	7	18	.....	.....	2	5579	8978	0	inap.	inap.
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.47	748.5	30.05	763.3	73.7	23.2	74.5	9	1	1	1	11	2	2	4	.....	6090	9801	4	2.13	54.1
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.15	740.4	29.99	761.7	66.1	18.9	84.6	3	5	2	.....	4	6	5	2	4	5079	8174	4	2.60	66.0
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.10	739.1	29.94	760.5	60.7	15.9	84.4	1	12	1	2	8	3	2	.....	2	7025	11305	3	0.48	12.2
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.65	651.5	29.85	758.2	67.0	19.4	38.0	2	1	.....	.....	.....	10	2	3	13	4394	7071	4	0.21	5.3
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	676	206	29.31	744.5	30.00	762.0	76.3	24.6	84.1	.....	1	.....	1	1	2	5	2	19	2850	4586	5	1.37	34.8
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.83	757.7	29.90	759.4	63.4	17.4	81.5	4	5	2	7	2	1	.....	2	8	5024	8890	7	0	0
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.34	745.2	30.00	762.0	71.8	22.1	74.7	6	1	5	9	1	3	2	3	1	7784	12027	4	3.88	98.6
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	29.92	760.0	29.95	760.7	70.6	21.4	81.6	4	6	6	4	.....	3	5	3	.....	7376	11870	5	2.43	61.7
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.91	759.7	29.97	761.2	54.5	12.5	86.8	.....	1	17	11	.....	.....	.....	.....	2	9384	15102	4	0	0
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7049	2148	23.42	594.9	29.93	760.2	60.8	16.0	63.2	1	3	.....	2	.....	4	4	9	8	4160	6695	5	4.72	119.9
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.93	760.2	30.02	762.5	81.5	27.5	73.3	3	.....	4	4	7	5	7	1	.....	5513	8872	4	1.25	31.7
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.80	756.9	30.03	762.7	77.8	25.4	81.3	3	3	4	4	3	1	3	3	7	3475	5576	4	3.17	80.5
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.35	618.5	29.81	757.2	63.5	17.5	69.9	1	8	.....	.....	1	3	.....	.....	18	1910	3074	6	9.62	244.4
Sitka ..... *f*	.....	.....	.....	63	19	29.88	758.9	29.95	760.7	52.1	11.2	86.6	.....	.....	12	3	.....	6	1	.....	3	5357	8620	8	4.40	111.8
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	29.97	761.2	30.00	762.0	77.4	25.2	79.7	6	7	2	9	2	.....	.....	4	1	7020	11297	6	10.65	270.5
Spokane Falls, W. T.	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.96	710.2	29.92	760.0	53.3	11.8	77.2	1	2	.....	6	7	1	2	2	10	4037	6497	4	2.25	57.1
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.38	746.2	30.04	763.0	73.0	22.8	78.1	3	5	2	7	2	2	2	7	1	4711	7582	3	3.37	85.6
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.81	757.2	29.94	760.5	67.9	19.9	79.5	11	4	2	.....	8	.....	2	2	2	2641	4250	6	3.23	82.0
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.01	686.0	30.00	762.0	71.7	22.1	80.0	.....	.....	.....	.....	12	7	1	.....	11	7308	11761	4	1.64	41.7
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.88	758.9	29.93	760.2	62.8	17.1	87.3	7	3	1	6	7	.....	2	3	2	6361	10237	3	2.89	73.4
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.32	744.7	30.00	762.0	70.9	21.6	65.7	5	3	11	6	.....	1	2	2	1	5168	8317	4	5.45	138.4
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.46	697.5	29.76	755.9	74.9	23.8	68.8	.....	3	..	4	4	12	6	2	.....	2861	4604	4	5.69	144.5
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.65	753.1	30.05	763.3	57.5	14.2	62.6	1	2	4	11	.....	7	4	2	.....	8312	13377	3	0.53	13.5
Uvalde ..... *b*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.03	737.3	29.82	757.4	75.1	23.9	83.9	.....	.....	.....	2	3	12	7	.....	5	2557	4114	3	1.22	31.0
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.81	757.2	30.06	763.5	77.1	25.1	80.9	3	2	.....	8	4	5	4	4	1	3571	5747	5	2.45	62.2
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.52	749.8	29.87	758.7	62.4	16.9	65.2	1	13	2	6	4	2	2	1	.....	2906	4677	0	inap.	inap.
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	29.88	758.9	29.99	761.7	72.1	22.3	49.2	4	9	7	5	5	1	.....	.....	.....	3071	4942	4	1.67	42.4
Wickenburg	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	73.6	23.1	67.9	.....	1	.....	1	1	1	.....	.....	27	.....	.....	4	1.82	46.2
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	29.94	760.5	30.00	762.0	76.6	24.8	82.9	3	2	8	1	.....	.....	1	5	11	4037	6497	5	12.40	315.0
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.63	651.0	29.82	757.4	54.4	12.4	44.4	1	.....	.....	6	12	1	.....	11	.....	6939	11167	1	0	0
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	29.90	759.4	29.93	760.2	67.5	19.7	84.7	1	6	2	10	2	2	3	3	2	7133	11479	5	1.71	43.4
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.73	729.7	29.99	761.7	69.1	20.6	85.1	2	2	5	1	4	6	3	5	3	6108	9830	5	4.54	115.3
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.66	753.4	29.80	756.9	80.7	27.1	62.7	1	1	3	4	2	8	3	1	8	4854	7818	3	0.20	5.1
Sub-Series.																										
Bridgetown ..... ‡*a*	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.03	762.7	30.05	763.3	82.7	28.2	80.6	.....	.....	.....	.....	.....	4	15	11	.....	.....	.....	9	4.78	121.4
Bogota ..... *a*	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.11	561.6	.....	.....	52.8	11.6	79.8	1	.....	1	.....	.....	1	.....	.....	27	.....	.....	7	1.29	32.8
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.00	762.0	30.05	763.3	81.6	27.6	84.2	.....	2	.....	1	.....	.....	.....	.....	28	.....	.....	0	6.57	166.9
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.00	762.0	30.01	762.2	80.1	26.7	77.6	4	.....	.....	.....	.....	1	2	.....	24	.....	.....	7	5.05	128.3
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.92	760.0	30.00	762.0	82.3	27.9	75.8	.....	.....	.....	.....	.....	2	21	8	.....	.....	.....	9	3.41	86.6
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.06	763.5	30.06	763.5	79.0	26.1	84.1	.....	.....	.....	.....	17	14	...	.....	.....	.....	.....	8	4.96	126.0
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.41	747.0	29.94	760.5	79.5	26.4	88.3a	1	.....	.....	.....	2	.....	.....	1	27	.....	.....	9	4.51	114.6
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	75.6	24.2	94.1c	.....	1	.....	2	.....	5	2	20	1	.....	.....	7	8.88	225.6
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas ..... *a*	N. 18 20	W. 64 56	7.48 a.m.	110	33	29.95	760.7	30.07	763.8	81.3	27.4	78.8	...	.....	.....	.....	.....	6	20	4	.....	.....	.....	5	1.64	41.7
York Factory	N. 57 02	W. 92 56	5.58 a.m.	45	14	29.73	755.1	29.78	756.4	56.0	13.3	83.2	3	4	5	7	3	2	4	3	.....	.....	.....	3	6.95	176.5

The following table of Ocean Square mean data, from observations taken at 7 A. M. Washington or 0.08 P. M. Greenwich mean time, is computed from the isobars, isotherms and wind directions of the daily international charts, which latter are based upon the data obtained from the logs of vessels for the month of JULY, 1881.

Ocean Square Bounded By—	Barometer. Inch.	Barometer. Mill.	Temperature. Fah.	Temperature. Cent.	Prevail'g Wind.	Force 0–10
N. 30° & 35° W. 10° & 15°	30.13	765.3	72.6	22.6	sw.	2.0
35 40 10 15	30.11	764.8	74.3	23.5	n.	2.5
35 40 15 20	30.19	766.8	71.0	21.7	sw.	2.4
30 35 15 20	30.18	766.6	72.4	22.4	sw.	1.9
40 45 10 15	30.07	763.8	75.2	24.0	ne.	2.6
45 50 10 15	30.06	763.5	65.6	18.7	sw.	3.3
45 50 15 20	30.06	763.5	63.2	17.3	w.	4.2
40 45 15 20	30.15	765.8	74.7	23.7	ne.	3.0
50 55 10 15	29.97	761.2	60.2	15.7	sw.	4.2
55 60 10 15	29.83	757.7	55.6	13.1	sw.	4.5
55 60 15 20	29.83	757.7	54.0	12.2	sw.	4.2
50 55 15 20	29.97	761.2	60.7	15.9	sw.	4.4
10 15 20 25	30.04	763.0	79.9	26.6	ne.	2.5
15 20 20 25	30.08	764.0	79.4	26.3	ne.	2.4
15 20 25 30	30.09	764.3	78.7	25.9	ne.	2.8
10 15 25 30	30.06	763.5	79.6	26.4	ne.	2.3
20 25 20 25	30.12	765.0	73.7	23.2	ne.	3.1
25 30 20 25	30.17	766.3	73.7	23.2	ne.	3.0
25 30 25 30	30.18	766.6	74.8	23.8	ne.	3.1
20 25 25 30	30.15	765.8	76.5	24.7	ne.	3.2
30 35 20 25	30.21	767.3	73.9	23.3	sw.	2.4
35 40 20 25	30.28	769.1	74.5	23.6	ne.	2.7
35 40 25 30	30.31	769.9	75.2	24.0	ne.	2.6
30 35 25 30	30.23	767.8	75.5	24.2	ne.	2.7
40 45 20 25	30.20	767.1	69.0	20.6	sw.	2.8
45 50 20 25	30.06	763.5	62.2	16.8	sw.	4.5
45 50 25 30	30.08	764.0	62.2	16.8	sw.	4.4
40 45 25 30	30.20	767.1	70.1	21.2	sw.	3.0
50 55 20 25	29.96	761.0	59.1	15.1	sw.	4.3
55 60 20 25	29.82	757.4	53.2	11.8	sw.	3.6
55 60 25 30	29.86	758.4	52.4	11.3	w.; ne.	3.4
50 55 25 30	29.94	760.5	58.2	14.6	sw.	4.3
10 15 30 35	30.05	763.3	79.2	26.2	ne.	2.7
15 20 30 35	30.09	764.3	78.3	25.7	ne.	2.9
15 20 35 40	30.09	764.3	77.7	25.4	ne.	3.0
10 15 35 40	30.05	763.3	78.8	26.0	ne.	2.9
20 25 30 35	30.13	765.3	76.9	24.9	ne.	3.2
25 30 30 35	30.19	766.8	75.1	23.9	ne.	3.2
25 30 35 40	30.18	766.6	75.5	24.2	ne.	3.0
20 25 35 40	30.14	765.5	77.3	25.2	ne.	2.9
30 35 30 35	30.21	767.3	73.8	23.2	ne.	2.5
35 40 30 35	30.22	767.6	73.8	23.2	ne.	2.6
35 40 35 40	30.17	766.3	71.8	22.1	sw.	2.7
30 35 35 40	30.18	766.6	73.7	23.2	sw.; ne	2.5
40 45 30 35	30.17	766.3	68.6	20.3	sw.	4.0
45 50 30 35	30.06	763.5	62.7	17.1	sw.	4.3
45 50 35 40	30.03	762.7	61.7	16.5	sw.	4.3
40 45 35 40	30.11	764.8	67.2	19.6	sw.	3.8
50 55 30 35	29.94	760.5	56.8	13.8	sw.	4.1

Ocean Square Bounded By—	Barometer. Inch.	Barometer. Mill.	Temperature. Fah.	Temperature. Cent.	Prevail'g Wind.	Force 0–10
N. 55° & 60° W. 30° & 35°	29.82	757.4	51.2	10.7	sw.	3.5
55 60 35 40	29.81	757.2	50.4	10.2	sw.	3.5
50 55 35 40	29.90	759.4	55.5	13.1	sw.	4.0
10 15 40 45	30.05	763.3	79.2	26.2	ne.	3.1
15 20 40 45	30.09	764.3	77.8	25.4	ne.	2.6
15 20 45 50	30.08	764.0	79.1	26.2	e.	3.2
10 15 45 50	30.06	763.5	79.4	26.3	e.	3.0
20 25 40 45	30.12	765.0	78.1	25.6	ne.	2.9
25 30 40 45	30.14	765.5	76.8	24.9	ne.	3.0
25 30 45 50	30.13	765.3	77.5	25.3	ne.	3.1
20 25 45 50	30.13	765.3	78.8	26.0	e.; ne.	3.0
30 35 40 45	30.15	765.8	74.0	23.3	ne.	2.8
35 40 40 45	30.12	765.0	70.1	21.2	sw.	3.8
35 40 45 50	30.08	764.0	69.2	20.7	sw.	4.1
30 35 45 50	30.11	764.8	74.1	23.4	sw.	3.5
40 45 40 45	30.05	763.3	67.1	19.5	sw.	4.1
45 50 40 45	29.97	761.2	60.0	15.6	sw.	4.0
45 50 45 50	29.93	760.2	56.6	13.7	sw.	2.9
40 45 45 50	30.04	763.0	65.4	18.6	sw.	4.3
50 55 40 45	29.87	758.7	53.7	12.1	sw.	3.7
55 60 40 45	29.80	756.9	48.5	9.2	sw.	3.4
50 55 45 50	29.84	757.9	51.0	10.9	sw.	2.8
10 15 50 55	30.05	763.3	80.2	26.8	ne.	2.6
15 20 50 55	30.06	763.5	80.2	26.8	ne.	2.7
15 20 55 60	30.05	763.3	81.4	27.4	ne.	2.7
20 25 50 55	30.09	764.3	79.5	26.4	ne.	2.9
25 50 50 55	30.10	764.5	79.0	26.1	se.; ne.	3.1
25 30 55 60	30.07	763.8	79.3	26.3	se.	3.4
20 25 55 60	30.10	764.5	80.7	27.1	se.; e.	2.8
30 35 50 55	30.09	764.3	75.5	24.2	s.	3.3
35 40 50 55	30.05	763.3	71.1	21.7	sw.	4.0
35 40 55 60	30.02	762.5	71.9	22.2	sw.	3.4
30 35 55 60	30.06	763.5	78.6	25.9	sw.	3.1
40 45 50 55	29.98	761.5	66.5	19.2	sw.	3.5
40 45 55 60	29.96	761.0	68.2	20.1	sw.	3.1
20 25 60 65	30.07	763.8	81.1	27.3	se.; e.	2.4
25 30 60 65	30.06	763.5	81.1	27.3	s.	3.2
25 30 65 70	30.06	763.5	81.7	27.6	se.	3.2
20 25 65 70	30.08	764.0	81.9	27.7	se.	2.6
30 35 60 65	30.05	763.3	79.8	26.6	s.	3.0
35 40 60 65	30.00	762.0	72.2	22.3	sw.	3.1
35 40 65 70	29.97	761.2	72.1	22.3	nw.; ne.	3.4
30 35 65 70	30.04	763.0	80.5	26.9	s.; sw	3.1
40 45 60 65	29.95	760.7	62.9	17.2	sw.	2.9
40 45 65 70	29.93	760.2	59.3	15.2	sw.	2.3
30 35 70 75	30.01	762.2	78.1	25.6	sw.	3.0
35 40 70 75	29.96	761.0	73.3	22.9	ne.	3.2
30 35 75 80	30.00	762.0	77.9	25.5	sw.; ne.	2.7

The following table shows the position of Ocean Squares, the total number of observations and the number of days on which observations were taken for each square during the month of JULY, 1881.

Ocean Square Bounded By—	No. Days.	No. Obs.	Ocean Square Bounded By—	No. Days.	No. Obs.	Ocean Square Bounded By—	No. Days.	No. Obs.
N. 5° & 10° W. 20° & 25°	5	5	N. 30° & 35° W. 35° & 40°	1	1	N. 40° & 45° W. 65° & 70°	12	19
5 10 50 55	4	4	30 35 50 55	1	1	40 45 70 75	7	8
5 10 55 60	5	5	30 35 65 70	4	4	45 50 10 15	6	7
10 15 20 25	7	7	30 35 70 75	5	6	45 50 15 20	8	8
10 15 25 30	6	7	30 35 75 80	5	5	45 50 20 25	12	15
10 15 45 50	3	3	35 40 10 15	1	1	45 50 25 30	15	20
10 15 50 55	4	4	35 40 15 20	1	1	45 50 30 35	11	15
10 15 55 60	16	17	35 40 25 30	1	1	45 50 35 40	16	18
10 15 60 65	17	18	35 40 35 40	2	2	45 50 40 45	5	5
15 20 20 25	4	4	35 40 40 45	2	2	45 50 45 50	2	2
15 20 25 30	7	7	35 40 45 50	1	1	45 50 50 55	4	4
15 20 40 45	1	1	35 40 50 55	4	4	50 55 10 15	9	9
15 20 50 55	1	1	35 40 55 60	11	11	50 55 15 20	6	6
20 25 20 25	7	7	35 40 60 65	10	11	50 55 20 25	6	7
20 25 25 30	1	1	35 40 65 70	8	10	50 55 25 30	1	1
20 25 45 50	3	3	35 40 70 75	21	29	50 55 30 35	1	1
20 25 50 55	2	2	35 40 75 80	6	6	50 55 35 40	1	1
20 25 55 60	1	1	40 45 10 15	2	2	50 55 40 45	3	3
20 25 60 65	2	2	40 45 15 20	7	7	50 55 45 50	3	3
20 25 65 70	2	2	40 45 20 25	1	1	50 55 50 55	6	6
20 25 70 75	1	2	40 45 25 30	2	2	55 60 10 15	1	1
25 30 20 25	2	2	40 45 30 35	2	3	55 60 15 20	1	1
25 30 40 45	2	2	40 45 35 40	7	7	55 60 20 25	2	2
25 30 65 70	10	10	40 45 40 45	14	16	55 60 25 30	2	2
25 30 70 75	5	5	40 45 45 50	17	23	55 60 30 35	4	4
25 30 75 80	1	1	40 45 50 55	12	14	55 60 35 40	2	2
30 35 15 20	9	10	40 45 55 60	15	17	55 60 50 55	1	1
30 35 20 25	2	2	40 45 60 65	11	17			

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the posit on 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San Jose the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air, except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off, and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters. At Buff Bay Town, Jamaica, observations are taken at 7.36 a. m., local time. On July 26th, the elevation of barometer cistern at Santa Fé, changes from 7049 feet or 2148 meters, to 7064 feet or 2153 meters. A careful revision of the elevation of Mount Washington, shows the height of the barometer cistern above sea-level, to be 6279 feet or 1914 meters, instead of elevation previously published; all former issues of summary should be corrected accordingly.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

BRITISH MERCHANT-MARINE SERIES.—Same as the Naval, except that frequently the direction of the wind is given to the true meridian.

GERMAN MERCHANT-MARINE SERIES.—Same as U. S. Naval.

SWEDISH MERCHANT-MARINE SERIES.—Same as Swedish Naval.

UNITED STATES MERCHANT-MARINE SERIES.—Same as U. S. Naval.

ERRATA.

DAILY BULLETIN, JULY, 1881—2d, page 12, Pacific Coast S. S. Co., S. S. Dakota, W 124° 79′, should read W 124° 49′.

4th, page 4, Indian Series, Jeypore, actual barometer, 724.1 m. m., should read 714.1 m. m.

6th, page 3, German Series, Hamburg, actual barometer, 30.16 inches, or 766.1 m. m.; reduced barometer, 30.23 inches, or 767.9 m. m., should read, actual 29.77 inches, 756.1 m. m.; reduced 29.84 inches, 757.9 m. m.

7th, page 5, Russian Series, Krotkowo, miles per hour, 7, should read, ——, Nikolaievsk, miles per hour, ——, should read 7.

Page 7, Sandusky, reduced barometer, 760.2 m. m., should read 760.7 m. m., Savannah, reduced barometer, 760.7 m. m., should read, 760.2 m. m.

9th, page 6, Concho, reduced barometer, 29.76 inches, or 755.9 m. m., should read, 29.96 inches, or 761.0 m. m.

12th, page 1, Austro-Hungarian Series, Cracow, temperature, 59.7° Fahrenheit, or 15.4° Centigrade, should read, 75.0° F., or 23.9° C.

13th, page 3, French Series, Bar-sur-Seine, reduced barometer 29.83 inches, or 757.7 m. m., should read, 30.22 inches, or 767.7 m. m.

22d, page 3, German Series, 6 c., upper cloud at Leipsic, should appear opposite Magdeburg.

25th, page 3, French Series, Nantes, reduced barometer, 29.61 inches, or 752.0 m. m., should read 29.88 inches, or 759.0 m. m.

26th, page 5, Swiss Series, Zurich, reduced barometer, 29.85, inches, or 758.2 m. m., should read 29.64 inches, 752.8 m. m. Page 12, Miscellaneous, S. S. Proteus, temperature, Fahrenheit, 55.4°, should read 45.4°.

28th, page 5, Indian Series, Hazaribagh, reduced barometer, 29.89 inches, 759.2 m. m., should read 29.59 inches, or 751.6 m. m. Page 5, Russian Series, Pekin, reduced barometer, 29.88 inches, or 759.0 m. m., should read 29.49 inches, or 749.0 m. m. Page 11, British Merchant Marine, S. S. Wyberton, W. 32° 51′, should read E. 32° 51′.

29th, page 8, H. M. S. Alexandria, barometer, 30.21 inches, or 767.3 m. m., should read 30.11 inches, or 764.8 m. m.

Chinese Series, from January 1st, 1881, to July 10th, 1881, inclusive, the velocity of the wind at Zi-ka-Wei, should be doubled.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.

PREVAILING WINDS.

Arrows show the 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 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

BRIG. & BVT. MAJ. GEN'L.
CHIEF SIGNAL OFFICER, U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *black;* detached barometer means in English inches.

Isotherms in *red;* detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7.00 A.M., Washington mean time, for the month of July, 1881. based on the daily charts of the International Bulletin.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF AUGUST, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
SEPTEMBER, 1882.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

AUGUST, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for August, 1881. 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. Mil.
Algerian Series.	° ′	° ′																								
Nemours ‡	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	29.97	761.2	88.0	31.1	72.1	15	1	12	.....	1	.....	1	.....	1	.....	.....	0	0	0
Algiers ‡	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.01	762.2	86.0	30.0	59.6	8	2	6	.....	.....	.....	.....	14	1	.....	.....	1	0	0
La Calle ‡	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.03	762.8	86.5	30.3	68.0	10	3	2	.....	5	1	3	7	.....	.....	.....	1	0.12	3.0
Tunis ‡	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.02	762.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sfax ‡	N. 34 44	E. 10 40	0.51 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida ‡	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.02	762.5	95.9	35.5	18.0	13	12	3	1	.....	1	1	.....	.....	.....	.....	0	0.04	1.0
Tebessa ‡	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.04	763.1	89.4	31.9	14.3	9	6	3	.....	3	.....	1	1	8	.....	.....	2	0	0
Geriville ‡	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	100.4	38.0	21.8	1	11	1	8	3	2	1	4	.....	.....	.....	1	0.14	3.5
Laghouat ‡	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.06	763.4	94.1	34.5	10.3	6	2	4	2	7	2	7	1	.....	.....	.....	1	0	0
Biskra ‡	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.06	763.4	95.9	35.5	13.4	.....	7	.....	1	2	20	.....	1	.....	.....	.....	0	0	0
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.03	762.7	30.12	765.0	48.8	9.3	75.0	7	2	8	4	1	2	2	4	1	.....	.....	6	2.95	74.9
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.39	746.5	29.91	759.8	78.4	25.8	50.8	.....	1	1	5	1	8	4	6	5	.....	.....	3	2.19	55.7
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.15	740.3	29.88	758.9	71.1	21.7	66.3	.....	4	9	10	3	1	4	.....	.....	.....	.....	5	2.68	68.0
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.01	736.8	29.85	758.2	73.0	22.8	58.6	3	3	.....	.....	10	3	.....	.....	12	.....	.....	6	3.05	77.5
Gratz ‡	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.70	729.0	29.90	759.5	72.3	22.4	67.7	3	1	2	9	8	6	.....	1	1	.....	.....	5	5.50	139.7
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.52	724.3	29.85	758.3	79.3	26.3	53.5	2	5	8	2	5	5	4	.....	.....	.....	.....	4	1.45	36.8
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1260	384	28.60	726.5	29.89	759.3	70.5	21.4	64.2	.....	2	7	13	2	1	.....	6	.....	.....	.....	6	4.72	119.9
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.88	733.6	29.84	757.8	70.5	21.4	62.2	.....	15	3	5	4	1	1	2	.....	.....	.....	6	2.96	75.3
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.82	757.3	29.92	760.0	82.0	27.8	54.1	.....	1	7	2	6	9	1	5	.....	.....	.....	3	2.34	59.4
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.48	748.8	29.93	760.2	77.7	25.4	55.8	2	6	4	5	5	5	2	2	.....	.....	.....	4	4.54	115.2
Szegedin c.	N. 46 15	E. 36 49	2.35 p.m.	256	78	29.63	752.5	29.89	759.2	77.4	25.2	.....	2	6	3	4	6	.....	1	.....	6	.....	.....	3	1.77	44.9
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.84	758.0	29.95	760.6	79.3	26.3	53.8	3	2	2	3	.....	.....	2	4	15	.....	.....	3	2.47	62.7
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.22	742.3	29.92	759.9	73.6	23.1	55.6	1	5	11	1	1	7	3	1	1	.....	.....	5	3.43	87.2
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	86	26	29.62a	752.3a	29.72a	754.9a	56.1a	13.4a	72.4a	4	5	5	1	6	7	2	1	.....	.....	.....	6	3.01	76.4
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63	29.50	750.8	29.79	756.7	58.5	14.7	78.2	2	8	3	7	4	.....	2	5	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	180	85	.....	.....	29.78	756.4	58.9	14.9	77.2	.....	1	13	8	1	4	3	1	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.24	742.7	29.77	756.1	57.9	14.4	81.6	2	2	5	10	8	2	2	.....	.....	.....	.....	9	.....	.....
Bradford d.	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.34	745.2	29.74	755.4	60.0	15.6	72.5	1	5	8	4	.....	3	.....	6	.....	.....	.....	8	3.75	95.3
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.98	761.5	30.01	762.2	84.6	29.2	71.7	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	.....	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.81	757.2	65.9	18.8	71.6	2	9	11	4	4	1	.....	.....	.....	.....	.....	8	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.76	755.9	29.89	759.2	64.8	18.2	72.1	2	1	2	15	2	3	.....	4	2	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.69	754.1	29.91	759.7	61.7	16.5	75.6	1	4	9	10	2	4	.....	1	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.77	705.3	29.99	761.7	68.3	20.2	38.0	.....	2	.....	5	1	15	4	1	3	.....	.....	2	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.70	754.4	29.93	760.2	83.0	28.3	84.8	4	3	4	5	2	2	3	1	7	.....	.....	4	.....	.....
Galway b.	N. 53 15	W. 9 03	11.32 a.m.	25	8	.....	.....	29.78	756.4	60.0	15.6	74.3	4	9	8	7	.....	.....	.....	1	.....	.....	.....	8	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.98	761.5	30.03	762.7	83.7	28.7	73.4	.....	.....	2	2	1	2	14	10	.....	.....	.....	1	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.51	749.5	29.72	754.9	57.4	14.1	71.6	1	1	11	8	2	.....	1	7	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.69	754.1	29.85	758.2	64.8	18.2	70.0	1	.....	5	15	6	3	.....	1	.....	.....	.....	5	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.71	754.6	29.92	760.0	62.8	17.1	75.2	.....	2	4	14	5	3	1	2	.....	.....	.....	5	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.79	756.7	29.83	757.7	64.0	17.8	63.6	2	1	11	11	4	2	.....	.....	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.54	750.3	29.79	756.7	61.9	16.6	72.1	5	5	7	11	2	.....	.....	.....	1	.....	.....	9	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	.....	.....	.....	.....	84.6	29.2	64.0	7	8	3	.....	.....	.....	3	10	.....	.....	.....	0	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29.94	760.5	29.99	761.7	84.3	29.1	76.6	2	2	1	3	11	10	1	1	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	212	64	29.61	752.1	29.84	757.9	62.2	16.8	75.1	1	3	9	6	8	2	.....	.....	2	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.82	757.4	29.89	759.2	63.3	17.4	79.1	.....	4	7	11	7	1	.....	1	.....	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.71	754.6	53.2	11.8	80.1u	3	9	9	2	3	.....	2	3	.....	.....	.....	7	.....	.....
Scutari Cemet'y a	N 41 00	E. 29 03	2.04 p.m.	60	18	29.81	757.2	29.87	758.7	85.5	29.7	48.6	5	.....	.....	3	1	.....	.....	20	1	.....	.....	2	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.56	750.8	29.87	758.7	63.8	17.7	74.5	2	3	3	12	4	.....	.....	.....	1	.....	.....	8	4.15	105.4
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.72	754.9	29.75	755.6	59.5	15.3	78.4	2	3	11	6	1	1	5	.....	2	.....	.....	7	5.20	132.1
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110	.....	.....	29.76	755.9	57.7	14.3	76.5	3	2	12	10	2	.....	1	1	.....	.....	.....	9	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	63.9	17.7	71.1	1	3	3	17	5	.....	.....	.....	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.90	759.4	29.92	760.0	66.3	19.1	71.5	.....	11	8	6	4	1	.....	1	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	29.82	757.4	29.85	758.2	59.8	15.4	78.6	1	5	9	5	7	2	.....	2	.....	.....	.....	8	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
Canadian Series	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	...	...	29.95	760.7	63.8	17.7	90.1	5	2	1	12	5	3	...	1	2	4951	7668	8	3.61	91.7
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.91	759.7	29.95	760.7	63.8	17.7	90.1	5	2	1	12	5	3	...	1	2	4951	7668	8	3.61	91.7
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.90	759.4	29.96	761.0	60.5	15.8	93.0	9	5	1	4	6	...	1	4	1	...	...	8	7.07	179.6
Chicontimi				159	48																					
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53																					
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46																					
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.95	760.7	29.97	761.2	54.1	12.3	87.7	2	1	4	11	1	1	1	8	2	7950	12794	4	4.12	104.6
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.08	738.6	29.89	759.2	56.9	13.8	86.3	3	4	...	6	5	4	...	7	2	5303	8531	5	1.82	46.2
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18																					
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309																					
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.86	758.4	29.98	761.5	62.8	17.1	94.1	5	3	5	2	8	1	6	...	1	...	...	4	3.07	78.0
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	358	109																					
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.68	753.9	30.01	762.2	65.8	18.8	82.0	6	5	1	4	8	...	1	5	1	3408	5485	4	0.34	8.6
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10																					
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.79	756.7	29.98	761.5	65.4	18.6	81.7	6	3	8	6	2	...	3	3	...	...	...	4	2.01	51.1
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9																					
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.36	745.7	30.01	762.2	62.4	16.9	86.2	1	2	1	2	1	5	5	3	11	4748	7641	4	0.63	16.0
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210																					
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.37	746.0	30.04	763.0	65.0	18.3	92.4	13	5	2	2	3	...	...	2	4	3880	6244	5	0.80	20.3
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.41	747.0	30.04	763.0	63.1	17.3	88.8a	9	4	4	3	...	2	5	4	...	...	...	5	0.34	8.6
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.67	753.6	29.98	761.5	61.2	16.2	89.4a	4	1	13	...	...	...	2	10	1	...	...	5	4.84	122.9
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.58	751.3	30.03	762.7	58.5	14.7	88.0	2	2	9	...	...	...	3	...	15	...	...	5	1.34	34.0
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.34	745.2	30.03	762.7	64.1	17.8	81.5	8	...	1	3	5	10	2	2	...	5900	9495	5	1.15	29.2
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.91	759.7	29.96	761.0	59.7	15.4	90.6	1	4	3	2	4	6	2	5	4	...	...	5	4.51	114.6
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46																					
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360																					
Sydney	N. 46 08	W. 60 10	8.07 a.m.	45	14	29.92	760.0	29.97	761.2	63.5	17.5	89.8	3	1	3	12	8	1	...	3	...	5248	8446	8	4.08	103.6
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.68	753.9	30.05	763.3	65.2	18.4	76.7	15	1	3	3	1	...	...	7	1	5303	8534	4	1.54	39.1
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26																					
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299																					
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.89	759.2	29.95	760.7	59.8	15.4	94.7	2	2	3	7	5	4	1	5	2	4047	6513	5	2.88	73.2
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.87	758.7	30.11	764.8	61.2	16.2	89.1	3	2	2	8	5	5	1	3	2	...	...	5	3.91	99.3
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?																					
Cape Colony Series.																										
Cape St. Francis.‡	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.15	765.8	30.18	766.6	63.5	17.5	81.3	1	1	8	9	3	2	1	3	3	...	...	4	5.76	146.3
Cape Town	S. 34 05	E. 18 29	1.22 p.m.	27	8	30.20	767.1	30.24	768.1	63.3	17.4	...	1	12	3	2	9	4	...	...	...	...	...	4	3.54	89.9
Worcester	S. 33 36	E. 19 26	1.26 p.m.	?	?	29.36	745.7	...	...	62.4	16.9	56.2	...	13	2	3	...	4	7	1	...	...	...	3	0.51	13.0
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.74	755.4	29.76	756.0	78.6	25.9	90.8	a	1	2	1	5	6	12	2	1	...	...	5	7.77	197.3
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145																					
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.67	753.6	29.74	755.3	61.7	16.5	67.9	...	5	9	5	9	2	...	...	1	...	...	8	...	...
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.71	754.7	29.73	755.2	60.8	16.0	75.4	2	1	15	5	7	1	...	...	...	...	...	7	...	...
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.74	755.3	29.78	756.4	41.7	5.4	89.3	6	...	...	6	10	...	...	6	3	...	...	8	...	...
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.76	755.8	29.80	756.9	48.9	9.4	77.9	...	...	6	...	2	7	6	6	4	...	...	0	...	...
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.64	752.9	29.68	753.8	52.5	11.4	76.4	11	2	3	4	1	...	1	6	3	...	...	7	...	...
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.58	751.3	29.67	753.7	58.8	14.9	81.6	2	2	10	10	4	...	...	2	1	...	...	0	...	...
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.40	746.8	30.03	762.7	76.3	24.6	47.1	...	18	4	3	1	4	...	1	...	...	...	...	1.14	29.0
Alençon	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.45	748.1	30.00	762.1	66.4	19.1	78.5	6	3	1	13	6	2	...	...	...	...	...	6	2.81	71.4
Arras	N. 50 18	E. 2 47	0.19 p.m.	239	73	29.66d	753.4d	29.91e	759.6e	64.0b	17.8b	67.6b	1b	2	14	5	3	3	...	1	...	...	...	...	...	...
Avignon	N. 43 57	E. 4 38	0.26 p.m.	65	20	29.89	759.3	29.97	761.3	82.2	27.9	50.1	9	7	2	4	3	1	3	2	...	...	...	1	5.15	130.7
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	518	158	29.44	747.7	29.98	761.4	69.3	20.7	61.5	2	2	5	7	6	4	...	5	...	...	...	8	1.98	50.4
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.69	754.1	29.95	760.6	68.0	20.0	60.9	1	2	11	12	2	1	2	...	...	...	...	7	4.02	102.2
Besançon	N. 47 14	E. 6 01	0.32 p.m.	797	243	29.14	740.1	30.00	762.0	71.2	21.8	62.0	2	...	2	7	16	2	1	1	...	...	...	...	5.38	136.6
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.78	756.3	30.02	762.6	74.3	23.5	54.6	3	7	8	6	2	3	...	2	...	...	...	6	2.70	68.5
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.45	748.1	29.99	761.8	74.3	23.5	44.7	4	...	14	5	4	4	...	...	...	...	...	5	1.92	48.9
Brest	N. 48 23	W. 4 29	11.50 a.m.	210	64	29.75	755.7	30.00	761.9	68.2	20.1	73.3	2	2	13	9	3	1	...	1	...	...	...	7	3.63	92.3
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.85	758.1	29.91	759.8	67.3	19.6	74.1	2	4	8	6	11	...	...	...	...	...	...	5	2.91	73.8
Châlons-sur-Marne	N. 48 57	E. 4 23	0.25 p.m.	294	90	29.60	751.9	29.91	759.8	68.9	20.5	66.8	...	...	3	14	10	1	...	2	1	...	...	5	3.08	78.3
Charleville	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.42	747.3	30.02	762.6	67.3	19.6	60.0	...	1	4	13	11	2	...	...	...	...	...	7	5.73	145.6
Clermont-Fd	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.66	728.0	29.96	760.9	75.6	24.2	45.7	8	5	5	5	...	3	...	5	...	...	...	2	1.18	30.1
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.16	740.6	29.99	761.8	77.0	25.0	57.6	5	3	5	5	9	1	2	1	...	...	...	2	1.83	46.5
Commercy	N. 48 45	E. 5 35	0.30 p.m.	797	243	29.11	739.5	29.95	760.8	66.7	19.3	65.7	...	3	23	1	2	...	2	...	...	...	...	5	3.06	77.7
Gap	N. 44 34	E. 6 04	0.32 p.m.	2427	740	27.48	698.0	29.89	759.3	79.0	26.1	41.8	8	3	...	3	8	2	1	6	...	...	...	3	0.46	11.7
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	28.93	734.8	30.07	763.8	82.6	28.1	36.7	...	...	...	...	5	14	11	1	...	...	...	3d	0.98	24.9
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.21	742.0	29.94	760.4	75.6	24.2	48.4	1	17	5	1	1	1	3	2	...	...	...	7	...	...
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.44c	722.4c	29.97c	761.2c	70.5	21.4	58.5	1	4	13	7	2	2	1	1	...	...	...	...	5.80	147.3
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.72	755.0	29.99	761.8	66.6	19.2	72.7	3	6	7	8	4	1	1	1	...	...	...	...	2.62	66.6
Lescar	N. 43 21	W. 0 26	0.06 p.m.	525	160	29.48	748.8	30.13	765.2	77.9	25.5	75.0	...	13	14	2	...	...	...	2	...	...	...	...	1.02	26.0
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	29.91	759.8	30.02	762.4	68.0	20.0	72.6	1	3	5	13	6	2	1	...	...	...	...	6	4.12	104.6
Lyons	N. 45 45	E. 4 49	0.27 p.m.	981	299	28.97	735.9	29.99	761.8	76.6	24.8	40.3	4a	7	4	...	3	4	4	4	...	...	...	5	3.16	80.3
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.70	754.3	30.00	762.0	67.1	19.5	77.2	1	5	5	10	3	2	2	3	...	...	...	6	2.74	69.7
Marseilles	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.69	754.2	29.95	760.8	79.9	26.6	48.6	...	5	12	8	1	4	1	...	...	...	...	3	0.63	16.0
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.96	633.9	30.19	766.9	69.1	20.6	47.5	3	3	2	6	8	...	9	...	...	...	...	2	0.88	22.4
Montpelier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.85	758.3	29.96	760.9	82.8	28.2	50.7	1	7	2	3	8	6	3	1	...	...	...	2	0.92	23.4
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.21	741.8	29.95	760.8	67.6	19.8	64.9	1	7	11	11	1	...	...	...	...	...	...	7	2.11	53.5
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.87	758.7	30.03	762.8	70.3	21.3	62.6	1	3	7	12	3	1	1	3	...	...	...	7	3.77	95.8
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.89	759.2	29.92	760.0	79.2	26.2	60.5	...	1	3	2	7	8	8	...	2	...	...	...	2.32	58.8
Perpignan	N. 42 41	E. 2 53	0.19 p.m.	98	30	29.88	758.9	29.98	761.5	79.7	26.5	48.4	4	1	...	2	4	9	1	10	...	...	...	3	0.76	19.3
Pic du Midi (Pitde)	N. 42 15	W. 0 08	0.08 p.m.	7763	2366	22.70	576.7	...	...	57.0	13.9	...	...	...	...	...	...	...	...	...	...	...	...	3	3.25	82.6
Privas	N. 44 45	E. 4 35	0.26 p.m.	997	304	28.99	736.3	30.00	762.1	80.2	26.8	51.5a	11	3	...	2	7	...	...	1	7	...	...	2	3.10	78.7
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.23	640.9	...	...	54.7	12.6	71.1	...	1	15	8	2	2	1	2	...	...	...	5	1.75	44.4
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.04	762.9	30.07	763.7	74.1	23.4	71.3	1	1	10	9	3	3	...	...	4	...	...	6	0.41	10.3
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.81	757.1	30.01	762.3	71.4	21.9	71.5a	...	10	7	13	1	...	...	...	...	...	...	6	1.53	38.8
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	27.93	709.5	30.00	762.1	71.4	21.9	48.5	1	11	13	...	...	...	1	5	...	...	...	2	0.94	23.8
Rouen	N. 49 26	E. 1 14	0.13 p.m.	80	24	29.86	758.4	29.95	760.6	66.2	19.0	72.2	4	...	10	9	4	1	2	1	...	...	...	6	4.15	105.5
Saint Lô g.	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.72	754.9	29.88	758.9	63.9	17.7	76.0	1	13	7	1	2	...	...	...	...	...	...	7	4.45	113.1
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.91	759.6	29.97	761.1	68.0	20.0	60.3	2	6	3	12	5	3	...	...	...	...	...	2	2.35	59.8
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.37	746.1	30.10	764.6	80.1	26.7	45.3	...	16	5	1	...	4	4	1	...	...	...	4	0.36	9.1
Tours b.	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.80	756.9	30.00	761.9	71.2	21.8	57.0	...	4	3	19	1	1	1	...	...	...	...	7	2.06	52.4
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.49	749.1	29.98	761.6	67.1	19.5	61.8	3	7	6	11	...	2	2	...	...	...	...	7	2.12	53.8
Sub Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.18 p.m.	256	78	29.69	754.1	29.98	761.5	68.4	20.2	60.6	...	2	11	12	1	2	2	1	...	...	...	7	2.33	59.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
German Series.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 53	0.51 p.m.	787	240	29.07	738.4	29.93	760.3	69.8	21.0	55.2		5	12	11	3							5	3.63	92.1
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.66	753.4	29.83	757.6	68.9	20.5	53.6	1	8	7	10	1	2	1	1				7	2.92	74.3
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.38	746.3	29.91	759.7	70.2	21.2	53.0		8	10	4	3	5	1					7	2.50	64.9
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.51	749.5	29.93	760.1	70.7	21.5	64.9		1	3	21	3		1	2				7	5.27	133.8
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.15	740.5	29.87	758.7	67.3	19.6	63.1		5	6	9	10		1					7	4.58	116.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.53	750.1	29.88	759.0	70.3	21.3	56.8	1	3	8	13	6							7	2.60	66.0
Friedrichshafen	N. 47 39	E. 9 29	0.45 p.m.	1355	413	28.57	725.7	29.95	760.8	68.7	20.4	71.0			6	16	7	1		1				6	7.85	199.5
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.72	754.9	29.82	757.3	63.5	17.5	69.9		4	8	11	4	4						8	5.34	135.7
Kiel	N. 54 20	E. 10 04	0.49 p.m.	13	4	29.75	755.6	29.76	756.0	63.9	17.7	70.2	2	1	13	8	4	3						7	4.52	114.7
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.47	748.5	29.86	758.5	68.4	20.2	61.8	2	3	4	14	5	2	1					8	5.22	132.5
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	269	82	29.65	753.2	29.85	758.1	67.8	19.9	59.9	1	4	6	12	2		2		4			7	2.60	66.1
Memel ... a.	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.76d	756.0d	29.81d	757.1d	63.3	17.4	74.7	1	5	13	7	2	2						7		
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.17	715.5	30.00	762.1	71.4	21.9	50.9	3	10	8	2	1	1	1	2	3			5	4.27	108.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.79	756.6	29.80	757.0	66.9	19.4	59.7		4	6	11	5	2	1	2				7	2.97	75.5
Neustadt ... a.	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.35	745.5	29.87	758.8	70.7	21.5	59.8		2	14	7	2				5			6	1.92	48.8
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	879	268	28.99	736.3	29.85	758.3	72.1	22.3	54.7	6	1	13	7	2		1	1				6	3.51	89.1
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1401	427	28.47	723.2	29.93	760.3	69.4	20.8	55.4	2	2	14	8	1		1		3			7	4.04	102.7
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.76	756.0	29.79	756.7	63.3	17.4	79.5	2		13	11	2	3						7	5.36	136.2
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m	359	110	29.50	749.4	29.88	759.0	90.1	32.3		1			11	2			17				0		
Indian Series.																										
Kurachee ... a.	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.51	749.5	29.56	750.8	84.5	29.2	74.1		1	2	22	3		1	1				6	2.04	51.8
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.10	739.1	29.56	750.8	82.3	27.9	80.3		2	3	16	10							9	7.16	181.9
Bombay	N 18 54	E. 72 49	5.00 p.m.	37	11	29.68	753.9	29.72	754.9	81.5	27.5	84.8			23	8								9	19.85	504.2
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	29.87	758.7	29.73	755.1	75.5	24.2	79.2		1	22	8								9	2.29	58.2
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.22	691.4	29.77	756.1	71.5	21.9	89.6			13	18								8	11.97	304.0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.77	730.7	29.49	749.0	88.6	31.4	70.4	4	2	3			2	13	2	5			5	8.67	220.0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.64	727.4	29.52	749.8	85.8	29.9	79.0		2	6	5	3	3	1	2	9			8	14.82	376.4
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.97	735.8	29.53	750.0	83.5	28.6	76.8	3	1	10	3	4	1	4		5			7		
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.56	725.4	29.59	751.6	78.6	25.9	81.7	1	2	11	9	5				3			9	11.56	293.6
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.24	717.3	29.58	751.3	80.0	26.7	82.8	4	10	7	2	2				6			9	17.20	436.9
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.16	740.7	29.53	750.0	85.5	29.7	77.1	3	2	1	5	2	3	8	7				8	14.72	373.9
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.21	741.9	29.52	749.8	84.1	28.9	86.1		2	1	8	1		6	3	10			9	11.46	291.1
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.37	746.0	29.55	750.6	85.2	29.6	82.1			2	2	1	5	14	6	1			8	12.65	321.3
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	28.56	725.4	29.54	750.3	79.4	26.3	83.9		4	2	5	5	4	5		6			6	19.83	503.7
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.50	749.3	29.58	751.3	83.9	28.8	80.6		1	4	13	5	1	1		6			8	9.13	231.9
Calcutta	N. 22 33	E. 88 19	6.01 p.m.	21	7	29.55	750.6	29.57	751.1	82.3	27.9	86.5			3	4	16	7	1					8	19.90	505.4
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.47	748.5	29.59	751.6	83.5	28.6	83.1				1	6		1	1	22			6	6.58	167.1
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.57	751.1	29.66	753.4	80.9	27.2	86.1			2	6	10	12	1					8	0.51	13.0
Silsugar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.28	743.7	29.61	752.1	85.7	29.8	82.2			2	12	9	1		7				8	7.45	189.1
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.13	714.5	29.55	750.6	83.8	28.8	76.6	1	5	9	5	1		5	4	1			8	9.58	243.3
Zanzibar ... a.	S. 6 10	E. 39 11	2.45 p.m.	22	7			30.02	762.5	81.6	27.6	58.4	1				3	21	3	2				6	2.30	58.4
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.55	750.5	29.94	760.5	79.0	26.1	49.1				2	6	2	6	2	13			4	3.06	77.8
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.44	747.7	29.92	759.9	80.8	27.1	48.6	1	1	2	1	7	7	9	3				4	1.73	43.9
Padua	N. 45 24	E. 11 53	0.50 p.m.	102	31	29.80	757.0	29.91	759.6	80.1	26.7	49.0	4	1		2	2	12	4	6				2	1.48	37.5
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.03	737.4	29.91	759.7	80.2	26.8	44.3	5	3		3	6	6	8					3	0.11	2.8
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.77	756.1	29.95	760.8	77.9	25.5	59.4	2	1		15	6	7						2	4.78	121.3
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.07	712.9	29.89	759.4	77.5a	25.3a	43.6a	4	9	7	2	1	3	3	2				1	0.09	2.4
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.87	758.8	29.92	760.0	79.7	26.5	59.8	4	2	1	2	1	2	7	12				2	0.39	9.8
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.67	753.6	29.91	759.8	83.3	28.5	37.8	1	5	16	5	1		1	2				2	1.16	29.6
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.88	759.0	29.97	761.1	79.3	26.3	59.5	1		15	10	3			2				3	0.23	5.9
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.78	756.4	29.95	760.6	87.4	30.8	30.6	2	2	4	16	6				1			1	0.24	6.1
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.68	753.9	29.92	760.0	88.0	31.1	37.9	5	8	2	5	4	1	3	3				1	0.11	2.8
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.09	738.8	29.93	760.2	87.4	30.8	61.2	1	2	4			18	5	1				2	1.57	40.0
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.78	756.3	29.96	761.0	84.6	29.2	45.4		7	5		6	12		1				0	0	0
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.75	755.6	29.99	761.7	84.7	29.3	44.5	2	2	2	1			2	22				1	0	0
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.88	759.0	29.93	760.1	85.5	29.7	50.7	7	2	2	1	9	3	3	4				1	0	0
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.43	747.5	29.93	760.1	84.4	29.1	55.1	2	2	2	5	10	4	4	2				1	0.77	19.5
Stelvio	N. 46 37	E. 10 26	0.50 p.m.	8343	2543	22.29	566.2			51.3	10.7	53.2			13	7	2	2	3	4				5	5.48	139.2
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.34	567.3			54.5	12.5	67.7	16	2					8	5				6	1.45	36.9
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	29.82	757.2	29.84	757.9	80.1	26.7	79.6	8	1	2	15	1	1		3				4	1.62	41.1
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.73	755.1	29.89	759.2	79.1	26.2	79.5	6	9	3		5	5	2	1				4	1.10	27.9
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	29.68	753.9	29.88	758.9	79.9	26.6	81.4			3	9	12	4	1	2				5	2.33	59.2
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.85	758.2	29.89	759.2	79.9	26.6	81.1	4	1	2	8	1	5	3	6	1			3	0.86	21.8
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.88	758.9	29.90	759.4	75.5	24.2	88.9	4	4	1	2	7	8	4	1				6	2.85	72.4
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.85	758.2	29.91	759.7	77.9	25.5	88.8	1			1	24		1	3	1			4	3.92	99.6
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.83	757.7	29.88	758.9	80.7	27.1	76.5	3	4		6	8	3	2	4	1			3	1.53	38.9
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	30.02	762.5	30.21	767.3	71.8	22.1	64.1				1		3	26	1				5	1.72	43.7
Mexican Series.																										
Guadalajara																										
Guanajuato																										
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.43	620.4	30.05	763.2	63.7	17.6	87.0	15	2	4	7	1		2					6	8.35	212.1
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.65	753.3	29.91	759.8	78.1	25.6	89.0		2		1		6	9	10	3			7	18.00	457.0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.11	587.2	30.12	765.0	56.2	13.4	84.0	1	11	3	1	1				13			7	4.82	122.8
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.94	608.1	29.87	758.7	62.7	17.1	88.0	3	5	3	4				3	11			5	5.08	129.2
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.43	595.4	30.19	766.8	53.9	12.7	69.0	4	1					1	1	23			5	5.83	148.0
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893																					
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4																					
Zera Cruz																										
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.55	572.9	30.17	766.3	55.6	13.1	86.0	1		1	1		9	6	5	7			5	6.28	159.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
NETHERLAND SERIES.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.89	759.2	29.89	759.2	65.5	18.6	.....	.....	1	14	9	5	2	.....	.....	.....	.....	.....	.....	5.34	135.5
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.76	755.9	29.82	757.3	63.3a	17.4a	.....	2	4	8	5	8	.....	.....	.....	4	.....	.....	.....	3.60	91.5
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.80	757.0	29.80	757.0	61.7	16.5	.....	.....	2	8	12	5	2	2	.....	.....	.....	.....	.....	3.36	85.4
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.84	758.0	29.84	758.0	64.8	18.2	75.5	.....	1	10	13	3	2	1	.....	1	.....	.....	.....	6.71	170.5
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.69	754.0	29.73	755.2	65.7	18.7	68.6	1	2	7	9	9	2	1	.....	.....	.....	.....	6	5.03	127.8
NORWEGIAN SERIES.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.51	749.5	29.57	751.1	56.3	13.5	76.5	1	4	11	3	7	2	.....	.....	3	.....	.....	7	9.33	236.9
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.42	747.2	29.56	750.8	61.7	16.5	62.3	1	2	3	10	8	.....	4	3	.....	.....	.....	6	3.93	99.9
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.65	753.2	29.68	753.8	53.4	11.9	.....	2	.....	1	4	.....	2	3	10	9	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.54	750.4	29.59	751.6	57.0	13.9	69.8	.....	1	.....	9	.....	.....	4	11	6	.....	.....	7	2.06	52.3
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.05	763.3	30.20	767.1	72.9	22.7	85.1	5	3	7	2	1	.....	4	9	.....	.....	.....	4	2.15	54.6
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.04	737.5	29.98	761.4	91.0	32.8	15.6	4	3	5	10	3	3	2	1	.....	.....	.....	1	0	0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.01	762.2	30.09	764.3	76.1	24.5	63.5	1	.....	.....	20	2	4	.....	1	3	.....	.....	4	0.04	1.0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.73	755.1	30.08	763.9	79.9	26.6	40.4	7	4	1	6	3	1	2	6	1	.....	.....	2	0	0
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.15	765.9	30.22	767.7	73.9	23.3	68.6	6	1	2	1	4	.....	.....	11	6	.....	.....	4	3.08	78.1
RUSSIAN SERIES.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.64	752.8	29.66	753.3	64.0	17.8	44.9	4	.....	5	2	7	2	6	3	2	.....	.....	8	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	29.94	760.5	29.86	758.4	83.7	28.7	40.0	5	1	4	7	3	5	2	1	3	.....	.....	4	.....	.....
Barnaul ‡	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.28	743.7	29.76	755.9	69.6	20.9	50.9	7	4	1	4	3	1	.....	3	8	.....	.....	6	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.46	748.2	29.69	754.1	66.2	19.0	62.6	2	3	8	8	5	.....	5	.....	.....	.....	.....	8	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	28.79	731.3	29.71	754.7	69.1	20.6	65.9	3	4	2	4	2	7	2	4	3	.....	.....	8	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.43	747.5	29.69	754.0	69.8	21.0	62.4	1	3	8	9	2	4	1	.....	3	.....	.....	8	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	29.87	758.7	29.89	759.2	77.7	25.4	64.8	4	9	3	.....	4	4	4	3	.....	.....	.....	2	.....	.....
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.19	741.4	29.80	756.8	72.1	22.3	49.9	2	9	7	5	5	3	.....	.....	.....	.....	.....	5	.....	.....
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.61	752.2	29.81	757.2	79.9	26.6	40.5	.....	4	9	7	4	2	4	1	.....	.....	.....	4	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.18	741.2	29.64	752.8	66.9	19.4	66.5	5	3	2	1	13	3	.....	2	2	.....	.....	6	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.85	758.2	29.92	760.0	82.8	28.2	50.7	5	3	4	3	8	.....	1	3	4	.....	.....	2	.....	.....
Nikolaievsk a	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.62	752.3	29.70	754.5	59.9	15.5	83.1	.....	3	.....	.....	.....	2	4	1	20	.....	.....	7	3.06	77.8
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	29.63	752.6	29.77	756.2	76.1	24.5	82.1	.....	2	.....	.....	1	2	.....	1	25	.....	.....	5	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	29.62	752.4	29.64	752.9	62.8	17.1	73.4	.....	8	5	6	4	4	1	3	.....	.....	.....	7	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	28.22	716.9	29.69	754.2	84.2	29.0	49.3	.....	1	.....	.....	.....	.....	.....	.....	30	.....	.....	0	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.49	723.7	29.82	757.4	87.3	30.7	38.1	1	6	1	1	4	7	1	.....	10	.....	.....	3	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.45	747.9	29.85	758.1	68.7	20.4	56.5	.....	3	8	9	3	8	.....	.....	.....	.....	.....	7	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	387	118	29.41	747.0	29.81	757.1	66.6	19.2	61.9	1	6	7	7	5	3	.....	.....	2	.....	.....	7	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	29.78	756.4	59.3	15.2	70.3	2	3	11	3	1	1	5	5	.....	.....	.....	8	5.21	132.3
Monach L. house a	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.73	755.1	56.8	13.8	94.1	4	10	3	2	2	1	2	5	1	.....	.....	6	4.50	114.3
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.60	751.8	.....	.....	.....	8	9	4	2	2	.....	4	2	.....	.....	.....	6	.....	.....
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.88	759.0	29.98	761.6	82.2	27.9	60.2	.....	.....	1	4	15	7	4	.....	.....	.....	.....	1	0.01	0.2
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.95	760.7	30.00	762.1	78.6	25.9	59.8	4	15	.....	1	1	5	2	3	.....	.....	.....	6	2.79	70.9
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.17	690.0	.....	.....	76.1	24.5	57.0	2	1	5	8	2	1	5	7	.....	.....	.....	2	0.04	1.0
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.83	706.9	29.93	760.3	88.9	31.6	26.8	1	5	3	11	5	3	2	1	.....	.....	.....	1	0.08	1.9
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.84	757.9	29.98	761.5	94.6	34.8	37.9	.....	2	.....	2	1	4	8	14	.....	.....	.....	2	0	0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.15	740.3	30.00	762.0	73.8	23.2	61.9	5	4	4	9	2	.....	.....	7	.....	.....	.....	5	2.51	63.8
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.91	759.8	29.98	761.4	78.3	25.7	85.8	.....	.....	.....	4	5	8	9	1	4	.....	.....	4	5.84	148.4
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.81	757.2	29.86	758.5	82.2	27.9	83.6	3	2	1	17	3	2	.....	3	.....	.....	.....	7	16.90	429.2
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.93	760.3	30.03	762.7	86.4	30.2	47.7	.....	1	12	4	1	1	11	.....	1	.....	.....	2	Inap.	Inap.
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.98	761.4	30.07	763.7	82.0	27.8	88.0	.....	.....	.....	4	2	14	11	.....	.....	.....	.....	6	6.20	157.4
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.69	754.0	29.83	757.7	81.1	27.3	81.8	10	7	1	3	3	6	1	.....	.....	.....	.....	7	2.54	64.4
SWEDISH SERIES.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.60	751.9	29.64	752.9	61.0	16.1	77.5a	6	.....	.....	3	15	1	3	3	.....	.....	.....	6	4.57	116.1
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.54	750.3	29.59	751.6	60.8	16.0	73.0	4	3	1	9	4	2	3	5	.....	.....	.....	8	4.35	110.4
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.54	750.2	29.59	751.5	59.0	15.0	74.4	1	5	5	2	7	.....	5	5	1	.....	.....	7	5.87	149.2
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.45	748.1	29.63	752.6	61.7	16.5	62.8	.....	.....	12	6	5	4	2	2	.....	.....	.....	8	1.57	40.0
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.61	752.2	29.67	753.7	60.6	15.9	74.0	1	3	16	6	3	2	.....	.....	.....	.....	.....	4	2.32	58.8
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.51	749.5	29.60	751.7	62.4	16.9	67.0	.....	1	5	9	6	4	3	3	.....	.....	.....	8	2.75	69.9
SWISS SERIES.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.60	726.5	29.98	761.5	73.8	23.2	52.7	12	2	1	6	8	1	.....	1	.....	.....	.....	5	5.08	128.9
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.40	721.3	29.98	761.5	70.3	21.3	66.4	.....	3	12	.....	.....	.....	.....	1	15	.....	.....	5	9.49	241.0
TURKISH SERIES.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.93	760.2	79.3	26.3	56.6	11	.....	.....	.....	1	1	3	15	.....	.....	.....	2	0	0
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.05	763.2	82.0	27.8	.....	.....	7	13	6	3	.....	2	.....	.....	.....	.....	1	0	0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.74	755.5	89.4	31.9	60.5	2	1	9	14	.....	1	4	.....	.....	.....	.....	2	0	0

‖ Below sea level.

RESULT OF SIMULTANEOUS OBSERVATIONS FOR AUGUST, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Altitude: Met'rs	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. S. SERIES.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.96	761.0	30.04	763.0	69.6	20.9	76.4	7	5	2	1	12	......	1	2	1	3411	5489	5	2.07	52.6
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.39	746.5	30.04	763.0	62.4	16.9	82.2	2	9	7	6	1	2	1	1	2	5358	8623	4	3.02	76.7
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.89	733.8	30.05	763.3	72.5	22.5	82.0	......	4	3	3	2	2	12	5	......	6927	11148	4	4.10	104.1
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.04	763.0	30.06	763.5	69.1	20.6	87.2	13	1	2	5	5	3	2	......	......	5611	9030	4	2.79	70.9
Augusta	N. 33 28	E. 172 30	11.38 p.m.	......	......	29.85	758.2	30.04	763.0	75.4	24.1	82.8	1	2	1	3	4	3	6	7	4	3302	5314	6	4.82	122.4
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.03	762.7	30.08	764.0	71.3	21.8	71.4	13	2	4	4	2	......	2	2	2	3073	4945	3	2.15	54.6
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.02	762.5	30.04	763.0	70.2	21.2	82.4	6	5	......	10	7	......	1	2	......	7615	12255	5	5.54	140.7
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.13	714.5	29.90	759.4	61.5	16.4	75.0	4	5	1	2	......	5	8	2	4	7910	12730	6	2.98	75.7
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.16	689.9	29.95	760.7	54.0	12.2	56.7	3	7	9	2	1	4	1	......	4	3163	5090	2	0	0
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.86	758.4	30.01	762.2	66.4	19.1	79.5	4	3	9	9	1	......	......	3	2	5796	9326	4	1.23	31.2
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	356	28.79	731.3	29.80	756.9	76.2	24.6	77.7	......	......	......	......	......	3	26	2	......	6243	10047	4	0.30	7.6
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	29.86	758.4	29.90	759.4	78.1	25.6	91.0	2	......	1	2	3	7	2	1	13	3161	5087	4	3.01	76.5
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.34	745.2	30.04	763.0	66.7	19.3	72.8	1	5	1	10	......	1	8	2	3	3821	6149	4	0.85	21.6
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.72	754.9	30.00	762.0	65.9	18.8	80.3	9	1	1	......	13	......	4	3	......	4474	7200	6	2.69	68.3
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.64	752.8	30.04	763.0	75.7	24.3	74.9	4	3	......	4	5	1	5	9	......	4218	6788	2	0.11	2.8
Campc	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.37	695.2	29.94	760.5	48.5	9.2	75.4	2	2	12	......	9	2	1	1	2	3556	5723	1	1.27	32.3
Camp Thomas	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.19	690.6	......	......	71.0	21.7	85.9	2	......	2	1	......	2	......	1	23	......	......	6	2.49	63.2
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.03	762.7	30.05	763.3	73.3	22.9	83.2	4	1	2	9	2	1	3	8	1	7554	12157	4	2.30	58.4
Cape May c	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.03	762.7	30.06	763.5	71.0	21.7	81.1	6	4	......	4	7	1	3	4	b	7061	12329	3	2.26	57.4
Castroville .... a	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.18	741.2	29.85	758.2	77.5	25.3	76.2	2	2	4	1	1	6	4	......	10	3794	6106	5	0.38	9.7
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	29.98	761.5	30.00	762.0	78.7	25.9	80.1	4	2	7	3	......	1	7	7	......	7515	12094	4	2.08	68.1
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.23	742.4	30.00	762.0	67.7	19.8	69.9	7	1	......	1	7	8	4	3	......	6960	11201	4	0.64	16.3
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	29.96	761.0	30.02	762.5	78.0	25.6	83.1	5	1	3	4	1	2	4	11	......	7062	11365	4	7.25	184.1
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.21	741.9	30.08	764.0	76.0	24.4	68.1	2	2	2	7	4	2	8	4	......	4013	6458	5	1.15	29.2
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.25	742.9	30.06	763.5	73.4	23.0	82.4	4	1	......	5	......	2	3	6	10	4139	6661	6	2.95	74.9
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	24.13	612.9	29.99	761.7	58.2	14.6	71.5	5	11	3	5	5	1	......	......	1	6135	9873	3	1.97	50.0
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.34	745.2	30.02	762.5	71.3	21.8	68.8	5	......	2	5	11	4	1	3	......	5501	8853	4	0.54	13.7
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.04	763.0	30.06	763.5	71.1	21.7	87.5	4	7	1	7	2	2	4	4	......	8476	13641	4	0.07	17.0
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.42	747.3	30.06	763.5	72.2	22.3	70.1	6	......	1	3	1	6	6	4	4	3072	4944	3	0.76	19.3
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.34	745.2	30.07	763.8	66.6	19.2	59.0	2	1	1	......	7	16	1	3	......	4795	7717	4	0.17	4.3
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.22	742.2	30.06	763.5	67.6	19.8	71.2	10	3	......	2	4	3	5	4	......	3552	5716	3	2.09	53.1
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.08	713.2	29.98	761.5	72.8	22.7	78.7	......	......	......	1	13	5	3	2	7	6344	10210	2	0.54	13.7
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.55	750.6	30.01	762.2	78.3	25.7	73.9	......	......	......	2	12	4	......	1	12	3744	6025	2	0.21	5.3
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.38	746.2	30.02	762.5	70.2	21.2	70.7	......	2	1	5	5	2	8	8	......	5605	9020	4	0.83	21.1
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.25	717.5	30.02	762.5	52.5	11.4	61.7	5	......	......	10	4	3	1	3	5	3851	6198	2	0.22	5.6
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.38	644.6	29.98	761.5	62.1	16.7	58.6	5	1	......	8	8	3	1	......	5	5040	8111	3	0.56	14.2
Decatur c	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.79	731.3	29.90	759.4	79.0	26.1	60.9	2	......	......	2	3	17	1	1	......	4590	7387	1	0.04	1.0
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.03	762.7	30.05	763.3	70.3	21.3	83.4	4	5	1	9	2	......	2	7	1	8233	13250	5	1.48	37.6
Denison .... a	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.19	741.4	29.98	761.5	81.2	27.3	65.7	2	1	1	1	13	7	4	1	......	4070	6560	2	0.26	6.6
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.82	630.4	29.94	760.5	64.6	18.1	69.3	4	3	1	6	12	4	......	......	1	4517	7269	3	2.33	59.2
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.11	739.4	30.00	762.0	69.7	20.9	79.8	2	2	......	5	4	9	3	4	2	4312	6936	5	5.29	134.4
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.37	746.0	30.07	763.8	68.5	20.3	75.6	11	6	3	2	4	1	1	2	1	4866	7831	3	1.32	33.5
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.42	696.5	29.95	760.7	69.2	20.7	79.2	1	1	......	4	12	9	......	3	1	8039	12937	3	2.36	59.9
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.32	744.7	30.02	762.5	67.5	19.7	75.5	4	1	4	2	3	8	4	2	3	3236	5209	6	2.46	62.5
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.29	744.0	29.98	761.5	63.4	17.4	84.2	1	9	......	3	2	......	......	13	3	4317	6947	7	7.36	186.9
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.18	741.2	30.00	762.0	78.0	25.6	76.7	......	1	......	......	2	23	1	1	3	4995	8038	1	1.04	41.7
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.26	641.6	30.02	762.5	48.4	9.1	53.9	11	2	......	8	2	......	......	2	6	8123	13072	2	0.95	24.1
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.90	759.4	29.97	761.2	58.0	14.4	88.7	4	2	1	4	9	1	2	7	1	5011	8064	4	3.04	92.5
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.25	666.7	29.93	760.2	70.7	21.5	78.2	3	8	......	......	......	1	3	10	6	2568	4132	3	3.15	80.0
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.34	745.2	30.06	763.5	69.2	20.7	70.0	2	......	1	3	12	9	......	2	2	5109	8222	3	1.02	25.9
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.38	746.2	30.02	762.5	63.6	17.6	65.7	9	2	1	3	3	4	......	......	9	4875	7845	5	6.87	174.5
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.40	721.3	30.00	762.0	76.4	24.7	69.3	......	......	4	3	1	1	9	......	13	1729	2782	3	4.28	108.7
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.08	637.0	29.91	759.7	59.5	15.3	87.5	......	......	2	......	2	......	14	7	6	3400	5472	6	8.31	211.1
FortAssinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.13	689.1	29.86	758.4	54.0	12.2	61.3	1	1	3	9	5	5	1	5	1	7210	11603	3	1.45	36.8
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.31	719.1	29.80	756.9	64.8	18.2	80.5	3	12	2	......	......	6	5	2	1	7241	11653	5	2.24	56.9
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.15	689.6	29.92	760.0	55.3	12.9	53.7	......	1	2	4	......	1	1	4	18	4843	7794	1	1.18	30.0
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.93	709.4	29.88	758.9	57.4	14.1	79.8	5	2	3	1	......	7	8	3	2	8217	13224	4	1.10	27.9
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.80	680.7	29.94	760.5	59.6	15.3	48.2	9	......	1	1	7	6	3	1	3	6000	9656	2	0.03	0.8
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.24	641.1	30.20	767.1	63.8	17.7	80.7	2	1	11	......	2	3	2	3	7	3851	6198	3	6.32	160.5
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.26	692.4	30.38	771.6	67.2	19.6	77.7	3	2	1	1	4	5	1	3	11	6482	10432	2	0.49	12.4
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.42	747.3	29.95	760.7	78.1	25.6	66.2	......	......	......	......	......	4	6	......	21	3012	4847	2	inap.	inap.
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	......	......	......	......	65.2	18.4	82.5	5	......	......	......	2	2	7	11	4	3825	6156	6	5.47	138.9
Fort Griffin ...... b	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.70	729.0	29.91	759.7	76.9	24.9	66.4	......	......	......	1	......	8	......	......	20	4160	6704	3	0.25	6.3
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.43	696.7	29.88	758.9	60.3	15.7	59.8	4	3	2	5	1	6	......	7	3	8381	13488	2	0.93	23.6
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.02	762.5	30.03	762.7	75.8	24.3	87.6	5	3	4	6	1	1	1	10	......	8158	13129	5	6.75	171.5
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.78g	705.6g	29.62g	752.3g	72.7	22.6	73.7	a	......	3	10	7	3	1	3	3	5766	9278	2	1.78	45.2
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.72	678.7	30.14	765.5	48.7	9.3	68.7	1	11	......	11	2	1	......	......	5	3540	5697	3	0.18	4.6
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.91	759.7	29.94	760.5	51.5	10.8	......	......	......	......	......	......	......	......	......	......	6687	10762	......	4.43	112.5
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.37	669.8	29.87	758.7	48.4	9.1	68.0	......	1	25	3	1	......	......	1	......	5785	9310	2	1.23	31.2
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.76	730.5	29.81	757.2	77.2	25.1	66.9	7	1	......	......	6	5	2	1	9	6504	10467	2	0.84	21.3
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.09	713.5	29.90	759.4	58.2	14.6	85.5	4	2	4	1	2	6	8	2	2	6139	9880	4	3.12	79.2
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	......	......	......	......	69.0	20.6	70.2	1	11	7	6	2	4	......	......	......	......	......	4	7.53	191.3
Fredericksburg a	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.26	717.8	29.76	755.9	75.3	24.1	79.3	1	......	......	3	......	......	......	1	26	2316	3727	3	1.53	38.9
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	29.94	760.5	29.98	761.5	81.6	27.6	80.8	1	3	6	6	7	4	1	1	2	6150	9897	5	5.98	151.9
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.39	746.5	30.05	763.3	66.5	19.2	82.5	4	......	1	2	2	3	7	9	3	5211	8386	3	1.91	48.5
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.02	762.5	30.04	763.0	76.1	24.5	83.2	2	......	6	9	......	......	5	9	......	10681	17189	5	1.06	26.9
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.80	655.3	30.06	763.5	59.9	15.5	51.7	1	1	......	6	18	2	......	......	3	4708	7577	1	1.78	45.2
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	28.96	735.6	29.82	757.4	80.1	26.7	63.3	......	......	......	2	11	12	1	4	1	6029	9703	2	0.94	23.9
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.54	724.9	29.89	759.2	64.2	17.9	88.1	4	4	1	......	3	17	1	1	......	8838	14223	5	6.31	160.3
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.25	742.9	30.03	762.7	71.5	21.9	64.6	7	1	......	......	6	2	7	7	1	3313	5332	3	0.97	24.6
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.94	760.5	29.97	761.2	79.8	26.6	85.6	1	1	......	2	12	8	3	2	2	7420	11941	4	6.30	160.0
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.82	732.0	29.89	759.2	77.5	25.3	66.4	......	1	......	10	7	6	3	......	4	4872	7841	2	0.58	14.7
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	29.96	761.0	30.00	762.0	79.4	26.3	79.6	......	2	1	9	3	4	2	10	......	6423	10337	5	10.23	259.8
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.36	745.7	30.00	762.0	71.0	21.7	69.1	......	1	1	5	2	7	9	6	......	5664	9115	4	0.86	21.8
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	29.95	760.7	29.98	761.5	82.1	27.8	77.2	1	4	1	3	2	3	12	2	3	5463	8792	6	6.91	175.5
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.05	763.3	30.07	763.8	74.2	23.4	85.5	1	2	2	5	......	1	6	13	1	9618	15478	4	3.83	97.3
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.07	738.4	30.08	764.0	70.1	21.2	85.3	1	......	1	4	3	......	2	18	2	3566	5739	4	1.77	45.0
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.23	742.4	29.98	761.5	69.0	20.6	77.8	5	5	1	1	12	3	1	2	1	5273	8486	4	5.01	127.3
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.12	663.4	30.27	768.8	65.9	18.8	84.0	......	......	......	......	......	3	......	......	28	902	1145	4	3.13	79.5
Laredo	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.48	748.8	29.81	757.2	78.0	25.6	83.9	2	......	......	......	1	20	5	1	2	3664	5896	3	2.02	51.3
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.12	739.6	30.00	762.0	73.1	22.8	70.3	4	2	......	......	12	6	1	1	5	4439	7144	4	2.74	69.6
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.12	739.6	29.96	761.0	56.8	13.8	58.6	......	3	2	2	1	1	12	6	4	2671	4298	3	0.31	7.9
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.68	753.9	30.00	762.0	76.1	24.5	80.4	1	4	......	6	1	2	4	4	9	3061	4926	2	1.42	36.1
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.55	750.6	29.92	760.0	59.6	15.3	82.4	......	1	3	13	8	5	......	......	1	3992	6424	5	inap.	inap.
Louisville	N. 38 18	W 85 52	6.25 a.m.	530	162	29.46	748.3	30.00	762.0	73.3	22.9	69.7	8	......	1	1	3	2	4	7	5	4221	6793	2	0.15	3.8
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.39	746.5	30.07	763.8	74.1	23.4	66.7	......	......	2	1	1	1	1	2	23	1793	2886	3	0.30	7.6
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.03	737.3	30.03	762.7	66.9	19.4	81.5	5	2	2	1	8	6	4	3	......	5499	8850	5	0.56	14.2
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.31	744.5	30.03	762.7	63.7	17.6	77.9	3	7	5	5	4	2	......	1	4	5721	9207	6	2.80	71.1
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.36	720.3	30.05	763.3	74.3	23.5	78.0	......	......	1	2	2	2	......	2	22	4121	6632	3	0.53	13.5
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.68	753.9	30.00	762.0	77.8	25.4	73.1	4	......	1	......	3	1	......	1	21	1910	3074	3	1.97	50.0
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.30	744.2	30.04	763.0	67.7	19.8	78.3	8	2	4	2	6	5	2	1	1	6383	10272	5	0.80	20.3
Mobile	N. 30 42	W. 87 59	6.16 a.m.	69	21	29.93	760.2	30.00	762.0	77.1	25.1	83.1	3	5	3	4	5	4	5	1	1	5219	8399	5	15.22	386.6
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.80	756.9	30.04	763.0	75.7	24.3	82.1	2	2	4	5	1	5	10	1	1	4086	6576	8	5.06	128.5
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.93	734.8	29.91	759.7	61.9	16.6	85.2	5	2	4	1	2	12	1	3	1	9646	15524	5	5.89	149.6
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.09	738.9	30.05	763.3	64.5	18.1	84.4	2	......	......	1	......	......	1	1	26	2236	3598	1	0.41	10.4
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.92	607.6	30.01	762.2	48.4	9.1	84.6	3	17	1	1	......	1	1	7	......	18908	30429	5	11.96	303.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
U.S. Series—*Continued.*	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.49	749.0	30.02	762.5	76.1	24.5	70.5	4	2	3	3	1	9	2	2	5	3084	4963	3	1.81	46.0
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.91	759.7	30.03	762.7	67.7	19.8	83.3	9	1	2	4	4	2	.....	4	5	4834	6975	5	2.51	63.8
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	29.99	761.7	30.04	763.0	68.6	20.3	83.1	9	2	3	4	3	.....	1	3	6	3837	6175	5	2.08	52.8
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.92	760.0	29.98	761.5	79.3	26.3	78.4	2	3	4	6	4	2	5	3	2	5349	8608	4	4.21	106.9
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.97	761.2	30.02	762.5	66.8	19.3	85.7	8	3	2	13	3	.....	.....	2	.....	5081	8177	5	0.86	21.8
New River	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	29.99	761.7	30.02	762.5	66.5	19.2	86.6	2	3	1	11	1	2	1	7	3	8278	13322	4	4.30	109.2
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.88	758.9	30.05	763.3	68.0	20.0	81.6	9	2	2	10	1	2	.....	5	.....	5402	8692	4	1.56	39.6
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.03	762.7	30.06	763.5	74.6	23.7	80.5	3	2	3	4	2	1	8	4	4	4510	7258	3	1.74	44.2
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.06	687.3	29.92	760.0	67.0	19.4	75.5	2	2	1	1	9	8	4	4	.....	11795	18982	5	0.75	19.0
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.95	760.7	29.99	761.7	51.0	10.6	90.2	6	1	2	6	12	.....	.....	3	1	2624	4223	5	0.71	18.0
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.84	732.5	29.99	761.7	72.6	22.6	72.2	6	.....	3	.....	10	9	1	.....	2	6297	10134	5	1.65	41.9
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.70	754.4	30.02	762.5	67.1	19.5	79.5	5	.....	1	.....	13	4	.....	7	1	4312	6939	3	1.69	42.9
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	29.97	761.2	30.00	762.0	77.6	25.3	85.2	1	2	4	8	2	2	4	8	.....	6412	10319	4	18.52	470.4
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	30.01	762.2	30.07	763.8	69.5	20.8	79.2	11	3	11	2	.....	1	.....	2	1	5343	8598	2	1.18	30.0
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.74	730.0	30.46	773.7	75.9	24.4	68.9	.....	.....	3	1	2	3	17	2	3	1377	2216	3	2.19	55.6
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	18.05	458.5	30.26	768.6	37.8	3.2	72.4	.....	2	.....	16	.....	.....	.....	9	4	7075	11386	4	11.29	286.8
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.12	612.6	30.02	762.5	60.7	15.9	50.1	...	3	2	2	18	.....	.....	2	4	5873	9452	3	1.73	43.9
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.28	743.7	30.08	764.0	64.8	18.2	79.4	4	5	5	2	.....	.....	3	4	8	2917	4694	2	0.88	22.4
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	29.98	761.5	29.99	761.7	79.5	26.4	85.1	2	3	6	2	4	4	5	5	.....	9084	14619	4	14.16	359.6
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.38	746.2	30.05	763.3	65.2	18.4	81.3	7	2	1	2	6	4	3	6	1	5723	9210	5	1.61	40.9
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.94	760.5	29.98	761.5	65.8	18.8	82.5	3	5	3	9	1	2	1	6	1	4938	7947	5	1.42	36.1
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	29.95	760.7	30.02	762.5	55.0	12.8	87.3	6	8	2	.....	6	.....	.....	.....	9	3096	4982	5	2.11	53.6
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	77.2	25.1	79.1	2	2	.....	7	2	.....	2	16	.....	11330	18234	5	4.96	126.0
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.80	629.9	29.91	759.7	60.8	16.0	82.9	.....	.....	1	10	10	1	1	1	7	3470	5584	4	5.25	133.3
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	29.95	760.7	29.96	761.0	79.6	26.4	81.4*a*	3*a*	2	2	2	.....	2	12	7	.....	6549	10539	7	7.28	184.9
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.53	750.0	29.87	758.7	63.4	17.4	53.4	3	4	1	.....	3	4	.....	1	15	2679	4311	1	0	0
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.72	754.9	29.92	760.0	80.2	26.8	84.6	1	.....	.....	.....	4	21	2	1	2	5298	8526	2	4.03	102.4
Rochester	N. 43 08	W. 77 51	6.58 a.m.	589	179	29.42	747.3	30.04	763.0	66.4	19.1	75.1	1	4	24	....	....	1	.....	1	.....	5137	8267	3	1.44	36.6
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.48	748.8	30.05	763.3	51.7	10.9	83.6	....	4	.....	.....	.....	.....	3	4	20	2435	3919	4	0.46	11.7
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.82	757.4	29.89	759.2	57.4	14.1	74.7	1	.....	.....	.....	8	21	.....	.....	1	5189	8351	0	0	0
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.44	747.8	30.03	762.7	73.8	23.2	67.9	6	1	1	1	6	7	4	5	.....	5657	9104	4	0.31	7.9
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.11	739.4	29.97	761.2	66.6	19.2	88.2	2	4	2	2	2	12	5	1	1	6836	11001	6	4.55	115.6
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.06	738.1	29.92	760.0	58.1	14.5	87.8	2	11	1	3	3	9	1	.....	1	6547	10536	5	1.96	49.8
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.61	650.5	29.85	758.2	65.9	18.8	39.4	3	2	.....	.....	.....	9	3	1	13	4199	6754	3	1.61	40.9
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.28	743.7	29.97	761.2	75.5	24.2	87.6	2	.....	1	.....	1	3	3	3	18	3318	5340	5	0.95	24.1
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.79	756.7	29.86	758.4	64.6	18.1	80.2	10	2	2	3	6	.....	3	1	4	4355	7008	8	0.01	0.3
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.38	746.2	30.05	763.3	70.5	21.4	72.5	7	2	1	4	8	4	3	2	.....	7352	11832	3	0.96	24.4
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.01	762.2	30.04	763.0	70.6	21.4	80.7	4	6	7	6	2	.....	.....	6	.....	7433	11962	4	0.63	16.0
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.88	758.9	29.94	760.5	54.2	12.3	87.5	.....	.....	11	20	.....	.....	.....	.....	.....	9409	15145	5	0	0
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7064	2153	23.39	594.1	29.97	761.2	58.3	14.6	75.9	7	1	.....	4	1	7	3	1	7	3495	5624	5	6.28	159.5
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.93	760.2	30.02	762.5	77.4	25.2	84.4	5	2	4	5	3	1	4	6	1	5461	8788	6	9.63	244.6
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.77	756.1	30.00	762.0	76.7	24.8	80.0	2	.....	2	8	4	2	1	5	7	3141	5055	2	0.45	11.4
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.34	618.2	29.84	757.9	61.0	16.1	77.6	1	5	.....	.....	2	.....	.....	.....	23	1306	2102	5	8.69	220.7
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.90*c*	759.4*c*	29.97*c*	761.2*c*	52.5*c*	11.4*c*	84.5*c*	*c*	7	6	6	1	.....	2	2	4	4900	7886	7	1.98	50.3
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.00	762.0	30.03	762.7	76.2	24.6	84.3	2	6	2	3	3	2	1	9	3	7507	12081	5	3.49	88.6
Spokane Falls, W. T.	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.95	709.9	29.93	760.2	49.8	9.9	74.8	1	2	2	2	6	5	4	4	5	4067	6545	4	0.45	11.4
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.37	746.0	30.04	763.0	70.5	21.4	69.7	4	.....	1	1	6	5	6	8	.....	5410	8706	4	4.03	102.4
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.90	759.4	30.02	762.5	68.3	20.2	83.0	7	2	2	3	7	1	.....	1	8	2826	4548	6	3.23	82.0
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.00	685.8	30.00	762.0	69.6	20.9	81.4	.....	.....	.....	1	10	7	3	.....	10	6944	11175	3	1.10	27.9
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.96	761.0	30.01	762.2	63.2	17.3	93.5	2	6	1	10	4	.....	.....	8	.....	7257	11679	4	0.85	21.6
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.36	745.7	30.04	763.0	68.5	20.3	76.4	4	9	2	2	5	1	1	5	2	4408	7094	4	0.88	22.4
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.46	697.5	29.78	756.4	73.8	23.2	78.2	.....	2	1	3	3	11	3	2	6	2143	3449	4	3.92	99.6
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.63	752.6	30.03	762.7	55.8	13.2	67.1	1	2	8	7	4	8	1	.....	.....	6780	10911	2	0.73	18.5
Uvalde *a*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.01	736.8	29.80	756.9	75.2	24.0	83.0	1	.....	.....	.....	1	5	6	1	16	2051	3301	4	1.91	48.5
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.77	756.1	30.02	762.5	76.5	24.7	79.0	1	.....	.....	10	2	7	7	3	1	3855	6204	3	2.53	64.3
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.48	748.8	29.84	757.9	60.7	15.9	65.1	1	19	2	3	4	.....	1	.....	1	2828	4551	1	0.03	0.8
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	29.97	761.2	30.08	764.0	70.2	21.2	83.4	1	9	2	1	7	.....	.....	3	8	2543	4092	3	1.07	27.2
Wickenburg *a*	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	70.7	21.5	85.9	.....	.....	.....	.....	2	.....	.....	2	26	.....	.....	4	5.02	127.5
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	29.98	761.5	30.04	763.0	74.8	23.8	86.9	1	2	2	2	1	1	2	11	9	4351	7002	5	4.99	126.7
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.60	650.2	29.84	757.9	50.3	10.2	39.1	1	1	.....	2	16	1	.....	10	.....	6549	10539	1	0.07	1.8
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	29.97	761.2	30.01	762.2	66.8	19.3	88.2	8	3	4	9	4	1	1	1	.....	7508	12083	5	0.65	16.5
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.66	728.0	29.94	760.5	69.5	20.8	76.8	.....	2	2	3	4	5	4	2	9	6490	10444	5	1.77	45.0
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.65	753.1	29.79	756.7	78.5	25.8	74.4	1	1	.....	.....	2	14	2	1	10	4519	7273	1	0.08	2.0
Sub-Series.																										
Bogota *i*	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.10	561.3	.....	.....	52.7	11.5	77.0	.....	.....	.....	.....	2	2	1	.....	17	.....	.....	6	1.22	31.0
Bridgetown ‡*k*	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.01	762.2	30.03	762.7	82.6	28.1	83.8	.....	1	.....	1	.....	5	10	2	1	.....	.....	8	5.02	127.5
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.95	760.7	30.00	762.0	80.8	27.1	83.5	.....	.....	.....	.....	.....	1	.....	.....	30	.....	.....	8	5.83	148.1
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	29.96	761.0	29.97	761.2	79.4	26.3	79.0	7	.....	.....	.....	.....	.....	4	.....	20	.....	.....	6	4.75	120.6
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.87	758.7	29.95	760.7	82.8	28.2	77.0	.....	.....	.....	....	3	2	18	8	.....	.....	.....	10	1.26	32.0
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.04	763.0	30.04	763.0	78.9	26.1	84.5	.....	.....	.....	.....	.....	23	8	.....	.....	.....	.....	7	4.88	123.9
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.43	747.5	29.98	761.5	79.5	26.4	88.6	*b*	.....	.....	.....	5	.....	.....	1	20	.....	.....	8	9.22	234.2
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	75.7	24.3	90.4	.....	2	1	3	.....	5	2	13	5	.....	.....	5	6.96	176.8
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	29.94	760.5	29.97	761.2	81.2	27.3	78.0	5	1	.....	.....	.....	.....	.....	1	24	.....	.....	4	5.20	132.1
St. Thomas ‡	N. 18 20	W. 64 56	7.48 a.m.	110	33	29.88	758.9	30.00	762.0	81.7	27.6	79.8	.....	1	.....	1	2	7	11	9	.....	.....	.....	5	7.22	183.4
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	29.73	755.1	29.78	756.4	47.3	8.5	95.5	6	3	4	3	13	.....	1	1	.....	.....	.....	7	11.50	192.1

Ocean Square Data for August 1881.

Location of centre of each square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
°	°																	
N. 2.5	W. 22.5	5	5															
2.5	27.5	7	7															
2.5	42.5	4	4															
7.5	22.5	16	17															
7.5	27.5	6	6															
12.5	22.5	9	9	29.99	761.7	81.5	27.5	5	3	5	1	1			14	1	1	1.5
12.5	27.5	17	21	29.98	761.5	81.1	27.3	9	1	3	2	2	1	2	7	2	2	1.5
12.5	47.5	3	3															
12.5	52.5	1	1															
12.5	57.5	5	5															
17.5	22.5	2	2	30.01	762.2	80.0	26.7	10		1		1		4	14		1	1.9
17.5	27.5	14	19	30.01	762.2	81.0	27.2	6	2	1				2	19	1		1.5
17.5	32.5	4	4															
17.5	37.5	2	2															
17.5	42.5	3	3															
17.5	47.5	1	1															
17.5	52.5	7	7															
17.5	57.5	1	1															
22.5	22.5	5	6															
22.5	27.5	4	5															
22.5	32.5	6	6															
22.5	37.5	1	1															
22.5	52.5	2	2															
22.5	57.5	2	2															
22.5	62.5	1	1															
27.5	22.5	6	6															
27.5	27.5	2	2															
27.5	32.5	6	6															
27.5	37.5	5	5															
27.5	52.5	1	1															
27.5	62.5	1	1															
27.5	67.5	2	2															
27.5	72.5	4	4	30.02	762.5	81.6	27.6	2	2		3	8	9	4	2	1		1.3
27.5	77.5			30.00	762.0	83.7	28.7	2	1		3	10	11	2	2			1.2
32.5	12.5	1	1	30.06	763.5	79.5	26.4	1			14	4	2	1	3	3	3	1.1
32.5	17.5	11	11	30.10	764.5	76.2	24.6	2			16	3	2	1	2	3	2	1.1
32.5	22.5	1	1	30.15	765.8	76.4	24.7	5			8	2	2	2	6	5	1	1.3
32.5	27.5	1	1	30.18	766.6	75.9	24.4	8	2	1	2	1		4	12	1		1.5
32.5	32.5	3	3	30.17	766.3	76.1	24.5	5	3	2	2	1		3	13		2	1.6
32.5	37.5	7	7	30.16	766.1	75.8	24.3	2	1		1	1	1	1	8	1	15	1.7
32.5	42.5			30.15	765.8	75.8	24.3	2			4	1	1	2	4		17	2.2
32.5	47.5			30.12	765.0	76.8	24.9	2			9	4	1		1		14	2.1
32.5	52.5			30.11	764.8	77.7	25.4	5			8	5					13	2.1
32.5	57.5	1	1	30.08	764.0	78.3	25.7	5	3		6	7	3	5			2	1.8
32.5	62.5	3	3	30.07	763.8	78.8	26.0	4	3		7	7	5	5				1.5
32.5	67.5	3	3	30.03	762.7	78.8	26.0	4	3		6	8	1	6		1	2	1.5
32.5	72.5	1	1	30.04	763.0	79.3	26.3	4	1	3	6	5		4	5		3	1.8
32.5	77.5	1	1	30.04	763.0	76.5	24.7	9		5	3	3	1	3	7			1.3
37.5	12.5	4	4	30.08	764.0	75.6	24.2	9	2	2	4	2	2	1	9			1.7
37.5	17.5	6	6	30.13	765.3	72.8	22.7	10	1	1	6	3		2	6	2		1.4
37.5	22.5	2	3	30.18	766.6	73.9	23.3	7	1	1	4	2		1	11	4		1.5
37.5	27.5	6	6	30.21	767.3	73.1	22.8	3	4	5	3			3	13			1.6
37.5	32.5	2	2	30.19	766.8	72.9	22.7	2	2	6	3	1		3	12	1	1	1.5
37.5	37.5			30.17	766.3	72.8	22.7	3	2	2	3	2	2	1	2		14	1.6
37.5	42.5			30.14	765.5	73.1	22.8	2	2	2	12	2	2			1	8	2.0
37.5	47.5	2	2	30.14	765.5	73.2	22.9	2	1	1	16	5				1	5	2.2
37.5	52.5	4	4	30.12	765.0	73.9	23.3	2	1	3	11	2	8	1	2	1		2.1
37.5	57.5	7	7	30.08	764.0	74.9	23.8	2	2	3	8	9	2	2	2		1	2.5
37.5	62.5	4	4	30.05	763.3	74.2	23.4	3	3	5	6	7	3	1	2		1	2.2
37.5	67.5	12	12	30.04	763.0	72.2	22.3	5	2	2	5	7	1	3	5	1		2.0
37.5	72.5	14	14	30.06	763.5	73.4	23.0	12		3	3	4	2	3	2	1	1	1.7
42.5	12.5	12	12	30.03	762.7	71.5	21.9	6	7	5	8		1	1	8			1.7
42.5	17.5	5	5	30.08	764.0	69.3	20.7	9	2	2	4	2	1	2	7	2		1.7
42.5	22.5	5	5	30.12	765.0	69.5	20.8	6	1	2	5	3		1	11	1	1	1.8
42.5	27.5			30.12	765.0	69.3	20.7	7	3	8	2	1		4	5	1		1.5
42.5	32.5	2	2	30.13	765.3	69.0	20.6	1	2	6	5	4	2	1	5	1	4	1.9
42.5	37.5	4	6	30.12	765.0	69.2	20.7	4	3	4	12	1	2	1	1	2	1	2.1
42.5	42.5	7	9	30.11	764.8	69.8	21.0	4	3	1	14	4	1	1	1	1	1	2.1
42.5	47.5	15	16	30.10	764.5	69.6	20.9	4	3	1	14	2	1			4	2	2.1
42.5	52.5	13	9	30.08	764.0	70.3	21.3	3	3	3	8	9		1		4		2.1
42.5	57.5	10	11	30.05	763.3	70.5	21.4	2	2	4	5	11	3	1	1	2		2.2
42.5	62.5	20	36	30.02	762.5	69.4	20.8	5	4	3	2	8	3	3	2		1	1.9
42.5	67.5	21	31	30.02	762.5	66.7	19.3	4	1	5	5	7	2	1	4	1	1	1.6
47.5	12.5	11	11	29.96	761.0	64.3	17.9	5	5	7	2	8	1		2	1		2.5
47.5	17.5	7	8	29.96	761.0	63.4	17.4	5	4	8	4	6	2		2			2.6
47.5	22.5	11	12	29.97	761.2	62.9	17.2	2	5		2	3	3	9	5		2	2.6
47.5	27.5	8	10	29.96	761.0	62.6	17.0	3	2	9	7	4			4	1	1	2.5
47.5	32.5	11	15	29.98	761.5	62.4	16.9	5	4	7	8	4		1	2			2.4
47.5	37.5	10	12	30.02	762.5	62.8	17.1	6	3	5	8	4		1	2	2		2.2
47.5	42.5	7	9	29.99	761.7	62.4	16.9	5	6	4	8	4	1	1		1	1	2.1
47.5	47.5	8	9	30.00	762.0	62.1	16.7	5	1	4	8	7	3	2		1		1.4
52.5	12.5	7	8	29.87	758.7	60.2	15.7	3	3	9	7	4	1		4			2.4
52.5	17.5	12	15	29.87	758.7	59.2	15.1	3	6	10	6	3			3			2.6
52.5	22.5	9	9	29.90	759.4	59.0	15.0	3	4	9	5	4	1	1	3		1	2.8
52.5	27.5	3	3	29.91	759.7	58.3	14.6	6	4	4	6	3		1	5		2	2.9
52.5	32.5	5	6	29.93	760.2	57.7	14.3	9	5	6	5	4					2	2.1
52.5	37.5	2	2	29.95	760.7	57.3	14.1	5	6	3	7	5		1			4	2.0
52.5	42.5	1	2	29.96	761.0	57.4	14.1	8	3	2	9	5		2	1		1	1.9
52.5	47.5	2	2	29.94	760.5	56.4	13.6	10		2	6	8	1	2	1	1		1.4
57.5	12.5	1	1	29.77	756.1	55.3	12.9	10	4	2	4	3		1	5	1	1	2.3
57.5	17.5	2	3	29.81	757.2	54.9	12.7	3	3	6	1	4		4	4	2	5	2.3
57.5	22.5	3	3	29.85	758.2	53.9	12.2	2	2	7	2	3		4	5	2	4	2.4
57.5	27.5	1	1	29.87	758.7	52.7	11.5	7	3	3	2	2		2	2	3	7	1.9
57.5	32.5	1	1	29.85	758.2	51.8	11.0	10	3	2	1	4			1	2	8	1.7
57.5	37.5	1	1	29.86	758.4	50.4	10.2	12	3	1	2	5				3	5	1.9
57.5	42.5	1	1	29.88	758.9	49.6	9.8	10	1	1	3	8			2	2	4	2.1
57.5	47.5	1	1	29.88	758.9	49.1	9.5	7		1	4	9		1	5	2	2	2.1

Note.—See General Remarks, page 9.

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer-readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k. cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San Jose the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off, and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

BRITISH MERCHANT-MARINE SERIES.—Same as the Naval, except that frequently the direction of the wind is given to the true meridian.

GERMAN MERCHANT-MARINE SERIES.—Same as U. S. Naval.

SWEDISH MERCHANT-MARINE SERIES.—Same as Swedish Naval.

UNITED STATES MERCHANT-MARINE SERIES.—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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."

ERRATA.

MONTHLY SUMMARY, JULY, 1881.—page 2, Canadian series, Port Dover, reduced barometer 29.67 inches, or 753.6 m. m., should read 29.96 inches, or 761.0 m. m.; page 4, Russian Series, Tashkend, actual barometer 29.54 inches, or 750.4 m. m., should read 28.17 inches, or 715.4 m. m.

DAILY BULLETIN,—page 7, from July 1st, to December 1st, 1880, for Virginia City, Nevada, read Virginia City, Montana,

DAILY BULLETIN, AUGUST 1881, 1st, page 7, from August 1st to 8th, inclusive, the reduced barometer at Umatilla, reads 0.36 or 9.1 m. m., too low.

2d, page 7, United States Sub Series, Navassa, actual barometer 29.71, 754.6, reduced 29.79, 756.7, should read, actual 29.91, 759.7, reduced 29.99, 761.7.

11th, page 6, El Paso, reduced barometer 30.86 inches, should read 29.86.

13th, page 1, Austro-Hungarian Series, Agram, direction of wind and force ——, should read calm, 0, same correction on 15th, 19th, and 27th.

20th, page 1, Austro-Hungarian Series, Hermannstadt, reduced barometer 29.59, inches, or 751.5 m. m., should read 29.98 inches, or 761.5 m. m.

22d, page 1, Austro-Hungarian Series, Agram, actual barometer 774.7 m. m., should read 747.7 m. m.

23d, page 6, Barnegat, reduced barometer 30.00 inches, should read 30.08.

31st, page 8, H. M. S. Beacon, temperature Fahrenheit 92° should read 93°.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.

PREVAILING WINDS.

Arrows show the direction of and fly with, the wind. Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
O	0	0	0
	1, 2	0 to 9	0 to 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

BRIG. & BVT. MAJ. GEN'L.

CHIEF SIGNAL OFFICER, U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *black*; detached barometer means in English inches.

Isotherms in *red*; detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of August, 1881, based on the daily charts of the International Bulletin.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

SEPTEMBER, 1881.

Stations.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	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.	Mil.
Algerian Series.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	29.95	760.7	79.7	26.5	68.8	8	3	9	.....	.....	1	5	.....	4	.....	.....	1	inap.	inap.
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	29.95	760.7	75.9	24.4	36.4	6	3	8	.....	.....	.....	2	11	.....	.....	.....	2	0.07	1.8
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.95	760.7	78.1	25.6	77.0	12	5	4	1	.....	.....	4	4	.....	.....	.....	4	2.03	51.5
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.92	760.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sfax	N. 34 44	E. 10 40	0.51 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	29.98	761.6	86.9	30.5	29.0	16	5	1	5	1	.....	.....	2	.....	.....	.....	1	0.28	7.2
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	29.97	761.3	85.3	29.6	63.5	7	10	2	4	.....	1	.....	4	2	.....	.....	3	inap.	inap.
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	90.5	32.5	12.0	2	8	3	10	1	6	.....	.....	.....	.....	.....	0	0.14	3.6
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.01	762.2	94.1	34.5	16.0	2	3	3	10	6	2	3	1	.....	.....	.....	1	0.36	9.2
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	29.98	761.6	90.0	32.2	16.0	.....	19	2	.....	.....	9	.....	.....	.....	.....	.....	3	inap.	inap.
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.96	761.0	30.05	763.3	51.6	10.9	76.5	5	4	3	3	6	2	3	3	1	.....	.....	4	0.66	16.8
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.44	747.7	29.97	761.3	66.0	18.9	66.7	.....	.....	1	2	5	.....	5	6	11	.....	.....	6	2.34	59.5
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.25	743.0	30.01	762.3	59.9	15.5	69.9	.....	1	7	4	2	.....	7	9	.....	.....	.....	8	7.11	180.6
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.09	738.9	29.95	760.6	61.7	16.5	67.2	9	1	.....	.....	6	6	.....	.....	8	.....	.....	7	2.71	68.9
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.73	729.8	29.96	760.9	62.4	16.9	77.6	.....	2	2	9	5	9	3	.....	.....	.....	.....	6	4.35	110.4
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.58	725.8	29.96	761.0	66.9	19.4	56.8	1	12	3	.....	2	6	5	1	.....	.....	.....	6	3.09	78.4
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1260	384	28.64	727.4	29.96	761.0	58.5	14.7	80.9	.....	2	9	6	1	.....	1	11	.....	.....	.....	6	4.75	120.7
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.62	726.9	29.99	761.7	59.2	15.1	68.4	.....	8	3	5	7	6	.....	1	.....	.....	.....	8	3.50	88.8
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.85	758.3	29.96	761.0	69.1	20.6	67.6	.....	.....	6	5	2	8	3	6	.....	.....	.....	6	3.44	87.3
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.51	749.6	29.97	761.2	66.4	19.1	60.6	1	2	8	2	4	2	10	1	.....	.....	.....	7	2.33	59.2
Szegedin	N. 46 15	E. 36 49	2.35 p.m.	256	78	29.69	754.1	29.96	761.0	66.7	19.3	66.2	10	1	.....	6	7	.....	1	.....	11	.....	.....	0 c	1.18	30.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.88	759.0	29.98	761.6	68.4	20.2	63.7	1	3	4	4	.....	1	6	2	9	.....	.....	6	7.64	194.0
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.28	743.8	29.99	761.8	61.5	16.4	68.9	4	2	9	1	.....	6	4	2	2	.....	.....	5	2.33	59.2
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	86	26	29.90	759.4	30.00	762.0	55.3	12.9	76.2	6	10	2	.....	4	4	2	2	.....	.....	.....	8	1.87	47.5
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63	29.76	755.9	29.99	761.7	56.7	13.7	80.6	3	3	1	4	9	2	1	7	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	180	85	.....	.....	29.98	761.5	58.0	14.4	74.3	1	8	12	1	1	4	3	.....	.....	.....	.....	7	.....	.....
Bolton ..... a.	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.45	748.0	29.99	761.7	57.5	14.2	75.9	2	3	5	4	3	2	3	7	.....	.....	.....	8	.....	.....
Bradford ..... d.	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.59	751.6	29.99	761.7	57.8	14.3	73.8	.....	4	4	7	.....	.....	1	10	.....	.....	.....	6	3.11	79.0
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.95	760.7	61.6	16.4	74.9	6	5	6	6	1	3	3	.....	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.85	758.2	29.98	761.5	60.4	15.8	83.6	7	2	1	9	.....	1	3	3	4	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.77	756.1	30.00	762.0	60.1	15.6	73.5	3	4	3	5	2	5	7	1	...	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.74	704.6	29.96	761.0	70.1	21.2	57.7	1	.....	.....	1	4	13	4	5	2	.....	.....	3	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.71	754.6	29.94	760.5	84.2	29.0	84.7	3	2	4	3	6	5	3	2	2	.....	.....	4	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	25	8	.....	.....	29.93a	760.2a	59.3	15.2	75.1	5	4	10	4	4	.....	1	2	.....	.....	.....	8	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.01	762.2	30.06	763.5	76.7	24.8	83.0	.....	2	8	2	.....	2	7	9	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.77	756.1	29.97	761.2	56.6	13.7	75.9	.....	2	5	6	1	4	3	9	.....	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.80	756.9	29.97	761.2	60.6	15.9	77.4	2	8	4	6	3	2	1	4	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.76	755.9	29.98	761.5	60.8	16.0	76.1	2	4	6	4	2	4	4	4	.....	.....	.....	5	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.94	760.5	29.98	761.5	60.6	15.9	71.9	9	5	5	5	2	2	.....	2	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.71	754.6	29.96	761.0	60.1	15.6	73.1	5	5	3	4	3	3	.....	7	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	29.91	759.7	29.98	761.5	80.1	26.7	66.9	.....	15	1	1	2	3	3	5	.....	.....	.....	3	0.39	[illegible]
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29.94	760.5	29.99	761.7	83.2	28.4	79.6	1	.....	.....	.....	6	6	9	8	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	212	64	29.76	755.9	29.99	761.7	60.1	15.6	73.4	6	7	2	3	3	5	1	2	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.91	759.7	29.99	761.7	61.0	16.1	78.2	1	6	1	5	7	5	3	1	1	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	30.05	763.3	53.2	11.8	82.0	.....	2	5	3	3	5	3	8	1	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	29.85	758.2	29.92	760.0	78.9a	26.1a	54.4a	5	.....	.....	8	1	.....	.....	16	.....	.....	.....	4	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.71	754.6	29.99	761.7	60.5	15.8	78.5a	6	1	1	9	3	2	.....	6	2	.....	.....	7	2.22	56.4
Stilloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.95	760.7	29.98	761.5	59.2	15.1	76.9	.....	1	7	7	2	1	6	2	4	.....	.....	7	2.39	60.7
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110	.....	.....	30.02a	762.5a	57.6	14.2	77.5	7	.....	7	4	3	3	2	4	.....	.....	.....	8	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	61.1	16.2	74.3	3	10	6	3	3	1	1	3	.....	.....	.....	6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.96	761.0	29.98	761.5	64.9	18.3	68.8	2	9	.....	6	5	5	2	1	.....	.....	.....	6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	29.94	760.5	29.96	761.0	59.0	15.0	78.2	4	7	2	4	1	9	2	1	.....	.....	.....	8	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
	° ′	° ′																								
Canadian Series[8]																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	...	...	...	...	...	...	86.9	4	3	5	3	3	4	2	3	3	4960	7982	8	1.42	36.1
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.04	763.0	30.08	764.0	57.2	14.0	90.4	2	5	2	5	8	3	1	2	2	2270c	3653c	6	1.96	49.8
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	30.03	762.7	30.09	764.3	53.8	12.1	90.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicontimi				159	48	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.02	762.5	30.04	763.0	52.4	11.3	87.7	2	2	6	9	5	...	1	1	4	9135	14701	5	2.28	57.9
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.04	737.6	29.87	758.7	44.1	6.7	90.8	3	5	4	5	1	6	1	1	4	4062	6537	7	2.60	66.0
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.98	761.5	30.11	764.8	57.5	14.2	89.5	6	9	4	...	3	...	6	2	...	...	...	4	3.10	78.7
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	358	109	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.70	754.4	30.02	762.5	64.5	18.1	82.6	4	2	1	7	7	4	1	4	...	3832	6167	5	1.15	29.2
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.84	757.9	30.04	763.0	61.2	16.2	81.6	1	1	4	4	6	4	4	6	...	...	...	6	1.93	49.0
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.32	744.7	30.00	762.0	59.5	15.3	89.7	1	1	6	2	8	5	5	1	6	7484	12049	5	4.15	105.4
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.36	745.7	30.03	762.7	64.5	18.1	94.7	3	4	1	6	3	2	...	3	8	4525	7282	6	1.07	27.2
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.39	746.5	30.02	762.5	63.3	17.4	89.8	4	3	8	4	1	...	5	4	1	...	...	4	1.48	37.6
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.74	755.4	30.06	763.5	56.8	13.8	80.4b	2	1	4	...	...	2	6	10	5	...	...	5	2.22	56.4
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.57	751.1	30.02	762.5	56.3	13.5	83.5	2	2	7	...	1	2	9	...	7	...	...	4	2.01	51.1
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.29	744.0	29.99	761.7	61.0	16.1	86.2	2	3	2	1	8	12	...	1	1	7968	12823	6	4.18	106.2
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.05	763.3	30.10	764.5	54.5	12.5	90.2	5	6	...	1	1	6	2	2	7	...	...	3	4.87	123.7
St. John, N.B.f	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.96	761.0	30.21	767.3	53.2	11.8	89.4	1	3	3	4	2	7	1	3	...	...	...	5	5.85	148.6
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sydney	N. 46 08	W. 60 10	8.07 a.m.	55	17	30.03	762.7	30.08	764.0	55.7	13.2	88.0	3	6	...	6	4	1	2	5	3	5633	9065	8	2.26	57.4
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.67	753.6	30.04	763.0	63.4	17.4	84.0	5	5	3	5	2	3	5	2	...	6747	10858	5	0.87	22.1
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Yarmouth	N 43 50	W. 66 02	7.44 a.m.	61	19	30.05	763.3	30.11	764.8	56.5	13.6	93.4	2	5	1	4	2	3	7	3	3	4308	7030	4	1.85	47.0
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.96	761.0	30.21	767.3	52.0	11.1	88.7	1	3	3	4	5	7	3	4	...	...	...	5	5.85	148.6
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cape Colony Series.																										
Cape St. Francis.‡	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.11	764.8	30.14	765.5	63.9	17.7	90.7	...	...	4	9	1	4	7	4	1	...	...	4	2.18	55.4
Cape Town	S. 34 05	E. 18 29	1.22 p.m.	27	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Worcester a	S. 33 36	E. 19 26	1.26 p.m.	?	?	29.29	744.0	...	...	70.6	21.4	47.0	...	5	6	1	5	10	2	...	...	...	...	2	0.33	8.4
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.92	759.9	29.95	760.6	71.8	22.1	93	1	3	3	2	3	3	9	6	...	...	...	6	5.94	151.0
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.94	760.5	29.99	761.7	56.7	13.7	78.0	2	5	1	2	3	8	7	2	...	...	...	7	...	...
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.95	760.7	29.97	761.2	58.1	14.5	80.5	1	1	5	5	2	5	4	7	...	...	...	7	...	...
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.61	752.1	29.65	753.2	35.8	2.1	83.0	3	2	3	1	9	...	...	9	3	...	...	6	...	...
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	30	11	29.71	754.5	29.75	755.6	50.7	10.4	82.0	...	...	...	2	7	10	4	2	5	...	...	9	...	...
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.97	761.1	30.00	762.0	51.4	10.8	82.0	1	...	2	5	4	2	5	7	4	...	...	8	...	...
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.90	759.5	29.99	761.8	56.7	13.7	81.7	3	3	3	2	1	5	3	8	2	...	...	7	...	...
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.39a	746.4a	30.03a	762.8a	69.8	21.0	59.4	2	7	8	1	2	8	2	...	...	...	...	...	2.13	54.1
Alençon	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.47	748.6	30.02	762.6	62.4	16.9	83.1	8	2	4	4	4	6	...	2	...	...	...	...	1.47	37.4
Arras m	N. 50 18	E. 2 47	0.19 p.m.	239	73	29.62	752.3	29.87	758.8	60.1	15.6	78.3	2	4	2	...	4	4	...	1	...	...	...	...	...	...
Avignon	N. 43 57	E. 4 38	0.26 p.m.	65	20	29.93	760.2	30.01	762.2	70.5	21.4	60.8	20	5	1	1	1	1	1	...	...	...	...	3	1.40	35.5
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	518	158	29.45	748.1	30.00	762.0	63.5	17.5	69.3	1	4	2	4	5	7	2	5	...	...	...	7	3.06	77.8
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.74	755.4	29.99	761.8	62.6	17.0	71.2	2	3	6	5	2	3	4	5	...	...	...	7	3.22	81.8
Besançon	N. 47 14	E. 6 01	0.32 p.m.	797	243	29.13	740.0	30.02	762.4	62.2	16.8	76.5	2	...	4	5	10	3	2	4	...	...	...	5	0.51	13.0
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.76	755.8	30.02	762.4	68.7	20.4	56.2	5	3	4	8	3	3	3	1	...	...	...	6	1.30	33.1
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.43	747.5	29.97	761.2	66.6	19.2	59.4	8	3	5	8	...	1	3	2	...	...	...	5	1.60	40.7
Brest	N. 48 23	W. 4 29	11.50 a.m.	210	64	29.77	756.2	30.02	762.4	65.8	18.8	72.8	2	2	7	1	3	4	6	4	1	...	...	7	1.72	43.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.91	759.6	29.98	761.5	63.9	17.7	77.5	3	9	5	2	5	4	...	2	...	...	...	5	1.80	45.6
Châlons-sur-Marne	N. 48 57	E. 4 23	0.25 p.m.	294	90	...	...	...	...	63.5	17.5	69.5	...	2	4	4	8	3	1	5	3	...	...	5	2.40	61.0
Charleville	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.47	748.5	29.97	761.3	62.6	17.0	63.2	1	4	2	7	11	3	...	2	...	...	...	7	5.15	130.9
Clermont-F'd	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.65	727.6	29.97	761.3	66.2	19.0	55.5	7a	4	4	4	3	4	1	2	...	...	...	6	1.60	42.3
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.18	741.1	30.01	762.3	65.5	18.6	63.7	11	1	4	3	6	1	4	...	...	...	...	3	2.99	75.9
Commercy	N. 48 45	E. 5 35	0.30 p.m.	797	243	29.15	740.4	30.00	762.0	59.0	15.0	73.8	2	4	13	...	2	...	8	1	...	...	...	4	5.71	145.1
Gap	N. 44 34	E. 6 04	0.32 p.m.	2427	740	27.46	697.5	29.93	760.2	65.7	18.7	52.6	7	...	1	1	10	3	2	6	...	...	...	4h	1.03	26.1
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	28.93	734.8	30.07	763.8	71.1	21.7	45.0	1	...	...	...	3	16	7	3	...	...	...	6	0.50	12.7
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.24	742.6	29.99	761.7	65.1	18.4	66.7	2	15	2	...	...	1	4	6	...	...	...	...	2.92	74.1
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.45	722.5	30.00	762.0	63.1	17.3	65.1	2	4	1	12	3	2	2	4	...	...	...	...	2.21	56.1
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.76a	756.0a	30.03a	762.8a	63.1	17.3	79.6	4	9	5	3	1	4	1	3	...	...	...	...	6.02	152.8
Lescar	N. 43 21	W. 0 26	0.06 p.m.	525	160	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	29.92	760.0	30.02	762.6	66.6	19.2	73.8	1	1	6	6	5	3	5	3	...	...	...	7	2.84	72.1
Lyons	N. 45 45	E. 4 49	0.27 p.m.	981	299	28.98	736.1	30.02	762.5	63.3	17.4	59.9	8	4	3	1	5	6	1	2	...	...	...	4	4.16	105.7
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.71	754.5	30.01	762.3	63.0	17.2	68.7	5	...	4	7	1	5	5	3	...	...	...	5	1.92	48.9
Marseilles	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.70	754.4	29.97	761.1	71.4	21.9	56.5	...	6	9	8	2	2	2	1	...	...	...	...	0.33	8.4
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.88	632.0	30.12	765.0	58.1	14.5	52.8	2	5	11	6	1	1	4	...	...	...	...	3	0.67	17.0
Montpelier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.89	759.1	29.99	761.8	70.0	21.1	57.3a	3	6	3	2	3	6	4	3	...	...	...	...	...	...
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.25	742.9	30.00	762.0	60.3	15.7	75.4	4	7	5	10	1	1	1	1	...	...	...	7	5.13	130.4
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.87	758.8	30.04	763.0	66.6	19.2	67.6	2	5	2	6	5	1	2	7	...	...	...	8	2.14	54.3
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.91	759.6	29.94	760.5	70.5	21.4	66.8	...	...	7	3	4	7	9	...	...	...	...	...	4.24	107.8
Perpignan	N. 42 41	E. 2 53	0.19 p.m.	98	30	29.87	758.8	29.98	761.4	71.8	22.1	49.4	4	6	...	3	3	10	...	4	...	...	...	5	0.34	8.7
Pic du Midi (Pitde)	N. 42 15	W. 0 08	0.08 p.m.	7763	2366	22.61	574.2	...	...	45.5	7.5	...	...	...	...	...	...	...	...	...	...	...	...	5	5.05	128.3
Privas	N. 44 45	E. 4 35	0.26 p.m.	997	304	...	...	...	...	67.1	19.5	70.0	2	3	...	2	6	...	...	...	17	...	...	3	1.16	29.4
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.17	639.3	...	...	46.6	8.1	83.2	3	3	7	9	2	...	...	6	...	...	...	8	4.59	116.5
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.00	762.0	30.03	762.8	68.7	20.4	90.1	1	2	5	6	5	1	2	3	5	...	...	5	1.09	27.7
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.81	757.2	30.02	762.5	65.5	18.6	73.6	6	...	8	4	3	4	...	5	...	...	...	6	2.15	54.5
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rouen	N. 49 26	E. 1 14	0.13 p.m.	80	24	29.93b	760.2b	30.02b	762.4b	60.8	16.0	79.8	...	6	4	8	2	5	1	4	...	...	...	6	3.65	92.7
Saint Lô a	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.84	757.9	30.00	761.9	61.9	16.6	79.4	8	8	4	1	3	2	2	1	...	...	...	8	2.44	62.1
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.84	757.9	30.00	762.1	63.0	17.2	69.6	4	8	2	5	4	4	2	1	...	...	...	8	3.18	80.9
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.36	745.7	30.08	764.1	71.1	21.7	56.9	3	10	6	2	1	6	...	2	...	...	...	5	2.83	71.8
Tours d	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.80	757.0	30.00	762.0	64.8	18.2	66.8	1	2	2	9	1	...	8	3	...	...	...	8	2.37	60.1
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.51	749.6	30.00	762.1	54.7	12.6	69.0	4	5	5	5	2	3	1	5	...	...	...	...	4.37	111.1
Sub Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.18 p.m.	256	78	29.72	754.9	30.01	762.3	62.2	16.8	73.7	2	6	2	6	2	6	2	3	1	...	...	...	3.13	79.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Mot'rs	Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
German Series	° ′	° ′																								
Bamberg ..... *a*	N. 49 54	E. 10 53	0.51 p.m.	787	240	29.14	740.2	30.01	762.2	61.7	16.5	62.3	1	7	10	1	5	2	1	1	1	.....	.....	6	2.06	52.2
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.80	756.9	29.97	761.3	62.6	17.0	61.3	1	6	1	4	1	7	5	4	1	.....	.....	7	1.83	46.4
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.48	748.9	30.02	762.6	60.4	15.8	62.1	.....	1	8	4	1	7	8	1	.....	.....	.....	3	2.78	70.6
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.58	751.2	29.99	761.8	61.9	16.6	77.6	4	1	1	16	.....	.....	1	7	.....	.....	.....	7	3.51	89.1
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.24	742.8	29.96	761.0	61.0	16.1	69.9	5	4	1	1	14	1	2	.....	2	.....	.....	7	1.88	47.7
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.62	752.4	29.98	761.5	62.2	16.8	64.3	6	1	2	5	12	1	1	2	.....	.....	.....	7	1.35	34.2
Friedrichshafen	N. 47 39	E. 9 29	0.45 p.m.	1355	413	28.59	726.1	30.00	762.1	59.4	15.2	79.0	2	.....	3	18	4	.....	.....	3	.....	.....	.....	7	7.41	188.2
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.90	759.5	30.00	762.1	57.9	14.4	77.1	.....	3	4	3	2	7	3	6	2	.....	.....	7	2.37	60.3
Kiel	N. 54 20	E. 10 04	0.49 p.m.	13	4	30.04	763.1	30.06	763.5	58.5	14.7	79.1	3	4	4	3	3	2	5	4	2	.....	.....	8	1.56	39.5
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.58	751.3	30.00	761.9	60.1	15.6	68.6	3	2	3	8	3	3	4	4	.....	.....	.....	7	2.38	60.4
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	269	82	29.79	756.6	29.97	761.3	61.0	16.1	67.7	3	1	8	2	5	2	8	1	.....	.....	.....	7	2.18	55.4
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.03	762.8	30.08	764.0	58.5	14.7	78.8	.....	5	5	4	5	3	4	4	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.19	716.1	30.06	763.5	59.7	15.4	64.7	1	9	5	2	.....	1	1	8	3	.....	.....	6	2.46	62.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.02	762.4	30.03	762.8	59.7	15.4	68.3	2	2	2	1	9	4	6	4	.....	.....	.....	7	2.08	52.8
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.44	747.8	29.97	761.1	62.1	16.7	68.2	4	5	6	5	4	.....	1	1	4	.....	.....	7	1.79	45.4
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	879	268	29.04	737.6	29.93	760.1	61.5	16.4	71.2	9	3	9	2	3	.....	3	1	.....	.....	.....	7	3.80	96.5
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1401	427	28.51	724.2	30.00	761.9	59.7	15.4	67.1	6	4	7	2	2	2	3	2	2	.....	.....	8	2.94	74.7
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.98	761.5	30.00	762.1	57.7	14.3	78.0	2	.....	8	1	1	10	3	5	.....	.....	.....	7	4.91	124.7
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m	359	110	29.56	750.9	29.94	760.4	84.0	28.9	.....	.....	1	.....	11	8	.....	1	9	.....	.....	.....	1	.....	.....
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.64	752.8	29.69	754.1	83.9	28.8	77.2	.....	.....	1	24	5	.....	.....	.....	.....	.....	.....	3	1.05	26.7
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.21	741.9	29.67	753.6	88.7	31.5	65.6	3	2	5	14	5	.....	.....	1	.....	.....	.....	8	2.85	72.4
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.75	755.6	29.79	756.7	81.5	27.5	84.8	1	5	15	7	2	.....	.....	.....	.....	.....	.....	8	4.57	116.1
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.93	709.4	29.79	756.7	76.5	24.7	72.6	.....	1	23	5	...	.....	.....	.....	1	.....	.....	7	2.31	58.7
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.28	692.9	29.83	757.7	72.2	22.3	83.3	.....	.....	12	18	.....	.....	.....	.....	.....	.....	.....	7	4.11	104.4
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.86	733.0	29.58	751.3	92.9	33.8	40.0	2	2	8	2	.....	.....	2	1	13	.....	.....	7	0.18	4.6
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.71	729.2	29.60	751.8	88.3	31.3	66.8	.....	4	9	1	3	.....	2	1	10	.....	.....	4	4.92	125.0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.07	738.4	29.62	752.3	88.3	31.3	60.3	.....	1	18	5	1	1	1	.....	3	.....	.....	4	.....	.....
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.64	727.4	29.68	753.9	80.0	26.7	76.6	1	4	4	6	4	1	1	1	8	.....	.....	8	10.24	260.1
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.35	720.1	29.69	754.1	85.9	29.9	69.9	1	4	10	.....	1	.....	3	1	10	.....	.....	6	1.75	44.4
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.26	743.2	29.63	752.6	86.6	30.3	66.0	.....	1	8	10	.....	1	2	2	6	.....	.....	4	1.85	47.0
Alahabad ..... *a*	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.31	744.5	29.62	752.3	83.3	28.5	81.9	1	1	.....	12	1	1	2	1	10	.....	.....	6	3.10	78.7
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.46	748.3	29.64	752.8	85.6	29.8	77.5	1	4	8	3	.....	.....	5	8	1	.....	.....	7	9.44	239.8
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.66	702.6	29.65	753.1	80.3	26.8	76.9	3	7	3	2	4	2	5	.....	4	.....	.....	7	5.90	149.9
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.59	751.6	29.68	753.9	87.0	30.6	78.7	2	4	8	1	2	3	.....	1	9	.....	.....	7	14.62	371.3
Calcutta	N. 22 33	E. 88 19	6.01 p.m.	21	7	29.64	752.8	29.66	753.4	85.6	29.8	85.7	2	.....	2	4	10	4	5	1	2	.....	.....	8	5.17	131.3
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.54	750.3	29.66	753.4	80.0	26.7	89.5	1	.....	.....	1	3	.....	1	3	21	.....	.....	5	17.38	441.4
Chittagong ..... *a*	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.62	752.3	29.71	754.6	81.6	27.6	87.0	.....	.....	7	5	12	3	.....	.....	2	.....	.....	7	0.29	7.4
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.35	745.5	29.69	754.1	82.3	27.9	87.2	.....	.....	.....	10	7	1	4	6	2	.....	.....	8	16.91	429.5
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.23	717.0	29.65	753.1	88.2	31.2	50.6	2	6	13	4	.....	.....	4	1	.....	.....	.....	5	0.75	19.0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	22	7	.....	.....	30.01	762.2	83.2	28.4	56.0	.....	.....	2	1	1	23	1	1	1	.....	.....	4	1.11	28.2
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.58*a*	751.3*a*	29.98*a*	761.5*a*	66.7	19.3	64.6	1	.....	1	3	5	.....	6	3	11	.....	.....	6	9.04	229.5
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.08	738.6	29.98	761.4	68.7	20.4	60.6	.....	1	4	3	5	7	5	5	.....	.....	.....	6	5.97	151.6
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.87	758.8	29.98	761.4	67.8	19.9	61.3	7	3	2	2	3	2	4	6	1	.....	.....	6	4.16	105.8
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.06	738.2	29.95	760.8	66.7	19.3	67.5	3	5	1	.....	5	8	7	1	.....	.....	.....	6	4.16	105.6
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.78	756.5	29.98	761.4	69.1	20.6	60.0	5	1	.....	7	5	9	2	1	.....	.....	.....	5	3.69	93.8
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.08	713.2	29.96	761.0	63.7	17.6	64.3	2	3	17	.....	.....	2	2	4	.....	.....	.....	4	5.36	136.1
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.91	759.8	29.96	761.0	68.7	20.4	65.9	4	1	2	4	.....	2	5	12	.....	.....	.....	5	4.39	111.6
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.71	754.7	29.96	761.0	69.6	20.9	54.2	3	5	6	7	4	.....	.....	5	.....	.....	.....	5	4.38	111.2
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.88	759.0	29.97	761.1	70.0	21.1	64.9	2	2	6	9	3	1	1	6	.....	.....	.....	5	8.73	221.8
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.79	756.6	29.96	760.9	74.7	23.7	48.5	5	4	7	7	6	1	.....	.....	.....	.....	.....	5	4.28	108.6
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.72	754.8	29.97	761.1	77.2	25.1	55.2	3	6	3	6	4	6	2	.....	.....	.....	.....	4	3.20	81.2
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.10	739.1	29.97	761.1	77.0	25.0	58.9	1	1	1	3	2	16	5	1	.....	.....	.....	6	4.16	105.8
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.78	756.5	29.97	761.2	77.0	25.0	48.7	.....	10	4	.....	6	6	2	.....	2	.....	.....	3	0.39	10.0
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.75	755.6	29.99	761.8	77.4	25.2	51.4	2	6	5	2	.....	.....	7	8	.....	.....	.....	4	1.08	27.3
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.91	759.7	29.95	760.8	77.2	25.1	65.5	2	.....	2	3	8	4	8	3	.....	.....	.....	6	3.23	82.1
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.44	747.8	29.93	760.1	73.0	22.8	65.8	2	.....	3	9	2	7	3	4	.....	.....	.....	5	5.92	150.4
Stelvio	N. 46 37	E. 10 26	0.50 p.m.	8343	2543	22.21	564.1	.....	.....	40.3	4.6	62.3	1	1	6	9	2	2	2	7	.....	.....	.....	7	3.25	82.5
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.24	564.9	.....	.....	43.0	6.1	74.3	16	2	3	.....	1	2	2	4	.....	.....	.....	7	4.66	118.4
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	29.87	758.7	29.89	759.2	73.2	22.9	80.5	17	.....	.....	5	3	.....	.....	5	.....	.....	.....	6	6.44	163.6
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.77	756.1	29.94	760.5	71.9	22.2	84.4	4	14	.....	2	5	1	2	2	.....	.....	.....	6	11.26	286.0
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	29.74	755.4	29.94	760.5	74.0	23.3	80.6	3	.....	3	5	5	.....	1	9	4	.....	.....	5	8.23	209.0
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.93	760.2	29.96	761.0	74.6	23.7	78.0	3	.....	3	2	1	11	3	7	.....	.....	.....	7	5.00	127.0
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.97	761.2	29.99	761.7	69.7	20.9	89.3	4	10	.....	3	2	4	.....	6	1	.....	.....	7	7.88	200.2
Supporo	N. 43 04	E. 141 23	9.33 p.m.	61	19	29.88	758.9	29.94	760.5	61.1	16.2	85.9	1	4	2	1	4	9	5	.....	4	.....	.....	5	3.50	88.9
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.91	759.7	29.97	761.2	70.7	21.5	89.5	9	2	1	1	6	2	1	7	1	.....	.....	7	9.50	241.3
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.90	759.4	29.95	760.7	75.0	23.9	82.2	7	1	2	3	5	.....	3	4	5	.....	.....	6	8.20	208.3
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.99	761.7	30.18	766.6	72.3	22.4	60.7	1	1	1	.....	.....	4	23	.....	.....	.....	.....	5	1.01	25.7
Mexican Series.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6683	2037	23.66	601.7	29.82	757.3	57.5	14.2	76.0	*a*	1	.....	.....	.....	1	1	9	17	.....	.....	5	4.07	103.3
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.41	619.9	30.05	763.4	61.3	16.3	85.0	9	8	2	2	4	.....	3	2	.....	.....	.....	5	2.72	69.2
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.61	752.2	29.87	758.7	77.5	25.4	90.0	2*a*	4	1	.....	.....	4	8	9	1	.....	.....	7	22.48	571.0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.09	586.6	30.09	764.4	54.3	12.4	82.0	.....	8	.....	.....	.....	.....	.....	.....	22	.....	.....	3	2.17	55.1
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.09	611.8	30.17	766.3	55.4	13.0	69.0	2*a*	2	.....	6	5	10	.....	4	.....	.....	.....	3	1.04	26.4
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.92	608.0	29.91	759.7	59.1	15.1	80.0	5*b*	4	2	3	.....	1	.....	2	11	.....	.....	4	3.60	91.0
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.42	594.8	30.19	766.9	53.3	11.8	64.0	2	.....	.....	.....	.....	.....	.....	3	25	.....	.....	5	4.86	123.4
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.57	573.2	30.16	766.2	53.6	12.0	75.0	.....	.....	1	.....	.....	4	5	15	5	.....	.....	5	0.48	12.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for September, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
Netherland Series.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.98	761.6	29.98	761.6	62.2	16.8	.....	2	3	8	3	3	4	3	4	.....	.....	.....	.....	6.15	156.3
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.91	759.7	29.97	761.1	59.2	15.1	.....	1	5	2	3	6	.....	4	9	.....	.....	.....	.....	2.65	67.4
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.94	760.5	29.94	760.5	58.5	14.7	.....	5	2	1	6	3	2	7	4	.....	.....	.....	.....	2.12	53.9
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.96	761.0	29.96	761.0	61.5	16.4	81.2	2	6	4	4	4	3	5	2	.....	.....	.....	.....	5.30	134.6
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.93	760.1	29.97	761.3	61.3	16.3	77.1	4	2	5	5	4	5	2	3	.....	.....	.....	7	2.63	66.8
Norwegian Series.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.94	760.4	30.00	762.0	58.8	14.9	65.7	2	1	3	1	7	4	2	.....	10	.....	.....	5	3.44	87.3
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.91	759.8	30.06	763.4	56.1	13.4	72.3	6	3	.....	8	2	3	4	4	.....	.....	.....	7	2.36	59.9
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	30.02	762.6	30.05	763.2	43.5	6.4	.....	1	.....	10	3	2	2	5	2	5	.....	.....	9	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	30.00	762.0	30.05	763.2	50.2	10.1	73.3	4	.....	.....	6	4	3	2	5	6	.....	.....	5	3.40	86.3
Portuguese Series.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.89	759.3	30.05	763.3	68.9	20.5	80.6	6	6	5	4	1	3	2	3	.....	.....	.....	4	8.63	219.1
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.06	738.2	30.02	762.5	79.7	26.5	36.0	.....	3	10	2	5	.....	9	1	.....	.....	.....	5	0.43	11.0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.05	763.2	30.13	765.3	75.0	23.9	64.9	.....	.....	1	15	2	10	.....	.....	2	.....	.....	5	0.10	2.5
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.74	755.3	30.09	764.2	72.7	22.6	54.4	4	4	2	6	5	1	1	6	1	.....	.....	4	0.69	17.6
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.02	762.6	30.10	764.4	73.2	22.9	71.4	4	4	1	5	5	2	2	3	4	.....	.....	4	3.07	77.9
Russian Series.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	28.76	730.4	29.83	757.7	52.0	11.1	65.2	1	1	11	10	5	.....	.....	2	.....	.....	.....	6	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	30.06	763.4	30.08	763.9	46.0	7.8	77.5	5	6	5	1	3	.....	1	5	4	.....	.....	9	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	30.15	765.7	30.06	763.6	65.7	18.7	47.9	1	3	3	2	2	6	4	8	1	.....	.....	5	.....	.....
Barnaul	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.33	744.9	29.82	757.3	52.7	11.5	63.2	.....	1	7	9	3	.....	.....	.....	10	.....	.....	8	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.87	758.7	30.11	764.8	59.4	15.2	58.7	....	2	4	6	6	3	4	5	.....	.....	.....	8	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	28.86	733.1	29.82	757.5	45.7	7.6	65.4	1	9	8	5	.....	2	.....	5	.....	.....	.....	9	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.70	754.3	29.97	761.2	53.8	12.1	56.1	3	10	4	5	2	1	1	1	3	.....	.....	6	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	29.96	761.0	29.98	761.5	67.3	19.6	69.1	5	4	.....	1	2	5	6	6	1	.....	.....	4	1.27	32.3
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.39	746.4	30.02	762.6	62.1	16.7	50.7	9	1	3	2	1	6	5	3	.....	.....	.....	6	.....	.....
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.84	757.9	30.04	762.9	66.6	19.2	42.4	1	2	3	5	2	.....	9	7	1	.....	.....	6	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.56	750.8	30.03	762.7	56.1	13.4	57.5	5	6	1	3	10	1	1	1	2	.....	.....	5	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.99	761.7	30.06	763.5	67.3	19.6	56.8	5	3	2	1	3	2	7	6	1	.....	.....	5	.....	.....
Nikolaievsk	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.78	756.3	29.86	758.5	52.2	11.2	84.4	.....	1	1	.....	.....	1	3	.....	23	.....	.....	5	2.46	62.4
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	29.84	757.8	29.98	761.4	68.4	20.2	71.1	.....	5	.....	2	1	1	.....	1	20	.....	.....	4	2.91	74.0
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	30.08	764.0	30.10	764.4	56.8	13.8	69.5	1	6	5	1	3	6	3	4	1	.....	.....	7	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	28.43	722.0	29.95	760.6	71.1	21.7	59.3	1	2	.....	.....	.....	.....	.....	.....	27	.....	.....	1	.....	.....
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.59	726.1	29.94	760.5	77.9	25.5	47.1	1	6	1	.....	7	9	1	.....	5	.....	.....	4	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.61	752.0	30.03	762.8	60.1	15.6	63.5	.....	4	1	4	2	6	8	3	2	.....	.....	8	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	387	118	29.67	753.7	30.09	764.3	60.4	15.8	61.5	.....	1	6	3	3	8	3	4	2	.....	.....	6	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	29.59	751.6	29.87	758.8	44.2	6.8	77.3	.....	2	12	5	2	2	6	.....	1	.....	.....	7	.....	.....
Scottish Series.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	30.01	762.2	57.2	14.0	78.5	.....	.....	9	2	.....	3	12	4	.....	.....	.....	7	3.33	84.6
Monach L. house	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.96	761.0	56.1	13.4	93.6	3	3	3	2	2	7	4	6	.....	.....	.....	9	3.40	86.4
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spanish Series.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.89	759.1	29.98	761.6	73.9	23.3	63.5	.....	.....	2	4	8	9	6	1	.....	.....	.....	2	4.90	124.4
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.00	762.1	30.06	763.5	72.9	22.7	64.6	2	11	2	1	3	8	2	1	.....	.....	.....	7	5.24	133.1
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.13	689.2	.....	.....	66.4	19.1	60.0	9	.....	3	13	2	.....	.....	3	.....	.....	.....	4	2.09	53.0
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.85	707.4	30.01	762.2	75.7	24.3	38.6	3	3	7	6	4	3	3	1	.....	.....	.....	4	0.14	3.5
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.86	758.4	30.00	762.0	85.1	29.5	47.1	3	1	1	1	3	3	7	11	.....	.....	.....	5	0.02	0.6
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.10	739.1	29.97	761.3	68.0	20.0	71.8	3	2	2	10	5	4	.....	4	.....	.....	.....	7	6.88	174.8
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.90	759.4	29.97	761.2	77.5	25.3	87.0	.....	.....	.....	.....	1	5	7	12	5	.....	.....	5	4.92	125.0
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.81	757.1	29.86	758.4	82.4	28.0	85.0	2	.....	1	8	6	5	7	1	.....	.....	.....	7	6.08	154.5
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.98	761.5	30.08	764.0	77.4	25.2	57.5	.....	1	15	2	2	1	8	.....	1	.....	.....	6	0.08	1.9
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.90	759.4	29.99	761.7	80.8	27.1	88.0	1	1	1	1	8	13	3	2	.....	.....	.....	6	9.07	230.3
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.72	755.0	29.86	758.4	79.5	26.4	85.0	4	20	2	2	.....	2	.....	.....	.....	.....	.....	7	0.94	23.9
Swedish Series.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	30.09	764.3	30.13	765.3	50.9	10.5	75.0	5	2	.....	7	5	2	3	3	3	.....	.....	5	0.77	19.5
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.07	763.8	30.12	765.1	54.5	12.5	72.0	3	2	2	6	6	1	3	6	1	.....	.....	6	1.00	40.6
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	30.07	763.8	30.12	765.1	54.1	12.3	73.0	4	1	2	.....	9	3	2	9	.....	.....	.....	6	2.50	63.6
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.89	759.1	30.06	763.6	55.8	13.2	77.0	5	1	.....	4	6	3	6	3	2	.....	.....	8	4.25	107.9
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.97	761.2	30.03	762.7	50.3	13.5	80.0	4	2	7	4	2	4	5	2	.....	.....	.....	7	3.00	77.7
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.89	759.3	29.98	761.5	54.9	12.7	75.4	6	3	2	4	3	3	4	5	.....	.....	.....	8	2.66	67.5
Swiss Series.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.62	727.0	30.02	762.6	61.5	16.4	66.6	13	3	.....	3	4	2	1	4	.....	.....	.....	6	5.16	131.0
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.41	721.6	30.03	762.7	50.7	10.4	74.7	1	3	10	.....	.....	2	4	1	9	.....	.....	6	8.26	209.9
Turkish Series.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.98	761.5	74.5	23.6	57.2	1	3	.....	7	.....	.....	.....	15	4	.....	.....	5	0.35	8.9
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.07	763.8	75.6	24.2	.....	.....	6	15	1	7	1	.....	.....	.....	.....	.....	2	4.21	107.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.86	758.4	85.6	29.8	58.3	7	8	9	6	.....	.....	.....	.....	.....	.....	.....	1	0.77	19.6

SEPTEMBER, 1881.

‖ Below sea level.

Result of Simultaneous Observations for September, 1881.

Stations.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Altitude: Met'rs	Mean Barometer, Actual: Inch.	Actual: Mill.	Reduced: Inch.	Reduced: Mill.	Mean Temperature: Fah.	Cent.	Mean Rel. Humidity.	Wind Directions: N	NW	W	SW	S	SE	E	NE	C	Total Movement: Miles	Kil.	Average Cloudiness: 0–10	Total Precipitation: Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.04	763.0	30.12	765.0	67.1	19.5	74.5	6	......	3	4	11	3	1	1	1	3734	6009	6	2.38	60.5
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.34	745.2	30.01	762.2	59.3	15.2	83.3	1	5	4	9	......	5	2	3	1	6896	11098	7	6.16	156.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.94	735.1	30.12	765.0	69.1	20.6	86.8	3	7	......	2	2	......	15	1	......	5173	8325	4	3.76	95.5
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.11	764.8	30.12	765.0	70.6	21.4	89.2	7	2	1	7	3	2	5	2	1	7136	11484	4	2.20	55.9
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.93	760.2	30.12	765.0	73.3	22.9	86.0	.....	1	1	3	2	6	5	4	8	1964	3161	5	7.01	178.1
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.07	763.8	30.12	765.0	71.6	22.0	80.0	5	....	2	2	5	3	5	4	4	3252	5234	5	2.98	75.7
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.08	764.0	30.10	764.5	70.8	21.6	85.9	3	1	1	9	1	5	7	3	......	8872	14278	6	3.55	90.2
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.10	713.7	29.93	760.2	45.0	7.2	83.2	3	8	4	1	....	1	6	3	4	7218	11616	5	1.26	32.0
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.20	690.9	30.04	763.0	44.6	7.0	68.2	3	10	9	2	......	......	......	1	5	3202	5153	3	0.25	6.3
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.97	761.2	30.13	765.3	62.6	17.0	84.3	4	3	4	5	3	1	3	7	......	6342	10206	2	2.50	63.5
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	356	28.79	731.3	29.81	757.2	71.6	22.0	85.4	3	......	......	......	......	3	18	3	3	6144	9888	5	4.12	104.6
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	29.88	758.9	29.92	760.0	74.8	23.8	90.8	1	2	......	1	3	3	1	1	18	2541	4089	4	5.02	127.5
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.34	745.2	30.06	763.5	67.2	19.6	77.3	.....	1	3	13	4	3	2	4	......	5003	8051	5	1.21	30.7
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.79	756.7	30.08	764.0	63.2	17.3	78.9	5	......	2	1	15	4	2	1	......	5566	8958	2	2.34	59.4
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.68	753.9	30.08	764.0	68.8	20.4	82.2	4	1	1	2	18	1	......	3	......	4801	7726	3	2.74	69.6
Campc *f*	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.34	694.4	29.91	759.7	42.9	6.1	71.6	.....	1	5	1	9	6	2	......	......	2567	4131	1	0.02	0.5
Camp Thomas	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.19	690.6	......	......	59.6	15.3	82.6	.....	......	......	......	1	2	2	3	22	......	......	2	1.55	39.4
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.10	764.5	30.12	765.0	73.9	23.3	87.3	1	2	1	14	2	1	5	2	2	8094	13026	3	0.93	23.6
Cape May *b*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.08	764.0	30.11	764.8	72.3	22.4	84.3	3	1	2	9	3	3	3	4	......	8874	14281	2	1.22	31.0
Castroville *b*	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.18	741.2	29.85	758.2	73.3	22.9	79.8	1	4	3	.....	4	9	2	......	5	4419	7112	7	2.14	54.4
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.03	762.7	30.05	763.3	76.6	24.8	85.9	1	2	1	......	......	1	7	18	......	6217	10005	2	7.41	188.2
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.19	741.4	29.96	761.0	63.8	17.7	84.9	1	1	1	9	11	6	......	1	......	7982	12846	4	4.89	124.2
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.04	763.0	30.10	764.5	77.1	25.1	87.1	6	1	2	2	3	2	3	8	3	5372	8645	4	5.49	139.4
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.24	742.7	30.12	765.0	71.8	22.1	82.0	1	5	......	5	6	3	3	6	1	3283	5283	5	4.85	123.2
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.30	744.2	30.13	765.3	67.9	19.9	85.2	1	3	3	2	1	3	3	3	11	3143	5058	5	5.74	145.8
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	24.06	611.1	30.03	762.7	43.0	6.1	62.5	6	10	6	4	1	......	......	1	2	7432	11960	3	1.75	44.4
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.27	743.4	29.98	761.5	64.9	18.3	75.0	4	2	1	10	9	......	1	2	1	5906	9505	5	4.34	110.2
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.10	764.5	30.12	765.0	72.5	22.5	91.4	1	3	2	11	1	8	1	3	......	9837	15831	3	2.05	52.1
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.44	747.8	30.10	764.5	69.7	20.9	78.3	3	4	1	1	7	8	1	......	5	3388	5452	4	2.10	53.3
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.34	745.2	30.08	764.0	68.0	20.0	72.6	1	2	1	4	11	8	1	1	1	5837	9394	6	1.66	42.2
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.23	742.4	30.09	764.3	66.7	19.3	79.3	3	3	1	3	10	5	1	3	1	4010	6453	5	1.54	39.1
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.07	713.0	30.01	762.2	67.3	19.6	83.9	3	1	1	......	12	4	1	1	7	8398	13515	5	2.48	63.0
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.56	750.8	30.03	762.7	71.7	22.1	75.7	4	1	......	......	14	2	......	2	7	4497	7237	3	4.03	102.4
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.29	744.0	29.95	760.7	63.9	17.7	77.0	2	2	3	9	4	......	5	4	1	6510	10477	5	5.59	142.0
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.25	717.5	30.06	763.5	48.0	8.9	71.3	6	1	1	9	3	6	......	2	2	3560	5729	3	1.47	37.3
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.34	643.6	30.05	763.3	45.0	7.2	72.8	3	......	1	5	6	......	......	6	9	3485	5608	4	1.80	45.7
Decatur *b*	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.80	731.5	29.93	760.2	70.1	21.2	65.4	4	......	......	3	11	8	......	2	......	8887	14302	3	7.57	192.3
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.08	764.0	30.10	764.5	71.4	21.9	89.6	4	......	5	4	6	5	5	1	......	10039	16156	4	0.50	12.7
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.20	741.7	30.01	762.2	70.7	21.5	77.8	1	3	......	4	17	1	1	2	1	5472	8806	4	5.59	142.0
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.78	629.4	30.00	762.0	49.1	9.5	60.0	4	2	......	......	18	5	......	......	1	4787	7704	2	0.57	14.5
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.01	736.8	29.92	760.0	59.8	15.4	84.1	4	3	3	10	2	4	......	3	1	5520	8883	6	4.70	119.4
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.33	745.0	30.05	763.3	67.6	19.8	78.6	2	2	4	6	9	......	3	1	3	5051	9094	5	2.86	72.6
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.35	694.7	29.94	760.5	59.1	15.1	72.5	3	4	......	5	14	......	1	2	1	10137	16313	4	3.13	79.5
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.21	741.9	29.93	760.2	60.4	15.8	80.0	1	3	2	2	14	4	......	2	2	3779	6082	6	10.26	260.6
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.18	741.2	29.89	759.2	53.5	11.9	84.8	2	7	4	6	1	......	......	10	......	6210	10004	6	11.52	292.6
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.18	741.2	30.01	762.2	72.9	22.7	83.3	......	3	......	2	2	19	......	......	4	5193	8357	4	4.99	126.7
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.25	641.3	30.10	764.5	39.0	3.9	53.8	11	2	3	7	4	......	......	......	3	8908	14432	4	0	0
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	30.05	763.3	30.12	765.0	55.2	12.9	85.8	3	10	......	4	4	......	1	7	1	4193	6748	4	2.80	71.1
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.22	666.0	29.97	761.2	63.0	17.2	70.7	3	5	5	......	......	2	1	3	11	2834	4561	3	1.44	36.6
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.33	745.0	30.06	763.5	68.8	20.4	77.2	1	2	1	8	9	3	1	1	4	5753	9258	5	1.35	34.3
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.27	743.4	29.93	760.2	56.6	13.7	88.0	6	2	2	2	5	7	1	3	2	5501	8949	7	9.48	240.8
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.38	720.8	29.98	761.5	66.1	18.9	66.5	1	......	8	2	3	1	7	2	6	2021	3252	2	1.00	25.4
Fort Apache *f*	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.02	635.5	29.93	760.2	47.8	8.8	83.4	......	......	......	1	1	1	19	1	1	3784	6090	2	5.41	137.4
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.12	688.8	29.93	760.2	43.2	6.2	75.2	......	......	6	11	3	3	......	4	3	6696	10776	5	1.64	41.7
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.32	719.3	29.86	758.4	49.7	9.8	84.5	5	7	5	......	3	5	1	1	3	6326	10181	6	2.74	69.6
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.14	689.3	30.00	762.0	44.0	6.7	69.5	1	3	1	3	......	3	1	2	16	5775	9294	3	1.32	33.5
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.97	710.4	29.98	761.5	42.1	5.6	83.6	1	12	7	1	1	3	4	1	......	6054	9743	4	0.58	14.7
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.79	685.0	30.03	762.7	44.0	6.7	70.4	7	6	......	3	3	4	1	2	4	5622	9048	4	1.09	27.7
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.24	691.9	30.43	772.9	59.5	15.3	71.1	2	3	2	1	4	11	......	3	4	9165	14749	4	3.18	80.8
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.42	747.3	29.97	761.2	68.2	20.1	68.1	2	1	1	2	7	10	......	......	7	6179	9944	3	2.79	70.9
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	......	......	......	......	59.6	15.3	68.5	6	......	......	2	1	......	5	13	3	4275	6880	2	3.84	97.5
Fort Griffin *c*	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.70	729.0	29.92	760.0	70.4	21.3	74.0	2	......	......	3	2	13	2	1	4	6690	10766	5	4.87	123.7
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.45	697.2	29.99	761.7	44.5	6.9	76.4	2	6	6	2	......	5	1	6	2	6195	9970	.5	0.55	14.0
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.11	764.8	30.12	765.0	76.0	24.4	86.7	3	5	1	5	2	9	2	3	......	7309	11859	5	4.85	123.2
Fort McKavett *c*	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.76	705.1	29.62	752.3	67.2	19.6	76.3	.....	2	......	2	9	2	6	......	6	6853	11029	4	1.15	29.2
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.70	678.2	30.22	767.6	41.4	5.3	82.7	.....	9	......	6	4	1	1	3	6	2433	3915	4	1.05	26.7
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.75	755.6	29.78	756.4	44.8	7.1	88.6	1	2	.....	4	11	5	6	1	......	5208	8381	9	3.40	86.4
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.35	669.3	29.95	760.7	42.6	5.9	78.2	.....	4	16	4	......	......	......	6	......	5902	9498	5	0.96	24.4
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.74	730.0	29.99	761.7	67.0	19.4	75.0	4	1	......	1	16	......	1	......	7	10565	17002	4	4.46	113.3
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.08	713.2	29.95	760.7	44.2	6.8	82.7	4	6	8	1	1	3	3	0	4	5995	9648	5	2.10	53.3
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	......	......	......	......	56.3	13.5	66.4	4	14	7	1	......	2	......	1	1	......	......	2	1.88	47.8
Fredericksburg *a*	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.26	717.8	29.77	756.1	69.3	20.7	85.0	2	2	2	8	7	......	......	3	5	5174	8327	6	2.14	54.4
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	29.95	760.7	29.99	761.7	78.6	25.9	77.6	3	2	2	......	10	8	1	2	2	7332	11800	3	3.66	93.0
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.31	744.5	29.98	761.5	63.7	17.0	83.9	2	3	1	1	5	7	6	2	3	7202	11687	5	6.71	170.4
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.10	764.5	30.12	765.0	70.3	24.6	84.4	5	......	......	6	2	4	2	4	7	8336	13415	4	4.45	113.0
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.77	654.5	30.16	766.1	49.9	9.9	68.2	....	2	......	4	17	1	......	......	6	4904	7989	3	2.49	63.2
Henrietta *b*	N. 33 42	W. 98 00	5.36 a.m.	980	300	28.96	735.6	29.85	758.2	73.2	22.9	64.8	3	1	......	1	10	12	......	1	......	9661	15548	2	2.43	61.7
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.52	724.4	29.90	759.4	48.8	9.3	88.7	6	7	......	5	2	6	......	4	......	8039	12937	5	3.11	79.0
Indianapolis	N. 39 47	W. 86 00	6.24 a.m.	753	229	29.24	742.7	30.04	763.0	67.1	19.5	77.8	2	......	1	9	8	4	2	1	3	3759	6049	3	3.25	82.5
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.94	760.5	29.98	761.5	77.4	25.2	85.4	2	1	1	2	10	10	1	3	......	8300	13367	4	6.51	165.4
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.82	732.0	29.91	759.7	69.2	20.7	76.3	2	2	......	6	10	7	1	2	......	7373	11866	3	6.32	160.5
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.02	762.5	30.06	763.5	76.4	24.7	84.4	.....	......	......	4	1	3	7	15	......	4888	7866	3	4.58	116.3
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.28	743.7	29.94	760.5	66.2	19.0	76.1	.....	2	1	7	9	4	3	1	3	6939	11167	4	4.10	104.1
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	29.95	760.7	29.98	761.5	80.5	26.9	82.4	.....	1	1	2	2	2	14	4	4	4792	7712	6	10.71	272.0
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.12	765.0	30.14	765.5	74.3	23.5	87.6	3	1	2	8	2	3	5	4	2	8553	13764	3	0.49	12.4
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.12	739.6	30.16	766.1	66.1	18.9	88.6	3	......	2	2	......	1	3	6	13	2629	4231	4	2.31	58.7
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.11	739.4	29.88	758.9	60.1	15.6	80.5	3	2	5	2	12	3	......	3	......	6045	9728	5	10.87	276.1
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.11	663.2	30.26	768.6	57.1	13.9	77.6	1	......	......	......	......	2	......	......	27	804	1390	4	1.96	49.8
Laredo	N. 27 32	W. 99 26	5.30 a.m.	460	136	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.06	738.1	29.96	761.0	63.2	17.3	73.4	2	6	......	2	12	5	......	1	2	6325	10179	5	6.89	175.0
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.16	740.7	30.01	762.2	50.4	10.2	69.2	.....	......	4	4	......	2	3	7	10	1978	3183	4	1.17	29.7
Little Rock	N: 34 40	W. 92 12	5.59 a.m.	298	91	29.71	754.6	30.03	762.7	68.9	20.5	83.5	2	1	3	1	7	3	1	1	11	3427	5515	3	1.87	47.5
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.54	750.3	29.92	760.0	57.9	14.4	81.1	1	2	2	13	3	6	3	......	......	3938	6338	2	inap.	inap
Louisville	N. 38 18	W 85 52	6.25 a.m.	530	162	29.48	748.8	30.06	763.5	69.0	20.6	79.6	3	....	1	4	12	3	1	1	5	4071	7517	4	2.70	68.6
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.43	747.5	30.12	765.0	72.9	22.7	75.3	.....	1	1	1	......	......	2	2	23	1351	2174	3	2.07	52.6
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	28.92	734.6	29.95	760.7	59.7	15.4	86.8	3	2	2	5	7	7	4	......	......	6864	11046	5	8.17	207.5
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.19	741.4	29.92	760.0	55.2	12.9	85.8	4	3	6	6	3	4	1	1	2	6241	10044	8	12.71	322.8
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.36	720.3	30.06	763.5	69.3	20.7	81.1	4	1	1	2	6	2	......	......	14	5798	9331	5	5.26	133.6
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.73	755.1	30.07	763.8	70.0	21.1	77.6	1	1	......	......	2	3	1	2	20	1873	3014	3	3.84	97.5
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.20	741.7	29.96	761.0	60.7	15.9	84.5	4	3	....	4	10	6	1	......	2	7383	11882	5	4.28	108.7
Mobile	N. 30 42	W. 87 59	6.16 a.m.	69	21	29.97	761.2	30.04	763.0	73.4	23.0	80.5	7	6	2	1	1	1	8	4	......	4700	7564	4	11.71	297.4
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.85	758.2	30.08	764.0	70.8	21.6	87.0	2	4	......	2	......	5	11	3	3	2525	4064	4	4.49	114.0
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.90	734.0	29.91	759.7	46.6	8.1	90.1	6	5	4	1	1	4	2	5	2	7095	11418	6	4.75	120.6
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.11	739.4	30.07	763.8	66.5	19.2	84.6	3	1	1	8	......	2	1	1	13	2590	4168	5	2.78	70.6
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.97	608.8	30.17	766.3	47.3	8.5	78.7	1	19	2	2	2	......	......	3	1	25957	41773	3	6.13	155.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for September, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
U.S. Series—Continued.	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.54	750.3	30.08	764.0	68.3	20.2	83.6	.....	4	1	1	3	8	2	1	10	2696	4339	3	6.49	164.8
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	30.01	762.2	30.12	765.0	64.9	18.3	82.8	4	2	.....	6	5	.....	1	10	2	4540	7306	4	1.45	36.8
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.08	764.0	30.13	765.3	65.9	18.8	86.8	4	3	4	1	2	1	1	8	6	4165	6703	3	1.37	34.8
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.96	761.0	30.02	762.5	76.5	24.7	80.8	6	2	1	1	1	3	11	2	3	5142	8275	3	4.47	113.5
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.07	763.8	30.12	765.0	64.5	18.1	87.7	9	1	.....	9	1	2	1	5	2	4704	7570	4	2.65	67.3
New River	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.09	764.3	30.12	765.0	65.0	18.3	87.1	1	3	.....	10	2	2	1	10	1	9884	15906	2	3.78	96.0
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.95	760.7	30.13	765.3	67.5	19.7	85.3	1	2	.....	7	3	1	4	12	.....	6216	10004	5	1.38	35.1
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.09	764.3	30.12	765.0	73.2	22.9	86.6	1	1	5	11	.....	5	3	1	3	4590	7387	5	2.67	67.8
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.03	686.5	29.97	761.2	50.3	10.2	81.4	6	8	3	2	1	1	3	5	1	9645	15522	5	2.30	59.9
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.96	761.0	30.00	762.0	48.7	9.3	90.4	3	1	3	3	13	1	2	4	.....	2734	4400	4	2.47	62.7
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.75	730.2	29.94	760.5	59.3	15.2	78.6	6	3	1	4	10	5	1	.....	.....	7579	12197	5	8.36	212.3
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.72	754.9	30.05	763.3	66.8	19.3	78.3	2	3	1	2	11	7	2	2	.....	5064	8150	5	0.76	19.8
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.01	762.2	30.04	763.0	74.2	23.4	87.6	3	4	1	3	4	3	4	8	.....	5444	8701	4	8.47	215.1
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	30.07	763.8	30.13	765.3	69.6	20.9	83.8	3	1	8	2	3	5	5	3	.....	5845	9406	4	0.94	23.9
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.74	730.0	30.49	774.4	64.3	17.9	63.5	.....	1	1	2	.....	.....	17	5	4	1079	1736	2	1.04	26.4
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.86	453.6	30.07	763.8	26.9	—2.8	68.8	3	1	1	22	.....	.....	.....	1	2	14221	22886	2	1.85	47.0
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.08	611.6	30.10	764.5	51.1	10.6	34.1	.....	8	3	2	13	.....	.....	.....	4	5165	8312	1	0	0
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.29	744.0	30.11	764.8	68.2	20.1	79.1	1	4	8	1	8	1	2	1	4	3870	6228	4	0.76	19.3
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.01	762.2	30.02	762.5	78.2	25.7	82.9	1	1	1	1	2	7	11	5	1	8199	13195	3	7.24	183.9
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.34	745.2	30.03	762.7	63.4	17.4	83.9	3	2	.....	6	7	7	2	3	.....	6694	10773	4	2.86	72.6
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.07	763.8	30.12	765.0	61.2	16.2	81.6	4	3	2	4	3	4	3	6	1	4435	7137	6	2.75	69.8
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	29.96	761.0	30.04	763.0	52.2	11.2	87.3	3	7	1	2	3	3	.....	.....	11	3674	5913	4	2.64	67.1
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	77.1	25.1	80.2	3	1	1	10	6	.....	1	8	.....	8563	13780	4	3.29	83.6
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.76	628.9	29.95	760.7	49.5	9.7	72.3	...	.....	6	2	20	.....	.....	.....	2	3982	6408	1	1.69	42.9
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	29.97	761.2	29.98	761.5	77.9	25.5	85.1	1	.....	....	.....	1	1	11	16	.....	5940	9559	5	7.20	182.9
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.55	750.6	29.89	759.2	61.7	16.5	55.0	10	8	.....	1	.....	2	.....	.....	9	3894	6267	1	1.07	27.2
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.76	755.9	29.96	761.0	73.4	23.0	83.5	1	.....	.....	1	2	10	1	.....	15	4504	7248	3	3.71	94.2
Rochester	N. 43 08	W. 77 51	6.58 a.m.	589	179	29.43	747.5	30.07	763.8	66.3	19.1	79.7	1	2	7	11	5	1	3	.....	.....	5967	9603	6	1.82	46.2
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.49	749.0	30.07	763.8	49.9	9.9	87.7	1	.....	.....	3	2	.....	2	2	20	2246	3615	5	0.72	18.3
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.82	757.4	29.90	759.4	57.6	14.2	69.0	3	2	1	1	2	16	.....	1	4	4694	7554	1	0.30	7.6
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.41	747.0	30.02	762.5	67.3	19.6	78.2	1	5	.....	2	16	4	.....	1	1	6967	11212	4	3.14	79.8
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.00	736.6	29.88	758.9	54.4	12.4	88.6	3	6	1	5	2	4	5	4	.....	7416	11935	7	9.95	252.7
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.01	736.8	29.90	759.4	44.0	6.7	90.1	1	11	3	4	3	3	2	.....	3	5841	9400	6	1.99	50.5
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.60	650.2	29.93	760.2	51.7	10.9	35.5	1	3	.....	.....	.....	6	1	1	18	3916	6302	3	0.43	10.9
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.28	743.7	29.98	761.5	71.4	21.9	88.5	3	.....	.....	.....	1	7	6	2	11	4239	6822	5	5.86	148.8
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.77	756.1	29.84	757.9	62.1	16.7	81.4	1	5	2	1	6	.....	3	2	4	4082	6569	5	0.04	1.0
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.36	745.7	30.05	763.3	68.5	20.3	77.8	.....	3	5	14	2	4	.....	2	.....	8072	12990	4	3.78	96.0
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.09	764.3	30.12	765.0	70.5	21.4	84.3	3	5	4	4	1	5	3	4	1	8201	13198	5	3.57	90.7
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.86	758.4	29.92	760.0	54.5	12.5	86.9	...	.....	12	13	.....	.....	.....	.....	5	7104	11432	3	0.25	6.3
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7064	2153	23.31	592.1	30.11	764.8	49.0	9.4	66.4	3	2	...	1	2	5	5	1	11	3318	5340	3	0.91	23.1
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.00	762.0	30.08	764.0	76.3	24.6	88.6	0	2	2	2	4	4	2	6	2	4010	6453	5	3.09	78.5
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.80	756.9	30.03	762.7	69.4	20.8	84.4	1	.....	2	2	7	6	.....	2	10	3318	5340	3	5.90	149.9
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.29	617.0	29.86	758.4	53.8	12.1	68.7	.....	13	.....	.....	1	.....	.....	.....	16	1486	2392	3	3.89	98.8
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.82	757.4	29.89	759.2	52.0	11.1	86.9	2	3	2	4	1	6	4	5	3	5273	8486	7	12.11	307.6
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.07	763.8	30.11	764.8	75.5	24.2	86.4	4	3	3	3	4	5	.....	6	2	6815	10967	5	4.42	112.3
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.94	709.7	29.96	761.0	44.5	6.9	84.5	3	4	2	8	1	3	4	3	2	3472	5588	4	2.55	64.8
Springfield, Ill	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.32	744.7	30.01	762.2	65.5	18.6	80.9	1	2	.....	4	16	5	.....	2	....	6082	9784	4	6.43	163.3
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	30.00	762.0	30.12	765.0	64.6	18.1	86.0	6	2	.....	.....	10	1	1	5	5	2652	4268	5	0.99	25.1
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	26.97	685.0	30.04	763.0	64.9	18.3	85.1	.....	.....	2	3	10	9	.....	.....	6	7891	12699	3	1.71	43.4
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.08	764.0	30.14	765.5	61.7	16.5	91.2	2	3	3	5	5	.....	5	7	.....	7126	11468	5	3.76	95.5
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.34	745.2	30.04	763.0	66.9	19.4	81.1	2	1	6	4	7	7	2	.....	1	5370	8642	4	5.33	135.4
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.41	696.2	29.77	756.1	66.5	19.2	69.8	1	.....	.....	2	9	16	.....	.....	2	2348	3779	2	2.37	60.2
Umatilla	N 45 55	W. 119 21	4.11 a.m.	340	103	29.65	753.1	30.06	763.5	51.8	11.0	69.1	.....	1	5	5	3	9	3	2	2	6038	10083	5	0.74	18.8
Uvalde *a*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.00	736.6	29.79	756.7	72.1	22.3	83.7	1	1	.....	....	.....	11	2	.....	14	3242	5217	6	1.44	36.6
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.78	756.4	30.04	763.0	69.9	21.1	83.4	4	.....	.....	2	2	11	8	3	.....	3527	5676	4	6.11	155.2
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.49	749.0	29.85	758.2	56.5	13.6	87.3	1	11	1	.....	1	11	4	.....	1	2367	3809	1	0.09	2.3
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	30.00	762.0	30.11	764.8	70.7	21.5	87.3	4	5	1	2	7	1	3	3	4	2654	4271	5	2.19	55.6
Wickenburg *b*	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	58.6	14.8	79.4	1	.....	1	.....	.....	.....	..	.....	26	.....	.....	1	1.16	29.5
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.05	763.3	30.11	764.8	74.9	23.8	84.7	3	.....	1	3	2	2	...	4	15	3456	5562	4	3.50	88.9
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.62	650.7	29.95	760.7	42.4	5.8	44.3	2	1	..	4	6	3	.....	14	.....	5979	9622	1	0.12	3.0
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	30.08	764.0	30.11	764.8	64.4	18.0	89.9	1	2	1	7	2	2	6	7	2	7893	12702	4	2.50	63.5
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.61	726.7	29.92	760.0	53.8	12.1	83.6	3	5	1	3	.....	1	3	5	9	6026	9698	5	8.61	218.7
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.63	752.6	29.77	756.1	71.5	21.9	68.3	.....	6	1	3	1	7	1	5	6	3430	5520	1	0.05	1.3
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.06	560.3	.....	.....	52.9	11.6	73.8	1	.....	1	2	4	9	4	1	8	.....	.....	8	2.33	59.2
Bridgetown ‡	N. 13 12	W. 59 35	8.10 a.m.	?	?	29.98	761.5	30.00	762.0	82.8	28.2	89.2	.....	.....	1	.....	.....	3	21	5	.....	.....	.....	9	11.98	304.3
Gaudeloupe ‡	N. 16 12	W. 61 40	8.01 a.m.	?	?	29.89	759.2	29.89	759.2	81.5	27.5	87.6	.....	.....	.....	.....	.....	5	25	.....	.....	.....	.....	7	5.20	132.1
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.94	760.5	29.99	761.7	79.5	26.4	77.3	.....	.....	.....	.....	.....	2	.....	.....	28	.....	.....	7	5.28	134.1
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	29.95	760.7	29.96	761.0	77.9	25.5	71.9	1	.....	.....	.....	.....	1	1	.....	27	.....	.....	7	2.20	55.9
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.85	758.2	29.93	760.2	82.0	27.8	80.7	1	.....	.....	.....	.....	.....	16	13	.....	.....	.....	7	4.70	119.4
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.02	762.5	30.02	762.5	80.1	26.7	80.5	.....	.....	.....	.....	.....	20	4	.....	.....	.....	.....	5	9.20	233.7
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.42	747.3	29.98	761.5	78.0	25.6	89.8	3	.....	.....	.....	4	.....	.....	2	21	.....	.....	9	16.36	415.5
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	75.4	24.1	.....	.....	.....	1	1	1	4	2	5	16	.....	.....	5	7.42	188.5
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	29.94	760.5	29.97	761.2	84.4	29.1	80.8	10	2	.....	.....	.....	1	.....	.....	17	.....	.....	5	8.57	217.7
St. Thomas ‡	N. 18 20	W. 64 56	7.48 a.m.	110	33	29.99	761.7	30.00	762.0	81.4	27.4	80.6	...	.....	....	1	1	8	15	5	.....	.....	.....	5	7.83	198.9
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	29.97	761.2	30.02	762.5	36.2	2.3	95.4	8	7	3	3	5	2	2	.....	.....	.....	.....	6	1.18	30.0

Ocean Square Data for September 1881.

Location of centre of each square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
°	°																	
N. 7.5	W. 27.5	6	6															
12.5	22.5			29.99	761.7	81.1	27.3	5				8	2	3	4	8		1.5
12.5	27.5	10	14	29.99	761.7	81.1	27.3	5	2		4	5	3		7	2	2	1.5
12.5	32.5	4	4															
12.5	47.5	2	2															
12.5	52.5	9	10															
12.5	57.5	2	2															
17.5	22.5			30.02	762.5	79.8	26.6	8	2				1	1	13	4	1	2.0
17.5	27.5	8	8	30.02	762.5	80.4	26.9	6	4		1	1	2	1	12	1	2	1.9
17.5	32.5	5	5															
17.5	37.5	1	1															
17.5	42.5	2	2															
17.5	47.5	1	1															
22.5	27.5	2	2															
22.5	32.5	3	3															
22.5	37.5	9	10															
22.5	42.5	4	4															
22.5	67.5	1	1															
27.5	32.5	2	2															
27.5	37.5	6	6															
27.5	52.5	6	6															
27.5	67.5	3	3															
27.5	72.5			30.03	762.7	81.2	27.3	3	1	6	5	10	5					1.3
27.5	77.5			30.02	762.5	81.5	27.5	3			1	6	5	10	5			1.2
32.5	12.5	1	1	30.11	764.8	75.4	24.1	1			13	3	9		2	2		1.1
32.5	17.5	11	12	30.13	765.3	75.2	24.0	2			15	2	8		3			1.3
32.5	22.5			30.11	764.8	74.6	23.7	5		1	12	3	5	1	3			1.5
32.5	27.5			30.07	763.8	74.2	23.4	8	3		6	5	3		5			1.5
32.5	32.5	3	3	30.07	763.8	74.9	23.8	7	4	1	5	6	1	3	3			2.0
32.5	37.5	3	3	30.08	764.0	75.2	24.0	3	2	1	2	5		7	6		4	2.1
32.5	42.5	3	3	30.07	763.8	75.6	24.2	2	3	1	2	7		7	6		2	1.9
32.5	47.5	2	2	30.07	763.8	75.7	24.3	6	2	1	2	6	3	2	3		5	1.9
32.5	52.5	2	2	30.07	763.8	76.3	24.6	11	2	2	1	6		2	4		2	1.8
32.5	57.5			30.04	763.0	76.6	24.8	11	4	5	2	1		2	5			1.2
32.5	62.5	1	1	30.07	763.8	77.7	25.4	9	4	4	3	2	1	2	5			1.1
32.5	67.5	5	5	30.08	764.0	77.9	25.5	11	4	4	3	2	1	2	3			1.2
32.5	72.5			30.09	764.3	78.7	26.0	10	2	1	3	7	2	1	3	1		1.4
32.5	77.5			30.09	764.3	77.1	25.1	7	1	2	6	3	4	3	4			1.1
37.5	12.5	7	7	30.07	763.8	70.4	21.3	6	4	1	6	5	1	2	5			2.6
37.5	17.5	2	2	30.05	763.3	70.7	21.5	3	2	4	7	6	5		3			1.8
37.5	22.5			30.08	764.0	71.2	21.8	4	3	2	4	5	5		4	3		1.6
37.5	27.5			30.05	763.3	69.0	20.6	5	10	1	4	2	3	2	3			1.7
37.5	32.5	5	5	30.04	763.0	69.3	20.7	4	7	3	4	1	1	4	6			2.0
37.5	37.5	6	6	30.05	763.3	70.6	21.4	6	2	3	2	4	1	6	4		2	2.4
37.5	42.5			30.06	763.5	69.2	20.7	7	2	2	3	3		5	3	2	3	2.3
37.5	47.5			30.07	763.8	69.5	20.8	6	3	2	2	4	3	2	3	2	3	2.1
37.5	52.5			30.08	764.0	70.1	21.2	8	2	3	5	3	3	3	1	2		2.0
37.5	57.5	2	2	30.09	764.3	70.3	21.3	9	5	5	2	3	1	2	2	1		2.1
37.5	62.5	5	5	30.10	764.5	70.3	21.3	9	5	5	3	1	2	2	2	1		2.3
37.5	67.5	10	10	30.12	765.0	70.5	21.4	8	3		6	3	3		4	3		1.8
37.5	72.5	8	10	30.12	765.0	71.1	21.7	7	1	2	6	3	4	3	4			1.7
42.5	12.5	6	7	30.01	762.2	68.2	20.1	3	2	1	6	8	3		7			1.7
42.5	17.5	8	8	29.99	761.7	67.3	19.6	2	2	3	6	11	5		1			2.2
42.5	22.5	4	4	30.00	762.0	67.5	19.7	3	1	3	3	12	4		4			2.4
42.5	27.5	7	7	30.00	762.0	66.5	19.2	7	2	5	5	6		1	4			2.2
42.5	32.5	3	3	30.01	762.2	65.8	18.8	8	3	5	3	2	3	2	4			2.3
42.5	37.5	8	9	30.02	762.5	65.4	18.6	6	4	5	2	5		4	2	2		2.3
42.5	42.5	8	9	30.04	763.0	65.1	18.4	9	4	3	1	6		5	1		1	2.3
42.5	47.5	16	21	30.07	763.8	65.1	18.4	4	3	3	4	5	1	4	3	2	1	2.3
42.5	52.5	12	15	30.08	764.0	65.7	18.7	6	1	4	3	5	1	5	3	2		2.1
42.5	57.5	12	17	30.10	764.5	65.6	18.7	7	5	3	5	1	4	3	2			2.4
42.5	62.5	16	24	30.11	764.8	65.5	18.6	4	4	4	5	3	2	4	4			2.4
42.5	67.5	10	13	30.12	765.0	65.7	18.7	7	2	1	5	4	3	3	3	2		1.7
47.5	12.5	12	13	29.99	761.7	62.0	16.7	1	2	1	5	9	5	3	4			2.8
47.5	17.5	12	12	29.93	760.2	61.5	16.4	4	2	3	3	12	3	1	2			2.9
47.5	22.5	15	18	29.90	759.4	60.9	16.1	4	3	3	4	9	3	1	3			3.1
47.5	27.5	10	15	29.91	759.7	59.8	15.4	7	7	2	5	3	2		2	2		2.7
47.5	32.5	18	21	29.92	760.0	58.6	14.8	6	7	6	4	1	3		2	1		2.9
47.5	37.5	12	15	29.95	760.7	57.7	14.3	4	7	7	3	1	2		4	2		2.7
47.5	42.5	10	11	30.00	762.0	56.5	13.6	7	6	6	2	2		1	2	2	2	2.6
47.5	47.5	7	8	30.04	763.0	54.9	12.7	5	4	3	3	9	1	2	3			1.7
52.5	12.5	14	15	29.94	760.5	59.6	15.3	2	4	3	5	6	6	2	2			2.7
52.5	17.5	13	15	29.89	759.2	58.7	14.8	3	4	5	4	9	2		2		1	2.9
52.5	22.5	11	13	29.88	758.9	57.7	14.3	6	5	5	3	7	2		1		1	3.0
52.5	27.5	6	6	29.88	758.9	56.6	13.7	7	9	2	4	2	3		2		1	2.6
52.5	32.5	4	5	29.89	759.2	55.3	12.9	5	8	5	5	4	1		1	1		2.8
52.5	37.5	3	3	29.86	758.4	53.1	11.7	6	8	6	3	2	1		1	2	1	1.8
52.5	42.5	2	2	29.92	760.0	55.6	13.1	8	3	7	4	2			2	2	2	2.2
52.5	47.5			29.95	760.7	50.5	10.3	6	2	2	5	8	1	2	4			1.5
57.5	12.5	2	2	29.92	760.0	55.1	12.8	2	1	3	3	8	5	4	4			2.7
57.5	17.5	1	1	29.87	758.7	54.4	12.4				3	12	2	7	4	2		2.2
57.5	22.5	1	1	29.84	757.9	53.1	11.7				2	13	4	4	2	5		1.9
57.5	27.5	2	2	29.82	757.4	51.0	10.6	2			5	12	2	2	1	4	2	2.0
57.5	32.5			29.81	757.2	48.8	9.3	1		2	4	12		1	4	5	1	1.8
57.5	37.5	1	1	29.80	756.9	46.6	8.1	5		3	3	12		1	4	2		2.0
57.5	42.5			29.79	756.7	45.4	7.4	5		2	3	9		1	7	2	1	2.0
57.5	47.5			29.80	756.9	43.5	6.4	3		3	3	8		1	8	3	1	2.1

Note.—See General Remarks, page 9.

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: t, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San Jose the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. Observations at Bourges are stated to be taken at 1.00 p. m., instead of 0.17 p. m., local time.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off, and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters. Barbadoes takes observations from September 4th, at 8.30 a. m., instead of 8.10 a. m., local time.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES.—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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."

ERRATA.

MONTHLY SUMMARY, August, 1881, page 5, Augusta, E. 172° 30′, 11.38 p. m. —— feet and meters, should read W. 81° 54′, 6.41 a. m., 183 feet, 56 meters.

DAILY BULLETIN, September 4th, page 1, Austro-Hungarian series, Agram, direction of wind and force ——, should read calm, 0; same correction on the 8th, 11th, 13th, 17th, 18th, 19th and 20th.

10th, page 2, British series, Aberdeen reduced barometer 30.24 inches, should read 30.21 inches.

25th, page 3, German series, Memel, rainfall 0, should be ——; Munich, rainfall ——, should be 0; page 7, Port Huron, temperature 21.1° centigrade, should read 21.7°.

26th, page 8, H. M. S. Monarch, barometer 76.1 m. m., should read 766.1 m. m.

29th, page 6, Cheyenne, reduced barometer 29.41 inches, should read 29.64 inches.

30th, page 1, Austro-Hungarian series, Trieste, weather clear, should read cloudy.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing November, 1877.

No. IV.

PREVAILING WINDS.

Arrows show the 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 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR

W. B. Hazen

BRIG. & BVT. MAJ. GEN'L

CHIEF SIGNAL OFFICER, U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *black*; detached barometer means in English inches.

Isotherms in *red*; detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of September, 1881, based on the daily charts of the International Bulletin.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF OCTOBER, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
NOVEMBER, 1882.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

OCTOBER, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for October, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation Inch.	Mil.
Algerian Series.	° ′	° ′																								
Nemours ‡	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.01	762.2	71.4	21.9	85.0	.....	2	15	6	.....	.....	6	2	.....	.....	.....	2	3.72	94.4
Algiers ‡	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.03	762.8	74.1	23.4	71.6	2	5	12	4	.....	.....	2	6	.....	.....	.....	4	6.74	171.3
La Calle ‡	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.04	762.9	78.6	25.9	69.0	9	12	2	1	.....	.....	3	4	.....	.....	.....	5	8.06	204.7
Tunis ‡	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sfax ‡	N. 34 44	E. 10 40	0.51 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida ‡	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.03	762.7	75.6	24.2	48.0	13	8	1	3	.....	.....	.....	6	.....	.....	.....	1	1.46	37.0
Tebessa ‡	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.03	762.8	73.6	23.1	51.0	6	9	4	7	1	2	.....	.....	2	.....	.....	3	1.17	29.8
Geriville ‡	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	70.3	21.3	32.0	7	12	7	1	3	1	.....	.....	.....	.....	.....	3	0.49	12.5
Laghouat ‡	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.04	763.0	77.5	25.3	34.2	.....	5	7	3	5	3	5	3	.....	.....	.....	1	1.03	26.2
Biskra ‡	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.04	763.0	81.1	27.3	37.0	18	6	.....	.....	.....	7	.....	.....	.....	.....	.....	3	1.05	26.7
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.94	760.5	30.03	762.7	53.3	11.8	81.3	2	1	3	4	12	4	3	2	.....	.....	.....	6	3.05	77.5
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.39	746.4	29.94	760.5	48.7	9.3	80.8	2	2	2	1	3	2	5	11	3	.....	.....	9	7.65	194.3
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.21	742.0	30.00	761.9	46.0	7.8	77.7	2	4	3	4	.....	.....	4	14	.....	.....	.....	6	3.32	84.3
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.04	737.6	29.94	760.4	47.8	8.8	68.5	8	.....	.....	.....	2	1	.....	.....	20	.....	.....	9	3.25	82.6
Gratz ‡	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.69	728.6	29.95	760.6	48.2	9.0	78.3	.....	3	.....	5	11	3	6	3	.....	.....	.....	9	5.16	131.0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.49	723.6	29.91	759.7	54.9	12.7	69.4	.....	7	5	1	4	11	3	.....	.....	.....	.....	7	2.82	71.6
Kremsmünster	N. 48 04	E. 14 08	1.04 p.m.	1260	384	28.58	725.8	29.94	760.5	45.3	7.4	83.1	3	2	4	4	.....	.....	6	10	2	.....	.....	8	2.49	63.3
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.97	735.8	29.97	761.3	45.0	7.2	77.6	.....	5	2	.....	8	4	.....	12	.....	.....	.....	8	2.82	71.6
Pola	N. 44 52	E. 13 51	1.03 p.m.	105	32	29.75	755.6	29.86	758.4	58.5	14.7	75.2	2	.....	2	2	3	3	11	8	.....	.....	.....	8	9.13	231.8
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.44	747.8	29.91	759.6	52.7	11.5	70.4	3	5	2	3	4	2	8	4	.....	.....	.....	7	5.78	146.9
Szegedin	N. 46 15	E. 36 49	2.35 p.m.	256	78	29.63*b*	752.7*b*	29.91*b*	759.8*b*	52.0	11.1	76.7	1*a*	5	1	3	7	3	.....	2	8	.....	.....	8*a*	4.72	119.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.78	756.4	29.88	759.0	56.7	13.7	73.1	.....	.....	.....	.....	.....	1	7	10	13	.....	.....	8	6.34	160.8
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.26	743.1	29.98	761.6	46.0	7.8	74.5	8	8	6	.....	1	4	2	1	1	.....	.....	9	3.21	81.6
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	86	26	29.95	760.7	30.05	763.3	47.7	8.7	71.2	2	3	6	2	5	7	6	.....	.....	.....	.....	6	3.82	97.0
Armagh	N. 54 21	W. 6 39	11.42 a.m.	206	63	29.79	756.7	30.03	762.7	49.5	9.7	74.3	1	3	3	3	2	7	8	4	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	180	85	.....	.....	30.01	762.2	49.3	9.6	73.9	2	2	6	3	.....	3	9	6	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	481	145	29.46	748.3	30.01	762.2	47.9	8.8	70.6	1	4	2	3	3	2	9	7	.....	.....	.....	7	.....	.....
Bradford *e*	N. 53 48	W. 1 47	0.01 p.m.	362	110	29.60	751.8	30.00	762.0	48.5	9.2	73.1	.....	3	2	8	.....	6	1	6	.....	.....	.....	4	4.26	108.2
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.98	761.5	49.9	9.9	75.4	4	1	6	1	.....	4	8	7	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.88	758.9	30.02	762.5	49.9	9.9	81.6	6	2	1	3	1	1	10	6	1	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	200	61	29.77	756.1	29.99	761.7	53.0	11.7	67.4	2	3	5	1	1	3	9	7	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.67	702.8	29.89	759.2	76.9	24.9	62.9	.....	2	1	1	1	13	7	3	3	.....	.....	3	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.66	753.4	29.89	759.2	85.6	29.8	81.0*a*	.....	3	8	15	.....	3	.....	1	1	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	25	8	.....	.....	29.92*a*	760.0*a*	52.2	11.2	72.8	3	5	3	4	7	1	8	.....	.....	.....	.....	8	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.96	761.0	30.01	762.2	71.9	22.2	84.1	1	3	12	8	.....	.....	4	3	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	90	27	29.81	757.2	30.02	762.5	49.1	9.5	69.9	2	.....	8	2	1	2	7	9	.....	.....	.....	6	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.83	757.7	30.00	762.0	50.4	10.2	74.8	4	2	1	5	1	1	6	11	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.74	755.4	29.96	761.0	53.4	11.9	67.6	3	1	4	4	1	1	4	13	.....	.....	.....	5	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.97	761.2	30.01	762.2	49.9	9.9	66.9	7	2	4	4	1	1	6	6	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.75	755.6	30.01	762.2	49.8	9.9	67.0	2	3	2	5	.....	5	1	13	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	111	34	29.82	757.4	29.90	759.4	74.3	23.5	75.8	.....	13	1	3	.....	7	1	6	.....	.....	.....	5	1.17	29.7
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29.99	761.7	30.04	763.0	79.2	26.2	76.1	1	.....	.....	1	.....	4	10	15	.....	.....	.....	5	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.49	749.0	30.02	762.5	49.3	9.6	76.0	5	1	3	4	2	1	7	8	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	212	64	29.78	756.4	30.01	762.2	49.7	9.8	68.5	8	2	3	2	1	2	6	6	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.92	760.0	29.99	761.7	53.1	11.7	71.8	2	4	2	3	.....	5	7	8	.....	.....	.....	6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	30.00	762.0	47.7	8.7	77.5	3	2	8	1	5	9	.....	2	1	.....	.....	6	.....	.....
Scutari Cemet'y *a*	N 41 00	E. 29 03	2.04 p.m.	60	18	29.89	759.2	29.95	760.7	66.7	19.3	60.0	2	.....	1	11	6	.....	.....	9	1	.....	.....	6	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.74	755.4	30.03	762.7	49.0	9.4	79.2	3	3	2	6	1	.....	6	10	.....	.....	.....	7	2.77	70.4
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.98	761.5	30.01	762.2	49.8	9.9	72.1	5	1	4	2	.....	2	12	2	3	.....	.....	6	2.14	54.4
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	363	110	.....	.....	29.82	757.4	48.1*b*	8.9*b*	70.2*b*	3	3	5	2	1	2	10	5	.....	.....	.....	7*d*	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.79	756.7	30.01	762.2	51.0	10.6	71.4	1	3	5	2	.....	1	11	8	.....	.....	.....	6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.95	760.7	29.99	761.7	56.9	13.8	69.0	4	3	3	2	1	4	6	8	.....	.....	.....	6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	20	6	29.93	760.2	29.96	761.0	54.1	12.3	75.8	1	2	3	1	1	10	11	2	.....	.....	.....	8	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
Canadian Series	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11																					
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.93	760.2	29.97	761.2	43.3	6.3	80.8	4	2	8	7	4	1	2	2	1	6991	11251	7	5.09	129.3
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.96	761.0	30.02	762.5	38.3	3.5	85.9	1	4	6	4	10			1	5	3684	5929	6	2.68	68.1
Chicontimi				159	48																					
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53																					
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46																					
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.98	761.5	30.00	762.0	38.5	3.6	83.4	6	7	6	8	1		2		1	15281	24592	8	2.62	66.5
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.22	742.2	30.09	764.3	29.2	−1.6	91.6	4	3	3	11	1	1	1	5	2	4855	7813	6	2.23	56.6
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18																					
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309																					
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.93	760.2	30.06	763.5	44.1	6.7	89.0	2	7	12	2	5		1	1	1			5	4.28	108.7
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	358	109																					
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.78	756.4	30.12	765.0	45.1	7.3	86.8	8	5	3	4	3	2	1	3	2			7	2.77	70.4
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10																					
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.89	759.2	30.10	764.5	41.5	5.3	82.2	2	2	1	3	7	1	2	3				8	6.44	163.6
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9																					
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.40	746.7	30.10	764.5	41.6	5.3	91.7	6		4	1	5	8	3		4	6689	10765	7	6.33	160.8
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210																					
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.42	747.3	30.12	765.0	48.7	9.3	97.2	3	13	2	1	5	1		4	2	4955	7974	7	4.78	121.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.46	748.3	30.11	764.8	48.8	9.3	92.0	6	6	6	2	2	1	7	1				8	5.40	137.2
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.75	755.6	30.08	764.0	38.3	3.5	82.9a	4	3	12	2			3	4	3			6	4.73	120.1
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.64	752.8	30.11	764.8	36.5	2.5	83.9a	2	4	2	2	1	10		1	9			6	3.94	100.1
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.36	745.7	30.08	764.0	45.8	7.7	87.6	4	5	2	3	8	5	1	3		9469	15239	8	5.16	131.1
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.01	762.2	30.06	763.5	42.5	5.8	83.9	4	10	3	4	3	1		2	4			4	2.97	75.4
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46																					
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360																					
Sydney	N. 46 08	W. 60 10	8.07 a.m.	55	17	29.90	759.4	29.96	761.0	43.6	6.4	81.6	1	5	7	10	2		1	1	4	8316	13383	7	3.74	95.0
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.94	760.5	30.13	765.3	46.2	7.9	85.0	8	5	6	3	1	2	4	2		6910	11120	7	3.78	96.0
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26																					
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299																					
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.02	762.5	30.08	764.0	45.8	7.7	91.2	2	7	4	1	2	2	4	5	4	8106	13045	5	3.39	86.1
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.98	761.5	30.24	768.1	41.5	5.3	92.5		2	6	9	8	3	1	1	1			5	4.33	110.0
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?																					
Cape Colony Series.																										
Cape St. Francis.‡	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.02	762.5	30.05	763.3	63.7	17.6	88.0			9	4	3	2	6	7				4	1.18	30.0
Cape Town	S. 34 05	E. 18 29	1.22 p.m.	27	8																					
Worcester	S. 33 36	E. 19 26	1.26 p.m.	?	?	29.20	741.7			78.3	25.7	36.0		8	10	2	1	3	7					3	0.25	6.3
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.10	764.4	30.12	765.0	62.6	17.0	88.1	6	2	2	1	3	2	8	6	1			5	5.53	140.4
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145																					
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.98	761.4	30.02	762.6	45.5	7.5	74.4	2	2	5	1	3	1	11	6				8		
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.97	761.2	29.99	761.7	46.2	7.9	80.2a	1	2	5	4	1		6	12				7		
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.51	749.5	29.55	750.6	28.4	−2.0	82.0	4	2		3	3	1	1	12	5			7		
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.76	755.9	29.80	757.0	41.4	5.2	86.0				3	6	11	6	3	2			8		
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.95	760.7	29.98	761.6	46.8	8.2	78.0	2	2	4	4	5	3	7	4				7		
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.91	759.7	30.00	762.0	45.0	7.2	79.9	2	1	4	4	1	1	1	16	1			7		
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.34	745.2	29.98	761.6	55.8	13.2	67.6	7	6	4	2	3	6		3						
Alençon	N. 48 25	E. 0 06	0.09 p.m.	476	145	29.48	748.7	30.10	764.4	49.5	9.7	89.6	6	5	1	5	1	2		11					1.70	43.3
Arras	N. 50 18	E. 2 47	0.19 p.m.	239	73	29.71b	754.5b	29.94b	760.5b	48.2b	9.0b	76.1b	...d	4	3	3	2	4	4	7						
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.83	757.7	29.91	759.7	58.5	14.7	60.3	23	5			1	1	1						2.49	63.3
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	518	158	29.43	747.4	29.99	761.7	49.8	9.9	70.1	3	2	2	6	1	4	10	3				8	1.72	43.6
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.74	755.4	30.01	762.2	49.6	9.8	66.3	5	4	3	3	2	2	7	5				6	1.00	25.4
Besançon	N. 47 14	E. 6 01	0.32 p.m.	830	253	29.08	738.6	29.98	761.6	48.6	9.2	73.9	2		1	2	9	1		16				5	3.43	87.0
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.71	754.5	29.96	761.0	56.3	13.5	61.9	8	4	3	2	2	3	4	5				6	33.4	84.7
Bourges	N. 47 05	E. 2 26	0.17 p.m.	510	156	29.41	747.1	29.97	761.1	51.8	11.0	64.9	8	6	2	7		1	1	6					1.95	49.6
Brest	N. 48 23	W. 4 29	11.50 a.m.	210	64	29.74	755.5	29.99	761.7	56.3	13.5	69.3		2	5	2	3	3	4	11	1			6	2.01	51.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.92	760.0	30.00	761.9	53.2	11.8	76.0	7	1	6	3	4	3	2	5				4	2.49	63.3
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.60	751.9	29.93	760.2	50.9	10.5	74.3	2	5	6	5	2	3	4	4				6	2.10	53.2
Charleville	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.48a	748.8a	29.98a	761.6a	49.5	9.7	70.5	1	1	2	6	3	7	9	2				6	1.86	47.2
Clermont-Fd	N. 45 45	E. 3 04	0.20 p.m.	1273	388	28.61	726.7	29.97	761.1	52.2	11.2	59.9	13	3	2	6		2	1	4				7	1.20	30.5
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.07	738.3	29.96	760.9	52.5	11.4	72.0	14	3	3	2	4	2		2	1			4	2.74	69.5
Commercy	N. 48 45	E. 5 35	0.30 p.m.	797	243	29.11	739.5	30.00	761.9	46.8	8.2	76.0	5	3	7	4			10	2				6	3.38	85.8
Gap	N. 44 34	E. 6 04	0.32 p.m.	2437	743	27.36	694.9	29.89	759.3	53.4	11.9	68.2	4	4	2	2	8	2	3	2	4				4.77	121.1
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	28.80	731.5	29.94	760.5	59.2	15.1	57.3	1				2	17	5	6				5	1.71	43.5
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.19	741.4	29.94	760.4	51.3	10.7	72.4	3	17		1	3	2	3	2					3.64	92.5
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.38	720.9	29.97	761.1	48.7	9.3	71.9	1	2	1	10		4	5	8				5	1.54	39.1
Lamballe	N. 48 28	W. 2 31	11.59 a.m.	252	77	29.72	754.8	29.99	761.8	54.1	12.3	70.1	6	3	5	2	2	5	1	7					2.45	62.3
Lescar b.	N. 43 21	W. 0 26	0.06 p.m.	525	160	29.42	747.2	29.98	761.4	58.3	14.6	66.2	4	5	8	6	1		2	3					1.44	36.7
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	29.92	759.9	30.02	762.5	57.9	14.4	71.2	2	2	4	3	5		3	12				5	1.98	50.4
Lyon	N. 45 41	E. 2 30	0.18 p.m.	981	299	28.92	734.5	29.98	761.6	49.6	9.8	69.2	11	6	1		2	4	4	3					3.88	98.5
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.71	754.5	30.02	762.4	50.5	10.3	69.0	3	4	4	1	2	2	3	12				5	2.92	74.3
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.60	751.7	29.87	758.6	62.2	16.8	59.4		10	9	5	2	3	2					6	1.30	33.1
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.72	627.9	29.95	760.8	47.5	8.6	59.5	6	3	2	8	1	2	7	2				4	1.28	32.5
Montpellier	N. 43 36	E. 3 54	0.24 p.m.	102	31	29.79	756.6	29.89	759.3	60.4	15.8	71.9	15					13	1	2				3	4.61	117.1
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.21	742.0	30.00	761.9	47.1	8.4	71.2	7	5	7	2	4			6				7	2.81	71.4
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.86	758.5	30.02	762.6	55.9	13.3	60.5	5	4	4	2	2	2	4	8				6	2.10	53.4
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	29.79	756.7	29.82	757.5	64.0	17.8	66.8		1	5	1	4	3	15	2				6	5.72	145.2
Perpignan	N. 42 41	E. 2 53	0.19 p.m.	98	30	29.80	757.0	29.91	759.7	56.1	13.4	50.3	7	10		1	1	4	2	6				6	0.68	17.3
Pic du Midi (Sum-n)	N. 42 47	W. 0 08	0.08 p.m.	9380	2859	20.98	532.9			29.1	−1.6		2	1	2	6	3			1	2			3	4.00	101.7
Privas [mit.)	N. 44 45	E. 4 35	0.26 p.m.	997	304					53.1	11.7	60.5	16		1		4	2	1	1	6			5	0.72	18.2
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.02	635.6			34.3	1.3	89.9	5		6	6	2		4	8				8	4.14	105.1
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.97	761.3	30.01	762.2	56.3	13.5	83.6	4	1		4	3	1	3	12	3			5	1.11	28.1
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.78	756.3	29.98	761.6	54.0	12.2	71.0	8	3	5	1	2		2	10				4	2.77	70.3
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	27.81	706.4	29.97	761.2	50.2	10.1	69.0	2	14	5	2	1	4	1	1	1			6	2.08	52.7
Rouen b.	N. 49 26	E. 1 05	0.12 p.m.	80	24	29.94	760.5	30.00	761.9	49.6	9.8	68.2	1	3	5	1	1	4	5	9					1.12	28.5
Saint Lô t.	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.77	756.2	29.93	760.3	50.4	10.2	78.3	1	3	3	4		2	3	6				7	2.01	51.0
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.83	757.7	30.00	761.9	50.9	10.5	65.9	7	6	1	4	4		3	6				6	1.35	34.3
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.29	743.9	30.02	762.4	56.8	13.8	63.6	1	14	5	2	1	5	2	1				6	2.55	64.7
Tours t.	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.81	757.2	30.00	762.1	52.3	11.3	64.7	2		3	3		1	4	9				6	1.78	45.3
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.50	749.4	29.99	761.8	49.6	9.8	64.4	4	5	2	4	1	5	4	6					1.29	32.7
Sub Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.18 p.m.	256	78	29.72	754.8	30.01	762.2	50.0	10.0	66.5	8	3	4	2	3	1	3	7				7	1.04	26.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for October, 1881. 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.	
German Series.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 53	0.51 p.m.	787	240	29.11	739.5	29.97	761.3	46.6	8.1	64.4	2	5	4	4	3	5	6	2	.....	.....	.....	6	2.17	55.2
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.81	757.1	29.98	761.5	48.0	8.9	69.4	2	4	2	6	1	5	5	6	.....	.....	.....	7	2.48	62.9
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.48	748.8	30.02	762.4	45.1	7.3	74.0	4	2	4	1	2	4	7	7	.....	.....	.....	8	1.10	27.8
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.54	750.4	29.98	761.4	47.5	8.6	81.9	1	3	3	8	2	2	4	8	.....	.....	.....	8	1.99	50.6
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.24	742.8	29.96	761.0	44.8	7.1	71.0	5	3	3	2	6	.....	5	7	.....	.....	.....	7	1.98	50.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.60	751.9	29.97	761.3	47.7	8.7	54.1	7	3	4	4	1	1	2	9	.....	.....	.....	7	3.64	92.5
Friedrichshafen	N. 47 39	E. 9 29	0.45 p.m.	1355	413	28.51	724.2	29.97	761.1	47.1	8.4	78.4	1	1	2	8	6	.....	1	12	.....	.....	.....	8	3.83	97.2
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.91	759.6	30.00	762.0	45.7	7.6	78.6	4	3	4	3	2	.....	8	6	1	.....	.....	8	3.78	95.9
Kiel	N. 54 20	E. 10 04	0.49 p.m.	13	4	29.97	761.1	29.98	761.5	46.8	8.2	74.9	2	2	2	4	1	1	11	6	2	.....	.....	8	4.79	121.6
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.57	751.1	30.01	762.2	44.6	7.0	74.2	4	2	.....	7	3	.....	3	12	.....	.....	.....	8	2.15	54.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	269	82	29.79	756.7	29.98	761.6	46.2	7.9	74.5	3	3	3	3	4	.....	3	11	1	.....	.....	8	3.69	93.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.04	763.1	30.09	764.3	43.2	6.2	75.2	.....	2	.....	5	3	2	7	12	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.55 p.m.	1732	528	28.11	714.1	29.98	761.5	44.1	6.7	73.2	2	11	.....	1	.....	2	2	8	5	.....	.....	8	2.53	64.3
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.03	762.8	30.05	763.2	45.7	7.6	70.5	2	1	.....	5	3	1	7	12	.....	.....	.....	7	1.10	28.0
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.43	747.5	29.96	760.9	47.7	8.7	70.5	6	2	8	4	.....	1	5	2	3	.....	.....	8	1.63	41.3
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.00	736.6	29.91	759.7	46.8	8.2	72.2	10	4	6	2	1	1	3	4	.....	.....	.....	8	1.92	48.9
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1401	427	28.46	722.8	29.99	761.7	44.8	7.1	73.8	2	1	9	3	.....	1	4	7	4	.....	.....	8	1.74	44.3
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.98	761.4	30.00	762.0	46.0	7.8	83.2	3	1	3	3	1	5	6	9	.....	.....	.....	8	3.55	90.2
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m.	359	110	29.60	751.7	29.97	761.3	72.9	22.7	.....	1	1	4	15	5	.....	1	4	.....	.....	.....	4	0.29	7.4
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.78	756.4	29.83	757.7	84.4	29.1	76.9	.....	.....	.....	30	1	.....	.....	.....	.....	.....	.....	1	.....	.....
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.36	745.7	29.83	757.7	88.2	31.2	44.1	1	6	9	6	6	1	.....	2	.....	.....	.....	1	.....	.....
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.79	756.7	29.83	757.7	82.9	28.3	78.4	1	29	1	.....	.....	.....	.....	.....	.....	.....	.....	2	4.17	105.9
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.98	710.7	29.82	757.4	84.1	28.9	42.6	3	1	10	1	...	1	3	12	.....	.....	.....	5	2.53	64.3
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.30	693.4	29.82	757.4	79.3	26.3	55.1	1	3	11	2	.....	.....	1	13	.....	.....	.....	3	1.44	36.6
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.04	737.6	29.77	756.1	84.8	29.3	44.0	2	2	1	1	....	1	2	2	20	.....	.....	1	0.12	3.0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.89	733.8	29.78	756.4	82.7	28.2	47.8	1	10	6	1	.....	3	1	.....	9	.....	.....	1	.....	.....
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.24	742.7	29.79	756.7	89.4	31.9	39.7	.....	7	22	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	29.77	756.1	29.81	757.2	84.4	29.1	42.3	6	1	.....	.....	1	.....	3	3	17	.....	.....	2	0.44	11.2
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.48	723.4	29.83	757.7	84.8	29.3	50.8	3	2	1	.....	.....	.....	5	.....	20	.....	.....	1	0.11	2.8
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.42	747.3	29.79	756.7	86.4	30.2	38.5	2	1	12	2	1	.....	1	.....	12	.....	.....	1	0.10	2.5
Alahabad *a.*	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.48	748.8	29.79	756.7	79.5	26.4	67.4	.....	.....	1	2	2	.....	1	1	23	.....	.....	1	0.22	5.6
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.62	752.3	29.79	756.7	77.8	25.4	72.6	4	5	4	1	2	1	7	3	4	.....	.....	3	3.08	78.2
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.79	705.9	29.81	757.2	77.4	25.2	58.0	4	12	3	.....	2	2	3	.....	5	.....	.....	2	3.65	92.7
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.72	754.9	29.80	756.9	82.6	28.1	71.8	3	.....	3	2	.....	2	2	2	17	.....	.....	3	2.85	72.4
Calcutta	N. 22 33	E. 88 19	6.01 p.m.	21	7	29.77	756.1	29.79	756.7	80.5	26.9	79.6	3	.....	.....	1	2	1	6	.....	18	.....	.....	3	2.12	53.8
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.60	751.8	29.80	756.9	79.8	26.6	79.6	1	.....	.....	.....	.....	.....	1	1	28	.....	.....	2	0.63	16.0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.72	754.9	29.81	757.2	80.8	27.1	78.7	3	6	10	3	1	4	.....	1	3	.....	.....	4	.....	.....
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.47	748.5	29.81	757.2	79.5	26.4	85.6	1	.....	.....	2	.....	7	1	19	1	.....	.....	2	2.34	59.4
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.39	721.1	29.81	757.2	88.0	31.1	29.8	6	14	5	2	1	.....	.....	3	.....	.....	.....	2	.....	.....
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	22	7	29.94	760.5	.....	.....	82.7	28.2	64.6	1	3	3	1	5	11	4	2	1	.....	.....	5	3.12	79.2
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.49	749.1	29.90	759.4	55.0	12.8	61.7	.....	.....	.....	.....	1	1	10	5	13	.....	.....	8	6.83	173.4
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.39	746.6	29.91	759.6	54.9	12.7	72.0	2	1	2	8	3	3	7	5	.....	.....	.....	8	3.83	97.3
Padua	N. 45 24	E. 11 53	0.50 p.m.	102	31	29.78	756.5	29.89	759.2	55.9	13.3	69.4	11	1	.....	3	3	.....	3	10	.....	.....	.....	8	4.63	117.6
Moncalleri	N. 45 00	E. 7 42	0.39 p.m.	853	260	28.98	736.0	29.88	758.9	55.0	12.8	71.4	1	9	2	2	5	3	6	3	.....	.....	.....	7	2.09	53.0
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.67	753.7	29.87	758.6	60.4	15.8	57.8	12	.....	.....	3	1	5	3	7	.....	.....	.....	6	6.23	158.2
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	27.98	710.6	29.89	759.2	51.3	10.7	70.9	2	3	22	.....	.....	.....	2	2	.....	.....	.....	5	2.27	57.7
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.81	757.2	29.86	758.4	55.4	13.0	79.5	10	5	2	4	.....	3	3	4	.....	.....	.....	8	9.89	251.3
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.59	751.6	29.84	758.0	61.7	16.5	62.6	8	2	1	3	2	1	.....	4	.....	.....	.....	7	4.82	122.3
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.77*a*	756.2*a*	29.86*a*	758.4*a*	62.1	16.7	66.8	2	3	4	3	4	2	4	11	.....	.....	.....	7	9.34	237.2
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.67	753.6	29.84	758.0	65.1	18.4	64.0	7	3	3	11	2	3	1	1	.....	.....	.....	7	10.40	264.2
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.65	753.0	29.90	759.4	68.4	20.2	64.2	4	2	3	4	8	8	1	1	.....	.....	.....	6	3.15	79.9
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.82	757.4	29.91	759.7	65.5	18.6	64.5	.....	1	2	3	5	14	6	.....	.....	.....	.....	7	8.54	217.0
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.66*a*	753.4*a*	29.85*a*	758.1*a*	68.9*a*	20.5*a*	57.8*a*	6	11	3	3	3	6	1	.....	2	.....	.....	6*b*	3.51*b*	89.2*b*
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.65	753.0	29.89	759.2	71.6	22.0	53.0	1	2	4	9	1	.....	2	9	3	.....	.....	7	2.25	57.1
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.85	758.1	29.88	758.9	71.7	22.1	71.7	1	.....	7	10	4	3	5	1	.....	.....	.....	7	4.58	116.4
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.35	745.6	29.85	758.3	64.6	18.1	76.1	1	1	2	13	4	4	1	5	.....	.....	.....	7	5.85	148.7
Stelvio	N. 46 37	E. 10 26	0.50 p.m.	8343	2543	22.01	559.1	.....	.....	29.7	—1.3	74.9	1	.....	7	6	2	2	7	6	.....	.....	.....	8	1.52	38.7
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.04	559.8	.....	.....	31.5	—0.3	68.3	14	2	.....	.....	.....	4	10	1	.....	.....	.....	7	4.04	102.6
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.01	762.2	30.02	762.5	60.2	15.7	79.5	24	.....	2	.....	1	.....	.....	4	.....	.....	.....	5	4.30	109.2
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.88	758.9	30.06	763.5	56.6	13.7	88.4	2	23	3	1	.....	1	1	.....	.....	.....	.....	6	26.46	672.1
Nagasaki	N. 32 44	E. 129 51	8.47 p.m.	189	58	29.87	758.7	30.07	763.8	62.8	17.1	76.5	7	2	1	3	.....	.....	1	13	4	.....	.....	5	5.68	144.3
Nemuro	N. 38 21	E. 145 35	9.50 p.m.	58	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Neegata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.02	762.5	30.06	763.5	56.5	13.6	77.3	12	.....	1	3	1	8	4	2	.....	.....	.....	7	5.38	136.7
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	30.01	762.2	30.02	762.5	53.3	11.8	88.2	5	20	.....	2	1	.....	.....	2	1	.....	.....	5	3.22	81.8
Supporo	N. 43 04	E. 141 23	9.33 p.m.	61	19	29.85	758.2	29.92	760.0	45.1	7.3	85.7	1	3	6	1	5	8	3	.....	4	.....	.....	6	4.36	110.7
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.97	761.2	30.04	763.0	57.8	14.3	80.6	7	6	1	1	1	1	6	6	2	.....	.....	7	3.42	86.9
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.00	762.0	30.05	763.3	61.4	16.3	76.6	8	2	.....	1	2	.....	4	11	3	.....	.....	5	2.52	64.0
Mauritius Ser's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.94	760.5	30.13	765.3	75.0	23.9	60.3	.....	.....	.....	2	.....	1	20	8	.....	.....	.....	6	1.83	46.5
Mexican Series.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6683	2037	23.69	601.2	29.91	759.8	56.7	13.7	79.4	.....	.....	.....	1	.....	.....	4	6	20	.....	.....	4	2.11	53.5
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.44	620.7	30.18	766.5	59.0	15.1	85.0	8	3	3	8	2	1	2	4	.....	.....	.....	4	0.94	24.1
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.65	753.2	29.91	759.7	77.0	25.0	88.0	3	1	.....	.....	.....	4	8	13	2	.....	.....	.....	2.40	61.0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.12	587.2	30.16	766.1	55.4	12.2	83.0	2	8	3	1	1	.....	.....	1	15	.....	.....	6	1.47	37.3
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.14	613.4	30.19	766.7	58.4	14.5	77.0	1	1	.....	5	3	9	2	10	.....	.....	.....	4	1.02	26.0
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.95	608.3	30.16	766.0	58.2	14.5	84.0	5	4	2	3	.....	.....	.....	.....	17	.....	.....	5	3.52	89.3
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.42	595.0	30.20	767.2	53.8	12.2	73.0	3	2	.....	.....	.....	.....	.....	.....	26	.....	.....	4	0.84	21.4
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
NETHERLAND SERIES.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.00	761.9	30.00	761.9	50.0	10.0	.....	3	1	5	3	1	1	4	13	.....	.....	.....	.....	2.94	74.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.94	760.5	30.00	761.9	47.8	8.8	.....	1	4	3	2	1	.....	8	12	.....	.....	.....	.....	2.44	62.1
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.99	761.8	29.99	761.8	46.8	8.2	.....	1	2	5	4	.....	1	5	13	.....	.....	.....	.....	2.31	58.6
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.98	761.6	29.98	761.6	48.0	8.9	77.9	.....	2	4	4	1	.....	4	16	.....	.....	.....	.....	2.13	54.1
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.95	760.8	30.00	762.0	48.2	9.0	71.3	4	2	5	3	1	.....	4	12	.....	.....	.....	6	1.89	47.9
NORWEGIAN SERIES.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.96	761.0	30.02	762.6	45.7	7.6	65.3	3	5	.....	.....	4	4	1	2	12	.....	.....	4	5.04	127.9
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.91	759.8	30.06	763.6	43.2	6.2	63.0	6	1	.....	3	5	2	5	7	2	.....	.....	6	1.13	28.7
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.85	758.3	29.88	759.9	37.4	3.0	.....	2	3	4	6	1	4	3	3	5	.....	.....	9	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.95	760.6	29.99	761.8	41.4	5.2	74.8	5	1	3	9	.....	2	.....	9	2	.....	.....	6	2.84	72.2
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.00	761.9	30.15	765.8	65.1	18.4	77.4	1	7	4	3	1	2	5	6	2	.....	.....	4	2.39	60.7
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.98	736.0	29.96	761.0	65.7	18.7	55.5	4	1	10	5	4	.....	3	4	.....	.....	.....	7	3.07	77.9
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.04	763.0	30.13	765.2	72.5	22.5	58.4	.....	.....	4	16	1	3	3	2	2	.....	.....	6	0.52	13.2
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.67	753.5	30.02	762.5	64.4	18.0	61.1	7	4	3	6	5	.....	2	4	.....	.....	.....	5	2.77	70.3
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.10	764.6	30.17	766.4	68.4	20.2	66.4	1	6	3	3	1	.....	.....	10	7	.....	.....	4	2.39	60.0
RUSSIAN SERIES.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	28.96	735.5	30.06	763.6	41.7	5.4	67.3	...	1	3	11	5	2	6	3	.....	.....	.....	4	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	30.01	762.3	30.03	762.8	36.5	2.5	84.5	3	5	5	3	8	4	.....	2	1	.....	.....	9	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	30.20	767.0	30.11	764.9	55.0	12.8	52.7	4	1	3	1	4	3	10	3	2	.....	.....	6	.....	.....
Barnaul ‡	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.61	752.1	30.12	765.1	38.5	3.6	66.0	.....	.....	4	12	1	.....	.....	1	13	.....	.....	7	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.87	758.6	30.11	764.9	41.7	5.4	74.5	3	3	.....	6	7	1	2	9	.....	.....	.....	8	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	29.07	738.3	30.07	763.8	36.5	2.5	67.5	3	3	3	10	1	7	.....	.....	4	.....	.....	7	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.84	757.9	30.11	764.9	40.6	4.8	64.0	4	2	3	6	5	6	1	1	3	.....	.....	7	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	30.01	762.2	30.03	762.7	55.9	13.3	80.3	3	3	1	1	2	5	2	4	10	.....	.....	6	2.20	55.8
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.37	745.9	30.02	762.4	45.0	7.2	69.4	7	2	2	.....	2	3	7	8	.....	.....	.....	7	.....	.....
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.88	758.9	30.08	764.1	51.3	10.7	61.2	2	.....	2	4	3	3	12	5	.....	.....	.....	6	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.56	750.8	30.05	763.2	43.0	6.1	66.6	3	4	.....	1	14	4	1	.....	4	.....	.....	6	.....	.....
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.98	761.5	30.05	763.3	53.6	12.0	72.9	4	.....	.....	1	8	4	2	5	7	.....	.....	7	.....	.....
Nikolaievsk ..... *b*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.79	754.5	29.79	756.7	34.5	1.4	84.0	.....	1	5	.....	.....	.....	5	.....	17	.....	.....	7	2.32	59.0
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	29.98	761.6	30.13	765.2	55.2	12.9	60.4	.....	3	.....	3	...	1	.....	1	23	.....	.....	3	0.20	5.0
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	30.08	764.0	30.10	764.4	39.7	4.3	83.1	5	4	2	2	5	5	1	7	.....	.....	.....	9	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	28.56	725.4	30.13	765.4	56.3	13.5	74.1	.....	4	.....	.....	.....	.....	.....	.....	27	.....	.....	4	2.39	60.7
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.67	728.2	30.07	763.7	64.2	17.9	50.5	3	9	1	1	4	10	2	1	.....	.....	.....	4	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.61	752.1	30.04	763.0	45.0	7.2	67.7	7	2	1	4	3	3	5	6	.....	.....	.....	7	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	387	118	29.68	753.8	30.11	764.8	43.7	6.5	66.5	4	2	1	5	5	5	2	4	3	.....	.....	7	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	29.78	756.5	30.08	764.0	30.0	—1.1	78.2	.....	2	12	5	5	1	3	3	.....	.....	.....	4	.....	.....
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	30.05	763.3	49.2	9.6	73.9	1	3	7	1	.....	7	9	3	.....	.....	.....	7	2.13	54.1
Monach L. hou se	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.97	761.2	50.5	10.3	92.7	2	1	2	3	12	4	4	3	.....	.....	.....	8	3.00	76.2
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.79	756.6	29.89	759.1	64.2	17.9	65.0	.....	.....	7	4	2	6	8	4	.....	.....	.....	4	3.29	83.5
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.93	760.3	29.99	761.7	64.0	17.8	64.0	1	5	4	1	3	11	1	5	.....	.....	.....	7	2.61	66.4
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.04	686.7	.....	.....	54.0	12.2	79.1	4	1	1	7	4	.....	1	13	.....	.....	.....	5	2.20	55.8
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.75	704.9	29.95	760.8	61.5	16.4	61.9	3	.....	2	12	5	4	2	3	.....	.....	.....	5	1.48	37.6
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.81	757.1	29.96	760.9	72.5	22.5	59.6	.....	8	5	3	6	.....	5	4	.....	.....	.....	6	6.73	171.0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.02	737.1	29.90	759.5	60.3	15.7	72.5	7	1	3	7	2	5	1	5	.....	.....	.....	7	8.18	207.7
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.95	760.6	30.01	762.3	75.5	24.2	84.7	1	.....	.....	.....	.....	2	22	.....	6	.....	.....	3	2.08	52.9
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.80	756.9	29.81	757.2	81.3	27.4	82.9	4	.....	6	5	6	6	1	3	.....	.....	.....	7	6.14	156.0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.94	760.5	30.04	762.9	68.0	20.0	71.4	2	.....	8	8	6	3	1	.....	3	.....	.....	7	4.60	116.9
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.86	758.5	29.95	760.8	79.0	26.1	90.0	.....	1	.....	.....	.....	2	3	2	20	.....	.....	7	15.67	398.0
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.68	753.8	29.81	757.2	77.5	25.3	87.4	1	18	.....	1	6	3	1	1	.....	.....	.....	7	5.97	151.7
SWEDISH SERIES.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	30.05	763.3	30.09	764.3	37.2	2.9	81.0	6	1	1	8	2	3	.....	8	2	.....	.....	7	1.84	46.8
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.04	762.9	30.09	764.2	40.1	4.5	80.0	9	2	.....	5	6	1	1	5	2	.....	.....	7	4.24	107.6
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	30.05	763.2	30.10	764.5	41.7	5.4	69.0	8	2	.....	4	9	.....	2	4	2	.....	.....	6	2.09	53.1
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.89	759.3	30.07	763.8	43.0	6.1	75.0	4	4	.....	7	4	1	2	9	.....	.....	.....	8	1.26	32.0
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.97	761.2	30.03	762.7	45.0	7.2	76.0	1	2	2	11	.....	.....	6	9	.....	.....	.....	6	2.94	74.7
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.96	761.0	30.05	763.2	41.9	5.5	76.4	6	5	.....	2	7	2	3	6	.....	.....	.....	7	1.02	25.8
SWISS SERIES.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.54	724.8	29.97	761.3	49.5	9.7	66.3	13	3	.....	1	4	2	1	7	.....	.....	.....	7	4.18	106.2
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.33	719.6	29.99	761.8	45.5	7.5	78.9	1	1	9	1	.....	.....	5	5	9	.....	.....	7	2.32	59.0
TURKISH SERIES.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.00	762.0	65.1	18.4	65.1	7	.....	1	13	.....	.....	.....	7	3	.....	.....	6	1.59	40.4
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	29.99	761.8	67.6	19.8	.....	.....	1	14	10	4	2	.....	.....	.....	.....	.....	5	6.50	165.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.95	760.8	79.2	26.2	60.2	10	5	7	6	.....	.....	.....	3	.....	.....	.....	3	1.38	35.1

‖ Below sea level.

Result of Simultaneous Observations for October, 1881.

Stations.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Altitude: Met'rs	Mean Barometer Actual: Inch.	Actual: Mill.	Reduced: Inch.	Reduced: Mill.	Mean Temperature: Fah.	Cent.	Mean Rel. Humidity.	Wind Directions: N	NW	W	SW	S	SE	E	NE	C	Total Movement: Miles	Kil.	Average Cloudiness 0–10	Total Precipitation: Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.09	764.3	30.17	766.3	52.0	11.1	68.7	4	5	5	6	9	……	1	1	……	3943	6346	6	3.19	81.0
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.44	747.8	30.13	765.3	42.3	5.7	87.6	……	12	8	4	1	2	2	1	1	6863	11045	3	10.25	260.3
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	29.01	736.8	30.23	767.8	60.6	15.9	84.3	……	7	1	1	……	1	17	4	……	6779	10910	4	3.44	87.4
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.18	766.6	30.19	766.8	58.2	14.6	83.7	6	3	2	12	4	2	1	……	1	6915	11128	5	3.03	77.0
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	30.02	762.5	30.22	767.6	64.2	17.9	81.3	……	1	1	……	4	2	5	9	9	2628	4229	4	2.33	59.2
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.15	765.8	30.20	767.1	58.0	14.4	75.3	6	1	4	6	4	2	3	3	2	3456	5562	5	4.06	103.1
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.15	765.8	30.17	766.3	57.7	14.3	82.2	5	4	2	14	2	1	2	1	……	9120	14677	6	4.35	110.5
Bismarck	N. 46 48	W.100 38	5.26 a.m.	1693	516	28.23	717.0	30.15	765.8	32.2	0.1	81.6	6	7	……	……	……	3	7	1	7	6357	10230	5	0.51	13.0
Boise City	N. 43 46	W.116 06	4.24 a.m.	2750	838	27.21	691.1	30.13	765.3	36.9	2.7	82.2	1	8	8	……	1	1	4	3	5	3216	5176	6	2.12	53.8
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	30.00	762.0	30.16	766.1	49.4	9.7	77.4	3	5	8	7	1	1	2	2	2	7386	11886	3	2.84	72.1
Brackettville	N. 29 17	W.100 51	5.27 a.m.	1170	356	28.87	733.3	29.90	759.4	65.9	19.4	93.3	1	……	……	……	……	2	19	2	7	4881	7855	8	16.17	410.7
Brownsville *b*	N. 26 00	W. 97 30	5.38 a.m.	43	13	29.94	760.5	29.99	761.7	74.8	23.8	93.6	5	……	……	……	1	9	1	5	8	4132	6650	3	8.72	221.5
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.40	746.7	30.14	765.5	51.1	10.6	76.7	1	5	4	5	3	4	2	6	1	4961	7984	4	7.33	186.2
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.84	757.9	30.14	765.5	45.2	7.3	79.3	5	4	1	2	14	1	3	1	……	6823	10980	5	1.54	39.1
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.76	755.9	30.17	766.3	59.5	15.3	85.9	2	2	……	7	10	3	3	4	……	5554	8938	6	2.74	69.6
Campo	N. 32 22	W.116 08	4.22 a.m.	2500	762	27.40	695.9	29.97	761.2	34.3	1.3	82.3	……	6	7	……	12	4	1	……	1	3532	5684	1	0.73	18.5
Camp Thomas *n.*	N. 32 04	W.110 06	4.49 a.m.	2710	826	27.25	692.1	……	……	41.5	5.3	79.9	……	……	……	……	……	1	2	……	14	……	……	3	0.40	10.2
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.18	766.6	30.20	767.1	63.8	17.7	77.2	5	1	……	10	10	1	1	3	……	8659	13935	5	3.48	88.4
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.15	765.8	30.18	766.6	60.0	15.6	79.9	4	4	1	9	7	2	……	4	……	11256	18114	4	4.53	115.1
Castroville *a*	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.23	742.4	29.92	760.0	67.2	19.6	79.4	3	4	1	……	4	13	3	……	2	3740	6019	7	4.85	123.2
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.10	764.5	30.12	765.0	71.3	21.8	83.8	5	1	……	1	1	4	2	17	……	7147	11502	2	1.25	31.7
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.27	743.4	30.07	763.8	53.1	11.7	86.3	3	3	1	8	4	6	……	5	1	8263	13298	6	5.77	146.6
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.12	765.0	30.18	766.6	68.5	20.3	85.4	5	5	3	2	2	1	1	12	……	5669	9123	4	1.59	40.4
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.33	745.0	30.24	768.1	59.9	15.5	80.8	8	1	2	2	6	3	1	6	2	3476	5594	4	2.09	68.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.38	746.2	30.23	767.8	59.6	15.3	86.8	4	1	2	2	2	5	1	3	11	3571	5747	5	5.07	128.8
Cheyenne	N. 41 12	W.104 42	5.09 a.m.	6089	1856	24.04	610.6	30.17	766.3	34.5	1.4	66.4	4	11	9	1	1	……	2	2	1	6559	10556	1	0.88	22.4
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.37	746.0	30.11	764.8	53.2	11.8	83.8	4	2	2	8	4	1	3	5	2	5768	9283	6	6.89	175.0
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.18	766.6	30.20	767.1	62.7	17.1	83.8	5	5	2	11	4	2	1	1	……	11054	17789	4	3.52	89.4
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.50	749.3	30.18	766.6	58.9	14.9	82.5	1	2	2	7	5	6	2	4	2	3940	6341	5	6.01	152.7
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.40	746.7	30.17	766.3	53.8	12.1	78.4	5	1	2	1	8	11	2	1	……	7175	11547	4	5.79	147.1
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	……	……	……	……	……	……	……	……	……	……	……	……	……	……	……	……	……	……	……	……	……
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.28	743.7	30.18	766.6	55.1	12.8	81.0	6	1	3	3	9	1	6	1	1	5015	8071	6	8.64	219.5
Concho	N. 31 22	W.100 20	5.26 a.m.	1900	579	28.13	714.5	30.13	765.3	62.2	16.8	89.2	1	2	……	3	4	4	3	6	8	6938	11156	6	2.72	69.1
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.62	752.3	30.10	764.5	67.0	19.4	84.9	4	1	1	1	8	7	1	……	8	3733	6008	7	5.18	131.6
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.42	747.3	30.10	764.5	52.3	11.3	81.4	5	2	2	5	5	2	4	6	……	5940	9559	7	6.85	174.0
Dayton	N. 46 23	W.117 50	4.16 a.m.	1660	506	28.27	718.0	30.13	765.3	40.5	4.7	84.4	4	……	……	11	4	5	……	1	6	2587	4163	6	3.04	77.2
Deadwood	N. 44 22	W.103 34	5.14 a.m.	4600	1402	25.37	644.4	30.23	767.8	35.4	1.9	73.4	1	1	……	6	3	2	5	1	12	3612	5813	4	0.58	14.7
Decatur *e*	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.92*n*	734.6*n*	30.06*n*	763.5*n*	64.7	18.2	77.2	3	1	……	4	1	13	……	3	1	5780	9302	5	4.16	105.7
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.16	766.1	30.18	766.6	60.8	16.0	85.7	6	2	1	8	10	2	……	2	……	12222	19669	5	2.35	59.7
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.27	743.4	30.10	764.5	64.5	18.1	87.6	3	3	……	2	13	5	2	……	3	4359	7015	7	6.76	171.7
Denver	N. 39 45	W.105 04	5.08 a.m.	5294	1614	24.78	629.4	30.15	765.8	41.3	5.2	63.4	4	6	1	1	15	2	1	1	……	4751	7646	3	0.32	8.1
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.16	740.7	30.10	764.5	49.2	9.6	86.2	5	3	1	3	8	1	3	3	4	5086	8185	7	6.45	163.8
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.41	747.0	30.15	765.8	53.8	12.1	77.6	3	9	3	3	4	2	4	1	2	5476	8813	7	6.52	165.6
Dodge City	N. 37 39	W.100 08	5.27 a.m.	2512	766	27.43	696.7	30.12	765.0	49.6	9.8	90.4	4	5	……	4	8	4	……	5	1	9824	15810	5	2.19	55.6
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.34	745.2	30.08	764.0	48.6	9.2	83.1	5	3	4	1	8	3	3	3	1	3737	6014	7	6.70	170.2
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.36	745.7	30.09	764.3	41.5	5.3	80.8	3	8	6	5	……	……	1	5	3	4738	7625	6	3.77	95.8
Eagle Pass	N. 28 40	W.100 15	5.26 a.m.	780	238	29.25	742.9	30.10	764.5	68.4	20.2	90.1	2	3	1	……	1	15	1	5	3	3862	6215	6	6.54	166.1
Eagle Rock	N. 43 30	W.112 04	4.40 a.m.	4650	1415	25.27	641.8	30.26	768.6	28.2	—2.1	74.4	14	……	1	9	1	……	……	1	5	6957	11196	4	1.71	43.4
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	30.00	762.0	30.08	764.0	43.7	6.5	79.9	6	9	2	8	4	……	2	……	……	7562	12170	6	4.31	109.5
El Paso	N. 31 46	W.106 32	5.02 a.m.	3760	1146	26.27	667.2	30.11	764.8	55.4	13.0	69.5	2	7	1	……	……	……	4	12	5	3109	5003	4	1.45	36.8
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.39	746.5	30.15	765.8	54.7	12.6	78.4	4	1	2	3	11	3	……	3	4	5675	9133	7	5.75	146.0
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.41	747.0	30.09	764.3	42.3	5.7	86.3	4	8	5	3	3	3	2	1	2	5817	9361	7	6.13	155.7
Florence	N. 33 03	W.111 17	4.43 a.m.	1480	451	28.43	722.1	30.03	762.7	55.9	13.3	68.4	1	2	13	2	……	2	5	4	2	1778	2861	3	1.13	28.7
Fort Apache	N. 33 47	W.109 58	4.49 a.m.	5050	1539	25.04	636.0	30.08	764.0	42.1	5.6	83.6	1	……	……	1	2	1	18	7	1	4336	6978	3	4.68	118.9
Fort Assinnaboine	N. 48 37	W.109 43	4.49 a.m.	2710	826	27.23	691.6	30.17	766.3	26.2	—3.2	79.8	……	……	1	12	2	……	……	7	9	5918	9524	5	0.75	19.0
Fort Bennett *e*	N. 44 42	W.100 38	5.26 a.m.	1510	457	28.52	724.4	30.12	765.0	36.1	2.3	84.1	6	2	3	……	……	7	1	4	3	4442	7149	5	1.00	25.4
Fort Benton	N. 47 51	W.110 40	4.45 a.m.	2700	823	27.25	692.1	30.23	767.8	25.6	—3.6	75.6	1	……	2	3	1	1	1	3	19	4389	7063	6	1.94	49.3
Fort Buford	N. 48 03	W.103 58	5.12 a.m.	1900	579	28.08	713.2	30.19	766.8	30.5	—0.8	81.5	3	6	4	1	2	2	3	7	3	4751	7646	5	0.39	9.9
Fort Custer	N. 45 48	W.107 38	4.58 a.m.	3040	927	26.87	682.5	30.26	768.6	33.9	1.1	71.8	14	3	……	3	6	……	1	1	3	4827	7768	5	0.80	20.3
Fort Davis	N. 30 30	W.103 45	5.13 a.m.	4940	1506	25.02	635.5	29.98	761.5	54.6	12.6	80.7	1	……	6	2	5	6	5	5	1	4567	7350	3	4.47	113.5
Fort Elliott	N. 35 31	W.100 27	5.28 a.m.	2650	808	29.30	744.2	30.60	777.2	52.5	11.4	69.8	3	2	1	1	4	10	1	……	9	8498	13676	3	0.69	17.5
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.50	749.3	30.07	763.8	60.6	15.9	87.5	2	1	3	……	7	8	5	1	4	5525	8891	6	6.67	169.4
Fort Grant *a*	N. 32 25	W.109 56	4.49 a.m.	4860	1481	……	……	……	……	53.3	11.8	67.4	6	1	……	1	2	1	2	14	3	4784	7699	3	1.02	25.9
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.77	730.7	30.01	762.2	63.5	17.5	85.3	3	1	……	2	……	7	6	1	11	5171	8322	6	2.54	64.5
Fort Keogh	N. 46 17	W.105 55	5.05 a.m.	2372	723	27.54	699.5	30.21	767.3	34.1	1.2	76.8	2	2	5	5	1	2	4	5	5	5660	9109	5	0.40	11.7
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.18	766.6	30.19	766.8	66.7	19.3	86.1	12	3	3	4	2	4	1	2	……	8988	14464	5	3.75	95.2
Fort McKavett *d.*	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.85	707.4	29.75	755.6	63.4	17.4	83.7	……	1	1	5	4	5	8	3	……	……	……	5	7.21	183.1
Fort Missoula	N. 46 50	W.114 01	4.32 a.m.	3140	957	26.74	679.2	30.39	771.9	34.2	1.2	89.5	1	5	3	4	……	3	1	7	7	2677	4308	7	1.06	26.9
Fort St. Michael	N. 63 48	W.162 00	1.20 a.m.	30	9	29.85	758.2	29.88	758.9	37.3	2.9	87.4	3	2	……	1	8	7	4	6	……	5842	9402	7	2.14	54.4
Fort Shaw	N. 47 29	W.111 46	4.41 a.m.	3550	1082	26.40	670.5	30.14	765.5	29.2	—1.6	82.5	1	3	8	7	1	……	1	8	2	5239	8431	6	1.57	39.9
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.82	732.0	30.11	764.8	59.5	15.3	91.2	8	1	……	2	13	4	……	1	2	9084	14619	7	1.74	44.2
Fort Stevenson	N. 47 36	W.101 23	5.22 a.m.	1750	534	28.22	716.8	30.18	766.6	32.1	0.1	83.5	7	7	2	……	3	5	4	1	2	5393	8679	5	1.26	32.0
Fort Verde *a*	N. 34 24	W.111 53	4.38 a.m.	?	?	……	……	……	……	46.2	7.9	65.2	4	8	8	2	3	3	……	2	……	……	……	2	0.20	5.1
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.32	719.3	29.85	758.2	64.7	18.2	92.4	1	4	……	7	5	3	6	1	4	4237	6819	6	3.38	85.9
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	30.01	762.2	30.05	763.3	74.6	23.7	82.5	2	3	……	2	0	10	2	5	1	8575	13800	6	10.38	263.6
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.42	747.3	30.12	765.0	49.4	9.7	83.6	1	1	1	1	6	3	9	5	4	6777	10906	7	7.87	199.9
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.18	766.6	30.20	767.1	68.7	20.4	78.8	8	……	1	5	4	4	……	8	1	11199	17023	5	6.26	159.0
Helena	N. 46 33	W.112 02	4.40 a.m.	4100	1250	25.80	655.3	30.39	771.9	33.3	0.7	84.6	……	7	……	……	18	2	……	……	4	3835	6172	5	2.04	51.8
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.08	738.6	29.96	761.0	64.0	17.8	77.4	4	1	……	1	18	5	……	……	2	6793	10932	4	2.38	60.5
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.65	727.7	30.11	764.8	37.0	2.8	83.5	6	9	2	……	……	10	1	2	1	7931	12764	4	2.10	53.3
Indianapolis	N. 39 47	W. 86 00	6.24 a.m.	753	229	29.31	744.5	30.14	765.5	55.9	13.3	84.4	4	1	1	3	8	5	2	4	3	3940	6341	6	6.11	155.2
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.01	762.2	30.04	763.0	74.1	23.4	85.9	6	2	1	……	4	12	1	4	1	9809	15786	5	5.04	128.0
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.89	733.8	30.00	762.0	62.5	16.9	88.8	3	1	4	5	8	6	3	1	……	5559	8946	5	3.17	80.5
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.09	764.3	30.13	765.6	70.9	21.6	84.1	2	1	……	1	3	3	2	19	……	5835	9390	3	2.87	72.9
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.40	746.7	30.08	764.0	53.1	11.7	88.4	2	2	3	5	5	5	3	5	1	6111	9835	7	8.01	203.5
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.01	762.2	30.04	763.0	77.8	25.4	81.1	1	……	1	……	1	3	13	11	1	7727	12435	4	1.99	50.5
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.19	766.8	30.21	767.3	65.8	18.8	82.2	1	2	3	5	2	6	6	5	1	11091	17849	5	5.55	141.0
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.19	741.4	30.26	768.6	55.9	13.3	92.1	4	1	2	2	2	2	2	8	8	3124	5028	5	5.14	130.6
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.28	743.7	30.08	764.0	49.1	9.5	76.9	5	2	3	3	8	4	……	3	3	5619	9043	7	7.56	192.0
La Mesilla	N. 32 17	W.106 48	5.01 a.m.	3900	1189	26.14	663.9	30.29	769.4	52.3	11.3	83.3	2	……	……	……	1	1	……	……	27	1217	1959	3	2.14	54.4
Laredo *f*	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.56	750.8	29.90	759.4	69.0	20.6	87.2	4	1	……	1	1	8	1	3	6	2516	4049	6	5.49	139.4
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.17	740.9	30.10	764.5	53.6	12.0	81.5	5	4	1	2	8	3	2	2	4	5137	8267	6	5.73	145.5
Lewiston	N. 46 25	W.116 59	4.20 a.m.	780	238	29.20	741.7	30.08	764.0	42.9	6.1	75.6	1	……	3	2	……	……	5	4	16	1451	2335	7	1.52	38.6
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.77	756.1	30.09	764.3	62.4	16.9	90.6	2	3	……	1	6	3	2	5	9	3459	5567	5	4.69	119.1
Los Angeles	N. 34 03	W.118 16	4.15 a.m.	371	113	29.61	752.1	29.99	761.7	51.7	10.9	80.9	……	……	2	8	12	7	1	1	……	3846	6190	3	0.82	20.8
Louisville	N. 38 18	W 85 52	6.25 a.m.	530	162	29.56	750.8	30.14	765.5	59.5	15.3	83.5	5	……	1	4	8	4	2	3	4	5395	8682	3	3.44	87.4
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.50	749.3	30.22	767.6	59.1	15.1	76.4	……	1	……	1	……	1	……	3	25	1457	2345	3	4.09	103.9
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.05	737.9	30.12	765.0	47.7	8.7	88.6	5	3	3	3	5	3	4	5	……	7044	11336	7	9.12	231.6
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.34	745.2	30.10	764.5	42.4	5.8	76.9	2	9	5	5	7	1	2	……	……	6155	9905	7	3.71	94.2
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.42	721.9	30.15	765.8	65.1	18.4	85.6	2	3	3	1	5	7	4	1	5	5107	8219	6	2.68	68.1
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.80	756.9	30.15	765.8	63.0	17.2	81.6	2	……	1	……	4	7	1	3	13	2846	4580	6	3.22	81.8
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.33	745.0	30.11	764.8	49.1	9.5	87.3	6	4	1	5	6	3	……	3	3	7968	12823	8	6.04	153.4
Mobile	N. 30 42	W. 87 59	6.16 a.m.	69	21	30.05	763.3	30.12	765.0	68.0	20.0	86.5	8	6	2	1	2	2	8	2	……	5018	8076	5	3.23	82.0
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.93	760.2	30.17	766.3	64.6	18.1	84.6	3	4	4	……	……	4	14	2	……	3656	5884	5	2.72	69.1
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.07	738.4	30.13	765.3	33.2	0.7	89.2	11	4	3	1	3	5	1	3	……	8082	13006	6	2.75	69.8
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.16	740.7	30.15	765.8	54.4	12.4	85.3	4	……	1	8	1	……	1	1	15	3160	5085	5	4.55	115.6
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.76	603.5	30.13	765.3	28.0	—2.2	88.6	……	28	1	2	……	……	……	……	……	30501	49085	4	18.38	466.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	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.
NETHERLAND SERIES.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.00	761.9	30.00	761.9	50.0	10.0	.....	3	1	5	3	1	1	4	13	.....	.....	.....	.....	2.94	74.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.94	760.5	30.00	761.9	47.8	8.8	.....	1	4	3	2	1	.....	8	12	.....	.....	.....	.....	2.44	62.1
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.99	761.8	29.99	761.8	46.8	8.2	.....	1	2	5	4	.....	1	5	13	.....	.....	.....	.....	2.31	58.6
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.98	761.6	29.98	761.6	48.0	8.9	77.9	.....	2	4	4	1	.....	4	16	.....	.....	.....	.....	2.13	54.1
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.95	760.8	30.00	762.0	48.2	9.0	71.3	4	2	5	3	1	.....	4	12	.....	.....	.....	6	1.89	47.9
NORWEGIAN SERIES.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.96	761.0	30.02	762.6	45.7	7.6	65.3	3	5	.....	.....	4	4	1	2	12	.....	.....	4	5.04	127.9
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.91	759.8	30.06	763.6	43.2	6.2	63.0	6	1	.....	3	5	2	5	7	2	.....	.....	6	1.13	28.7
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.85	758.3	29.88	759.9	37.4	3.0	.....	2	3	4	6	1	4	3	3	5	.....	.....	9	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.95	760.6	29.99	761.8	41.4	5.2	74.8	5	1	3	9	.....	2	.....	9	2	.....	.....	6	2.84	72.2
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.00	761.9	30.15	765.8	65.1	18.4	77.4	1	7	4	3	1	2	5	6	2	.....	.....	4	2.39	60.7
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.98	736.0	29.96	761.0	65.7	18.7	55.5	4	1	10	5	4	.....	3	4	.....	.....	.....	7	3.07	77.9
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.04	763.0	30.13	765.2	72.5	22.5	58.4	.....	.....	4	16	1	3	3	2	2	.....	.....	6	0.52	13.2
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.67	753.5	30.02	762.5	64.4	18.0	61.1	7	4	3	6	5	.....	2	4	.....	.....	.....	5	2.77	70.3
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.10	764.6	30.17	766.4	68.4	20.2	66.4	1	6	3	3	1	.....	.....	10	7	.....	.....	4	2.39	60.0
RUSSIAN SERIES.																										
Akmolinski	N. 51 03	E. 71 22	4.54 p.m.	?	?	28.96	735.5	30.06	763.6	41.7	5.4	67.3	....	1	3	11	5	2	6	3	.....	.....	.....	4	.....	.....
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	30.01	762.3	30.03	762.8	36.5	2.5	84.5	3	5	5	3	8	4	.....	2	1	.....	.....	9	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖72	‖22	30.20	767.0	30.11	764.9	55.0	12.8	52.7	4	1	3	1	4	3	10	3	2	.....	.....	6	.....	.....
Barnaul ‡	N. 53 20	E. 83 47	5.45 p.m.	482	147	29.61	752.1	30.12	765.1	38.5	3.6	66.0	.....	.....	4	12	1	.....	.....	1	13	.....	.....	7	.....	.....
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.87	758.6	30.11	764.9	41.7	5.4	74.5	3	3	.....	6	7	1	2	9	.....	.....	.....	8	.....	.....
Ekaterinburg	N. 56 49	E. 60 35	4.11 p.m.	876	267	29.07	738.3	30.07	763.8	36.5	2.5	67.5	3	3	3	10	1	7	.....	.....	4	.....	.....	7	.....	.....
Kasan	N. 55 47	E. 49 08	3.25 p.m.	249	76	29.84	757.9	30.11	764.9	40.6	4.8	64.0	4	2	3	6	5	6	1	1	3	.....	.....	7	.....	.....
Kertch	N. 45 21	E. 36 29	2.34 p.m.	20	6	30.01	762.2	30.03	762.7	55.9	13.3	80.3	3	3	1	1	2	5	2	4	10	.....	.....	6	2.20	55.8
Kieff	N. 50 26	E. 30 31	2.10 p.m.	600	183	29.37	745.9	30.02	762.4	45.0	7.2	69.4	7	2	2	.....	2	3	7	8	.....	.....	.....	7	.....	.....
Lugan	N. 48 35	E. 39 20	2.46 p.m.	187	57	29.88	758.9	30.08	764.1	51.3	10.7	61.2	2	.....	2	4	3	3	12	5	.....	.....	.....	6	.....	.....
Moscow	N. 55 46	E. 37 40	2.39 p.m.	512	156	29.56	750.8	30.05	763.2	43.0	6.1	66.6	3	4	.....	1	14	4	1	.....	4	.....	.....	6	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.98	761.5	30.05	763.3	53.6	12.0	72.9	4	.....	.....	1	8	4	2	5	7	.....	.....	7	.....	.....
Nikolaievsk *b*	N. 53 08	E. 140 45	9.31 p.m.	59	18	29.70	754.5	29.79	756.7	34.5	1.4	84.0	.....	1	5	.....	.....	.....	5	.....	17	.....	.....	7	2.32	59.0
Pekin	N. 39 57	E. 116 29	7.54 p.m.	125	38	29.98	761.6	30.13	765.2	55.2	12.9	60.4	.....	3	.....	3	...	1	.....	1	23	.....	.....	3	0.20	5.0
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	16	5	30.08	764.0	30.10	764.4	39.7	4.3	83.1	5	4	2	2	5	5	1	7	.....	.....	.....	9	.....	.....
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1621	494	28.56	725.4	30.13	765.4	56.3	13.5	74.1	.....	4	.....	.....	.....	.....	.....	.....	27	.....	.....	4	2.39	60.7
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1342	409	28.67	728.2	30.07	763.7	64.2	17.9	50.5	3	9	1	1	4	10	2	1	.....	.....	.....	4	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	394	120	29.61	752.1	30.04	763.0	45.0	7.2	67.7	7	2	1	4	3	3	5	6	.....	.....	.....	7	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	387	118	29.68	753.8	30.11	764.8	43.7	6.5	66.5	4	2	1	5	5	5	2	4	3	.....	.....	7	.....	.....
Yeniseisk	N. 58 27	E. 92 09	6.16 p.m.	128	39	29.78	756.5	30.08	764.0	30.0	—1.1	78.2	.....	2	12	5	5	1	3	3	.....	.....	.....	4	.....	.....
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	30.05	763.3	49.2	9.6	73.9	1	3	7	1	.....	7	9	3	.....	.....	.....	7	2.13	54.1
Monach L. hou se	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.97	761.2	50.5	10.3	92.7	2	1	2	3	12	4	4	3	.....	.....	.....	8	3.00	76.2
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.79	756.6	29.89	759.1	64.2	17.9	65.0	.....	.....	7	4	2	6	8	4	.....	.....	.....	4	3.29	83.5
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.93	760.3	29.99	761.7	64.0	17.8	64.0	1	5	4	1	3	11	1	5	.....	.....	.....	7	2.61	66.4
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.04	686.7	.....	.....	54.0	12.2	79.1	4	1	1	7	4	.....	1	13	.....	.....	.....	5	2.20	55.8
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.75	704.9	29.95	760.8	61.5	16.4	61.9	3	.....	2	12	5	4	2	3	.....	.....	.....	5	1.48	37.6
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.81	757.1	29.96	760.9	72.5	22.5	59.6	.....	8	5	3	6	.....	5	4	.....	.....	.....	6	6.73	171.0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.02	737.1	29.90	759.5	60.3	15.7	72.5	7	1	3	7	2	5	1	5	.....	.....	.....	7	8.18	207.7
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.95	760.6	30.01	762.3	75.5	24.2	84.7	1	.....	.....	.....	.....	2	22	.....	6	.....	.....	3	2.08	52.9
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.80	756.9	29.81	757.2	81.3	27.4	82.9	4	.....	6	5	6	6	1	3	.....	.....	.....	7	6.14	156.0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.94	760.5	30.04	762.9	68.0	20.0	71.4	2	.....	8	8	6	3	1	.....	3	.....	.....	7	4.60	116.9
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.86	758.5	29.95	760.8	79.0	26.1	90.0	.....	1	.....	.....	2	3	2	3	20	.....	.....	7	15.67	398.0
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.68	753.8	29.81	757.2	77.5	25.3	87.4	1	18	.....	1	6	3	1	1	.....	.....	.....	7	5.97	151.7
SWEDISH SERIES.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	30.05	763.3	30.09	764.3	37.2	2.9	81.0	6	1	1	8	2	3	.....	8	2	.....	.....	7	1.84	46.8
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.04	762.9	30.09	764.2	40.1	4.5	80.0	9	2	.....	5	6	1	1	5	2	.....	.....	7	4.24	107.6
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	30.05	763.2	30.10	764.5	41.7	5.4	69.0	8	2	.....	4	9	.....	2	4	2	.....	.....	6	2.09	53.1
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.89	759.3	30.07	763.8	43.0	6.1	75.0	4	4	.....	7	4	1	2	9	.....	.....	.....	8	1.26	32.0
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.97	761.2	30.03	762.7	45.0	7.2	76.0	1	2	2	11	.....	.....	6	9	.....	.....	.....	6	2.94	74.7
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.96	761.0	30.05	763.2	41.9	5.5	76.4	6	5	.....	2	7	2	3	6	.....	.....	.....	7	1.02	25.8
SWISS SERIES.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.54	724.8	29.97	761.3	49.5	9.7	66.3	13	3	.....	1	4	2	1	7	.....	.....	.....	7	4.18	106.2
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.33	719.6	29.99	761.8	45.5	7.5	78.9	1	1	9	1	.....	.....	5	5	9	.....	.....	7	2.32	59.0
TURKISH SERIES.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.00	762.0	65.1	18.4	65.1	7	.....	1	13	.....	.....	.....	7	3	.....	.....	6	1.59	40.4
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	29.99	761.8	67.6	19.8	.....	.....	1	14	10	4	2	.....	.....	.....	.....	.....	5	6.50	165.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.95	760.8	79.2	26.2	60.2	10	5	7	6	.....	.....	.....	3	.....	.....	.....	3	1.38	35.1

‖ Below sea level.

Result of Simultaneous Observations for October, 1881.

Stations.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Met'rs	Mean Barometer, Actual: Inch.	Actual: Mill.	Reduced: Inch.	Reduced: Mill.	Mean Temperature: Fah.	Cent.	Mean Rel. Humidity.	Wind Directions: N	NW	W	SW	S	SE	E	NE	C	Total Movement: Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation: Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.09	764.3	30.17	766.3	52.0	11.1	68.7	4	5	5	6	9	......	1	1	......	3943	6346	6	3.19	81.0
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.44	747.8	30.13	765.3	42.3	5.7	87.6	.....	12	8	4	1	2	2	1	1	6863	11045	3	10.25	260.3
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	29.01	736.8	30.23	767.8	60.6	15.9	84.3	.....	7	1	1	......	1	17	4	......	6779	10910	4	3.44	87.4
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.18	766.6	30.19	766.8	58.2	14.6	83.7	6	3	2	12	4	2	1	......	1	6915	11128	5	3.03	77.0
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	30.02	762.5	30.22	767.6	64.2	17.9	81.3	.....	1	1	......	4	2	5	9	9	2628	4229	4	2.33	59.2
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.15	765.8	30.20	767.1	58.0	14.4	75.3	6	1	4	6	4	2	3	3	2	3456	5562	5	4.06	103.1
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.15	765.8	30.17	766.3	57.7	14.3	82.2	5	4	2	14	2	1	2	1	......	9120	14677	6	4.35	110.5
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.23	717.0	30.15	765.8	32.2	0.1	81.6	6	7	......	......	......	3	7	1	7	6357	10230	5	0.51	13.0
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.21	691.1	30.13	765.3	36.9	2.7	82.2	1	8	8	......	1	1	4	3	5	3216	5176	6	2.12	53.8
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	30.00	762.0	30.16	766.1	49.4	9.7	77.4	3	5	8	7	1	1	2	2	2	7386	11886	3	2.84	72.1
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	356	28.87	733.3	29.90	759.4	66.9	19.4	93.3	1	......	......	......	......	2	19	2	7	4881	7855	8	16.17	410.7
Brownsville *b*	N. 26 00	W. 97 30	5.38 a.m.	43	13	29.94	760.5	29.99	761.7	74.8	23.8	93.6	5	......	......	......	1	9	1	5	8	4132	6650	3	8.72	221.5
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.40	746.7	30.14	765.5	51.1	10.6	76.7	1	5	4	5	3	4	2	6	1	4961	7984	4	7.33	186.2
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.84	757.9	30.14	765.5	45.2	7.3	79.3	5	4	1	2	14	1	3	1	......	6823	10980	5	1.54	39.1
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.76	755.9	30.17	766.3	59.5	15.3	85.9	2	2	......	7	10	3	3	4	......	5554	8938	6	2.74	69.6
Campo	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.40	695.9	29.97	761.2	34.3	1.3	82.3	.....	6	7	......	12	4	1	......	1	3532	5584	1	0.73	18.5
Camp Thomas *n*	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.25	692.1	......	......	41.5	5.3	79.9	.....	......	......	......	......	1	2	......	14	......	......	3	0.40	10.2
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.18	766.6	30.20	767.1	63.8	17.7	77.2	5	1	......	10	10	1	1	3	......	8659	13935	5	3.48	88.4
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.15	765.8	30.18	766.6	60.0	15.6	79.9	4	4	1	9	7	2	......	4	......	11256	18114	4	4.53	115.1
Castroville *a*	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.23	742.4	29.92	760.0	67.2	19.6	79.4	3	4	1	......	4	13	3	......	2	3740	6019	7	4.85	123.2
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.10	764.5	30.12	765.0	71.3	21.8	83.8	5	1	......	1	1	4	2	17	......	7147	11502	2	1.25	31.7
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.27	743.4	30.07	763.8	53.1	11.7	86.3	3	3	1	8	4	6	......	5	1	8263	13298	6	5.77	146.6
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.12	765.0	30.18	766.6	68.5	20.3	85.4	5	5	3	2	2	1	1	12	......	5669	9123	4	1.59	40.4
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.33	745.0	30.24	768.1	59.9	15.5	80.8	8	1	2	2	6	3	1	6	2	3476	5594	4	2.09	68.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.38	746.2	30.23	767.8	59.6	15.3	86.8	4	1	2	2	2	5	1	3	11	3571	5747	5	5.07	128.8
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	24.04	610.6	30.17	766.3	34.5	1.4	66.4	4	11	9	1	1	......	2	2	1	6559	10556	1	0.88	22.4
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.37	746.0	30.11	764.8	53.2	11.8	83.8	4	2	2	8	4	1	3	5	2	5768	9283	6	6.89	175.0
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.18	766.6	30.20	767.1	62.7	17.1	83.8	5	5	2	11	4	2	1	1	......	11054	17789	4	3.52	89.4
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.50	749.3	30.18	766.6	58.9	14.9	82.5	1	2	2	7	5	6	2	4	2	3940	6341	5	6.01	152.7
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.40	746.7	30.17	766.3	53.8	12.1	78.4	5	1	2	1	8	11	2	1	......	7175	11547	4	5.79	147.1
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......		......	......
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.28	743.7	30.18	766.6	55.1	12.8	81.0	6	1	3	3	9	1	6	1	1	5015	8071	6	8.64	219.5
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.13	714.5	30.13	765.3	62.2	16.8	89.2	1	2	......	3	4	4	3	6	8	6938	11156	6	2.72	69.1
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	29.62	752.3	30.10	764.5	67.0	19.4	84.9	4	1	1	1	8	7	1	......	8	3733	6008	7	5.18	131.6
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.42	747.3	30.10	764.5	52.3	11.3	81.4	5	2	2	5	5	2	4	6	......	5940	9559	7	6.85	174.0
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.27	718.0	30.13	765.3	40.5	4.7	84.4	4	......	......	11	4	5	......	1	6	2587	4163	6	3.04	77.2
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.37	644.4	30.23	767.8	35.4	1.9	73.4	1	1	......	6	3	2	5	1	12	3612	5813	4	0.58	14.7
Decatur *e*	N. 33 10	W. 97 30	5.38 a.m.	1150	350	28.92*n*	734.6*n*	30.06*n*	763.5*n*	64.7	18.2	77.2	3	1	......	4	1	13	......	3	1	5780	9302	5	4.16	105.7
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.16	766.1	30.18	766.6	60.8	16.0	85.7	6	2	1	8	10	2	......	2	......	12222	19669	5	2.35	59.7
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.27	743.4	30.10	764.5	64.5	18.1	87.6	3	3	......	2	13	5	2	......	3	4359	7015	7	6.76	171.7
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.78	629.4	30.15	765.8	41.3	5.2	63.4	4	6	1	1	15	2	1	1	......	4751	7646	3	0.32	8.1
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.16	740.7	30.10	764.5	49.2	9.6	86.2	5	3	1	3	8	1	3	3	4	5086	8185	7	6.45	163.8
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.41	747.0	30.15	765.8	53.8	12.1	77.6	3	9	3	3	4	2	4	1	2	5476	8813	7	6.52	165.6
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.43	696.7	30.12	765.0	49.6	9.8	90.4	4	5	......	4	8	4	......	5	1	9824	15810	5	2.19	55.6
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.34	745.2	30.08	764.0	48.6	9.2	83.1	5	3	4	1	8	3	3	3	1	3737	6014	7	6.70	170.2
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.36	745.7	30.09	764.3	41.5	5.3	80.8	3	8	6	5	......	......	1	5	3	4738	7625	6	3.77	95.8
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.25	742.9	30.10	764.5	68.4	20.2	90.1	2	3	1	......	1	15	1	5	3	3862	6215	6	6.54	166.1
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.27	641.8	30.26	768.6	28.2	—2.1	74.4	14	......	1	9	1	......	......	1	5	6957	11195	4	1.71	43.4
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	30.00	762.0	30.08	764.0	43.7	6.5	79.9	6	9	2	8	4	......	2	......		7592	12170	6	4.31	109.5
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.27	667.2	30.11	764.8	55.4	13.0	69.5	2	7	1	......	......	......	4	12	5	3109	5003	4	1.45	36.8
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.39	740.5	30.15	765.8	54.7	12.6	78.4	4	1	2	3	11	3	......	3	4	5675	9133	7	5.75	146.0
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.41	747.0	30.09	764.3	42.3	5.7	86.3	4	8	5	3	3	3	2	1	2	5817	9361	7	6.13	155.7
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.43	722.1	30.03	762.7	55.9	13.3	68.4	1	2	13	2	......	2	5	4	2	1778	2861	3	1.13	28.7
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.04	636.0	30.08	764.0	42.1	5.6	83.6	1	......	......	1	2	1	18	7	1	4336	6978	3	4.68	118.9
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.23	691.6	30.17	766.3	26.2	—3.2	79.8	.....	......	1	12	2	......	......	7	9	5918	9524	5	0.75	19.0
Fort Bennett *c*	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.52	724.4	30.12	765.0	36.1	2.3	84.1	6	2	3	......	......	7	1	4	3	4442	7149	5	1.00	25.4
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.25	692.1	30.23	767.8	25.6	—3.6	75.6	1	......	2	3	1	1	1	3	19	4389	7063	6	1.94	49.3
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.08	713.2	30.19	766.8	30.5	—0.8	81.5	3	6	4	1	2	2	3	7	3	4751	7646	5	0.39	9.9
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.87	682.5	30.26	768.6	33.9	1.1	71.8	14	3	......	3	6	......	1	1	3	4827	7768	5	0.80	20.3
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.02	635.5	29.98	761.5	54.6	12.6	80.7	1	......	6	2	5	6	5	5	1	4567	7350	3	4.47	113.5
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	29.30	744.2	30.60	777.2	52.5	11.4	69.8	3	2	1	1	4	10	1	......	9	8498	13676	3	0.69	17.5
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.50	749.3	30.07	763.8	60.6	15.9	87.5	2	1	3	....	7	8	5	1	4	5525	8891	6	6.67	169.4
Fort Grant *a*	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	......	......	......	......	53.3	11.8	67.4	6	1	......	1	2	1	2	14	3	4784	7699	3	1.02	25.9
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.77	730.7	30.01	762.2	63.5	17.5	85.3	3	1	......	2	......	7	6	1	11	5171	8322	6	2.54	64.5
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.54	699.5	30.21	767.3	34.1	1.2	76.8	2	2	5	5	1	2	4	5	5	5660	9109	5	0.40	11.7
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.18	766.6	30.19	766.8	66.7	19.3	86.1	12	3	3	4	2	4	1	2	......	8988	14464	5	3.75	95.2
Fort McKavett *d*	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.85	707.4	29.75	755.6	63.4	17.4	83.7	.....	1	1	5	4	5	8	3	......	......	......	5	7.21	183.1
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.74	679.2	30.39	771.9	34.2	1.2	89.5	1	5	3	4	......	3	1	7	7	2677	4308	7	1.06	26.9
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.85	758.2	29.88	758.9	37.3	2.9	87.4	3	2	......	1	8	7	4	6	......	5842	9402	7	2.14	54.4
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.40	670.5	30.14	765.5	29.2	—1.6	82.5	1	3	8	7	1	......	1	8	2	5239	8431	6	1.57	39.9
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.82	732.0	30.11	764.8	59.5	15.3	91.2	8	1	......	2	13	4	......	1	2	9084	14619	7	1.74	44.2
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.22	716.8	30.18	766.6	32.1	0.1	83.5	7	7	2	......	3	5	4	1	2	5393	8679	5	1.26	32.0
Fort Verde *a*	N. 34 24	W. 111 53	4.38 a.m.	?	?	......	......	......	......	46.2	7.9	65.2	4	8	8	2	3	3	......	2	......	......	......	2	0.20	5.1
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.32	719.3	29.85	758.2	64.7	18.2	92.4	1	4	......	7	5	3	6	1	4	4237	6819	6	3.38	85.9
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	30.01	762.2	30.05	763.3	74.6	23.7	82.5	2	3	.....	2	6	10	2	5	1	8575	13800	6	10.38	263.6
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.42	747.3	30.12	765.0	49.4	9.7	83.6	1	1	1	1	6	3	9	5	4	6777	10906	7	7.87	199.9
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.18	766.6	30.20	767.1	68.7	20.4	78.8	8	......	1	5	4	4	......	8	1	11199	17023	5	6.26	159.0
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.80	655.3	30.39	771.9	33.3	0.7	84.6	.....	7	......	......	18	2	......	......	4	3835	6172	5	2.04	51.8
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.08	738.6	29.96	761.0	64.0	17.8	77.4	4	1	......	1	18	5	......	......	2	6793	10932	4	2.38	60.5
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.65	727.7	30.11	764.8	37.0	2.8	83.5	6	9	2	......	......	10	1	2	1	7931	12704	4	2.10	53.3
Indianapolis	N. 39 47	W. 86 00	6.24 a.m.	753	229	29.31	744.5	30.14	765.5	55.9	13.3	84.4	4	1	1	3	8	5	2	4	3	3940	6341	6	6.11	155.2
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.01	762.2	30.04	763.0	74.1	23.4	85.9	6	2	1	......	4	12	1	4	1	9809	15786	5	5.04	128.0
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.89	733.8	30.00	762.0	62.5	16.9	88.8	3	1	4	5	8	6	3	1	......	5559	8946	5	3.17	80.5
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.09	764.3	30.13	765.8	70.9	21.6	84.1	2	1	......	1	3	3	2	19	......	5835	9390	3	2.87	72.9
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.40	746.7	30.08	764.0	53.1	11.7	88.4	2	2	3	5	5	5	3	5	1	6111	9835	7	8.01	203.5
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.01	762.2	30.04	763.0	77.8	25.4	81.1	1	......	1	......	1	3	13	11	1	7727	12435	4	1.99	50.5
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.19	766.8	30.21	767.3	65.8	18.8	82.2	1	2	3	5	2	6	6	5	1	11091	17849	5	5.55	141.0
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.19	741.4	30.26	768.6	55.9	13.3	92.1	4	1	2	2	2	2	2	8	8	3124	5028	5	5.14	130.6
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.28	743.7	30.08	764.0	49.1	9.5	76.9	5	2	3	3	8	4	......	3	3	5619	9043	7	7.56	192.0
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.14	663.9	30.29	769.4	52.3	11.3	83.3	2	......	......	......	1	1	......	......	27	1217	1959	3	2.14	54.4
Laredo *f*	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.56	750.8	29.90	759.4	69.0	20.6	87.2	4	1	......	1	1	8	1	3	6	2516	4049	6	5.49	139.4
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.17	740.9	30.10	764.5	53.6	12.0	81.5	5	4	1	2	8	3	2	2	4	5137	8267	6	5.73	145.5
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.20	741.7	30.08	764.0	42.9	6.1	75.6	1	......	3	2	......	......	5	4	16	1451	2335	7	1.52	38.6
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.77	756.1	30.09	764.3	62.4	16.9	90.6	2	3	......	1	6	3	2	5	9	3459	5567	5	4.69	119.1
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.61	752.1	29.99	761.7	51.7	10.9	80.9	.....	......	2	8	12	7	1	1	.....	3846	6190	3	0.82	20.8
Louisville	N. 38 18	W 85 52	6.25 a.m.	530	162	29.56	750.8	30.14	765.5	59.5	15.3	83.5	5	......	1	4	8	4	2	3	4	5395	8682	3	3.44	87.4
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.50	749.3	30.22	767.6	59.1	15.1	76.4	.....	1	......	1	......	1	......	3	25	1457	2345	3	4.09	103.9
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.05	737.9	30.12	765.0	47.7	8.7	88.6	5	3	3	3	5	3	4	5	......	7044	11336	7	9.12	231.6
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.34	745.2	30.10	764.5	42.4	5.8	76.9	2	9	5	5	7	1	2	......	......	6155	9905	7	3.71	94.2
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.42	721.9	30.15	765.8	65.1	18.4	85.6	2	3	3	1	5	7	4	1	5	5107	8219	6	2.68	68.1
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.80	756.9	30.15	765.8	63.0	17.2	81.6	2	......	1	......	4	7	1	3	13	2840	4580	6	3.22	81.8
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.33	745.0	30.11	764.8	49.1	9.5	87.3	6	4	1	5	6	3	......	3	3	7968	12823	8	6.04	153.4
Mobile	N. 30 42	W. 87 59	6.16 a.m.	69	21	30.05	763.3	30.12	765.0	68.0	20.0	86.5	8	6	2	1	2	2	8	2	......	5018	8076	5	3.23	82.0
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.93	760.2	30.17	766.3	64.6	18.1	84.6	3	4	4	......	......	4	14	2	......	3656	5884	5	2.72	69.1
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.07	738.4	30.13	765.3	33.2	0.7	89.2	11	4	3	1	3	5	1	3	......	8082	13006	6	2.75	69.8
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.16	740.7	30.15	765.8	54.4	12.4	85.3	4	......	1	8	1	......	1	1	15	3160	5085	5	4.55	115.6
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.76	603.5	30.13	765.3	28.0	—2.2	88.6	.....	28	1	2	......	......	......	......	......	30501	49085	4	18.38	466.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
U.S. Series—Con tinued.	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.62	752.3	30.18	766.6	60.4	15.8	82.7	2	1	3	1	2	8	4	2	8	3131	5039	6	4.74	120.4
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	30.05	763.3	30.17	766.3	51.7	10.9	76.0	10	2	1	9	2	.....	.....	4	3	5208	8381	5	2.78	70.6
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.13	765.3	30.18	766.6	53.9	12.2	76.4	7	5	5	5	.....	.....	2	6	1	5280	8497	4	3.56	90.4
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.03	762.7	30.09	764.3	72.1	22.3	85.5	6	1	2	1	2	5	5	8	1	5636	9070	7	4.84	122.9
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.12	765.0	30.17	766.3	53.8	12.1	77.4	4	4	4	11	3	.....	1	4	.....	7438	11970	7	2.46	62.5
New River ..e	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	64.8	18.2	80.3	4	3	2	.....	4	2	.....	8	3	.....	.....	4	3.04	77.2
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.14	765.5	30.16	766.1	55.0	12.8	76.7	5	4	2	11	.....	3	.....	5	1	11052	17786	4	5.29	134.4
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.01	762.2	30.19	766.8	54.8	12.7	80.7	3	3	6	9	3	.....	2	5	.....	6770	10895	5	2.10	53.3
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.17	766.3	30.20	767.1	62.3	16.8	85.0	1	2	3	8	4	1	.....	6	6	5249	8447	5	2.43	61.7
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.10	688.3	30.16	766.1	40.7	4.8	87.5	3	4	3	2	4	5	4	6	.....	9839	15834	5	2.22	56.4
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.96	761.0	30.00	762.0	43.8	6.6	89.4	5	2	.....	2	17	1	2	2	.....	3054	4915	7	8.18	207.8
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.90	734.0	30.14	765.5	48.7	9.3	83.6	6	5	.....	2	10	3	2	1	2	6693	10771	7	4.84	122.9
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.79	756.7	30.13	765.3	49.4	9.7	78.9	4	4	2	2	9	5	1	4	.....	6003	9661	8	4.61	117.1
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.09	764.3	30.12	765.0	68.9	20.5	88.0	4	5	.....	2	.....	1	2	17	.....	5932	9546	4	4.93	125.2
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	30.14	765.5	30.20	767.1	56.2	13.4	81.5	4	1	12	3	1	1	5	4	.....	7031	11315	5	3.04	77.2
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.81	731.8	30.62	777.7	53.6	12.0	48.2	.....	2	.....	.....	.....	.....	16	.....	13	1094	1761	3	0.25	6.3
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.76	451.1	29.97	761.2	19.7	—6.8	45.9	1	2	1	22	.....	1	.....	3	1	16358	26325	1	1.85	47.0
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.07	611.4	30.26	768.6	40.7	4.8	51.3	2	11	.....	3	12	1	.....	.....	2	5882	9466	2	0.56	14.2
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.35	745.5	30.20	767.1	55.1	12.8	81.3	3	2	5	6	5	.....	2	7	1	4258	6852	6	3.75	95.2
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.08	764.0	30.09	764.3	74.9	23.8	84.8	4	1	2	1	2	2	12	7	.....	10358	16669	3	4.93	125.2
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.43	747.5	30.14	765.5	48.6	9.2	88.7	2	7	.....	4	6	5	3	2	2	6565	10565	7	4.14	105.2
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.07	763.8	30.12	765.0	47.2	8.4	76.4	3	10	3	9	.....	1	.....	5	.....	5813	9355	5	2.90	73.7
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	29.98	761.5	30.05	763.3	46.5	8.1	88.9	2	7	2	2	10	1	1	.....	6	3890	6260	3	6.60	167.6
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	68.9	20.5	75.8	2	.....	2	5	4	1	2	15	.....	11881	19120	5	3.62	91.9
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.76	628.9	30.07	763.8	41.1	5.1	68.1	.....	.....	1	2	21	1	1	.....	5	4346	6994	1	0.33	8.4
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.04	763.0	30.05	763.3	74.0	23.3	82.6	2	.....	1	1	2	1	7	17	.....	7674	12350	3	1.58	40.1
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.65	753.1	30.00	762.0	50.0	10.0	74.3	10	9	.....	2	2	2	.....	.....	6	3788	6096	3	1.61	40.9
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.81	757.2	30.02	762.5	70.8	21.6	86.0	7	.....	.....	.....	2	11	6	3	2	4605	7411	4	6.98	177.3
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.45	748.0	30.15	765.8	48.9	9.4	80.1	3	7	4	10	1	5	1	.....	.....	7004	11272	4	3.63	92.2
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.48	748.8	30.07	763.8	42.2	5.7	90.3	...	.....	2	1	2	4	1	1	20	1915	3082	5	5.96	151.4
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.95	760.7	30.03	762.7	48.9	9.4	75.9	6	3	.....	1	3	15	1	1	1	4538	7303	2	0.55	14.0
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.52	749.8	30.15	765.8	56.4	13.6	87.2	5	3	3	.....	9	5	3	2	1	7444	11986	6	7.21	183.1
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.18	741.2	30.10	764.5	44.3	6.8	84.7	5	7	3	2	2	7	1	3	1	6673	10739	6	4.44	112.8
Saint Vincent ....a	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.19	741.4	30.12	765.0	30.3	—0.9	91.8	4	11	.....	1	10	2	1	.....	1	6696	10776	5	1.30	33.0
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.62	650.7	30.07	763.8	44.3	6.8	44.7	1	.....	.....	1	2	7	1	2	17	4001	6439	4	2.19	55.6
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.36	745.7	30.08	764.0	67.8	19.9	91.1	3	2	.....	.....	1	3	7	7	8	3520	5665	7	4.19	106.4
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.87	758.7	29.94	760.5	57.3	14.1	76.4	6	1	2	3	.....	2	5	9	3	4329	6967	6	0.24	6.1
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.43	747.5	30.14	765.5	55.6	13.1	80.4	2	5	1	5	9	6	1	2	.....	9257	14898	7	5.58	141.7
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.15	765.8	30.18	766.6	58.2	14.6	72.1	3	8	7	5	.....	3	1	4	.....	9727	15654	6	2.71	68.8
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.98	761.5	30.05	763.3	52.4	11.3	85.1	.....	1	9	13	2	1	.....	.....	5	6249	10057	3	0.54	13.7
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7064	2153	23.32	592.3	30.31	769.9	41.6	5.3	73.7	3	3	.....	.....	2	6	5	4	8	1873	3014	5	4.19	106.4
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.08	764.0	30.17	766.3	68.5	20.3	85.0	9	5	1	3	3	.....	3	7	.....	5763	9274	5	2.72	69.1
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.86	758.4	30.09	764.3	64.8	18.2	91.2	3	2	1	1	9	8	1	3	3	3513	5654	5	8.28	210.3
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.31	617.5	29.99	761.7	47.2	8.4	75.5	.....	5	.....	.....	2	.....	.....	.....	24	1470	2366	3	3.21	81.5
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.91a	759.7a	29.98a	761.5a	43.6a	6.4a	76.3a	...a	4	1	4	1	2	5	11	2	5585	8988	4a	5.04	128.0
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.14	765.5	30.18	766.6	65.9	18.8	85.8	7	5	.....	4	1	1	2	9	2	6517	10488	3	2.83	71.9
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.98	710.7	30.05	763.3	38.0	3.3	84.5	.....	4	3	2	8	1	1	7	5	3268	5259	7	2.41	61.2
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.42	747.3	30.13	765.3	55.5	13.1	85.7	3	1	4	5	9	2	2	4	1	6354	10226	6	10.02	254.5
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	30.04	763.0	30.17	766.3	48.6	9.2	80.1	7	5	1	.....	7	.....	3	.....	8	3430	5520	6	3.43	87.1
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.03	686.5	30.18	766.6	58.9	14.9	90.2	1	1	1	3	5	9	.....	3	8	7455	11997	4	2.67	67.8
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.09	764.3	30.14	765.5	49.7	9.8	81.9	3	8	3	9	2	1	1	4	.....	10176	16376	5	3.19	81.0
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.41	747.0	30.13	765.3	53.5	11.9	84.7	4	4	8	5	2	5	1	2	.....	5676	9134	6	8.49	215.6
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.50	698.5	29.94	760.5	56.6	13.7	67.5	.....	.....	.....	.....	1	24	4	.....	2	2839	4569	2	0.62	15.7
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.72	754.9	30.15	765.8	42.6	5.9	80.7	1	1	3	5	3	9	4	5	.....	5216	8394	6	1.54	39.1
Uvalde ..... b	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.07	738.4	29.87	758.7	67.5	19.7	87.8	1	.....	1	.....	2	7	5	2	11	1743	2805	8	3.15	80.0
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.86	758.4	30.12	765.0	65.3	18.5	87.0	2	2	.....	.....	3	14	6	4	.....	4132	6650	5	9.69	246.1
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.62	752.3	29.99	761.7	45.6	7.6	78.5	.....	10	1	.....	6	8	4	.....	2	2285	3677	1	0.31	7.9
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	30.08	764.0	30.20	767.1	56.6	13.7	84.2	5	4	2	2	7	.....	.....	1	10	2780	4474	4	3.29	83.6
W. Las Animas ..d	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.05	661.7	30.13	765.3	45.2	7.3	68.4	3	8	2	4	3	.....	2	4	1	.....	.....	4	0.21	5.3
Wickenburg	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	47.8	8.8	71.8	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	3	0.09	2.3
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.13	765.3	30.19	766.8	65.0	18.3	82.4	3	1	3	2	2	.....	4	10	6	4028	6482	4	1.48	37.6
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.61	650.5	30.07	763.8	33.0	0.6	66.5	2	1	.....	8	9	.....	.....	11	.....	5998	9653	3	1.37	34.8
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	30.12	765.0	30.15	765.8	54.5	12.5	79.0	3	6	6	9	.....	3	1	3	.....	11463	18447	5	2.68	68.1
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.75	730.2	30.12	765.0	43.3	6.3	80.6	1	3	2	1	1	1	3	3	16	5360	8626	6	3.47	88.1
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.74	755.4	29.88	758.9	59.5	15.3	70.5	1	3	3	3	1	4	1	5	10	2400	3862	1	inap.	inap.
Sub-Series.																										
Borota	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.03	559.6	.....	.....	53.9	12.2	81.9	.....	.....	.....	.....	1	3	1	1	25	.....	.....	8	9.69	246.1
Bridgetown ‡l	N. 13 12	W. 59 35	8.10 a.m.	?	?	29.91	760.5	29.95	760.7	83.4	28.6	88.3	.....	.....	.....	.....	4	5	8	2	.....	.....	.....	9	2.24	56.9
Buenaventura ..j	N. 3 50	W. 76 55	7.00 a.m.	18	5	29.98	761.5	30.00	762.0	75.8	24.3	89.2	.....	.....	2	7	8	2	2	.....	.....	.....	.....	.....	17.75	450.8
Gaudeloupe ‡	N. 16 12	W. 61 40	8.01 a.m.	?	?	29.84	757.9	29.84	757.9	80.5	26.9	87.0	.....	1	.....	.....	1	.....	27	2	.....	.....	.....	5	1.80	45.7
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.99	761.7	30.04	763.0	77.7	25.4	81.7	1	.....	.....	.....	1	2	3	.....	24	.....	.....	7	0.96	24.4
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	29.94	760.5	29.95	760.7	75.8	24.3	87.0	5	.....	.....	.....	.....	.....	1	.....	25	.....	.....	6	6.89	175.0
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.85	758.2	29.93	760.2	80.2	26.8	80.2	.....	.....	2	.....	.....	.....	11	18	.....	.....	.....	7	5.22	132.6
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	29.97	761.2	29.97	761.2	80.4	26.9	79.9	.....	.....	.....	.....	.....	2	25	4	.....	.....	.....	7	2.33	59.2
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.44	747.8	30.00	762.0	77.1	25.1	89.9	3	.....	.....	.....	3	.....	.....	1	24	.....	.....	6	17.04	432.8
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	72.1	22.3	.....	.....	.2	4	7	.....	2	2	6	8	.....	.....	6	29.67	753.6
Santiago deCuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	29.95	760.7	29.97	761.2	78.4	25.8	79.8	13	2	.....	.....	.....	.....	.....	5	11	.....	.....	5	2.42	61.5
St. Thomas ‡	N. 18 20	W. 64 56	7.48 a.m.	110	33	29.84	757.9	29.95	760.7	80.9	27.2	83.3	.....	1	.....	2	3	2	14	8	.....	.....	.....	5	6.98	177.3
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	29.92	760.0	29.97	761.2	18.6	—7.4	92.6	13	8	2	3	.....	.....	2	3	.....	.....	.....	6	0.31	7.9

Ocean Square Data for October 1881.

Location of centre of each square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° N. 7.5	° W. 22.5	3	3															
7.5	27.5	1	1															2.1
12.5	22.5	1	1	29.99	761.7	83.8	28.8					5	4	2	17		3	2.2
12.5	27.5	5	5	30.02	762.5	82.3	27.9			2	3	1	1	3	18	1	2	
12.5	37.5	1	1															
12.5	47.5	1	1															
12.5	52.5	1	1															
12.5	57.5	1	1															
17.5	22.5	3	4	30.02	762.5	80.8	27.1	1	2		1	1	3	3	19		1	2.1
17.5	27.5	5	5	30.04	763.0	80.8	27.1	1	2				5	3	18		2	2.0
17.5	32.5	2	2															
17.5	52.5			30.01	762.2	80.9	27.2	1					3	14	9		4	1.2
17.5	57.5	1	1	29.98	761.5	80.6	27.0	1					2	20	8			1.1
22.5	22.5	3	3	30.07	763.8	78.1	25.6		3	1	2		2	3	17		3	1.8
22.5	27.5			30.08	764.0	78.5	25.8		2	1				4	17		7	1.7
22.5	32.5			30.07	763.8	78.0	25.6		3				3	1	17		7	1.2
22.5	37.5			30.06	763.5	78.4	25.8	2	2	1	1		2	4	12		7	1.0
22.5	42.5			30.06	763.5	78.1	25.6	2	1		1		3	2	13		9	1.3
22.5	47.5	2	2	30.06	763.5	78.5	25.8	2	2			1	3	4	10		9	1.2
22.5	52.5	3	3	30.03	762.7	78.6	25.9	3	1			2	1	7	13		4	1.5
22.5	57.5	3	3	30.01	762.2	78.7	25.9	1	2				2	9	12		5	1.4
22.5	62.5			30.01	762.2	78.6	25.9	2	1				3	8	15		2	1.5
22.5	67.5			30.01	762.2	77.9	25.5	1				2	2	6	17		3	1.1
27.5	22.5	1	1	30.10	764.5	74.9	23.8		4	2	2		2	1	15		5	1.4
27.5	27.5			30.11	764.8	74.7	23.7	2	5	1	3			3	11		6	1.2
27.5	32.5			30.11	764.8	74.3	23.5	1	6	1	2	1	4	1	13		2	1.5
27.5	37.5	4	4	30.11	764.8	74.7	23.7	4	7	1	1	3	1	1	10	1	2	2.0
27.5	42.5			30.11	764.8	74.8	23.8	4	4		1	1	2	1	11		7	1.3
27.5	47.5			30.10	764.5	75.2	24.0	5	3	1	2	1	1		12		6	1.1
27.5	52.5	1	1	30.08	764.0	75.5	24.2	5	1			2	1	7	11		4	1.4
27.5	57.5	2	2	30.07	763.8	75.3	24.1	4	4		4		1	4	10		4	1.7
27.5	62.5	2	2	30.06	763.5	74.9	23.8	4	3	2	1	2	2	4	11		2	1.8
27.5	67.5	2	2	30.07	763.8	74.8	23.8	4	2	2		3	1	4	13		2	1.9
27.5	72.5			30.08	764.0	75.6	24.2	3	3			1	1	7	13		3	1.6
27.5	77.5	1	1	30.08	764.0	75.1	23.9	1	2			1	2	8	15		2	1.5
32.5	12.5	1	2	30.07	763.8	72.3	22.4		2	7	9	4	6		2		1	1.5
32.5	17.5	7	7	30.12	765.0	72.5	22.5			4	16	1	7		2		1	1.2
32.5	22.5			30.13	765.3	73.4	23.0		3	4	7	3	3	3	5		3	1.8
32.5	27.5			30.14	765.5	71.9	22.2	2	7	2	3	1	1	1	11		3	1.9
32.5	32.5			30.15	765.8	71.9	22.2	1	5	3	3	3	2	1	12		1	2.3
32.5	37.5	4	4	30.14	765.5	71.7	22.1	1	4	2	4	2	2	3	8		5	2.4
32.5	42.5	2	2	30.12	765.0	71.4	21.9	2	7	1	4	3	2	1	8		3	2.2
32.5	47.5	1	1	30.12	765.0	71.7	22.1	4	5	1	1	5			7		8	2.4
32.5	52.5	4	4	30.11	764.8	71.4	21.9	4	4		4	2	1	3	9		4	2.3
32.5	57.5	6	6	30.12	765.0	71.5	21.9	3	6	2	5		2	3	9		1	2.1
32.5	62.5	5	5	30.11	764.8	71.7	22.1	4	3	1	4	1	4	3	11			2.0
32.5	67.5	4	4	30.12	765.0	71.8	22.1	5	6		2	1	4	3	8		2	1.9
32.5	72.5	3	3	30.14	765.5	72.1	22.3	8	2		1	1	4	2	8		5	1.9
32.5	77.5	3	3	30.16	766.1	69.1	20.6	9	5	3	2	4	3		5			1.6
37.5	12.5	8	8	30.04	763.0	66.4	19.1	6	3	2	5	5	2	1	7			3.1
37.5	17.5	3	3	30.08	764.0	67.7	19.8	4	6	1	7	2		2	7		2	2.5
37.5	22.5	3	4	30.13	765.3	67.8	19.9		5	4	7	2		3	8		2	2.5
37.5	27.5	5	5	30.13	765.3	67.1	19.5	1	9	3	2	1	2	4	7		2	2.5
37.5	32.5	8	9	30.12	765.0	66.9	19.4	1	6	2	3	2	3	5	7		2	2.8
37.5	37.5	5	7	30.11	764.8	66.3	19.1	3	6	4	2	4	4	3	2		3	2.8
37.5	42.5	2	2	30.08	764.0	65.4	18.6	3	7	3	4	4	2	3	2		3	2.6
37.5	47.5	4	8	30.08	764.0	65.1	18.4	2	8	2	4	6	2	1	2		4	2.2
37.5	52.5	6	6	30.07	763.8	65.1	18.4	6	4		8	3		1	3		6	2.9
37.5	57.5	1	1	30.07	763.8	65.0	18.3	5	7	4	4	1	3		4		3	3.0
37.5	62.5	8	8	30.11	764.8	63.7	17.6	6	6	4	5	1	3	1	3		2	2.7
37.5	67.5	9	9	30.15	765.8	63.4	17.4	4	10	1	7	2	1	1	4		1	2.6
37.5	72.5	16	32	30.19	766.8	63.1	17.3	4	7	2	7	3	3		2		3	2.2
42.5	12.5	10	12	29.96	761.0	62.7	17.1	1	5	2	3	7	3		10			2.8
42.5	17.5	5	5	30.00	762.0	63.3	17.4	2	7	2	5	4	3		7		1	3.0
42.5	22.5	1	1	30.03	762.7	63.7	17.6		3	4	8	3	3		8		2	2.2
42.5	27.5	4	4	30.04	763.0	62.0	16.7	1	10	4	4	3	3	1	2		3	2.4
42.5	32.5	2	2	30.02	762.5	61.7	16.5		12	1	6	2	6	1	1		2	3.0
42.5	37.5			30.02	762.5	60.4	15.8	1	12		7	5	2	1			3	3.1
42.5	42.5	1	1	30.01	762.2	59.1	15.1	4	7	3	11	1	1	1			3	3.0
42.5	47.5	7	9	30.05	763.3	57.3	14.1	2	9	2	13	3	1		1			2.9
42.5	52.5	12	16	30.00	762.0	56.9	13.8	2	7	4	11	4	2		1			3.1
42.5	57.5	13	19	30.04	763.0	55.6	13.1	8	5	3	10	4					1	3.2
42.5	62.5	16	25	30.08	764.0	54.0	12.2	3	9	5	8	2	2		2			2.8
42.5	67.5	14	18	30.13	765.3	53.4	11.9	2	11	1	10	2	1	1	2		1	2.5
47.5	12.5	10	13	29.89	759.2	58.1	14.5		2	5	2	3	9	3	7			3.8
47.5	17.5	8	8	29.89	759.2	58.5	14.7		5	4	3	3	8	1	4		3	4.2
47.5	22.5	7	8	29.85	758.2	57.8	14.2	2	5	6	7	6	3		1		1	3.5
47.5	27.5	9	9	29.85	758.2	56.4	13.6	1	12	4	8	3	2		1			3.4
47.5	32.5	9	9	29.85	758.2	55.2	12.9	1	11	7	7	2	2		1			3.6
47.5	37.5	13	16	29.85	758.2	52.9	11.6	3	10	6	8	2	1				1	3.8
47.5	42.5	16	22	29.84	757.9	49.7	9.8	4	10	4	11		1				1	4.2
47.5	47.5	14	21	29.90	759.4	46.9	8.3	4	7	4	11	2	1		1		1	3.1
52.5	12.5	12	13	29.89	759.2	54.9	12.7		3	3	2	1	12	6	4			4.2
52.5	17.5	11	13	29.84	757.9	55.2	12.9	1	3	6	1	4	10	3	3			3.6
52.5	22.5	13	14	29.78	756.4	53.8	12.1	1	5	8	4	5	4	2	2			3.8
52.5	27.5	7	7	29.72	754.9	52.1	11.2	3	7	10	8		3					3.8
52.5	32.5	8	9	29.73	755.1	49.9	9.9	3	7	7	8	1	3		1		1	3.9
52.5	37.5	8	9	29.74	755.4	47.9	8.8	2	11	6	9	2	1					3.9
52.5	42.5	4	4	29.76	755.9	45.4	7.4	4	12	4	6	4	1					3.9
52.5	47.5	3	4	29.79	756.7	42.1	5.6		13	4	6	2			2		4	3.5
57.5	12.5	1	1	29.90	759.4	49.2	9.6		4	2	2	6	8	7	2			3.5
57.5	17.5	2	2	29.85	758.2	48.5	9.2	1	1	5	2	4	9	6	3			4.0
57.5	22.5	2	3	29.79	756.7	47.2	8.4		1	7	2	4	7	1	7		2	3.1
57.5	27.5	4	4	29.74	755.4	45.6	7.6	4	4	4	7	2	4	1	5			3.0
57.5	32.5	4	4	29.68	753.9	43.2	6.2	4	4	3	6	2	4	1	5		2	3.4
57.5	37.5	5	5	29.66	753.4	41.5	5.3	8	6	1	7	3	1	1	4			3.2
57.5	42.5	2	2	29.66	753.4	38.9	3.8	1	11	1	6	2	1		5		4	3.4
57.5	47.5			29.67	753.6	36.7	2.6	4	14	3	2	2			3		3	2.9

Note.—See General Remarks, page 9.

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San José the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12.00, instead of 12:16; at Charlons-sur-Marne, for October, the observations are stated to be taken at 1.27, instead of 0.27. On October 1st, the observatory of Pic-du-Midi was transferred from Plantade to Summit; see change in position and elevation.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. On October 1st, elevation of barometer cistern at Bamberg changes to 794 feet, or 242 meters, and on the 15th, back to 787 feet, or 240 meters. On October 1st, Stutgart changes elevation to 833 feet, or 254 meters. At Berlin, observations are taken at 2.00 p. m., instead of 1.02 p. m.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given, and the rain-fall is omitted. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10. The weather is given in Vienna symbols.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off, and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES.—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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."

ERRATA.

MONTHLY SUMMARY, May, 1881, page 1, British series, Bradford, total precipitation 8.78 inches, or 223.0 m. m., should read 1.48 inches, or 37.6 m. m.

DAILY BULLETIN, October, 1881, page 3, Danish series, Copenhagen, temperature Fahrenheit 41.9°, should read 49.1°.

6th, page 3, French series, Rodez, actual barometer 28.08 inches, should read 28.04 inches.

7th, page 5, Swedish series, Upsala, humidity 94, should read 64.

10th, page 1, Austro-Hungarian series, Vienna, temperature centigrade, 12.8°, should read 12.2°; page 4, Japanese series, Hiroshima, reduced barometer 769.0 m. m., should read 761.0 m. m.

13th, page 2, Canadian series, Halifax, temperature, centigrade, 1.1°, should read 11.1°; page 5, Tuguegarao, reduced barometer, 754.1 m. m., should read 754.8 m. m.

27th, page 4, Japanese series, Kioto, actual barometer 29.81 inches, should read 29.84 inches.

30th, page 5, Lugan, temperature, centigrade, 3.3°, should read —3.3°.

From December 1st, 1880, observations at Lyon, France, have been taken at St. Genis Laval instead of Park station.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.

PREVAILING WINDS.

Arrows show the direction of and fly with, the wind.
Force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
O	0	0	0
	1, 2	0 to 9	0 to 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

BRIG. & BVT. MAJ. GEN'L.
CHIEF SIGNAL OFFICER U. S. A.

ISOBARS AND ISOTHERMS.

Isobars in *black*; detached barometer means in English inches.

Isotherms in *red*; detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of October 1881. based on the daily charts of the International Bulletin.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF NOVEMBER, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
DECEMBER, 1882.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

NOVEMBER, 1881.

Stations.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for November, 1881. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	
Algerian Series.	° ′	° ′																								
Nemours ‡	N. 35 06	W. 1 50	0.00 m.	13	4			30.21	767.3	66.4	19.1	72.0			17	8			1	3	1			1	0.05	1.3
Algiers ‡	N. 36 47	E. 3 04	0.20 p.m.	72	22			30.24	768.1	64.6	18.1	70.1			12	7		2		9				3	1.17	29.7
La Calle ‡	N. 36 54	E. 8 26	0.42 p.m.	36	11			30.24	768.1	68.0	20.0	74.0	8	4	5	4	1	1	1	6				5	2.09	53.0
Tunis ‡	N. 36 42	E. 10 13	0.49 p.m.	46	14			30.24	768.0																	
Sfax ‡	N. 34 44	E. 10 40	0.51 p.m.	?	?																					
Saida ‡	N. 34 51	E. 0 10	0.09 p.m.	2844	867			30.26	768.5	57.2	14.0	47.0	3	5	7	6		2		7				1	0.30	7.5
Tebessa ‡	N. 35 24	E. 8 06	0.40 p.m.	2890	881			30.24	768.1	55.9	13.3	72.4	7	8	2	1	1	1	1	2	7			2	0.68	17.2
Geriville ‡	N. 33 45	E. 1 10	0.13 p.m.	4285	1306					62.1	16.7	51.0	7	6	2	3	2	2	3	5				2	0.32	8.1
Laghouat ‡	N. 33 48	E. 2 53	0.20 p.m.	2559	780			30.32	770.1	61.0	16.1	47.9	2	3	2	4	6	5	6	2				1	0.34	8.5
Biskra ‡	N. 34 51	E. 5 41	0.31 p.m.	410	125			30.28	769.2	68.7	20.4	47.0		24				6						2	inap.	inap.
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.78	756.4	29.87	758.7	56.7	13.7	81.0	2	1	4	9	2	8	1	2	1			5	5.05	128.3
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.69	754.2	30.26	768.5	44.8	7.1	74.8				6	3	1	1	3	16			4	0.53	13.4
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.43	747.5	30.22	767.7	41.2	5.1	80.4	2	5	9	7	1	1	2	3				6	0.85	21.5
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.33	745.0	30.24	768.2	38.1	3.4	81.1	3	1			10	2			14			6	0.55	14.0
Gratz ‡	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.98	736.0	30.26	768.5	42.6	5.9	77.3	1	5	2	9	10	3						4	0.20	5.1
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.78	730.9	30.24	768.2	41.0	5.0	74.7	2	10		2	4	12						5	0.29	7.3
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.84	732.6	30.24	768.0	39.7	4.3	90.4		1	6	4			1	15	3			7	2.14	54.3
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.15	740.5	30.17	766.3	39.6	4.2	83.9	1	10	2	8	4	3		2				6	2.84	72.2
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	30.13	765.3	30.25	768.3	53.8	12.1	74.0	2	5	10	2	1	2	2	4	2			5	0.23	5.9
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.76	756.0	30.24	768.0	41.7	5.4	73.8	3	4	2		5	3	12	1				5	1.54	39.2
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.97	761.1	30.26a	768.6a	42.8a	6.0a	79.8e	2a	2	1		8	1	1	2	12			6	2.48	63.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	30.15	765.9	30.25	768.4	52.9	11.6	72.8						1	2	3	24			5	0.06	1.4
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.53	750.0	30.28	769.1	40.1	4.5	82.4	2	5	2	1		12			8			7	1.13	28.7
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57																					
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6																					
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35																					
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.52	749.8	29.62	752.3	47.4	8.6	76.7		1	1	9	13	6						6	3 00	76.2
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.42	747.3	29.66	753.4	49.7	9.8	81.7			3	7	12	8						7		
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60			29.79	759.7	51.2	10.7	79.7			3	13	3	9	2					7		
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.27	743.4	29.80	756.9	49.0	9.4	86.1			1	9	14	6						8		
Bradford d	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.41	747.0	29.81	757.2	50.8	10.4	79.9				3	14	1	8					8d	4.57	116.1
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9																					
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33			29.87	758.7	51.5	10.8	83.9			8	13	3	3	3					6		
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.87	758.7	30.00	762.0	51.8	11.0	83.9			5	14	4		3	1	3			7		
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.69	754.1	29.92	760.0	54.2	12.3	81.5			5	12	10		3					8		
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.56	700.0	29.78	756.4	73.0	22.8	59.7	1		2	1	1	23		1	1			4		
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.62	752.3	29.86	758.4	84.5	29.2	71.9	5	11	3	2			1	5	3			4		
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10			29.68b	753.9b	51.8	11.0	79.1e	1	2	7	8	11		1					8	7.26	184.4
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.20	767.1	30.25	768.3	68.2	20.1	80.4		3	4	1	1		11	10				6		
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.42	747.3	29.63	752.6	48.0	8.9	80.9a	1		5	8	7	2	5	2				6		
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.79	756.7	29.96	761.0	52.0	11.1	80.0			1	13	8	4	3	1				8		
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.74	755.4	29.96	761.0	53.6	12.0	82.8			1	10	9	6	3	1				6		
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.93	760.2	29.96	761.0	50.0	10.0	76.7			1	18	6	1	4					7		
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.65	753.1	29.91	759.7	51.0	10.6	79.0		1		22	4	2	1					8		
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	30.13	765.3	30.21	767.3	65.7	18.7	63.4		8	3	4	1		2	12				4		
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.02	762.5	30.06	763.5	77.4	25.2	79.4				2	3	5	8	12				6		
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.35	745.5	29.87	758.7	50.2	10.1	83.1				7	15	3	3		2			5		
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.69	754.1	29.92	760.0	51.5	10.8	78.2				9	13	6	1	1				6		
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.85	758.2	29.92	760.0	53.9	12.2	86.3			5	14	4	4	2		1			7		
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29			29.50	749.3	46.7	8.2	83.6a	1		5	7	9	7			1			7		
Scutari Cemet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	30.10	764.5	30.16	766.1	54.4	12.4	67.3	1			4	2			22	1			7		
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.56	750.8	29.84	757.9	50.8	10.4	84.4a				20	8	2						7	2.73	69.3
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.66	753.4	29.69	754.1	49.4	9.7	83.8			6	12	4	2	4	1	1			7	5 12	130.0
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110			29.82	757.4	48.7a	9.3a	83.6a	3a	5	3	1	6	3	1	7				9		
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.73	755.1	29.95	760.7	52.5	11.4	79.4			5	14	6	4	1					7		
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.86	758.4	29.90	759.4	56.9	13.8	78.1		3	3	14	5	4	1					7		
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.65	753.1	29.67	753.6	53.3	11.8	78.1		1	1	9	14	4	1					8		

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for November, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
Canadian Series	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.97	761.2	30.01	762.2	32.8	0.4	82.5	2	9	6	3	5	3	0	1	1	6936	11162	8	2.95	74.9
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.97	761 2	30.04	763.0	26.7	—2.9	85.8	.....	2	5	8	6	1	.....	.....	8	3734	6009	7	1.93	49.0
Chicontimi	.....	.....	.....	159	48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.97	761.2	30.00	762.0	25.6	— 3.6	83.1	3	6	5	6	4	.....	.....	3	3	15146	24375	9	1.81	46.0
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.14	740.1	30.00	762.0	10.5	—11.9	98.5	6	7	.....	1	4	5	....	5	2	5827	9378	7	2.62	66.5
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.94	760.5	30.07	763.8	34.2	1.2	88.9	1	6	11	4	2	4	.....	1	1	.....	.....	5	4.31	109.5
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	358	109	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.74	755.4	30.09	764.3	34.2	1.2	84.2	6	5	3	8	4	3	1	.....	.....	.....	.....	7	1.34	34.0
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.86	758.4	30.07	763.8	29.7	— 1.3	83.4	2	2	6	5	12	1	.....	2	.....	.....	.....	8	2.19	55.6
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.31	744.5	30.03	762.7	28.3	— 2.1	84.1	...a	3	2	5	2	7	5	2	3	.....	.....	7	3.96	100.6
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.48	748.8	30.10	764.5	37.0	2.8	93.4	4	2	7	7	5	2	1	1	1	7420	11941	7	3.18	80.8
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.43	747.5	30.10	764.5	37.3	2.9	81.5	2	.....	11	5	.....	6	2	4	.....	.....	.....	8	3.47	88.1
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.73	755.1	30.07	763.8	25.6	— 3.6	79.2a	2	7	11	.....	.....	.....	2	5	3	.....	.....	6	4.09	103.9
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.55	750.6	30.04	763.0	24.8	— 4.0	81.3	1	4	6	5	2	9	.....	.....	3	.....	.....	7	2.62	66.5
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.29	744.0	30.02	762.5	34.7	1.5	86.0	1	3	5	7	5	4	1	4	.....	12965	20865	10	4.56	115.8
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.02	762.5	30.07	763.8	33.6	0.9	77 5	5	9	4	3	1	2	.....	2	4	.....	.....	5	2.00	50.8
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.93	760.2	30.00	762.0	34.3	1.3	82.5	1	5	7	13	2	.....	1	.....	1	10263	16516	8	2.73	69.3
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.70	754.4	30.10	764.5	35.6	2.0	84.8	5	2	8	7	1	3	3	1	.....	8604	13846	6	2.45	62.2
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.02	762.5	30.08	764.0	39.0	3.9	82.5	5	9	3	4	2	.....	5	2	.....	10949	17610	6	3.38	85.9
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	30.02	762.5	30.27	768.8	33.8	1.0	94.5	.....	5	11	4	8	2	.....	.....	.....	.....	.....	5	2.76	70.1
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Colony Series.																										
Cape St. Francis.‡	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.93	760.2	29.96	761.0	65.4	18.6	80.2	.....	.....	4	10	5	3	8	.....	.....	.....	.....	4	0.74	18.8
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.94	760.5	29.98	761.5	73.7	23.2	52.7	1	10	3	3	8	4	.....	.....	1	.....	.....	6	1.44	36.6
Worcester	S. 33 36	E. 19 26	1.26 p.m.	?	?	29.12	739.6	.....	.....	75.0	23.9	36.0	.....	17	3	.....	5	3	2	.....	.....	.....	.....	3	0.05	1.3
Chinese Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.19	766.9	30.22	767.5	51.8	11.0	87.1	5	4	6	1	1	1	3	8	1	.....	.....	7	1.85	46.9
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.93	760.1	29.97	761.3	43.3	6.3	86.0	1	4	1	9	10	2	3	.....	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.91	759.7	29.93	760.2	43.7	6.5	92.0	...	1	4	14	7	3	1	.....	.....	.....	.....	7	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.31	744.4	29.35	745.5	23.5	—4.7	90.0	6	1	.....	4	8	1	2	5	3	.....	.....	8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.17	740.9	29.21	742.0	35.4	1.9	87.0	.....	.....	1	3	.....	9	4	9	4	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.30	744.3	29.34	745.2	44.8	7.1	82.0	2	1	2	10	5	3	.....	3	4	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.76	755 9	29.85	758.2	43.5	6.4	91.0	.....	1	3	6	13	5	2	.....	.....	.....	.....	7	.....	.....
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.55	750.5	30.21	767.2	53.4	11.9	85.1	.....	3	.....	1	2	22	.....	2	.....	.....	.....	.....	0.63	16.0
Alençon	N. 48 26	E. 0 06	0.09 p.m.	476	145	29.50	750.7	30.11	764.7	50.5	10.3	95.8	.....	.....	1	13	12	1	.....	3	.....	.....	.....	.....	3.77	95.8
Arras	N. 50 18	E. 2 47	0.19 p.m.	239	73	29.85a	758.3a	30.12a	765.0a	51.3	10.7	85.4	...c	5	2	11	4	4	1	.....	.....	.....	.....	.....	1.45	30.8
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.15	765.7	30.22	767.7	58.1	14.5	66.3	17	2	.....	1	.....	3	5	2	.....	.....	.....	.....	0.52	13.2
Bar-sur-Seine	N. 48 06	E. 4 22	0.25 p.m.	518	158	29.63b	752.6b	30.19b	766.9b	52.2b	11.2b	72.0b	.....	1	.....	8	10	9	2	.....	.....	.....	.....	6	.....	.....
Beauvais	N. 49 26	E. 2 04	0.16 p.m.	246	75	29.84	758.0	30.11	764.9	51.1	10.6	80.5	.....	.....	4	7	6	7	4	2	.....	.....	.....	7	2.22	56.5
Besançon	N. 47 14	E. 6 01	0.32 p.m.	846	258	29.28	743.6	30.17	766.4	51.8	11.0	81.1	2	.....	.....	2	15	1	6	4	.....	.....	.....	.....	1.05	26.7
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.89	759.3	30.15	765.9	56.3	13.5	69.2	1	1	.....	3	3	14	6	2	.....	.....	.....	6	1.21	30.7
Bourges	N. 47 05	E. 2 26	0.17 p.m.	510	156	29.58	759.3	30.14	765.6	55.2	12.9	70.3	3	2	4	2	5	2	7	5	.....	.....	.....	.....	0.35	9.0
Brest	N. 48 21	W. 4 29	11.50 a.m.	210	64	29.77	751.4	30.01	762.3	56.7	13.7	82.2	1	2	5	10	6	4	1	1	.....	.....	.....	8	3.42	86.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.97	756.1	30.05	763.3	54.3	12.4	91.2	.....	.....	1	5	8	10	6	.....	.....	.....	.....	6	2.21	56.1
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.78	761.3	30.11	764.8	51.0	10.9	78.3	3	1	3	6	11	3	1	2	.....	.....	.....	6	1.61	40.8
Charleville	N. 49 46	E. 4 42	0.27 p.m.	476	145	29.60	756.5	30.11	764.9	50.5	10.3	73.8	.....	1	2	8	13	5	1	.....	.....	.....	.....	7	2.09	53.1
Clermont-Fd	N. 45 45	E. 3 05	0.20 p.m.	1273	388	28.80	751.7	30.15	765.8	58.8	14.9	52.0	6	3	3	1	9	3	2	3	.....	.....	.....	4	0.13	3.3
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.35	731.4	30.22	767.6	54.7	12.0	75.6	7	3	1	4	5	7	1	2	.....	.....	.....	3	0.72	18.4
Commercy	N. 48 45	E. 5 35	0.30 p.m.	797	243	29.31	745.5	30.19	766.8	50.2	10.1	78.5	... ..	2	7	8	5	1	6	1	.....	.....	.....	.....	1.03	41.5
Gap	N. 44 33	E. 6 04	0.32 p.m.	2437	743	27.09	744.5	30.24	768.2	52.5	11.4	61.7	5	1	4	2	4	2	2	7	3	.....	.....	2	3.40	87.9
Gréasque	N. 43 24	E. 5 37	0.31 p.m.	1056	322	29.15	703.2	30.30	769.5	57.6	14.2	59.4	1	.....	.....	.....	8	6	7	8	.....	.....	.....	5	3.76	95.6
Grenoble	N. 45 11	E. 5 43	0.31 p.m.	715	218	29.45	740.4	30.24	768.0	50.7	10.4	74.9	.....	.....	1	2	2	9	13	3	.....	.....	.....	.....	2.14	54.4
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.58	748.1	30.13	765.3	54.9	12.7	61.4	.....	.....	1	17	9	3	.....	.....	.....	.....	.....	3	1.08	27.4
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.77	725.9	30.04	763.1	55.4	13.0	78.8	.....	. ...	8	0	7	3	6	.....	.....	.....	.....	6	2.02	51.2
Lescar	N. 43 21	W. 0 26	0.06 p.m.	525	160	29.59	756.2	30.15	765.7	64.6	18.1	57.4	2	.....	12	2	3	.....	4	7	.....	.....	.....	1	0.88	22.3
Lorient	N. 47 44	W. 3 21	11.55 a.m.	86	26	29.97	751.5	30.08	763.9	57.2	14.0	88.2	... ..	... ..	2	9	12	3	2	1	1	.....	.....	7	4.13	105.0
Lyon	N. 45 41	E. 2 30	0.18 p.m.	981	299	29.16	761.1	30.24	768.6	52.9	11.6	71.1	6	.....	.....	1	10	5	7	1	.....	.....	.....	.....	1.15	29.1
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.82	740.7	30.14	765.5	51.3	10.7	87.3	.....	3	3	11	6	3	4	.....	.....	.....	.....	7	2.98	75.6
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.94	757.5	30.21	767.3	61.7	16.5	58.0	.....	2	8	5	3	7	4	1	.....	.....	.....	.....	2.19	55.7
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.96	760.5	30.19	766.9	48.7	9.3	45.0	1	.....	4	14	2	3	6	.....	.....	.....	.....	2	0.34	8.5
Montpellier	N. 43 36	E. 3 54	0.24 p.m.	102	31	30.11	633.9	30.22	767.7	59.9	15.5	83.3	4	.....	.....	.....	.....	7	7	9	3	.....	.....	.....	0.33	8.4
Nancy	N. 48 41	E. 6 11	0.33 p.m.	712	217	29.39	764.8	30.17	766.3	50.2	10.1	73.7	1	1	10	7	7	2	1	1	.....	.....	.....	.....	0.75	19.1
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.97	746.6	30.13	765.3	57.4	14.1	74.4	.....	.....	2	0	0	10	4	2	.....	.....	.....	.....	4.38	111.2
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	30.17	761.2	30.21	767.2	59.4	15.2	72.3	2	1	7	4	2	8	4	.....	2	.....	.....	.....	4.93	125.3
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	98	30	30.08	764.1	30.19	766.8	57.7	14.3	62.0	2	4	.....	4	4	8	.....	7	1	.....	.....	5	0.08	1.9
Pic du Midi (Summit.)	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.37	542.9	.....	.....	37.2	2.9	.....	3	4	4	10	4	.....	.....	5	.....	.....	.....	2	1.27	32.3
Privas	N. 44 45	E. 4 35	0.26 p.m.	997	304	29.16	740.6	30.24	768.1	54.5	12.5	70.2	0	.....	.....	1	20	1	.....	.....	2	.....	.....	.....	2.48	63.0
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.27	641.9	.....	.....	42.6	5.9	72.0	.....	1	5	12	5	2	3	2	.....	.....	.....	.....	0.77	19.5
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.13	765.4	30.17	766.4	56.5	13.6	86.5	.....	.....	1	3	9	10	4	1	2	.....	.....	6	0.99	25.2
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.88	758.9	30.09	764.2	55.0	12.8	79.8	..	2	10	2	3	11	2	.....	.....	.....	.....	6	2.12	53.8
Rodez	N. 44 21	E. 2 35	0.18 p.m.	2050	625	28.09	713.6	30.27	768.8	50.9	10.5	66.3	7	4	1	.....	4	1	10	1	2	.....	.....	.....	0.61	15.5
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.04	763.0	30.09	764.2	50.2	10.1	84.3	....	....	2	9	7	9	3	.....	.....	.....	.....	7	2.25	57.1
Saint Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.90	759.5	30.06	763.5	53.6	12.0	77.2	.....	2	7	13	3	4	1	.....	.....	.....	.....	4	1.81	46.0
Saint Maur	N. 48 48	E. 2 21	0.18 p.m.	162	49	29.97	761.2	30.13	765.4	51.6	10.9	79.0	1	.....	1	7	13	1	3	2	2	.....	.....	7	1.23	31.2
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.51	749.6	30.24	768.0	56.1	13.4	77.4	.....	2	2	3	.....	17	3	3	.....	.....	.....	4	0.43	10.9
Tours	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.93a	760.2a	30.13a	765.3a	53.4a	11.9a	79.2a	....	.....	.....	17	2	1	5	5	.....	.....	.....	6	1.31	33.3
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.63	752.5	30.11	764.8	51.3	10.7	79.2	.....	2	4	16	4	2	2	.....	.....	.....	.....	.....	1.07	27.1
Sub Series.																										
Paris, Montsouris.	N. 48 50	E. 2 20	0.17 p.m.	256	78	29.85	758.2	30.14	765.6	51.6	10.9	81.8	.....	.....	4	8	8	6	2	.....	2	.....	.....	7	1.39	35.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for November, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	M.M.
German Series.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.33	745.0	30.20	767.1	45.7	7.6	74.1	.....	2	2	1	14	9	.....	1	1	.....	.....	6	0.94	23.8
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.93	760.3	30.10	764.5	47.8	8.8	76.1	.....	7	3	8	8	3	.....	1	.....	.....	.....	6	1.34	34.1
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.66	753.3	30.19	766.9	44.1	6.7	75.4	2	2	5	6	7	4	1	1	2	.....	.....	7	0.71	18.1
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.76	755.9	30.18	766.6	50.2	10.1	75.9	3	1	.....	18	.....	.....	3	3	2	.....	.....	6	1.63	41.4
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.38	746.3	30.10	764.4	46.6	8.1	81.5	...	2	1	.....	24	2	.....	1	.....	.....	.....	6	1.17	29.7
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.79	756.6	30.15	765.9	48.4	9.1	75.7	3	.....	2	6	12	3	2	1	1	.....	.....	7	0.73	18.5
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.77	730.8	30.25	768.3	44.6	7.0	85.2	.....	.....	7	9	9	.....	1	4	.....	.....	.....	7	0.92	23.5
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.97	761.1	30.06	763.6	45.3	7.4	85.5	.....	3	4	7	8	4	3	.....	1	.....	.....	7	1.69	42.9
Kiel	N. 54 19	E. 10 04	0.49 p.m.	13	4	29.99	761.7	30.00	762.1	45.0	7.2	83.3	.....	1	4	13	6	2	2	2	.....	.....	.....	7	2.35	59.6
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.74	755.3	30.16	766.0	46.9	8.3	74.3	.....	1	1	10	10	2	4	2	.....	.....	.....	7	0.37	9.5
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.92	759.9	30.11	764.8	48.0	8.9	77.4	1	.....	3	4	15	5	.....	2	.....	.....	.....	7	0.35	8.9
Memel	N. 55 43	E. 21 07	1.32 p.m	39	12	30.00	762.1	30.05	763.3	39.2	4.0	90.6	1	5	7	6	8	.....	3	.....	.....	.....	.....	8	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.37	720.6	30.23	767.8	45.5	7.5	75.8	3	3	3	.....	1	1	4	5	10	.....	.....	5	1.06	26.9
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.07	763.7	30.08	764.1	43.3	6.3	77.7	1	5	4	13	2	1	1	3	.....	.....	.....	7	0.64	16.3
Neustadt ..... *a*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.63	752.7	30.17	766.2	50.0	10.0	76.6	1	.....	14	3	3	1	2	3	2	.....	.....	7	0.60	15.3
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.21	742.0	30.13	765.3	50.5	10.3	72.9	5	.....	5	8	4	1	5	2	.....	.....	.....	6	0.60	15.2
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1414	431	28.70	729.0	30.24	768.1	45.0	7.2	78.6	2	1	6	5	2	3	3	2	6	.....	.....	7	0.39	9.8
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.02	762.6	30.05	763.3	43.9	6.6	93.6	1	.....	2	8	11	5	3	.....	.....	.....	.....	7	1.13	28.8
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m	360	110	29.76	756.0	30.16	766.0	61.5	16.4	.....	2	2	1	3	3	.....	.....	19	.....	.....	.....	.....	0.78	19.7
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.88	758.9	29.93	760.2	82.9	28.3	56.2	.....	.....	1	23	1	.....	.....	2	3	.....	.....	0	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.44	747.8	29.91	759.7	81.8	27.7	26.9	5	7	3	1	2	4	3	5	.....	.....	.....	2	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.83	757.7	29.87	758.7	81.6	27.6	66.4	.....	20	7	1	.....	1	1	.....	.....	.....	.....	3	0.09	2.3
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.02	711.7	29.87	758.7	80.8	27.1	37.3	1	.....	5	.....	.....	1	14	9	.....	.....	.....	4	0.48	12.2
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.33	694.2	29.86	758.4	75.8	24.3	56.6	6	.....	1	4	.....	2	0	11	.....	.....	.....	4	4.17	105.9
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.19	741.4	29.95	760.7	68.7	20.4	48.4	.....	.....	1	.....	.....	.....	.....	.....	29	.....	.....	1	0	0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.02	737.1	29.94	760.5	69.9	21.1	47.7	.....	11	5	3	1	1	.....	.....	9	.....	.....	1	0	0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.38	746.2	29.96	761.0	76.4	24.7	38.0	4	8	17	.....	.....	.....	1	.....	.....	.....	.....	.....	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.87	733.3	29.92	760.0	77.3	25.2	43.2	1	.....	.....	.....	1	1	4	7	10	.....	.....	3	0.61	15.5
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.59	720.2	30.00	762.0	73.5	23.1	37.4	2	.....	3	.....	1	.....	5	1	18	.....	.....	2	0.16	4.1
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.57	751.1	29.95	760.7	74.3	23.5	37.1	.....	1	6	3	.....	.....	.....	.....	20	.....	.....	1	0	0
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.61	752.1	30.00	762.0	69.4	20.8	57.0	.....	1	.....	.....	.....	1	1	1	26	.....	.....	0	0.01	0.3
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.75	755.6	29.94	760.5	71.7	22.1	57.9	1	9	8	.....	.....	1	2	1	8	.....	.....	2	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.90	708.6	29.94	760.5	71.4	21.9	39.8	7	13	4	.....	3	.....	.....	1	2	.....	.....	2	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.84	757.9	29.92	760.0	77.2	25.1	66.7	8	2	1	.....	.....	.....	.....	5	14	.....	.....	3	0	0
Calcutta	N. 22 33	E. 88 19	6.01 p.m.	21	7	29.88	758.9	29.90	759.4	73.9	23.3	68.1	14	5	.....	.....	.....	.....	.....	.....	11	.....	.....	1	0	0
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.79	756.7	29.91	759.7	74.1	23.4	74.5	.....	.....	.....	.....	.....	.....	2	3	25	.....	.....	1	0.06	1.5
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.80	756.9	29.89	759.2	75.3	24.1	74.5	2	11	14	.....	1	1	.....	.....	1	.....	.....	2	0.01	0.3
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.59	751.6	29.94	760.5	70.7	21.5	88.3	.....	1	.....	1	.....	1	5	21	1	.....	.....	2	0.35	8.9
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.49	723.6	29.96	761.0	75.7	24.3	34.0	9	9	2	2	2	.....	2	3	1	.....	.....	2	0	0
Zanzibar ..... *a*	S. 6 10	E. 39 11	2.45 p.m.	22	7	29.84	757.9	.....	.....	83.6	28.7	70.6	3	1	2	5	5	6	4	2	1	.....	.....	5	5.72	145.3
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.85	758.1	30.27	768.8	50.9	10.5	57.5	.....	.....	.....	2	1	.....	4	...	23	.....	.....	5	0.66	16.9
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.75	755.6	30.28	769.1	47.7	8.7	80.8	1	.....	10	10	2	1	5	1	.. ..	.....	.....	6	3.72	94.5
Padua	N. 45 24	E. 11 53	0.50 p.m.	102	31	30.15	765.9	30.26	768.7	49.3	9.6	72.6	12	4	3	3	1	3	1	2	1	.....	.....	5	0.09	2.4
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.32	744.8	30.24	768.2	47.1	8.4	79.7	4	3	1	3	1	.....	11	7	.....	.....	.....	5	2.32	58.9
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	30.04	762.9	30.23	767.8	59.2	15.1	60.6	4	1	.....	3	6	6	1	5	4	.....	.....	5	13.03	331.1
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.31	719.0	30.26	768.6	48.0	8.9	68.0	3	4	10	.....	.....	1	2	4	.....	.....	.....	3	1.68	42.6
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.20	767.0	30.25	768.3	50.7	10.4	79.3	11	8	.....	2	.....	4	1	4	.....	.....	.....	6	0	0
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.96	760.9	30.22	767.5	55.0	12.8	64.8	5	4	.....	3	.....	2	5	11	.....	.....	.....	4	0.26	6.5
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	30.15	765.8	30.24	768.0	58.5	14.7	68.3	4	3	2	2	5	1	2	11	.....	.....	.....	5	2.79	70.9
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	30.02	762.6	30.20	767.1	59.0	15.0	59.9	20	1	4	2	.....	3	.....	...	.....	.....	.....	3	0.56	14.3
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.93	760.1	30.18	766.6	59.7	15.4	67.1	9	7	6	1	2	1	2	2	.....	.....	.....	5	5.03	143.0
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.30	744.3	30.21	767.3	56.3	13.5	73.7	2	.....	7	.....	2	11	7	1	.....	.....	.....	4	3.01	91.8
Cagliari ..... *a*	N. 39 13	E. 9 10	0.45 p.m.	180	55	30.00	762.0	30.19	766.9	66.9	19.4	57.4	1	4	6	.....	1	7	1	.....	9	.....	.....	3	0.07	1.8
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.95	760.7	30.20	767.1	61.9	16.6	59.6	3	5	1	2	1	1	4	8	5	.....	.....	5	0.41	162.9
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	30.12	765.0	30.16	766.1	61.9	16.6	67.0	3	.....	2	0	1	1	14	3	.....	.....	.....	5	0.80	20.2
Sub-Series.																										
Naples ..... *a*	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.64	752.9	30.17	766.3	58.6	14.8	67.7	8	3	2	2	5	.....	4	5	.....	.....	.....	4	1.41	35.7
Stelvio	N. 46 32	E. 10 26	0.50 p.m.	8343	2543	22.30	566.5	.....	.....	32.4	0.2	56.7	1	.....	4	10	1	5	0	3	.....	.....	.....	4	0.98	25.0
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.33	567.2	.....	.....	34.0	1.1	54.9	10	.....	.....	.....	.....	1	9	10	.....	.....	.....	4	6.10	155.0
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.05	763.3	30.07	763.8	51.3	10.7	84.1	18	1	2	2	.....	.....	.....	7	.....	.....	.....	4	2.47	62.7
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.91	759.7	30.09	764.3	48.8	9.3	85.3	4	18	3	1	2	1	1	.....	.....	.....	.....	4	2.91	73.9
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.91	759.7	30.12	765.0	54.1	12.3	81.5	7	3	1	4	1	2	3	0	3	.....	.....	5	3.28	83.3
Nemuro	N. 43 21	E. 145 35	9.50 p.m.	58	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Neegatta	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.02	762.5	30.06	763.5	49.8	9.9	78.5	1	4	7	6	.....	6	3	2	1	.....	.....	7	9.97	253.2
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	30.00	762.0	30.02	762.5	46.5	8.1	83.8	1	18	4	3	1	.....	2	.....	1	.....	.....	5	0.74	171.2
Supporo	N. 43 04	E. 141 23	9.33 p.m.	61	19	.....	.....	.....	.....	38.1	3.4	84.7	1	2	5	.....	6	5	.....	1	10	.....	.....	6	4.34	110.1
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.96	761.0	30.03	762.7	49.5	9.7	85.2	10	5	3	2	3	2	1	2	2	.....	.....	5	7.99	202.9
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.03	762.7	30.08	764.0	51.9	11.1	74.4	8	2	1	...	.....	.....	3	10	0	.....	.....	4	1.79	45.5
Mauritius Sert's.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.82	757.4	30.01	762.2	77.3	25.2	64.3	2	.....	2	1	.....	2	18	5	.....	.....	.....	7	3.19	81.0
Mexican Series.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6683	2037	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leon ..... *d*	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.45	621.0	30.20	767.0	55.0	12.8	84.0	21	.....	.....	4	1	.....	.....	.....	.....	.....	.....	3	0.39	10.0
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.68	754.1	29.95	760.7	69.6	20.9	82.0	2	7	1	2	.....	1	4	12	1	.....	.....	2	1.34	34.0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.11	587.1	30.21	767.3	51.1	10.6	83.0	.....	7	2	.....	.....	.....	.....	.....	21	.....	.....	5	0.82	20.9
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.23	615.6	30.33	770.6	55.6	13.1	68.0	5	.....	.....	2	2	10	2	9	.....	.....	.....	3	0.56	14.3
Patellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.94	607.9	30.01	762.2	50.7	10.4	83.0	3	.....	3	4	.....	.....	.....	.....	20	.....	.....	4	0.81	20.5
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.43	595.0	30.25	768.3	50.2	10.1	87.0	2	1	.....	.....	.....	.....	.....	1	20	.....	.....	3	2.68	68.2
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tlacotalpam	N. 18 37	W. 95 32	5.40 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.56	573.0	30.37	771.4	47.7	8.7	.....	.....	.....	1	10	1	2	7	1	8	.....	.....	3	0.13	3.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	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.	Total Precipitation. Mill.
NETHERLAND SERIES.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.05	763.2	30.05	763.2	48.9	9.4	.....	.....	1	4	6	14	2	3	.....	.....	.....	.....	.....	1.25	31.8
Groningen	N. 53 12	E. 6 34	0.34 p.m.	0	0	29.96	761.0	30.02	762.4	41.0	5.0	.....	.....	2	2	8	14	.....	4	.....	.....	.....	.....	.....	1.54	39.2
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.98	761.5	29.98	761.5	41.4	5.2	.....	.....	1	2	7	13	4	3	.....	.....	.....	.....	.....	1.07	42.5
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.02	762.6	30.02	762.6	48.0	8.9	87.3	1	.....	.....	13	10	2	4	.....	.....	.....	.....	.....	1.25	31.7
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.00	762.1	30.05	763.3	49.1	9.5	83.2	.....	1	1	8	14	3	3	.....	.....	.....	.....	6	1.12	28.4
NORWEGIAN SERIES.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.61	752.1	29.67	753.7	44.1	6.7	78.8	.....	6	.....	.....	13	9	.....	.....	2	.....	.....	8	9.52	241.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.58	751.3	29.73	755.1	37.9	3.3	85.9	2	1	1	5	8	3	2	4	4	.....	.....	8	2.08	52.9
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.34	745.3	29.37	745.9	28.4	−2.0	.....	2	2	8	3	.....	7	1	2	5	.....	.....	8	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.39	746.6	29.44	747.8	33.3	0.7	75.4	6	3	4	5	2	2	.....	2	6	.....	.....	8	8.83	224.3
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.92	759.9	30.08	763.9	59.7	15.4	78.3	6	9	7	3	4	1	.....	.....	.....	.....	.....	5	4.83	122.6
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.22	742.1	30.22	767.6	60.6	15.9	65.0	1	.....	2	2	4	.....	5	13	3	.....	.....	6	1.17	29.7
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.12	765.1	30.21	767.3	69.3	20.7	60.7	2	.....	2	12	.....	10	2	2	.....	.....	.....	6	2.54	64.4
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.88	759.0	30.24	768.2	60.3	15.7	75.0	8	.....	1	3	4	2	4	8	.....	.....	.....	6	0.09	2.3
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.04	763.0	30.11	764.8	62.2	16.8	70.9	6	2	3	6	5	.....	.....	.....	8	.....	.....	6	7.17	182.0
RUSSIAN SERIES.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.86	732.9	30.02	762.5	13.5	−10.3	.....	.....	.....	3	14	6	4	.....	2	1	.....	.....	8	0.66	16.9
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.58	751.2	29.60	751.7	24.4	−4.2	92.3	2	3	3	8	8	3	2	.....	1	.....	.....	9	0.74	18.9
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖68	‖21	30.28	769.2	30.20	767.1	30.9	2.7	71.8	3	5	8	4	.....	3	4	.....	3	.....	.....	7	0.30	7.5
Barnaul ‡	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.66	753.4	30.20	767.1	15.3	−9.3	79.3	.....	.....	1	12	2	.....	.....	2	13	.....	.....	7	2.34	59.3
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.67	753.5	29.91	759.8	35.8	2.1	82.0	1	4	11	8	2	2	1	1	.....	.....	.....	8	1.52	38.5
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.80	731.4	29.82	757.4	16.2	−8.8	83.8	1	4	9	5	3	2	1	.....	5	.....	.....	9	0.88	22.3
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.57	751.0	29.86	758.3	22.5	−5.3	83.8	2	2	8	8	4	4	1	1	.....	.....	.....	8	0.88	22.4
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.20	767.2	30.22	767.7	42.8	6.0	80.8	3	5	2	1	1	1	3	2	12	.....	.....	6	0.23	5.9
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.46	748.2	30.12	765.0	35.2	1.8	78.6	1	9	5	6	5	3	1	.....	.....	.....	.....	8	1.12	28.5
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.94	760.5	30.15	765.9	34.9	1.6	74.2	1	4	0	12	4	.....	2	1	.....	.....	.....	9	0.36	9.2
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.35	745.6	29.86	758.3	29.3	−1.5	80.7	10	1	1	2	11	1	2	2	.....	.....	.....	8	1.13	28.8
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.19	766.7	30.26	768.5	40.6	4.8	78.1	4	5	2	2	7	.....	1	1	8	.....	.....	6	0.13	3.4
Nikolaievsk *b.*	N. 53 08	E. 140 45	9.31 p.m.	75?	23?	29.93	760.3	30.02	762.5	16.5	−8.6	80.2	1	1	10	.....	1	.....	2	.....	13	.....	.....	5	0.55	14.0
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.10	764.6	30.24	768.2	39.6	4.2	61.9	.....	7	.....	3	.....	2	.....	.....	18	.....	.....	2	0.48	12.1
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.79	756.6	29.80	757.0	33.1	0.6	86.4	3	6	5	10	3	2	1	.....	.....	.....	.....	8	1.20	30.5
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.65	727.8	30.28	769.0	43.9	6.6	79.6	2	2	.....	.....	.....	.....	.....	1	25	.....	.....	6	1.62	41.2
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.78	731.1	30.22	767.6	50.9	10.5	55.4	4	6	2	1	1	3	1	2	10	.....	.....	5	1.60	40.6
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.71	754.6	30.15	765.7	40.8	4.9	81.6	3	2	5	7	7	3	.....	1	2	.....	.....	8	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.62	752.3	30.06	763.4	37.4	3.0	84.8	1	3	7	9	5	.....	.....	2	3	.....	.....	9	1.04	26.3
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	30.02	762.5	30.34	770.6	5.9	−14.5	80.2	1	1	4	4	3	3	4	.....	10	.....	.....	5	0.54	13.7
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monach L. house	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	30.11	764.8	30.21	767.4	60.8	16.0	70.0	.....	.....	.....	14	9	1	5	1	.....	.....	.....	2	0.04	1.0
Bilbao	N. 43 15	W. 2 56	11.56 a.m.	52	16	30.11	764.9	30.17	766.3	58.8	14.9	68.6	1	2	1	6	5	14	1	.....	.....	.....	.....	4	1.73	43.9
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.25	692.1	.....	.....	52.7	11.5	82.0	3	1	5	10	7	2	.....	2	.....	.....	.....	4	0.54	13.7
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	28.01	711.4	30.25	768.4	56.8	13.8	66.1	3	.....	3	7	6	2	7	2	.....	.....	.....	3	0.51	12.9
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	30.10	764.5	30.24	768.2	65.8	18.8	55.5	.....	3	5	10	1	4	3	4	.....	.....	.....	4	0.04	1.0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.20	741.7	30.09	764.3	58.8	14.9	77.9	3	3	3	4	10	6	.....	1	.....	.....	.....	7	7.50	192.0
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.96	760.9	30.02	762.6	73.9	23.3	85.0	1	1	.....	1	.....	3	17	4	3	.....	.....	4	4.49	114.1
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.88	758.9	29.94	760.4	79.4	26.3	74.5	9	1	.....	.....	.....	1	8	11	.....	.....	.....	6	2.10	54.9
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.14	765.5	30.24	768.0	66.7	19.3	60.0	.....	2	1	1	.....	.....	17	2	7	.....	.....	6	0.92	23.4
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.90	759.5	29.99	761.8	78.6	25.9	84.0	.....	.....	.....	1	.....	2	10	5	12	.....	.....	6	8.84	224.5
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.87	758.8	30.01	762.2	76.6	24.8	87.5	1	20	3	.....	1	2	3	.....	.....	.....	.....	6	1.17	29.7
SWEDISH SERIES.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.54	750.4	29.58	751.4	27.5	−2.5	87.0	1	5	2	8	6	3	.....	3	2	.....	.....	7	1.74	44.3
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.61	752.1	29.66	753.4	32.0	0.0	88.0	2	8	.....	8	2	.....	.....	1	9	.....	.....	7	1.61	41.0
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.65	753.1	29.70	754.4	35.8	2.1	76.0	.....	3	6	5	5	1	1	1	8	.....	.....	6	1.36	34.5
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.67	753.5	29.84	758.0	38.8	3.8	77.0	.....	1	8	13	4	2	1	1	.....	.....	.....	6	1.42	36.2
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.85	758.1	29.91	759.6	40.8	4.9	86.0	2	4	6	13	1	1	3	.....	.....	.....	.....	5	1.33	33.8
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.72	754.8	29.80	757.0	37.2	2.9	80.2	1	2	4	11	8	3	.....	1	.....	.....	.....	6	1.17	29.8
SWISS SERIES.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.81	731.7	30.25	768.3	48.2	9.0	74.3	10	5	.....	6	5	.....	1	3	.....	.....	.....	6	3.34	84.9
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.58	726.0	30.25	768.3	45.3	7.4	82.2	4	4	10	1	2	2	4	3	.....	.....	.....	5	0.37	9.5
TURKISH SERIES.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.22	767.6	52.3	11.3	70.0	14	.....	.....	3	.....	1	.....	12	.....	.....	.....	7	1.32	33.6
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.17	766.4	59.9	15.5	.....	.....	23	2	.....	2	1	2	.....	.....	.....	.....	3	5.79	147.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.98	761.6	70.5	21.4	65.3	3	4	4	10	3	.....	.....	5	1	.....	.....	5	5.54	140.7

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Met'rs	Mean Barometer, Actual: Inch.	Mill.	Reduced: Inch.	Mill.	Mean Temperature: Fah.	Cent.	Mean Rel. Humidity.	Wind, Directions: N	NW	W	SW	S	SE	E	NE	C	Total Movement: Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation: Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.10	764.5	30.19	766.8	41.5	5.3	76.6	6	5	5	4	9	......	......	1	......	4314	6942	7	3.44	87.4
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.34	745.2	30.04	763.0	32.1	0.1	81.0	.....	5	9	5	8	1	1	1	......	9179	14772	9	3.01	76.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	29.03	737.3	30.27	768.8	47.0	8.3	80.1	1	14	......	1	1	2	9	2	......	7423	11946	4	4.30	109.2
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.21	767.3	30.22	767.6	46.2	7.9	81.0	6	7	4	4	2	2	3	......	2	6891	11090	5	3.64	92.5
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	30.06	763.5	30.26	768.6	50.8	10.4	82.3	4	4	2	......	......	1	1	4	14	2382	3833	5	3.81	96.8
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.19	766.8	30.24	768.1	45.9	7.7	71.1	5	7	3	1	4	1	2	2	5	4135	6654	4	2.41	61.2
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.18	766.6	30.20	767.1	44.3	6.8	80.5	4	4	8	6	2	1	2	1	2	9379	15094	5	3.64	92.5
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1693	516	28.15	715.0	30.13	765.3	19.9	—6.7	78.8	.....	17	3	......	......	3	5	1	1	7679	12358	5	0.35	8.9
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.38	695.4	30.34	770.6	29.2	—1.6	88.2	2	8	7	1	1	1	3	......	7	2864	4609	4	0.94	23.9
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	30.00	762.0	30.16	766.1	38.4	3.6	80.5	2	4	7	9	2	......	2	3	1	7998	12871	5	3.73	94.7
Brackettville	N. 29 17	W. 100 51	5.27 a.m.	1170	356	28.94	735.1	30.01	762.2	51.0	10.6	83.5	6	1	......	......	......	2	10	1	10	3979	6404	6	1.18	30.0
Brownsville *a*	N. 26 00	W. 97 30	5.38 a.m.	43	13	30.04	763.0	30.09	764.3	60.6	15.9	91.2	12	1	......	1	4	3	......	5	3	5759	9268	7	3.74	95.0
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	664	202	29.33	745.0	30.12	765.0	38.8	3.8	77.9	.....	7	3	7	2	3	4	4	......	10114	16276	8	2.96	75.2
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.81	757.2	30.12	765.0	35.2	1.8	77.3	5	2	3	1	15	2	......	2	......	8346	13431	8	1.30	33.0
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.82	757.4	30.24	768.1	42.5	5.8	81.5	4	3	3	1	8	7	2	2	......	7062	11365	4	4.98	126.5
Campc	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.47	697.7	30.04	763.0	31.5	—0.3	62.3	.....	2	1	......	5	......	17	4	1	5177	8332	2	0.11	2.8
Camp Thomas	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.34	694.4	....	....	30.6	—0.8	78.5	.....	1	......	......	......	4	......	......	25	....	....	2	0.32	8.1
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.22	767.6	30.24	768.1	53.2	11.8	79.1	6	7	1	6	4	3	1	2	......	9712	15640	6	8.96	227.6
Cape May *c*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.18	766.6	30.21	767.3	48.8	9.3	80.0	2	9	2	2	3	2	2	5	......	12675	17179	6	5.22	132.6
Castroville	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.32	744.7	30.04	763.0	50.9	10.5	83.7	5	11	4	......	1	5	2	......	2	4007	6449	6	1.39	35.3
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.13	765.3	30.15	765.8	62.7	17.1	80.9	5	1	......	......	2	2	4	15	1	6477	10424	4	2.19	55.6
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.29	744.0	30.12	765.0	35.9	2.2	81.4	2	5	1	8	8	4	1	......	1	9808	15784	6	7.78	197.6
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.16	766.1	30.22	767.6	56.3	13.5	82.9	4	7	1	2	......	2	1	13	......	4898	7882	4	2.15	54.6
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.35	745.5	30.27	768.8	46.2	7.9	81.7	8	5	1	4	3	......	1	8	......	3655	5882	4	4.58	116.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.41	747.0	30.27	768.8	45.0	7.2	85.8	3	2	1	1	4	1	2	5	11	3702	5957	5	4.29	109.0
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	23.99	609.3	30.22	767.6	26.8	—2.9	66.4	3	18	5	......	1	......	2	1	......	8350	13438	4	0.29	7.4
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.35	745.5	30.10	764.5	37.4	3.0	81.2	1	3	10	9	4	2	......	......	1	7019	12261	6	5.97	151.6
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.20	767.1	30.22	767.6	49.8	9.9	83.1	3	7	3	5	1	2	3	5	1	10261	16513	5	5.31	134.9
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.54	750.3	30.24	768.1	43.3	6.3	74.5	1	5	......	5	5	8	......	2	4	4165	6703	5	4.06	103.1
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.39	746.5	30.18	766.6	39.3	4.1	74.3	1	2	5	7	7	7	1	......	......	9283	14939	9	3.64	92.5
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.31	744.5	30.22	767.6	39.2	4.0	74.4	1	6	4	6	7	4	1	1	......	6382	10271	7	5.35	135.9
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.18	715.8	30.20	767.1	43.4	6.3	86.9	1	3	3	4	3	1	1	3	11	7110	11442	4	0.64	16.3
Corsicana	N. 32 05	W. 96 30	5.41 a.m.	448	136	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.42	747.3	30.12	765.0	36.1	2.3	71.8	2	5	8	6	5	1	1	2	......	7786	12530	6	2.19	55.6
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.42	721.9	30.31	769.9	33.3	0.7	85.8	2	1	2	16	1	1	......	1	6	2770	4558	5	2.47	62.7
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.32	643.1	30.29	769.4	28.1	—2.2	70.0	1	......	5	11	3	......	......	2	8	3554	5720	5	0.84	21.3
Decatur	N. 33 10	W. 97 30	5.38 a.m.	1150	350	....	....	....	....	46.5	8.1	78.9	6	5	1	......	6	6	3	3	......	7824	12430	4	1.78	45.2
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.19	766.8	30.21	767.3	49.2	9.6	82.3	7	6	3	4	5	2	2	1	......	12861	17479	5	3.59	91.2
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.34	745.2	30.18	766.6	45.3	7.4	83.2	6	3	2	2	10	1	1	3	2	5624	9051	4	3.26	82.8
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.82	630.4	30.29	769.4	30.5	—0.8	67.1	5	2	1	3	12	5	......	2	......	5332	8581	3	1.68	42.7
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.16	740.7	30.13	765.3	32.9	0.5	78.6	6	9	2	7	1	1	1	3	......	6360	10235	6	3.97	100.8
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.38	746.2	30.14	765.5	42.7	5.9	73.9	2	4	2	8	9	4	....	......	1	8315	13381	7	4.36	110.7
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.47	697.7	30.23	767.8	29.9	—1.2	79.6	8	5	5	3	4	......	1	3	1	8402	13521	3	0.95	24.1
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.34	745.2	30.10	764.5	32.5	0.3	73.0	1	8	7	3	8	2	1	......	......	4773	7681	7	3.19	81.0
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.26	743.2	30.01	762.2	24.5	—4.2	87.1	1	4	12	12	......	......	......	1	......	5339	8592	7	2.58	65.5
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.34	745.2	30.20	767.1	51.6	10.9	77.4	3	5	1	1	......	7	1	5	7	3421	5504	6	1.57	39.9
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.37	644.4	30.45	773.4	17.1	—8.3	79.8	9	......	2	15	......	......	......	1	3	6689	10764	4	1.91	48.5
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	30.00	762.0	30.07	763.8	34.9	1.6	75.0	3	8	4	7	4	1	.....	3	.....	7887	12693	5	3.37	85.6
Edinburg *a*	N. 26 03	W. 98 03	5.36 a.m.	....	....	....	....	....	....	62.7	17.1	88.4	10	5	......	1	1	4	2	1	5	....	....	6	2.01	51.1
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.36	669.5	30.26	768.6	36.3	2.4	69.7	.....	11	5	1	......	......	4	4	5	4536	7300	4	0.50	12.7
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.37	746.0	30.15	765.8	40.3	4.6	79.9	1	6	2	7	7	4	1	......	2	10538	16959	9	5.46	138.7
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.30	744.2	30.00	762.0	30.6	—0.8	87.4	4	6	5	4	6	3	......	2	......	7896	13707	8	3.72	94.5
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.52	724.4	30.12	765.0	40.6	4.8	67.6	3	......	4	3	3	2	3	9	3	2934	4722	1	0.34	8.6
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.07	636.8	30.20	767.1	23.5	—4.7	64.0	.....	......	1	......	......	...	2	25	2	3405	5480	1	0.85	21.6
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.18	690.4	30.20	767.1	25.8	—3.4	70.0	1	2	4	16	......	......		2	5	7479	12036	6	0.60	15.2
Fort Bennett *a*	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.42	721.9	30.08	764.0	24.1	—4.4	81.8	6	9	3	3	......	3	2	1	2	5343	8597	5	0.70	17.8
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.22	691.4	30.29	769.4	26.5	—3.1	68.5	.....	......	......	15	......		......	3	12	7962	12813	6	1.73	43.9
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.01	711.4	30.18	766.0	18.8	—7.3	76.9	2	4	8	2	4	......	1	1	8	5649	9091	4	0.39	9.9
Fort Custer	N 45 48	W. 107 38	4.58 a.m.	3040	927	26.86	682.2	30.35	770.9	24.7	—4.1	84.7	8	3	3	4	5	.. ..	2	2	3	....	....	5	0.66	16.8
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.31	693.7	30.55	776.0	31.6	—0.2	52.9	4	10	......	2	1	3	......	2	8	7540	12144	2	0.42	10.7
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.57	751.1	30.15	765.8	41.3	5.2	83.2	7	1	1	......	3	5	4	......	9	5904	9501	4	3.13	79.5
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.28	642.1	30.08	764.0	34.2	1.2	64.8	4	3	......	4	1	3	......	12	3	4631	7453	2	0.08	2.0
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.80	731.5	30.10	764.5	45.6	7.6	74.8	2	5	4	4	3	6	2	1	3	5499	8850	4	1.44	36.6
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.50	698.5	30.25	768.3	26.5	—3.1	74.1	4	3	9	6	1	3	......	......	4	5743	9242	5	0.44	11.2
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.21	767.3	30.22	767.6	55.2	12.9	84.8	11	6	......	4	1	3	......	4	1	7930	12772	6	2.69	68.3
Fort McKavett *n*	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.95	709.9	29.92	760.0	45.1	7.3	76.2	1	1	......	3	5	1	1	3	1	....	....	5	0.52	13.2
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.82	681.2	30.56	776.2	24.3	—4.3	92.0	.....	3	1	4	3	5	......	5	9	935	1505	6	0.80	20.3
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.67	753.6	29.70	754.4	23.3	—4.8	88.3	2	2	2	3	8	5	8	......	......	7689	12374	7	1.75	44.4
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.38	670.0	30.22	767.6	27.2	—2.7	72.0	2	......	13	8	1	1	1	2	2	8984	14458	6	0.59	15.0
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.88	733.5	30.19	766.8	39.1	3.9	83.8	11	7	......	1	8	1	......	1	1	8434	13573	4	1.38	35.1
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.11	714.0	30.13	765.3	18.6	—7.4	82.2	4	13	2	2	6	3	......	......	......	8378	13483	6	1.00	25.4
Fort Verde *a*	N. 34 24	W. 111 53	4.38 a.m.	?	?	....	....	....	....	29.8	—1.2	60.7	9	11	4	4	1	1	......	....	......	....	....	1	0.21	5.3
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.36	720.3	29.96	761.0	48.8	9.3	86.4	9	6	3	8	......	......	1	1	2	5405	8698	5	1.68	42.7
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	30.10	764.5	30.14	765.5	59.3	15.2	84.0	7	1	......	3	6	4	3	5	1	9171	14759	7	2.85	72.4
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.36	745.7	30.07	763.8	38.8	3.8	78.5	1	3	7	6	3	5	4	1	......	11044	17773	9	4.19	106.4
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.22	767.6	30.24	768.1	58.3	14.6	79.1	6	6	2	3	1	5	......	6	1	9611	15467	6	4.77	121.2
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.82	655.8	30.54	775.7	26.2	—3.2	69.6	2	9	4	7	4	......	....	......	4	4636	7461	7	1.27	32.3
Henrietta *a*	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.16	740.7	30.12	765.0	39.0	3.9	80.9	9	1	4	......	10	2	1	1	1	6653	10707	4	2.13	54.1
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.63	727.2	30.13	765.3	23.7	—4.6	78.8	2	12	3	4	......	6	2	1	......	8499	13678	6	0.45	11.4
Indianapolis	N. 39 47	W. 86 00	6.24 a.m.	753	229	29.33	745.0	30.18	766.0	38.5	3.6	80.4	5	3	3	8	5	3	2	1	......	5181	8338	5	9.35	237.5
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.10	764.5	30.12	765.0	59.8	15.4	85.5	11	......	......	......	7	2	7	3	......	10886	17519	6	4.18	106.2
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.96	735.6	30.12	765.0	44.7	7.1	80.7	7	3	2	3	5	3	......	2	5	5391	8676	4	0.87	22.1
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.14	765.5	30.18	766.6	60.2	15.7	81.6	6	3	......	1	1	4	1	14	......	5181	8338	2	3.41	86.6
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.42	747.3	30.12	765.0	35.8	2.1	81.9	1	4	7	3	8	4	1	2	......	7334	11803	5	2.59	65.8
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.02	762.5	30.06	763.5	75.0	23.9	82.3	2	1	......	......	......	1	15	11	......	8828	14207	5	4.62	117.3
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.22	767.6	30.24	768.1	55.1	12.8	80.9	4	6	3	6	......	1	1	9	......	10529	16944	6	4.17	105.9
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.21	741.9	30.30	769.6	41.5	5.3	89.9	2	2	1	2	1	2	2	11	7	3731	6004	5	5.31	134.9
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.22	742.2	30.04	763.0	32.9	0.5	70.4	5	4	8	4	8	......	1	......	......	7238	11648	7	1.17	29.7
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.19	665.2	30.34	770.6	33.4	0.8	76.9	1	1	......	2	......	1	......	......	25	1082	1741	2	0.56	14.2
Laredo	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.64	752.8	29.98	761.5	55.5	13.1	88.2	6	2	.....	......	3	3	......	1	15	2612	4204	5	1.74	44.2
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.22	742.2	30.18	766.6	36.2	2.3	75.6	1	8	3	2	7	4	1	1	3	6309	10153	4	3.42	86.9
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.38	746.2	30.27	768.8	36.0	2.2	81.0	.....	1	3	8	1	......	7	4	6	2390	3846	7	1.19	30.2
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.85	758.2	30.18	766.6	45.6	7.6	83.8	3	2	......	3	7	4	2	4	5	4528	7287	5	6.50	165.1
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.70	754.4	30.08	764.0	47.5	8.6	71.7	4	2	......	5	4	3	3	9	......	5260	8465	1	0.27	6.9
Louisville	N. 38 18	W 85 52	6.25 a.m.	530	162	29.60	751.8	30.20	767.1	42.6	5.9	75.0	4	3	2	4	8	3	2	4	......	6738	10844	6	2.79	70.9
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.53	750.0	30.26	768.6	45.9	7.7	73.3	.....	2	3	......	2	1	......	3	19	1378	2218	3	3.59	91.2
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	28.99	736.3	30.09	764.3	32.2	0.1	79.6	2	4	7	5	8	1	2	1	......	9884	15906	6	2.56	65.0
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.22	742.2	29.99	761.7	28.6	—1.9	80.7	1	8	8	3	8	......	1	1	.....	8329	13404	8	3.43	87.1
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.47	723.1	30.26	768.6	46.8	8.2	80.6	6	......	2	4	5	......	2	2	9	5126	8249	5	0.48	12.2
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.87	758.7	30.23	767.8	44.9	7.2	82.1	2	4	1	......	5	6	3	2	7	4229	6806	4	5.14	130.6
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.27	743.4	30.07	763.8	34.3	1.3	81.7	3	2	8	5	9	2	1	.....	......	10128	16299	7	1.69	42.9
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.13	765.3	30.17	766.3	53.4	11.9	86.4	16	4	......	......	1	1	4	4	......	4747	7640	5	7.36	186.9
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.99	761.7	30.23	767.8	50.2	10.1	87.0	4	5	3	......	1	6	8	2	1	3890	6260	5	4.56	115.8
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.98	736.1	30.07	763.8	16.2	—8.8	92.0	3	9	3	1	7	2	......	2	3	8810	14178	7	1.41	35.8
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.19	741.4	30.20	767.1	43.3	6.3	78.0	3	1	4	10	2	1	1	2	6	5002	8050	5	3.19	81.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for November, 1881. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
U.S. Series—*Continued.*	° ′	° ′																								
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.61	599.7	30.10	764.5	17.7	—7.9	85.4	.....	20	4	4	.....	1	.....	.....	1	31375	40492	5	15.10	383.5
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.67	753.6	30.24	768.1	43.3	6.3	81.9	3	5	3	1	4	4	3	2	5	3476	5594	5	4.84	122.9
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	30.06	763.5	30.19	766.8	39.7	4.3	75.6	3	6	5	5	.....	1	.....	8	2	5946	9569	5	4.18	106.2
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.14	765.5	30.19	766.8	42.1	5.6	76.1	2	8	5	3	1	2	.....	8	1	5997	9651	4	5.10	131.1
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.09	764.3	30.15	765.8	57.9	14.4	79.0	9	4	.....	1	3	3	2	7	1	5852	9418	5	7.24	183.9
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.12	765.0	30.18	766.6	43.8	6.6	83.5	7	1	8	8	3	.....	2	1	.....	8099	13034	6	5.52	140.2
New River	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.14	765.5	30.17	766.3	45.7	7.6	76.2	3	8	5	6	.....	3	.....	4	1	12501	16899	5	6.47	164.3
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.03	762.7	30.22	767.6	42.7	5.9	80.8	.....	5	9	3	5	.....	1	6	1	6970	11217	4	2.87	72.9
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.21	767.3	30.24	768.1	51.3	10.7	80.7	10	1	1	8	1	1	2	3	3	4652	7486	5	6.04	153.4
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.12	688.8	30.26	768.6	25.1	—3.8	80.6	4	13	7	.....	1	1	1	2	1	8927	14366	4	0.37	9.4
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	30.11	764.8	30.15	765.8	41.7	5.4	90.5	4	1	.....	.....	16	1	3	4	1	3359	5406	8	6.75	171.4
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.91	734.3	30.18	766.6	32.1	0.1	75.7	8	7	3	3	7	1	1	.....	.....	8581	13810	6	1.29	32.8
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.76	755.9	30.11	764.8	39.0	3.9	66.2	3	4	2	4	9	7	.....	1	.....	8121	13069	8	3.13	79.5
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.14	765.5	30.17	766.3	56.4	13.6	86.7	11	2	.....	1	1	3	2	10	.....	5625	9052	5	7.27	184.7
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	30.16	766.1	30.22	767.6	44.3	6.8	77.1	4	7	6	5	.....	.....	4	3	1	5879	9461	5	2.02	51.3
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.94	735.1	30.84	783.3	36.4	2.4	45.2	...	1	3	3	.....	2	13	3	5	1511	2432	1	0.36	9.1
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.57	440.3	29.78	756.4	15.5	—9.2	73.2	1	8	2	8	.....	2	.....	9	.....	17519	28194	1	4.76	120.9
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.15	613.4	30.45	773.4	28.1	—2.2	50.0	7	13	.....	1	6	.....	.....	.....	3	5232	8420	2	0.10	2.5
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.36	745.7	30.23	767.8	41.6	5.3	74.6	.....	1	10	5	6	.....	1	7	.....	5348	8607	4	2.66	67.6
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.12	765.0	30.14	765.5	62.8	17.1	87.3	11	1	..	.....	2	5	7	4	.....	10320	16608	4	3.16	80.3
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.39	746.5	30.12	765.0	35.3	1.8	87.6	.....	3	4	8	8	5	1	1	.....	9011	14492	6	2.70	68.6
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.07	763.8	30.12	765.0	37.8	3.2	76.3	4	9	4	8	.....	1	1	3	.....	6295	10131	6	3.13	79.5
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.15	765.8	30.22	767.6	40.2	4.6	89.4	1	.....	4	1	8	5	1	.....	10	3516	5658	5	6.91	175.5
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	57.5	14.2	75.6	6	5	.....	1	4	3	2	9	.....	9398	15124	5	5.19	131.8
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.78	629.4	30.17	766.3	25.5	—3.6	73.6	4	.....	.....	1	20	.....	1	.....	4	3704	5961	0	0.30	7.6
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.07	763.8	30.08	764.0	67.8	19.9	79.8	6	1	.....	.....	.....	.....	8	15	.....	8159	13130	4	0.80	20.3
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.81	757.2	30.16	766.1	43.8	6.6	71.6	13	7	1	2	.....	.....	.....	1	6	2850	4586	2	0.73	18.5
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.92	760.0	30.14	765.5	57.1	13.9	77.6	13	.....	.....	.....	2	10	1	2	2	4178	6724	7	1.15	29.2
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.41	747.0	30.12	765.0	37.3	2.9	79.0	1	.....	10	8	3	4	1	1	2	10338	16637	7	1.90	49.8
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.68	753.9	30.27	768.8	40.2	4.6	88.3	.....	3	2	5	1	3	8	2	6	1742	2803	8	4.15	105.4
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	30.09	764.3	30.17	766.3	43.4	6.3	73.8	13	2	2	....	2	5	.....	3	3	3761	6053	1	1.88	47.8
Saint Louis *a*	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.56	750.8	30.20	767.1	39.0	3.9	78.4	2	3	2	4	11	2	3	2	.....	8618	13869	5	6.74	171.2
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.11	739.4	30.05	763.3	27.7	—2.4	77.9	1	9	8	.....	2	7	1	1	1	7604	12237	7	1.36	34.5
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.10	739.1	30.06	763.5	14.3	—9.8	95.2	5	12	2	.....	5	4	1	1	.....	8722	14036	6	0.48	12.2
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.75	654.0	30.29	769.4	29.5	—1.4	50.8	1	.....	2	....	.....	5	1	3	18	2205	3548	4	1.44	36.6
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.44	747.8	30.16	766.1	51.4	10.8	81.2	9	2	.....	.....	3	4	1	5	6	3891	6262	5	2.07	52.6
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.94	760.5	30.01	762.2	49.2	9.6	56.1	6	.....	1	.....	.....	3	6	12	2	4132	6650	1	0.12	3.0
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.43	747.5	30.15	765.8	40.1	4.5	78.9	2	2	5	8	8	3	2	.....	.....	11250	18105	8	4.99	126.7
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.17	766.3	30.20	767.1	46.4	8.0	71.6	1	12	2	7	1	.....	3	3	1	11143	17932	5	3.54	89.9
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.09	764.3	30.16	766.1	50.6	10.3	75.5	6	10	5	4	2	.....	.....	2	1	4771	7678	1	1.94	49.3
Santa Fé *i*	N. 35 41	W. 106 10	5.04 a.m.	7064	2153	23.24	590.3	30.36	771.1	25.4	—3.7	74.6	2	4	.....	4	1	3	1	3	3	.....	.....	3	1.11	28.2
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.12	765.0	30.21	767.3	56.2	13.4	80.1	15	5	1	1	2	3	.....	3	.....	4937	7945	4	2.45	62.2
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.94	760.5	30.17	766.3	47.4	8.6	89.4	6	3	1	1	7	2	2	3	5	4552	7326	6	5.90	151.4
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.31	617.5	30.06	763.5	29.0	—1.7	73.1	6	8	1	.....	1	1	.....	.....	13	1526	2456	2	1.55	39.4
Sitka *c*	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.74	755.4	29.81	757.2	41.8	5.4	90.7	1	3	.....	.....	.....	7	11	5	.....	7918	12743	9	13.50	342.9
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.18	766.6	30.22	767.6	53.3	11.8	83.8	12	2	1	2	2	1	.....	9	1	5878	9460	4	4.25	107.9
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	28.11	714.0	30.22	767.6	29.7	—1.3	82.0	2	8	3	5	3	.....	3	.....	6	2624	4223	7	2.23	56.6
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.44	747.8	30.17	766.3	38.6	3.7	75.9	1	5	6	4	9	1	1	3	.....	7386	11886	5	6.93	176.0
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	30.05	763.3	30.18	766.6	37.9	3.3	79.3	10	1	4	2	7	.....	1	3	2	3954	6363	5	4.84	122.9
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.07	687.6	30.27	768.8	40.9	4.9	74.9	1	4	2	10	5	2	2	.....	4	4864	7828	3	0.07	1.8
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.11	764.8	30.16	766.1	40.4	4.7	73.2	.....	9	6	6	.....	4	1	3	1	11377	18309	5	11.18	284.0
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.40	746.7	30.14	765.5	40.1	4.5	79.9	1	1	7	5	12	1	2	1	.....	8090	13019	8	4.74	120.4
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.58	700.5	30.07	763.8	41.0	5.0	61.5	1	.....	.....	.....	1	21	5	.....	2	3065	4932	1	0	0
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.89	759.2	30.32	770.1	36.9	2.7	80.0	3	1	3	3	2	6	8	4	.....	4698	7561	8	0.98	24.9
Uvalde *b*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.14	740.1	29.98	761.5	50.5	10.3	85.7	4	.....	.....	.....	1	3	3	4	13	2634	4239	7	2.24	56.9
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.94	760.5	30.21	767.3	49.6	9.8	79.9	5	4	.....	.....	5	11	3	2	.....	4877	7849	4	6.07	154.2
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.74	755.4	30.12	765.0	37.7	3.2	77.0	2	4	.....	2	5	11	4	1	1	1887	3037	1	0.52	13.2
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	30.12	765.0	30.24	768.1	43.2	6.2	83.0	1	7	2	.....	4	3	.....	4	9	3274	5269	5	2.45	62.2
W. Las Animas *i*	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.09	662.7	30.27	768.8	24.8	—4.0	81.5	3	5	4	6	.....	.....	1	2	.....	.....	.....	3	0.03	16.0
Wickenburg	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	34.7	1.5	66.0	...	2	.....	.....	1	.....	.....	.....	27	.....	.....	1	0.41	10.4
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.16	766.1	30.22	767.6	53.4	11.9	83.1	6	4	1	.....	1	.....	1	8	9	3969	6387	4	2.95	74.9
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.77	654.5	30.32	770.1	24.6	—4.1	69.2	1	1	.....	7	3	.....	.....	18	.....	5296	8523	3	0.32	8.1
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	30.13	765.3	30.17	766.3	44.8	7.1	77.2	4	9	.....	9	.....	2	1	5	.....	12370	19907	5	5.52	140.2
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.76	730.5	30.17	766.3	27.7	—2.4	80.7	4	7	5	3	.....	2	1	1	7	6598	10618	6	0.90	22.9
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.89	759.2	30.04	763.0	49.9	9.9	49.4	17	3	1	.....	.....	.....	1	2	6	4675	7524	0	0	0
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.00	558.8	.....	.....	53.0	11.7	83.5	.....	.....	.....	1	.....	2	.....	1	26	.....	.....	6	10.70	217.8
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	29.94	760.5	29.95	760.7	80.9	27.2	91.4	.....	.....	.....	.....	.....	2	21	6	1	.....	.....	10	13.38	339.9
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	18	5	29.94	760.5	29.96	761.0	76.0	24.4	88.2	1	1	4	11	9	3	.....	1	.....	.....	.....	.....	41.00	1056.6
Gaudeloupe	N. 16 12	W. 61 40	8.01 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.00	762.0	30.05	763.3	75.7	24.3	84.1	1	1	.....	.....	3	5	3	.....	17	.....	.....	5	5.16	131.1
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	29.95	760.7	29.96	761.0	74.7	23.7	84.1	17	.....	.....	.....	.....	1	1	.....	11	.....	.....	5	2.18	55.4
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.87	758.7	29.95	760.7	79.5	26.4	72.8	.....	.....	.....	.....	.....	.....	8	21	1	.....	.....	7	1.80	45.7
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	29.95	760.7	29.95	760.7	80.2	26.8	82.9	.....	.....	.....	.....	.....	8	21	1	.....	.....	.....	8	4.18	106.2
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.40	746.7	29.96	761.0	77.6	25.3	90.8	5	.....	...	.....	3	.....	1	.....	21	.....	.....	10	9.97	253.2
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	.....	.....	95.2	1	3	.....	.....	.....	2	1	14	9	.....	.....	5	10.88	276.4
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	29.95	760.7	29.97	761.2	76.8	24.9	77.6	20	.....	.....	.....	.....	.....	.....	4	6	.....	.....	3	2.36	59.9
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	110	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	29.92	760.0	29.98	761.5	—5.9	-21.1	89.5	4	7	8	6	3	.....	1	1	.....	.....	.....	5	1.52	38.6

OCEAN SQUARE DATA FOR NOVEMBER 1881.

Location of centre of each square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° N. 2.5	° W. 22.5	1	1															
2.5	27.5	4	4															
2.5	32.5	1	1															
7.5	22.5	6	6															
7.5	27.5	5	5															
7.5	32.5	4	4											3	26		1	2.0
12.5	22.5	3	3	29.96	761.0	82.6	28.1							2	26		2	2.1
12.5	27.5	2	2	29.98	761.5	82.5	28.1											
12.5	32.5	3	3															
12.5	37.5	1	1															
12.5	42.5	2	2															
12.5	47.5	4	4															
12.5	57.5	2	2															
17.5	22.5	3	3	30.02	762.5	80.3	26.8							3	25		2	2.2
17.5	27.5	3	3	30.04	763.0	80.3	26.8							4	24		2	2.2
17.5	32.5	6	6															
17.5	37.5	6	7															
17.5	42.5	3	4															
17.5	47.5	1	1															
17.5	52.5			30.02	762.5	78.1	25.6						1	4	25			1.7
17.5	57.5	2	2	30.00	762.0	75.0	23.9							10	20			2.1
22.5	22.5	2	2	30.08	764.0	76.6	24.8				4			1	25			2.0
22.5	27.5	1	1	30.09	764.3	76.4	24.7		4						26			1.7
22.5	32.5	2	2	30.08	764.0	75.6	24.2	1	1						28			2.3
22.5	37.5	4	6	30.09 *a*	764.3*a*	75.4	24.1	1							29			2.1
22.5	42.5	1	1	30.08	764.0	75.6	24.2								30			1.9
22.5	47.5			30.10 *a*	764.5*a*	75.3	24.1		1					1	28			1.8
22.5	52.5	2	2	30.05	763.3	76.0	24.4						1	5	24			1.7
22.5	57.5	2	3	30.05	763.3	76.1	24.5	1					1	10	18			1.9
22.5	62.5	5	5	30.04	763.0	76.9	24.9						2	13	15			2.4
22.5	67.5			30.04	763.0	77.0	25.0					2	1	10	17			2.0
27.5	22.5	1	1	30.14	765.5	72.1	22.3	1	1	1	4				21		2	2.1
27.5	27.5	2	2	30.13	765.3	71.5	21.9	2	4	2				1	21			2.0
27.5	32.5	2	2	30.14 *a*	765.5*a*	71.3	21.8	1	5					1	23			3.1
27.5	37.5			30.12 *a*	765.0*a*	71.2	21.8	4	2						24			1.9
27.5	42.5	4	4	30.11 *a*	764.8*a*	71.5	21.9				1			1	28			1.8
27.5	47.5	1	1	30.11 *a*	764.8*a*	71.2	21.8	1	1		1		2	1	24			1.9
27.5	52.5	3	3	30.09	764.3	72.0	22.2	2	1				3	4	20			1.7
27.5	57.5			30.15	765.8	72.2	22.3	2	2			1	2	6	17			1.9
27.5	62.5	7	7	30.11	764.8	73.1	22.8	1	1			1	6	5	15		1	2.3
27.5	67.5	3	3	30.11	764.8	77.3	25.2	1	1		1	3	5	2	17			2.2
27.5	72.5	4	5	30.09	764.3	72.3	22.4		1		1	1	4	6	17			2.5
27.5	77.5	2	2	30.09	764.3	70.3	21.3	1	1		1	3	2	6	16			2.1
32.5	12.5			30.19	766.8	69.3	20.7			1	8	5	11		5			1.5
32.5	17.5	5	5	30.19	766.8	66.9	19.4			3	10	3	10		4			1.2
32.5	22.5	3	3	30.16	766.1	68.3	20.2		4	3	9	3	1	1	9			2.3
32.5	27.5	5	5	30.15	765.8	67.3	19.6	3	9	2	2	5			9			2.1
32.5	32.5			30.13	765.3	66.6	19.2	2	8		4	2			14			1.8
32.5	37.5			30.11	764.8	67.1	19.5	6	8	5		1			10			2.3
32.5	42.5	1	1	30.10	764.5	66.5	19.2	2	7	1	1	1	1	3	12		2	1.9
32.5	47.5	6	6	30.13	765.3	67.2	19.6	4	9	2	1		4		8		2	2.2
32.5	52.5	4	5	30.17	766.3	67.8	19.9		10	1	1	1	5	2	10			2.0
32.5	57.5	1	1	30.13	765.3	68.6	20.3	2	8	1	2	3	4	1	8		1	2.0
32.5	62.5	3	4	30.14	765.5	69.5	20.8	3	2	1	3	5	1	5	9		1	2.0
32.5	67.5	9	9	30.17	766.3	68.6	20.3	3	4	1	7	1	5	1	8			2.6
32.5	72.5	10	12	30.18	766.6	66.9	19.4	2	9			4	4	3	8			2.2
32.5	77.5	3	3	30.20	767.1	58.8	14.9	9	8	2	2	3	2	2	2			2.1
37.5	12.5	6	7	30.16	766.1	63.4	17.4	1	2	1	8	9	5		4			2.3
37.5	17.5	11	14	30.10	764.5	63.4	17.4		4	5	11	8	1				1	2.9
37.5	22.5	12	12	30.09	764.3	63.7	17.6		4	4	10	6	1		4		1	2.4
37.5	27.5	1	1	30.09	764.3	61.3	16.3	6	7	4	7	4			2			2.4
37.5	32.5			30.08	764.0	61.9	16.6	4	10	6	4	1		2	3			2.5
37.5	37.5			30.08	764.0	59.0	15.0	1	14	3	6		1	1	4			3.0
37.5	42.5	3	3	30.07	763.8	55.5	13.1	2	12	3	2	1	2		8			2.7
37.5	47.5	3	3	30.08	764.0	58.2	14.6	4	11	2	3	2	3	1	4			3.0
37.5	52.5	3	3	30.11	764.8	58.1	14.5	2	7	7	2	5	2	2	3			2.7
37.5	57.5	4	4	30.12	765.0	58.7	14.8	2	9	4	5	5	1	2	2			2.9
37.5	62.5	7	9	30.16	766.1	58.1	14.5	2	10	1	5	4	1	4	3			3.0
37.5	67.5	15	19	30.19	766.8	57.1	13.9	2	8	1	8	2	3	1	5			2.9
37.5	72.5	17	26	30.21	767.3	53.7	12.1	3	7	2	6	2	6	1	1		2	2.7
42.5	12.5	4	4	30.05	763.3	60.7	15.9		2		13	9	6					3.1
42.5	17.5	5	5	29.94	760.5	60.2	15.7		4	4	10	8	1	2			1	3.3
42.5	22.5	1	1	29.93	760.2	58.9	14.9	1	6	6	10	5			2			3.2
42.5	27.5	2	2	29.92	760.0	56.6	13.7	2	14	6	4	4						3.3
42.5	32.5	4	4	29.93	760.2	54.9	12.7	4	13	5	7		1					3.6
42.5	37.5	6	6	29.92	760.0	53.2	11.8	5	16	4	5							3.9
42.5	42.5	5	5	30.00	762.0	51.7	10.9	2	16	5	2	3	2					3.3
42.5	47.5	10	12	30.02	762.5	49.7	9.8	4	14	3	3	4	2					3.3
42.5	52.5	13	15	30.05	763.3	49.1	9.5	4	10	6	5	2	2	1				3.1
42.5	57.5	14	20	30.09	764.3	48.6	9.2	3	11	7	1	5	2			1		2.6
42.5	62.5	17	23	30.10	764.5	47.5	8.6	2	10	5	3	6	2		1		1	2.5
42.5	67.5	16	18	30.15	765.8	44.2	6.8	3	12	7	2	3	2				1	2.3
47.5	12.5	16	17	29.80	756.9	56.2	13.4		2	2	7	14	3	1	1			4.2
47.5	17.5	8	12	29.72	754.9	54.9	12.7		1	6	10	8	1	3	1			4.5
47.5	22.5	7	8	29.64	752.8	52.3	11.3		4	9	8	4	1	1	3			4.7
47.5	27.5	11	13	29.59	751.6	50.6	10.3	4	11	6	5	3		1				5.0
47.5	32.5	10	13	29.59	751.6	49.0	9.4	3	13	7	5		1		1			4.5
47.5	37.5	14	17	29.65	753.1	45.3	7.4	2	19	6	2				1			4.9
47.5	42.5	16	17	29.74	755.4	43.7	6.5	2	16	1	6	2	2	1				3.9
47.5	47.5	9	11	29.84	757.9	38.7	3.7	3	18	1	3	4		1				3.2
52.5	12.5	11	12	29.65	753.1	52.2	11.2		2	3	8	12	4	1				4.9
52.5	17.5	9	12	29.56	750.8	51.2	10.7	1	2	4	7	12	1	2	1			4.6
52.5	22.5	14	18	29.48	748.8	49.4	9.7		4	7	5	5	3		6			4.5
52.5	27.5	10	13	29.45	748.0	47.5	8.6	4	10	7	1	4	2		2			4.6
52.5	32.5	3	3	29.46	748.3	45.8	7.7	2	16	4	2	3	1		2			4.3
52.5	37.5	3	3	29.53	750.0	43.3	6.3	2	20	2	2	1	1		2			4.5
52.5	42.5	1	1	29.62	752.3	39.8	4.3	2	18	1	6		1		2			3.5
52.5	47.5			29.72	754.9	37.6	3.1	5	19	2	3		1					3.1
57.5	12.5			29.44	747.8	45.7	7.6	1	3		8	4	9	4			1	3.9
57.5	17.5			29.41 *a*	747.0*a*	44.3	6.8	1	3	2	5	6	4	4	3		2	4.0
57.5	22.5			29.34	745.2	42.6	5.9	2	2	3	5	1	7	6	4			3.9
57.5	27.5			29.32	744.7	40.7	4.8	10	5	5		1	4	1	4			3.8
57.5	32.5			29.35	745.5	38.9	3.8	7	10	3	1		4	1	4			3.8
57.5	37.5			29.38	746.2	36.4	2.4	7	13	2	1	2	1		4			3.7
57.5	42.5			29.44	747.8	33.7	0.9	4	14	3	2	3	1		3			3.2
57.5	47.5			29.51	745.9	30.9	— 0.6	6	18	2	3	1						2.8

NOTE.—See General Remarks, page 9.

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San José the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12.00, instead of 12.16.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, except at Carlsruhe, where the scale of 0 to 4 is used. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin, observations are taken at 2.00 p. m., instead of 1.02 p. m.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms. I. Arai, Director of the Imperial Meteorological Observatory at Tokei, states that on account of instrument being out of order, all barometric readings from Supporo, from opening of station, should be omitted.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on he scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off, and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

GERMAN NAVAL SERIES.—No vessels reporting.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES.—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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."

ERRATA.

DAILY BULLETIN, November 1st, 1881, page 7, Montgomery, reduced barometer 30.98 inches, should read 30.08 inches; page 7, United States sub-series, Havana, rainfall —, should be 0; page 10, U. S. Naval, Nipsic, 29.57 inches, should read 29.75 inches; page 12, Miscellaneous, U. S. F. C. S. Fish Hawk, rainfall —— m. m., should read 4.1 m. m.

14th, page 2, British series, Sheffield, reduced barometer 30.6 inches, should read 30.26 inches. Canadian series, Charlottetown, temperature Fahrenheit 36°, should read 37°.

19th, page 1, Austro-Hungarian series, Szegedin, reduced barometer 774.2 m. m., should read 774.0 m. m.; Trieste, 772.3 m. m., should read 774.8 m. m.

26th, page 2, British series, Gibraltar, actual barometer 766.8 m. m., should read 766.6 m. m.

See note in reference to Supporo, Japan, under head of General Remarks.

Attention is called to corrections made in the position and elevation of stations of the British and Russian series, based on advice received from their respective meteorological offices.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

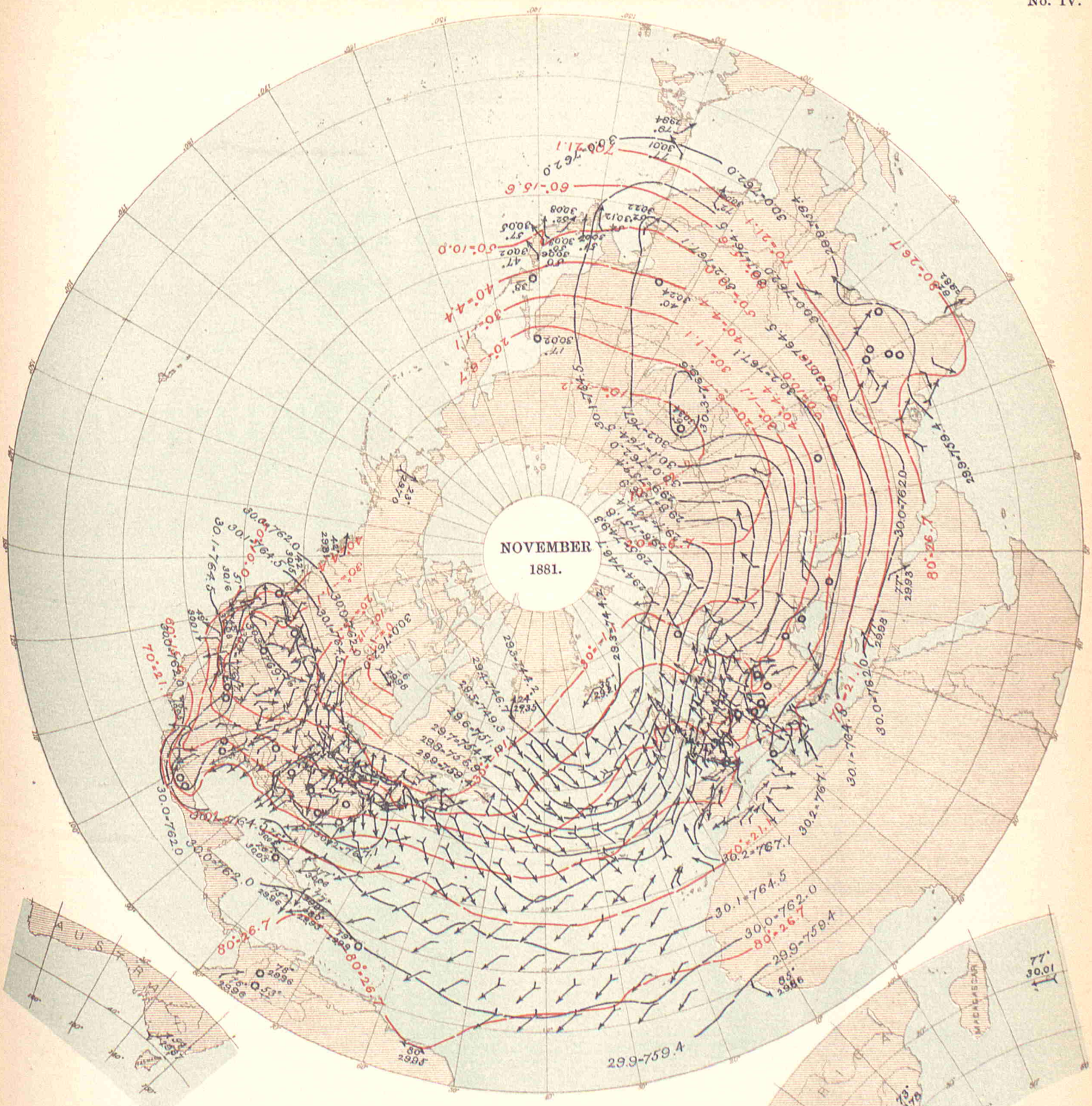
W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

No. IV.



PREVAILING WINDS.

Arrows show the 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 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

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

Heliotype Printing Co. Boston.

ISOBARS AND ISOTHERMS.

Isobars in *black;* detached barometer means in English inches.

Isotherms in *red;* detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of November, 1881, based on the daily charts of the International Bulletin.

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

INTERNATIONAL

SIMULTANEOUS METEOROLOGICAL OBSERVATIONS

INCLUDING A MONTHLY SUMMARY WITH DAILY BULLETINS AND ACCOMPANYING CHARTS.

FOR THE MONTH OF DECEMBER, 1881.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JANUARY, 1883.

MONTHLY SUMMARY

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

DECEMBER, 1881.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for December, 1881. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation.
Algerian Series.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.16	766.1	64.2	17.9	79.0	2	.....	14	5	.....	.....	3	.....	7	.....	.....	2	3.63	92.3
Algiers	N. 36 47	E. 3 04	0.20 p.m.	72	22	.....	.....	30.13	765.4	59.0	15.0	78.1	4	5	12	7	.....	.....	2	1	.....	.....	.....	4	4.18	106.2
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30 11	764.8	59.9	15.5	75.1	1	10	8	4	2	2	3	1	.....	.....	.....	4	8.88	225.6
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.10	764.5	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sfax	N. 34 44	E. 10 40	0.51 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.15	765.9	49.1	9.5	72.0	6	11	1	3	.....	1	.....	8	1	.....	.....	3	2.96	75.3
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.14	765.6	48.0	8.9	78.2	.....	15	5	2	3	4	1	.....	1	.....	.....	5	4.17	106.0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.26	768.6	52.2	11.2	54.3	6	4	5	7	5	1	3	.....	.....	.....	.....	2	1.57	39.9
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.19	766.8	61.9	16.6	48.0	2	21	.....	.....	.....	7	.....	.....	1	.....	.....	5	0.46	11.7
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.80	756.9	29.89	759.2	60.5	15.8	73.9	1	.....	2	9	11	3	3	2	.....	.....	.....	7	3.13	79.5
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.63	752.5	30.20	767.1	36.1	2.3	85.5	1	.....	.....	4	2	4	6	9	5	.....	.....	8	1.41	35.8
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.41	746.9	30.21	767.4	33.4	0.8	84.1	2	.....	6	9	1	1	.....	12	.....	.....	.....	8	0.16	4.0
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.30	744.1	30.22	767.6	32.4	0.2	79.7	4	1	.....	.....	8	1	.....	.....	17	.....	.....	9	0.27	6.8
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.90	734.1	30.21	767.4	34.9	1.6	84.3	.....	6	1	6	8	3	3	3	1	.....	.....	8	0.54	13.8
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.74	729.9	30.26	768.5	31.1	—0.5	88.0	1	4	1	2	3	14	4	2	.....	.....	.....	7	0.41	10.3
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.74	730.1	30.16	766.0	34.0	1.1	89.0	1	1	3	7	1	.....	.....	16	2	.....	.....	8	1.65	42.0
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.17	741.0	30.22	767.5	30.4	—0.9	86.9	.....	6	1	4	9	9	2	.....	.....	.....	.....	7	0.28	7.2
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.99	761.7	30.11	764.7	48.0	8.9	72.8	1	5	5	1	1	2	8	7	1	.....	.....	6	4.86	123.5
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.74	755.5	30.21	767.3	33.4	0.8	72.3	2	.....	.....	3	7	4	11	4	.....	.....	.....	6	0.73	18.6
Szegedin d.	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.89	759.2	30.18	766.6	35.6	2.0	81.0	.....	.....	1	2	8	7	.....	.....	9	.....	.....	7	0.89	22.5
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	30.04	763.0	30.13	765.4	47.1	8.4	64.2	.....	.....	.....	.....	.....	.....	9	10	12	.....	.....	6	0.76	19.3
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.46	748.2	.....	.....	34.7	1.5	77.0	2	1	8	3	2	7	6	2	.....	.....	.....	7	0.39	9.8
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.65	753.1	29.75	755.6	40.6	4.8	77.5	.....	.....	6	10	10	3	.....	2	.....	.....	.....	6	1.66	42.2
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.63	752.6	29.87	758.7	40.3	4.6	85.5	.....	.....	1	13	16	1	.....	.....	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.59	751.6	41.6	5.3	87.1	.....	2	4	10	1	12	2	.....	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.38	746.2	29.93	760.2	39.0	3.9	90.1	4	5	5	5	11	1	.....	.....	.....	.....	.....	9	.....	.....
Bradford d.	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.55	750.6	29.95	760.7	41.9	5.5	84.6	2	1	2	12	6	1	.....	3	.....	.....	.....	8	3.03	77.0
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.92	760.0	40.9	4.9	88.1	1	4	8	10	7	1	.....	.....	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.89	759.2	30.03	762.7	42.1	5.6	86.9	1	1	7	8	6	1	.....	.....	7	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.78	756.4	30.01	762.2	46.7	8.2	79.0	3	1	8	6	7	3	2	.....	1	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.56	700.0	29.78	756.4	77.2	25.1	62.0	.....	1	.....	2	.....	7	4	14	3	.....	.....	7	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.64	752.8	29.87	758.7	87.1	30.6	71.0	4	11	3	4	.....	4	.....	5	.....	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	.....	.....	29.80c	756.5c	42.8	6.0	83.7a	.....	5	13	6	7	.....	.....	.....	.....	.....	.....	7	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.16	766.1	30.22	767.6	59.8	15.4	83.1	2	7	8	3	.....	.....	6	5	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.61	752.1	29.81	757.2	40.5	4.7	84.0	.....	1	7	12	2	5	1	3	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.82	757.4	30.00	762.0	41.9	5.5	83.4	2	1	2	11	11	2	.....	2	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	204	62	29.80	756.9	30.02	762.5	45.9	7.7	78.2	.....	4	4	6	8	5	2	2	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.97	761.2	30.02	762.5	42.0	5.6	82.0a	2	.....	4	14	7	1	.....	3	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.70	754.4	29.96	761.0	41.0	5.0	82.6	.....	3	1	19	2	1	.....	2	3	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.94	760.5	30.01	762.2	62.2	16.8	73.0	2	6	7	3	2	4	3	4	.....	.....	.....	6	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.14	765.5	30.18	766.6	72.2	22.3	79.5	2	1	.....	2	3	4	3	16	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.41	747.0	29.95	760.7	40.3	4.6	86.1a	2	3	2	5	12	4	.....	3	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.75	755.6	29.98	761.5	41.5	5.3	83.8	1	4	1	10	5	8	.....	1	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.93	760.2	30.01	762.2	45.7	7.6	88.6	2	2	6	6	4	4	2	2	3	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.64	752.8	41.1	5.1	88.1	.....	1	4	12	8	3	1	.....	2	.....	.....	7	.....	.....
Scutari Colmet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	30.08	764.0	30.14	765.5	47.1	8.4	70.5	3	.....	.....	2	2	1	2	19	2	.....	.....	7	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.61	752.1	29.90	759.4	41.5	5.3	88.6	1	1	1	12	10	1	.....	1	4	.....	.....	7	2.97	75.4
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.62	752.3	29.79	756.7	41.7	5.4	.....	4	2	5	11	2	2	3	1	1	.....	.....	6	2.25	57.1
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.89	759.2	40.0	4.4	85.0	4	1	7	10	6	.....	.....	3	.....	.....	.....	8	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.78	756.4	30.01	762.2	42.1	5.6	83.6	.....	3	7	10	6	2	.....	1	2	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.93	760.2	30.00	762.0	49.8	9.9	76.6a	3	4	10	5	2	4	1	2	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.87	758.7	29.90	759.4	47.0	8.3	75.8	1	2	6	7	6	6	1	2	.....	.....	.....	7	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for December, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
	° ′	° ′																								
Canadian Series																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	26.4	— 3.1	86.7	2	3	8	6	5	1	1	1	4	5976	9617	7	3.58	90.9
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.02	762.5	30.06	763.5	26.4	— 3.1	86.7	2	3	8	6	5	1	1	1	4	5976	9617	7	3.58	90.9
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	30.00	762 0	30.07	763.8	19.3	— 7.1	91.4	.....	3	3	3	5	1	1	1	14	2449	3941	6	2.49	63.2
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.01	762.2	30.03	762.7	20.1	— 6.6	87.5	4	4	5	8	3	1	1	3	2	15293	24611	9	2.10	53.3
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.07	738.4	29.98	761.5	7.8	—13.4	96.4	2	7	6	3	2	6	.....	1	4	5877	9458	5	0.34	8.6
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.98	761.5	30.11	764.8	28.8	— 1.8	87.1	3	6	10	3	1	2	3	1	2	.....	.....	5	7.03	178.6
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	358	109	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.73	755.1	30.00	762.0	32.8	0.4	82.6	3	2	5	8	6	2	1	4	.....	3294	5301	8	5.54	140.7
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.84	757.9	30.06	763.5	27.2	— 2.7	85.9	2	1	12	3	8	1	.....	3	1	.....	.....	7	3.37	85.6
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.31	744.5	30.04	763.0	27.1	— 2.7	86.3	3	1	5	6	.....	7	4	3	2	7554	12157	8	3.27	83.1
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.37	746.0	30.10	764.5	33.8	1.0	91.7	2	2	8	7	3	.....	.....	2	7	7355	11836	8	3.18	80.8
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.42	747.3	30.10	764.5	33.4	0.8	86.1	2	1	14	3	4	2	1	4	.....	.....	.....	8	3.34	84.8
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.73	755.1	30.07	763.8	20.4	— 6.4	88.6*b*	1	2	14	.....	.....	.....	5	3	6	.....	.....	7	4.81	122.2
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.54	750.3	30.03	762.7	19.0	— 7.2	82.8*a*	2	2	7	.....	.....	2	3	.....	15	.....	.....	7	1.71	43.4
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.30	744.2	30.05	763.3	34.4	1.3	89.2*b*	.....	3	5	8	6	4	1	4	.....	10753	17305	8	3.95	100.3
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.04	763.0	30.09	764.3	27.4	— 2.6	81.9	4	5	7	3	3	2	1	2	4	.....	.....	5	5.17	131.3
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.99	761.7	30.06	763.5	28.2	— 2.1	86.1	2	7	4	8	3	1	1	1	4	9023	14521	9	4.38	111.2
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.69	754.1	30.08	764.0	32.9	0.5	86.6	4	3	6	12	2	.....	2	1	1	8447	13594	7	2.50	63.5
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth	N 43 50	W. 66 02	7.44 a.m.	61	19	30.03	762.7	30.10	764.5	31.9	—0.1	84.3	4	3	3	3	1	4	8	3	2	6905	11112	5	5.45	138.4
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.93	760.2	30.19	766.8	26.8	— 2.9	.....	1	4	7	9	4	3	.....	3	.....	.....	.....	7	3.46	87.9
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Colony Series.																										
Cape St. Francis.‡	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.95	760.7	29.98	761.5	68.6	20.3	83.4	.....	.....	7	12	1	3	8	.....	.....	.....	.....	5	1.45	36.8
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.94	760.5	29.98	761.5	79.2	26.2	51.7	1	8	3	11	8	.....	.....	.....	.....	.....	.....	4	0.04	1.0
Worcester *b*	S. 33 36	E. 19 26	1.26 p.m.	?	?	29.10	739.1	.....	.....	78.0	25.6	34.0	.....	11	8	2	3	4	1	.....	.....	.....	.....	3	0.04	1.0
Chinese Series.																										
Sub Series.																										
Hankow *b*	N. 30 34	E. 114 20	7.45 p.m.	260	79	30.35	770.9	30.61	777.5	41.5	5.3	87.0*c*	10	1	1	.....	.....	1	3	10	3	.....	.....	7	1.02	25.9
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.38	771.7	30.41	772.3	41.9	5.5	81.5	3	13	1	1	1	1	3	8	.....	.....	.....	7	1.07	27.2
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.98	761.4	30.02	762.6	37.9	3.3	88.0	2	2	4	6	7	7	3	.....	.....	.....	.....	9	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.96	761.0	29.98	761.5	37.8	3.2	95.0	1	.....	6	5	10	5	3	1	.....	.....	.....	8	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.33	744.9	29.37	746.0	14.9	— 9.5	87.0*e*	9	5	.....	2	5	1	.....	8	1	.....	.....	9	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.08	738.6	29.12	739.7	31.5	— 0.3	91.0	.....	.....	.....	5	4	7	9	5	1	.....	.....	9	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.44	747.8	29.48	748.7	40.5	4.7	80.0	2	2	5	8	6	2	3	3	.....	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.85	758.1	29.94	760.4	38.1	3.4	92.0	1	.....	1	7	7	9	3	2	1	.....	.....	7	.....	.....
French Series.																										
Agen *b*	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.51	749.6	30.19	766.7	41.5	5.3	93.1	.....	2	5	3	8	10	.....	1	.....	.....	.....	.....	2.43	61.8
Alençon *b*	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.59	751.6	30.14	765.6	37.9	3.3	95.1	4	.....	4	6	7	1	3	6	.....	.....	.....	.....	1.97	50.0
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.81	757.1	30.07	763.8	38.3	3.5	89.6	1	2	4	7	13	2	.....	1	1	.....	.....	.....	2.32	58.9
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.06	763.4	30.13	765.4	45.7	7.6	66.9	23	5	1	.....	.....	2	.....	.....	.....	.....	.....	3	3.50	88.9
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.58	751.2	30.15	765.9	37.8	3.2	82.1	.....	.....	1	5	9	11	3	2	.....	.....	.....	6	0.71	18.1
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.84	757.9	30.11	764.8	38.5	3.6	85.6	4	.....	5	8	4	5	2	3	.....	.....	.....	7	1.86	47.2
Besançon	N. 47 14	E. 6 01	0.32 p.m.	846	258	29.19	741.4	30.13	765.3	38.1	3.4	86.9	3	.....	1	1	10	1	3	12	.....	.....	.....	3	2.37	60.2
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.89	759.3	30.16	766.1	42.4	5.8	82.4	1	1	2	7	4	11	4	1	.....	.....	.....	6	3.46	88.0
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.60	751.7	30.17	766.3	41.9	5.5	83.3	5	1	6	6	2	2	6	3	.....	.....	.....	.....	1.45	36.9
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.84	757.8	30.08	764.0	47.7	8.7	82.5	.....	2	7	5	4	6	3	3	1	.....	.....	6	4.00	103.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.98	761.4	30.06	763.4	40.6	4.8	95.7	1	.....	7	3	12	5	2	1	.....	.....	.....	6	2.36	60.0
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.76*a*	755.9*a*	30.09*a*	764.2*a*	38.3	3.5	86.3	.....	1	5	2	13	7	1	1	1	.....	.....	7	1.00	25.5
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.59	751.6	30.12	765.0	37.2	2.9	68.7	.....	.....	.....	1	13	13	4	.....	.....	.....	.....	8	2.10	53.4
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.74	730.1	30.14	765.6	42.8	6.0	68.1	10	5	2	5	3	2	1	3	.....	.....	.....	.....	0.98	25.0
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.31	744.4	30.18	766.5	37.4	3.0	88.8	8	2	4	2	2	11	1	1	.....	.....	.....	5	0.83	21.0
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.26	743.2	30.17	766.3	35.6	2.0	83.7	4	1	7	4	3	2	9	1	.....	.....	.....	.....	1.91	48.5
Gap	N. 44 33	E. 6 05	0.32 p.m.	2427	740	27.56	700.0	30.16	766.0	39.7	4.3	74.2	1	2	8	3	4	2	3	2	6	.....	.....	.....	1.30	33.0
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	29.01	736.8	30.15	765.8	48.4	9.1	63.3	3	.....	.....	.....	8	10	.4	6	.....	.....	.....	5	3.13	79.4
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.37	746.1	30.16	766.1	37.0	2.8	62.1*c*	.....	1	1	3	5	6	11	4	.....	.....	.....	.....	3.21	81.5
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.53	724.6	30.16	766.1	41.2	5.1	72.4	.....	.....	4	13	1	12	.....	1	.....	.....	.....	5	1.42	36.1
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.82	757.5	30.10	764.5	42.8	6.0	85.4	.....	1	9	3	4	12	1	1	.....	.....	.....	5	2.64	67.0
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.60	751.8	30.17	766.3	48.7	9.3	71.7	6	3	7	4	1	1	2	7	.....	.....	.....	5	1.98	50.2
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.02	762.5	30.12	765.1	47.1	8.4	85.8	.....	3	8	4	1	3	5	5	2	.....	.....	6	3.74	94.9
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.10	739.0	30.19	766.9	38 5	3.6	79.0	6	2	2	.....	6	3	7	5	.....	.....	.....	.....	1.72	43.8
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.83	757.7	30.16	766.0	37.9	3.3	86.3	3	3	3	3	3	8	5	3	.....	.....	.....	5	2.09	53.0
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.81	757.1	30.08	764.1	52.7	11.5	60.4	1	11	4	2	6	3	3	1	.....	.....	.....	.....	2.87	72.9
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.83	630.7	30.07	763.7	36.7	2.6	54.0	5	3	4	8	3	.....	3	5	.....	.....	.....	4	1.18	30.0
Montpellier	N. 43 37	E. 5 53	0.24 p.m.	102	31	30.01	762.2	30.12	765.0	49.3	9.6	71 7	18	.....	.....	.....	.....	6	5	2	.....	.....	.....	2	2.92	74.3
Nancy	N. 48 42	E. 6 11	0.33 p.m.	722	220	29.35	745.4	30.16	766.1	36.5	2.5	84.6	1	3	8	9	5	2	.....	3	.....	.....	.....	6	1.08	27.5
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.00	762.0	30.17	766.2	42.8	6.0	79.9	3	2	5	4	5	3	6	3	.....	.....	.....	7	3.60	91.4
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	30.03	762.7	30.06	763.5	53.8	12.1	60.9	2	4	4	1	1	6	9	1	3	.....	.....	.....	0.30	7.7
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	98	30	30.02	762.4	30.12	765.1	49.3	9.6	63.1	6	6	.....	2	1	7	1	5	3	.....	.....	5	.....	.....
Pic du Midi (Sum-[mit.)	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.17	537.6	.....	.....	21.9	— 5.6	.....	2	9	4	2	3	2	3	5	1	.....	.....	5	5.47	139.0
Privas	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.07	738.3	30.17	766.3	41.7	5.4	78.1	17	1	.....	.....	10	1	.....	2	.....	.....	.....	4	1.72	43.6
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1407	25.12	638.1	.....	.....	30.7	— 0.7	81.8*a*	2	2	4	8	5	4	.....	6	.....	.....	.....	.....	2.96	75.3
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.14	765.5	30.17	766.4	43.9	6.6	85.9	3	.....	2	6	10	5	4	1	.....	.....	.....	4	1.11	28.2
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.87	758.6	30.09	764.3	42.1	5.6	81.7	3	5	5	2	1	6	4	5	.....	.....	.....	5	2.95	75.0
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.95	710.0	30.17	766.4	38.3	3.5	70.0	1	12	1	4	.....	2	2	3	.....	.....	.....	5	3.38	85.9
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.05	763.2	30.10	764.4	38.7	3.7	88.1	.....	3	1	6	9	8	3	1	.....	.....	.....	3	1.58	40.1
Saint Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	29.89	759.1	30.04	763.1	42.1	5.6	83.0	.....	5	3	7	4	6	2	4	.....	.....	.....	6	3.96	100.5
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.96	760.9	30.12	765.1	38.7	3.7	85.2	3	.....	2	6	10	5	4	1	.....	.....	.....	7	1.01	25.6
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.48	748.8	30.21	767.2	41.9	5.5	89.3	1	4	4	3	4	8	3	4	.....	.....	.....	7	2.19	55.6
Tours *a*	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.93	760.2	30.13	765.2	40.6	4.8	83.8	.....	.....	.....	3	11	2	3	7	4	.....	.....	6	1.65	41.9
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.61	752.1	30.10	764.5	38.5	3.6	84.9*a*	6	1	5	7	8	2	1	1	.....	.....	.....	4	1.26	32.0
Sub Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	29.84	757.8	30.13	765.2	38.5	3.6	86.7	2	.....	3	3	12	7	3	1	.....	.....	.....	7	1.02	25.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. M.M.
German Series.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.25	743.0	30.11	764.8	35.8	2.1	82.4	.....	5	6	3	5	4	3	.....	5	.....	.....	7	1.34	34.0
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.92	760.0	30.11	764.7	36.9	2.7	85.2	1	5	2	5	2	8	5	3	.....	.....	.....	8	1.18	29.9
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.63	752.5	30.16	766.0	35.6	2.0	78.9	...	3	4	3	4	9	5	1	2	.....	.....	8	0.37	9.5
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.70	754.3	30.14	765.6	36.3	2.4	85.5	1	.....	1	19	3	1	.....	4	2	.....	.....	8	1.67	42.5
Cassel	N. 51 19	E 9 28	0.46 p.m.	669	204	29.33	745.0	30.05	763.2	35.8	2.1	85.6	6	1	1	1	20	.....	1	1	.....	.....	.....	8	1.46	37.0
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.74	755.3	30.12	765.0	37.2	2.9	81.3	3	.....	1	5	13	2	.....	4	3	.....	.....	8	1.49	37.9
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.67	728.3	30.17	766.2	36.1	2.3	82.[illegible]	3	1	4	7	2	3	4	7	.....	.....	.....	8	1.03	26.1
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.97	761.1	30.06	763.5	36.1	2.3	92.1	2	.....	2	8	5	9	4	.....	1	.....	.....	9	1.62	41.2
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.01	762.2	30.02	762.5	37.8	3.2	86.5	1	1	1	11	3	5	6	1	2	.....	.....	9	2.34	59.4
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.68	753.8	30.11	764.9	36.0	2.2	83.5	1	1	.....	6	11	5	3	4	.....	.....	.....	8	0.76	19.2
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.88	759.0	30.08	764.0	37.4	3.0	86.5	1	.....	6	1	7	6	8	1	1	.....	.....	8	0.58	14.7
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.11	764.9	30.16	766.0	32.0	0.0	85.0	.....	3	4	3	3	12	3	3	.....	.....	.....	8	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.26	717.8	30.13	765.2	35.1	1.7	78.0	5	4	1	2	.....	1	4	4	10	.....	.....	6	1.07	27.2
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.12	765.0	30.13	765.4	34.3	1.3	83.9	.....	2	8	1	9	10	1	.....	.....	.....	.....	8	0.68	17.2
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.59	751.6	30.12	765.0	36.9	2.7	81.8	2	3	9	3	2	2	3	1	6	.....	.....	8	1.76	44.8
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.15	740.3	30.08	763.9	37.2	2.9	82.0	11	2	7	2	1	1	6	1	.....	.....	.....	6	0.88	22.4
Weissenburg	N. 49 02	E. 10 58	0.52 p.m.	1414	431	28.59	726.2	30.16	766.1	35.2	1.8	82.4	1	.....	6	2	2	6	2	4	8	.....	.....	8	0.85	21.7
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.04	763.1	30.07	763.8	36.7	2.6	94.3	1	1	4	5	3	11	5	.....	1	.....	.....	9	0.81	20.5
Greek Series.																										
Athens	N. 37 58	E. 23 43	1.43 p.m	360	110	29.71	754.6	30.11	764.7	53.8	12.1	.....	.....	2	1	.....	2	4	1	21	.....	.....	.....	6	7.80	198.1
Indian Series.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.50	749.3	29.98	761.5	79.0	26.1	38.1	8	7	2	1	1	6	1	4	1	.....	.....	2	0.56	14.2
Bombay	N 18 54	E. 72 49	5.00 p.m.	37	11	29.88	758.9	29.92	760.0	80.2	26.8	67.5	.....	27	4	.....	.....	.....	.....	.....	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.06	712.7	29.90	759.4	83.2	28.4	21.1	1	.....	2	.....	3	1	14	10	.....	.....	.....	2	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.36	694.9	29.89	759.2	78.4	25.8	33.8	3	.....	2	.....	.....	.....	5	20	1	.....	.....	2	0	0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.28	743.7	30.09	764.3	63.9	17.7	40.1	.....	2	2	.....	.....	.....	.....	.....	27	.....	.....	2	0	0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.08	738.6	30.02	762.5	64.8	18.2	47.9	1	19	5	2	3	.....	.....	.....	1	.....	.....	3	0	0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.46	748.3	30.04	763.0	69.4	20.8	44.6	8	6	10	.....	.....	.....	3	3	1	.....	.....	2	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.93	734.8	29.98	761.5	76.8	24.9	34.9	.....	.....	.....	.....	.....	.....	8	3	20	.....	.....	1	0	0
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.63	727.2	30.01	762.2	71.4	21.9	34.9	5	.....	.....	.....	4	.....	1	4	17	.....	.....	1	0	0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.64	752.8	30.03	762.7	67.1	19.5	48.8	.....	1	5	14	.....	.....	.....	.....	11	.....	.....	2	0.01	0.3
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.69	754.1	30.02	762.5	63.7	17.6	63.2	.....	.....	.....	.....	.....	.....	.....	1	30	.....	.....	0	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.83	757.7	30.02	762.5	66.6	19.2	58.1	4	7	14	.....	3	1	.....	.....	2	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.95	709.9	30.02	762.5	65.7	18.7	41.3	4	14	10	1	1	.....	.....	1	.....	.....	.....	0	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.92	760.0	30.01	762.2	70.9	21.6	63.6	7	.....	.....	.....	.....	.....	.....	6	18	.....	.....	1	0.21	5.3
Calcutta	N. 22 32	E. 88 19	6.01 p.m.	21	7	29.97	761.2	29.99	761.7	66.5	19.2	70.1	17	3	1	.....	.....	.....	.....	2	8	.....	.....	1	0.36	9.1
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.87	758.7	29.99	761.7	68.7	20.4	67.9	.....	.....	.....	.....	.....	.....	1	.....	30	.....	.....	0	0	0
Goalpara																										
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.89	759.2	29.98	761.5	70.0	21.1	73.7	1	10	16	1	.....	.....	.....	.....	3	.....	.....	2	0.11	2.8
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.66	753.4	30.01	762.2	63.1	17.3	84.7	.....	.....	.....	1	.....	1	.....	28	1	.....	.....	1	0	0
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.56	725.4	30.04	763.0	70.9	21.6	45.4	6	7	4	6	.....	.....	6	2	.....	.....	.....	3	0.01	0.3
Zanzibar b	S. 6 10	E. 39 11	2.45 p.m.	22	7	29.84	757.9	.....	.....	83.1	28.4	74.0	1	3	2	2	.....	3	3	13	2	.....	.....	5	9.80	248.9
Trichinopoly	N. 18 47	E. 78 43	5.23 p.m.	?	?	29.65	753.1	.....	.....	77.8	25.4	74.0	3	1	.....	.....	.....	2	5	13	7	.....	.....	7	0	0
Italian Series.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.73	755.1	30.15	765.9	44.6	7.0	57.0	1	.....	.....	1	1	.....	13	2	13	.....	.....	5	4.43	112.5
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.64	752.8	30.18	766.6	40.3	4.6	83.0	1	6	10	5	1	4	5	1	.....	.....	.....	7	4.21	106.9
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	30.03	762.7	30.14	765.6	43.0	6.1	75.0	10	4	3	.....	1	2	2	7	2	.....	.....	6	1.75	44.4
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.21	742.0	30.16	766.1	38.7	3.7	84.0	7	4	.....	.....	.....	1	8	11	.....	.....	.....	6	1.57	39.8
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.91	759.6	30.10	764.6	49.1	9.5	58.0	12	1	.....	.....	.....	.....	.....	12	6	.....	.....	4	3.66	93.0
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.18	715.8	30.18	766.5	39.0	3.9	65.0	.....	4	18	3	1	1	1	3	.....	.....	.....	4	1.06	26.8
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.06	763.6	30.11	764.9	45.3	7.4	79.0	10	11	2	1	.....	1	.....	6	.....	.....	.....	8	2.33	59.2
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.84	757.9	30.10	764.5	48.0	8.9	69.0	8	3	2	2	4	.....	2	10	.....	.....	.....	5	2.45	62.3
Leghorn	N. 43 32	E. 10 18	0.49 p.m	79	24	30.00	761.9	30.08	764.1	50.4	10.2	69.0	1	.....	4	1	.....	1	8	16	.....	.....	.....	5	3.52	89.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.86	758.5	30.04	763.0	52.7	11.5	65.0	16	1	1	2	2	2	1	3	3	.....	.....	6	3.73	94.7
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.81	757.2	30.07	763.7	50.5	13.6	72.0	6	4	.....	4	4	2	6	5	.....	.....	.....	6	4.78	121.5
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.17	740.8	30.08	763.9	52.0	11.1	77.0	1	3	6	9	5	4	2	1	.....	.....	.....	8	7.35	186.7
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.82	757.4	30.02	762.4	57.6	14.2	63.0	1	14	6	.....	1	2	4	.....	3	.....	.....	5	1.17	29.8
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.79	756.6	30.04	763.1	58.1	14.5	66.0	4	5	6	2	.....	2	.....	4	8	.....	.....	8	4.80	121.9
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.97	761.1	30.01	762.2	58.8	14.9	74.0	2	1	3	3	3	4	10	5	.....	.....	.....	8	7.00	177.7
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.50	749.3	30.03	762.7	54.5	12.5	69.0	7	2	1	3	4	2	1	11	.....	.....	.....	6	3.84	97.6
Stelvio	N. 46 32	E. 10 26	0.50 p.m.	8343	2543	22.09	561.4	.....	.....	26.6	—3.0	65.3	.....	.....	.....	11	4	4	11	1	.....	.....	.....	5	13.65	350.0
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.15	562.7	.....	.....	23.4	—4.8	67.6	6	1	4	2	1	2	10	5	.....	.....	.....	4	39.39	1010.0
Japanese Series.																										
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.20	767.1	30.21	767.3	40.8	4.9	85.2	26	2	1	.....	.....	.....	.....	2	.....	.....	.....	5	1.22	56.4
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	30.02	762.5	30.20	767.1	37.8	3.2	87.7	1	17	11	2	.....	.....	.....	.....	.....	.....	.....	5	2.30	58.4
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.06	763.5	30.27	768.8	44.9	7.2	75.4	14	4	.....	.....	.....	1	1	8	3	.....	.....	5	1.36	34.5
Nemuro	N. 43 21	E. 145 35	9.50 p.m.	58	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	30.08	764.0	30.10	764 5	32.8	0.4	81.40	4	24	2	.....	1	.....	.....	.....	.....	.....	.....	5	1.22	31.0
Supporo	N. 43 04	E. 141 23	9.33 p.m.	61	19	.....	.....	.....	.....	22.5	—5.3	84.0	.....	5	3	5	2	7	2	1	6	.....	.....	7	4.02	102.1
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	30.04	763.0	30.11	764.8	38.4	3.6	77.7	100	11	.....	1	1	3	.....	3	1	.....	.....	4	3.11	79.0
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.15	765.8	30.20	767.1	44.5	6.9	73.5	7	4	6	.....	.....	1	2	11	.....	.....	.....	5	2.70	68.6
Mauritius Series.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.77	756.1	29.96	761.0	80.0	26.7	68.7	2	2	3	1	.....	.....	19	4	.....	.....	.....	7	6.88	174.8
Mexican Series.																										
Guadalajara																										
Guanajuato																										
Leon	N. 21 01	W. 100 48	5.24 a.m.	6683	2037	23.75	603.1	29.96	761.0	50.2	10.1	70.0	1	3	1	6	3	6	2	4	5	.....	.....	4	0.30	7.6
Muzatlan	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.49	622.1	30.32	770.0	49.6	9.8	82.0	18	6	.....	5	.....	.....	2	.....	.....	.....	.....	3	0.13	3.2
Mexico	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.75	755.6	30.01	762.3	67.3	19.6	77.0	.....	11	1	.....	.....	1	5	12	1	.....	.....	3	0.63	16.0
Morelia	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.14	587.8	30.32	770.0	44.2	6.8	74.0	.....	8	.....	.....	.....	.....	.....	1	22	.....	.....	1	map.	map.
Pabellon b	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.29	617.1	30.51	775.1	48.7	9.3	74.0	5	.....	.....	3	5	5	5	8	.....	.....	.....	2	map.	map.
Puebla	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.99	609.3	30.10	764.6	45.9	7.7	77.0	2	.....	1	2	.....	.....	.....	.....	24	.....	.....	4	0.59	15.0
San Luis Potosi	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.46	595.8	30.38	771.5	44.0	6.8	68.0	.....	.....	.....	1	.....	2	.....	4	24	.....	.....	2	.....	.....
Tlacotalpam	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vera Cruz	N. 18 37	W. 95 32	5.46 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas b	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.02	574.6	30.50	774.0	45.7	7.0	55.0	10	3	.....	10	1	1	7	6	1	.....	.....	3a	0.25a	6.3a

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	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.	Total Precipitation. Mill.
Netherlands Series.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.04	762.9	30.04	762.9	40.3	4.6	.....	1	.....	3	3	20	3	.....	1	.....	.....	.....	.....	2.08	52.9
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.97	761.2	30.02	762.6	38.1	3.4	.....	2	.....	2	7	12	3	5	.....	.....	.....	.....	.....	2.08	52.8
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.00	761.9	30.00	761.9	39.9	4.4	.....	2	.....	2	6	11	7	3	.....	.....	.....	.....	.....	2.70	68.5
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.04	762.9	30.04	762.9	39.4	4.1	90.4	1	.....	3	4	13	7	.....	2	1	.....	.....	.....	2.74	69.6
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.00	762.1	30.05	763.3	38.7	3.7	88.5	.....	1	.....	9	6	13	1	1	.....	.....	.....	6	4.06	103.1
Norwegian Series.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.72	754.8	29.78	756.4	40.6	4.8	78.0	1	.....	1	2	13	9	2	.....	3	.....	.....	8	9.84	249.8
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.63	752.6	29.67	753.6	34.7	1.5	66.0	2	.....	2	5	9	3	4	.....	6	.....	.....	7	2.46	62.4
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.76	755.8	29.91	759.6	34.3	1.3	87.0	2	2	2	3	6	7	4	4	1	.....	.....	9	1.71	43.4
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.50	749.4	29.53	750.0	33.1	0.6	.....	2	2	8	6	4	6	1	.....	2	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.58	751.4	29.63	752.6	31.8	—0.1	72.0	2	4	2	4	10	1	1	.....	7	.....	.....	8	4.22	107.1
Portuguese Series.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.15	765.9	30.31	769.9	59.4	15.2	79.4	6	3	9	6	3	3	1	.....	.....	.....	.....	5	2.00	50.7
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.19	741.4	30.22	767.5	49.6	9.8	73.7	8	1	1	3	2	6	4	5	1	.....	.....	6	0.90	22.9
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.21	767.2	30.29	769.4	65.8	18.8	59.4	.....	1	2	8	2	7	8	3	.....	.....	.....	4	0.45	11.5
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.91	759.6	30.27	768.9	51.4	10.8	76.0	16	.....	1	4	2	1	1	6	.....	.....	.....	5	1.97	50.0
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.30	769.6	30.37	771.4	61.5	16.4	73.2	3	4	2	7	6	1	1	1	6	.....	.....	4	1.54	39.1
Russian Series.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.11	739.4	30.32	770.1	0.0	—17.8	.....	.....	.....	2	14	5	2	2	1	5	.....	.....	8	0.21	5.4
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.93	760.2	29.95	760.7	20.3	—6.5	91.1	1	5	4	7	5	7	.....	.....	2	.....	.....	9	0.64	16.2
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖68	‖21	30.44	773.2	30.36	771.1	21.6	—5.8	78.6	3	3	4	1	.....	5	8	5	2	.....	.....	8	0.34	8.7
Barnaul ‡	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.92	759.9	30.48	774.3	—0.6	—18.1	83.1	.....	.....	.....	10	.....	.....	.....	.....	21	.....	.....	5	0.74	18.7
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.88	759.0	30.14	765.5	26.8	—2.9	90.9	.....	3	8	4	6	6	1	1	2	.....	.....	8	0.90	22.9
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.18	741.2	30.22	767.6	7.3	—13.7	84.2	3	2	9	8	1	.....	.....	1	7	.....	.....	7	0.16	4.1
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	30.00	762.0	30.30	769.6	9.7	—12.4	84.8	2	4	7	5	7	4	.....	1	1	.....	.....	9	0.30	7.7
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.20	767.1	30.22	767.6	31.8	—0.1	88.8	3	2	3	.....	.....	.....	7	6	10	.....	.....	8	0.14	3.5
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.57	751.0	30.25	768.3	25.5	—3.6	86.8	5	6	3	2	3	7	2	2	1	.....	.....	8	1.08	27.5
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	30.10	764.4	30.31	769.9	23.4	—4.8	79.9	5	2	3	4	1	5	8	3	.....	.....	.....	9	0.21	5.4
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.66	753.3	30.17	766.4	20.3	—6.5	79.9	7	1	1	4	15	2	.....	1	.....	.....	.....	9.	0.80	20.3
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.25	768.4	30.32	770.2	30.4	—0.9	81.3	4	2	2	2	3	2	5	7	4	.....	.....	7	0.07	1.8
Nikolaievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	75?	23?	29.80	757.0	29.89	759.2	—10.7	—23.7	81.0	.....	3	7	.....	.....	.....	.....	.....	20	.....	.....	3	0.05	1.2
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.32	770.3	30.46	773.8	26.8	—2.9	50.6	.....	11	.....	2	.....	3	.....	1	14	.....	.....	2	0.02	0.5
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	30.08	764.0	30.10	764.4	24.4	—4.2	87.5	3	4	4	5	8	5	1	1	.....	.....	.....	8	0.56	14.2
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.74	730.1	30.45	773.3	24.1	—4.4	83.5	.....	.....	.....	.....	1	.....	1	1	28	.....	.....	5	1.99	50.6
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.83	732.2	30.31	769.8	38.3	3.5	63.2	2	12	1	1	1	6	1	.....	7	.....	.....	6	0.72	18.2
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.74	755.5	30.19	766.8	31.8	—0.1	80.2	.....	1	4	1	4	9	4	2	6	.....	.....	9	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.77	756.1	30.21	767.4	28.9	—1.7	84.1	.....	5	4	2	5	9	1	2	3	.....	.....	8	0.09	2.4
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	30.28	769.0	30.61	777.4	—8.7	—22.6	82.3	.....	1	9	1	.....	2	6	1	11	.....	.....	5	0.31	7.9
Scottish Series.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	5.5	139.7
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.63	752.6	45.3	7.4	92.3	1	3	5	6	9	2	5	.....	.....	.....	.....	.....	.....	.....
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spanish Series.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	30.02	762.6	30.13	765.3	53.6	12.0	62.4	1	4	7	2	7	1	2	7	.....	.....	.....	3	0.73	18.5
Bilbao	N. 43 15	W. 2 56	11.56 a.m.	52	16	30.14	765.6	30.20	767.1	51.8	11.0	70.0	1	3	6	.....	4	14	2	1	.....	.....	.....	5	3.52	89.3
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.19	690.6	.....	.....	41.0	5.0	76.0	5	.....	1	9	6	.....	.....	10	.....	.....	.....	5	0.41	10.3
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.95	709.8	30.24	768.1	45.7	7.6	71.5	1	1	3	7	8	2	1	6	2	.....	.....	4	0.32	8.2
Murcia ‡	N. 37 59	W. 1 10	0.03 p.m.	141	43	30.02	762.5	30.17	766.4	57.2	14.0	58.8	1	7	8	13	.....	2	.....	.....	.....	.....	.....	5	1.30	32.9
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.24	742.8	30.16	766.0	50.0	10.0	79.3	.....	2	.....	6	1	2	.....	4	16	.....	.....	6	7.35	186.8
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.03	762.8	30.10	764.4	70.1	21.1	85.2	4	.....	.....	.....	.....	5	16	3	3	.....	.....	5	5.24	133.1
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.91	759.6	29.96	760.9	78.5	25.8	78.4	10	2	.....	.....	.....	2	7	10	.....	.....	.....	3	3.59	91.2
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.15	765.8	30.24	768.0	55.8	13.2	71.0	5	7	.....	2	.....	3	4	1	9	.....	.....	6	3.86	97.7
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.97	761.1	30.06	763.4	73.9	23.3	87.0	1	.....	.....	1	.....	3	4	4	18	.....	.....	6	3.30	83.8
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.89	759.2	30.03	762.7	75.6	24.2	88.2	.....	21	4	.....	1	4	1	.....	.....	.....	.....	7	1.79	45.5
Swedish Series.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.83	757.6	29.87	758.6	21.0	—6.1	91.0	3	3	2	11	4	4	1	1	2	.....	.....	8	1.13	28.8
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.85	758.2	29.90	759.5	26.6	—3.0	89.0	1	3	1	12	3	1	.....	2	8	.....	.....	7	1.10	27.9
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.85	758.2	29.90	759.5	31.1	—0.5	85.0	2	2	2	2	11	3	.....	2	7	.....	.....	7	1.08	27.5
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.83	757.6	30.00	762.1	34.5	1.4	83.0	1	2	6	5	10	3	3	1	.....	.....	.....	8	1.04	26.3
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.98	761.4	30.04	762.9	36.5	2.5	85.0	2	2	7	3	8	5	4	.....	.....	.....	.....	8	1.50	38.0
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.97	761.2	30.06	763.4	32.7	0.4	86.7	2	3	.....	9	9	6	1	1	.....	.....	.....	8	1.22	31.1
Swiss Series.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.71	729.3	30.18	766.5	37.0	2.8	80.9	4	1	.....	9	8	3	3	3	.....	.....	.....	7	1.74	44.3
Zurich ‡	N. 47 22	E. 8 40	0.43 p.m.	1542	470	28.48	723.4	30.19	766.8	34.5	1.4	86.0	2	4	9	3	.....	2	5	6	.....	.....	.....	7	1.53	38.9
Turkish Series.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.32	770.0	46.2	7.9	70.0	16	.....	.....	.....	1	3	1	10	.....	.....	.....	7	2.28	58.0
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.08	764.0	56.5	13.6	.....	.....	14	6	3	.....	.....	2	6	.....	.....	.....	6	2.09	53.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.04	763.1	63.5	17.5	68.5	5	4	5	11	.....	2	.....	3	1	.....	.....	5	5.76	146.3

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Met'rs	Result of Simultaneous Observations for December, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
U. S. Series.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.06	763.5	30.15	765.8	37.0	2.8	80.7	4	6	2	8	7	......	......	3	1	4775	7684	8	4.88	123.9
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.37	746.0	30.08	764.0	27.6	—2.4	79.9	2	5	9	6	7	......	2	......	......	7249	11666	8	2.28	57.9
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	29.00	736.6	30.24	768.1	44.7	7.1	78.2	2	6	2	6	1	......	10	4	......	8158	13129	7	7.53	191.3
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.18	766.6	30.19	766.8	39.2	4.0	82.6	10	2	5	4	5	2	1	2	......	6776	10905	6	2.14	54.4
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	30.05	763.3	30.26	768.6	48.3	9.1	78.6	5	6	......	6	2	1	1	5	5	3308	5324	7	4.96	126.0
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.16	766.1	30.21	767.3	40.4	4.7	78.9	5	3	7	2	4	1	3	2	4	3795	6107	5	5.90	149.9
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.15	765.8	30.17	766.3	38.5	3.6	87.4	3	7	5	6	3	4	2	1	......	9524	15327	6	3.50	88.9
Bismarck	N. 46 48	W.100 38	5.26 a.m.	1693	516	28.13	714.5	30.14	765.5	19.7	—6.8	81.7	......	12	4	......	2	1	8	1	3	5778	9299	3	0.06	1.5
Boise City	N. 43 46	W.116 06	4.24 a.m.	2750	838	27.36	694.9	30.36	771.1	27.3	—2.6	89.0	3	7	9	......	......	3	3	2	4	2534	4078	7	0.65	16.5
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.97	761.2	30.14	765.5	34.7	1.5	81.9	3	5	8	6	4	4	1	......	......	8047	12950	6	3.80	96.5
Brackettville...*o*	N. 29 17	W.100 51	5.27 a.m.	1170	356	28.98	736.1	30.04	763.0	52.8	11.6	87.2	1	......	1	......	2	......	3	4	5	1886	3035	6	0.80	20.3
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	30.10	764.5	30.15	765.8	57.9	14.4	94.4	7	3	......	3	5	2	2	2	7	4289	6902	5	1.92	48.8
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.32	744.7	30.12	765.0	35.6	2.0	83.0	2	5	5	10	1	4	1	3	......	9172	14761	8	5.86	148.8
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.79	756.7	30.10	764.5	31.3	—0.4	75.5	5	......	1	1	17	2	4	1	......	8069	12986	8	1.89	48.0
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.81	757.2	30.24	768.1	41.2	5.1	82.3	8	2	1	1	12	2	......	4	1	6169	9928	7	3.70	94.0
Campe	N. 32 22	W.116 08	4.22 a.m.	2500	762	27.52	699.0	30.09	764.3	30.9	—0.6	71.5	......	4	4	......	3	2	14	4	......	4138	6659	4	0.24	6.1
Camp Thomas	N. 32 04	W.110 06	4.49 a.m.	2710	826	27.39	695.7	......	......	31.1	—0.5	82.2	......	1	1	......	......	4	......	......	25	......	......	4	0.40	10.2
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.20	767.1	30.22	767.6	45.5	7.5	77.0	8	4	......	9	5	3	......	2	......	8799	14159	4	1.89	48.0
Cape May......*b*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.19	766.8	30.22	767.6	41.3	5.2	78.7	5	3	2	7	5	2	1	4	......	12018	19341	6	2.07	52.6
Castroville ......*b*	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.36	745.7	30.08	764.0	49.5	9.7	82.1	4	9	4	......	1	3	3	1	4	3918	6305	6	1.13	28.7
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.15	765.8	30.17	766.3	58.6	14.8	83.4	7	4	......	1	2	2	4	9	2	7611	12248	5	3.52	89.4
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.29	744.0	30.12	765.0	34.5	1.4	80.6	1	9	......	4	7	4	1	4	1	9321	15000	7	8.54	216.9
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.15	765.8	30.21	767.3	51.8	11.0	82.8	7	......	7	4	......	2	1	10	......	6533	10514	6	4.76	120.9
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.32	744.7	30.25	768.3	41.9	5.5	80.3	7	......	2	7	2	1	2	10	......	4284	6894	7	4.77	121.2
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.37	746.0	30.24	768.1	43.1	6.2	80.5	4	1	3	5	4	......	2	5	7	4926	7928	6	8.83	224.3
Cheyenne	N. 41 12	W.104 42	5.09 a.m.	6089	1856	24.02	610.1	30.30	769.6	27.8	—2.3	58.3	......	17	6	5	2	......	......	......	1	9174	14764	2	0.01	0.3
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.38	746.2	30.14	765.5	34.6	1.4	86.0	1	8	6	8	4	......	2	2	......	6606	10631	5	2.67	67.8
Chincoteague ..*b*	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.19	766.8	30.21	767.3	41.9	5.5	87.8	10	6	1	5	2	5	......	......	......	7018	11294	5	0.88	22.4
Cincinnati	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.51	749.5	30.22	767.6	40.4	4.7	82.6	5	6	2	1	4	9	1	1	2	4398	7078	7	5.67	144.0
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.37	746.0	30.17	766.3	36.2	2.3	80.7	4	2	4	4	5	8	......	2	2	7714	12414	7	4.89	124.2
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.36	720.3	......	......	42.5	5.8	79.6	8	6	1	3	4	7	1	1	......	6380	10267	5	2.35	59.7
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.27	743.4	30.19	766.8	37.3	2.9	77.1	6	4	4	2	9	4	1	1	......	5411	8708	8	5.28	134.1
Concho	N. 31 22	W.100 20	5.26 a.m.	1900	579	28.22	716.8	30.27	768.8	41.5	5.3	87.7	1	4	5	4	1	......	3	4	9	5764	9276	5	2.10	53.3
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.45	748.0	30.16	766.1	35.0	1.7	72.9	3	7	4	10	2	......	2	3	......	6563	10562	6	1.71	43.4
Dayton	N. 46 23	W.117 50	4.16 a.m.	1660	506	28.35	720.1	30.26	768.6	33.6	0.9	84.3	2	......	3	16	5	1	......	......	4	3078	4954	5	2.37	60.2
Deadwood	N. 44 22	W.103 34	5.14 a.m.	4600	1402	25.30	642.6	30.32	770.1	28.2	—2.1	67.3	......	1	1	14	4	......	1	1	9	3932	6328	2	0.05	1.3
Decatur ...*g*	N. 33 10	W. 97 30	5.38 a.m.	1150	350	......	......	......	......	44.4	6.9	75.2	4	6	1	2	4	5	......	2	......	5310	8546	3	2.47	62.7
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.16	766.1	30.18	766.6	42.4	5.8	84.8	8	1	2	7	7	2	......	4	......	12833	20652	6	0.91	23.1
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.37	746.0	30.22	767.6	44.3	6.8	76.6	7	3	1	3	7	2	4	3	1	4785	7700	4	1.42	36.1
Denver	N. 39 45	W.105 04	5.08 a.m.	5294	1614	24.81	630.2	30.33	770.4	32.0	0.0	63.8	1	2	5	1	17	3	....	2	......	5919	9527	2	0	0
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.19	741.4	30.17	766.3	31.5	—0.3	80.4	9	2	8	4	......	3	1	2	2	5664	9115	5	1.85	47.0
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.38	746.2	30.16	766.1	38.3	3.5	82.0	3	4	5	6	10	......	1	1	1	7732	12443	7	4.17	105.9
Dodge City	N. 37 39	W.100 08	5.27 a.m.	2512	766	27.50	698.5	30.29	769.4	30.2	—1.0	79.3	4	7	7	4	4	2	......	2	1	8778	14127	5	0.61	15.5
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.38	746.2	30.16	766.1	30.9	—0.6	74.8	2	9	2	4	10	1	......	1	2	3953	6362	6	1.55	39.4
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.31	744.5	30.07	763.8	20.8	—6.2	81.7	......	4	6	18	......	......	1	1	1	4158	6692	4	0.20	5.1
Eagle Pass	N. 28 40	W.100 15	5.26 a.m.	780	238	29.39	746.5	30.25	768.3	48.5	9.2	86.6	2	8	......	1	......	10	......	......	10	2833	4559	5	0.72	18.3
Eagle Rock	N. 43 30	W.112 04	4.40 a.m.	4650	1415	25.40	645.1	30.52	775.2	13.8	-10.1	78.8	18	2	1	8	......	......	......	......	2	7158	11520	3	0.80	20.3
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	30.02	762.5	30.09	764.3	30.6	—0.8	77.6	4	5	4	10	5	1	......	2	......	7424	11948	7	6.25	158.7
Edinburg	N. 26 03	W. 98 03	5.36 a.m.	......	......	......	......	......	......	56.2	13.4	91.7	5	6	......	......	......	2	2	1	15	......	......	2	1.70	43.2
El Paso	N. 31 46	W.106 32	5.02 a.m.	3760	1146	26.39	670.3	30.32	770.1	35.0	1.7	67.3	1	13	6	......	1	1	2	2	5	3762	6054	3	0.78	19.8
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.36	745.7	30.15	765.8	37.7	3.2	82.3	2	4	4	6	10	......	......	1	4	8175	13156	8	6.44	163.6
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.36	745.7	30.07	763.8	26.4	—3.1	85.4	6	6	8	4	7	......	......	......	......	6936	11162	6	1.53	38.9
Florence	N. 33 03	W.111 17	4.43 a.m.	1480	451	28.58	725.9	30.18	766.6	41.5	5.3	65.3	3	5	2	3	......	3	4	8	3	2939	4730	4	0.14	3.6
Fort Apache	N. 33 47	W.109 58	4.49 a.m.	5050	1539	25.13	638.3	30.30	769.6	26.1	—3.3	67.2	......	......	1	......	2	1	1	25	1	3759	6049	3	0.54	13.7
Fort Assinnaboine	N. 48 37	W.109 43	4.49 a.m.	2710	826	27.08	687.8	30.14	765.5	27.8	—2.3	55.1	1	......	1	23	1	......	......	1	4	9661	15548	4	0.08	2.0
Fort Bennett	N. 44 42	W.100 38	5.26 a.m.	1510	457	28.41	721.6	30.09	764.3	23.2	—4.9	80.2	9	9	1	1	......	7	......	......	4	3740	6019	4	inap.	inap.
Fort Benton	N. 47 51	W.110 40	4.45 a.m.	2700	823	27.13	689.1	30.24	768.1	29.2	—1.6	61.5	1	1	2	16	1	.. ..	......	......	10	10118	16283	4	0.07	1.8
Fort Buford	N. 48 03	W.103 58	5.12 a.m.	1900	579	27.96	710.2	30.16	766.1	17.8	—7.9	82.9	1	5	7	......	12	......	2	1	3	5265	8473	2	0.09	2.3
Fort Custer	N. 45 48	W.107 38	4.58 a.m.	3040	927	26.82	681.2	30.36	771.1	23.8	—4.6	73.9	2	4	2	7	5	5	......	1	5	5916	9521	2	0.22	5.6
Fort Davis *f*	N. 30 30	W.103 45	5.13 a.m.	4940	1506	25.21	640.3	30.17	766.3	36.6	2.6	74.6	6	2	2	3	2	1	......	1	8	......	......	4	1.15	29.2
Fort Elliott	N. 35 31	W.100 27	5.28 a.m.	2650	808	27.33	694.2	30.27	768.8	29.3	—1.5	51.2	4	10	......	1	1	4	......	3	8	7206	11597	4	0.26	6.6
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.59	751.6	30.18	766.6	39.9	4.4	79.1	6	3	......	......	4	6	3	......	9	4965	7990	5	2.92	74.2
Fort Grant	N. 32 25	W.109 56	4.49 a.m.	4860	1481	25.32	643.1	30.12	765.0	35.6	2.0	52.6	......	......	1	4	......	7	3	14	2	5536	8909	4	0.65	16.5
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.88	733.5	30.19	766.8	42.3	5.7	73.8	3	8	7	. ....	3	5	2	1	2	4812	7744	4	1.27	32.3
Fort Keogh	N. 46 17	W.105 55	5.05 a.m.	2372	723	27.47	697.7	30.27	768.8	21.0	—6.1	67.6	3	3	4	8	4	6	2	......	1	4777	7688	3	0.10	2.5
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.20	767.1	30.21	767.3	48.1	8.9	86.6	13	3	3	5	3	1	......	3	......	9376	15089	6	5.56	141.2
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.92	709.2	29.90	759.4	43.2	6.2	74.4	4	......	......	9	7	1	4	2	4	5740	9238	4	0.59	15.0
Fort Missoula	N. 46 50	W.114 01	4.32 a.m.	3140	957	26.78	680.2	30.57	776.5	19.4	—7.0	90.7	3	4	......	8	......	2	2	4	8	1359	2187	5	1.25	31.7
Fort St. Michael	N. 63 48	W.162 00	1.20 a.m.	30	9	29.74	755.4	29.78	756.4	—6.0	-21.1	92.2	3	2	......	8	6	3	2	6	1	5359	8624	4	0.23	5.8
Fort Shaw	N. 47 29	W.111 46	4.41 a.m.	3550	1082	26.31	668.3	30.20	767.1	31.5	—0.3	59.2	......	......	8	20	......	1	......	1	1	13651	21969	3	0.04	1.0
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.92	734.6	30.24	768.1	38.6	3.7	79.9	9	5	1	2	9	......	1	......	4	7400	11909	4	2.30	58.4
Fort Stevenson	N. 47 36	W.101 23	5.22 a.m.	1750	534	28.08	713.2	30.14	765.5	15.8	—9.0	77.4	3	10	2	5	2	3	2	2	2	5755	9262	3	0.18	4.6
Fort Verde	N. 34 24	W.111 53	4.38 a.m.	?	?	......	......	......	......	31.3	—0.4	61.7	7	9	7	4	......	3	......	1	......	......	......	3	0.27	6.9
Fredericksburg *b*	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.41	721.6	30.01	762.2	47.1	8.4	86.4	5	4	3	5	......	......	4	3	5	3859	6210	5	0.72	18.3
Galveston	N. 29 18	W. 94 50	5.49 a.m.	40	12	30.14	765.5	30.18	766.6	55.7	13.2	83.9	7	2	2	3	1	4	4	8	......	6916	11130	5	3.50	88.9
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.40	746.7	30.12	765.0	35.5	1.9	82.4	1	6	3	2	4	4	3	4	4	8728	14046	6	3.77	95.8
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.19	766.8	30.21	767.3	50.7	10.4	85.7	7	2	1	3	4	1	1	10	2	12035	19368	5	3.93	99.8
Helena	N. 46 33	W.112 02	4.40 a.m.	4100	1250	25.78	654.8	30.56	776.2	27.7	—2.4	63.0	1	3	8	6	1	1	......	......	11	4606	7412	4	0.38	9.7
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.18	741.2	30.16	766.1	41.1	5.1	82.7	7	2	4	3	5	4	1	2	3	6467	10408	4	1.41	35.8
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.63	727.2	30.15	765.8	21.4	—5.9	71.5	5	7	1	4	2	12	.... .	......	......	7954	12800	3	0.06	1.5
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.31	744.5	30.17	766.3	36.8	2.7	82.3	5	5	......	3	11	2	......	4	1	4591	7388	6	5.40	137.2
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.15	765.8	30.18	766.6	56.3	13.5	87.8	10	2	2	3	2	1	5	5	1	9621	15483	6	1.49	37.8
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.99	736.3	30.16	766.1	44.1	6.7	70.0	6	4	3	2	4	6	3	......	3	4888	7866	5	1.70	44.7
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.15	765.8	30.19	766.8	57.7	14.3	84.5	7	1	4	4	1	3	2	9	......	6259	10073	4	2.86	72.6
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.45	748.0	30.16	766.1	34.2	1.2	84.1	4	4	4	7	6	1	2	2	1	6133	9870	5	1.70	43.2
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.09	764.3	30.12	765.0	70.7	21.5	80.9	8	......	......	......	1	3	5	12	2	8286	13335	5	1.97	50.0
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.20	767.1	30.22	767.6	47.7	8.7	84.0	5	2	3	6	1	2	1	11	......	12595	20269	4	6.29	159.8
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.15	740.4	30.25	768.3	40.0	4.4	85.0	3	......	1	8	......	1	2	11	5	4084	6572	6	5.32	135.1
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	702	214	29.28	743.7	30.11	764.8	30.5	—0.8	75.2	4	4	1	2	13	1	......	1	5	5767	9295	5	0.26	6.6
La Mesilla	N. 32 17	W.106 48	5.01 a.m.	3900	1189	26.24	666.5	30.38	771.6	32.0	0.0	73.4	2	2	......	......	......	1	......	.... .	26	725	1167	3	0.91	23.1
Laredo.........*n*	N. 27 32	W. 99 26	5.30 a.m.	460	136	29.69	754.1	30.04	763.0	57.0	13.9	86.7	2	1	......	......	1	2	2	2	7	1348	2169	6	0.28	7.1
Leavenworth	N. 39 19	W. 94 58	5.48 a.m.	842	256	29.25	742.9	30.22	767.6	35.5	1.9	74.2	2	8	1	......	10	1	......	1	8	5213	8389	4	1.18	30.0
Lewiston	N. 46 25	W.116 59	4.20 a.m.	780	238	29.30	744.2	30.20	767.1	34.2	1.2	78.6	1	......	1	9	......	2	9	8	1	3607	5805	6	1.07	27.2
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.85	758.2	30.18	766.6	43.8	6.6	78.3	6	4	4	2	3	2	3	3	4	4331	6970	4	2.34	59.4
Los Angeles	N. 34 03	W.118 16	4.15 a.m.	371	113	29.76	755.9	30.14	765.5	40.4	8.0	76.6	1	3	4	5	3	6	4	5	.....	4090	6582	3	0.52	13.2
Louisville	N. 38 18	W 85 52	6.25 a.m.	530	162	29.57	751.1	30.17	766.3	41.4	5.2	78.5	5	4	2	2	6	2	8	2	......	5721	9207	7	6.00	152.4
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.48	748.8	30.21	767.3	41.7	5.4	76.7	.....	1	3	3	1	......	......	. ....	23	1365	2197	5	6.22	158.0
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.04	737.6	30.15	765.8	30.0	—1.1	77.6	5	7	2	2	11	2	......	2	. . .	8330	13406	5	1.32	33.5
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.28	743.7	30.06	763.5	27.5	—2.5	73.0	2	6	8	8	5	1	......	......	1	7745	12480	6	0.98	24.9
Mason	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.51	724.1	30.30	769.6	45.9	7.7	77.7	4	3	9	2	2	4	3	1	3	5063	8148	4	0.84	21.3
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.85	758.2	30.21	767.3	43.2	6.2	78.8	1	2	4	......	2	6	......	2	14	2365	3806	7	2.39	60.7
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.32	744.7	30.13	765.3	32.0	0.0	80.7	3	6	6	6	6	......	......	3	1	8456	13608	6	1.27	32.3
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.14	765.5	30.18	766.6	51.8	11.0	87.3	12	5	4	2	2	1	3	1	1	4780	7692	5	9.15	232.4
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.97	761.2	30.21	767.3	48.7	9.3	81.4	6	.... .	7	1	2	6	6	3	......	4963	7987	6	9.75	247.6
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.98	736.1	30.08	764.0	16.1	—8.8	83.8	5	3	4	2	14	1	......	......	2	8231	13246	4	0.20	5.1
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.13	739.9	30.15	765.8	40.3	4.6	76.2	4	......	1	9	2	1	.....	2	12	4191	6745	7	5.93	150.6
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.59	599.2	30.13	765.3	16.5	—8.6	81.4	......	21	4	5	......	......	1	......	......	31104	50056	6	15.95	405.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for December, 1881. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
U.S. Series—*Continued.*	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.63	752.6	30.20	767.1	42.3	5.7	81.1	1	6	3	4	3	7	2	1	4	3323	5348	6	4.83	122.7
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	30.02	762.5	30.15	765.8	34.7	1.5	79.5	10	.....	2	10	1	3	1	2	2	5487	8830	6	4.75	120.6
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.12	765.0	30.16	766.1	37.0	2.8	85.9	8	4	7	3	.....	2	.....	5	2	5588	8993	5	4.03	102.4
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.11	764.8	30.17	766.3	55.5	13.1	81.2	5	5	4	2	1	4	2	6	2	5946	9569	6	6.62	168.2
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.10	764.5	30.15	765.8	39.1	3.9	77.8	5	3	3	9	3	2	.....	5	1	7981	12846	6	3.41	86.6
New River	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.12	765.0	30.15	765.8	41.0	5.0	77.8	5	5	3	6	2	5	2	3	.....	12736	20496	5	5.66	143.8
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.99	761.7	30.18	766.6	37.8	3.2	85.3	4	1	5	8	3	2	4	3	1	6879	11070	6	4.37	111.0
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.18	766.6	30.21	767.3	44.7	7.1	79.2	4	1	4	7	1	2	.....	8	4	5249	8447	4	1.01	40.9
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.13	689.1	30.31	769.9	24.6	—4.1	60.5	3	14	6	1	6	.....	.....	.....	1	7417	11936	4	0.13	3.3
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.97	761.2	30.01	762.2	39.6	4.2	86.9	1	3	3	3	18	.....	1	.....	2	4006	6447	8	8.86	225.0
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.93	734.8	30.22	767.6	32.1	0.1	74.8	7	3	4	8	7	1	.....	1	.....	7448	11986	4	1.56	39.6
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.75	755.6	30.10	764.5	35.7	2.1	68.4	.....	2	2	2	13	5	1	6	.....	7339	11811	8	6.78	172.2
Palestine.....*l*	N. 31 45	W. 95 40	5.45 a.m.	523	.162	29.68	753.9	30.28	769.1	45.4	7.4	69.0	2	8	1	2	3	.....	1	2	.....	.....	.....	6	1.85	47.0
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.15	765.8	30.18	766.6	54.6	12.6	84.2	4	2	5	2	1	5	.....	12	.....	6779	10900	6	10.76	273.3
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	30.13	765.3	30.19	766.8	38.3	3.5	83.4	4	2	8	5	.....	2	4	3	3	4887	7865	5	2.63	66.8
Phœnix	N. 33 18	W. 112 00	4.40 a.m.	1120	341	28.98	736.1	30.84	783.3	37.0	2.8	44.4	1	.....	3	.....	1	5	14	5	2	1501	2416	4	0.10	4.1
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.61	447.3	29.82	757.4	8.2	—13.2	60.9	.....	7	.....	14	.....	.....	.....	9	1	17972	28922	1	0.56	14.2
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.17	613.9	29.53	775.4	30.1	—1.1	52.8	.....	12	1	3	8	.....	.....	.....	7	4179	6725	4	0.08	2.0
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	776	236	29.32	744.7	30.20	767.1	39.1	3.9	78.9	3	1	6	8	7	1	1	4	.....	4931	7936	7	3.94	100.1
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.15	765.8	30.16	766.1	57.3	14.1	90.2	10	4	3	.....	2	3	8	1	.....	9303	14971	6	11.28	286.5
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.39	746.5	30.13	765.3	32.0	0.0	87.4	2	4	6	7	8	1	1	2	.....	8302	13360	5	3.41	86.6
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.04	763.0	30.09	764.3	34.9	1.6	78.7	5	6	2	13	.....	4	.....	1	.....	6319	10169	5	6.79	172.5
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.04	763.0	30.12	765.0	40.7	4.8	89.7	3	2	2	1	12	3	2	1	5	4275	6880	6	6.64	168.7
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	49.4	9.7	69.0	8	.....	4	8	1	.....	.....	10	.....	9762	15710	6	5.81	147.6
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.83	630.7	30.27	768.8	28.7	—1.8	71.2	1	.....	1	4	20	2	.....	1	2	3068	4937	2	0.33	8.4
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.12	765.0	30.13	765.3	64.0	17.8	83.8	8	.....	.....	1	3	3	5	11	.....	7462	12009	5	1.22	31.0
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.82	757.4	30.18	766.6	41.6	5.3	92.4	5	4	1	3	2	2	.....	2	12	2250	3621	6	5.69	144.5
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.93	760.2	30.15	765.8	53.9	12.2	78.0	3	7	2	1	4	5	3	1	5	2901	4669	6	1.26	32.0
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.40	746.7	30.12	765.0	34.6	1.4	83.5	1	.....	6	11	4	3	2	2	2	9126	14687	8	4.11	104.4
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.55	750.6	30.15	765.8	39.5	4.2	89.2	1	2	.....	3	2	4	5	2	12	1723	2773	8	5.14	130.6
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	30.11	764.8	30.19	766.8	42.7	5.9	90.4	4	.....	2	.....	3	10	1	3	8	3717	5982	4	3.27	83.1
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.56	750.8	30.21	767.3	37.0	2.8	82.6	3	9	1	1	11	3	3	.....	.....	7618	12260	6	1.40	35.6
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.14	740.1	30.09	764.3	25.0	—3.9	82.4	3	6	2	6	1	9	3	1	.....	6625	10662	3	0.53	13.5
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.05	737.9	30.02	762.5	9.9	—12.3	94.4	9	5	.....	3	11	2	.....	.....	1	8405	13526	4	0.25	6.3
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.77	654.5	30.35	770.9	30.6	—0.8	54.8	2	3	1	.....	.....	5	1	.....	19	1473	2370	5	1.24	31.5
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.47	748.5	30.19	766.8	50.0	10.0	82.5	7	.....	3	.....	2	3	4	7	5	3600	5794	6	1.51	38.4
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	30.00	762.0	30.07	763.8	49.0	9.4	69.0	5	4	1	1	.....	.....	1	19	.....	3689	5937	3	0.30	7.6
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.42	747.3	30.15	765.8	36.9	2.7	79.7	1	6	4	5	13	.....	1	1	.....	10339	16639	6	6.27	159.3
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.14	765.5	30.17	766.3	39.3	4.1	81.3	5	5	4	7	2	3	1	4	.....	10791	17366	7	5.00	127.0
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.11	764.8	30.18	766.6	48.7	9.3	83.2	.....	9	6	6	3	5	.....	2	.....	4371	7034	5	3.85	97.8
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7064	2153	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.12	765.0	30.22	767.6	51.7	10.9	79.1	12	3	4	3	3	2	1	3	.....	5860	9431	6	3.08	78.2
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.97	761.2	30.20	767.1	46.9	8.3	84.5	5	4	1	.....	3	3	3	5	7	3932	6328	4	7.59	192.8
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.34	618.2	30 13	765.3	29.6	—1.3	70.3	4	15	1	1	2	1	1	.....	6	2452	3946	2	0.28	7.1
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.38	746.2	29.45	748.0	34.4	1.3	81.4	.....	2	1	.....	2	7	7	4	5	8884	14297	6	10.52	267.2
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.17	766.3	30.21	767.3	47.4	8.6	83.6	6	1	6	1	3	.....	2	12	.....	7433	11962	5	5.19	131.8
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	28.04	712.2	30.16	766.1	27.7	—2.4	78.8	3	6	3	7	4	1	.....	2	5	3131	5039	8	2.44	62.0
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.46	748.3	30.20	767.1	36.7	2.6	78.0	4	5	4	2	9	2	3	.....	2	5932	9546	6	4.81	122.2
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	30.02	762.5	30.15	765.8	33.5	0.8	82.7	9	1	3	.....	9	.....	.....	.....	9	2892	4654	6	5.14	130.6
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.11	688.6	30.34	770.6	38.4	3.6	81.7	1	2	.....	12	1	4	.....	.....	11	4761	7662	4	1.30	33.0
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.08	764.0	30.13	765.3	36.8	2.7	74.8	3	8	3	5	3	5	.....	4	.....	12064	19415	5	6.80	172.7
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.40	746.7	30.15	765.8	37.1	2.8	81.2	3	2	6	5	10	.....	2	3	.....	6894	11095	8	4.73	120.1
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.64	702.0	30.15	765.8	41.0	5.0	66.2	.....	.....	.....	2	2	24	2	.....	1	3370	5423	2	0.19	4.8
Umatilla	N 45 55	W. 119 21	4.11 a.m.	340	103	29.80	756.9	30.24	768.1	32.5	0.3	88.3	.....	2	10	5	1	10	3	.....	.....	3776	6077	7	0.45	11.4
Uvalde.....*b*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.19	741.4	30.03	762.7	49.2	9.6	84.0	1	1	.....	.....	.....	4	7	2	14	1931	3108	5	0.91	23.1
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.93	760.2	30.20	767.1	48.6	9.2	75.6	4	5	4	.....	3	7	6	2	.....	4803	7730	5	3.18	80.8
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.78	756.4	30.16	766.1	41.4	5.2	88.0	2	9	1	.....	2	10	4	2	1	1700	2736	3	0.27	6.9
Washington, D.C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	30.09	764.3	30.21	767.3	37.8	3.2	87.0	6	2	.....	3	6	3	1	.....	10	3513	5654	6	6.12	155.4
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wickenburg	N. 33 58	W 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	35.5	1.9	72.5	.....	1	.....	.....	.....	.....	.....	.....	30	.....	.....	4	0.36	9.1
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.15	765.8	30.21	767.3	47.4	8.6	81.5	4	.....	6	2	2	1	4	8	4	5244	8439	6	3.64	92.5
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.74	653.8	30.34	770.6	25.8	—3.4	79.2	1	1	.....	7	3	1	.....	18	.....	5261	8407	3	1.81	46.0
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	30.10	764.5	30.14	765.5	40.0	4.4	81.1	4	6	2	8	2	5	3	1	.....	12166	19579	5	2.06	52.3
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.76	730.5	30.19	766.8	27.7	—2.4	79.6	1	7	5	7	2	.....	1	1	7	5859	9429	4	0.11	2.8
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.94	760.5	30.09	764.3	48.2	9.0	59.4	10	5	.....	1	1	2	.....	8	4	3435	5528	4	0.10	2.5
Sub-Series.																										
Bozota	N. 4 36	W. 74 14	7.41 a.m.	8704	2653	22.01	559.0	.....	.....	52.6	11.4	84.1	1	.....	1	2	1	1	.....	.....	25	.....	.....	6	3.69	93.7
Bridgetown.....‡	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.00	762.0	30.02	762.5	77.5	25.3	85.5	1	.....	.....	.....	.....	.....	24	6	.....	.....	.....	8	5.76	146.3
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	18	5	29.86	758.4	29.88	758.9	76.2	24.6	89.5	2	.....	6	7	6	3	1	2	4	.....	.....	.....	18.27	464.0
Gaudeloupe	N. 16 12	W. 61 40	8.01 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.07	763.8	30.12	765.0	72.1	22.3	90.0	5	.....	.....	.....	.....	1	6	.....	1	18	.....	8	3.98	101.1
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.02	762.5	30.03	762.7	70.6	21.4	86.4	20	1	.....	.....	.....	.....	.....	.....	10	.....	.....	3	0.24	6.1
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.93	760.2	30.01	762.2	76.9	24.9	71.7	.....	.....	.....	.....	.....	.....	4	27	.....	.....	.....	7	0.49	12.4
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.01	762.2	30.01	762.2	78.2	25.7	87.6	.....	.....	.....	.....	.....	2	28	1	.....	.....	.....	9	8.99	228.3
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.39	746.5	29.85	758.2	79	26.1	89	2	.....	.....	.....	2	.....	.....	.....	27	.....	.....	8	5.96	151.4
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	73.4	23.0	.....	.....	.....	.....	.....	.....	1	2	28	.....	.....	.....	3	1.91	48.5
Santiago deCuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.03	762.7	30.06	763.5	74.6	23.7	77.4	13	2	.....	.....	.....	.....	.....	1	15	.....	.....	2	1.77	45.0
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	110	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	30.05	763.3	30.10	764.5	—14.4	—25.8	.....	5	10	8	5	2	.....	.....	1	.....	.....	.....	5	1.83	46.5

Ocean Square Data for December 1881.

Location of centre of each square.		No. of days.	No. of ob's.	Barometer. Inch.	Barometer. Mill.	Temperature. Fah.	Temperature. Cent.	Wind Frequency. N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	Wind force 0–10.
° N. 2.5	° W. 22.5	4	4															
2.5	27.5	6	6															
2.5	32.5	10	10															
7.5	22.5	3	3															
7.5	27.5	5	5															
7.5	32.5	4	4															
7.5	37.5	1	1															
7.5	47.5	2	2															
12.5	22.5	3	3	30.02	762.5	78.4	25.8	2						2	27			2.2
12.5	27.5	6	6	30.01	762.2	77.4	25.2	2	1					2	26			2.4
12.5	32.5	2	2															
12.5	37.5	4	4															
12.5	47.5	2	2															
12.5	52.5	1	1	30.01 a	762.2 a	78.7	25.9		1				1	18	11			1.3
12.5	57.5	5	5	30.01	762.2	78.0	25.6	1						22	8			1.0
17.5	22.5	2	2	30.08	764.0	74.8	23.8	1	1					3	26			2.6
17.5	27.5	3	3	30.08	764.0	74.2	23.4	3						3	25			2.9
17.5	37.5	11	11															
17.5	42.5	3	3															
17.5	52.5	1	1	30.04	763.0	76.1	24.5		1				1	16	13			1.3
17.5	57.5	1	1	30.04	763.0	76.2	24.6		1				1	13	16			1.3
22.5	22.5	9	10	30.16	766.1	71.4	21.9	3				1	2	25				2.7
22.5	27.5			30.16 b	766.1 b	71.5	21.9	3	1				6	3	18			2.0
22.5	32.5			30.14	765.5	71.5	21.9						4	6	21			1.8
22.5	37.5	9	9	30.12 b	765.0 b	71.9	22.2		1				5	9	16			3.2
22.5	42.5	6	6	30.12 b	765.0 b	72.2	22.3	1					3	8	19			3.0
22.5	47.5			30.09 b	764.3 b	73.0	22.8		2				4	7	18			1.8
22.5	52.5	1	1	30.08 b	764.0 b	73.5	23.1	1	2				4	8	16			1.7
22.5	57.5	1	1	30.09	764.3	73.8	23.2	3	1		1		4	8	14			1.8
22.5	62.5	3	3	30.09	764.3	74.3	23.5	3	2			1	1	8	16			1.8
22.5	67.5	10	10	30.10	764.5	73.8	23.2	2	2		1		3	8	15			3.1
27.5	22.5	4	4	30.24	768.1	67.6	19.8	2	1				2	4	22			2.1
27.5	27.5			30.23 b	767.8 b	67.7	19.8	5				2	3	5	16			2.0
27.5	32.5			30.20 b	767.1 b	67.7	19.8	1	1				4	4	21			2.7
27.5	37.5			30.17 b	766.3 b	68.1	20.1	2	2			1	4	6	16			2.9
27.5	42.5	10	10	30.16 b	766.1 b	68.7	20.4	2	2				6	7	14			3.1
27.5	47.5	2	2	30.13	765.3	69.8	21.0	3	1		1		10	3	13			3.2
27.5	52.5			30.12	765.0	70.1	21.2	2	4		1	1	10	2	11			3.1
27.5	57.5	1	1	30.12	765.0	70.6	21.4	3	5		1	5	5	2	10			3.4
27.5	62.5	3	3	30.14	765.5	68.5	20.3	4	2	1		1	7	3	13			3.3
27.5	67.5	6	6	30.16	766.1	69.8	21.0	2	4		2	2	4	2	15			3.4
27.5	72.5	10	12	30.17	766.3	68.6	20.3	2	4		3	2	3	4	13			3.6
27.5	77.5	7	9	30.18 a	766.6 a	65.3	18.5	2	6		1	4	5	1	12			3.0
32.5	12.5	5	5	30.25	768.3	63.8	17.7	1	1	1		2	4	1	21			1.5
32.5	17.5	12	13	30.28	769.1	65.0	18.3		4	1	7	1	9	3	6			2.1
32.5	22.5	1	1	30.30	769.6	64.9	18.3	3	3		4	1	2	6	12			1.7
32.5	27.5	1	1	30.28 b	769.1 b	66.8	19.3	4	8		1	3	6	3	6			1.4
32.5	32.5	2	2	30.31	769.9	64.4	18.0	2	4	1	6	1	6	3	8			2.9
32.5	37.5	3	4	30.20 b	767.1 b	64.7	18.2	1	6	4	4	2	5		8			3.0
32.5	42.5	10	12	30.19 b	766.8 b	64.8	18.2	1	5		5	2	8	2	8			3.0
32.5	47.5	9	10	30.15 b	765.8 b	65.5	18.6	4	3	1	5	2	7	3	6			3.8
32.5	52.5	10	12	30.15	765.8	65.4	18.6	2	6		5	4	5	1	8			3.6
32.5	57.5	10	10	30.16	766.1	66.3	19.1	2	7	1	2	7	2	3	7			3.2
32.5	62.5	7	9	30.16	766.1	66.1	18.9	5	3	1	1	8	3		9	1		3.6
32.5	67.5	4	5	30.17	766.3	64.1	17.8	5	2	3	3	2	3	4	9			3.6
32.5	72.5	18	23	30.19	766.8	62.3	16.8	2	8		6	2	3	1	9			3.6
32.5	77.5	11	13	30.20	767.1	55.6	13.1	8	3	2	4	3	3		8			3.0
37.5	12.5	18	20	30.26	768.6	58.2	14.6	2	2		8	2	4		13			2.7
37.5	17.5	3	3	30.29	769.4	60.5	15.8	1	10	2	7	2	3		6			2.3
37.5	22.5	1	1	30.32 a	770.1 a	61.0	16.1	2	8	2	12	3	2		2			1.9
37.5	27.5			30.31 a	769.9 a	60.5	15.8	4	6	7	6	3	3	1	1			1.8
37.5	32.5			30.24 b	768.1 b	59.1	15.1		10	4	8	2	2	3	2			3.1
37.5	37.5			30.19 b	766.8 b	58.2	14.6		10	6	5	4	2	2	2			3.4
37.5	42.5	2	2	30.17 b	766.3 b	50.5	13.6	1	10	2	7	4	4		2		1	3.6
37.5	47.5	3	3	30.18 b	766.6 b	55.6	13.1	2	9	4	6	4	4	1	1			4.0
37.5	52.5	7	8	30.17	766.3	54.6	12.6	5	6	1	4	7	4	1	3			4.0
37.5	57.5	12	16	30.16	766.1	54.5	12.5	4	8	2	5	8	1	1	2			3.3
37.5	62.5	7	9	30.15	765.8	53.4	11.9	3	8		5	7	1		7			4.0
37.5	67.5	14	19	30.17	766.3	52.0	11.1	3	5		10	2	4	1	6			3.0
37.5	72.5	24	42	30.17	766.3	47.7	8.7	6	7	1	8	3	1	1	3		1	3.6
42.5	12.5	17	22	30.19	766.8	54.9	12.7	3	3		12	4	3		6			2.9
42.5	17.5	1	1	30.19	766.8	57.2	14.0		6	12	7	4	1		1			3.0
42.5	22.5	3	3	30.21	767.3	55.3	12.9		7	7	15	2						3.1
42.5	27.5	3	3	30.18	766.6	56.1	13.4		8	10	10	3						3.4
42.5	32.5	4	4	30.14	765.5	54.4	12.4	1	7	8	12	2		1				3.6
42.5	37.5	8	9	30.09	764.3	52.4	11.3	1	12	10	5	1	2					3.7
42.5	42.5	8	9	30.10	764.5	51.4	10.8	2	7	5	12		2		3			3.3
42.5	47.5	13	15	30.12	765.0	47.5	8.6	2	11	7	6		4	1				4.0
42.5	52.5	19	29	30.12	765.0	45.6	7.6	5	6	1	8	3	5	1	2			3.5
42.5	57.5	21	31	30.12	765.0	43.8	6.6	5	6	4	6	1	6	1	2			3.2
42.5	62.5	23	48	30.12	765.0	42.7	5.9	1	8	3	6	4	2		6	1		3.1
42.5	67.5	24	47	30.17	766.3	39.7	4.3	4	4	2	10	3	3		5			3.4
47.5	12.5	20	31	30.01	762.2	51.0	10.6	1	6	5	12	4	1	1	1			3.9
47.5	17.5	12	14	30.00	762.0	51.3	10.7	1	6	11	7	3	3					4.1
47.5	22.5	13	18	30.01	762.2	50.8	10.4		8	9	10	1	1		2			3.9
47.5	27.5	20	25	29.97	761.2	50.0	10.0		8	12	8	1	1		1			4.4
47.5	32.5	22	34	29.91	759.7	47.7	8.7		13	8	7	1	1			1		4.1
47.5	37.5	22	35	29.91	759.7	48.4	9.1	1	15	6	7			1	1			4.5
47.5	42.5	24	38	29.90	759.4	41.3	5.2	1	11	8	8		1	1	1			4.4
47.5	47.5	21	39	29.94	760.5	34.3	1.3	2	10	6	7	1	3		2			3.8
52.5	12.5	19	29	29.86	758.4	47.1	8.4		7	6	13	3	1		1			3.9
52.5	17.5	16	18	29.85	758.2	47.6	8.7	1	6	12	8	3	1					4.6
52.5	22.5	15	28	29.83	757.7	46.8	8.2		7	13	8	1	2					4.4
52.5	27.5	15	19	29.80	756.9	45.2	7.3		9	13	6	1	1	1				4.4
52.5	32.5	12	14	29.75	755.6	42.6	5.9		15	7	6	1			1	1		4.0
52.5	37.5	2	2	29.75	755.6	39.7	4.3	1	17	6	5	1			1			4.0
52.5	42.5	3	3	29.76	755.9	35.8	2.1	1	14	6	7		2		1			3.5
52.5	47.5	1	1	29.79	756.7	30.1	— 1.1		17	8	2			2	2			3.5
57.5	12.6	1	1	29.55	750.6	42.3	5.7	1	6	1	14	5	2		2			4.0
57.5	17.5			29.51	749.5	40.7	4.8	3	6	5	14	2	1					4.2
57.5	22.5			29.47	748.5	38.7	3.7	1	11	4	8	4	2		1			4.1
57.5	27.6			29.46	748.3	36.4	2.4	1	14	9	1	4	1	1				4.2
57.5	32.5			29.46	748.3	33.8	1.0		16	8	1	4	1		1			4.0
57.5	37.5			29.49	749.0	30.8	— 0.7		23	3	2	3						3.8
57.5	42.5			29.52	749.6	27.6	— 2.4	2	20	3	4	1	1					3.8
57.5	47.5			29.56	750.8	23.5	— 4.7	2	22	5		1	1		1			3.3

NOTE.—See General Remarks, page 9.

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount or duration is recorded, the word "blank" is published in the rain-fall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; ‡, observations taken at 7.35 a. m., Washington mean time; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rain-fall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms. At Gratz, observations are taken at 2 p. m., local time.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rain-fall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rain-fall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Charlottetown, St. Andrews, Windsor and those stations marked with a star (*) give the clouds on a scale of 0 to 4, while the remainder report them on a scale of 0 to 10.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rain-fall is given in millimeters and measured at the moment of simultaneous observation.

COSTA RICAN SERIES.—At San José the originals give the barometer as corrected for temperature only and the thermometer in Centigrade. Relative humidity is not given on the originals, but is computed from the hygrometrical observations. Upper and lower clouds are given, the amount on a scale of 0 to 10 and the kind by Howard's classification. The rain-fall is apparently measured at midnight.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12.00, instead of 12.16. At Gap the observations are taken at 12.03 p. m., instead of 12.32 p. m. On December 1st, Nancy changes elevation to 725 feet, or 221 meters.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin, observations are taken at 2.00 p. m., instead of 1.02 p. m.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10.

JAPANESE SERIES.—The rain-fall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rain-fall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Bronö the observations are taken at 2.00 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rain-fall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. The rain-fall is not given. At Barnaul, observations are taken at 6.18 p. m., local time

Scottish Series.—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rain-fall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

Spanish Series.—The originals give the barometer at Barcelona, Bilbao, Burgos, Murcia and Santiago as corrected for temperature only. The movement of the air except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given and the degree of cloudiness on a scale of 0 to 10. The rain-fall at San Juan is measured at 4 p. m., local time and at San Fernando at midnight. The weather is given in general (Spanish) terms.

Swedish Series.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rain-fall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

Swiss Series.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10 and at Zurich on a scale of 0 to 4. The rain-fall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

Turkish Series.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

United States Series.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off, and at Rivas is omitted. The amount of cloudiness is given on the scale of 0 to 4, except for Rivas, Paramaribo and York Factory. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. The rain-fall at Rivas is given in centimeters and millimeters. On November 1st the elevation of barometer cistern at Buffalo, N. Y., changed to 696 feet, or 212 meters.

British Naval Series.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9 and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

German Naval Series.—No vessels reporting.

Portuguese Naval Series.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rain-fall is not measured, but the duration is generally given in hours and minutes.

Swedish Naval Series.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rain-fall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

United States Naval Series.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and the weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

Merchant-Marine Series.—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

Daily Bulletin, December 1st, page 3, French Series, Versailles, actual barometer 29.84 inches, should read 29.85 inches.
10th, page 2, British Series, temperature, Fahrenheit, 31.6°, should read 32.6°.
11th, page 6, Galveston, Texas, actual barometer 765.1 m.m., should read 765.3 m.m.; page 13, Miscellaneous, Bk. "Johanne Auguste", W. 41° 131′, should read W. 41° 13′.
12th, page 10, U. S. Naval, "Lancaster," rainfall 1.0 m.m., should read 0.3 m.m.
13th, page 6, Chicago, Illinois, actual barometer 755.1 m.m., should read 735.1 m.m.
16th, page 10, U. S. Naval, "Brooklyn," N. 92°, should read N. 29°.
28th, page 11, American S. S. Co., S.S. "Indiana," for contraction "sm'h" in m.m. rainfall column, read "light."
29th, page 9, British Naval, H. M. S. "Sea Gull," S. 11° 28′, should read S. 13° 28′.
30th, page 10, U. S. Naval "Kearsarge," temperature, Fahrenheit, 43°, should read 45°.

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.

PREVAILING WINDS.

Arrows show the 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 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

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

Heliotype Printing Co. Boston.

ISOBARS AND ISOTHERMS.

Isobars in *black;* detached barometer means in English inches.

Isotherms in *red;* detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of December, 1881, based on the daily charts of the International Bulletin.

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF JANUARY, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
FEBRUARY, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JANUARY, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for January, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Algerian Series.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.35	770.9	63.7	17.6	74.	.....	3	17	6	.....	3	.....	2	.....	.....	.....	1	1.15	29.2
Algiers	N. 36 47	E. 3 04	0.20 p.m.	72	22	.....	.....	30.40	772.2	57.9	14.4	75.4	3	2	3	3	3	2	6	9	.....	.....	.....	1	0.91	23.1
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.40	772.1	60.6	15.9	73.	3	6	5	4	.....	1	12	.....	.....	.....	.....	3	1.91	48.5
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.39	772.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sfax	N. 34 44	E. 10 40	0.51 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.40	772.2	51.4	10.8	61.0	5	.....	5	10	3	4	2	2	.....	.....	.....	2	0.49	12.4
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.43	773.0	48.4	9.1	59.7	3	9	.....	7	4	2	2	2	2	.....	.....	4	1.96	49.9
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	47.1	8.4	55.0	6	3	3	4	7	1	5	2	.....	.....	.....	4	1.02	25.8
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.47	774.0	49.3	9.6	59.9	9	.....	4	2	5	2	8	1	.....	.....	.....	2	0.89	22.6
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.43	773.0	59.5	15.3	49.0	.....	27	.....	.....	.....	3	.....	.....	1	.....	.....	3	1.01	25.7
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.80	757.0	29.89	759.3	61.3	16.3	72.0	1	.....	1	7	10	10	1	1	.....	.....	.....	4	0.29	7.4
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.93	760.1	30.50	774.6	37.2	2.9	82.4	.....	1	4	8	4	4	5	4	1	.....	.....	6	0.26	6.5
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.64	752.8	30.44	773.2	35.4	1.9	79.7	4	1	14	9	1	0	2	.....	.....	.....	.....	8	0.78	19.9
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.50	749.4	30.42	772.7	31.8	—0.1	79.7	5	4	.....	.....	9	.....	.....	.....	13	.....	.....	8	0.09	2.4
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	29.17	741.0	30.49	774.5	35.1	1.7	70.0	.....	2	1	4	14	3	4	2	1	.....	.....	5	0	0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.93	734.9	30.45	773.5	32.2	0.1	88.9	4	17	2	2	.....	5	.....	1	.....	.....	.....	7	0.13	3.2
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	29.08	738.7	30.50	774.8	32.7	0.4	88.0	.....	1	4	7	3	1	9	4	2	.....	.....	7	0.64	16.3
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.32	744.7	30.36	771.1	33.8	1.0	79.1	.....	16	.....	4	4	3	2	2	.....	.....	.....	7	0.90	22.9
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	30.31	769.8	30.42	772.7	49.3	9.6	66.8	2	3	7	3	1	1	6	5	3	.....	.....	4	0.97	24.6
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.95	760.6	30.41	772.5	33.8	1.0	77.0	1	7	2	3	9	1	5	3	.....	.....	.....	7	0.24	6.0
Szegedin *a*	N. 46 15	E. 20 10	1.29 p.m.	256	78	30.17	766.3	30.47	773.9	36.1	2.3	84.8*b*	2	7	2	0	2	1	0	2	15	.....	.....	6	0.13	3.2
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	30.35	771.0	30.46	773.6	48.9	9.4	58.7	.....	.....	1	.....	.....	1	9	3	17	.....	.....	4	0.48	12.2
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.72	755.0	30.56	776.1	35.6	2.1	72.0	1	10	4	1	.....	3	.....	1	11	.....	.....	6	0.08	2.1
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.96	761.0	30.06	763.5	42.8	6.0	75.5	.....	1	5	10	11	3	1	.....	.....	.....	.....	6	1.31	33.3
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.95	760.7	30.20	767.1	44.1	6.7	84.0	1	.....	1	10	15	3	1	.....	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	30.28	769.1	43.5	6.4	82.9	.....	.....	1	16	.....	11	1	2	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.71	754.6	30.26	768.6	41.1	5.1	88.7	1	.....	2	10	9	7	1	1	.....	.....	.....	9	.....	.....
Bradford *e*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.85	758.2	30.25	768.3	44.0	6.7	82.0	.....	2	8	12	.....	4	.....	.....	.....	.....	.....	7	3.84	97.5
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.00	762.0	30.03	762.7	79.5	26.4	72.1	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	30.31	769.9	43.2	6.2	86.7	.....	.....	13	7	8	.....	2	1	.....	.....	.....	8	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	30.24	768.1	30.38	771.6	42.5	5.8	86.9	1	1	1	13	4	1	1	.....	9	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	30.13	765.3	30.36	771.1	46.8	8.2	82.5	2*b*	1	4	5	6	4	6	1	.....	.....	.....	9	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.57	700.3	29.78	756.4	79.0	26.1	60.4	.....	.....	.....	1	.....	2	4	18	6	.....	.....	4	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.63	752.6	29.87	758.7	87.6	30.9	66.4	.....	18	7	4	.....	.....	.....	.....	2	.....	.....	4	.....	.....
Galway *b*	N. 53 15	W. 9 03	11.32 a.m.	32	10	.....	.....	30.12	765.0	46.9	8.3	84.3*c*	1*a*	1	4	6	16	1	.....	1	.....	.....	.....	7	3.06	77.7
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.29	769.4	30.34	770.6	59.5	15.3	84.0	.....	1	2	1	.....	1	19	7	.....	.....	.....	6	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.92	760.0	30.12	765.0	43.3	6.3	83.6	1	1	4	14	7	1	2	1	.....	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	30.19	766.8	30.37	771.4	42.5	5.8	84.7	1	.....	1	12	11	5	1	.....	.....	.....	.....	8	0.53	13.5
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	30.10	764.5	30.41	772.4	44.3	6.8	90.0	.....	3	2	6	6	4	5	5	.....	.....	.....	8	0.05	1.3
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.33	760.4	30.37	771.4	42.8	6.0	83.3	1	.....	5	13	7	3	2	.....	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	30.04	763.0	30.30	769.6	42.9	6.1	84.7	.....	1	3	20	3	3	.....	1	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	30.24	768.1	30.31	769.9	56.9	13.8	36.9	3	8	.....	1	.....	2	2	15	.....	.....	.....	5	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.22	767.6	30.27	768.8	70.8	21.6	81.2	2	.....	.....	2	2	6	10	9	.....	.....	.....	5	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.78	756.4	30.32	770.1	41.6	5.3	88.1	.....	.....	2	10	11	4	1	2	1	.....	.....	8	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	30.11	764.8	30.34	770.6	42.6	5.9	84.8	1	.....	2	10	9	6	1	.....	2	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.28	769.1	30.36	771.1	46.3	7.9	86.7	.....	1	3	7	3	8	7	1	1	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	30.04	763.0	43.2	6.2	85.3	1	.....	3	16	6	3	1	.....	1	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	30.25	768.3	30.32	770.1	42.9	6.1	78.9	8	1	1	3	5	1	.....	10	2	.....	.....	8	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.99	761.7	30.28	769.1	43.5	6.4	88.2	1	1	1	14	10	.....	.....	.....	4	.....	.....	7	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	30.17	766.3	30.20	767.1	43.5	6.4	84.6	.....	.....	6	17	2	.....	4	1	1	.....	.....	8	1.97	50.0
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.28	769.1	41.9	5.5	84.5	.....	.....	12	9	7	1	1	1	.....	.....	.....	6	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	42.7	5.9	84.7	3	3	7	8	4	3	1	.....	2	.....	.....	8	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	30.29	769.4	30.34	770.6	50.0	10.0	79.3	.....	5	2	7	1	7	7	2	.....	.....	.....	9	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	30.20	767.1	30.23	767.8	48.9	9.4	79.7	1	.....	6	3	6	11	3	1	.....	.....	.....	9	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for January, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CANADIAN SERIES	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11																					
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.89	759.2	29.93	760.2	14.4	— 9.8	92.4		10	8	2	3	3	3	2		6617	10649	7	5.62	142.7
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.90	759 4	29.97	761.2	5.4	—14.8	95.3a	1	4	4	4	3			3	12	3341	5377	7	3.74	95.0
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53																					
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	45																					
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.93	760.2	29.95	760.7	6.4	—14.2	86.5	3	6	1	9	4		1	4	3	15533	24997	8	3.65	92.7
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.15	740.4	30.09	764.3	—3.3	—19.6	96.9b	2	6	1	4	5	6		4	3	5142	8275	5	1.16	29.5
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18																					
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309																					
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.84	757.9	29.98	761.5	19.5	— 6.9	92.0	2	4	14	1	4	3	2	1				6	6.84	173.7
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	358	109																					
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.74	755.4	30.10	764.5	18.0	— 7.8	85.1	5	4	5	4	4	2	1	6		7023	11302	8	2.74	69.6
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10																					
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.83	757.7	30.05	763 3	11.2	—11.6	85.1	1	4	13	2	4	2	4	1				8	3.91	99.3
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9																					
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.35	745.5	30.11	764.8	12.5	—10.8	78.6	7	2	5	1	3	3	4	1	5	7717	12419	7	2.75	69.8
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210																					
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.39	746.5	30.13	765.3	22.6	— 5.2	92.5	3	3	8	4	5	1	1	2	4	7220	11619	7	2.50	63.5
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.44	747.8	30.13	765.3	22.8	— 5.1	84.8	2	3	13	3	1	2	4	3				7	2.34	59.4
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.66	753.4	30.00	762.0	6.3	—14.3	87.5	2	5	9	4		1	4	2	4			7	6.50	165.1
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.59	751.6	30.10	764.5	4.1	—15.5	84.1a		10	4			6	4		7			6	2.91	73.9
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.32	744.7	30.09	764.3	20.1	— 6.6	92.0	3	4	3	5	5	5	1	4	1	12376	19917	9	2.82	71.6
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.91	759.7	29.97	761.2	15.2	— 9.3	86.5	6	11	3	3	2	2	1	1	2			4	4.34	110.2
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46																					
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360																					
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.85	758.2	29.92	760.0	17.2	— 8.2	88.7	3	11	3	6	1	1	1	1	4	9123	14682	7	5.01	127.3
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.71	754.6	30.12	765.0	21.0	— 6.1	87.8	5	6	8	5		2	2	3		9230	14854	8	1.99	50.5
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26																					
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299																					
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.90	759.4	29.97	761.2	24.5	—4.2	81.7	2	6	4	3	2	1	9	4		9423	15165	6	6.21	157.7
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.75	755.6	30.02	762.5	19.5	— 6.9		a	5	7	8	4	3	1	2				6	3.80	96.5
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?																					
CAPE COLONY SERIES.																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.94	760.5	29.97	761.2	73.8	23.2	80.3			10	4	6	3	8					5	1.86	47.2
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.92	760.0	29.96	761.0	83.4	28.6	52.4		2	3		13	13						3	0.11	2.8
Worcester	S. 33 36	E. 19 26	1.26 p.m.	?	?																					
CHINESE SERIES.																										
SUB SERIES.																										
Hankow *h*	N. 30 34	E. 114 20	7.45 p.m.	260	79	30.28	769.1	30.57	776.5	40.9	4.9	80.0	7i	4				5	3	3				6i	1.23i	31.2i
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.32	770.2	30.35	770.8	40.1	4.5	86.0	2	9	2		1	4	7	6				5	4.20	106.7
COSTA RICAN SERIES.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145																					
DANISH SERIES.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	30.20	767.1	30.25	768.3	38.1	3.4	87.0	1	7	9	7	3	2	1	1				7		
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	30.23	767.8	30.25	768.3	39.2	4.0	93.0			13	9	6	1	1	1				7		
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.32	744.6	29.36	745.7	4.8	—15.1	89.0j	11	6	3	2	1		1	7				8		
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.27	743.5	29.32	744.6	30.2	— 1.0				5	7	7	1	7	4				9		
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.63	752.6	29.67	753.5	41.2	5.1	80.0		4	9	9	4	1		1	3			8		
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	30.07	763.8	30.16	766.1	39.7	4.3	89.0		2	8	10	6	2		1	2			7		
FRENCH SERIES.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.79	756.6	30.46	773.7	45.0	7.2	86.8	1		2	1	1	24	2						0	0
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.91	759.8	30.47	773.8	37.4	3.0	95.3	3	1	2	8	5	1	3	8					0.86	21.9
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	30.15	765.8	30.42	772.7	37.4	3.0	89.4		4	1	7	6	5	7		1				1.87	47.4
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.36	771.2	30.44	773.2	46.0	7.8	65.4	27	1					1	2				1	1.30	34.5
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.89	759.2	30.48	774.1	37.0	2.8	78.9k			2	4	8	13	4					8	0.66	16.7
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	30.19	766.8	30.47	773.9	38.7	3.7	87.0a		1	4	5	4	6	8	3				8	0.60	15.2
Besançon	N. 47 14	E. 6 01	0.32 p.m.	846	258			30.47	774.0	37.6	3.1	84.8	2			2	3	5		19					0	0
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	30.17	766.4	30.45	773.3	44.2	6.8	81.4	3			2	3	9	11	3				5	0.39	9.9
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.90	759.4	30.48	774.1	40.8	4.9	89.5	12	2	2	4	2	3	2	4					0.31	7.8
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	30.16	766.1	30.41	772.3	46.4	8.0	88.0	1	1	3	7	3	7	3	4	2			8	2.83	72.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.34	770.6	30.41	772.5	40.8	4.9	85.2c	1	1	4	1	14	8	2					4	0.77	19.5
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	30.10	764.4	30.43	773.0	37.6	3.1	87.5a			2	4	9	7	2	2	5			8	0.17	4.4
Charleville *c*	N. 49 46	E. 4 49	0.27 p.m.	476	145	30.00	761.9	30.54	775.6	36.1	2.3		2		2	2	7	6	6	3				7	1.16	29.6
Clermont-F'd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	29.08	738.5	30.49	774.4	42.6	5.9	67.6	9	4	7	4	2	1	4						0.18	4.7
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.61	752.1	30.51	775.0	35.6	2.0	89.8	9	1		3	4	6	2	6					0.86	21.8
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.59	751.6	30.51	774.9	36.3	2.4	88.0		1	7	5		4	14					8	1.06	26.8
Gap	N. 44 33	E. 6 05	0.32 p.m.	2427	740	27.85	707.4	30.47	773.8	44.1	6.7	57.6	2	5	3	2	7	3		1	8				1.57	39.9
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	29.26	743.2	30.38	771.7	52.7	11.5	53.8	6				8	9	2	6				3	0.45	11.5
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.69	754.2	30.50	774.8	36.5	2.5	83.4		1	2		5	7	15	1					0.33	8.3
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.82	732.0	30.45	773.5	45.0	7.2	65.0		1	1	14	2	12	1					3	0.78	19.7
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	30.15	765.9	30.44	773.1	42.4	5.8	88.5	3	3	2	4	4	5	4	6				6	0.18	4.7
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.86	758.5	30.44	773.1	54.1	12.3	60.2	1	1	5	5	6	1	2	10				1	1.23	31.3
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.35	771.0	30.45	773.4	45.9	7.7	89.9	1	1	3	3	4	6	3	7	3			6	0.41	10.3
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.41	747.0	30.52	775.3	35.2	1.8	88.2a	4	7		1	2	4	7	6				3	0.84	21.3
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	30.14	765.6	30.47	773.9	37.4	3 0	93.3j	1	1	3	3	8	6	8	1				9	1.22	31.1
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	30.12	765.1	30.39	772.0	55.9	13.3	57.1		3	8	7	1	5	6	1					2.22	56.4
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	25.08	637.1	29.93	760.1	40.3	4.6	45.6	3	2	7	9	3		6	1				2	0.86	21.8
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	102	31	30.32	770.0	30.43	772.8	52.0	11.1	65 8	17					9	3	2				2	0.36	9.1
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.66	753.4	30.49	774.4	34.5	1.4	86.2	15	2	3	6	3	2						5	0.82	20.9
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.32	770.0	30.48	774.1	41.4	5.2	85.7	1	1	1	3	5	5	5	10				8	1.67	42.4
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9																				1.76	44.6
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	98	30	30.32	770.2	30.44	773.1	52.3	11.3	63.3	5			3	2	11		6	4			3	0.04	1.0
Pic du Midi (Sum-[mit.)	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.42	544.1			28.0	— 2.2		1	2	1	10	3	4	6	4					2.48	63.0
Privas	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.41e	746.9e	30.55e	775.9e	38.3	3.5	73.7l													1.41	35.7
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.43	645.8			37.0	2.8	56.1	9	3		5	5	6		3				4	0.62	15.7
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.44	773.2	30.47	774.0	43.0	6.1	87.7			2	1	9	5	7	6	1			8	0.55	14.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	30.25	768.4	30.47	773.8	43.0	6.1	81.1	1	4	7	4	2	7	1	5				5	0.58	14.7
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	28.23	717.0	30.45	773.4	43.3	6.3	65.5	2	2	2	2	2	3	18					6	0.60	15.3
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.40	772.1	30.45	773.3	38.7	3.7	88.6	1	4	1	7	3	6	8	1				8	0.41	10.4
Saint Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	30.28	769.0	30.43	773.0	41.4	5.2	82.1		4	6	5	6	1	4	5				2	0.32	8.2
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	30.30	769.5	30.46	773.7	37.4	3.0	89.5	6	1	1	5	8	4	3	2	1				0.48	12.2
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.75	755.6	30.48	774.2	47.5	8.6	80.7	2	4	3	2	2	16	1	1				8	1.67	42.4
Tours	N. 47 24	E. 0 41	0.11 p.m.	171	52																				0.30	7.6
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.58	751.2	30.43	773.0	36.9	2.7	92.1		2	2	12	1	6		8				8		
SUB SERIES.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	30.18	766.5	30.47	773.9	37.8	3.2	89.6	1		3	5	7	7	2	6				9		

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for January, 1882. 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.
GERMAN SERIES.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.60	751.7	30.46	773.7	33.6	0.9	76.0	1	1	3	5	6	6	4	.....	5	.....	.....	6	0.83	21.0
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	30.20	767.0	30.38	771.7	37.4	3.0	82.9	.....	9	3	8	3	3	2	3	.....	.....	.....	8	1.13	28.6
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.89	759.2	30.43	772.9	36.9	2.7	73.4	1	3	13	5	4	3	1	1	.....	.....	.....	7	0.41	10.5
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	30.03	762.8	30.50	774.6	34.7	1.5	86.5	.....	.....	1	9	6	3	6	6	.....	.....	.....	10	1.17	29.8
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.66	753.4	30.38	771.6	34.7	1.5	83.9	1	1	2	2	22	1	1	1	.....	.....	.....	6	0.93	23.6
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	30.09	764.2	30.47	774.0	34.5	1.4	84.3	2	.....	1	8	7	6	3	1	3	.....	.....	8	0.55	13.9
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	29.00	736.5	30.53	775.4	33.4	0.8	87.5	.....	.....	1	4	9	4	5	8	.....	.....	.....	9	1.25	31.8
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	30.28	769.0	30.37	771.4	36.1	2.3	92.5	.....	1	6	14	2	5	2	1	.....	.....	.....	7	1.26	32.1
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.29	769.4	30.31	769.8	38.3	3.5	86.7	.....	1	8	9	5	.....	.....	2	6	.....	.....	8	2.00	50.9
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	30.00	762.1	30.45	773.3	36.0	2.2	81.3	.....	2	3	8	11	4	1	2	.....	.....	.....	7	0.33	8.4
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	30.21	767.2	30.41	772.4	37.0	2.8	86.3	.....	1	9	5	5	4	3	2	2	.....	.....	8	0.67	17.1
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.16	766.1	30.21	767.3	36.9	2.7	86.4	2	6	15	7	1	.....	.....	.....	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.58	726.0	30.48	774.1	33.6	0.9	78.1	9	4	2	1	.....	2	1	2	10	.....	.....	6	0.92	23.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.27	768.9	30.29	769.3	38.1	3.4	76.4	2	6	10	6	5	.....	.....	.....	2	.....	.....	6	0.80	20.4
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.93	760.2	30.40	773.7	34.9	1.6	79.0	3	1	10	2	3	3	2	4	3	.....	.....	9	0.58	14.7
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.48	748.9	30.43	772.8	36.1	2.3	83.1	7	1	5	6	2	.....	6	4	.....	.....	.....	6	0.44	11.1
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.32	770.0	30.34	770.6	36.7	2.6	90.8	1	1	8	8	6	5	.....	2	.....	.....	.....	8	0.66	16.7
GREEK SERIES.																										
Athens	N. 37 58	E. 23 44	1.43 p.m	360	110	29.93	760.3	30.33	770.4	50.4	10.2	.....	18	2	3	.....	.....	.....	.....	8	.....	.....	.....	5	3.00	76.3
INDIAN SERIES.																										
Kurachee ..... b.	N. 24 47	E. 67 04	4.36 p.m.	49	15	30.01	762.2	30.06	763.5	74.0	23.3	58.	.....	1	5	15	.....	1	1	6	.....	.....	.....	4	1.04	26.4
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.51	749.5	29.99	761.7	79.0	26.1	43.	7	7	7	7	.....	.....	.....	3	.....	.....	.....	3	0.19	4.8
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.92	760.0	29.90	761.0	80.3	26.8	68.	9	21	1	.....	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.09	713.5	29.93	760.2	85.6	29.8	26.	2	3	5	4	.....	1	10	6	.....	.....	.....	2	0.04	1.0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.41	696.2	29.93	760.2	81.0	27.2	32.	.....	.....	1	2	1	2	7	17	1	.....	.....	2	0.11	2.8
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.28	743.7	30.06	763.5	62.3	16.8	63.	1	5	5	.....	.....	.....	2	4	14	.....	.....	5	1.43	36.3
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.11	739.4	30.05	763.3	63.1	17.3	66.	3	15	2	2	3	1	.....	.....	5	.....	.....	5	2.07	52.6
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.47	748.5	30.05	763.3	69.8	21.0	48.	5	7	13	1	.....	1	1	3	.....	.....	.....	2	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.94	735.1	29.98	761.5	81.2	27.3	33.	.....	.....	.....	3	2	4	1	1	20	.....	.....	2	0.42	10.7
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.67	728.2	30.06	763.5	67.2	19.6	37.	1	2	.....	.....	3	2	.....	6	17	.....	.....	1	0	0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.65	753.1	30.04	763.0	70.6	21.4	44.	.....	2	9	7	.....	.....	.....	.....	13	.....	.....	2	0.03	0.8
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.71	754.6	30.03	762.8	66.9	19.4	60.	.....	2	.....	1	.....	.....	1	3	24	.....	.....	1	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.84	757.9	30.04	763.0	68.2	20.1	57.	.....	3	17	4	1	1	.....	1	4	.....	.....	2	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.97	710.4	30.03	762.8	69.1	20.6	36.	8	13	6	1	.....	1	1	.....	1	.....	.....	1	0.04	1.0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.94	760.5	30.02	762.5	76.2	24.6	56.		2	1	3	.....	.....	1	10	14	.....	.....	1	0	0
Calcutta	N. 22 32	E. 88 19	6.01 p.m.	21	7	29.99	761.7	30.01	762.2	71.5	21.9	63.	5	4	7	2	.....	.....	.....	2	1	.....	.....	0	0.13	3.3
Dhubri b	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.89	759.2	30.02	762.5	68.1	20.1	64.	.....	1	.....	.....	.....	.....	.....	1	27	.....	.....	0	0.06	1.5
Chittagong a.	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.93	760.2	30.03	762.8	71.5	21.9	72.	.....	8	14	2	3	.....	.....	.....	3	.....	.....	1	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.70	754.4	30.06	763.5	62.0	16.7	86.	.....	2	.....	4	1	2	1	21	.....	.....	.....	4	1.63	41.4
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.57	725.7	30.05	763.3	70.0	21.1	46.	3	13	4	4	2	1	1	1	2	.....	.....	4	1.03	26.2
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	22	7	29.86	758.4	.....	.....	85.4	29.7	69.	12	4		2	5	.....	.....	10	.....	.....	.....	5	4.31	109.5
Trichinopoly	N. 10 47	E. 78 43	5.23 p.m.	?	?	29.72	754.9	.....	.....	81.1	27.3	58.	3	.....	.....	.....	.....	2	12	6	8	.....	.....	3	0	0
Beliary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.47	723.1	.....	.....	84.7	29.3	32.	.....	1	.....	.....	.....	7	19	4	.....	.....	.....	2	0	0
ITALIAN SERIES.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	30.03	762.7	30.45	773.5	48.0	8.9	50.	1	.....	.....	.....	.....	.....	10	3	17	.....	.....	3	0.36	9.1
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.94	760.5	30.49	774.4	39.2	4.0	80.	2	1	13	9	.....	1	3	2	.....	.....	.....	5	1.05	41.9
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	30.35	771.0	30.47	773.9	43.2	6.2	68.	11	7	3	1	1	2	2	2	2	.....	.....	3	0.39	9.9
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.52	749.7	30.48	774.1	38.1	3.4	77.	6	4	.....	.....	1	1	6	13	.....	.....	.....	3	1.48	37.6
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	30.22	767.7	30.42	772.7	53.8	12.1	50.	7	.....	1	4	.....	3	.....	5	11	.....	.....	4	2.80	71.1
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.48	723.4	30.48	774.3	42.6	5.9	48.	.....	1	26	.....	1	1	2	.....	.....	.....	.....	2	1.66	42.2
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.39	771.9	30.45	773.3	44.2	6.8	72.	22	4	2	.....	.....	1	.....	2	.....	.....	.....	5	0.65	16.5
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	30.16	766.1	30.43	772.8	47.3	8.5	61.	2	4	1	.....	1	7	6	10	.....	.....	.....	3	1.16	29.6
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	30.33	770.3	30.42	772.6	50.9	10.5	65.	2	.....	.....	.....	.....	.....	4	25	.....	.....	.....	4	1.57	39.9
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	30.19	766.9	30.37	771.4	52.3	11.3	55.	22	2	1	.....	.....	.....	2	2	2	.....	.....	4	2.07	52.6
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	30.10	764.4	30.36	771.1	53.6	12.0	64.	9	11	2	.....	1	2	2	4	.....	.....	.....	4	1.64	41.7
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.45	748.1	30.37	771.5	51.1	10.6	74.	1	4	2	2	6	11	3	2	.....	.....	.....	4	1.16	29.5
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	30.14	765.5	30.34	770.6	57.0	13.9	62.	.....	11	2	2	1	3	.....	.....	12	.....	.....	2	0.08	2.0
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	30.10	764.6	30.36	771.1	50.8	13.8	59.	5	2	2	2	.....	.....	2	13	5	.....	.....	5	1.05	26.7
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	30.28	769.1	30.33	770.3	56.3	13.5	67.	2	1	4	2	1	4	11	6	.....	.....	.....	5	2.08	52.8
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.81	757.2	30.34	770.6	54.0	12.2	61.9	9	2	.....	1	3	2	1	13	.....	.....	.....	3	4.00	101.7
Stelvio	N. 46 32	E. 10 26	0.50 p.m.	8343	2543	22.32	566.9	.....	.....	25.3	—3.7	47.6	.....	.....	.....	2	7	11	5	6	.....	.....	.....	2	5.51	140.0
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.42	569.5	.....	.....	27.7	—2.4	45.2	5	.....	2	.....	2	10	11	1	.....	.....	.....	2	12.99	330.0
JAPANESE SERIES.																										
Aomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	30.04	763.0	30.08	764.2	31.4	—0.3	84.2	1	.....	10	8	7	2	1	.....	2	4820	7757	8	2.87	73.0
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	30.04	762.9	30.05	763.2	32.0	0.0	73.0	6	11	3	1	.....	1	4	.....	5	6843	11012	6	1.85	46.9
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.18	766.6	30.20	767.0	40.9	5.0	79.9	20	.....	4	.....	.....	.....	1	3	3	3557	5724	7	1.64	41.7
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	30.22	767.7	30.33	770.4	37.1	2.9	83.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	30.01	762.2	30.19	766.9	39.3	4.0	84.9	13	7	8	2	1	.....	.....	.....	.....	2455	3951	7	3.08	93.4
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.04	762.9	30.25	768.3	44.2	6.8	82.0	8	5	2	2	1	3	1	5	4	3832	6167	5	5.23	132.9
Nemuro	N. 43 21	E. 145 35	9.50 p.m.	58	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.10	764.6	30.14	765.5	37.2	2.9	82.0	3	.....	11	5	5	4	3	.....	.....	6919	11135	8	4.37	111.1
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	30.07	763.8	30.09	764.2	34.3	1.3	83.0	23	2	5	.....	1	.....	.....	.....	.....	2790	4500	6	1.01	25.7
Supporo	N. 43 04	E. 141 23	9.33 p.m.	61	19	.....	.....	.....	.....	24.7	—4.1	80.0	1	.....	5	.....	3	1	6	3	12	.....	.....	8	2.80	71.0
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	30.05	763.1	30.12	764.9	38.8	3.8	75.7	17	6	1	.....	1	2	4	.....	.....	4113	6619	5	1.81	46.0
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.14	765.4	30.19	766.8	43.1	6.1	74.7	6	3	7	.....	3	1	6	4	1	4201	6761	7	2.35	59.8
MAURITIUS SER'S.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.75	755.6	29.94	760.5	a80.7	a27.1	71.6a	2	3	6	2	3	2	9	4	.....	.....	.....	4	11.77	299.0
MEXICAN SERIES.																										
Guanajuato ..... a.	N. 21 01	W. 100 48	5.24 a.m.	6683	2037	23.70	602.1	29.92	760.1	50.0	10.0	78.	.....	.....	.....	2	.....	2	8	7	11	.....	.....	3	imp.	imp.
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.46	621.3	30.24	768.4	51.1	10.6	81.	21	8	.....	.....	1	.....	.....	1	.....	.....	.....	2	0	0
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.74	755.5	30.00	762.0	64.6	18.1	87.	5	13	2	.....	.....	.....	5	5	1	.....	.....	6	2.95	75.0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.11	587.1	30.30	769.7	44.8	7.1	72.	.....	1	.....	.....	.....	.....	.....	.....	30	.....	.....	2	0	0
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.29	617.0	30.53	775.0	47.8	8.8	76.	1	.....	.....	2	3	17	2	6	.....	.....	.....	1	0.12	0.3
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.95	608.0	30.05	763.3	48.9	9.4	74.	.....	.....	.....	1	.....	.....	.....	.....	30	.....	.....	3	0	0
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.43	595.4	30.39	772.0	41.6	5.3	74.	4	1	.....	.....	.....	.....	.....	1	25	.....	.....	1	0	0
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	24.22	615.1	30.13	765.5	49.8	9.9	55.	1	.....	1	4	4	9	4	8	.....	.....	.....	5	0	0
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.56	573.0	30.30	769.0	46.9	8.3	54.0	a	.....	4	1	7	1	.....	.....	1	.....	.....	2	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for January, 1882. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
NETHERLANDS SERIES.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.40	772.1	30.40	772.1	39.9	4.4	.....	.....	1	4	8	8	7	2	1	.....	.....	.....	.....	0.56	14.1
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	30.28	769.2	30.34	770.6	38.3	3.5	.....	.....	2	2	14	6	3	3	1	.....	.....	.....	.....	1.24	31.6
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.32	770.0	30.32	770.0	40.1	4.5	.....	2	.....	5	3	12	6	.....	3	.....	.....	.....	.....	1.60	40.5
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.37	771.4	30.37	771.4	38.7	3.7	90.5	.....	.....	4	10	6	5	4	1	1	.....	.....	.....	1.19	30.2
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.34	770.6	30.39	771.8	38.5	3.6	88.3	.....	.....	1	8	12	9	.....	1	.....	.....	.....	6	1.63	41.5
NORWEGIAN SERIES.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.93	760.2	29.99	761.8	39.6	4.2	85	4	1	.....	5	16	3	.....	.....	2	.....	.....	8	12.14	308.6
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.63	752.7	29.67	753.7	36.1	2.3	78	1	3	4	13	4	1	2	1	2	.....	.....	9	5.41	137.3
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.84	758.0	30.00	761.9	35.1	1.7	79	3	3	6	11	3	.....	2	2	1	.....	.....	7	1.20	30.4
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.23	742.5	29.26	743.1	26.8	—2.9	.....	.....	4	7	7	3	3	.....	5	2	.....	.....	9	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.43	747.5	29.48	748.7	30.9	—0.6	76	1	4	6	8	2	4	2	4	.....	.....	.....	8	8.00	203.3
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.97	761.2	30.13	765.2	57.9	14.4	78.1	5	4	5	3	4	8	1	1	.....	.....	.....	5	3.08	78.3
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.32	744.8	30.34	770.7	52.9	11.6	60.9	3	.....	1	.....	2	2	12	11	.....	.....	.....	4	0.38	9.7
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.18	766.6	30.27	768.9	64.0	17.8	63.4	18	1	.....	.....	.....	1	2	9	.....	.....	.....	6	5.02	127.6
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	30.04	763.0	30.41	772.4	51.1	10.6	75.1	.....	.....	.....	7	.....	5	8	3	8	.....	.....	4	0.80	20.2
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.20	767.1	30.27	768.9	59.7	15.4	76.1	3	.....	2	3	8	1	5	4	5	.....	.....	5	4.11	104.5
St. Paul de Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.68	753.9	29.88	759.0	79.9	26.6	90.3	.....	4	14	10	1	.....	1	1	.....	.....	.....	6	0	0
RUSSIAN SERIES.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.91	734.4	30.10	764.6	4.3	—15.4	.....	.....	.....	3	20	4	2	.....	1	1	.....	.....	7	0.37	9.3
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.55	750.5	29.57	751.0	16.0	—8.9	89.3	3	5	5	6	4	5	2	.....	1	.....	.....	9	1.95	49.6
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖ 68	‖ 21	30.27	768.8	30.19	766.7	30.4	—0.9	81.8	1	2	11	4	1	5	2	2	3	.....	.....	9	0.52	13.2
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.65	753.2	30.20	767.2	8.4	—13.1	80.2	.....	.....	1	19	1	.....	.....	1	9	.....	.....	8	0.46	11.6
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.72	754.9	29.97	761.3	33.8	1.0	87.3	2	2	16	6	3	.....	.....	2	.....	.....	.....	8	0.98	25.0
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.76	730.5	29.78	756.4	10.0	—12.2	80.5	3	3	5	9	5	2	1	.....	3	.....	.....	8	0.45	11.4
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.53	750.1	29.82	757.4	18.5	—7.5	85.2	4	3	3	7	9	2	1	1	1	.....	.....	9	0.56	14.2
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.20	767.0	30.22	767.5	35.2	1.8	87.5	5	8	9	.....	1	1	.....	1	6	.....	.....	8	0.06	1.5
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.53	750.1	30.20	767.1	31.1	—0.5	82.4	5	12	7	3	2	2	.....	.....	.....	.....	.....	8	0.31	7.8
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.94	760.6	30.16	766.1	31.1	—0.5	81.1	2	4	13	7	3	1	.....	1	.....	.....	.....	9	0.18	4.6
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.35	745.4	29.85	758.1	28.8	—1.8	76.1	9	1	1	4	13	2	.....	1	.....	.....	.....	7	0.48	12.1
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.25	768.4	30.32	770.2	34.2	1.2	84.1	9	6	3	4	5	.....	.....	1	3	.....	.....	8	0.06	1.5
Nikolaievsk ... *d.*	N. 53 08	E. 140 45	9.31 p.m.	75?	23?	29.98	761.5	30.07	763.7	—8.0	—22.2	81.8	.....	2	6	.....	.....	.....	.....	.....	19	.....	.....	2	0.03	0.7
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.24	768.1	30.38	771.7	27.5	—2.5	53.8	1	4	.....	.....	.....	.....	.....	.....	26	.....	.....	2	0.04	1.1
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.80	757.0	29.82	757.4	30.9	—0.6	83.7	1	11	10	4	2	2	.....	1	.....	.....	.....	7	0.58	14.8
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.71	729.3	30.39	771.9	28.8	—1.8	87.3	1	2	.....	.....	.....	.....	.....	.....	28	.....	.....	4	2.55	64.7
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.80	731.6	30.28	769.1	39.6	4.2	54.3	4	16	.....	1	1	2	1	.....	6	.....	.....	5	0.07	17.0
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.91	759.8	30.36	771.1	33.8	1.0	83.3	1	5	12	7	4	2	.....	.....	.....	.....	.....	9	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.76	755.8	30.20	767.0	34.2	1.2	83.4	1	7	8	12	2	1	.....	.....	.....	.....	.....	9	0.22	5.7
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.84	757.9	30.16	766.0	3.9	—15.6	81.7	.....	.....	9	5	3	1	5	.....	8	.....	.....	6	0.61	15.6
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.92	760.0	46.8	8.2	90.5	.....	1	8	4	15	1	2	.....	.....	.....	.....	8	4.7	119.4
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	30.07	763.7	30.40	772.2	54.3	12.4	69	.....	1	4	8	3	1	10	2	2	738	1187	2	1.52	38.5
Bilbao	N. 43 15	W. 2 56	11.56 a.m.	52	16	30.37	771.4	30.43	772.9	54.9	12.7	66.8	1	1	.....	.....	3	25	1	.....	.....	2282	3672	2	1.31	33.3
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.41	696.2	30.51	774.9	42.3	5.7	67	4	1	.....	9	3	2	.....	12	.....	3249	5228	3	0.24	6.0
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	28.16	715.2	30.45	773.4	49.5	9.7	58.6	1	1	.....	1	2	3	8	15	.....	5237	8428	3	inap.	inap.
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	30.28	769.0	30.44	773.1	49.6	9.8	80	.....	.....	4	9	1	.....	10	7	.....	956	1539	7	2.11	53.7
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.44	747.7	30.35	771.0	52.7	11.5	69.4	4	1	.....	.....	1	8	1	2	14	4008	6450	5	1.04	26.4
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.09	764.2	30.16	765.9	66.9	19.4	85.8	.....	1	.....	.....	.....	7	17	1	5	.....	.....	1	0.03	0.7
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.97	761.3	30.03	762.7	77.0	25.0	72.9	5	.....	.....	.....	1	1	6	18	.....	.....	.....	4	0.37	9.5
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.25	768.4	30.35	770.9	58.1	14.5	62.5	2	2	.....	.....	.....	4	17	2	4	.....	.....	4	1.56	39.0
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.03	762.8	30.12	765.1	74.1	23.4	85	.....	.....	.....	...	1	10	7	1	12	.....	.....	4	2.16	54.8
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.94	760.5	30.10	764.5	72.9	22.7	81.5	2	19	1	.....	2	5	2	.....	.....	.....	.....	6	0.17	4.3
SWEDISH SERIES.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.59	751.6	29.63	752.6	22.5	—5.3	86	2	7	.....	15	.....	5	.....	2	.....	.....	.....	6	1.39	35.3
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.68	753.9	29.73	755.2	26.8	—2.9	84	1	11	1	9	4	1	.....	2	2	.....	.....	6	1.39	35.2
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.77	756.1	29.82	757.4	32.7	0.4	70	1	4	6	7	2	2	.....	1	8	.....	.....	5	0.94	23.9
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.81	757.1	29.98	761.6	35.6	2.0	77	2	3	14	8	2	1	1	.....	.....	.....	.....	7	0.67	17.1
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	30.00	762.1	30.06	763.6	37.9	3.3	84	.....	1	10	14	3	.....	.....	3	.....	.....	.....	5	1.12	28.4
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.87	758.6	29.95	760.6	35.1	1.7	80.1	2	4	8	13	2	.....	1	1	.....	.....	.....	7	1.63	41.3
SWISS SERIES.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	29.03	737.3	30.52	775.1	34.5	1.4	86.6	5	2	.....	3	1	5	5	9	1	.....	.....	.....	0.45	11.5
Zurich	N. 47 22	E. 8 40	0.43 p.m.	1542	470	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TURKISH SERIES.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.36	771.2	42.8	6.0	75	14	6	.....	2	3	.....	2	4	.....	.....	.....	8	2.23	56.6
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.33	770.4	54.7	12.6	.....	.....	19	8	1	.....	2	1	.....	.....	.....	.....	2	1.26	32.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.14	765.5	57.6	14.2	62	10	4	3	8	1	1	.....	4	.....	.....	.....	4	4.91	124.7

‖ Below sea level.

RESULT OF SIMULTANEOUS OBSERVATIONS FOR JANUARY, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Altitude of Barometer above sea: Met'rs	Mean Barometer, Actual: Inch.	Mean Barometer, Actual: Mill.	Mean Barometer, Reduced: Inch.	Mean Barometer, Reduced: Mill.	Mean Temperature: Fah.	Mean Temperature: Cent.	Mean Rel. Humidity.	Wind, Directions: N	NW	W	SW	S	SE	E	NE	C	Wind, Total Movement: Miles	Wind, Total Movement: Kil.	Average Cloudiness. 0–10	Total Precipitation: Inch.	Total Precipitation: Mill.
U. S. SERIES.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.05	763.3	30.14	765.5	25.5	—3.6	74.1	2	7	4	......	9	2	......	2	5	4668	7512	7	2.64	67.1
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.40	746.7	30.11	764.8	16.9	—8.4	81.8	1	8	7	6	5	3	......	......	1	7877	12676	8	3.70	94.0
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.99	736.3	30.22	767.6	45.2	7.3	84.5	......	10	......	4	3	1	12	1	......	8088	13016	8	6.40	162.6
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.18	766.6	30.19	766.8	31.2	—0.4	78.0	7	6	9	4	1	......	2	1	1	6945	11177	6	6.74	171.2
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	30.04	763.0	30.24	768.1	48.5	9.2	80.7	......	5	4	1	4	......	......	8	9	3038	4889	8	3.39	86.1
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.17	766.3	30.22	767.6	32.2	0.1	75.0	3	9	4	1	3	1	4	5	1	4325	6960	7	5.38	136.7
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.15	765.8	30.17	766.3	30.7	—0.7	83.1	1	9	7	5	......	6	3	......	......	10557	16989	7	8.29	210.6
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1694	516	28.14	714.7	30.14	765.5	6.0	-14.4	80.7	1	10	......	1	2	1	8	......	8	5431	8740	4	0.23	5.8
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.26	692.4	30.19	766.8	17.7	—7.9	91.7	4	6	3	2	2	3	5	2	4	2863	4607	7	1.62	41.1
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.91	759.7	30.08	764.0	23.4	—4.8	77.5	......	4	16	7	2	1	......	1	......	8742	14068	6	3.68	93.5
Brownsville *a*	N. 26 00	W. 97 30	5.38 a.m	43	13	30.02	762.5	30.07	763.8	59.1	15.1	97.5	6	4	......	1	5	4	......	2	8	5126	8249	8	2.95	74.9
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.34	745.2	30.14	765.5	24.7	—4.1	86.7	......	1	6	11	2	4	1	6	......	10651	18141	8	3.29	83.6
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.76	755.9	30.07	763.8	18.0	—7.8	77.6	5	5	5	......	10	4	1	1	......	8185	13172	8	0.44	11.2
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.81	757.2	30.23	767.8	35.9	2.2	86.1	3	6	4	4	2	3	5	4	......	6446	10374	7	6.35	161.3
Campe *b*	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.42	696.5	30.05	763.3	27.1	—2.7	82.9	......	8	2	1	2	2	10	3	1	3808	6128	3	3.10	78.7
Camp Thomas *j*	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.28	692.9	30.11	764.8	31.2	—0.4	85.1	......	1	......	......	......	1	1	......	18	......	......	5	0.33	8.4
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.19	766.8	30.21	767.3	40.7	4.8	82.8	5	5	5	6	......	3	3	4	......	9879	15908	6	6.92	175.8
Cape May *d*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.14	765.5	30.17	766.3	33.6	0.9	78.3	......	9	4	3	1	2	1	6	1	11310	18201	6	6.32	160.5
Castroville	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.28	743.7	30.13	765.3	50.5	10.3	86.3	4	8	1	......	4	2	8	......	4	3868	6225	7	1.78	45.2
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.18	766.6	30.20	767.1	59.8	15.4	84.2	2	2	1	1	7	7	7	4	......	6289	10121	4	3.19	81.0
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.32	744.7	30.20	767.1	24.9	—3.9	75.1	4	6	2	4	7	2	2	4	......	9070	14596	7	1.99	50.5
Charleston *a*	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.18	766.6	30.24	768.1	51.9	11.1	84.8	3	3	4	10	......	......	1	7	2	5038	9073	4	1.69	42.9
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.31	744.5	30.20	767.1	39.3	4.1	84.3	5	1	2	8	......	1	4	10	......	3602	5797	6	7.24	183.9
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.37	746.0	30.23	767.8	42.0	5.6	85.3	1	6	1	3	6	3	3	7	1	5339	8592	8	14.74	374.4
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	23.87	606.3	30.12	765.0	20.1	—6.6	59.7	5	13	7	4	......	......	1	......	1	8328	13402	2	0.14	3.6
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.41	747.0	30.16	766.1	25.6	—3.6	83.3	......	8	7	9	3	2	2	......	......	6926	11146	4	1.55	39.4
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.18	766.6	30.20	767.1	35.5	1.9	85.8	7	5	4	4	1	3	4	3	......	9301	14968	7	5.41	137.4
Cincinnati	N. 39 06	W. 84 26	6.30 a.m.	620	189	29.52	749.8	30.21	767.3	34.4	1.3	76.8	3	6	5	1	5	2	5	4	......	4916	7911	8	6.02	152.9
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.39	746.5	30.17	766.3	26.3	—3.2	85.5	1	7	5	3	7	5	3	......	......	8609	13855	8	2.47	62.7
Coleman City *a*	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.28	718.3	......	......	40.6	4.8	88.4	10	3	1	2	4	3	3	3	1	6870	11056	7	2.36	59.9
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.29	744.0	30.19	766.8	29.8	—1.2	77.1	2	7	5	2	4	6	2	3	......	6662	10721	8	4.69	119.1
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.13	714.5	30.15	765.8	41.5	5.3	88.2	5	1	3	7	1	......	2	4	8	6247	10053	6	1.48	37.6
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.48	748.8	30.20	767.1	25.2	—3.8	68.9	2	5	7	6	2	3	3	3	......	6964	11207	5	0.90	22.9
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.32	719.3	30.12	765.0	29.2	—1.6	84.0	......	......	1	20	3	1	......	4	2	3440	5536	7	2.56	65.0
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.20	640.1	30.16	766.1	18.8	—7.3	72.3	1	1	1	17	3	......	......	......	8	3274	5269	3	0.33	8.4
Decatur *e*	N. 33 10	W. 97 30	5.38 a.m.	1129	344	......	......	......	......	39.8	4.3	80.8	6	1	2	2	4	8	......	3	......	5675	9131	6	2.87	72.9
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.16	766.1	30.18	766.6	34.4	1.3	93.6	6	3	5	5	1	3	1	6	1	13423	21602	7	4.46	113.3
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.31	744.5	30.15	765.8	40.4	4.7	84.2	7	1	1	2	5	4	3	4	4	5135	8264	8	3.58	90.9
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.64	625.8	30.16	766.1	23.2	—4.9	64.7	4	1	2	2	19	2	1	......	......	5099	8206	1	0.57	14.5
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.21	741.9	30.18	766.6	22.6	—5.2	77.7	7	5	5	4	3	4	3	......	......	5663	9114	5	0.63	16.0
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.41	747.0	30.17	766.3	29.2	—1.6	84.3	1	7	7	3	7	1	5	......	......	8536	13737	7	1.97	50.0
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.42	696.5	30.16	766.1	24.0	—4.4	82.8	6	3	4	2	10	4	......	1	1	8500	13679	5	0.52	13.2
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.41	747.0	30.18	766.6	18.6	—7.4	69.0	......	5	8	4	6	3	2	2	1	3798	6112	5	0.84	21.3
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.36	745.7	30.12	765.0	10.6	-11.9	81.6	......	4	9	12	......	2	......	3	1	4366	7026	7	0.57	14.5
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.31	744.5	30.15	765.8	48.9	9.4	90.2	1	10	......	1	1	12	1	3	2	3421	5506	7	1.39	35.3
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.27	641.8	30.23	767.8	2.0	-16.7	75.5	15	3	3	5	2	......	......	......	3	6249	10057	6	4.41	112.0
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.91	759.7	29.98	761.5	17.6	—8.0	76.7	5	10	4	3	5	1	2	1	......	9386	15105	6	3.70	94.0
Edinburg	N. 26 03	W. 98 03	5.36 a.m.	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.28	667.5	30.16	766.1	35.1	1.7	62.4	2	8	8	1	......	2	3	4	3	4303	6925	4	0.64	16.3
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.38	746.2	30.14	765.5	27.3	—2.6	80.2	1	6	4	5	6	5	1	......	3	8908	14336	9	4.00	101.6
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.38	746.2	30.10	764.5	15.4	—9.2	83.5	3	4	9	8	4	2	....	1	......	6348	10216	6	2.60	66.0
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.49	723.6	30.07	763.8	38.1	3.4	77.5	1	1	9	4	3	2	4	4	3	2177	3504	5	2.28	57.9
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	24.99	634.7	30.11	764.8	25.3	—3.7	70.5	......	......	1	1	2	6	9	9	3	4342	6988	5	2.82	71.6
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.07	687.6	30.11	764.8	14.9	—9.5	58.3	1	......	4	20	......	......	......	3	3	8040	12939	6	0.20	5.1
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.41	721.6	30.15	765.8	10.2	-12.1	76.0	6	6	3	......	2	5	......	......	9	4239	6822	5	2.01	51.1
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.13	689.1	30.11	764.8	15.5	—9.2	66.3	......	......	7	7	......	......	......	3	14	7204	11594	5	0.75	19.0
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.96	710.2	30.16	766.1	7.3	-13.7	*b*69.9	2	2	8	2	6	1	6	2	2	5426	8732	4	0.26	6.6
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.77	679.9	30.15	765.8	12.3	-10.9	81.3	3	4	......	2	4	11	3	1	3	4009	6452	4	0.40	10.2
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.14	638.5	30.12	765.0	38.1	3.4	79.0	3	3	......	3	11	.. ..	......	4	7	......	......	4	0.87	22.1
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.26	692.4	30.20	767.1	25.1	—3.8	53.7	8	5	......	2	5	5	1	1	4	8301	13359	4	0.33	8.4
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.56	750.8	30.16	766.1	36.8	2.7	85.1	7	1	2	......	2	8	5	1	5	5703	9178	7	2.23	56.6
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.22	640.6	30.12	765.0	32.8	0.4	57.1	1	1	1	5	......	6	5	11	1	4724	7612	5	0.86	21.8
Fort Griffin *b*	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.81	731.8	30.19	766.8	38.3	3.5	81.0	8	......	......	4	6	1	1	5	4	5008	8060	5	1.63	41.4
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.42	696.5	30.11	764.8	12.6	-10.8	66.4	....	3	6	10	3	4	1	3	1	5009	8061	5	0.18	4.6
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.19	766.8	30.20	767.1	46.6	8.1	90.7	4	7	2	9	1	1	1	6	......	9068	14593	7	3.69	93.7
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.83	706.9	30.22	767.6	43.0	6.1	80.7	2	1	1	8	2	2	1	8	6	6397	10295	6	1.42	36.1
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.70	678.2	30.16	766.1	15.3	—9.3	88.5	......	4	2	9	1	4	2	4	5	1800	2897	6	1.18	30.0
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.59	751.6	29.62	752.3	8.3	-13.2	96.6	3	......	......	6	4	4	1	12	1	10767	17328	8	1.88	47.8
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.26	667.0	30.12	765.0	17.7	—7.9	67.8	1	......	12	11	1	......	......	1	5	10039	16156	4	0.78	19.8
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.87	733.3	30.20	767.1	33.6	0.9	86.6	16	1	......	......	8	2	1	2	1	8097	13031	6	0.80	20.3
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.08	713.2	30.14	765.5	4.6	-15.2	73.4	2	12	2	6	2	3	......	1	3	6021	9690	5	0.43	10.9
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	......	......	......	......	27.1	—2.7	70.0	3	7	13	2	3	1	1	1	......	......	......	4	2.72	69.1
Fredericksburg *g*	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.32	719.3	30.14	765.5	48.7	9.3	89.4	5	1	......	5	......	1	1	3	8	3512	5652	7	3.54	89.9
Galveston	N. 29 18	W. 94 50	5.49 a.m.	48	15	30.06	763.5	30.10	764.5	56.3	13.5	93.6	2	3	......	1	12	1	2	10	......	8597	13835	7	8.15	207.0
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.42	747.3	30.13	765.3	25.9	—3.4	82.5	3	3	8	3	4	5	4	1	......	10292	16563	7	3.59	91.2
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.17	766.3	30.19	766.8	48.0	8.9	89.5	2	8	......	7	3	1	1	7	2	11501	18509	7	3.89	98.8
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.69	652.5	30.12	765.0	17.3	—8.2	65.4	2	10	7	2	......	......	......	......	10	3806	6125	7	1.08	27.4
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.15	740.4	30.22	767.6	36.2	2.3	86.0	8	1	2	2	7	......	5	4	2	6876	11066	5	2.73	69.3
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.64	727.4	30.18	766.6	11.4	-11.4	64.6	1	11	2	......	3	12	......	2	......	8829	14209	4	0.14	3.6
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.33	745.0	30.17	766.3	28.8	—1.8	79.6	3	6	3	3	7	3	3	3	......	4863	7826	7	3.74	95.0
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.06	763.5	30.09	764.3	56.2	13.4	92.8	8	3	1	1	11	......	1	6	......	10135	16300	8	3.39	86.1
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.94	735.1	30.18	766.6	38.5	3.6	85.2	10	1	2	4	2	4	3	3	2	5059	8142	5	1.96	59.8
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.17	766.3	30.22	767.6	57.4	14.1	85.8	2	3	......	6	8	5	2	4	1	4921	7919	5	2.58	65.5
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.48	748.8	30.18	766.6	24.5	—4.2	81.4	2	5	7	2	3	4	5	2	1	6457	10391	6	1.07	27.2
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.15	765.8	30.18	766.6	69.8	21.0	81.7	2	......	......	1	1	7	14	5	1	6704	10789	4	1.33	33.8
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.19	766.8	30.21	767.3	43.5	6.4	86.0	3	3	7	5	3	1	3	6	......	11436	18404	6	6.86	174.2
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.15	740.4	30.23	767.8	39.3	4.1	87.0	2	7	1	5	1	......	3	10	2	4039	6500	9	16.98	431.3
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.31	744.5	30.15	765.8	16.9	—8.4	75.3	5	1	5	3	12	1	1	......	3	5319	8560	6	0.75	19.0
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.12	663.4	30.15	765.8	31.0	—0.6	73.5	......	......	2	......	1	1	......	......	27	1221	1965	4	0.63	16.0
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.24	742.7	30.20	767.1	28.2	—2.1	74.7	1	5	1	......	4	4	1	1	14	4696	7557	6	0.83	21.1
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.27	743.4	30.14	765.5	29.6	—1.3	66.6	......	2	4	1	3	2	14	4	1	2649	4263	7	1.46	37.1
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.83	757.7	30.16	766.1	41.4	5.2	85.8	5	2	......	4	4	2	2	8	4	4096	6592	8	8.17	207.5
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.71	754.6	30.11	764.8	42.5	5.8	79.2	6	5	1	......	3	3	2	11	......	4714	7586	7	1.01	25.7
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.59	751.6	30.18	766.6	35.7	2.1	79.4	5	3	5	5	6	3	2	2	......	6276	10100	8	6.29	169.8
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.48	748.8	30.20	767.1	35.9	2.2	75.7	....	2	5	5	1	......	4	4	10	2338	3763	6	5.34	135.6
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.07	738.4	30.16	766.1	18.0	—7.8	75.3	......	7	7	5	8	1	2	1	......	7480	12038	4	1.33	33.8
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.28	743.7	30.06	763.5	18.2	—7.7	75.8	1	5	13	8	4	......	......	......	......	8134	13090	7	1.10	27.9
Mason *a*	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.43	722.1	30.17	766.3	44.6	7.0	81.0	6	3	5	3	1	3	1	1	7	5486	8827	7	3.71	94.2
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.85	758.2	30.21	767.3	40.3	4.6	87.9	4	5	5	......	3	6	2	4	2	4959	7997	8	12.87	226.9
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.34	745.2	30.14	765.5	21.5	—5.8	82.8	......	6	9	7	4	4	1	......	......	8962	14424	5	1.05	26.7
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.13	765.3	30.17	766.3	55.2	12.9	87.8	5	2	......	5	6	4	4	5	......	5031	8096	7	6.77	172.0
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.95	761.0	30.20	767.1	51.3	10.7	82.6	6	3	1	3	6	2	5	3	2	4619	7433	7	4.54	115.3
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.04	737.6	30.14	765.5	—1.1	-18.4	89.1	5	6	3	......	7	2	1	2	5	7779	12519	5	1.34	34.0
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.13	739.9	30.19	766.8	34.6	1.4	78.7	4	4	2	6	1	2	2	2	8	5687	9152	9	6.78	172.2
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.37	593.6	30.00	762.0	4.0	-15.6	86.4	1	25	4	1	......	......	......	......	......	28892	46496	6	7.20	182.9
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.64	752.8	30.20	767.1	39.7	4.3	84.2	2	10	1	3	4	3	6	1	1	3711	5972	9	14.49	368.0
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	30.00	762.0	30.12	765.0	23.9	—4.5	78.5	7	2	8	5	......	......	......	4	5	5321	8563	6	5.91	150.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
U.S. SERIES—*Continued.*	° ′	° ′																								
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.08	764.0	30.13	765.3	26.6	—3.0	74.4	5	5	10	5	.....	.....	1	3	2	6322	10174	7	6.90	175.3
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.08	764.0	30.14	765.5	59.4	15.2	83.2	6	3	.....	1	7	10	3	1	.....	6640	10686	6	4.54	115.3
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.06	763.5	30.11	764.8	28.7	—1.8	76.7	6	3	10	7	.....	1	1	3	.....	9612	15469	6	6.55	166.4
New River ..... *d.*	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	43.9	6.6	80.0	11	1	2	8	1	.....	1	3	.....	.....	.....	6	2.27	57.7
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.09	764.3	30.12	765.0	30.8	—0.7	74.1	5	9	8	1	.....	4	1	1	2	13733	22101	6	8.57	217.7
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.99	761.7	30.18	766.6	28.0	—2.2	80.6	.....	5	9	9	.....	.....	4	4	.....	7692	12379	6	6.15	156.2
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.18	766.6	30.21	767.3	40.4	4.7	80.6	4	5	4	3	2	1	4	7	1	4948	7963	6	6.40	162.6
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.06	687.3	30.18	766.6	16.7	—8.5	77.0	.....	5	12	2	3	3	3	.....	3	8046	12949	4	0.46	11.7
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	30.01	762.2	30.05	763.3	35.5	1.9	86.0	5	.....	1	5	14	.....	.....	1	5	3174	5108	8	6.11	155.2
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.92	734.6	30.20	767.1	23.0	—5.0	79.3	4	6	2	5	7	6	.....	1	.....	7684	12366	4	0.74	18.8
Ooglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.83	757.7	29.85	758.2	17.4*b*	—27.4	85.6*b*	1	.....	8	1	1	2	5	10	3	11975	19271	3	0.45	11.4
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.75	755.6	30.10	764.5	24.1	—4.4	72.7	3	7	3	.....	4	12	.....	2	.....	9125	14685	9	4.46	113.3
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.15	765.8	30.18	766.6	57.3	14.1	87.9	7	1	.....	2	6	5	5	5	.....	5960	9592	6	3.31	84.1
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	52	16	30.14	765.5	30.20	767.1	28.8	—1.8	82.5	2	8	5	4	1	.....	6	3	2	7362	11848	6	4.57	116.1
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.40	442.0	30.10	764.5	0.6	—17.4	76.0	...	9	4	15	1	1	.....	.....	1	19172	30854	2	1.78	45.2
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.02	610.1	30.22	767.6	20.3	—6.5	65.1	6	10	.....	4	7	1	.....	.....	3	5408	8703	3	0.38	9.7
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.33	745.0	30.18	766.6	30.2	—1.0	78.1	2	5	4	6	2	.....	3	8	1	5012	8068	8	4.58	116.3
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.14	765.5	30.15	765.8	58.5	14.7	93.1	5	2	.....	.....	8	10	5	1	.....	7344	11820	3	3.50	88.9
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.42	747.3	30.15	765.8	21.5	—5.8	87.3	1	3	8	5	9	2	2	1	.....	8160	13132	7	2.81	71.4
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.97	761.2	30.02	762.5	21.2	—6.0	79.2	5	13	3	7	.....	.....	.....	2	1	6079	9783	6	4.39	111.5
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.08	764.0	30.15	765.8	37.1	2.8	87.4	1	1	2	2	12	3	3	2	5	4029	6484	7	5.06	128.5
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	48.4	9.1	74.9	5	2	1	10	1	3	.....	9	.....	9280	14934	7	4.44	112.8
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.71	627.6	30.09	764.3	21.0	—6.1	57.0	.....	.....	6	10	4	6	1	1	3	3224	5188	3	2.53	64.3
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.18	766.6	30.18	766.6	63.7	17.6	84.5	1	.....	.....	2	2	3	12	11	.....	6486	10438	5	0.30	7.6
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.78	756.4	30.16	766.1	39.3	4.1	78.8	12	5	2	1	3	2	.....	2	4	4438	7142	4	2.81	71.4
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.84	757.9	30.09	764.3	55.0	12.8	85.4	4	6	1	.....	.....	8	1	4	7	3078	4954	7	0.95	24.1
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.40	746.7	30.11	764.8	23.3	—4.8	82.3	.....	5	11	5	4	6	.....	.....	.....	10793	17369	6	2.04	51.8
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.61	752.1	30.18	766.6	36.6	2.6	88.2	2	1	2	5	.....	3	4	.....	14	1762	2836	8	4.21	106.9
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	30.06	763.5	30.14	765.5	40.2	4.6	79.4	10	2	.....	.....	3	13	3	.....	.....	5718	9202	3	1.89	48.0
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.58	751.3	30.22	767.6	29.2	—1.6	83.4	4	8	3	3	8	1	3	1	.....	7680	12360	7	2.80	71.1
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.18	741.2	30.13	765.3	13.8	—10.1	79.5	1	5	4	4	2	11	2	1	1	6455	10388	5	0.67	17.0
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.14	740.1	30.12	765.0	—4.4	—20.2	99.2	8	5	1	1	12	3	.....	.....	1	7612	12249	5	0.74	18.8
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.64	651.2	30.21	767.3	20.6	—6.3	57.4	1	1	.....	.....	.....	10	.....	.....	19	2100	3380	4	1.50	38.1
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.37	746.0	30.10	764.5	50.4	10.2	85.4	7	1	.....	....	3	4	1	5	10	3850	6196	7	1.91	48.5
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.96	761.0	30.03	762.7	45.0	7.2	75.5	7	4	.....	1	.....	1	6	12	.....	4900	7886	4	4.53	115.1
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.45	748.0	30.17	766.3	27.7	—2.4	82.7	1	5	6	4	8	4	3	.....	.....	10821	17414	8	2.40	62.5
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.14	765.5	30.18	766.6	30.1	—1.1	80.2	4	10	7	1	.....	5	2	2	.....	11955	19239	6	5.47	164.3
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.08	764.0	30.15	765.8	45.9	7.7	74.0	3	7	7	3	2	6	2	1	.....	6358	10232	4	1.68	42.7
Santa Fé	N. 35 41	W. 105 10	5.04 a.m.	7064	2153	23.18	588.8	30.19	766.8	22.4	—5.3	77.8	4	2	1	1	3	2	.....	6	12	2208	3553	4	0.47	11.9
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.13	765.3	30.23	767.8	52.5	11.4	82.4	4	4	2	4	8	2	2	4	1	5372	8647	4	1.90	48.3
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.90	759.4	30.15	765.8	47.4	8.6	88.6	9	3	.....	.....	4	2	1	5	7	3747	6030	8	9.08	230.6
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.20	614.7	30.06	763.5	29.4	—1.4	72.9	15	7	.....	.....	.....	.....	.....	2	7	2541	4089	2	1.83	46.5
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.78	756.4	29.85	758.2	34.7	1.5	76.4	2	2	1	1	2	8	7	5	3	7937	12773	3	14.20	360.6
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.17	766.3	30.21	767.3	46.5	8.1	87.7	7	5	6	5	1	.....	.....	7	.....	6533	10514	6	3.36	85.3
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	28.01	711.4	30.15	765.8	19.2	—7.1	83.2	.....	5	7	3	3	.....	3	4	6	3082	4960	6	4.54	115.3
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.48	748.8	30.20	767.1	29.3	—1.5	77.8	5	7	5	1	6	3	3	1	.....	6602	10625	5	2.48	63.0
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.99	761.7	30.13	765.3	23.2	—4.9	73.9	5	9	3	2	5	.....	1	1	5	4264	6862	6	4.70	119.4
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.67	728.2	30.25	768.3	33.5	0.8	84.2	5	4	2	1	5	8	2	1	1	6740	10847	5	2.65	67.3
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.01	686.0	30.15	765.8	37.8	3.2	90.6	3	1	3	6	4	2	.....	.....	12	4828	7770	5	0.68	17.3
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.02	762.5	30.08	764.0	26.6	—3.0	81.6	2	7	12	5	....	3	1	1	.....	12602	20280	6	5.00	127.0
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.42	747.3	30.16	766.1	28.3	—2.1	75.0	2	4	3	6	9	.....	3	2	2	7302	11751	7	1.57	39.9
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.56	700.0	30.06	763.5	39.6	4.2	76.3	...	1	.....	3	10	3	.....	.....	4	2812	4525	4	1.75	44.4
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.79	756.7	30.18	766.6	29.7	—1.3	84.0	3	6	4	3	3	6	6	.....	.....	4936	7944	7	0.71	18.0
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.90	759.4	30.17	766.3	51.1	10.6	83.4	4	4	2	1	6	5	4	4	1	4404	7087	8	13.83	351.2
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.72	754.9	30.11	764.8	35.0	1.7	79.9	1	7	.....	1	2	13	6	1	.....	2328	3746	3	0.87	22.1
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	30.10	764.5	30.22	767.6	30.7	—0.7	85.6	5	7	2	1	4	1	3	5	3	3580	5761	7	7.09	180.1
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wickenburg *e.*	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	33.4	0.8	75.8	.....	.....	4	.....	.....	1	.....	1	20	.....	.....	3	1.82	46.2
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.50*f*	749.3*f*	30.13*f*	765.3*f*	26.4	—3.1	75.3	2	14	1	1	1	2	7	2	1	5135	8264	8	3.01	76.5
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.15	765.8	30.21	767.3	48.4	9.1	80.3	4	3	6	5	.....	1	3	8	1	5290	8513	7	1.96	49.8
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.64	651.2	30.18	766.6	19.1	—7.2	70.3	.....	.....	.....	11	2	.....	.....	17	1	6213	9999	4	1.03	26.2
Wood's Holl *e.*	N. 41 33	W. 70 40	7.26 a.m.	35	11	30.09	764.3	30.13	765.3	29.0	—1.7	78.7	3	13	2	3	.....	3	.....	.....	2	11464	18449	5	4.22	107.2
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.75	730.2	30.17	766.3	17.5	—8.1	69.2	2	7	.....	4	3	5	2	1	7	6554	10547	5	0.04	1.0
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.89	759.2	30.04	763.0	42.9	6.1	68.5	14	1	.....	2	.....	2	2	8	2	4068	6547	3	1.35	34.3
Sub-Series.																										
Bozota	N. 4 36	W. 74 14	7.41 a.m.	8655	2638	22.00	558.8	.....	.....	50.2	10.1	78	.....	1	2	2	3	.....	1	4	18	.....	.....	2	0.07	1.8
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.06	763.5	30.07	763.8	77.3	25.2	80.2	.....	.....	.....	.....	.....	30	1	.....	.....	.....	.....	9	5.39	136.9
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	18	5	29.92	760.0	29.94	760.5	77.5	25.3	88.4	1	1	.....	7	4	6	1	.....	11	.....	.....	9	22.03	574.8
Guadeloupe *b.*	N. 16 12	W. 61 40	8.01 a.m.	?	?	30.00	762.0	30.02	762.5	75.1	23.9	90.0	.....	.....	.....	.....	.....	3	24	2	.....	.....	.....	4	1.80	45.7
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.15	765.8	30.20	767.1	69.8	21.0	90.7	2	.....	.....	.....	.....	7	.....	.....	22	.....	.....	3	0	0
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.09	764.3	30.10	764.5	68.8	20.4	83.5	15	.....	.....	.....	.....	.....	.....	.....	16	.....	.....	3	0.47	11.9
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	29.98	761.5	30.06	763.5	77.3	25.2	67.8	.....	.....	.....	.....	.....	.....	4	27	.....	.....	.....	9	1.45	36.8
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.04	763.0	30.04	763.0	77.1	25.1	89.0	.....	.....	.....	.....	.....	1	28	2	.....	.....	.....	9	22.07	560.6
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.36	745.7	29.91	759.7	80.3	26.8	84.8	7	.....	.....	.....	1	.....	1	1	21	.....	.....	6	1.42	36.1
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	73.3	22.9	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	2	0.02	0.5
Santiago deCuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.09	764.3	30.12	765.0	74.0	23.3	74.3	21	1	.....	.....	.....	.....	.....	4	5	.....	.....	2	0.51	13.0
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	110	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	30.00	762.0	30.06	763.5	—29.5	—34.2	.....	3	11	5	9	2	.....	.....	1	.....	.....	.....	6	1.70	43.2

OCEAN SQUARE DATA FOR JANUARY 1882.

Location of centre of each square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
°	°																	
N. 2.5	W. 22.5	11	13															
2.5	27.5	23	31															
2.5	32.5	7	9															
2.5	37.5	1	1															
7.5	22.5	2	2															
7.5	27.5	5	6															
7.5	32.5	10	11															
7.5	37.5	2	2															
12.5	22.5	2	2	29.97	761.2	77.8	25.4								31			2.3
12.5	27.5	8	9	30.02 a	762.5 a	77.4c	25.2c								30		1	2.4
12.5	32.5	5	5	30.02 g	762.5 g	70.6g	24.8g							2	23		6	2.7
12.5	37.5	9	9	30.03 m	762.7 m	76.8m	24.9							3	16		12	2.5
12.5	42.5	1	1															
12.5	52.5	1	1															
12.5	57.5	1	1															
17.5	22.5	7	7	30.06	763.5	73.7	23.2								31			2.4
17.5	27.5	8	8	30.06 b	763.5 b	73.4	23.0							1	28		2	2.5
17.5	32.5	2	2	30.10 k	764.5 k	70.3j	24.6j							2	21		8	2.0
17.5	37.5	11	12	30.11 k	764.8 k	73.2j	22.9j					1		7	14		9	2.4
17.5	42.5	3	3															
17.5	47.5	2	2															
22.5	22.5	4	4	30.13 a	765.3 a	70.9	21.6	1					3	9	16		2	2.4
22.5	27.5	3	3	30.11 a	764.8 a	70.5	21.4	1	1		1	1	7	11	8		1	2.3
22.5	32.5			30.12 g	765.0 g	70.5d	21.4d		1	1			8	7	7		7	2.5
22.5	37.5	9	10	30.14 f	765.5 f	71.0c	21.7c		3		2	2	9	6	4		5	2.1
22.5	42.5	15	20	30.15 k	765.8 k	71.2e	21.8e		1		1	1	3	7	7		11	2.1
22.5	62.5			30.13 e	765.3 e	74.0b	23.7b	1	2				4	8	12		4	1.8
22.5	67.5			30.16 f	766.1 f	71.8b	22.1b		1	1			2	7	15		5	2.0
22.5	72.5			30.17	766.3	71.9	22.2	1	1				1	5	23			2.4
27.5	22.5	3	3	30.20 a	767.1 a	66.7	19.3		1		2	1	9	9	8		1	2.7
27.5	27.5	1	1	30.17 a	766.3 a	66.9	19.4	1		1	2	5	9	7	5		1	2.9
27.5	32.5	2	2	30.18 f	766.6 f	66.8b	19.3b	1	1	1		2	13	3	5		5	2.9
27.5	37.5	4	4	30.17 g	766.3 g	66.5c	19.2c	1	3		2	4	10	4	1		6	2.7
27.5	42.5	10	11	30.20 k	767.1 k	66.7e	19.3e	1	2	1		2	9	3	3		10	2.0
27.5	47.5	5	5															
27.5	52.5			30.12 m	765.0 m	65.7j	18.7j		7		3	2	2		5		12	1.6
27.5	62.5			30.19 d	766.8 d	67.1a	19.5a	6	3	1	1	1	1	2	11		5	1.9
27.5	67.5			30.22 c	767.6 c	67.8a	19.9a	4	3			2	1	4	13		4	2.1
27.5	72.5			30.23 b	767.8 b	60.5	19.2	2	3		1	5	3	3	13		1	2.0
27.5	77.5			30.23	767.8	64.9	18.3	2	2		2	3	11	5	5	1		1.9
32.5	12.5	2	2	30.29	769.4	63.3	17.4			1	1	2	11	3	13			1.6
32.5	17.5	4	4	30.27	768.8	63.2	17.3			1	6	2	11	1	3	7		1.1
32.5	22.5	1	1	30.25	768.3	63.9	17.7	1			4	3	12	1	10			2.6
32.5	27.5			30.22	767.6	63.8	17.7	2	1	1	1	5	14	2	4		1	2.2
32.5	32.5	8	9	30.19	766.8	63.5	17.5		3	1	4	5	12	2	3	1		2.6
32.5	37.5	6	6	30.14 a	765.5 a	62.0	17.0		5		5	9	8	2	1		1	2.8
32.5	42.5	3	3	30.13 b	765.3 b	62.1a	16.7a	1	4	3	7	5	4	1	4		2	3.0
32.5	47.5	4	5	30.14 b	765.5 b	63.5a	17.5a		8	2	6	5	2	1	5		2	2.8
32.5	52.5	3	4	30.11 a	764.8 a	61.3	16.3	2	10	6	3	4	1		4		1	2.3
32.5	57.5	2	2	30.14	765.5	63.0	17.2	3	13	2	6	2	1		4			2.5
32.5	62.5	4	4	30.18	766.6	61.7	16.5	6	8	3	2	6		1	5			1.8
32.5	67.5	9	17	30.20	767.1	60.9	16.1	9	10	1	3	4		1	3			1.8
32.5	72.5	13	15	30.22	767.6	58.7	14.8	4	7		3	9	2		5	1		2.3
32.5	77.5	17	25	30.23	767.8	53.8	12.1	3	5	2	10	2	2	1	6			1.8
37.5	12.5	17	17	30.34	770.6	57.5	14.2	3	1			5	7	2	13			2.2
37.5	17.5	5	5	30.29	769.4	59.0	15.3	2	3	1	3	8	9	2	3			2.2
37.5	22.5	3	3	30.27	768.8	59.9	15.5	2	4		4	7	10		4			2.3
37.5	27.5	4	5	30.22	767.6	59.3	15.2	5	4	2	2	8	7		3			2.2
37.5	32.5	4	5	30.13	765.3	57.7	15.4	2	3	2	11	8	4		1			2.9
37.5	37.5	4	4	30.06 a	763.5 a	56.0	13.3		5	1	11	9	3		1		1	3.1
37.5	42.5	5	5	30.02 b	762.5 b	54.3a	12.4a	2	6	4	12	3	2				2	3.3
37.5	47.5	5	5	30.01 a	762.2 a	51.8	11.0	4	10	5	3	7			1		1	3.3
37.5	52.5	3	3	30.02	762.5	50.0	10.0	4	9	7	5	2	2		2			3.5
37.5	57.5	6	6	30.05	763.3	48.8	9.3	4	12	3	5	2	3		2			3.6
37.5	62.5	7	8	30.07	763.8	46.9	8.3	5	14	3	4	2		1	2			3.1
37.5	67.5	8	9	30.13	765.3	46.0	7.8	5	9	3	4	2	6	1	1			2.7
37.5	72.5	22	35	30.15	765.8	41.2	5.1	4	10		8		4	1	3	1		2.3
42.5	12.5	8	8	30.35	770.9	56.4	13.6	1	3	2	5	9	5	1	5			2.4
42.5	17.5	3	3	30.29	769.4	57.2	14.0		3	5	6	11	4	1	1			3.1
42.5	22.5	7	9	30.20	767.1	57.2	14.0	1	1	5	9	15						3.0
42.5	27.5	5	5	30.14	765.5	50.0	13.3		4	4	8	13	1		1			3.0
42.5	32.5	6	6	30.12	765.0	53.7	12.1		4	3	14	9	1					3.3
42.5	37.5	7	7	30.01	762.2	51.0	10.6		11	4	11	4	1					4.0
42.5	42.5	11	12	29.94	760.5	49.0	9.4	2	9	7	9	3	1					4.1
42.5	47.5	13	22	29.95	760.7	44.4	6.9	2	14	3	7	2	2		1			3.8
42.5	52.5	21	33	29.95	760.7	41.0	5.0	1	12	3	7	2	3		3			3.8
42.5	57.5	19	37	29.98	761.5	37.8	3.2	2	13	3	5	3	4		1			4.0
42.5	62.5	19	42	30.01	762.2	35.9	2.2	4	13	4	4	3	2		1			3.5
42.5	67.5	22	43	30.05	763.3	32.7	0.4	4	15	3	7	1	1					2.6
47.5	12.5	17	22	30.27	768.8	52.3	11.3		4	3	5	13	5		1			3.4
47.5	17.5	18	28	30.18	766.6	52.4	11.3		2	7	3	17	2					3.8
47.5	22.5	16	23	30.09	764.3	51.7	10.9		4	4	8	13	2					3.6
47.5	27.5	12	20	29.97	761.2	50.0	10.0	1	4	4	11	10		1				4.0
47.5	32.5	17	27	29.87	758.7	47.3	8.5		3	7	15	4	2					4.5
47.5	37.5	20	38	29.79	756.7	43.5	6.4		8	8	8	4	1		2			4.7
47.5	42.5	19	37	29.76	755.9	37.4	3.0	1	9	4	10	3	2	1	1			4.5
47.5	47.5	17	30	29.72	754.9	30.6	— 0.8	2	11	4	6	4	1	2	1			3.5
52.5	12.5	17	21	30.18	766.6	47.9	8.8	1	1	7	4	13	4		1			3.8
52.5	17.5	15	20	30.06	763.5	49.5	9.7		3	6	8	11	3					4.0
52.5	22.5	15	27	29.98	761.5	48.3	9.1		3	6	8	11	3					4.1
52.5	27.5	10	15	29.86	758.4	45.7	7.6		4	8	8	6	4		1			4.3
52.5	32.5	9	11	29.74	755.4	42.5	5.8		4	4	14	2	6		1			4.1
52.5	37.5	7	7	29.70 a	754.4 a	37.2	2.9	2	7	3	11	2	2	2	1		1	4.3
52.5	42.5	2	2	29.66	753.4	32.2	0.1	1	10	7	7	1	3		2			4.0
52.5	47.5			29.67	753.6	24.4	— 4.2	1	12	6	4	1	1	2	4			3.1
57.5	12.5	2	2	29.79	756.7	43.7	6.5		8	2	11	6	3	1				3.8
57.5	17.5	3	3	29.74	755.4	41.1	5.1		9	2	10	5	5					3.6
57.5	22.5	3	3	29.66	753.4	38.4	3.6		10		10	7	3	1				3.4
57.5	27.5	1	1	29.60	751.8	34.8	1.6	1	10	1	8	4	3	3			1	3.5
57.5	32.5	1	1	29.57 a	751.1 a	30.7	— 0.7		12	3	4	3	4	3	1		1	3.2
57.5	37.5			29.52 c	749.8 c	25.6	— 3.6	2	13		4	3	1	3	2		3	3.2
57.5	42.5			29.50 a	749.3 a	21.4	— 5.9	3	10	2	7	1	1	1	5		1	3.6
57.5	47.5			29.50 a	749.3 a	16.0	— 8.9	6	14	2	2			1	5		1	3.1

NOTE.—See General Remarks, page 9.

OOGLAAMIE, POINT BARROW, ALASKA.

DATE.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Rel. Hum.	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Up'er	Clouds. Direction. Lo'er	Rainfall or melted snow in the past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles pr hour	Mtrs p. sec	0-10	0-10	0-10	From	From	Inch.	Mill.	
1881.																		
October 17	29.97	761.2	29.99	761.7	35.0	1.7	90	sw.	.....	.....	.....	.....	10 s	.....	.....	0	0	cloudy.
" 18	29.78	756.4	29.80	756.9	32.8	0.4	100	ssw.	.....	.....	.....	.....	10 n	.....	.....	.....	.....	raining.
" 19	29.83	757.7	29.84	757.9	35.8	2.1	93	wnw.	24	10.7	.....	.....	10 s	.....	.....	inap.	inap.	cloudy.
" 20	29.93	760.2	29.95	760.7	29.6	— 1.3	100	se.	22	9.8	.....	.....	fg.	.....	se.	inap.	inap.	cloudy.
" 21	29.83	757.7	29.85	758.2	25.8	— 3.4	99	s.	6	2.7	.....	.....	10 s	.....	.....	inap.	inap.	cloudy.
" 22	29.86	758.4	29.88	758.9	16.8	— 8.4	100	ne.	18	8.0	.....	.....	10 s	.....	.....	inap.	inap.	cloudy.
" 23	29.72	754.9	29.74	755.4	18.8	— 7.3	92	ne.	24	10.7	.....	.....	10 n	.....	.....	0.03	0.8	light snow.
" 24	29.69	754.1	29.71	754.6	11.3	—11.5	94	n.	13	5.8	.....	.....	10 n	.....	.....	0.10	2.5	light snow.
" 25	29.49	749.0	29.51	749.5	8.3	—13.2	98	n.	32	14.3	.....	.....	10 n	.....	.....	0.33	8.4	light snow.
" 26	29.43	747.5	29.45	748.0	10.5	—11.9	100	n.	20	8.9	.....	.....	10 n	.....	.....	0.15	3.8	light snow.
" 27	29.72	754.9	29.74	755.4	9.6	—12.4	94	se.	10	4.5	.....	.....	9 s	.....	.....	0.21	5.3	cloudy.
" 28	29.74	755.4	29.76	755.9	16.4	— 8.7	93	nne.	21	9.4	.....	.....	10 s	.....	.....	0	0	cloudy.
" 29	29.70	754.4	29.72	754.9	16.2	— 8.8	98	e.	2	0.9	.....	.....	10 n	.....	.....	0.10	2.5	light snow.
" 30	29.83	757.7	29.85	758.2	15.0	— 9.4	100	se.	12	5.4	.....	.....	10 s	.....	.....	0.04	1.0	fair.
" 31	30.03	762.7	30.05	763.3	15.6	— 9.1	97	e.	7	3.1	.....	.....	10 s	.....	.....	0	0	cloudy.
November 1	30.14	765.5	30.16	766.1	13.8	— 9.6	89	e.	18	8.0	.....	.....	10 n	.....	.....	0.10	2.5	light snow.
" 2	29.75	755.6	29.77	756.1	10.1	—12.2	96	ne.	24	10.7	.....	.....	10 s	.....	.....	0.09	2.3	cloudy.
" 3	29.60	751.8	29.62	752.3	8.8	—12.9	100	ne.	36	16.1	.....	.....	10 n	.....	.....	0.20	5.1	snowing.
" 4	29.58	751.3	29.60	751.8	2.5	—16.4	100	ene.	21	9.4	.....	.....	10 s	.....	ne.	0.10	2.5	cloudy.
" 5	29.48	748.8	29.50	749.3	2.0	—16.7	86	ene.	24	10.7	.....	.....	10 s	.....	ne.	0	0	cloudy.
" 6	29.79	756.7	29.81	757.2	—10.4	—23.6	96	ene.	30	13.4	.....	0	4 s	.....	.....	0	0	fair.
" 7	30.14	765.5	30.16	766.1	— 7.8	—22.1	92	ne.	20	8.9	.....	0	2 s	.....	.....	0	0	clear.
" 8	30.12	765.0	30.14	765.5	— 6.6	—21.4	100	ene.	14	6.3	.....	.....	10 s	.....	.....	0.01	0.3	cloudy.
" 9	29.89	759.2	29.91	759.7	— 1.7	—18.7	97	nne.	28	12.5	.....	.....	10 s	.....	.....	0.03	0.8	cloudy.
" 10	30.01	762.2	30.03	762.7	— 5.8	—21.0	100	ne.	21	9.4	.....	0	4 s	.....	.....	0	0	fair.
" 11	30.32	770.1	30.34	770.6	— 6.5	—21.4	90	ene.	20	8.9	.....	0	5 s	.....	ne.	0	0	fair.
" 12	30.59	777.0	30.61	777.5	—19.6	—28.7	93	ene.	10	4.5	.....	0	0	.....	.....	0	0	clear.
" 13	30.67	779.0	30.69	779.5	—25.0	—31.7	81	e.	5	2.2	.....	0	0	.....	.....	0	0	clear.
" 14	30.31	769.9	30.33	770.4	— 2.3	—19.1	92	se.	18	8.0	.....	.....	10 s	.....	.....	inap.	inap.	cloudy.
" 15	29.94	760.5	29.96	761.0	23.3	— 4.8	98	sw.	27	12.1	.....	.....	10 s	.....	.....	0.04	1.0	cloudy.
" 16	30.03	762.7	30.05	763.3	14.8	— 9.6	96	wnw.	22	9.8	.....	0	7 s	.....	.....	0	0	fair.
" 17	30.32	770.1	30.34	770.6	—19.1	—28.4	100	nne.	10	4.5	.....	0	0	.....	.....	0	0	clear.
" 18	30.02	762.5	30.04	763.0	— 9.0	—22.8	100	ne.	28	12.5	.....	0	4 s	.....	.....	0	0	fair.
" 19	29.58	751.3	29.60	751.8	0.6	—17.4	88	ene.	34	15.2	.....	.....	10 s	.....	.....	0	0	cloudy.
" 20	29.39	746.5	29.41	747.0	2.0	—16.7	100	sse.	16	7.2	.....	hz.	4 s	.....	.....	0.02	0.5	fair.
" 21	29.71	754.6	29.73	755.1	1.8	—16.8	100	nw.	31	13.9	.....	.....	10 s	.....	.....	0.05	1.3	clo dy.
" 22	30.38	771.6	30.41	772.4	—10.6	—23.7	96	nw.	6	2.7	.....	0	0	.....	.....	0	0	clear.
" 23	30.23	767.8	30.25	768.3	—27.7	—33.2	46	ssw.	4	1.8	.....	0	0	.....	.....	0	0	clear.
" 24	29.89	759.2	29.91	759.7	—14.0	—25.6	100	ene.	16	7.2	.....	hz.	0	.....	.....	0	0	clear.
" 25	29.70	754.4	29.72	754.9	— 5.6	—20.9	85	ene.	27	12.1	.....	0	0	.....	.....	0	0	clear.
" 26	29.61	752.1	29.63	752.6	2.1	—16.6	97	e.	25	11.2	.....	.....	10 s	.....	.....	0	0	cloudy.
" 27	29.35	745.5	29.37	746.0	3.6	—15.8	90	ene.	8	3.6	.....	0	hz.	.....	.....	0.05	1.3	hazy.
" 28	29.20	741.7	29.22	742.2	10.6	—11.9	92	sse.	16	7.2	.....	0	0	.....	.....	0	0	clear.
" 29	29.12	739.6	29.14	740.1	22.8	— 5.1	100	s.	14	6.3	.....	.....	10 n	.....	.....	0.04	1.0	light snow.
" 30	29.46	748.3	29.48	748.8	— 7.8	—22.1	92	n.	9	4.0	.....	4 cs	3 s	.....	.....	0	0	fair.
Mean	29.88	758.9	29.90	759.4	— 2.0	—18.9	93.1	.....	.....	.....	.....	.....	5	.....	.....	0.73	18.5	.....
December 1	30.08	764.0	30.10	764.5	— 4.3	—20.2	93	wsw.	8	3.6	.....	0	0	.....	.....	0	0	clear.
" 2	29.91	759.7	29.93	760.2	2.6	—16.3	97	wnw.	12	5.4	.....	3 ck	hz.	.....	.....	0.14	3.6	hazy.
" 3	29.29	744.0	29.31	744.5	— 3.0	—19.4	100	ne.	40	17.9	.....	.....	10 n	.....	.....	0.21	5.3	light snow.
" 4	29.83	757.7	29.85	758.2	—19.2	—28.4	93	ene.	5	2.2	.....	.....	10 s	.....	.....	0	0	cloudy.
" 5	29.72	754.9	29.74	755.4	—10.0	—23.3	100	ne.	12	5.4	.....	hz.	hz.	.....	.....	0	0	hazy.
" 6	29.96	761.0	29.98	761.5	—18.4	—28.0	81	calm	0	0	.....	hz.	hz.	.....	.....	inap.	inap.	hazy.
" 7	30.03	762.7	30.05	763.3	—12.4	—24.7	95	w.	6	2.7	.....	0	1 s	.....	.....	0.01	0.3	clear.
" 8	30.15	765.8	30.17	766.3	—12.1	—24.5	95	w.	7	3.1	.....	.....	9 s	.....	.....	0	0	cloudy.
" 9	30.17	766.3	30.19	766.8	—26.7	—32.6	70	se.	5	2.2	.....	0	0	.....	.....	inap.	inap.	clear.
" 10	30.05	763.3	30.06	763.5	4.8	—15.1	95	sw.	7	3.1	.....	.....	10 s	.....	.....	inap.	inap.	cloudy.
" 11	30.10	764.5	30.12	765.0	—13.4	—25.2	69	n.	5	2.2	.....	0	3 s	.....	.....	0.01	0.3	fair.
" 12	29.78	756.4	29.80	756.9	—14.0	—25.6	89	nnw.	14	6.3	.....	0	5 s	.....	.....	0	0	fair.
" 13	29.71	754.6	29.73	755.1	—16.8	—27.1	88	wnw.	11	4.9	.....	hz.	4 s	.....	.....	0	0	fair.
" 14	29.85	758.2	29.87	758.7	—19.2	—28.4	86	s.	5	2.2	.....	.....	10 s	.....	.....	0	0	cloudy.
" 15	29.78	756.4	29.80	756.9	—25.4	—31.9	64	ssw.	4	1.8	.....	hz.	hz.	.....	.....	0	0	hazy.
" 16	29.67	753.6	29.69	754.1	—22.7	—30.4	84	ssw.	8	3.6	.....	.....	10 n	.....	.....	0.03	0.8	light snow.
" 17	29.59	751.6	29.61	752.1	—23.2	—30.7	76	nne.	3	1.3	.....	0	0	.....	.....	0	0	clear.
" 18	29.92	760.0	29.94	760.5	—45.7	—43.2	100	ene.	6	2.7	.....	0	0	.....	.....	0	0	clear.
" 19	30.13	765.3	30.15	765.8	—52.0	—46.7	100	ene.	8	3.6	.....	0	0	.....	.....	0	0	clear.
" 20	29.98	761.5	30.00	762.0	—40.2	—40.1	.....	ene.	12	5.4	.....	hz.	hz.	.....	.....	0	0	hazy.
" 21	30.10	764.5	30.12	765.0	—37.1	—38.4	100	ne.	12	5.4	.....	hz.	hz.	.....	.....	0	0	hazy.
" 22	29.77	756.1	29.79	756.7	—35.7	—37.6	100	ese.	4	1.8	.....	hz.	0	.....	.....	0	0	clear.
" 23	29.40	746.7	29.42	747.3	—34.4	—36.9	.....	ene.	11	4.9	.....	hz.	hz.	.....	.....	0.03	0.8	hazy.
" 24	29.45	748.0	29.47	748.5	—25.2	—31.8	72	calm	0	0	.....	hz.	4 s	.....	.....	0	0	fair.
" 25	29.32	744.7	29.34	745.2	—30.2	—34.6	52	calm	0	0	.....	0	1 s	.....	.....	0	0	clear.
" 26	29.23	742.4	29.24	742.7	—25.7	—32.1	71	w.	5	2.2	.....	hz.	5 s	.....	.....	0	0	fair.
" 27	29.55	750.6	29.57	751.1	—21.0	—29.4	93	wnw.	5	2.2	.....	hz.	hz.	.....	.....	0	0	hazy.
" 28	30.20	767.1	30.22	767.6	—27.5	—33.1	68	wnw.	6	2.7	.....	0	0	.....	.....	0	0	clear.
" 29	30.26	768.6	30.28	769.1	—31.0	—35.0	87	se.	16	7.2	.....	0	1 s	.....	.....	0	0	clear.
" 30	29.95	760.7	29.97	761.2	—18.7	—28.2	86	se.	4	1.8	.....	.....	10 s	.....	.....	0.01	0.3	cloudy.
" 31	30.05	763.3	30.07	763.8	— 5.4	—20.8	86	ssw.	12	5.4	.....	.....	9 s	.....	n.	0	0	cloudy.
Mean	29.84	757.9	29.86	758.4	—21.4	—29.7	85.9b	.....	.....	.....	.....	.....	3	.....	.....	0.44	11.2	.....

NOTE.—The above observations, taken at 7 a. m., Washington time, and commencing with the opening of station, were received too late for publication in the DAILY BULLETIN.

REVIEW.

The following review refers to three international charts which continue the series of chart iv. begun in January, 1877, and heretofore described in the MONTHLY WEATHER REVIEW.

They exhibit the mean pressure, mean temperature, and the prevailing direction of the wind over the northern hemisphere for the months of November and December, 1880, and for January, 1881, as determined from one observation taken simultaneously each day at 7.35 a. m. Washington, or 0.43 p. m. Greenwich mean time.

For the description of these charts, much valuable information has been obtained from the "Monatliche Uebersicht der Witterung," published by Professor Dr. G. Neumayer, Director of the German Marine Observatory at Hamburg; from the the reports of the Meteorological Society of Great Britain, and from the "Bulletin Mensuel," published by Mr. Marc Dechrevens, of Zi-Ka-Wei, China.

During November, 1880, the most marked area of low barometer, indicated by the isobar of 29.3 (744.2), occupied the Arctic ocean between Greenland and Nova Zembla, and included within its limits the extreme northern part of the Scandinavian peninsula, the lowest monthly mean, 29.29 (743.9) being reported from Tromsoe, Norway. The barometric gradient increases somewhat rapidly in a southerly and easterly direction, until the isobaric line of 30.1 (764.5) in southwestern Siberia and central Europe is reached.

Three areas of barometric maxima appear on the chart for November.

The most marked of these includes Toorkistan and the Caspian sea, the greatest mean pressure 30.55 (776.0) being reported at Nukuss.

The second area of high mean pressures is shown near the northwestern coast of Africa and extends westward to the Madeira islands and to Azores; within this area, the greatest mean pressure was 30.24 (768.1).

The third area of barometric maxima covers the United States from the Atlantic coast westward to the hundredth meridian and south of the forty-second parallel of latitude; within this area, the mean pressures range from 30.22 (767.6) to 30.29 (769.4).

For the Pacific coast, the mean atmospheric pressure ranges from 30.08 (764.0) in southern California to 30.33 (770.4) in Oregon.

Compared with the preceding month, (October, 1880,) the barometric pressure over the United States has increased in all parts of the country; in Canada it has increased .1 inch. In Europe, the atmospheric pressure has decreased in the Scandinavian peninsula and in northern Russia.

In all other parts of the continent, there has been an increase of pressure.

In Greenland, the pressure has decreased about .5 inch, the mean of the month at Godthaab being 29.57 (751.1); the decrease extends eastward to Iceland, where the mean pressure is .67 inch below that of October.

In the Azores, and over the Atlantic ocean south of N. 40°, the pressure has increased about .25 inch; north of the fortieth parallel, the increase is less marked.

In British India, the barometric pressure has increased .15 inch, and in China and Japan, the increase ranges from .05 to .15 inch.

Compared with the corresponding month of previous years, the mean atmospheric pressure is very decidedly above the normal in the United States, the excess ranging from .1 inch on the Atlantic to .2 inch on the Pacific coasts.

In Canada, the mean pressure is everywhere above the normal.

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of November, 1880, in the several countries of Europe and Asia, compared with the means as determined from observations taken during the years 1877, 1878, and 1879:—

Countries.	Mean Pressure.			Mean Temperature.		
	Nov., 1877, 1878, and 1879	Nov., 1880.	Departure.	Nov., 1877, 1878, and 1879.	Nov., 1880.	Departure.
				°	°	°
Algeria	30.05	30.13	+0.08	62.8	66.3	+ 3.5
Austria	29.97	30.11	+0.14	42.9	46.7	+ 3.8
British Isles	29.88	29.91	+0.03	44.3	45.8	+ 1.5
Denmark	29.76	29.80	+0.04	41.6	40.5	− 1.1
France	29.93	30.07	+0.14	46.0	48.3	+ 2.3
Germany	29.87	30.01	+0.14	41.1	42.5	+ 1.4
India	29.92	30.00	+0.08	75.1	72.8	− 2.3
Italy	29.96	30.10	+0.14	55.6	57.0	+ 1.4
Norway	29.80	29.57	−0.23	43.3	37.0	− 6.3
Portugal	30.04	30.14	+0.10	58.0	56.7	− 1.3
Russia	29.97	29.99	+0.02	39.1	35.9	− 3.2
Spain	29.98*	30.10	+0.12	57.3*	57.8	+ 0.5
Sweden	29.74	29.62	−0.12	33.1	29.1	− 4.0

* Mean for two years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of November, 1880, as compared with the means of three years:

STATION.	Mean Pressure.			Mean Temperature.		
	Nov., 1877-78-79.	Nov. 1880.	Departure.	Nov., 1877-78-79.	Nov., 1880.	Departure.
				°	°	°
San José, Costa Rica, C. A.	.....	.....	.....	67.0	66.6	− 0.4
Gibraltar	30.01	30.11	+0.10	*65.2	61.9	− 3.3
Malta, Mediterranean Sea	29.97	30.06	+0.09	67.2	72.8	+ 5.6
Sandwick Manse, Orkney Islands	29.77	29.70	−0.07	42.5	41.9	− 0.6
Bridgetown, Barbadoes	29.91	29.97	+0.06	81.1	79.0	− 2.1
Cape Town, Cape Good Hope	30.02	30.01	−0.01	72.8	73.9	+ 1.1
Fort Napier, Natal, South Africa	29.80	29.82	+0.02	77.2	71.7	− 5.5
Freetown, Sierra Leone	29.93	29.89	−0.04	86.1	82.9	− 3.2
Mauritius, Indian Ocean	30.03	30.09	+0.06	78.1	75.9	− 2.2
Melbourne, New South Wales	29.91	29.94	+0.03	56.2	56.9	+ 0.7
Nassau, Bahamas	30.04	30.12	+0.08	75.2	77.9	+ 2.7
Godthaab, Greenland	29.72	29.57	−0.15	28.1	24.8	− 3.3
Stykkisholm, Iceland	29.78	29.50	−0.28	33.0	28.2	− 4.8
Thorshavn, Faroe Islands	29.75	29.54	−0.21	40.1	38.7	− 1.4
Fort-de-France, Martinique	29.87	30.16	+0.29	79.1	76.1	− 3.0
Zi-Ka-Wei, China	30.29	30.31	+0.02	56.5	45.0	−11.5
Athens, Greece	30.04	30.12	+0.08	62.4	65.1	+ 2.7
Lahore, British India	29.99	30.03	+0.04	67.8	67.4	− 0.4
Cagliari, Sardinia, Italy	29.96	30.01	+0.05	62.8	66.4	+ 3.6
Tokei, Japan	30.10	30.01	−0.09	47.4	47.5	+ 0.1
Tromsoe, Norway	29.59	29.29	−0.30	31.1	37.0	+ 5.9
Angra, Azores	30.06	30.24	+0.18	62.4	64.9	+ 2.5
Funchal, Madeira Islands	30.02	30.24	+0.22	69.9	69.6	− 0.3
Ponta Delgado, Azores	30.09	30.24	+0.15	65.2	65.5	+ 0.3
Archangel, Russia	29.79	29.43	−0.36	25.5	22.3	− 3.2
Tiflis, Russia	30.28	30.22	−0.06	55.0	57.7	+ 2.7
Astrakhan, Russia	30.23	30.26	+0.03	43.4	41.4	− 2.0
Ekaterinburg, Russia	30.13	29.89	−0.24	25.8	25.7	− 0.1
Nukuss, Toorkistan, Asia	30.26	30.55	+0.29	42.1	47.3	+ 5.2
Tashkend, Toorkistan, Asia	30.39	30.32	−0.07	42.1	44.8	+ 2.7
Barnaul, Siberia, Asia	30.31	30.24	−0.07	18.8	31.6	+12.8
Pekin, China	30.31	30.28	−0.03	36.5	37.0	+ 0.5
Nikolaievsk on the Amoor, Asia	.....	.....	.....	10.4	18.1	+ 7.7
San Juan de Puerto Rico, W. I.	29.93	30.08	+0.15	78.6	79.7	+ 1.1
Mexico, Mexico	30.04	30.03	−0.01	72.4	73.9	+ 1.5
Beirut, Turkey in Asia	30.26	30.43	+0.17	48.4	51.4	+ 3.0
Havana, Cuba, W. I.	29.97	30.12	+0.15	74.9	70.3	− 4.6
Paramaribo, D. Guiana, S. A.	29.96	29.98	+0.02	83.0	80.5	− 2.5
York Factory, B. A.	30.00	30.01	+0.01	11.0	− 1.0	−12.0

* Mean for two years only.

In the United States and Canada, the mean temperature of the air was below the normal, the most noteworthy deficiencies occurring in Texas and the Rocky mountain regions. In many sections, this was the coldest November recorded since the establishment of the Signal Service stations. In Europe, the mean temperature was generally above the normal, except in the Scandinavian peninsula and in Denmark. In British India, the temperature is below the mean of the last three years.

The following are some of the extreme monthly mean temperatures reported at isolated stations:—

Highest.	Degrees.	Lowest.	Degrees.
Freetown, Africa	82.9	York Factory, British America	− 1.0
Puerto Berrio, South America	81.1	Nertchinsk, Siberia	+ 3.6
Paramaribo, South America	80.5	Jacobshavn, Greenland	12.4
Navassa, West Indies	79.6	Upernavik, Greenland	16.2

In the United States, the prevailing directions of the wind were: northerly in Texas, and northerly and northeasterly on the Atlantic coast and in the Gulf states; elsewhere, the winds were westerly and northwesterly. In Canada, the prevailing winds were westerly and southwesterly. In Europe, the winds were mostly southwesterly, except in the southern

peninsulas, where they were northerly and northeasterly. In Japan, northerly winds prevailed; at Zi-Ka-Wei, China, the prevailing direction was northwesterly. Over the Atlantic ocean, between the meridians of 40° and 60° west longitude and north of the fortieth parallel, strong northwesterly winds prevailed. From the fortieth meridian eastward, brisk to strong westerly and southwesterly winds were general. The rainfall during the month was below the average in the New England and middle Atlantic states and in the Pacific coast region; elsewhere in the United States it was in excess of the average. In Canada, the rainfall was above the average, except in the Maritime Provinces, where it was about 1.50 inches below the average. In Europe, the rainfall was normal, or slightly above the average.

During the month of December, 1880, the region of least mean pressure was in northern Norway, where the mean barometric reading was 29.39 (746.5). The barometric gradients were somewhat steep to the southeastward of the above region, but in the southern and western quadrants the gradients were of moderate inclination. A second area of low pressure, enclosed by the isobar of 29.7 (754.4), occupied the north Atlantic ocean between the meridians of 30° and 50° west longitude and between 50° and 60° north latitude.

The areas of barometric maxima are distributed as follows: The first, indicated by the isobaric line of 30.6 (777.2) occupies eastern Siberia; the pressure gradually diminished in a southerly direction, the isobars of 30.4 (772.1) and 30.3 (769.6) covering the Chinese Empire. The second area of high pressures covers the Iberian peninsula and northwestern Africa, and extends westward to the Madeira Islands. In the United States, the area of greatest pressures occupies the states of Missouri and Arkansas, northern Louisiana, northeastern Texas, and the eastern parts of Kansas and Nebraska. The isobar of 30.2 (767.1) also covers Montana and the northwest territories of British America.

Compared with the corresponding chart of the preceding month (November, 1880), no change has occurred in the position of the area of absolute low pressures. For December, the isobaric lines present a somewhat elongated form, the pressure having increased on the eastern and western sides of the depression, while it has decreased in the southern quadrants. In Greenland and in Iceland, the pressure has increased about .25 inch, while a corresponding decrease has occurred in southern Russia. The high area, which, in November occupied the Western Islands, has extended eastward, and now covers Algeria, Tunis, and the Iberian peninsula. In the North American continent, there has been a general decrease of pressure, except over the region near Hudson's bay and in Manitoba, where the pressure has increased. In the United States, the decrease of pressure averages about .12 inch over the country east of the Rocky mountains; in the Pacific coast regions, the decrease is more marked, where it averages from .05 inch in the south Pacific coast region to .45 inch in Washington Territory and Oregon. In Canada, the mean atmospheric pressure has decreased .1 inch. In Asia, the barometric pressure has increased throughout the continent, except in Toorkistan, where it has decreased about .15 inch. The highest mean reported was 30.7 (779.8) at Nertchinsk, Siberia.

Compared with the corresponding month of previous years, the mean atmospheric pressure is slightly below the normal in that part of the United States lying between the Atlantic and the ninetieth meridian. Between the Rocky mountains and the above-mentioned meridian, the pressure was slightly above the normal. In southern California, the pressure was normal, and in the central and northern districts, it was from .1 to .2 inch below the normal. In Canada, the mean atmospheric pressure was everywhere below the normal.

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of December, 1880, in the several countries of Europe and Asia, compared with the means as determined from observations taken during the years 1877, 1878, and 1879:—

Countries.	Mean pressure.			Mean temperature.		
	Dec., 1877, 1878, 1879.	Dec., 1880.	Departure.	Dec., 1877, 1878, 1879.	Dec., 1880.	Departure.
				°	°	°
Algeria	30.10	30.26	+0.16	56.8	60.2	+3.4
Austria	30.08	30.00	−0.08	29.0	41.5	+12.5
British Isles	29 97	29.89	−0.08	36.5	44.9	+8.4
Denmark	29.90	29.65	−0.25	33.4	37.3	+3.9
France	30.10	30.14	+0.04	39.1	49.2	+10.1
Germany	30.03	29.88	−0.15	30.7	40.2	+9.5
India	29.99	30.05	+0.06	68.4	67.5	−0.9
Italy	30.02	30.08	+0.06	46.6	51.7	+5.1
Norway	29.80	29.50	−0.30	31.0	28.2	−2.8
Portugal	30.18	30.29	+0.11	61.1	53.7	−7.4
Russia	30.07	29.76	−0.31	27.4	28.2	+0.8
Spain *	30.07	30.24	+0.17	49.1	55.5	+6.4
Sweden	29.82	29.53	−0.29	26.5	19.9	−6.6

* Means for two years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of December, 1880, as compared with the means of three years:—

Station.	Mean pressure.			Mean temperature.		
	Dec., 1877, 1878, 1879.	Dec., 1880.	Departure.	Dec., 1877, 1878, 1879.	Dec., 1880.	Departure.
				°	°	°
San José, Costa Rica, C. A	.....	.....	.....	65.8	64.0	−1.8
Gibraltar *	30.10	30.26	+0.16	58.7	60.3	+1.6
Malta, Mediterranean Sea	30.00	30.08	+0.08	61.1	64.1	+3.0
Sandwick Manse, Orkney Islands	29.78	29.61	−0.17	38.5	37.9	−0.6
Bridgetown, Barbadoes	29.95	30.00	+0.05	79.3	79.4	+0.1
Cape Town, Cape Good Hope *	30.03	29.98	−0.05	75.5	80.0	+4.5
Fort Napier, Natal, South Africa	29.77	29.80	+0.03	76.1	77.0	+0.9
Free Town, Sierra Leone *	29.92	29.86	−0.06	86.2	84.7	−1.5
Mauritius, Indian Ocean	29 94	30.04	+0.10	80.3	78.1	−2.2
Melbourne, New South Wales	29.90	29.97	+0.07	59.5	59.0	−0.5
Nassau, Bahamas	30.12	30.08	−0.04	71.8	71.2	−0.6
Godthaab, Greenland	29.61	29.77	+0.16	20.5	21.6	+1.1
Stykkisholm, Iceland	29.61	29.83	+0.22	28.3	17.8	−10.5
Thorshavn, Faroe Islands	29.71	29.92	+0.21	38.1	33.6	−4.5
Fort-de-France, Martinique	29.93	30.18	+0.25	77.2	73.0	−3.3
Zi-Ka-Wei, China	30.30	30.45	+0.15	39.7	35.4	−4.3
Athens, Greece	30.02	30.08	+0.06	54.6	56.8	+2.2
Lahore, British India	30.04	30.08	+0.04	57.6	58.2	+0.6
Cagliari, Sardinia, Italy	29.96	30.08	+0.12	52.7	62.2	+9.5
Tokei, Japan	29.99	29.99	normal	41.7	34.9	−6.8
Tromsoe, Norway	29.55	29.39	−0.16	29.3	22.5	−6.8
Angra, Azores	30.04	30.03	−0.01	59.9	61.7	+1.8
Funchal, Madeira Islands	30.11	30.24	+0.13	66.4	66.4	normal
Ponta Delgado, Azores	30.07	30.12	+0.05	63.1	63.3	+0.2
Archangel, Russia	29.87	29.56	−0.31	16.9	13.3	−3.6
Tiflis, Russia	30.20	30.19	−0.01	43.1	39.9	−3.2
Astrakhan, Russia	30.24	30.12	−0.12	29.0	32.2	+3.2
Ekaterinburg, Russia	30.27	30.08	−0.19	8.1	16.2	+8.1
Nukuss, Toorkistan, Asia	30.32	30.36	+0.04	28.3	34.0	+5.7
Tashkend, Toorkistan, Asia	30.46	30.24	−0.22	32.7	39.7	+7.0
Barnaul, Siberia, Asia	30.41	30.44	+0.03	−2.4	11.5	+13.9
Pekin, China	30.34	30.48	+0.14	24.6	24.4	−0.2
Nikolaievsk on the Amoor, Asia	.....	.....	.....	−8.1	2.8	+10.9
San Juan de Puerto Rico, W. I	30.01	30.07	+0.06	76.1	76.3	+0.2
Beirut, Turkey in Asia	30.03	30.01	−0.02	65.7	62.6	−3.1
Mexico, Mexico	30.29	30.45	+0.16	45.9	46.8	+0.9
Havana, Cuba, W. I	30.08	30.11	+0.03	71.3	71.6	+0.3
Paramaribo, D. Guiana, S. A	29.98	30.00	+0.02	80.8	78.4	−2.4
York Factory, B. A	29.95	30.10	+0.15	−13.1	−21.8	−8.7

* Means for two years only.

In the United States, the mean temperature of the air, in December, 1880, ranged from 1° to 6° below the normal in all parts of the country, except in the Pacific coast districts and in Arizona, where it was from 1° to 4° above the normal. At the close of the month, the minimum temperatures were the lowest ever recorded in the southern states, since the establishment of the Signal Service stations. In Canada, the mean temperature was below the normal, except in the Maritime Provinces, where it was above the normal. In Europe, the mean temperature of the air was above the normal, except in the Scandinavian peninsula, where it was about 4° below the normal. The greatest departures from the normal occurred in Germany, France, Austria, and the British Isles; elsewhere the departures were less marked. In British India, the temperature was about normal; the highest mean, 79°.2 F. (26°.2 C.), was reported at Bombay; and the lowest, 58°.2 F. (14°.6 C.), at Lahore.

The following are some of the extreme monthly mean temperatures reported at isolated stations:—

HIGHEST.	Degrees.	LOWEST.	Degrees.
Fort Napier, South Africa	84.7	York Factory, British America	—28.4
Cape Town, Cape of Good Hope	80.0	Nertchinsk, Siberia	—13.4
Bridgetown, Barbadoes	79.4	Yeniseisk, northwestern Siberia	— 0.8
Puerto Berrio, South America	79.4	Upernavik, Greenland	+ 0.7
Paramaribo, South America	78.4		

The prevailing directions of the wind, in the United States, were northerly and northwesterly, except in the lake region, where they were southwesterly. On the Pacific coast, the winds were mostly southeasterly. In central Europe, the prevailing winds were westerly and southwesterly; in European Russia they were generally southerly; in Italy and on the northern shores of the Mediterranean they were mostly northwesterly. In Japan, the winds were northerly, and at Zi-Ka-Wei, China, the prevailing direction during the month was north-northwesterly. Over the north Atlantic ocean, the prevailing winds were northwesterly, from the coast of the United States eastward to the fifty-fifth meridian; between 30° and 50° north latitude, and from 55° west longitude eastward to the European coasts, the winds were mostly southwesterly; north of the fifty-fifth parallel northeasterly winds prevailed.

The rainfall (including melted snow), during December, 1880, was below the average in the United States, except in the states adjoining the Atlantic ocean and in Minnesota, where it was slightly in excess of the average. On the Pacific coast, the rainfall was much above the average, the largest excess, 7.25 inches, occurring in the central Pacific coast region. In Canada, the rainfall was below the average, the greatest deficiency occurring in the province of Ontario. In Europe, the rainfall was in excess of the average.

During the month of January, 1881, the atmospheric pressure over the northern hemisphere was distributed as follows: A large area of low pressure occupied the north Atlantic ocean, the region of least pressure, enclosed by the isobar of 29.5 (749.3), being near W. 35° and 40°, and between N. 40° and 50°. A second area of low pressures occupied that part of northern Russia situated near the White sea; within which area, the lowest mean pressure reported was 29.49 (749.0), at Archangel. From this region southward, the pressure increased slowly, while, from the Ural mountains eastward to the Sea of Okhotsk, the increase of pressure was more rapid. In the United States, the mean pressure ranged from 30.15 (765.8) to 30.35 (770.9) from the Atlantic westward to the Pacific.

Compared with the corresponding chart for the preceding month (December, 1880), it will be observed that the area of low pressure which then covered northern Scandinavia, has moved to the eastward with slightly increased pressure. The barometric gradients have become somewhat steeper over the Scandinavian peninsula, but in the eastern part of Europe the changes have been slight and unimportant. The area of low-pressures, which, in December, was central near the fortieth meridian and to the north of N. 50°, has apparently moved southeastward with decreased pressure and is now shown near N. 45°, W. 35°. Under the influence of this depression the mean pressure has decreased slightly over western Europe, and the area of high pressures which covered the Azores, the Iberian peninsula, and the western part of the Mediterranean, has given way and is now shown near the eastern shores of that sea. In the United States, the mean atmospheric pressure has increased. The most noteworthy increase of pressure is shown in Oregon, Washington Territory and Idaho, where the increase averages .23 inch; elsewhere it averages .1 inch. In Canada, the mean pressure has increased about .12 inch. It has also increased in Greenland and in Iceland. In Asia, the pressure has remained unchanged, except over the eastern part of Japan, where a slight decrease has occurred.

Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States is slightly above the normal, except in Georgia and the Carolinas, where it is about .05 inch below the normal. In the north Pacific coast region, the pressure is .15 inch above the mean for the month. In Canada, the pressure was above the normal, except in the Maritime Provinces, where it was .1 inch below.

In Europe, the mean pressure was everywhere below the normal, the deviation being most marked in the southern parts of the continent.

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of January, 1881, in the several countries, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:—

Countries.	Mean pressure.			Mean temperature.		
	Jan., 1877, 1878, 1879, 1880.	January, 1881.	Departure.	Jan., 1877, 1878, 1879, 1880.	January, 1881.	Departure.
				°	°	°
Algeria	30.17	30.02	—0.15	55.9	62.3	+6.4
Austria	30.19	29.96	—0.23	33.4	28.2	—5.2
British Isles	30.02	29.90	—0.12	41.0	33.9	—7.1
Denmark	30.04	29.89	—0.15	31.4	27.6	—3.8
France	30.15	29.88	—0.27	42.7	36.8	—5.9
Germany	30.11	29.93	—0.18	32.5	26.5	—6.0
India *	29.90	30.03	+0.13	73.8	70.8	—3.0
Italy	30.09	29.89	—0.20	48.6	44.8	—3.8
Norway	29.85	29.77	—0.08	29.9	23.5	—6.4
Portugal	30.22	29.88	—0.34	52.1	51.9	—0.2
Russia	30.15	29.87	—0.28	20.9	19.4	—1.5
Spain	30.19	29.87	—0.32	52.8	51.5	—1.3
Sweden	29.97	29.73	—0.24	25.7	17.5	—8.2

* Means for three years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations, during the month of January, 1881, as compared with the means of four years:—

Stations.	Mean pressure.			Mean temperature.		
	Jan., 1877, 1878, 1879, 1880.	Jan., 1881.	Departure.	Jan., 1877, 1878, 1879, 1880.	Jan., 1881.	Departure.
				°	°	°
San José, Costa Rica, C. A*	.....	.....	.....	63.8	62.4	— 1.4
Gibraltar	30.18	29.99	—0.19	59.5	61.0	+ 1.5
Malta, Mediterranean Sea	30.05	29.91	—0.14	58.5	65.1	+ 6.6
Sandwich Manse, Orkney Islands	29.92	29.89	—0.03	39.1	34.0	— 5.1
Bridgetown, Barbadoes	30.01	30.03	—0.02	80.0	80.3	+ 0.3
Cape Town, Cape Good Hope	29.98	29.93	+0.05	77.7	81.4	+ 3.7
Fort Napier, Natal, South Africa	29.80	29.80	normal	78.2	78.0	— 0.2
Free Town, Sierra Leone	29.90	29.87	—0.03	85.8	85.1	— 0.7
Mauritius, Indian Ocean	29.95	29.93	—0.02	82.1	79.8	— 2.3
Melbourne, New South Wales	29.98	29.94	—0.04	62.8	64.0	+ 1.2
Nassau, Bahamas *	30.14	30.11	—0.03	71.1	71.9	+ 0.8
Godthaab	29.41	30.02	+0.61	15.3	27.5	+12.2
Stykkisholm, Iceland	29.52	30.13	+0.61	30.4	17.2	—13.2
Thorshavn, Faroe Islands	29.76	29.87	+0.11	38.5	34.4	— 4.2
Zi-Ka-Wei, China	30.42	30.30	—0.12	33.8	34.2	+ 0.4
Athens, Greece	30.10	29.96	—0.14	51.8	56.5	+ 4.7
Lahore, British India *	30.05	30.08	+0.03	59.0	64.8	+ 5.8
Cagliari, Sardinia, Italy *	30.13	29.82	—0.31	53.0	57.7	+ 4.7
Tokei, Japan	30.10	29.88	—0.22	34.9	33.6	— 1.3
Angra, Azores *	30.20	29.56	—0.64	58.0	55.9	— 2.1
Funchal, Madeira Islands	30.23	29.93	—0.30	64.8	65.5	+ 0.7
Ponta Delgado, Azores	30.18	29.61	—0.57	61.1	59.0	— 2.1
Archangel, Russia	29.94	29.49	—0.45	9.5	0.1	— 9.4
Tiflis, Russia	30.21	30.08	—0.13	38.3	43.3	+ 5.0
Astrakhan, Russia	30.26	30.06	—0.20	23.1	28.2	+ 5.1
Ekaterinburg, Russia	30.27	29.87	—0.40	4.7	5.5	+ 0.8
Nukuss, Toorkistan, Asia	30.29	30.25	—0.04	24.3	39.2	+14.9
Tashkend, Toorkistan, Asia	.....	.....	.....	.....	.....	.....
Barnaul, Siberia, Asia	30.52	30.22	—0.30	— 3.4	14.5	+17.9
Pekin, China	30.45	30.27	—0.18	20.9	23.5	+ 2.6
Nikolaievsk on the Amoor, Asia	.....	.....	.....	— 5.8	—12.6	— 6.8
San Juan de Puerto Rico, W. I *	30.04	30.11	+0.07	75.5	74.7	— 0.8
Beirut, Turkey in Asia	30.08	30.22	+0.14	60.1	59.9	— 0.2
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I *	30.09	30.10	+0.01	71.6	72.4	+ 0.8
Paramaribo, D. Guiana, S. A.	29.98	30.01	+0.03	79.4	76.7	— 2.7
York Factory, B. A	30.01	29.91	—0.10	—22.3	—32.9	—10.6

* Mean for three years only.

In the United States, the mean temperature of the air was below the normal from the Rocky mountains eastward to the Atlantic; the departures ranging from normal in Florida to 10° below the normal in Dakota, Nebraska, Kansas, and Missouri. At Washington, District of Columbia, the mean temperature of the month, 26°.7, was the lowest recorded since the establishment of the Signal Service; the minimum temperature of the month, —14°, has been equaled only once during a period of forty-six years, namely: In January, 1835, when the temperature fell to —14°. In most districts, the

mean temperature was the lowest on record, excepting that of January, 1875. At stations west of the Rocky mountains, the mean temperature of the month was about 2° above the normal, except in southern California, where it was below the normal.

It is worthy of note that, while the mean temperature was unusually high in Greenland, being about 12° above the mean as determined from simultaneous observations taken during the last four years, the mean temperature in Iceland was correspondingly low, being about 13° below the mean as determined from the same series of observations. (See table of comparative temperatures at isolated stations.) The weather of January, 1881, in Iceland, is said to have been the most severe known for years; large numbers of sheep perished; ponies were killed to save hay, and much suffering was experienced by the people.

In Europe, the temperature of the air was everywhere below the normal; the departure being more marked in western Europe than in the eastern and southern sections. The following extracts referring to the frost of January, 1881, in the British Isles, are taken from "Symons' Monthly Meteorological Magazine," for February, 1881:—

From January 7th to 26th, an intensely severe frost prevailed over the whole of the United Kingdom, which for severity has not been equalled since the winter of 1814; but that was more remarkable for its long continuance, than for its extreme severity. On every day from the 7th to the 12th, the temperature fell below 10° at several places in the south of Scotland, the northwest of England, and the central part of Ireland, and the frost occurred all over the United Kingdom, except at a few of the extreme sea-coast stations. On the 13th, the lowest reading registered was, —2° at Cardigan. Temperatures below 20° prevailed over almost the whole of Scotland, the western half of England, and the greater part of Ireland. On the 14th, readings below zero occurred in several parts of the country, the lowest being, —4° at Corwen, —3° at Cardigan, and —1° at Alston. * * * On the 16th, the frost became more intense, temperatures below zero being registered in the south of Scotland, and in the north and northwest of England. The lowest readings were, —10° at Stobo, —8° at Kelso and Corwen, —7° at Scaleby and Alston, —1° at Blackpool, and 0° at Chester. * * * On the 17th, the temperature fell below zero over the south of Scotland and north of England, the lowest readings being, —16° at Kelso, —15° at Stobo, —11° at Lauder, and —10° at Melrose. On the 18th, the lowest readings registered were, —15° at Stobo, —12° at Blackadder and Kelso, —10° at Melrose, and —4° at Wick. The temperature fell below 10° over the greater part of Scotland, and the north, east, and west of England, while readings below 20° prevailed all over the United Kingdom. Temperatures ranging from zero to 20°, prevailed over the British Isles until the 27th, when the temperature began to rise, and ultimately a thaw set in.

In Holland, the lowest temperature of the month, —5°.8 F. (—21° C.), occurred on the 25th and 26th. In northern Germany, the minimum temperature, —0°.4 F. (—18° C.) to —16° F. (—27° C), occurred generally from the 25th to the 27th, while in central and southern Germany, the periods of greatest cold were the 15th and 16th, and 22d to 24th. In France, the coldest days were the 16th, and from the 21st to 26th. In European Russia, the temperature was below the normal; the Baltic ports were blocked with ice, and navigation was generally suspended.

In British India, the temperature was below the normal; the highest mean temperature, 82°.8 F., (28.2° C.,) was reported from Poona, and the lowest, 60°.6 F., (15°.9 C.,) at Sibsagar.

In Siberia, the temperature was above the normal; at Barnaul, the mean for January, 1881, was about 17° above the January normal. In Toorkistan, the temperature was considerably above the normal, and in China, it was slightly above. At Zi-Ka-Wei, China, the coldest day of the month was the 10th, when the temperature at 7 a. m., Washington mean time, was 22°.1 F., (—5°.5 C.,) and the warmest days were the 27th and 31st, when the thermometer registered 45°.1 F., (7°.3 C.,) and 48°.9 F., (9°.4 C.,) respectively.

In Algeria, the mean temperature was about 6° above the normal.

The following are some of the extreme monthly mean temperatures reported at isolated stations:—

Highest.	Degrees.	Lowest.	Degrees.
Freetown, South Africa	85.1	York Factory, British America	—32.9
Puerto Berrio, South America	82.0	Nertschinsk, Siberia	—20.4
Cape Town, Cape Good Hope	87.4	Nikolaivsk on the Amoor	—12.6
Manila, Philippine Islands	79.8	Archangel, Russia	+ 0.7

In the United States, the prevailing winds were northerly and northwesterly, from the Rocky mountains eastward to the Atlantic ocean, except in the lake region, where the winds were westerly and southwesterly. On the Pacific coast, the winds were generally from east to south. In Canada, the prevailing winds were westerly and southwesterly in the western part of the Dominion, and northwesterly in the Maritime Provinces. In the continent of Europe, the winds were generally variable; in the several countries they were as follows: Northerly and northeasterly in the British Isles; northerly in northern Scandinavia, and westerly at stations in the southern part of the peninsula; northeasterly and westerly in Denmark, and southerly and southwesterly in Germany; in France and Austria, the winds were mostly northeasterly; in Spain and Portugal, they were southwesterly, except on the coast, where the wind was northeasterly; in Russia, the prevailing wind was southwesterly; in Japan, the wind was northwesterly. Over the north Atlantic ocean, north of the forty-fifth parallel, the prevailing wind was northeasterly; from the coast of the United States eastward to the forty-fifth meridian, the wind was northwesterly; between N. 40° and 50° and W. 35° and 45°, it was northeasterly; from W. 30° to W. 10° and between the parallels of 40° and 45° N., it was southeasterly; between N. 25° and 40° and east of the fortieth meridian, the prevailing wind was southwesterly.

The rainfall, including melted snow, was in excess of the average in the Atlantic coast districts of the United States. In the districts lying between the Mississippi river and the Alleghany mountains, it was below the average. On the Pacific coast, the rainfall was above the average, except in the southern district, where there was a deficiency. In Europe, the precipitation, mostly in the form of snow, was generally below the average in all parts of the continent.

GENERAL REMARKS.

All data which appears in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature and reduction to sea-level are applied at this office. In the Naval and Marine Series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d, clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters

above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position 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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various Meteorological Bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimeters.

AUSTRALIAN SERIES.—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour. The kind of clouds is not given except by inference from general weather terms.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BELGIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. At Furnes, observations are taken at 12.26 p. m., local time, and at Maeseyck at 1 p. m., local time.

BRITISH SERIES.—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford and Sandwick Manse the barometers are given as read off. At Free Town the barometer is reduced to freezing on the originals, but not to sea-level. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rainfall is measured at local time: Bradford, 9 a. m.; Nottingham, 6 p. m.; and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit.

CAPE COLONY SERIES.—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is given in meters per second and the directions to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimeters and measured at the moment of simultaneous observation.

DANISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rain-fall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second, for Mont Louis and Perpignan. In general, the rain-fall is measured at 9. a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12.00, instead of 12.16. At Gap the observations are taken at 12.03 p. m., instead of 12.32 p. m.

GERMAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. No distinction is made between upper and lower clouds except at Magdeburg where distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin, observations are taken at 2.00 p. m., instead of 1.02 p. m.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m. m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10.

JAPANESE SERIES.—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square meter, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimeters, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in meters per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2.00 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES.—In the originals the barometer is given in millimeters and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometers per hour, except at Angra, which gives force on the scale of 0 to 9. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air as indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The movement of the air, except for sub-series, is given in kilometers per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in meters per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimeters, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, and at Zurich on a scale of 0 to 4. The rainfall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimeters reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota the barometer is corrected for temperature only; at Navassa and Puerto Berrio is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivis, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. On January 1st, elevation of barometer cistern at Bogota changes to 8,655 feet or 2,638 meters.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimeters, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES.—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

DAILY BULLETIN, January 5th, 1882, page 2, Canadian series, Parry Sound, actual barometer 29.88 inches, should read 29.87 inches.

9th, page 10, British Meteorological Office, s. s. "Humboldt," N. 11° 05′, should read S. 11° 05′.

10th, page 2, Cape Colony series, Cape Saint Francis Lighthouse, actual barometer 761.5 mm., should read 762.5 mm.

11th, page 10, Allan Line, s. s. "Prussian," barometer 764.3 mm., should read 743.4 mm.

19th, page 5, Russian series, Archangel, velocity 43 miles, should read 4 miles.

Page 11, North German Lloyd, s. s. "Oder," temperature, Fahrenheit 74.6°, should read 44.6°.

The following corrections should be applied to all barometric readings from stations in the United States series, given

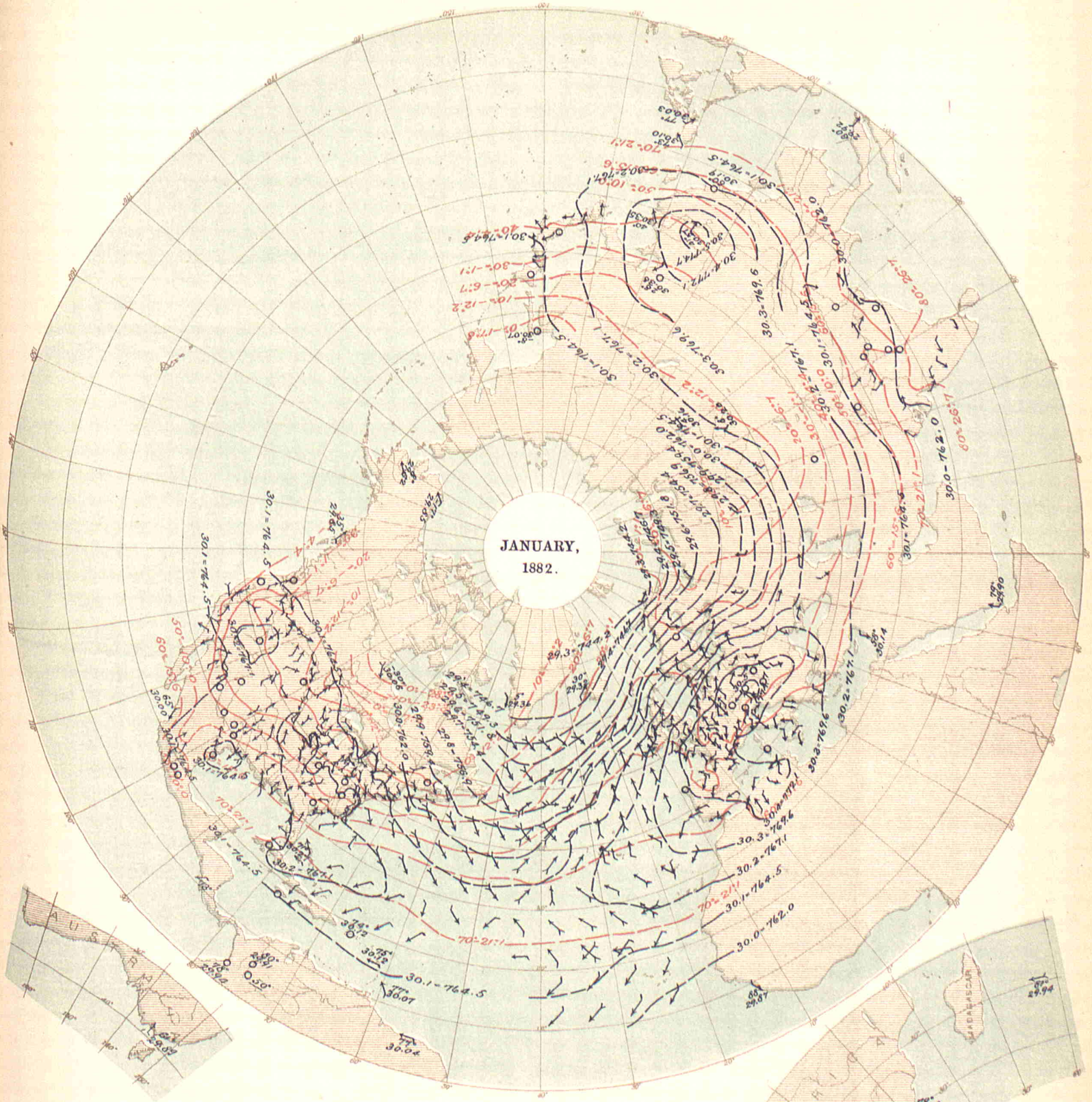
below, for the period stated: Atlanta, Georgia, from December 19, 1881, to February 1, 1882, +0.01 inches, or +0.3 mm.; Dayton, Washington, from December 18, 1881, to February 1, 1882, —0.02 inches, or —0.5 mm.; Olympia, Washington, from October 1, 1879, to February 1, 1882, +0.02 inches, or +0.5 mm.; Montgomery, Alabama, from December 16, 1881, to February 1, 1882, +0.01 inches, or +0.3 mm.; Portland, Oregon, from December 26, 1881, to February 1, 1882, —0.03 inches, or —0.8 mm.; Indianapolis, Indiana, from November 24, 1881, to February 1, 1882, +0.01 inches, or +0.3 mm.; Roseburg, Oregon, from December 29, 1881, to February 1, 1882, +0.01 inches, or +0.3 mm.

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.



PREVAILING WINDS.

Arrows show the 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 4.0
	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 & over.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

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

Heliotype Printing Co. Boston.

ISOBARS AND ISOTHERMS.

Isobars in *black;* detached barometer means in English inches.

Isotherms in *red;* detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of **January**, 1882, based on the daily charts of the International Bulletin.

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF FEBRUARY, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
MARCH, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

FEBRUARY, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for February, 1882. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. 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.
Algerian Series.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.32	770.2	64.8	18.2	81.0	.....	1	13	9	.....	.....	2	3	.....	.....	.....	1	2.06	52.4
Algiers	N. 36 47	E. 3 04	0.20 p.m.	72	22	.....	.....	30.34	770.5	56.3	13.5	76.7	7	2	4	2	1	1	1	10	.....	.....	.....	3	2.94	74.6
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30 33	770.3	57.7	14.3	71.0	2	5	2	5	2	6	4	2	.....	.....	.....	4	2.05	52.1
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.32	770.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sfax	N. 34 44	E. 10 40	0.51 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.35	770.8	52.7	11.5	63.0	9	6	2	4	.....	1	.....	6	.....	.....	.....	2	1.29	32.8
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.34	770 7	49.5	9.7	55.0	9	9	.....	1	2	4	1	1	1	.....	.....	6	0.04	1.0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	48.0	8.9	51.0	4	4	4	2	5	.....	1	8	.....	.....	.....	5	1.99	50.5
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.40	772.1	52.3	11.3	53.7	6	1	2	4	6	1	5	2	1	.....	.....	2	1.28	32.4
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.38	771.6	62.4	16.9	42.0	10	2	.....	2	2	12	.....	.....	.....	.....	.....	5	0.24	6.2
Australian Series.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.80	757.0	29.89	759.3	61.3	16.3	72.0	2	.....	2	3	8	11	1	1	.....	.....	.....	4	0.29	7.4
Sub-Series.																										
Austro-Hungarian Series.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.77	756.1	30.34	770.6	43.5	6.4	56.1	.....	1	1	5	4	10	3	4	.....	.....	.....	3	0.87	22.2
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.52	749.7	30.25	768.3	37.2	2.9	79.2	3	5	11	7	.....	.....	2	.....	.....	.....	.....	7	0.94	23.8
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.32	744.6	30.23	767.9	32.0	0.0	72.5	8	5	.....	.....	7	1	.....	.....	7	.....	.....	6	0.52	13.2
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	29.02	737.0	30.31	769.8	42.3	5.7	49	1	4	3	4	10	4	2	.....	.....	.....	.....	3	0.38	9.7
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.77	730.8	30.27	768.9	35.6	2.0	78	6	9	5	1	.....	7	.....	.....	.....	.....	.....	6	inap.	inap.
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.94	735.1	30.34	770.7	36.1	2.3	75.6	.....	3	3	7	.....	.....	3	8	4	.....	.....	4	1.04	26.4
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.12	739.6	30.16	766.0	34.3	1.3	69.4	.....	13	.....	9	1	1	1	6	.....	.....	.....	7	2.39	60.7
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	30.21	767.3	30.33	770.3	47.5	8.6	68.4	.....	3	12	1	4	1	5	2	.....	.....	.....	3	1.17	29.8
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.76	756.0	30.23	767.9	36.9	2.7	64	1	5	4	4	5	.....	8	1	.....	.....	.....	6	0.22	5.7
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.98	761.6	30.27	768.9	42.1	5.6	71.3	5	4	4	5	3	1	.....	1	5	.....	.....	3	0.34	8.7
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	30.24	768.2	30.35	770.8	47.3	8.5	55.6	.....	.....	.....	.....	.....	.....	3	5	25	.....	.....	3	0.66	16.7
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.58a	751.3a	30.32a	770.2a	40.8a	4.9a	57	2	9	5	.....	1	5	.....	.....	6	.....	.....	4	0.78	19.8
Belgian Series.																										
Brussels	N. 50 51	E. 4 22	0.26 p.m.	187	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnes	N. 51 04	E. 2 40	0.19 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maeseyck	N. 51 06	E. 5 48	0.32 p.m.	115	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Series.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.90	759.4	30.00	762.0	45.3	7.4	70.9	.....	2	5	8	10	2	.....	1	.....	.....	.....	6	0.98	24.9
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.85	758.2	30.10	764.5	46.5	8.1	81.1	.....	2	5	6	9	5	.....	1	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	30.18	766.0	45.2	7.3	83.2	.....	.....	7	7	.....	12	1	1	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.60	751.8	30.14	765.5	43.4	6.3	85.3	1	4	4	6	3	8	1	1	.....	.....	.....	9	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.74	755.4	30.13	765.3	45.8	7.7	83.7	.....	.....	4	12	5	3	.....	.....	.....	.....	.....	8	2.21	56.1
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.01	762.2	30.04	763.0	80.2	26.8	69.1	.....	.....	.....	.....	.....	.....	.....	28	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	30.19	766.8	45.2	7.3	82.1	1	6	4	8	5	2	1	1	.....	.....	.....	8	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	30.13	765.3	30.26	768.6	45.3	7.4	79.5	1	3	1	12	3	1	2	1	4	.....	.....	4	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	30.02	762.5	30.25	768.3	48.2	9.0	79.6	1	3	6	3	4	6	4	1	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.61	701.3	29.82	757.4	83.8	28.8	45.5	.....	.....	.....	.....	.....	7	5	5	11	.....	.....	2	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.60	751.8	29.82	757.4	88.1	31.2	65.2	.....	13	10	1	.....	.....	.....	3	1	.....	.....	3	.....	.....
Galway	N. 53.15	W. 9 03	11.32 a.m.	32	10	.....	.....	30.02b	762.5b	47.9k	8.8k	82.4k	1a	.....	2	9	13	1	.....	1	.....	.....	.....	9a	1.25	31.7
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.30	769.6	30.36	771.1	61.0	16.1	82.5	.....	.....	2	4	.....	.....	9	13	.....	.....	.....	5	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.82	757.4	30.03	762.7	45.4	7.4	79.0	1	2	8	8	4	2	1	2	.....	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	30.07	763.8	30.25	768.3	44.6	7.0	80.8	3	3	2	9	6	2	3	.....	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.98	761.5	30.28	769.1	46.3	7.9	83.8	3	3	3	5	2	6	2	4	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.22	767.6	30.25	768.3	44.9	7.2	75.4	2	2	6	4	4	3	6	1	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.95	760.7	30.21	767.3	46.2	7.9	83.0	.....	4	.....	20	1	2	.....	.....	1	.....	.....	9	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	30.20	767.1	30.27	768.8	57.4	14.1	74.5	4	6	1	4	.....	2	.....	11	.....	.....	.....	7	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.22	767.6	30.26	768.6	71.7	22.1	82.7	1	.....	1	3	1	4	3	15	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	30.00	762.0	30.23	767.8	44.5	6.9	79.8	.....	2	1	5	7	5	2	1	1	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.17	766.3	30.25	768.3	48.0	8.9	85.0	2	3	3	5	4	7	2	.....	2	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.80	758.4	43.4	6.3	86.6	2	2	7	6	5	3	1	1	1	.....	.....	7	.....	.....
Scutari Comet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	30.14	765.5	30.21	767.3	41.4	5.2	72.2	5	1	2	10	3	.....	1	5	1	.....	.....	6	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.87	758.7	30.15	765.8	46.3	7.9	81.2	1	2	2	12	4	4	.....	1	2	.....	.....	7	1.47	37.3
Stilloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	30.05	763.3	30.08	764.0	45.2	7.3	85.4	1	5	6	8	4	.....	.....	3	1	.....	.....	8	2.42	61.5
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.15	765.8	43.9	6.6	83.1	1	3	8	6	6	2	1	1	.....	.....	.....	9	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	30.03	762.7	30.25	768.3	45.7	7.6	78.9	.....	4	8	4	3	6	.....	1	2	.....	.....	5	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	30.16	766.1	30.21	767.3	51.7	10.9	76.7	2	5	4	3	3	7	4	.....	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	30.10	764.5	30.13	765.3	49.3	9.6	81.0	1	3	4	3	4	10	3	.....	.....	.....	.....	9	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for February, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Canadian Series	° ′	° ′																								
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	11.8*d*	−11.2*d*	.....	1*c*	6	.....	2	.....	.....	.....	4	12	.....	.....	6*c*	0.80	20.3
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.94	760.5	29.99	761.7	14.1	− 9.9	97.0	3	7	1	3	4	2	1	4	3	7235	11643	7	6.36	161.5
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.99	761.7	30.06	763.5	8.7	−12.9	93.8	4	7	4	2	3	.....	2	1	5	4245	6832	6	2.78	70.6
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.87	758.7	30.08	764.0	17.7	− 7.9	93.6	2	6	6	1	.....	1	11	1	.....	.....	.....	7	1.50	38.1
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46	29.87	758.7	30.05	763.3	8.6	−13.0	.....	.....	.....	16	.....	.....	.....	5	.....	7	.....	.....	6	1.56	39.6
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.04	763.0	30.06	763.5	10.0	−12.2	89.4	3	3	4	7	1	.....	.....	9	1	10863	17482	8	1.12	28.4
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.13	739.9	30.05	763.3	0.8	−17.3	98.1*a*	4	3	4	2	3	6	.....	3	3	6171	9931	3	1.78	45.2
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.99	761.7	30.06	763.5	10.5	−11.9	89.0	5	4	10	1	.....	4	2	.....	2	.....	.....	7	2.88	73.2
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.92	734.6	30.09	764.3	25.4	− 3.7	96.9	2	3	3	3	2	5	1	.....	9	.....	.....	6	0.87	22.1
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.86	758.4	30.00	762.0	19.6	− 6.9	94.3	1	7	6	2	.....	3	1	6	2	.....	.....	6	5.87	149.1
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	358	109	29.65	753.1	30.07	763.8	29.0	− 1.7	80.0	.....	.....	9	12	.....	.....	.....	3	4	.....	.....	6	1.72	43.7
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.74	755.4	30.10	764.5	21.8	− 5.7	83.2	4	1	3	5	4	.....	1	9	1	5672	9130	7	2.50	63.5
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.87*c*	758.7*c*	29.91*c*	759.7*c*	17.6*a*	−8.0*a*	86.6*a*	1	8	5	4	2	2	3	3	.....	.....	.....	7	4.39	111.5
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.88	758.9	30.10	764.5	17.0	− 8.3	80.1	7	1	9	2	2	.....	5	2	.....	.....	.....	6	2.29	58.2
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.32	744.7	30.06	763.5	19.0	− 7.2	82.5	4	3	2	1	2	6	8	.....	2	7464	12012	6	2.13	54.1
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210	29.32	744.7	30.12	765.0	23.2	− 4.9	83.0	2	7	3	.....	1	.....	2	.....	13	.....	.....	5	2.10	53.3
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.37	746.0	30.10	764.5	28.1	− 2.2	91.3	1	7	.....	5	5	2	.....	3	5	4630	7451	6	2.08	52.8
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.41	747.0	30.09	764.3	27.9	− 2.3	87.6	2	2	10	1	3	1	8	1	.....	.....	.....	6	1.89	48.1
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.72	754.9	30.07	763.8	12.6	−10.8	90.0	2	7	4	1	.....	7	2	5	.....	.....	.....	5	4.72	119.9
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.58	751.3	30.08	764.0	10.6	−11.9	84.8	.....	6	1	.....	.....	0	3	.....	12	.....	.....	6	3.58	90.9
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.29	744.0	30.04	763.0	24.7	− 4.1	89.8	3	2	2	5	7	3	2	2	2	9836	15829	8	1.58	40.1
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.96	761.0	30.01	762.2	18.3	− 7.6	87.6	4	6	3	5	1	1	2	4	2	.....	.....	5	5.03	127.8
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.84	757.9	30.02	762.5	18.2	− 7.7	92.4	7	2	2	4	3	1	3	6	.....	.....	.....	6	6.70	172.5
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.72	729.5	30.07	763.8	24.9	− 3.9	90.6	.....	5	3	8	.....	6	1	.....	5	.....	.....	8	1.88	47.8
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.88	758.9	29.95	760.7	15.2	− 9.3	93.2	8	4	1	6	4	.....	2	.....	3	9109	14659	7	5.36	136.1
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.70	754.4	30.10	764.5	26.4	− 3.1	87.9	3	4	8	4	1	1	5	2	.....	8061	12973	8	1.62	41.1
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	29.88	758.9	29.98	761.5	17.7	− 7.9	94.4	7*a*	1	9	3	4	.....	3	.....	.....	.....	.....	7	5.80	147.3
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.97	735.8	30.09	764.3	26.5	− 3.1	73.9	.....	2	3	4	4	3	4	1	7	.....	.....	7	1.64	41.7
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.91	759.7	29.98	761.5	24.6	− 4.1	81.4	7	1	.....	4	3	3	3	5	2	8012	12894	7	7.77	197.4
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.73	755.1	29.99	761.7	20.4	− 6.4	.....	.....	1	7	2	1	3	3	11	.....	.....	.....	6	6.80	172.7
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Colony Series.																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.92	760.0	29.94	760.5	72.7	22.6	82.7	.....	.....	4	7	.....	2	12	3	.....	.....	.....	6	0.64	16.3
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.90*c*	759.4*c*	29.94*c*	760.5*c*	82.8*d*	28.2*d*	52.1*d*	1*a*	7	4	.....	13	2	.....	.....	.....	.....	.....	2*b*	0.19	4.8
Chinese Series.																										
Sub Series.																										
Hankow	E. 30 34	E. 114 20	7.45 p.m.	260	79	30.30	769.6	30.59	777.0	40.4	4.7	76.6*h*	5	6	1	1	.....	.....	2	4	4	.....	.....	7	5.90	149.9
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	24.75	628.7	.....	.....	25.3	− 3.7	.....	.....	.....	.....	.....	.....	.....	1	.....	27	.....	.....	4	5.08	129.
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.34	770.7	30.37	771.3	39.4	4.1	84.6	3	4	2	.....	.....	1	6	12	.....	.....	.....	7	2.25	57.2
Costa Rican Series.																										
San José	N. 9 56	W. 84 00	6.15 a.m.	3757	1145	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Danish Series.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.99	761.8	30.04	763.0	41.0	5.0	82	1	6	10	8	2	1	.....	.....	.....	.....	.....	8	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	30.06	763.6	30.08	764.1	39.4	4.1	89	.....	3	10	9	5	.....	1	.....	.....	.....	.....	8	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.54	750.2	29.58	751.3	11.1	−11.6	85*g*	10	2	.....	2	4	.....	2	7	1	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.44	747.8	29.48	748.9	24.6	− 4.1	.....	.....	.....	2	4	6	3	5	6	2	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.69	754.1	29.72	755.0	40.3	4.6	79	3	1	5	9	3	1	2	3	1	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.89	759.3	29.98	761.6	40.3	4.6	85	2	4	7	6	8	1	.....	.....	.....	.....	.....	7	.....	.....
French Series.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.69	754.2	30.37	771.5	49.3	9.6	79.7	.....	4	2	1	1	9	.....	2	9	.....	.....	.....	1.02	25.9
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.80	756.9	30.35	770.9	41.5	5.3	93.1	.....	2	2	5	9	1	.....	9	.....	.....	.....	.....	0.68	17.4
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	30.03	762.7	30.30	769.5	42.4	5.8	85.3	.....	3	1	7	.....	7	4	.....	.....	.....	.....	.....	0.72	18.2
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.28	769.0	30.35	771.0	51.3	10.7	51.8	18	1	.....	1	1	3	1	3	.....	.....	.....	3	0.34	8.5
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.79	756.7	30.37	771.3	42.8	6.0	73.2	1	1	.....	5	9	9	2	1	.....	.....	.....	5	0.86	21.9
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	30.07	763.8	30.36	771.2	42.6	5.9	77.2	1	3	5	3	4	2	7	3	.....	.....	.....	8	1.15	29.2
Besançon	N. 47 14	E. 6 01	0.32 p.m.	846	258	.....	.....	30.36	771.2	40.6	4.8	90.0	.....	.....	.....	5	10	1	.....	12	.....	.....	.....	8	0.82	20.7
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	30.07	763.8	30.34	770.7	48.6	9.2	65 8	5	3	.....	7	2	6	4	1	.....	.....	.....	5	1.16	29.4
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.78	756.4	30.34	770.7	45.7	7.6	71.3	10	.....	2	5	4	1	.....	6	.....	.....	.....	.....	0.64	16.3
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	30.06	763.4	30.30	769.6	48.9	9.4	80.0	2	1	4	4	4	3	4	4	2	.....	.....	7	1.11	28.2
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.23	767.9	30.31	769.9	45.7	7.6	79.8	.....	4	3	3	5	4	5	3	1	.....	.....	5	0.61	15.5
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.96	761.0	30.29	769.4	43.3	6.3	81.2	.....	.....	2	5	9	8	1	1	2	.....	.....	5	1.12	28.5
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.82	757.4	30.35	770.8	42.3	5.7	73.7	1	4	2	5	5	2	4	5	.....	.....	.....	6	1.54	39.
Clermont-Fd.	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.95	735.2	30.33	770.4	47.8	8.8	53.6	5	6	4	3	4	4	1	1	.....	.....	.....	4	1.30	33.1
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.50	749.4	30.41	772.3	42.3	5.7	75.7	9	5	.....	2	7	2	2	1	.....	.....	.....	.....	1.18	30.0
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.47	748.5	30.37	771.4	42.1	5.6	74.6	.....	1	6	5	3	4	3	6	.....	.....	.....	5	0.99	25.2
Gap	N. 44 33	E. 6 05	0.32 p.m.	2427	740	27.76	705.0	30.34	770.7	48.6	9.2	43.1	4	4	4	1	2	1	1	.....	11	.....	.....	.....	1.59	40.4
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	29.17	741.0	30.32	770.0	52.9	11.6	42.8	2	.....	.....	.....	2	12	7	5	.....	.....	.....	3	0.39	10.0
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.58	751.4	30.38	771.6	44.2	6.8	60.3	1	2	3	1	2	4	14	1	.....	.....	.....	.....	1.24	31.4
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.71	729.3	30.35	771.0	44.8	7.1	58.9	.....	.....	1	14	2	5	4	2	.....	.....	.....	.....	1.55	39.3
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	30.03	762.8	30.31	769.9	45.7	7.6	82.1	2	.....	4	3	7	2	8	2	.....	.....	.....	5	1.12	28.4
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.76	756.0	30.34	770.5	56.1	13.4	55.4	4	3	7	4	.....	.....	3	7	.....	.....	.....	.....	0.93	23.6
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.23	767.9	30.34	770.5	48.2	9.0	83.3	3	.....	2	6	3	7	2	5	.....	.....	.....	6	1.46	37.1
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.31	744.4	30.41	772.4	41.2	5.1	70.0	5	5	1	.....	7	2	7	1	.....	.....	.....	.....	0.24	6.2
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	30.03	762.8	30.35	771.0	41.4	5.2	79.8	.....	5	2	7	3	3	4	4	.....	.....	.....	6	0.54	13.8
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	30.06	763.4	30.33	770.3	55.4	13.0	46.0	1	4	5	8	2	4	3	1	.....	.....	.....	.....	0.29	7.4
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	25.00	634.9	29.84	757.9	38.8	3.8	50.2	1	2	4	7	1	4	6	3	.....	.....	.....	2	0.33	8.3
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	102	31	30.22	767.6	30.34	770.7	52.7	11.5	60.7	14	.....	.....	.....	.....	5	2	7	.....	.....	.....	2	0.43	11.0
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.56	750.9	30.37	771.5	41.9	5.5	75.3	3	4	3	9	5	2	.....	2	.....	.....	.....	4	0.87	22.1
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.20	767.1	30.36	771.2	47.5	8.6	72.2	2	2	2	4	6	2	5	5	.....	.....	.....	7	1.45	36.9
Nice	N. 43 41	E. 7 16	0.37 p.m.	29	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	30.23	767.9	30.35	770.8	53.4	11.9	56.7	6	2	.....	2	1	13	.....	4	.....	.....	.....	4	1.73	43.9
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.32	541.5	.....	.....	24.1	− 4.4	.....	1	1	1	5	6	7	1	6	.....	.....	.....	.....	2.35	59.7
Privas [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.29	744.0	30.40	772.1	44.2	6.8	74.4*e*	12	1	.....	.....	12	.....	.....	.....	3	.....	.....	2	0.52	13.2
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.32	643.2	.....	.....	33.6	0.9	73.4	2	2	2	6	7	5	1	3	.....	.....	.....	5	1.74	44.2
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.32	770.2	30.35	771.0	47.5	8.6	83.1	.....	.....	3	3	8	3	2	8	1	.....	.....	6	0.76	19.2
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	30.08	764.0	30.30	769.6	46.0	7.8	73.5	3	3	3	1	4	7	1	6	.....	.....	.....	5	0.87	22.2
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	28.15	715.0	30.35	771.0	44.2	6.8	57.8	.....	9	5	2	.....	1	8	3	.....	.....	.....	0	1.05	26.6
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.28	769.0	30.32	770.2	43.2	6.2	80.0	2	1	2	5	6	2	10	.....	.....	.....	.....	7	1.09	27.6
Saint Lô	N. 49 06	W. 1 05	0.04 p.m.	134	41	30.17	766.2	30.32	770.0	45.1	7.3	76.4	1	4	4	4	4	1	8	1	1	.....	.....	5	1.48	37.6
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	30.18	766.5	30.34	770.7	42.8	6.0	75.6	1	2	4	5	8	1	2	5	.....	.....	.....	7	0.56	14.3
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.66	753.4	30.39	772.0	51.3	10.7	68.4	.....	8	3	.....	1	14	1	1	.....	.....	.....	3	1.03	26.1
Tours	N. 47 24	E. 0 41	0.11 p.m.	171	52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.83	757.6	30.32	770.1	42.4	5.8	75.6	2	3	2	6	5	.....	5	5	.....	.....	.....	7	1.05	26.7
Sub Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	30.06	763.6	30.35	771.0	43.2	6.2	76.3	1	3	3	2	8	3	4	4	.....	.....	.....	7	0.70	17.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	O	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
GERMAN SERIES.	° ′	° ′																								
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.45	748.0	30.31	769.9	39.6	4.2	64.9	3	7	1	4	4	5	2	1	1			4	1.14	29.0
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	30.01	762.2	30.19	766.8	41.0	5.0	69.9	2	4	4	9	3	5		1				7	0.91	23.0
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.71	754.5	30.24	768.1	38.5	3.6	69.2	1	5	11	2	4	3	1		1			7	0.58	14.7
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.91	759.7	30.37	771.4	39.7	4.3	73.4			2	14	3	3	1	5				6	1.38	35.1
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.50	749.4	30.21	767.4	40.1	4.5	77.0	2	2	4	3	16	1						5	1.74	44.2
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.92	759.9	30.28	769.2	41.4	5.2	70.4	2	2	3	6	8	1	5	1				6	0.94	24.0
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.90	734.1	30.41	772.3	36.1	2.3	80.0		1	5	9	8	2		3				7	0.65	16.6
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	30.10	764.5	30.19	766.9	39.6	4.2	83.6		3	8	8	4	4			1			8	1.19	30.2
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.11	764.9	30.13	765.3	40.1	4.5	79.8		2	9	11	4	1		1				8	2.94	74.8
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.84	757.8	30.28	769.0	40.6	4.8	69.1		3	5	11	8		1					7	0.77	19.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	30.04	762.9	30.24	768.0	41.5	5.3	74.1	2	2	10	3	5	3	2	1				7	0.51	12.9
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.95	760.7	30.00	761.9	34.9	1.6	83.5	1	9	7	8	3							8		
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.47	723.2	30.35	771.0	37.4	3.0	64.8	3	12		2		1	3	5	2			4	0.22	5.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.06	763.5	30.08	763.9	38.3	3.5	71.1	1	8	6	8	5							7	0.76	19.2
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.80	756.9	30.33	770.4	39.9	4.4	74.4		1	9	4	2		5	2	5			6	1.19	30.2
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.37	746.0	30.30	769.6	41.4	5.2	69.4	10	3	6	3	1		5					5	0.76	19.4
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.11	764.8	30.13	765.4	39.0	3.9	91.2	1	2	6	11	4	4						7	0.32	8.2
GREEK SERIES.																										
Athens	N. 37 58	E. 23 44	1.43 p.m	360	110	29.84	758.0	30.25	768.3	49.1	9.5		2	1		4	3	1	2	15				7	1.11	28.1
INDIAN SERIES.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.95	760.7	30.00	762.0	75.1	23.9	57.		2	12	13				1				2	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.43	747.5	29.90	759.4	81.0	27.2	27.	4	6	9	5	1	2		1				2	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.87	758.7	29.91	759.7	79.8	26.6	62.	6	19	3									1	0.04	1.0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.01	711.4	29.84	757.9	86.6	30.3	21.		7	12	3		2	1	3				0	0	0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.34	694.4	29.84	757.9	83.5	28.6	28.	1	1	7	8	3	1	3	4				1	0	0
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.21	741.9	29.98	761.5	64.3	17.9	46.	4	7	7				2	1	7			3	1.81	46.0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.01	736.8	29.94	760.5	66.0	18.9	51.		14	5	3		5			1			4	1.41	35.8
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.37	746.0	29.95	760.7	73.7	23.2	28.	3	8	12		1			3	1			2	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.83	732.3	29.87	758.7	85.8	29.9	23.	2	4	3	6			1	3	9			0	0.02	0.5
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.58	725.9	29.95	760.7	70.0	24.4	30.	2	4	3				1	6	12			1	0.02	0.5
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.55	750.6	29.94	760.5	73.6	23.1	33.		2	9	3	1	1		2	10			2	0.11	2.8
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.61	752.1	29.93	760.3	72.9	22.7	39.	2	4	6				1	1	14			1	0.13	3.3
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.74	755.4	29.93	760.3	71.4	21.9	47.	1	11	9				2	2	3			1	0.09	2.3
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.88	708.1	29.93	760.3	72.2	22.3	26.	9	13	4	1	1							1	0.61	15.5
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.82	757.4	29.90	759.5	81.8	27.7	51.		3	2	6	6	3	2	1	5			2	0.65	16.5
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	7	29.89	759.2	29.91	759.7	75.4	24.1	58.	2	9	6	3	5	1	1	1				2	3.42	86.9
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.79	756.7	29.92	760.0	69.3	20.7	59.		2	1				1	1	23			1	1.85	47.0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.85	758.2	29.94	760.5	73.4	23.0	64.	1	4	13	4	2			1	3			3	0.12	3.0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.61	752.1	29.96	761.0	66.1	18.9	80.	1			1		1		25				6	2.82	71.6
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.48	723.4	29.94	760.5	72.5	22.5	26.	6	8	3	4	1		2	4				3	0	0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.80	756.9			84.8	29.3	68.6	11	4		2				10				5	2.80	71.1
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.64	752.8			80.9	30.5	40.					1	2	14	7	4			3	0	0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.39	721.1			90.5	32.5	18.		7	3	1		6	9	2				2	0	0
ITALIAN SERIES.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.92	760.0	30.34	770.7	47.5	8.6	46.	3		3	2	3	2	1	3	11			2	1.87	47.4
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.82	757.5	30.35	770.9	45.5	7.5	61.	1	4	5	7	2	6	3					3	0.65	16.4
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	30.23	767.9	30.35	770.8	44.8	7.1	61.	6	5		1	3	5	3	4	1			4	1.28	32.5
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.41	747.0	30.35	770.9	44.1	6.7	64.	2		1		5	5	8	7				2	0.18	4.5
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	30.13	765.4	30.34	770.5	52.5	11.4	52.	6	1		11	5	1	1	3				3	1.76	44.6
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.37	720.6	30.36	771.2	43.2	6.2	50.	2	2	14	1		1	2	6				2	0.18	4.5
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.28	769.2	30.34	770.5	45.1	7.3	69.	16	2		4				6				4	0.64	16.2
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	30.07	763.8	30.34	770.5	49.6	9.8	47.	7	6	3	2	1		1	8				3	0.70	17.8
Leghorn	N. 43 32	E. 10 18	0.49 p.m	79	24	30.20	767.1	30.29	769.3	50.7	10.4	58.	3	1	3	3	2		4	12				4	0.73	18.6
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	30.12	765.0	30.30	769.6	53.8	12.1	42.	9	7	5	3	2			2				3	0.30	7.5
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	30.00	762.1	30.26	768.7	52.7	11.5	55.	8	7	1	2		2	2	6				3	0.24	6.0
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.38	746.2	30.30	769.5	50.5	10.3	73.	1	7	5	1	1	7	4	2				4	2.36	60.0
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	30.08	763.9	30.27	768.9	56.1	13.4	53.		7	3	1	2	9	1		5			4	0.66	16.9
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	30.06	763.4	30.32	770.0	55.8	13.2	52.	4	1	1	1		1	5	15				4	1.56	39.5
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	30.22	767.5	30.27	768.7	54.9	12.7	62.	1	2	5	4	1		9	6				6	0.71	18.0
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.75	755.6	30.28	769.2	52.7	11.5	56.0	2		2	6	2	1	3	12				3	0.50	12.6
Stelvio	N. 46 32	E. 10 26	0.50 p.m.	8343	2543	22.25	565.2			23.0	—5.0	45.8			1	3	6	7	5	6				2	0.90	22.9
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.30	566.4			20.6	—3.0	47.3	9	2				7	6	4				2	4.72	120.0
JAPANESE SERIES.																										
Aomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	30.06	763.5	30.10	764.4	29.7	—1.3	82.3	1		8	1	7	3	8			5036	8104	8	2.94	74.7
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	30.07	763.6	30.08	763.9	30.1	—1.1	69.	7		5	1			4	7	4	7239	11650	6	3.52	89.4
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.15	765.8	30.17	766.2	40.5	4.7	77.9	13	12	1				1		1	3681	5924	6	3.23	82.0
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	30.21	767.2	30.31	770.0	37.0	2.8	86.1	4		11	6	3	1	1	2		3820	6148	8	6.10	154.9
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.97	761.3	30.16	766.0	38.9	3.8	81.0	6		1				7	14		2761	4443	7	2.25	57.2
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6																					
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.99	761.8	30.21	767.2	43.1	6.1	77.1	7	10	3	1	1		1	3	2	3588	5774	5	2.91	73.8
Nemuro	N. 43 21	E. 145 35	9.50 p.m.	58	18																					
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.10	764.5	30.14	765.4	37.5	3.1	78.	6		3	6	2	2	8	1		5787	9313	8	4.13	104.8
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	30.06	763.6	30.08	764.1	34.8	1.6	82.	12	1	2		1		4	8		8558	13772	6	3.98	101.0
Supporo	N. 43 04	E. 141 23	9.33 p.m.	61	19					25.9	—3.4	82.		1	3	5	3		3	7	6	4783	7697	7	2.11	53.6
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	30.01	762.1	30.08	763.9	39.7	4.3	75.5	16	2	1		1		4	3	1	4814	7747	6	2.99	75.9
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.10	764.6	30.16	766.0	41.6	5.3	77.2	7	3	8	1	1			5	3	3865	6220	7	2.26	57.3
MAURITIUS SER'S.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.67	753.6	29.86	758.4	80.5	26.9	72.2		2		3	2	1	13	7				7	8.28	210.3
MEXICAN SERIES.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6683	2037																					
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.44	621.0	30.25	768.4	50.2	10.1	75.	5	13		6	1			3				1	0	0
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.78	756.6	30.05	763.3	61.6	16.4	83.	1	13				1	8	2	3			2	0	0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.14	587.8	30.30	769.7	47.5	8.6	67.									28			1	0	0
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.35	618.5	30.54	775.6	53.1	11.7	73.				5	7	14		2				2	0	0
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	24.00	609.6	30.11	764.9	46.8	8.4	63.													0	0
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.44	595.7	30.53	775.4	44.0	6.9	77.		1						2	25			0	0	0
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	24.23	615.5	30.33	770.3	53.4	11.9	63.	1		1	5	2	10	9					4	inap.	inap.
Tlacotalpam	N. 18 37	W. 95 32	5.46 a.m.	13	4																					
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.58	573.6	30.30	769.7	48.4	9.1	65.	61	4	3	11	2		1	4				0	0.12	3.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
NETHERLANDS SERIES.	° ′	° ′																								
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.26	768.6	30.26	768.6	42.3	5.7			3	3	7	8	3	3	1					0.06	1.48
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	30.19	766.7	30.20	767.0	40.8	4.9		1	4	5	8	7	2		1					1.80	45.6
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.19	766.8	30.19	766.8	40.3	4.6		3	2	2	6	10	3	2						1.67	42.4
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.22	767.5	30.22	767.5	41.7	5.4	82.6		2	1	10	8	3	4						1.02	25.9
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.20	767.1	30.25	768.3	42.3	5.7	79.8		2	1	7	10	5	2	1				7	1.26	31.9
NORWEGIAN SERIES.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.77	756.2	29.84	757.8	38.8	3.8	80.3	3	3	3	2	8	9						9	10.97	278.7
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.52	749.9	29.56	750.9	32.0	0.0	68.7	2	6	5	9	3	1		2				8	3.74	95.0
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.66	753.4	29.81	757.2	33.3	0.7	72.5		5	2	6	8		2	2	3			7	0.89	22.6
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.19	741.4	29.21	742.0	22.6	−5.2		3	3	4	1	7	2	2	5	1			9		
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.33	745.0	29.38	746.2	26.1	−3.3	83.1	3	4	2	8	3		2		6			9	6.66	169.2
PORTUGUESE SERIES.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.58	751.3	29.74	755.3	58.8	14.9	82.0	1	3	9	2	3	6	4					5	2.06	52.4
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.32	744.6	30.33	770.3	57.6	14.2	55.6	1		1	1	6		8	10	1			4	1.30	33.0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.23	767.9	30.32	770.2	63.7	17.6	62.8			2	9	1	5	6	2	3			4	1.76	44.7
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	30.00	761.9	30.35	771.2	55.2	12.9	70.4	5			5	2	3	2	11				4	2.58	65.6
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.15	765.7	30.22	767.5	61.0	16.1	76.7		3	2	6	7	1	8		1			4	2.61	66.3
St. Paul de Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.69	754.2	29.89	759.2	82.4	28.0	78.3	5	11	7	5								4	1.24	31.6
Serra da Estralla	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.47	647.0	30.34	770.6	39.0	3.9	76.1		3	3	1		19	2					5	15.84	402.2
RUSSIAN SERIES.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	305?	28.88	733.5	30.06	763.4	7.3	−13.7					18	6	4						7	0.35	8.9
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.33	744.9	29.35	745.4	15.8	−9.0	84.6	2	4	5	6	3	2	5	1				8	1.03	26.2
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖ 68	‖ 21	30.17	766.2	30.08	764.1	25.0	−3.9	74.1	2	1	9	9	1	2		1	3			8	0.69	17.5
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.70	754.4	30.24	768.2	14.2	−9.9	76.3			1	14		1		1	11			7	0.23	5.8
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.50	749.3	29.75	755.7	30.6	−0.8	77.7	3	6	9	6	3		1					8	0.96	24.3
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.66	728.0	29.69	754.1	14.2	−9.9	70.1		1	8	11	5	2	1					8	0.18	4.7
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.41	746.9	29.69	754.2	15.4	−9.2	77.2	1	2	5	9	6	3			2			8	0.43	10.9
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.10	764.5	30.12	765.0	32.5	0.3	75.4	4	7	5	2	4	3		1	2			6	0.24	6.2
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.34	745.1	30.00	762.0	31.1	−0.5	64.9	4	10	4	6	2	1	1					7	0.41	10.5
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.78	756.4	30.00	761.9	27.1	−2.7	72.9	2	4	9	7	3	1	1	1				8	0.13	3.3
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.14	740.1	29.64	752.9	25.7	−3.5	71.2	7				11	6		4				8	0.60	15.2
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.10	764.4	30.17	766.2	34.7	1.4	69.2	6	5	4	7	2			2	2			5	0.07	1.8
Nikolaievsk b.	N. 53 08	E. 140 45	9.31 p.m.	75?	23?	30.12	765.0	30.20	767.2	1.9	−16.7	82.8		4	2						20			4	0.24	6.2
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.28	769.0	30.42	772.6	31.6	−0.2	48.4	1	5		1		1		1	19			2	0.19	4.9
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.60	751.9	29.62	752.3	27.0	−2.8	78.4	1	9	11	4	2	1						7	0.83	21.1
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.59	726.2	30.24	768.1	34.5	1.4	75.3	2	1						5	20			5	1.61	40.9
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.68	728.5	30.16	766.0	37.2	2.9	51.7	4	15		1	2		1		5			4	0.66	16.8
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	30.22	767.7	30.29	769.4	15.3	−9.3	72.5	17								11			3	0.26	6.6
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.70	754.5	30.15	765.7	35.6	2.0	72.7	1	6	8	6	5	2						9		
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.54	750.4	29.98	761.5	32.2	0.1	78.5	1	6	8	9	4							9	0.41	10.3
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.96	761.0	30.27	768.9	14.2	−9.9	74.0		1	5	4	3	1	10		4			5	0.77	19.5
SCOTTISH SERIES.																										
Leith	N. 55 58	W. 3 10	11.55 a.m.	83	25																					
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46			29.90	759.4	45.0	7.2	89.3		1	5	8	9	1	1	3				10	3.7	94.
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70																					
SPANISH SERIES.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	30.20	767.0	30.30	769.6	55.0	12.8	65			3	8	7	4	5	1		1212	1951	4	2.54	64.4
Bilbao	N. 43 15	W. 2 56	11.56 a.m.	52	16	30.30	769.6	30.36	771.1	58.3	14.6	63		3	1	2	7	11	1	3		2258	3634	5	1.80	47.2
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.34	694.3	30.39	771.8	46.8	8.2	59	4		1	8	2	1		12		5338	8591	3	1.15	29.3
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	28.08	713.3	30.36	771.2	52.5	11.4	56.7		2	1	7		2	8	4	4	4978	8012	4	1.05	26.7
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	30.19	766.7	30.32	770.1	49.1	9.5	72		4	4	1	2	6	7	4		1123	1807	5	1.30	33.1
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.34	745.2	30.25	768.3	55.6	13.1	63.9	1	1		6	1	4	1	4	10	696	1120	5	4.57	116.1
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.10	764.6	30.17	766.3	68.8	20.4	81.6	2			2		7	9	2	6			2	0.16	3.7
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.95	760.7	30.00	762.1	77.1	25.1	72.5	3					6	14	5				2	1.10	28.0
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.26	768.5	30.36	771.1	60.5	15.8	60	1		2	3		5	14	1	2			4	1.14	28.9
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.05	763.3	30.14	765.6	72.1	22.3	92						7	6		15			4	7.93	201.5
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	30.01	762.2	30.06	763.5	73.5	25.7	78.3	2	18	1		3	3	1					6	0.09	2.3
SWEDISH SERIES.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.45	747.9	29.48	748.9	19.2	−7.1	84	7	1	4	10	2	1		1	2			5	0.62	15.7
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.51	749.5	29.56	750.8	27.9	−2.3	78	3	8	3	8	1			5				6	0.82	20.7
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.58	751.3	29.63	752.6	31.3	−0.4	59	4	2	0	3	6			1	6			5	0.75	19.1
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.61	752.1	29.79	756.6	32.7	0.4	69	2	5	8	10	1			2				6	1.04	26.3
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.82	757.3	29.87	758.8	35.2	1.8	81	5	3	9	9	1			1				6	1.05	26.7
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.76	755.8	29.84	758.0	32.2	0.1	68.9	3	6	3	11	5							7	0.65	16.6
SWISS SERIES.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.93	734.7	30.39	772.0	39.9	4.4	66.9	12	1		4	3	1	2	5					0.66	16.7
Zurich	N. 47 22	E. 8 40	0.43 p.m.	1542	470																					
TURKISH SERIES.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70			30.25	768.3	41.0	5.0	70	7	3	2	7	2	2		5				6	1.88	47.8
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32			30.26	768.7	54.0	12.2		3	14	7	2	2							3	1.8	45.
Sub-Series.																										
Beurut	N. 33 54	E. 35 28	2.30 p.m.	111	34			30.07	763.8	56.5	13.6	67.7	7	3	1	11	1	1	1	3				5	10.18	258.6

‖ Below sea level.

RESULT OF SIMULTANEOUS OBSERVATIONS FOR FEBRUARY, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Met'rs	Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
U. S. SERIES.	° ′	° ′																								
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.06	763.5	30.15	765.8	30.2	—1.0	70.8	6	4	2	2	6	1	1	3	3	3441	5538	6	3.31	84.1
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.34	745.2	30.06	763.5	24.8	—4.0	79.8	1	5	7	4	3	6	2	......	......	8048	12952	7	2.56	65.0
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.99	736.3	30.21	767.3	46.7	8.2	77.5	.....	7	3	2	4	2	10	......	......	7741	12458	7	10.29	261.4
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.16	766.1	30.17	766.3	34.7	1.5	81.5	3	6	6	3	3	2	3	1	1	7041	11331	5	4.37	111.0
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	30.06	763.5	30.26	768.6	49.1	9.5	77.3	.....	3	4	......	3	2	5	2	9	2890	4651	6	3.95	100.3
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.15	765.8	30.20	767.1	37.1	2.8	72.8	4	6	1	1	4	1	2	4	5	3567	5740	5	3.73	94.7
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.14	765.5	30.16	766.1	33.9	1.1	82.5	3	7	8	3	2	1	4	......	......	9848	15849	5	8.91	220.1
Bismarck	N. 46 48	W.100 38	5.26 a.m.	1694	516	28.09	713.5	30.07	763.8	13.9	-10.1	80.0	.....	10	2	......	......	3	5	2	6	5787	9313	4	0.30	7.6
Boise City *d*	N. 43 46	W.116 06	4.24 a.m.	2750	838	27.22	691.4	30.18	766.6	22.8	—5.1	88.1	2	4	5	......	......	4	3	4	2	3537	5692	8	1.73	43.9
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.93	760.2	30.09	764.3	25.6	—3.6	77.0	.....	11	7	7	1	......	......	2	......	8095	13027	6	4.77	121.2
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	30.01	762.2	30.06	763.5	64.6	18.1	90.8	2	3	1	1	7	8	1	1	4	6873	11061	6	1.24	31.5
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.32	744.7	30.12	765.0	30.6	—0.8	79.3	2	2	5	7	6	3	......	3	......	8387	13497	6	2.16	54.9
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.80	756.9	30.11	764.8	21.8	—5.7	78.1	7	3	1	......	10	2	3	2	......	6229	10024	7	1.10	27.9
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.74	755.4	30.16	766.1	45.1	7.3	82.8	4	3	4	1	10	5	......	1	......	6676	10744	7	10.14	257.6
Campo ...*c*	N. 32 22	W.116 08	4.22 a.m.	2500	762	27.48	698.0	30.12	765.0	30.7	—0.7	78.5	.....	.....	2	7	1	......	10	3	2	3446	5546	4	4.57	110.1
Camp Thomas	N. 32 04	W.110 06	4.49 a.m.	2710	826	27.30	693.4	30.12	765.0	35.0	1.7	87.3	.....	6	1	......	......	8	......	......	13	....	....	4	1.01	25.7
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.20	767.1	30.22	767.6	43.1	6.2	75.4	2	5	2	9	3	3	......	4	......	8952	14407	5	4.17	105.9
Cape May..*c*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.14	765.5	30.18	766.6	37.4	3.0	77.6	4	6	5	1	3	2	3	......	1	12003	19316	4	3.23	82.0
Castroville	N. 29 25	W. 98'50	5.33 a.m.	780	238	29.26	743.2	30.10	764.5	54.3	12.4	82.6	1	13	......	......	2	5	2	......	5	4573	7359	5	1.29	32.8
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.20	767.1	30.22	767.6	57.7	14.3	80.0	7	1	1	......	5	3	6	5	......	5564	8954	3	1.02	25.9
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.23	742.4	30.10	764.5	34.4	1.3	76.6	2	3	2	4	7	4	......	5	1	7305	11756	6	5.49	139.4
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.18	766.6	30.24	768.1	52.3	11.3	82.1	2	3	4	5	1	1	1	9	2	5468	8800	4	1.09	27.7
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.32	744.7	30.21	767.3	43.8	6.6	80.6	5	4	1	8	3	3	1	3	......	4329	6967	5	5.35	135.9
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.30	745.7	30.22	767.6	45.6	7.6	78.7	3	3	2	5	5	3	2	4	1	5296	8523	6	7.24	183.9
Cheyenne	N. 41 12	W.104 42	5.09 a.m.	6089	1856	23.91	607.3	30.16	766.1	24.3	—4.3	54.2	1	13	11	2	1	......	......	......	......	8540	13744	3	0.05	1.3
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.32	744.7	30.06	763.5	34.0	1.1	82.3	.....	6	7	6	5	2	....	2	......	6625	10062	5	2.24	56.9
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.17	766.3	30.19	766.8	39.3	4.1	83.4	5	7	2	6	2	3	1	......	2	8545	13752	6	3.82	97.0
Cincinnati	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.46	748.3	30.15	765.8	42.4	5.8	71.1	4	3	4	1	6	6	3	1	......	4643	7472	7	7.04	178.8
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.35	745.5	30.14	765.5	34.0	1.1	79.5	3	......	4	5	8	5	1	1	1	7772	12508	6	2.83	71.9
Coleman City..*c*	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.24	717.3	30.12	765.0	47.5	8.6	88.1	3	4	1	1	4	7	1	1	1	4899	7884	6	3.90	99.1
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.25	742.9	30.15	765.8	37.5	3.1	73.5	3	2	4	4	8	4	1	2	......	9865	15876	7	5.94	150.9
Concho	N. 31 22	W.100 20	5.26 a.m.	1900	579	28.12	714.2	30.14	765.5	47.4	8.6	88.4	1	3	5	5	5	......	......	1	8	6747	10858	6	4.14	105.2
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.37	746.0	30.07	763.8	35.1	1.7	69.0	.....	8	4	5	4	2	2	3	......	6469	10411	5	0.62	15.7
Dayton	N. 46 23	W.117 50	4.16 a.m.	1660	506	28.30	718.8	30.11	764.8	28.2	—2.1	77.3	1	......	......	18	4	2	1	......	2	4282	6891	6	6.16	156.5
Deadwood	N. 44 22	W.103 34	5.14 a.m.	4600	1402	25.23	640.8	30.15	765.8	22.5	—5.3	75.6	.....	1	......	14	8	1	......	2	2	4051	6519	3	0.21	5.3
Decatur...*a*	N. 33 10	W. 97 30	5.38 a.m.	1129	344	....	....	....	....	48.0	8.9	70.6	1	5	2	......	11	5	1	2	......	7229	11634	5	5.24	133.1
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.16	766.1	30.18	766.6	37.1	2.8	86.5	5	5	4	2	7	3	1	1	......	1258	2024	5	2.14	54.4
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.26	743.2	30.10	764.5	48.1	8.9	85.0	6	3	2	3	7	6	......	......	1	5437	8751	6	5.66	143.8
Denver	N. 39 45	W.105 04	5.08 a.m.	5294	1614	24.67	626.6	30.19	766.8	29.3	—1.5	59.2	5	4	......	1	13	3	......	2	......	5879	9461	3	0.20	5.1
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.11	739.4	30.08	764.0	30.2	—1.0	76.4	3	9	3	4	1	5	......	2	1	5470	8803	4	1.21	30.7
Detroit	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.36	745.7	30.11	764.8	37.5	3.1	78.8	2	3	5	6	7	1	3	1	......	7854	12640	4	1.92	48.8
Dodge City	N. 37 39	W.100 08	5.27 a.m.	2512	766	27.38	695.4	30.12	765.0	28.3	—2.1	78.6	6	3	5	3	4	1	......	2	4	6819	10974	3	0.22	5.6
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.28	743.7	30.04	763.0	29.0	—1.7	69.9	.....	4	6	3	10	2	1	2	......	4246	6833	4	0.59	15.0
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.25	742.9	30.01	762.2	21.8	—5.7	79.0	1	4	6	7	......	1	......	6	3	5661	9110	7	2.02	51.3
Eagle Pass	N. 28 40	W.100 15	5.26 a.m.	780	238	29.29	744.0	30.13	765.3	54.7	12.6	85.8	1	6	......	2	2	15	......	2	......	4384	7055	6	1.60	40.6
Eagle Rock	N. 43 30	W.112 04	4.40 a.m.	4650	1415	25.28	642.1	30.18	766.6	5.9	-14.5	78.1	13	......	......	11	1	......	......	1	2	7414	11931	6	1.25	31.7
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.95	760.7	30.02	762.5	20.6	—6.3	78.8	4	7	......	8	2	1	1	5	......	10314	16498	6	4.94	125.5
Edinburg	N. 26 03	W. 98 03	5.36 a.m.	....	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	....	....
El Paso	N. 31 46	W.106 32	5.02 a.m.	3760	1146	26.30	668.0	30.18	766.6	37.8	3.2	75.7	.....	6	13	1	......	......	......	......	8	4298	6917	3	0.78	19.8
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.35	745.5	30.12	765.0	34.4	1.3	80.9	2	5	3	5	8	3	......	1	1	7631	12282	7	3.12	79.2
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.30	744.2	30.02	762.5	23.2	—4.9	82.1	3	3	6	3	9	2	......	2	......	6252	10061	7	2.30	58.4
Florence	N. 33 03	W.111 17	4.43 a.m.	1480	451	....	....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	....	....
Fort Apache	N. 33 47	W.109 58	4.49 a.m.	5050	1539	25.06	636.5	30.16	766.1	27.6	—2.4	67.6	.....	1	1	3	1	2	3	16	1	4400	7081	5	2.85	72.4
Fort Assinnaboine	N. 48 37	W.109 43	4.49 a.m.	2710	826	27.03	686.5	30.07	763.8	19.9	—6.7	55.6	1	2	2	16	1	1	2	2	1	9446	15192	5	0.24	6.1
Fort Bennett	N. 44 42	W.100 38	5.26 a.m.	1510	457	28.3[illegible]	720.3	30.09	764.3	18.9	—7.3	71.3	3	7	3	1	......	4	......	1	9	3611	5811	4	0.83	21.1
Fort Benton	N. 47 51	W.110 40	4.45 a.m.	2700	823	27.08	687.8	30.08	764.0	20.3	—6.5	64.3	.....	......	......	15	......	......	......	3	10	9134	14699	5	0.38	9.7
Fort Buford	N. 48 03	W.103 58	5.12 a.m.	1900	579	27.92	709.2	30.10	764.5	13.2	-10.4	62.4	4	......	9	2	6	1	3	2	1	5848	9311	3	0.29	7.4
Fort Custer	N 45 48	W.107 38	4.58 a.m.	3040	927	26.74	679.2	30.10	764.5	19.7	—6.8	67.4	1	4	1	2	5	8	2	......	5	5693	9162	4	0.02	0.5
Fort Davis	N. 30 30	W.103 45	5.13 a.m.	4940	1506	25.16	639.1	30.12	765.0	39.5	4.2	80.7	3	2	......	5	8	2	......	1	7	3917	6304	4	0.36	9.1
Fort Elliott	N. 35 31	W.100 27	5.28 a.m.	2650	808	27.23	691.6	30.13	765.3	31.0	—0.6	52.8	3	7	......	4	4	4	......	3	3	7117	11454	3	0.16	4.1
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.48	748.8	30.08	764.0	44.0	6.7	81.9	7	......	3	......	3	8	4	......	3	5881	9464	6	3.45	87.6
Fort Grant	N. 32 25	W.109 56	4.49 a.m.	4860	1481	25.25	641.3	30.11	764.8	37.0	2.8	71.2	2	4	......	4	1	3	6	7	1	4022	6474	4	1.26	32.0
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.77	730.7	30.14	765.5	45.9	7.7	80.0	5	1	......	3	7	3	2	2	5	5270	8481	6	2.33	59.2
Fort Keogh	N. 46 17	W.105 55	5.05 a.m.	2372	723	27.41	696.2	30.09	764.3	17.2	—8.2	66.6	3	2	3	9	2	5	......	3	1	5392	8677	4	0.18	4.6
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.21	767.3	30.22	767.6	47.0	8.3	85.2	7	8	4	3	2	1	......	3	......	7995	12866	5	2.85	72.4
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240*	683	27.81	706.4	30.19	766.8	48.3	9.1	77.8	3	2	......	13	3	3	1	......	3	5933	9548	5	2.19	55.6
Fort Missoula	N. 46 50	W.114 01	4.32 a.m.	3140	957	26.06	677.2	30.09	764.3	20.0	—6.7	87.5	2	6	3	9	1	2	......	4	1	2818	4535	7	0.80	20.3
Fort St. Michael	N. 63 48	W.162 00	1.20 a.m.	30	9	29.80	756.9	29.84	757.9	-16.5	-26.9	99.5	2	1	1	9	4	3	2	5	1	5122	8243	4	0.40	10.2
Fort Shaw	N. 47 29	W.111 46	4.41 a.m.	3550	1082	26.23	666.2	30.08	764.0	22.2	—5.4	70.6	1	1	10	14	1	......	1	......	......	12189	19617	4	0.23	5.8
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.80	731.5	30.11	764.8	40.6	4.8	80.7	7	3	1	......	7	1	......	......	9	7950	12794	6	1.66	42.2
Fort Stevenson	N. 47 36	W.101 23	5.22 a.m.	1750	534	28.04	712.2	30.06	763.5	10.9	-11.7	80.2	2	13	3	1	1	1	1	3	3	5723	9210	5	0.54	13.7
Fort Verde	N. 34 24	W.111 53	4.38 a.m.	?	?	......	....	....	....	32.1	0.1	72.2	6	7	5	3	3	4	......	......	......	....	....	4	0.93	23.6
Fort Washakie	....	....	....	....	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	....	....
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.30	718.8	30.10	764.5	52.6	11.4	84.1	2	2	6	5	3	......	1	1	8	5246	8442	6	3.20	81.3
Galveston	N. 29 18	W. 94 50	5.49 a.m.	48	15	30.08	764.0	30.11	764.8	60.5	15.8	87.5	1	2	2	3	10	3	4	2	1	7804	12559	6	5.57	141.5
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.34	745.2	30.05	763.3	32.7	0.4	84.5	1	2	4	2	6	3	7	3	......	9447	15203	6	3.09	78.5
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.19	766.8	30.21	767.3	48.5	9.2	81.1	1	7	1	6	......	2	1	9	1	11285	18161	6	5.26	133.6
Helena	N. 46 33	W.112 02	4.40 a.m.	4100	1250	25.69	652.5	30.09	764.3	20.2	—6.6	61.9	.....	......	8	11	......	1	......	1	7	4860	7821	7	0.37	9.4
Henrietta ....*c*	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.08	738.6	30.13	765.3	45.0	7.2	84.7	3	2	......	1	7	6	......	1	5	6041	9722	6	1.91	48.5
Huron	N 44 21	W. 98 17	5 35 a.m.	1305	398	28.57	725.7	30.09	764.3	17.8	—7.9	71.0	1	8	4	1	2	10	......	2	......	7679	12358	5	0.25	6.3
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.26	743.2	30.11	764.8	37.3	2.9	78.4	6	1	2	5	5	7	1	1	......	4651	7485	6	7.28	184.9
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.06	763.5	30.09	764.3	62.5	16.9	87.0	1	1	2	1	8	10	3	2	......	9807	15783	6	1.01	25.7
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.89	733.8	30.13	765.3	45.7	7.6	84.7	3	4	2	4	5	9	......	......	1	5585	8988	6	4.04	102.6
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.19	766.8	30.24	768.1	55.6	13.1	80.9	2	1	6	2	2	4	3	7	1	5103	8212	3	1.09	27.7
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.37	746.0	30.07	763.8	34.5	1.4	78 2	.....	6	2	7	3	3	3	2	2	5492	8838	3	1.54	39.1
Key West	N. 24 32	W. 81 48	6.41 a.m.	27	8	30.16	766.1	30.19	766.8	70.4	21.3	78.8	5	......	......	1	......	7	8	6	1	7398	11906	3	0.40	10.2
Kitty Hawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.20	767.1	30.22	767.6	45.4	7.4	80.6	1	6	4	5	1	......	3	7	1	10353	16661	5	4.83	122.7
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.14	740.1	30.22	767.6	41.8	5.4	85.7	3	2	3	6	......	......	2	10	2	4801	7726	7	6.10	154.9
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.18	741.2	30.02	762.5	28.7	—1.8	71.3	2	2	5	3	11	2	.....	1	2	5578	8977	4	1.11	28.2
La Mesilla	N. 32 17	W.106 48	5.01 a.m.	3900	1189	26.16	664.5	30.17	766.3	34.9	1.6	75.4	1	2	2	......	......	......	......	2	21	1900	3085	3	1.36	34.5
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.16	740.7	30.11	764.8	35.6	2.0	71.3	5	4	......	......	5	2	......	1	11	5163	8309	4	1.17	29.7
Lewiston	N. 46 25	W.116 59	4.20 a.m.	780	238	29.26	743.2	30.13	765.3	29.9	—1.2	66.2	...	2	3	3	......	4	7	6	3	2712	4364	6	0.78	19.8
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.77	756.1	30.10	764.5	49.2	9.6	85.5	1	3	1	3	5	5	2	2	6	4047	6513	5	12.74	323.6
Los Angeles	N. 34 03	W.118 16	4.15 a.m.	371	113	29.77	756.1	30.17	766.3	42.2	5.7	76.5	8	7	......	......	2	......	2	9	......	3897	6272	3	2.66	67.6
Louisville	N. 38 18	W 85 52	6.25 a.m.	530	162	29.52	749.8	30.11	764.8	43.7	6.5	77.5	7	......	2	4	7	5	2	1	......	6648	10699	6	9.69	246.1
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.48	748.8	30.20	767.1	40.9	4.9	69.4	.....	5	2	4	3	......	......	3	11	2600	4184	4	3.66	93.0
Mackinac City	....	....	....	....	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	....	....
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	28.97	735.8	30.06	763.5	28.3	—2.1	78.5	1	4	5	3	7	5	1	2	......	8008	12887	4	1.74	44.2
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.22	742.2	30.00	762.0	25.1	—3.8	75.5	1	3	9	6	4	2	......	2	1	7275	11708	8	3.41	86.6
Mason ....*a*	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.40	721.3	30.13	765.3	51.8	11.0	76.5	3	2	5	7	4	......	......	1	5	5731	9223	6	2.93	74.4
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.80	756.9	30.14	765.5	48.4	9.1	82.7	2	3	1	3	1	9	2	2	5	3109	5003	6	9.92	252.0
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.25	742.9	30.05	763.3	31.2	—0.4	82.6	3	1	7	7	5	4	......	......	1	8851	14244	7	2.11	53.6
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.16	766.1	30.20	767.1	53.5	11.9	84.3	3	1	3	3	1	3	5	4	5	3649	5872	6	4.54	115.3
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.97	761.2	30.21	767.3	51.1	10.6	79.7	3	1	3	2	3	7	5	......	4	4136	6656	6	9.27	235.5
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.95	735.3	30.05	763.3	11.4	-11.4	84.3	4	5	3	1	5	3	......	2	5	6668	10731	7	0.80	20.3
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.14	740.1	30.21	767.3	38.6	3.7	75.5	.....	2	3	7	1	1	......	2	12	3397	5467	6	5.41	137.4
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.47	596.1	30.09	764.3	9.9	-12.3	79.7	1	19	3	......	......	......	......	5	......	27334	43987	5	5.94	150.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for Febuary, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
U.S. SERIES—*Continued.*	° ′	° ′																								
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.59	751.6	30.15	765.8	46.8	8.2	76.9	....	2	4	3	6	6	2	3	2	3843	6185	6	8.58	217.9
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	30.02	762.5	30.14	765.5	27.8	—2.3	79.8	8	4	3	2	....	....	....	4	7	5576	8974	6	4.52	114.8
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.10	764.5	30.15	765.8	30.2	—1.0	76.1	6	7	4	3	1	....	....	3	4	5380	8658	6	5.26	133.6
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.10	764.5	30.16	766.1	58.1	14.5	82.4	1	4	....	1	2	8	7	4	1	5662	9112	6	4.04	102.6
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.06	763.5	30.11	764.8	30.6	—0.8	78.1	5	8	5	8	....	....	1	1	....	7621	12265	6	5.89	149.6
New River.....*g.*	N. 34 30	W. 77 23	6.58 a.m.	....	....	....	....	....	....	42.9	6.1	77.5	3	4	2	4	....	1	....	5	2	....	....	4	2.47	62.7
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.08	764.0	30.12	765.0	32.3	0.2	76.6	5	6	3	7	....	1	2	1	3	11417	19738	5	9.73	247.1
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.98	761.7	30.17	766.3	31.9	—0.1	83.3	3	....	9	7	3	....	3	3	....	6835	11000	6	4.36	110.7
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.18	766.6	30.21	767.3	43.8	6.6	73.4	2	6	3	5	1	3	1	5	2	5336	8587	5	3.58	90.9
North Platte.....*a.*	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.06	687.3	30.16	766.1	22.7	—5.2	70.7	2	7	10	1	1	....	2	....	4	5868	9554	3	0.13	3.3
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.98	761.5	30.02	762.5	33.9	1.1	88.1	2	2	....	3	17	2	....	1	1	4458	7174	8	9.60	243.8
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.84	732.5	30.11	764.8	30.5	—0.8	71.0	4	5	1	4	7	4	....	1	2	6993	11253	3	0.60	15.2
Ooglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.71	754.6	29.73	755.1	27.2	—32.9	76.7	6	....	2	9	9	....	....	1	1	7952	12797	4	0.04	1.0
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.75	755.6	30.10	764.5	29.3	—1.5	71.8	2	5	1	2	9	7	1	1	....	6629	10668	6	3.33	84.6
Palestine.....*f.*	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.52	749.8	30.10	764.5	56.9	13.8	78.8	1	2	....	3	9	2	....	....	1	5441	8756	6	3.68	93.5
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.17	766.3	30.20	767.1	54.8	12.7	83.1	5	2	2	3	2	5	3	5	1	5590	8996	5	4.67	118.6
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	92	28	30.09	764.3	30.20	767.1	35.9	2.2	76.8	3	6	4	8	1	1	3	2	....	5589	8994	5	4.22	107.2
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.49	444.2	30.21	767.3	3.8	—15.7	73.6	1	8	1	14	....	....	....	3	1	14257	22945	4	0.36	9.1
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.04	610.6	30.20	767.1	21.5	—5.8	68.9	3	6	2	3	14	....	....	....	....	4670	7516	2	0.55	14.0
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.31	744.5	30.17	766.3	36.0	2.2	75.9	3	4	5	2	5	....	3	6	....	4432	7132	6	3.14	79.8
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.17	766.3	30.18	766.6	57.7	14.3	89.4	4	2	....	....	4	9	....	8	1	6694	10773	5	5.14	130.6
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.36	745.7	30.09	764.3	28.9	—1.7	82.5	1	4	1	8	9	3	1	1	....	7099	11424	7	2.23	56.6
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.01	762.2	30.06	763.5	25.0	—3.9	72.9	7	9	1	8	....	....	....	2	1	6772	10898	7	4.58	116.3
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.04	763.0	30.10	764.5	35.2	1.8	85.8	2	1	....	1	13	2	2	....	7	4606	7412	7	10.49	266.4
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	....	....	....	....	48.7	9.3	40.4	5	3	4	4	1	2	1	8	....	11337	18245	6	2.69	68.3
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.76	628.9	30.12	765.0	23.9	—4.5	69.3	....	1	1	5	13	3	1	2	2	3810	6132	3	2.04	51.8
Provincetown	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.19	766.8	30.20	767.1	62.5	16.9	79.6	5	1	....	....	2	2	8	10	....	7314	11770	3	0.20	5.1
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.78	756.4	30.16	766.1	39.6	4.2	83.0	9	6	1	4	1	4	....	....	3	4632	7454	5	3.94	100.1
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.82	757.4	30.08	764.0	61.5	16.4	79.2	2	4	1	....	2	14	3	1	1	5054	8133	5	0.11	2.8
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.39	746.5	30.10	764.5	29.2	—1.6	80.9	1	5	6	8	2	2	1	....	3	6017	9683	7	1.25	31.7
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.57	751.1	30.14	765.5	35.4	1.9	87.4	1	4	...	1	5	....	3	2	12	2044	3289	8	6.21	157.7
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	30.08	764.0	30.16	766.1	40.7	4.8	83.6	7	1	....	1	3	15	1	....	....	5176	8330	4	2.40	61.0
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.48	748.8	30.12	765.0	38.9	3.8	80.6	5	3	3	1	10	2	2	1	1	7803	12556	6	8.94	227.1
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.07	738.4	30.01	762.2	23.8	—4.6	80.2	....	4	5	4	2	9	2	1	1	6071	9769	5	2.35	59.7
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.07	738.4	30.04	763.0	1.6	—16.9	95.0	6	7	1	....	7	5	....	2	....	8335	13413	6	0.83	21.1
Salt Lake City	N. 41 10	W. 112 00	4.40 a.m.	4348	1325	25.66	651.8	30.22	767.6	22.9	—5.1	55.0	....	3	....	2	....	8	1	....	14	2952	4751	4	0.42	10.7
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.37	746.0	30.09	764.3	54.5	12.5	83.8	1	3	....	....	3	4	1	8	8	4324	6959	6	2.18	55.4
San Diego.....*a.*	N. 32 32	W. 117 08	4.20 a.m.	67	20	30.06	763.5	30.13	765.3	45.8	7.7	78.3	2	....	2	3	1	....	1	17	1	4772	7680	4	2.55	64.8
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.40	746.7	30.12	765.0	35.9	2.2	78.3	1	3	5	6	8	2	....	3	....	10029	16124	6	3.79	96.3
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.12	765.0	30.16	766.1	33.8	1.0	80.4	3	5	9	4	1	2	1	3	....	10829	17414	5	4.85	123.2
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.09	764.3	30.16	766.1	45.2	7.3	77.9	2	5	4	8	3	5	....	1	....	5944	9566	4	2.96	75.2
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7064	2153	23.20	589.3	30.24	768.1	24.6	—4.1	67.5	8	....	1	4	1	6	2	5	1	4410	7097	2	0.06	1.5
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.15	765.8	30.24	768.1	52.2	11.2	75.0	5	5	3	2	6	1	4	2	....	5422	8726	5	0.78	19.8
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.87	758.7	30.12	765.0	51.8	11.0	87.8	1	3	....	....	14	3	4	1	2	4521	7276	6	8.71	221.2
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.24	615.7	30.10	764.5	31.0	—0.6	72.8	2	12	8	1	2	....	....	....	3	2641	4250	4	2.06	52.3
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.40	746.7	29.47	748.5	30.5	—0.8	78.8	1	....	5	2	1	5	8	5	1	9342	15034	8	16.35	415.3
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.19	766.8	30.23	767.8	47.5	8.6	86.2	2	7	3	4	1	2	....	8	1	6583	10594	4	1.64	41.7
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.97	710.4	30.10	764.5	21.2	—6.0	81.6	....	2	3	10	4	1	1	3	4	5017	8074	8	2.25	57.1
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.38	746.2	30.11	764.8	37.5	3.1	73.0	1	5	3	2	10	4	1	2	....	6899	11103	5	7.92	201.2
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	30.00	762.0	30.14	765.5	26.8	—2.9	77.8	3	3	5	1	7	....	3	3	3	3569	5744	6	5.29	134.4
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.61	726.7	30.18	766.6	40.9	4.9	76.8	2	4	2	1	10	5	1	3	....	6995	11257	6	7.29	185.2
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.02	686.3	30.15	765.8	42.1	5.6	88.2	....	3	2	7	4	2	....	....	10	5300	8529	5	1.21	30.7
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.02	762.5	30.08	764.0	28.6	—1.9	87.4	8	5	6	4	1	1	1	1	1	12277	19758	5	4.69	119.1
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.37	746.0	30.11	764.8	35.5	1.9	75.7	2	1	6	4	11	1	1	....	2	6498	10457	6	2.40	61.0
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.62	701.5	30.10	764.5	41.1	5.1	81.6	....	1	1	1	2	16	5	....	2	2799	4504	4	1.64	41.7
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.77	756.1	30.15	765.8	31.2	—0.4	77.3	1	....	5	7	2	7	3	2	1	5587	8991	7	0.73	18.5
Uvalde.....*k.*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.09	738.9	30.09	764.3	58.0	14.4	82.5	2	....	1	....	1	5	4	....	4	1920	3090	5	0.71	18.0
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.90	759.4	30.17	766.3	53.7	12.1	78.5	....	2	3	....	5	9	6	1	2	4157	6690	6	7.15	181.6
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.76	755.9	30.14	765.5	37.9	3.3	82.5	1	5	2	3	4	11	1	1	....	2239	3603	4	1.86	47.2
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	30.09	764.3	30.21	767.3	35.6	2.0	80.2	6	7	....	....	3	....	1	5	6	3460	5568	5	5.09	129.3
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.00	660.4	30.13	765.3	19.0	—7.2	74.6	....	10	10	3	....	....	....	3	2	4473*b*	7198*b*	2	0.02	0.5
Wickenburg.....*b.*	N. 33 58	W. 112 42	4.37 a.m.	?	?	....	....	....	....	34.0	1.1	86.0	....	8	4	....	....	....	....	....	14	....	....	4	0.69	17.5
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.54	759.3	30.17	766.3	31.4	—0.3	79.2	3	7	9	1	1	1	4	2	....	3764	6057	7	3.74	95.0
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	29.17	766.3	30.23	767.8	48.6	9.2	76.6	2	5	4	3	2	1	3	5	3	5268	8478	5	1.92	48.8
Winnemucca	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.64	651.2	30.16	766.1	18.1	—7.7	70.9	2	....	....	7	1	2	....	16	....	5650	9093	5	1.50	38.1
Wood's Holl	N. 41 33	W. 70 40	7.26 a.m.	35	11	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.69	728.7	30.11	764.8	22.1	—5.5	72.4	4	5	4	6	3	1	1	2	2	5602	9015	3	0.09	2.3
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.94	760.5	30.09	764.3	46.4	8.0	60.1	10	8	....	4	....	2	1	3	....	4250	6840	2	0.01	0.3
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.41 a.m.	8655	2638	22.04	559.8	....	....	52.2	11.2	81	3	....	....	2	....	3	2	....	18	....	....	8	3.52	89.4
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.07	763.8	30.08	764.0	77.2	25.1	82.5	....	....	....	....	....	....	28	....	....	....	....	9	2.96	75.2
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	18	5	30.00	762.0	30.02	762.5	77.0	25.0	86.9	1	....	....	4	5	2	....	....	16	....	....	9	5.95	151.1
Guadeloupe	N. 16 12	W. 61 40	8.01 a.m.	?	?	30.00	762.0	30.02	762.5	74.4	23.6	89.1	....	....	....	....	....	....	27	1	....	....	....	4	3.55	90.2
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.16	766.1	30.21	767.3	72.4	22.4	79.8	3	....	....	....	1	13	5	2	4	2480	3991	3	0.15	3.8
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.10	764.5	30.11	764.8	69.0	20.6	85	16	....	....	....	....	1	....	....	11	2285	3677	2	0.28	7.1
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.05	763.3	30.05	763.3	76.8	24.9	85.7	....	....	....	....	....	....	27	1	....	....	....	9	11.64	295.7
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.52	749.8	29.98	761.5	81.0	27.2	80	3	1	....	....	1	....	1	....	22	....	....	8	4.76	120.9
Rivas.....*e.*	N. 11 26	W. 85 47	6.25 a.m.	150	46	....	....	....	....	....	....	95.0	....	....	....	....	....	....	....	23	....	....	....	3	0.10	2.5
Santiago deCuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.11	764.8	30.14	765.5	71.0	21.7	72.4	13	2	....	....	....	....	....	2	11	....	....	2	0.59	15.0
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	110	33	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	29.98	761.5	30.03	762.7	—21.5	—29.7	....	3	2	3	5	5	1	6	3	....	....	....	4	0.28	7.1

Ocean Square Data for February, 1882.

Location of Centre of each Square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 2.5°	W. 37.5°	1	1															
2.5	42.5	2	2															
2.5	47.5	2	2															
7.5	27.5	5	9															
7.5	32.5	2	2															
7.5	42.5	1	1															
7.5	47.5	2	2															
12.5	22.5	2	3	29.99	761.7	78.1	25.6							1	27			1.8
12.5	27.5	6	7	30.02	762.5	77.9	25.5							1	27			2.0
12.5	32.5	3	3	30.04 a	763.0 a	77.8b	25.4b						1	5	20		2	1.8
12.5	37.5	2	2															
12.5	52.5	2	3															
12.5	57.5	7	7															
17.5	22.5	2	3	30.10	764.5	74.4	23.6						2	2	24			2.1
17.5	27.5	5	5	30.12	765.0	74.4	23.6						4		24			1.9
17.5	32.5	1	1	30.13 d	765.3 d	74.6d	23.7d	1					2	5	16		4	2.1
17.5	37.5	10	11	30.11 g	764.8 g	74.5f	23.6f		2					9	10		7	2.2
17.5	42.5	8	8	30.17 h	766.3 h	74.1h	23.4h						3	7	9		9	2.0
17.5	47.5	6	6	30.17 l	766.3 l	73.9 l	23.3 l	1					3	3	9		12	2.4
17.5	52.5	4	5	30.16 i	766.1 i	73.7i	23.2 i					1	1	6	10		10	1.9
17.5	57.5	5	8	30.15 f	765.8 f	73.9f	23.3f					3	14	5			6	1.5
22.5	22.5	3	3	30.18	766.6	71.6	22.0						9	5	14			2.4
22.5	27.5	5	5	30.18 b	766.6 b	72.1	22.3	1			1		10	2	13			2.6
22.5	32.5	10	11	30.18 b	766.6 b	72.1	22.3		1		1		8	6	10		2	2.6
22.5	37.5	15	19	30.19 c	766.8 c	72.1b	22.3b	2	4		1	2	1	7	9		2	1.7
22.5	42.5	7	9	30.20 b	767.1 b	72.2	22.3	1	3				5	7	12			2.0
22.5	47.5	11	11	30.20 e	767.1 e	71.8	22.1	4	1		1	2	2	5	9		4	2.3
22.5	52.5	2	2	30.22 h	767.6 h	71.3f	21.8f	1	4		3			2	11		7	1.9
22.5	57.5	3	4	30.20 e	767.1 e	71.2e	21.8e	1	4		2		4	1	11		5	1.6
22.5	62.5	5	5	30.18 b	766.6 b	71.5b	21.9b	1	2		1		2	2	18		2	1.6
22.5	67.5	11	12	30.18 a	766.6 a	72.4b	22.4b	1	3		1		4	4	13		2	1.7
22.5	72.5			30.19 d	766.8 d	72.2d	22.3d	1	2			1	3	5	12		4	1.8
27.5	22.5	6	6	30.25 b	768.3 b	68.0	20.0		1		3	1	11	3	8		1	2.5
27.5	27.5	5	5	30.22 c	767.6 c	68.3	20.2	1			6	2	9	3	6		1	2.4
27.5	32.5	4	4	30.19 c	766.8 c	67.6a	19.8a	2	3		6		9	2	5		1	2.2
27.5	37.5	4	5	30.19 b	766.8 b	67.8a	19.9a	2	9		5	4		4	3		1	2.1
27.5	42.5	10	11	30.19 c	766.8 c	66.6	19.2	4	5	4	3	3		2	4	2	1	2.2
27.5	47.5	1	1	30.18 c	766.6 c	65.7	18.7	1	8	5	5	1	1	1	4		2	2.2
27.5	52.5	4	4	30.18 e	766.6 e	64.8c	18.2c	1	7	1	4				11		4	2.1
27.5	57.5			30.19 d	766.8 d	65.0	18.3	1	7	2	1	1	2	1	9		4	1.7
27.5	62.5			30.20 b	767.1 b	65.3	18.5	2	10		2	2	1	2	8		1	2.0
27.5	67.5	8	10	30.20 a	767.1 a	66.7a	19.3a	2	9		5		2	2	7		1	1.9
27.5	72.5	8	12	30.22	767.6	66.4	19.1	1	5		4	1	4	3	10			2.0
27.5	77.5	3	3	30.24 a	768.1 a	63.9	17.7	1	6		2	1	5	4	9			1.9
32.5	12.5	4	6	30.30	769.6	63.8	17.7		3	1	3		6	3	12			1.7
32.5	17.5	10	12	30.30	769.6	63.8	17.7			1	6	2	12	5	1	1		1.7
32.5	22.5	10	10	30.26 a	768.6 a	65.1	18.4		3	9	2	11	1	2				2.5
32.5	27.5			30.20 a	767.1 a	65.2	18.4		5	1	10	3	9					2.3
32.5	32.5	3	3	30.18 a	766.6 a	64.5	18.1	1	4	1	11	5	4	1	1			2.4
32.5	37.5	9	9	30.15 a	765.8 a	63.1	17.3	2	5	4	9	4	1	1	1		1	2.3
32.5	42.5	8	8	30.13 a	765.3 a	61.8	16.6	1	8	4	10		2		2		1	2.8
32.5	47.5	9	10	30.10 a	764.5 a	59.5	15.3	4	11	3	6	2			2			2.7
32.5	52.5	3	3	30.12 a	765.0 a	59.3	15.2	7	9	3	4	2	1		2			2.2
32.5	57.5	6	7	30.13	765.3	59.3	15.2	4	13	1	5		1		4			2.6
32.5	62.5	7	9	30.16	766.1	60.5	15.8	4	9		9	1	1		4			1.7
32.5	67.5	12	16	30.18	766.6	60.2	15.7	4	11	1	6	1	2		3			2.6
32.5	72.5	13	25	30.21	767.3	57.0	13.9	2	7	2	3	5	2	1	6			2.7
32.5	77.5	9	17	30.23	767.8	55.0	12.8	2	10		5	3	2	1	4		1	1.9
37.5	12.5	6	6	30.33	770.4	58.8	14.9	1	2	3	6	3	6	1	6			2.2
37.5	17.5	6	7	30.28	769.1	60.1	15.6		3	2	10	1	8	1	3			2.4
37.5	22.5	3	3	30.23	767.8	60.5	15.8		2	3	11	2	10					2.5
37.5	27.5	3	3	30.16	766.1	60.3	15.7	1	2	4	9	4	8					2.7
37.5	32.5	9	9	30.08	764.0	58.7	14.8		4	5	10	6	3					2.9
37.5	37.5	3	3	30.02	762.5	55.5	13.1	1	6	4	11	3	3					3.1
37.5	42.5	1	1	30.01 a	762.2 a	52.3	11.3	2	10	3	8	2	2				1	3.3
37.5	47.5	1	1	29.97	761.2	48.8	9.3	2	12	2	9	2			1			3.4
37.5	52.5	3	3	29.96 a	761.0 a	47.0	8.3	2	15	3	5	2	1					3.6
37.5	57.5	10	10	29.98	761.5	45.6	7.6	5	15	1	6	1						3.6
37.5	62.5	8	10	30.01	762.2	44.6	7.0	3	12	5	6	2						3.6
37.5	67.5	10	15	30.09	764.3	43.4	6.3	4	12	3	6	1	1		1			3.2
37.5	72.5			30.13	765.3	41.3	5.2	4	10	1	8		4		1			2.4
42.5	12.5	3	4	30.29	769.4	56.7	13.7	1	1	3	7	4	6	1	5			2.6
42.5	17.5	5	5	30.22	767.6	57.2	14.0		2	2	10	7	6	1				2.8
42.5	22.5	7	9	30.17	766.3	57.5	14.2		5	1	10	3	9					2.9
42.5	27.5	2	2	30.07	763.8	56.4	13.6		5	2	11	4	6					3.4
42.5	32.5	8	8	29.98	761.5	54.6	12.6	1	4	5	7	9	2					3.6
42.5	37.5	7	7	29.92	760.0	51.0	10.6	2	8	2	9	5	2					3.8
42.5	42.5	12	17	29.90	759.4	47.3	8.3	2	10	2	10	2	1		1			4.0
42.5	47.5	22	34	29.87	758.7	42.5	5.8	3	11	1	5	2	4		1		1	3.4
42.5	52.5	27	61	29.89	759.2	39.9	4.4	3	14	1	5	3	2					4.0
42.5	57.5	27	57	29.91	759.7	36.2	2.3	3	12	3	2	8						3.9
42.5	62.5	23	52	29.94	760.5	34.0	1.1	4	8	4	7	4	1					3.9
42.5	67.5	20	46	30.03	762.7	32.8	0.4	4	12	2	7	2			1			3.2
47.5	12.5	19	32	30.18	766.6	52.6	11.4		5	3	7	8	4		1			3.8
47.5	17.5	20	33	30.11	764.8	52.4	11.3		5	3	9	6	5					3.7
47.5	22.5	17	32	30.04	763.0	51.8	11.0		4	3	11	7	2	1				3.7
47.5	27.5	22	34	29.93	760.2	49.7	9.8	1	5	5	6	7	3	1				4.0
47.5	32.5	26	48	29.84	757.9	47.5	8.6	2	5	3	4	10	4					4.3
47.5	37.5	22	48	29.76	755.9	43.6	6.4	2	8	2	5	5	4	1	1			4.3
47.5	42.5	30	36	29.75	755.6	38.6	3.7	2	7	3	7	2	5	1	1			3.7
52.5	47.5	19	25	29.75	755.6	29.8	— 1.2	3	5	3	6	1	4	2	4			3.1
52.5	12.5	19	27	30.10	764.5	50.1	10.1		6	4	7	7	2		2			3.5
52.5	17.5	12	17	30.02	762.5	49.4	9.7	2	4	1	13	5	2		1			4.0
52.5	22.5	14	20	29.96	761.0	48.7	9.3	1	5		11	6	4		1			3.7
52.5	27.5	12	14	29.86	758.4	45.8	7.7	2	5	3	9	4	3	1	1			3.9
52.5	32.5	6	6	29.80	756.9	43.6	6.4	1	5	5	6	4	6		1			3.6
52.5	37.5	5	6	29.76	755.9	38.4	3.6	2	6	5	3	3	7		2			3.6
52.5	42.5	2	2	29.70	754.4	33.7	0.9	2	6	4	5	2	6	1	2			2.9
52.5	47.5			29.72	754.9	26.5	— 3.1	1	11	1	3	1	2	3	5		1	2.8
57.5	12.5			29.81	757.2	41.9	5.5		5	3	10	3	4	1	2			3.5
57.5	17.5	2	2	29.78	756.4	39.1	3.9		5	3	10	3	3	1	3			2.5
57.5	22.5			29.76	755.9	37.0	2.8	3	4	9	4	3	1	4				3.4
57.5	27.5			29.76	755.9	34.2	1.2	2	8	2	9	1	1	2	3			3.2
57.5	32.5			29.66	753.4	32.1	0.1	2	6	4	4		7	2	3			3.1
57.5	37.5			29.65	753.1	28.4	— 2.0	1	9	3	2	2	2	4	5			2.9
57.5	42.5			29.59	751.6	25.0	— 3.9	1	7	5	1	1	4	3	5		1	2.3
57.5	47.5			29.62	752.3	20.3	— 6.5	3	10	2	1	1			11			2.4

NOTE.—See General Remarks, page 9.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees Fahrenheit and Centigrade.*]

In addition to chart iv., for the month of February, 1882, the present SUMMARY contains the international storm-track chart v., for the month of February, 1881, being a continuation of the series begun in November, 1877, and heretofore described in the MONTHLY WEATHER REVIEW.

The following descriptions relate to chart iv., for the months of February and March, 1881, (which charts were issued with the SUMMARY for the respective months), and present a brief summary of the meteorological conditions which prevailed over the northern hemisphere during these months. Chart iv. continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing directions of the wind over the northern hemisphere, and at certain isolated stations in the southern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0.8 p. m., Greenwich mean time.

For the description of these charts much valuable information has been obtained from the "Monatliche Uebersicht der Witterung," published by Professor Dr. G. Neumayer, director of the German Marine Observatory, Hamburg, Germany, and from the "Bulletin Mensuel," published by M. Marc Dechrevens, of Zi-Ka-Wei, China.

For the month of February, 1881, no very marked areas of low mean pressure appear on the chart. The region of least pressure is indicated by the isobarometric line of 29.8 (756.9), and extends from the southern part of Greenland southward to the fifty-first parallel, and eastward to the western coast of Ireland. The isobar of 29.9 (759.4) extends from Newfoundland eastward over the Atlantic, and incloses within its limits the British Isles and northwestern Europe, while a small area of mean pressures, inclosed by the isobarometric line of 29.9 (759.4), covers the southern part of Italy and the Mediterranean.

The areas of barometric maxima are distributed as follows: The first area of high barometer, indicated by the isobar of 30.4 (772.1), occupies southeastern Siberia and the northern frontier of China. Eastward of that region, the atmospheric pressure decreases somewhat rapidly, until the isobar of 29.9 (759.4), which occupies the region near the Sea of Okhotsk, is reached. The pressure decreases very slowly in a southerly and southeasterly direction, the isobars of 30.1 (764.5) and 30.2 (767.1) covering Japan and the southern part of the Chinese Empire. In Europe, the pressure is highest in the northern part of the continent, and in Russia; it increases slowly to the eastward, and decreases in a southerly direction. Over the north Atlantic ocean, the region of barometric maxima covers the Azores and the Madeira islands, thence southward to the twentieth parallel and westward to the forty-third meridian. The isobar of 30.1 (764.5) also extends from the coast of the United States eastward as far as N. 22°, W. 62°. In the North American continent, the atmospheric pressure is generally high; the region of greatest pressure in the United States is shown over the New England and middle Atlantic states, where the mean barometric readings range from 30.2 (767.1) to 30.25 (768.3). In the interior of the United States, including the Florida peninsula and the Gulf states, the pressures range from 30.1 (764.5) to 30.2 (767.1). On the Pacific coast, the region of greatest mean pressure is inclosed by the isobar of 30.1 (764.5) and covers the states of California, Oregon, and western Idaho.

Compared with the preceding month, (January, 1881,) there has been a general increase of pressure over Europe, except in the British Isles, where the mean barometric readings were slightly lower than in January. The most marked increase of pressure occurred in the Scandinavian peninsula and in Russia, where it averages .25 inch above the means of the preceding month. In Asia, the mean pressure has experienced no marked change, except in southeastern Siberia and in British India, where the means are about .05 and .08 inch, respectively, below those of the preceding month. Over the Atlantic ocean, the atmospheric pressure has greatly increased; the area of low mean barometer, 29.5 (749.3), which, in January, 1881, occupied mid-ocean, being now entirely dissipated and replaced by pressures ranging from 29.8 (756.9) to 30.1 (764.5). In the United States, the pressure has decreased, the region of greatest pressures having diminished in size, while it has gradually drawn to the eastward. On the Pacific coast, the changes are very marked, especially in the northern portions, where the pressure has decreased about .15 inch. In Canada, there has been a general increase of pressure in all parts of the dominion; over the region near Hudson's bay, the increase averages .25 inch.

Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States is above the normal over the country from South Carolina northwestward to Lake Superior, the greatest departures occurring in the New England states. In the Gulf states, the pressure was slightly below the normal. In Canada, it was everywhere above the normal.

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of February, 1881, in the several countries of Europe and Asia, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:—

Countries.	Mean pressure.			Mean temperature.		
	Feb. 1877, 1878, 1879, 1880.	February, 1881.	Departure.	Feb., 1877, 1878, 1879, 1880.	February, 1881.	Departure.
				°	°	°
Algeria	30.15	30.00	−0.15	58.8	60.2	+1.4
Austria	29.98	30.01	+0.03	38.0	34.7	−3.3
British Isles	29.79	29.83	+0.04	42.9	40.5	−2.4
Denmark	29.78	29.90	+0.12	34.1	28.0	−6.1
France	30.03	29.92	−0.11	46.7	47.6	+0.9
Germany	29.91	29.92	+0.01	37.2	35.9	−1.3
India *	29.95	29.95	Normal.	73.7	77.5	+3.8
Italy	30.01	29.93	−0.08	51.2	48.5	−2.7
Norway	29.62	29.98	+0.36	32.0	27.4	−4.6
Portugal	30.20	30.00	−0.20	54.8	54.9	+0.1
Russia	29.97	30.12	+0.15	26.3	24.2	−2.1
Spain	30.11	29.96	−0.15	54.9	57.4	+2.5
Sweden	29.71	30.07	+0.36	25.0	15.6	−9.4

* Means for three years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of February, 1881, as compared with the means of four years:—

Station.	Mean pressure.			Mean temperature.		
	Feb., 1877, '78, '79, '80.	Feb., 1881.	Departure.	Feb., 1877, '78, '79, '80.	Feb., 1881.	Departure.
				°	°	°
San José, Costa Rica, C. A.*	.....	.....	.....	64.7	61.9	−2.8
Gibraltar	30.16	30.01	−0.15	59.9	61.6	+1.7
Malta, Mediterranean Sea	30.04	29.86	−0.18	58.8	59.7	+0.9
Sandwick Manse, Orkney Islands	29.64	29.85	+0.21	40.6	36.1	−4.5
Bridgetown, Barbadoes	30.00	29.98	−0.02	79.7	81.1	+1.4
Cape Town, Cape Good Hope	30.01	29.96	−0.05	78.7	81.2	+2.5
Fort Napier, Natal, South Africa	29.83	29.80	−0.03	77.9	75.0	−2.9
Free Town, Sierra Leone	29 84	29.85	+0.01	78.7	86.0	+7.3
Mauritius, Indian Ocean	29.91	30.01	+0.10	81.4	80.6	−0.8
Melbourne, New South Wales	30.02	30.05	+0.03	65.2	63.4	−1.8
*Nassau, Bahamas**	30.11	30.10	−0.01	71.1	71.0	−0.1
Godthaab, Greenland	29.50	29.71	+0.21	14.0	17.6	+3.6
Stykkisholm, Iceland	29.45	29.85	+0.40	31.7	14.5	−17.2
Thorshavn, Faroe Islands	29.55	29.93	+0.38	39.5	37.2	−2.3
Zi-Ka-Wei, China	30.32	30.26	−0.06	38.1	41.0	+2.9
Athens, Greece	30.04	29.94	−0.10	55.3	51.4	−3.9
Cagliari, Sardinia, Italy	30.00	29.87	−0.13	56.7	58.5	+1.8
Tokei, Japan*	30.13	30.06	−0.07	40.7	37.4	−3.3
Angra, Azores	30.15	.....	.....	57.6	.....	.....
Funchal, Madeira Islands	30.24	30.12	−0.12	64.1	63.3	−0.8
Ponta Delgado, Azores	30.20	30.17	−0.03	60.5	58.6	−1.9
Archangel, Russia	29.73	30.09	+0.36	10.0	10.2	+0.2
Tiflis, Russia	30.10	30.06	−0.04	43.6	46.0	+3.2
Astrakhan, Russia	30.11	30.19	+0.08	26.5	26.4	−0.1
Ekaterinburg, Russia	30.01	30.18	+0.17	10.3	12.0	+1.7
Nukuss, Toorkistan, Asia	30.19	30.04	−0.15	36.8	38.1	+1.3
Tashkend, Toorkistan, Asia	30.34	30.17	−0.17	36.3	45.3	+9.0
Barnaul, Siberia, Asia	30.32	30.36	+0.04	4.6	−2.1	−6.7
Pekin, China	30.35	30.31	−0.04	27.9	25.5	−2.4
Nikolaievsk on the Amoor, Asia	.....	.....	.....	−6.5	−1.8	+4.7
San Juan de Puerto Rico, W. I*	30.07	30.06	−0.01	75.5	72.7	−2.8
Beirut, Turkey in Asia	30.06	29.90	−0.16	61.3	61.0	−0.3
Mexico, Mexico*	30.23	30.26	+0.03	46.1	45.9	−0.2
Havana, Cuba, W. I.	30.05	30.09	+0.04	70.6	70.9	+0.3
Paramaribo, D. Guiana, S. A.	30.02	29.98	−0.04	79.7	77.5	−2.2
York Factory, B. A	30.04	30.22	+0.18	−21.6	−22.4	−0.8

* Means for three years only.

In the United States, the mean temperature of the air was below the normal from the Rocky mountains eastward to the Atlantic, except in the New England states and in the Florida peninsula, where it was about normal. West of the Rocky mountains, the temperature was above the normal. In Canada, the mean temperature was above the normal in all parts of the Dominion, except in the province of Ontario, where it was less than the normal.

In Europe, the mean temperature of the air was below the normal in the northern part of the continent, while, in the southern sections, it was above the normal. In British India, the highest mean temperature was 86°.8 Fah. (30°.4 Cent.), at Nagpur, and the lowest was 66°.4 Fah. (19°.1 Cent.), at Sibsigar.

The following are some of the extreme monthly mean temperatures reported at isolated stations:—

Highest.	Fah.	Cent.	Lowest.	Fah.	Cent.
	°	°		°	°
Freetown, Africa	86.0	30.0	York Factory, B. A.	—22.4	—30.2
Bridgetown, Barbadoes	81.1	27.3	Nertchinsk, Siberia	—13.5	—25.3
Manila, Philippine Islands	80.2	26.8	Yeniseisk, Siberia	— 5.3	—20.7
Peurto Berrio, C. A.	79.0	26.1	Upernavik, Greenland	— 3.5	—19.7

In the United States, the prevailing winds were: northwesterly on the Atlantic coast from Maine to North Carolina, and northerly and easterly from North Carolina to Florida. In the interior of the country and in the lake region, the winds were northerly and easterly; on the Pacific coast, they were southeasterly and southwesterly. In Canada, the prevailing winds were northwesterly in the Maritime Provinces; elsewhere they were generally westerly. Over the north Atlantic ocean, the prevailing winds were as follows: from the coast of North America north of the thirty-fifth parallel, eastward to the fortieth meridian, northwesterly. East of the fortieth meridian the winds were mostly southwesterly, except near the coasts of the British Isles, where northeasterly winds prevailed. South of the thirtieth parallel, the winds were northeasterly. In Europe, the winds were easterly and northeasterly over the British Isles, the Scandinavian peninsula, and along the northwestern coasts of the continent; elsewhere they were southeasterly and southerly, except over the Italian peninsula, where they were northerly and northwesterly. In Japan and in eastern China, the prevailing direction of the wind was northerly.

The rainfall (including melted snow) of the month was above the average in the United States and Canada. In Europe, it was below the average in the northeastern part of central Europe, while in the southwestern section it was above the average. In the British Isles, the rainfall was greater than the average.

For the month of March, 1881, the mean atmospheric pressure over the northern hemisphere was distributed as follows: the most marked area of low pressure occupied the Arctic region to the north of Scandinavia, and included within its limits the extreme northern part of Norway. The barometric gradients increase very slowly to the south and southwestward, but to the eastward the pressure rapidly increases. An area of low mean pressure, inclosed by the isobar of 29.6 (751.8), occupies the Atlantic ocean from the Banks of Newfoundland eastward to the thirtieth meridian, the pressure increasing but slowly on all sides of the central depression. The regions of barometric maxima appear in Siberia and in the territory near Hudson's bay; in the former, the mean pressure is 30.5 (774.7), and in the latter it is 30.2 (767.1).

Compared with the chart for the preceding month, (February, 1881,) a very decided change has taken place in the distribution of pressure, the greatest changes occurring over northern Europe, the Atlantic ocean, and the North American continent. In central Europe, the pressure has increased very slightly; in Algeria and Tunis, it has increased .05, while over the Azores and the Madeira islands, the decrease of pressure averages .25 inch. In Asia, the changes in pressure are unimportant, except over British India, where there is a decrease of about .09 inch. In the United States, the decrease in pressure averages from .15 inch, in the interior of the country, to .45 inch, in the New England states. In Canada, the decrease was equally noteworthy. On the Pacific coast, the decrease averaged about .1 inch. In Greenland, the pressure has increased slightly, while in Iceland, it has decreased about .14 inch.

Compared with the corresponding month of previous years, the mean atmospheric pressure is below the normal in the United States from the one-hundredth meridian eastward to the Atlantic; the region of greatest departures being the middle Atlantic and the New England states. Between the one-hundredth meridian and the Sierra Nevada mountains, the pressure was normal in the southern, and slightly above the normal in the northern districts. In California, it was slightly below the normal. In Canada, the pressure was everywhere much below the normal, the departures ranging between .15 and .25 inch. In Europe, the pressure was slightly below the normal, no very large deviations being shown.

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of March, 1881, in the several countries, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:—

Countries.	Mean pressure.			Mean temperature.		
	Mar., 1877, 1878, 1879, 1880.	Mar., 1881.	Departure.	Mar., 1877, 1878, 1879, 1880.	Mar., 1881.	Departure.
				°	°	°
Algeria	30.07	30.07	Normal	62.4	67.3	+4.9
Austria	29.95	29.93	—0.02	43.2	44.5	+1.3
British Isles	29.96	29.88	—0.08	45.3	45.2	—0.1
Denmark	29.88	29.83	—0.05	37.5	35.5	—2.0
France	30.01	29.99	—0.02	52.8	53.4	+0.6
Germany	29.97	29.95	—0.02	41.0	40.5	—0.5
*India	29.78	29.87	+0.09	85.1	81.0	—4.1
Italy	29.97	29.98	+0.01	54.8	55.4	+0.6
Norway	29.78	29.74	—0.04	35.7	30.8	—4.9
Portugal	30.07	29.95	—0.12	59.0	60.0	+1.0
Russia	29.86	29.90	+0.04	33.1	32.2	—0.9
Spain	30.06	29.97	—0.09	58.7	63.0	+4.3
Sweden	29.79	29.70	—0.09	30.1	24.3	—5.8

* Means for three years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during March, 1881, as compared with the means of four years:—

STATIONS.	Mean pressure.			Mean temperature.		
	March, 1877, '78, '79, '80.	March, 1881.	Departure.	March, 1877, '78, '79, '80.	March, 1881.	Departure.
				°	°	°
San José, Costa Rica, C. A.*	.....	.....	.....	66.5	64.2	— 2.3
Gibraltar	30.04	30.03	— 0.01	61.5	63.7	+ 2.2
Malta, Mediterranean sea	29.97	29.98	+ 0.01	60.5	64.5	+ 4.0
Sandwick Manse, Orkney islands	29.84	29.65	— 0.19	40.4	37.7	— 2.7
Bridgetown, Barbadoes	29.99	29.99	normal	80.0	83.0	+ 3.0
Cape Town, Cape Good Hope	30.00	29.98	— 0.02	76.9	79.0	+ 2.1
Fort Napier, Natal, South Africa	29.90	29.85	— 0.05	78.4	72.0	— 6.4
Free Town, Sierra Leone	29.90	29.87	— 0.03	87.5	86.7	— 0.8
Mauritius, Indian ocean	29.95	29.95	normal	81.3	81.3	normal
Melbourne, New South Wales	30.06	30.10	+ 0.04	62.4	62.2	— 0.2
Nassau, Bahamas	30.10	30.01	— 0.09	72.7	70.5	— 2.2
Godthaab, Greenland	29.78	29.83	+ 0.05	19.3	20.7	+ 1.4
Stykkisholm, Iceland	29.66	29.71	+0.05	32.0	8.2	—23.8
Thorshavn, Faroe islands	29.80	29.65	— 0.15	39.2	34.3	— 4.9
Zi-Ka-Wei, China	30.23	30.35	+ 0.12	44.6	40.5	— 4.1
Athens, Greece	29.98	30.00	+ 0.02	57.7	60.6	+ 2.9
Cagliari, Sardinia, Italy	29.95	29.97	+ 0.02	58.5	62.2	+ 3.7
Tokei, Japan*	30.00	30.14	+ 0.14	43.4	39.8	— 3.6
Angra, Azores	30.20	29.74	— 0.46	58.2	57.2	— 1.0
Funchal, Madeira islands	30.15	30.00	— 0.15	63.9	64.4	+ 0.7
Ponta Delgado, Azores	30.21	29.80	— 0.41	60.6	60.4	— 0.2
Archangel, Russia	29.66	29.68	+ 0.02	22.0	21.2	— 0.8
Tiflis, Russia	29.95	29.97	+ 0.02	54.0	57.4	+ 3.4
Astrakhan, Russia	29.95	30.05	+ 0.10	40.8	40.5	— 0.3
Ekaterinburg, Russia	29.87	30.21	+ 0.34	25.6	28.6	+ 3.0
Nukuss, Toorkistan, Asia	30.00	30.08	+ 0.08	53.8	55.0	+ 1.2
Tashkend, Toorkistan, Asia	30.16	30.03	— 0.13	54.9	59.2	+ 4.3
Barnaul, Siberia, Asia	30.21	30.47	+ 0.26	23.5	20.8	— 2.7
Pekin, China	30.18	30.37	+ 0.19	43.2	41.0	— 2.2
Nikolaievsk on the Amoor, Asia	.....	.....	.....	8.4	4.5	— 3.9
San Juan de Puerto Rico, W. I.*	30.06	30.05	— 0.01	76.5	74.1	— 2.4
Beirut, Turkey in Asia	29.98	30.00	+ 0.02	63.7	63.9	+ 0.2
Mexico, Mexico*	30.18	30.19	+ 0.01	49.9	49.8	— 0.1
Havana, Cuba, W. I.	30.06	30.03	— 0.03	73.0	71.6	— 1.4
Paramaribo, D. Guiana, S. A.	30.02	30.00	— 0.02	80.4	77.8	— 2.6
York Factory, B. A.	30.00	30.28	+ 0.28	—13.1	— 9.5	+ 3.6

* Means for three years only.

In the United States, the mean temperature of the air was below the normal in the southern and central sections of the country, while in the northern part of the country the temperature was normal, or above the normal. In Canada, the temperature was above the normal. In Europe, the mean temperature of the air was below the normal in the northern part of the continent, and above the normal in the southern districts. At the close of the month, frosts were reported in many parts of northern Europe, and abundant snowfalls occurred. Many of the harbors were filled with ice, and navigation was more or less interrupted until the middle of April. In British India, the highest mean temperature, 91° .3 Fahr., (32° .9 Cent.) was reported at Poona, and the lowest, 70° .4 Fahr., (21° .3 Cent.) at Sibsagar.

The following are some of the extreme monthly mean temperatures reported at isolated stations:—

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	86.7	30.4	York Factory, B. A.	− 9.5	−23.1
Bridgetown, Barbadoes	83.0	28.3	Jacobshavn, Greenland	− 3.5	−19.7
Mauritius, Indian ocean	81.3	27.4	Nikolaievsk on the Amoor	+ 4.5	−15.3
Cape Town, South Africa	79.0	26.1	Stykkisholm, Iceland	+ 8.2	−13.2

In the United States, the prevailing wind-directions were westerly and northwesterly from the ninety-seventh meridian eastward to the Atlantic. In Texas, the winds were southerly and southeasterly. On the Pacific coast, they were generally southerly. Over the north Atlantic ocean, the prevailing winds were mostly westerly and northwesterly from the coast of the United States eastward to the fiftieth meridian; from that meridian eastward to the European coasts, and from N. 25° to N. 45°, the winds were southwesterly. North of the forty-fifth parallel, the winds were mostly northeasterly. In Europe, the winds were mostly westerly and southwesterly. In eastern China and in Japan, the prevailing wind was northerly.

The rainfall during the month of March, 1881, was generally below the average in the United States, except in the lake region and in the northeastern districts of the country, where there was a slight excess. In Canada, the rainfall was below the average, except in the Maritime Provinces, where the precipitation was in excess of the average. In Europe, the rainfall was much above the average.

The following extract, relating to the low temperatures of the winter of 1880—81, is taken from the "Monatliche Uebersicht der Witterung," for March, 1881, published by Professor Dr. G. Neumayer, of Hamburg, Germany:—

"Nature," a periodical published at Christiania, Norway, states: "The past winter has been characterized by long-continued frosts in Norway and the whole of northern Europe. From October, 1880 to March, 1881, a full half year, without interruption, the monthly mean temperatures remained below the normal over the whole of Norway, from Cape Lindesnaes (the Naze), to North Cape, and from the west coast to the frontiers of Sweden. At most of the Norwegian stations, the lowest temperatures ever recorded have been observed during the past winter. The absolute minimum temperature was observed at Karasjok (in Finmark, N. 69° 35′, E. 25° 6′), on February 4th, when the thermometer registered —50°.6 C. (—59° Fahr.). On the 15th of January, at the same place, —50°.5 C. (—58°.9 Fahr.) was also recorded, being only one-tenth of a degree less. So low a temperature as the above, has, so far as known, never before been recorded in this country, and it was only by the use of reliable spirit-thermometers, that such an intense degree of cold could be measured." * * *

Chart v. exhibits the paths of barometric minima for the month of February, 1881, which have been traced from the daily international charts.

The data are charted for each day of the month, on the maps accompanying each issue of the "International Bulletin," and from these charts and from additional reports, are traced the movements of the centres of barometric minima. Twenty-four of the more important atmospheric depressions that have appeared over the northern hemisphere have thus been traced. The following concerns the general distribution of these depressions:—

Eight appeared in the United States and Canada; of these, three developed in the southwestern part of the United States; one appeared on the Pacific coast; and three apparently developed in the North-West Territories of British America. Two depressions, numbers i. and vii., have been traced from the North American continent eastward over the Atlantic to the European coasts.

Eleven depressions appeared over Europe; one of these apparently originating in mid-ocean. One storm developed in Greenland and moved in a southeasterly direction over the British Isles, and four depressions are shown over the southern part of Europe.

Three areas of low pressure are exhibited over Asia; two of these occupied eastern Asia, and one appeared in the western part of the continent.

The following are brief descriptions of the storms that occurred in the United States and Canada:—

I.—This disturbance was in eastern Tennessee on the morning of the 1st, and was probably a continuation of low-area xi., of the January chart. During the day, it passed eastward into the Atlantic, attended by strong northeasterly gales along the coast of the United States; and on the 2d, it was central near N. 40°, W. 58°. On that date, the s. s. "Illinois," in N. 41° 06′, W. 58° 08′, reported barometer 29.31 (744.5), wind e., force 7; rough easterly sea and rainy weather; and the s. s. "Rhein," in N. 44°, W. 56°, had a strong se. gale and heavy snow-storm. During the 2d, the depression moved northeastward, with decreasing pressure at the centre, and on the 3d, was central near N. 48°, W. 47°; the s. s. "Pennsylvania," in N. 45° 32′, W. 49° 18′, reported barometer 28.83 (732.3), wind w., force 6, cloudy; while strong westerly gales of force 7 to 9 were reported by vessels in the southern quadrants. On the morning of the 4th, the disturbance occupied nearly the same position as on the preceding day, but the pressure appears to have increased at the centre, and the wind diminished in force; during the 4th, the disturbance apparently moved slowly northeastward, and on the 5th, the region of least pressure was transferred to about N. 51°, W. 32°. On that day, the s. s. "Adriatic," in N. 49° 13′, W. 26° 55′, reported barometer 29.59 (751.6), wind s., force 6; and the s. s. "Illinois," in N. 46° 45′, W. 37° 42′, reported barometer 29.67 (753.6), wind wnw., force 5, fair. During the 6th, the disturbance moved toward the coasts of the British Isles, and on the 7th, it appeared as a somewhat deep depression, central north of Ireland. This storm is hereafter described as low-area xiii. of this chart.

II.—This storm appeared off the north Pacific coast on the 1st, causing very heavy rains in Oregon and Washington Territory. The disturbance moved southeastward with increasing pressure, and finally disappeared in Missouri on the 2d.

III.—From the 4th to the 9th, the barometer remained low and fluctuating, over the country west of the one-hundredth meridian, but on the morning of the last-mentioned date, the storm-centre became well defined in the Gulf states, where the lowest barometer, 29.46 (748.3), was reported at Vicksburg, Mississippi. During the day, the depression moved nearly due northward, attended by very heavy rains, and, on the morning of the 10th, the storm-centre appeared in the lake region, the lowest barometer, 29.37 (746.0), being reported from Alpena, Michigan. A rapid increase of pressure then set in, and the depression moved with greatly diminished energy over the Canadian provinces, and disappeared probably in Labrador.

From the 5th to the 7th, a severe storm prevailed over the eastern part of the Gulf of Mexico, during which numerous shipping disasters occurred. The data in connection therewith are too indefinite to admit of a charting of the track of this storm.

IV.—This storm was a secondary development of low-area iii., and, on the morning of the 11th, it appeared as a large

depression over the Gulf states, with its centre probably near Memphis, Tennessee. It moved in a path nearly parallel to that of low-area iii., and on the 12th, was central in Michigan, the barometer within the region of least pressure ranging from 29.23 (742.4), to 29.40 (746.7), while rain prevailed in the southern and eastern, and light snow in the western quadrants of the depression. On the 12th, the course changed to the eastward, and the depression moved down the Saint Lawrence valley, attended by rain and snow. During the 13th, the storm moved in a northeasterly direction over the Gulf of Saint Lawrence and disappeared on the 14th, to the northward of Newfoundland.

V.—From the 15th to the 17th, the atmospheric pressure was very unsteady in the southwest, but, on the 17th, a marked decrease of pressure occurred in Texas, accompanied by light rains and a decided rise in temperature. During the 18th and 19th, the disturbance moved east-northeastward, and on the last-named day, it was shown as a trough of low pressure, occupying the Atlantic coast states from North Carolina northeastward to the Canadian Maritime Provinces, attended by heavy rains in the middle Atlantic and New England states. On the 19th, the storm moved northeastward along the coast, skirting the coast of Nova Scotia, and on the following day, it disappeared to the northeastward of Newfoundland.

VI.—This depression probably developed in the Saskatchewan valley during the 18th, and on the 19th, it appeared as a storm of slight energy in Montana, and moving eastward during the day, was central over Lake Superior on the 20th. On the morning of the 21st, the region of least pressure was transferred to the Atlantic; the disturbance then moved northeastward along the coast, causing heavy snow in the Canadian Maritime Provinces. On the 23d, the depression was central south of Newfoundland, the storm having developed increased energy after reaching the ocean, but it apparently dissipated on the following day.

VII.—This disturbance appeared in the northwest on the 21st; it moved eastward and appeared as a well-defined area of low barometer over the lake region on the 22d. On the 23d, the disturbance occupied the Saint Lawrence valley, the Maritime Provinces and the New England states, in the form of an elongated area of low barometer. On the 24th, the centre of disturbance was in Nova Scotia, the pressure decreasing as the depression moved eastward. After the passage of this disturbance the barometer rose rapidly and strong northwesterly gales occurred at stations on the lakes, and in Canada. On the 25th, the storm-centre was near N. 46°, W. 44°, the s. s. "Scythia," in N. 45° 22′, W. 44° 41′, reporting barometer 29.51 (749.5), wind se., force 3, cloudy; and the s. s. "Wisconsin," in N. 45°, W. 46°, had a strong e. to nw. gale with snow. From the 26th to the close of the month, the disturbance appears to have remained nearly stationary over mid-ocean, attended by moderate to strong gales and snow.

VIII.—This disturbance developed in the North-West Territories of British America, and on the 25th, it appeared as an extensive depression in Dakota and Montana. During the day, the disturbance moved in a southeasterly track and by the morning of the 26th, was central in Kansas; southerly and southeasterly winds prevailed at stations to the east of the centre, with rainy weather in the southeastern quadrant. On the 27th, the course changed to the eastward, and the disturbance was central in Illinois and Indiana; the region of least pressure extending from central Michigan to northern Kentucky, within which region, cloudy weather and light rains prevailed. During the 27th, the depression moved slowly eastward, and on the 28th, the region of least pressure was apparently in Ontario, causing heavy rain in the Maritime Provinces.

The following descriptions relate to the storms that occurred over the Atlantic and in Europe during the month:—

IX.—On the 1st, an elliptical area of low pressure, inclosed by the isobar of 29.4 (746.7) occupied the north Atlantic ocean between the parallels of forty and fifty, north latitude, and the meridians of thirty and fifty, west longitude. On the morning of the 2d; the isobaric line of 29.6 (751.8) extended from the British Isles westward to Newfoundland and the Canadian Maritime Provinces; within this area were apparently two storm-centres; one, (low-area i.), to the southward of Newfoundland, and the other probably in the vicinity of N. 51°, W. 23°, as on that day the s. s. "Suevia," in N. 49°, W. 22°, reported strong sw. winds with very heavy rain squalls and high sea. By the morning of the 3d, the storm-centre became more marked and was then very near to the western coast of Ireland, causing a rise in temperature with rainy weather and strong southerly winds over England and Ireland. Moving northeastward along the Irish coast, the disturbance, on the 4th, was shown in northern Scotland; on the morning of the 5th, it was over the North sea, the area of decreasing pressure extending in a southeasterly direction, and causing a barometric fall over the northeastern part of England, southern Norway, and northern Germany. On the morning of the 6th, the disturbance appeared as an enlongated area of low pressure covering the whole of the Scandinavian peninsula, the lowest barometric readings being in southern Sweden; the wind changed to northerly over the British Isles, and the pressure rapidly increased, attended by lower temperature; but over Scandinavia there was a decided rise in temperature and light rains fell at stations in the southern quadrants of the depression. The track of the depression appears to have changed to the northeastward and the disturbance moved toward the White sea, where it was central on the 7th, accompanied by a rise in temperature and strong southerly winds. On the morning of the 8th, the depression maintained the same position as on the preceding day, but it gradually disappeared during the day.

X.—This is a continuation of the disturbance traced as low-area xxvi., on chart v., for January, 1881. On the morning of February 1st, the disturbance was central, with increasing pressure, off the coast of southern Norway, and on the following day, the depression filled up under the influence of an area of high pressure which was gradually extending over the Scandinavian peninsula.

XI.—This disturbance appeared over the Mediterranean on the 5th; by the 6th, the area of least pressure was situated over southern Italy and was accompanied by rain. On the 7th, the depression was probably central near the entrance to the Adriatic sea, the wind having changed to northwesterly over the Italian peninsula. On the 8th, a slight increase of pressure occurred, but this again gave way on the following day. During the 9th and 10th, the region of least pressure was over the Archipelago, attended by rain at Constantinople on the latter date. On the 11th, the disturbance disappeared near the Caspian sea.

XII.—This disturbance formed apparently to the southeastward of the Bermudas during the 6th and 7th. On the 7th, the bark "Commewyne," in N. 32° 02′, W. 55° 29′, reported barometer 29.79 (756.7), being a fall of .2 inch, wind shifting from nw. to ne., force 2; the schooner "Annie R. Lewis," in N. 22° 31′, W. 56° 08′, reported barometer 29.81 (757.2), wind sw., force 5, and strong northerly gales were reported by vessels to the westward. On the 8th, the pressure decreased, and the area of the disturbance apparently became more extensive, but the region of least pressure moved very slowly, while the winds increased in force in all quadrants of the depression. The bark "Commewyne," in N. 31° 45′, W. 55° 14′, reported barometer 29.58 (751.3), wind nne., force 9, drizzling; the schooner "Annie R. Lewis," in N. 20° 11′, W. 55° 34′, barometer 29.69 (754.1), wind nw., force 7, overcast. During the 9th and 10th, the barometer remained low over the region between 20° and 30° north latitude, and 50° and 60° west longitude; the ship "Yorkshire," off Bermuda (no latitude or longitude given), encountered a heavy gale lasting from the 7th to the 9th, during which she had bulwarks stove, decks swept, and sustained other damage. On the 10th, the barome-

ter began to rise, and generally fair weather set in over the region above named.

XIII.—This is a continuation of the storm described as low-area i. of the present chart. On the morning of the 7th, the depression appeared off the Irish coast, causing a rise in temperature and severe southerly and southeasterly gales, with rain and snow in all parts of the British Isles. On the 8th, the centre of disturbance was over the North sea and off the eastern coast of Scotland, the lowest barometric reading being 28.94 (735.1), at Aberdeen, wind wnw., while strong westerly and northwesterly gales prevailed at all stations west of the centre. During the 8th, the depression moved, in a course slightly south of east, over the Scandinavian peninsula, and, on the 19th, was central over the Baltic, causing rain and snow over nearly all parts of northwestern Europe. On the 10th, the disturbance passed into northwestern Russia, and gradually disappeared.

XIV.—This was a deep depression, 28.60 (726.4), which appeared off the north of Ireland on the 10th, and caused a rapid decrease of pressure over western Europe. Strong westerly and southwesterly gales occurred over England and Ireland, and equally strong southeasterly gales prevailed in Scotland, while rain fell in the British Isles and the northwestern coast of Europe, except in the northern part of Scotland, were the precipitation was in the form of snow. During the 10th, the disturbance moved quickly eastward, having assumed an elliptical form, and on the 11th, the region of least pressure was situated over the eastern part of the Baltic. A brisk increase of pressure followed immediately in rear of the depression, and the barometric gradients became steep over the British Isles, causing strong northerly and northwesterly gales over these islands.

XV.—This was probably a secondary development of the preceding storm, low-area xiv. It apparently moved in a southeasterly direction over England and the North sea, and on the 11th, was central in Germany. By the 12th, it appeared as a well-defined storm-centre in the southeastern part of Austro-Hungary. During the 13th, 14th, and 15th, the disturbance occupied southwestern Russia and the Black sea, causing higher temperature and cloudy weather, with moderate to strong breezes over that region. On the 16th, the disturbance disappeared in the Caucasus.

XVI.—On the 11th, the pressure decreased about .45 inch in southern Greenland, and on the 12th, a well-defined storm-centre appeared to the southwestward of Iceland, causing a strong easterly gale of force 8, at Stykkisholm, while strong westerly gales were experienced by vessels near the fifty-second parallel. During the 12th, the disturbance appears to have moved due southward, and on the 13th, was central near N. 55°, W. 30°; the s. s. "Celtic," in N. 49° 29′, W. 31° 27′, reported barometer 29.13 (739.9), wind nw., force 6, cloudy, and the s. s. "Belgenland," in N. 49° 13′, W. 25° 20′, barometer 29.03 (737.3), wind sw., force 9, showery. On the 14th, the disturbance was central off the southwest coast of Ireland, causing moderate southerly gales, with rain or snow at stations in northwestern France. On the 15th, the disturbance was over the southern part of the Bay of Biscay, where it appears to have dissipated during the day.

XVII.—This depression developed in Greenland during the 14th and 15th, and disappeared north of Iceland on the following day, without exhibiting any special energy. From the 16th to the 20th, the barometric readings remained low over Greenland and Iceland.

XVIII.—This was a slight depression which appeared off the northwestern coast of Spain on the 18th, and moved in a southeasterly direction over the peninsula during the 19th and 20th. The disturbance was attended by rising temperatures and rain at most stations in Spain, but no high winds were reported.

XIX.—On the 23d, there was a decrease of pressure over the Madeira islands, accompanied by southwesterly winds and rain, while vessels near the fortieth parallel experienced strong easterly and northeasterly winds, indicating the presence of an atmospheric disturbance near the Madeiras. By the 25th, the disturbance appeared as a well-defined storm-centre near the straits of Gibraltar, causing rain at stations in Spain, and high southerly winds in Algeria. On the 26th, an elongated area of low pressures occupied the western part of the Mediterranean, Algeria, the Iberian peninsula, and the Atlantic ocean westward as far as the fortieth meridian: within this area, the lowest barometric readings appeared to be over the Mediterranean, where generally stormy weather prevailed; these conditions being maintained until the close of the month.

XX.—This is a slight depression which appeared in northern Germany on the 25th; it moved northeastward, and on the morning of the 26th, was central over the Baltic; the isobaric line of 29.8 (756.9), which indicated the region of least pressure, having an elliptical form. Strong northerly gales, with snow, prevailed over the Baltic, and a slight rise in temperature occurred during the passage of the disturbance. During the 27th and 28th, the depression moved slowly northeastward, and, at the close of the month, it occupied northwestern Russia.

XXI.—This disturbance probably developed in the southern part of the Bay of Biscay during the 27th, and by the morning of the 28th, was central in France, causing moderate winds and rain at stations on the shores of the Bay of Biscay. A continuation of the track of this depression will probably appear on the chart for March, 1881.

The following descriptions are given of the storms that appeared in Asia during the month:—

XXII.—This depression appeared west of the Ural mountains on the 4th, attended by rising temperature and snow. On the 5th, the disturbance moved slowly eastward, causing a strong southwesterly gale at Akmolinski, Asiatic Russia, where the wind reached a velocity of forty miles an hour. On the 6th, the disturbance moved through Siberia, and on the 7th, it passed beyond the stations of observation.

XXIII.—From the 4th to the 7th, an area of low pressure occupied Tartary and the region near the Sea of Okhotsk. On the 5th, the barometer at Nikolaievsk on the Amoor, read 29.09 (738.9), and a strong westerly gale occurred at that station.

XXIV.—This disturbance probably developed in the interior of the Chinese Empire, and moved slowly northeastward. On the 22d, the depression passed northeastward, probably at some distance from Zi-Ka-Wei, China, causing a decrease of pressure at that station. On the 23d, the depression passed into the Yellow sea, the wind at Zi-Ka-Wei shifting to northerly and blowing a gale accompanied by thunder and lightning and heavy rain, and a decided fall in temperature. During the 24th and 25th, the disturbance passed over Japan, causing strong gales over the Yellow sea after the passage of the centre, and finally disappeared in the Pacific ocean on the last-mentioned date.

Mr. Marc Dechrevens, of Zi-Ka-Wei Observatory, in the "Bulletin Mensuel," for February, 1881, states that eight atmospheric depressions were registered during the month of February. These passed to the northward of Zi-Ka-Wei, causing southeasterly shifting to westerly and northwesterly winds at that station; the northwest winds generally exhibiting the greatest force.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are applied at this office. In the naval and marine series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascer-

tained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in metres per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometres per hour, to metres per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnston'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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES.—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES.—At Melbourne, the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES.—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES.—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford, and Sandwick Manse the barometers are given as read off. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES.—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit.

CAPE COLONY SERIES.—At Cape Town, the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES.—At Zi-Ka-Wei, the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the directions to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. At Hankow the originals give the barometer in inches, temperature in Fahrenheit and force on scale of 0 to 10.

DANISH SERIES.—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES.—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second, for Mont Louis and Perpignan. In general, the rainfall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand, Commune de Greasque and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret, the observations are taken at 12, instead of 12.16. At Gap, the observations are taken at 12.03 p. m., instead of 12.32 p. m.

GERMAN SERIES.—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower clouds. Distinction is also made as to direction and kind, but not as to amount. The amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin, observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES.—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES.—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES.—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4 as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10.

JAPANESE SERIES.—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES.—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES.—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES.—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES.—The originals give the barometer in millimetres, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES.—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon of each day.

RUSSIAN SERIES.—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in metres per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES.—The originals give the barometer as read off and the movement of the air as indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES.—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES.—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES.—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10, and at Zurich on a scale of 0 to 4. The rainfall at Zurich is measured at 9 a. m., local time, and the remainder of the observation is taken at 1.13 p. m., local time.

TURKISH SERIES.—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in metres per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES.—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa, the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas, is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas.

BRITISH NAVAL SERIES.—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES.—The originals give the barometer in millimetres, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES.—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES.—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES.—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

MONTHLY SUMMARY, February, 1881, page 2, Cape Colony series, Cape Town, temperature 45.5° F., 7.5° C., should read 81.2° F., 27.3° C.; page 4, Russian series, Ekaterinburg, temperature 34.3° F., 1.3° C., should read 12.0° F., or —11.1° C.

July, 1881, page 1, British series, Silloth Rectory, the letter

"a" opposite this station, representing one observation missing, should be omitted.

DAILY BULLETIN, February 9, 1882, page 1, Cape Colony series, Cape Town, reduced barometer 29.09 inches, should read 29.99 inches.

12th, page 7, Portuguese Naval, Quanza, barometer 762.1 mm., should read 761.9 mm.

14th, page 3, Italian series, Cosenza, velocity 1.0 metres, should read 1.9 metres; page 12, Miscellaneous, bk. "Pilgrim," W. 12° 39′, should read 29° 39′.

17th, page 6, Ooglaamie, Point Barrow, Alaska, temperature —18.6° F., should read —8.6° F; United States sub-series, York Factory, B. A., reduced barometer 30.88 inches, should read 30.78 inches.

19th, page 10, Ocean S. S. Co., s. s. "Seminole," S. 35° 05′, should read N. 35° 05′.

22d, page 6, New Shoreham, Rhode Island, reduced barometer 29.69 inches, should read 29.66 inches.

23d, page 5, Cape May, New Jersey, velocity 6.5 metres, should read 16.5 metres.

28th, page 2, Canadian series, Chatham, N. B., rainfall 0.03 inches, should read 0.01 inches.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing November, 1877.

Storm-tracks in *Black*. The Arabic numerals show location of the centres of Low Barometer, at 7:00 A. M., Washington mean time, of that date.
Broken or dotted lines, are doubtful.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. Hazen

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

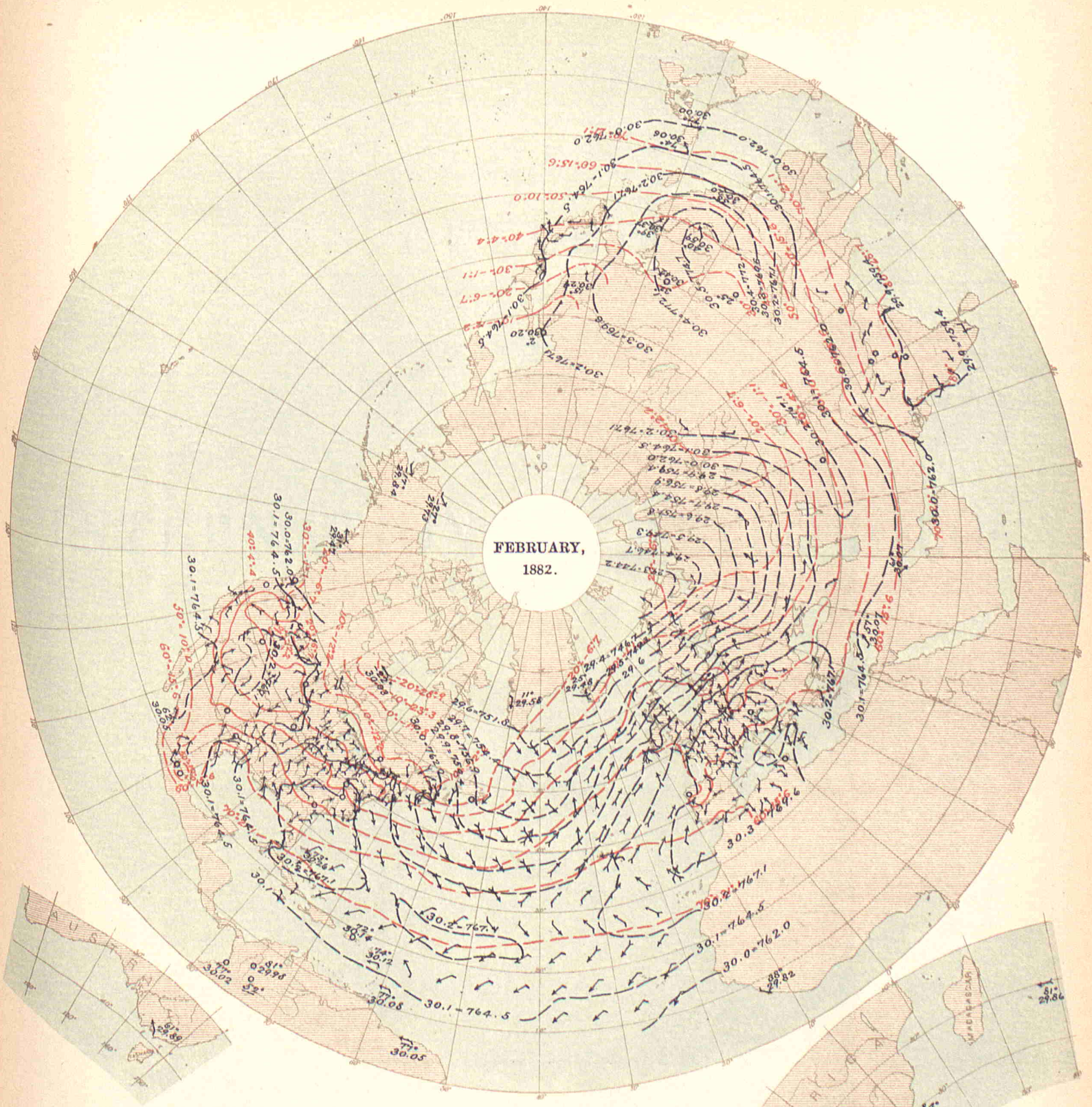
INTERNATIONAL CHART.
Showing Tracks of Centres of Low Barometer for February, 1881,

Heliotype Printing Co. Boston.

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.



PREVAILING WINDS.

Arrows show the 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 4.0
	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 & over.

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Chief Signal Officer, U. S. A.

Heliotype Printing Co. Boston.

ISOBARS AND ISOTHERMS.

Isobars in *black;* detached barometer means in English inches.

Isotherms in *red;* detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of February, 1882, based on the daily charts of the International Bulletin.

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF MARCH, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
APRIL, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MARCH, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.18	766.6	64.0	17.8	82.0	.....	4	17	5	.....	.....	.....	5	.....	.....	.....	2	1.00	25.5
Algiers	N. 36 47	E. 3 04	0.20 p.m.	72	22	.....	.....	30.16	766.1	60.6	15.9	72.1	7	4	11	2	.....	.....	.....	7	.....	.....	.....	4	5.18	131.5
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.11	764.7	63.3	17.4	79.0	6	12	4	3	1	1	3	1	.....	.....	.....	4	8.13	206.5
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.07	763.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sfax	N. 34 44	E. 10 40	0.51 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.21	767.3	58.3	14.6	54.0	16	9	1	1	1	.....	.....	2	1	.....	.....	2	1.11	28.3
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.16	766.0	54.5	12.5	53.8	3	12	4	7	1	3	1	.....	.....	.....	.....	3	1.77	45.0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	54.0	12.2	30.9	10	6	3	8	2	.....	1	1	.....	.....	.....	4	0.50	12.6
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.26	768.6	59.2	15.1	50.3	3	2	7	3	2	8	6	.....	.....	.....	.....	1	0.16	4.0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.19	766.7	68.9	20.5	34.0	9	8	1	6	4	3	.....	.....	.....	.....	.....	4	0.24	6.2
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.90	759.4	29.99	761.7	63.1	17.3	71	3	.....	4	2	9	9	2	2	.....	.....	.....	4	0.94	23.9
AUSTRO-HUNGARIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.51	749.5	30.06	763.4	57.4	14.1	50.8	.....	.....	.....	8	4	11	4	3	1	.....	.....	4	2.15	54.5
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.24	742.6	30.00	762.1	52.0	11.1	57.3	1	1	11	8	4	.....	5	1	.....	.....	.....	6	1.13	28.6
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.12	739.6	29.99	761.7	45.0	7.2	72.0	2	5	.....	.....	12	4	.....	.....	8	.....	.....	6	1.87	47.6
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.79	731.3	30.04	763.0	54.7	12.6	57.4	1	2	3	4	12	3	2	3	1	.....	.....	3	1.73	44.0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.59	726.1	30.00	761.9	57.0	13.9	48	3	14	1	1	5	7	.....	.....	.....	.....	.....	4	0.01	0.3
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.71	729.3	30.07	763.7	49.1	9.5	67.5	.....	5	12	1	1	.....	3	5	4	.....	.....	6	1.18	29.9
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.97	735.9	29.97	761.1	48.9	9.4	63.6	.....	16	1	5	4	2	.....	3	.....	.....	.....	7	2.70	68.5
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.93	760.3	30.05	763.2	57.7	14.3	69.3	1	1	8	1	1	9	6	4	.....	.....	.....	5	2.72	69.0
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.56	750.7	30.02	762.5	54.7	12.6	60	1	8	3	8	4	4	3	.....	.....	.....	.....	6	1.98	50.2
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.74*a*	755.4*a*	30.02*a*	762.6*a*	58.1	14.5	56.4*b*	1	5	4	5	8	4	.....	1	3	.....	.....	5*a*	1.80	45.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.96	760.9	30.06	763.5	57.7	14.3	57.6	.....	.....	.....	3	.....	1	4	10	13	.....	.....	4	3.81	96.7
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.22	742.3	29.94	760.4	55.4	13.0	49.0	1	5	13	.....	1	7	1	1	2	.....	.....	4	0.38	9.6
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.60	751.8	29.70	754.4	47.2	8.4	64.6	2	1	5	11	8	1	3	.....	.....	.....	.....	6	1.62	41.1
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.64	752.8	29.89	759.2	47.9	8.3	87.5	1	4	3	16	4	.....	.....	3	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.92	760.0	49.1	9.5	75.2	.....	1	13	15	.....	.....	1	1	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.38	746.2	29.91	759.7	47.0	8.3	76.3	2	2	5	14	6	1	1	.....	.....	.....	.....	9	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.48	748.8	29.88	758.9	47.9	8.8	75.5	.....	2	8	16	.....	1	.....	.....	.....	.....	.....	6	2.88	73.2
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.99	761.7	30.02	762.5	81.1	27.3	66.5	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	5	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.97	761.2	52.4	11.3	66.9	2	4	16	8	1	.....	.....	.....	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.90	759.4	30.03	762.7	52.1	11.2	71.4	1	3	4	13	1	1	.....	1	7	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.87	758.7	30.10	764.5	50.3	10.2	75.3	.....	5	6	11	2	4	2	1	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.65	702.3	29.87	758.7	78.9	26.1	52.7	.....	.....	.....	.....	3	11	6	3	8	.....	.....	2	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.62	752.3	29.85	758.2	87.7	30.3	66.8	1	12	17	1	.....	.....	.....	.....	.....	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	.....	.....	29.91*d*	759.7*d*	.....	.....	.....	1	2	7	18	2	.....	1	.....	.....	.....	.....	8	1.92*p*	48.8*p*
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.18	766.6	30.24	768.1	64.0	17.8	77.2	.....	.....	6	3	1	3	15	3	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.58	751.3	29.78	756.4	46.5	8.1	73.5	1	1	6	12	7	.....	.....	4	.....	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.86	758.4	30.03	762.7	51.7	10.9	69.1	3	2	4	18	2	.....	1	1	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.82	757.4	30.12	765.0	50.5	10.3	82.9	5	6	9	4	2	1	1	3	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.00	762.0	30.04	763.0	50.9	10.4	61.6	3	2	7	15	3	1	.....	.....	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.70	754.4	29.95	760.7	50.6	10.3	68.7	.....	6	2	22	.....	1	.....	.....	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.95	760.7	30.02	762.5	63.4	17.4	71.9	2	5	6	5	1	3	3	6	.....	.....	.....	4	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.20	767.1	30.24	768.1	74.0	23.3	72.6	.....	2	.....	3	2	7	4	13	.....	.....	.....	5	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.44	747.8	29.97	761.2	49.4	9.7	70.0	1	2	8	7	11	1	1	.....	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.78	756.4	30.01	762.2	50.6	10.3	66.0	.....	1	4	19	4	1	1	.....	1	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	30.01	762.2	30.08	764.0	51.5	10.8	77.0	1	5	1	15	5	2	1	1	.....	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.60	751.8	42.7	5.9	82.1	1	4	6	9	5	2	3	1	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.99	761.7	30.06	763.5	55.5	13.1	57.6	6	.....	.....	10	3	1	1	9	1	.....	.....	4	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.64	752.8	29.91	759.7	51.8	11.0	72.0	1	2	3	21	.....	.....	2	.....	2	.....	.....	6	1.07	27.2
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.81	757.2	29.84	757.9	46.7	8.2	81.5	1	3	6	11	5	.....	4	1	.....	.....	.....	7	3.10	78.7
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.92	760.0	46.6	8.1	73.8*a*	1	1	14	12	.....	2	.....	1	.....	.....	.....	8	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.82	757.4	30.05	763.3	52.5	11.4	66.5	2	5	9	11	1	1	2	.....	.....	.....	.....	5	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	30.04	763.0	30.08	764.0	55.5	13.1	70.5	1	10	5	8	6	.....	.....	1	.....	.....	.....	6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.98	761.5	30.01	762.2	50.1	10.1	77.3	1	4	6	12	6	2	.....	.....	.....	.....	.....	8	.....	.....
CANADIAN.																										
Bathurst *d*	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	21.7	— 5.7	.....	.....	8	.....	1	6	.....	1	2	5	.....	.....	6	2.62	66.5
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.95	760.7	29.99	761.7	20.3	— 6.5	88.9*a*	7	4	3	1	5	2	2	4	3	6962	11204	7	4.37	111.0
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.96	761.0	30.03	762.7	18.0	— 7.8	90.6	4	6	2	6	3	1	1	5	3	3988	6418	6	7.14	181.4
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.83	757.7	30.03	762.7	21.1	— 6.1	68.7	3	8	3	4	1	.....	9	3	.....	.....	.....	6	2.74	69.6
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46	29.82	757.4	30.00	762.0	17.2	— 8.2	.....	.....	.....	17	.....	.....	.....	5	1	8	.....	.....	6	1.26	32.0
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.00	762.0	30.02	762.5	16.5	— 8.6	88.2	3	3	5	6	4	1	1	6	2	14140	22705	7	4.06	103.1
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.22	742.2	30.13	765.3	4.8	—15.1	97.7	6	6	.....	3	6	2	3	1	4	7127	11470	5	2.48	63.0
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.97	761.2	30.04	763.0	20.0	— 6.7	83.7	4	4	15	2	2	2	.....	1	1	.....	.....	5	6.29	159.8
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.91	734.3	30.07	763.8	27.1	— 2.7	97.5	3	8	.....	.....	3	1	3	1	12	.....	.....	6	4.13	104.9
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.87	758.7	30.01	762.2	25.2	— 3.8	87.2	4	4	8	3	3	2	3	2	2	.....	.....	5	6.05	153.7
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	358	109	29.65	753.1	30.06	763.5	31.5	— 0.3	84.3	1	.....	5	14	.....	.....	3	7	1	.....	.....	7	2.99	75.9
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.72	754.9	30.08	764.0	25.2	— 3.8	80.9	3	7	4	4	3	2	.....	8	.....	6253	10053	6	2.73	69.3
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.95*b*	760.7*b*	29.99*b*	761.7*b*	23.3	— 4.8	88.0	4	8	4	6	4	3	.....	1	1	.....	.....	7	2.47	62.7
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.84	757.9	30.06	763.5	21.9	— 5.6	74.5	1	2	12	.....	2	3	3	7	1	.....	.....	6	4.02	102.1
Moose Factory	N. 51 16	W. 80 56	6.44 a.m.	30	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.34	745.2	30.09	764.3	20.1	— 6.6	80.4*a*	9	3	2	...	2	4	4	5	2	8427	13562	5	4.28	108.7
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210	29.31	744.3	30.10	764.5	27.5	— 2.5	87.1	1	7	2	.....	1	2	4	4	10	.....	.....	6	1.28	32.5
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.35	745.5	30.08	764.0	30.2	— 1.0	93.9	1	6	2	3	6	.....	2	5	6	6410	10316	7	2.77	70.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.39	746.5	30.07	763.8	29.9	— 1.2	87.6	2	4	11	1	.....	2	9	2	.....	.....	.....	7	3.52	89.4
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.71	754.6	30.05	763.3	18.5	— 7.5	86.4	2	6	5	2	.....	.....	2	11	3	.....	.....	5	4.39	111.5
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.61	752.1	30.11	764.8	13.7	—10.2	80.9	1	5	7	.....	.....	3	5	.....	10	.....	.....	6	2.66	67.6
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.29	744.0	30.05	763.3	26.6	— 3.0	88.7	5	3	2	2	4	5	2	5	3	9866	15878	8	3.16	80.3
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.94	760.5	30.01	762.2	25.1	— 3.8	88.2	7	7	1	3	3	.....	2	4	4	.....	.....	5	6.76	171.7
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.83	757.7	30.01	762.2	25.0	— 3.9	91.8	7	3	1	7	1	2	.....	10	.....	.....	.....	6	5.99	152.2
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.91	759.7	21.1	— 6.1	.....	7	7	1	7	.....	1	1	7	.....	.....	.....	.....	3.18	80.8
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.71	729.2	30.06	763.5	26.8	— 2.9	90.4	1	9	1	4	1	5	.....	.....	10	.....	.....	7	3.58	90.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CANADIAN—C't'd.	° ′	° ′																								
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.94	760.5	30.01	762.2	20.8	— 6.2	87.8	5	4	4	6	2	2	4	1	3	8239	13259	6	6.30	160.0
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.69	754.1	30.10	764.5	28.8	— 1.8	81.3	7	3	7	1	1	3	5	3	1	9858	15865	7	2.07	52.6
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	29.88	758.9	29.98	761.5	25.4	— 3.7	92.8	4	1	7	6	5	1	5	1	1	.....	.....	6	3.49	88.6
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.95	735.3	30.06	763.5	28.5	— 1.9	81.6	2a	6	5	5	2	5	.....	5	.....	.....	.....	8	4.40	111.8
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.93	760.2	30.00	762.0	29.7	— 1.3	83.9	3	5	3	2	4	4	4	5	1	8526	13721	6	6.08	154.4
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.84	757.9	30.11	764.8	23.7	— 4.6	.....	.....	3	9	5	6	.....	1	6	1	.....	.....	6	4.70	119.4
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.03	762.7	30.06	763.5	68.7	20.4	77.6	.....	.....	8	8	1	4	7	2	1	.....	.....	5	1.54	39.1
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.96	761.0	30.00	762.0	79.5	26.4	51.8	2	6	4	.....	12	7	.....	.....	.....	.....	.....	4	4.43	112.5
CHINESE.																										
Sub Series.																										
Hankow *e*	N. 30 34	E. 114 20	7.45 p.m.	260	79	30.10	764.5	30.38	771.6	54.3	12.4	73.1	4	5	2	1	2	2	4	6	.....	.....	.....	5	1.35	34.3
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.19	766.7	30.24	708.2	45.1	7.3	77.4	8	3	.....	.....	3	6	7	4	.....	.....	.....	6	0.82	20.7
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.85	758.1	29.89	759.3	45.0	7.2	73	.....	9	10	2	3	5	2	.....	.....	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.85	758.1	29.87	758.6	44.1	6.7	85	.....	.....	15	10	3	2	1	.....	.....	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.50	749.2	29.54	750.3	9.7	—12.4	92*n*	4	6	2	2	8	1	.....	5	3	.....	.....	10	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.21	741.9	29.25	743.0	24.3	— 4.3	91	1	.....	1	8	4	4	4	6	3	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.41	747.0	29.45	747.9	39.9	4.4	73	3	2	3	12	4	1	1	5	.....	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.70	754.4	29.79	756.7	41.9	5.5	87	.....	1	10	9	5	.....	1	4	1	.....	.....	6	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.53	750.0	30.19	766.7	55.0	12.8	68.1	3	4	3	2	.....	.....	.....	1	18	.....	.....	.....	1.01	25.6
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.59	751.5	30.14	765.5	51.4	10.8	74.1	5	1	.....	8	9	.....	1	7	.....	.....	.....	.....	1.81	46.0
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.80	756.8	30.06	763.4	51.4	10.8	74.9	5	5	4	11	.....	2	.....	4	.....	.....	.....	.....	0.79	20.0
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	30.02	762.6	30.10	764.6	61.5	16.4	47.6	22	2	2	2	.....	2	.....	1	.....	.....	.....	2	0.98	24.8
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.56	750.9	30.12	765.1	52.7	11.5	59.5	.....	1	5	4	8	4	9	.....	.....	.....	.....	5	1.44	36.7
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.85	758.2	30.11	764.8	52.3	11.3	61.4	2	6	2	9	2	1	5	4	.....	.....	.....	6	1.54	39.0
Besançon	N. 47 14	E. 6 01	0.32 p.m.	846	258	29.18	741.2	30.08	764.1	52.9	11.6	71.6	2	.....	.....	3	8	1	.....	17	.....	.....	.....	.....	1.27	32.2
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.92	759.9	30.18	766.6	53.8	12.1	63.7	5	6	6	4	6	1	1	2	.....	.....	.....	6	2.32	58.9
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.58	751.4	30.14	765.5	54.7	12.6	56.6	6	3	8	7	3	.....	2	2	.....	.....	.....	.....	1.51	38.4
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.92	760.0	30.17	766.2	55.0	12.8	73.9	5	.....	5	12	.....	.....	.....	4	5	.....	.....	6	1.84	46.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.02	762.5	30.10	764.4	53.8	12.1	66.6	3	7	3	9	7	1	1	.....	.....	.....	.....	5	1.22	31.1
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.72	754.9	30.04	763.0	53.4	11.9	70.9	2	2	5	0	11	1	.....	.....	4	.....	.....	5	1.27	32.3
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.57	751.1	30.09	764.2	52.3	11.3	64.4	1	6	9	5	5	2	1	2	.....	.....	.....	5	2.52	63.9
Clermont-Fd.	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.77	730.8	30.13	765.3	55.0	12.8	52.4	9	5	9	1	2	1	3	1	.....	.....	.....	4	1.92	48.8
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.28	743.6	30.14	765.6	53.2	11.8	62.9	6	6	2	2	2	6	1	6	.....	.....	.....	5	1.31	33.2
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.24	742.8	30.13	765.2	53.4	11.9	57.5	3	3	13	2	1	1	2	2	4	.....	.....	4	1.97	50.1
Gap	N. 44 33	E. 6 05	0.32 p.m.	2427	740	27.51	698.7	30.03	762.8	50.3	13.5	45.1	2*h*	4	2	3	5	3	1	3	.....	.....	.....	.....	0.90	22.8
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.94	735.0	30.06	763.4	60.3	15.7	41.1	.....	.....	.....	.....	0	17	8	.....	.....	.....	.....	3	1.28	32.5
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.33	744.9	30.10	764.5	55.0	12.8	53.7	1	9	4	2	1	2	6	6	.....	.....	.....	.....	1.48	37.5
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.50	725.4	30.16	766.1	51.4	10.8	55.7	3	5	3	9	1	3	4	3	.....	.....	.....	.....	2.22	50.3
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.87	758.6	30.14	765.6	52.5	11.4	72.2	5	8	5	0	4	1	2	.....	.....	.....	.....	6	1.66	42.1
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.62	752.4	30.19	766.8	56.8	13.8	66 8	5	4	13	3	.....	1	5	.....	.....	.....	.....	4	2.39	60.6
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	30.09	764.3	30.19	766.9	55.0	12.8	75.8	4	2	3	9	5	1	1	3	3	.....	.....	7	2.37	60.2
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.08	738.6	30.15	765.7	52.9	11.6	54.1	11	2	4	.....	5	2	3	4	.....	.....	.....	7	1.48	37.6
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.85	758.3	30.17	766.2	51.1	10.6	69.4	6	4	7	4	3	2	1	4	.....	.....	.....	5	2.01	51.0
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.81	757.2	30.08	764.0	60.4	15.8	57.5	1	8	8	11	2	1	.....	.....	.....	.....	.....	3	0.68	17.4
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.86	631.5	29.71	754.5	43.0	6 1	52.1	3	8	4	5	1	2	3	5	.....	.....	.....	4	1.92	48.9
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	102	31	29.96	761.0	30.09	764.3	62.1	16.7	51.8	9	.....	.....	.....	.....	12	5	4	1	.....	.....	1	0.1	3.
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.32	744.6	30.10	764.6	52.5	11.4	55.5	2	5	10	7	6	1	.....	.....	.....	.....	.....	5	1.01	30.8
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	30.03	762.8	30.20	767.0	55.8	13.2	65.8	7	2	4	7	5	1	3	2	.....	.....	.....	7	1.74	44.2
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	30.02	762.5	30.13	765.3	60.8	16.0	42.4	9	5	.....	1	5	7	.....	4	.....	.....	.....	4	0.44	11.1
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.23	539.2	.....	.....	24.8	— 4.0	.....	2	4	1	3	2	6	5	8	.....	.....	.....	5	11.73	297.9
Privas..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.06	738.1	30.13	765.2	56.3	13.5	54.1	14*f*	.....	.....	1	8	1	.....	1	.....	.....	.....	3	2.2	55.
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.19	639.7	.....	.....	35.4	1.9	80.9	5	1	7	9	1	2	3	3	.....	.....	.....	.....	5.42	137.8
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.15	765.8	30.18	766.6	55 4	13.0	84.8	4	1	10	0	4	.....	.....	4	2	.....	.....	5	1.01	25.6
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.94	760.4	30.16	766.0	53.6	12.0	68.8	5	12	2	3	1	1	2	5	.....	.....	.....	5	2.07	52.5
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.98	710.8	30.16	766.0	49.8	9.9	62.9	1	19	3	.....	.....	3	3	2	.....	.....	.....	7	2.20	55.9
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	30.07	763.8	30.12	765.0	53.8	12.1	64.5	2	3	3	15	.....	3	3	2	.....	.....	.....	5	1.90	48.3
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.96	760.9	30.12	765.1	52.7	11.5	62.9	5	.....	5	7	0	2	1	5	.....	.....	.....	6	1.05	41.8
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.49	749.1	30.22	767.6	55.8	13.2	62.5	6	13	5	1	.....	3	1	2	.....	.....	.....	5	1.01	25.6
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.62	752.4	30.11	764.9	52.3	11.3	61.1	4	4	8	7	1	1	.....	6	.....	.....	.....	6	0.98	24.9
Sub-Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	29.84	757.8	30.13	765.2	52.7	11.5	62.9	4	1	6	8	4	3	2	3	.....	.....	.....	7	1.48	37.7
GERMAN.																										
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.22	742.1	30.07	763.8	50.9	10.5	54.4	.....	15	5	7	.....	1	.....	1	2	.....	.....	4	1.24	31.5
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.77	756.2	29.95	760.7	51.8	11.0	56.5	1	8	4	8	5	1	2	2	.....	.....	.....	6	1.89	48.0
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.48	748.8	30.01	762.3	51.4	10.8	52.7	1	1	14	5	3	4	1	1	1	.....	.....	5	0.83	21.0
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.65	753.0	30.09	764.3	53.4	11.9	61.3	.....	1	.....	20	.....	.....	4	6	.....	.....	.....	6	1.62	41.2
Cassel	N. 51 19	E 9 28	0.46 p.m.	669	204	29.27	743.4	29.98	761.5	51.6	10.9	56.0	2	5	5	3	16	.....	.....	.....	.....	.....	.....	5	1.57	39.8
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.69	754.2	30.06	763.0	53.0	12.0	58.4	2	3	2	13	4	3	1	3	.....	.....	.....	6	1.32	33.4
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.66	728.0	30.12	765.0	48.2	9.0	71.2	.....	.....	1	10	8	1	.....	5	.....	.....	.....	4	1.04	41.6
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.86	758.5	29.96	760.9	48.0	8.9	76.7	1	3	11	8	1	4	2	.....	1	.....	.....	6	2.08	52.9
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.88	758.9	29.89	759.3	46.6	8.1	70.8	1	3	13	9	.....	1	3	1	.....	.....	.....	6	2.51	63.7
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.63	752.5	30.05	763.3	51.4	10.8	58.2	3	3	4	10	3	1	.....	1	.....	.....	.....	6	2.42	61.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.79	756.7	29.99	761.8	52.3	11.3	60.6	2	2	13	5	4	4	.....	1	.....	.....	.....	5	2.47	62.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.82	757.5	29.87	758.7	40.3	4.6	82.5	3	4	7	11	5	.....	1	.....	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.25	717.6	30.12	765.1	50.2	10.1	55.0	2	18	.....	2	.....	.....	6	3	.....	.....	.....	5	1.50	38.1
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.89	759.2	29.91	759.6	46.8	8.2	68.6	3	4	9	3	6	1	2	3	.....	.....	.....	8	0.78	19.9
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.54	750.2	30.07	763.7	52.9	11.6	61.1	2	.....	11	3	3	.....	2	2	8	.....	.....	5	1.17	29.7
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.12	739.7	30.02	762.5	54.0	12.2	52.8	11	1	9	3	1	.....	5	1	.....	.....	.....	5	0.54	13.7
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.91	759.6	29.93	760.2	44.2	6.8	82.6	2	.....	8	14	2	3	2	.....	.....	.....	.....	7	0.92	23.4
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	360	110	29.69	754.1	30.08	764.1	63.1	17.3	.....	1	2	.....	11	6	.....	1	10	.....	.....	.....	4	2.59	65.8
ITALIAN.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.66	753.4	30.08	763.9	58.3	14.6	51	10	1	.....	7	8	.....	3	3	5	.....	.....	4	5.37	136.4
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.56	750.7	30.07	763.8	57.7	14.3	54	2	.....	7	3	4	9	3	3	.....	.....	.....	4	1.85	47.1
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.95	760.7	30.06	763.5	57.0	13.9	58	3	1	1	2	4	0	9	5	.....	.....	.....	4	2.80	72.6
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.16	740.7	30.08	763.9	56.5	13.6	57	6	1	.....	1	6	8	7	2	.....	.....	.....	4	1.15	29.3
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.86	758.4	30.05	763.3	57.9	14.4	56	9	2	1	11	4	3	.....	1	.....	.....	.....	4	2.08	68.0
Mondovi *b*	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.13	714.5	30.06	763.4	53.2	11.8	52	4	6	16	.....	.....	.....	1	2	.....	.....	.....	4	0.95	24.1
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	30.00	762.1	30.05	763.3	55.0	12.8	69	15	.....	.....	5	1	2	.....	8	.....	.....	.....	2	1.52	38.6
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.79	756.7	30.05	763.2	59.5	15.3	51	1	5	6	5	1	1	1	11	.....	.....	.....	5	1.52	78.9
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.91	759.7	30.00	761.9	58.5	14.7	57	2	5	6	5	5	.....	3	5	.....	.....	.....	3	3.11	48.8
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.85	758.2	30.02	762.6	63.0	17.2	44	4	2	8	7	0	2	1	1	.....	.....	.....	4	1.92	32.9
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.78	750.4	30.04	762.9	61.5	16.4	59	4	5	0	5	4	5	1	1	.....	.....	.....	5	1.30	65.9
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.14	740.1	30.03	762.8	59.4	15.2	74	2	0	0	3	5	0	2	1	.....	.....	.....	5	2.00	51.0
Cagliari *b*	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.82	757.4	30.01	762.3	60.8	16.0	58	.....	6	7	.....	7	7	.....	.....	2	.....	.....	6	2.03	31.9
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.79	750.6	30.04	763.0	62.4	16.9	54	1	3	3	4	1	1	2	10	.....	.....	.....	4	1.20	30.5
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.96	760.9	30.00	762.1	62.1	16.7	65	.....	.....	.....	3	4	5	6	10	3	.....	.....	5	4.73	120.2
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.49	749.1	30.02	762.4	60.6	15.9	59.3	2	2	3	8	5	2	2	7	.....	.....	.....	5	3.15	80.0
Stelvio	N. 46 32	E. 10 26	0.50 p.m.	8343	2543	22.13	562.1	.....	.....	30.4	—0.9	62.3	.....	1	3	9	.....	8	1	9	.....	.....	.....	5	2.30	58.5
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8300	2548	22.20	563.8	.....	.....	32.7	0.4	62.1	13	.....	2	2	.....	3	5	0	.....	.....	.....	4	2.73	69.4
																								4	29.53	750.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
INDIAN.	° ′	° ′																								
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.92	759.9	29.97	761.2	81.0	27.2	59.	.....	3	15	12	.....	.....	.....	1	.....	.....	.....	0	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.38	746.4	29.85	758.1	92.5	33.6	28.	3	8	12	5	.....	2	.....	.....	1	.....	.....	3	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.83	757.6	29.87	758.6	83.5	28.6	62.	4	21	5	1	.....	.....	.....	.....	.....	.....	.....	2	0.02	0.5
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.99	710.9	29.79	756.7	93.5	34.2	16.	2	8	14	3	1	.....	1	2	.....	.....	.....	3	0.26	6.6
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.32	694.0	29.82	757.3	85.3	29.6	40.	.....	1	3	16	5	2	3	1	.....	.....	.....	2	1.33	33.8
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.12	739.7	29.86	758.6	81.6	27.6	27.	9	7	7	2	.....	1	1	2	2	.....	.....	3	0.03	0.8
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.92	734.5	29.81	757.3	82.3	27.9	25.	.....	18	4	2	.....	2	.....	.....	5	.....	.....	4	0.02	0.5
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.28	743.7	29.84	757.8	89.9	32.2	18.	6	8	10	1	2	.....	2	.....	2	.....	.....	1	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.77	730.7	29.78	756.3	96.4	35.8	18.	3	7	.....	6	5	1	.....	1	8	.....	.....	2	0.02	0.5
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.50	723.9	29.83	757.6	91.0	33.1	16.	10	8	.....	.....	3	.....	1	8	1	.....	.....	1	0	0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.44	747.8	29.81	757.2	91.1	32.8	17.	.....	7	10	5	1	3	.....	.....	5	.....	.....	2	0	0
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.50	749.3	29.81	757.1	89.8	32.1	22.	1	15	4	1	.....	.....	.....	4	6	.....	.....	2	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.64	752.7	29.82	757.4	86.9	30.5	35.	.....	11	9	1	.....	.....	4	6	.....	.....	.....	2	0.01	0.2
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.81	706.4	29.79	756.7	86.0	30.0	28.	8	16	6	1	.....	.....	.....	.....	.....	.....	.....	2	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.74	755.5	29.82	757.5	89.0	31.7	45.	.....	.....	.....	12	15	3	.....	.....	1	.....	.....	2	0.04	1.0
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	7	29.79	756.6	29.81	757.1	85.4	29.7	51.	2	2	4	8	11	1	1	1	1	.....	.....	1	0.52	13.2
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.66	753.4	29.78	756.4	78.7	25.9	56.	.....	.....	.....	1	.....	1	2	7	20	.....	.....	2	1.22	31.0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.80	756.8	29.89	759.1	79.4	26.3	75.	.....	7	1	5	17	5	1	1	.....	1	.....	2	0.11	2.8
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.54	750.3	29.88	759.0	71.9	22.2	78.	.....	.....	.....	5	.....	2	2	22	.....	.....	.....	4	5.19	131.8
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.43	722.1	29.85	758.3	87.3	30.7	21.	4	16	3	3	.....	1	1	2	1	.....	.....	3	0	0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.83	757.7	.....	.....	84.7	29.3	70.	7	1	2	3	2	3	2	11	.....	.....	.....	6	5.77	146.6
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.60	751.8	.....	.....	93.2	34.0	33.	.....	.....	.....	.....	4	6	18	3	.....	.....	.....	2	0	0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.36	720.3	.....	.....	95.1	35.6	14.	.....	3	2	1	.....	18	7	.....	.....	.....	.....	3	0	0
JAPANESE.																										
Aomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.95	760.8	29.99	761.8	32.4	0.2	80.0	1	1	3	.....	11	1	13	.....	1	8168	13144	6	2.87	73.5
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.95	760.7	29.96	761.0	33.2	0.7	70.	8	1	3	.....	.....	3	8	4	4	8451	13600	6	3.12	79.3
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	30.09	764.3	30.10	764.6	42.3	5.7	80.3	18	1	.....	.....	3	1	6	2	.....	4126	6640	4	3.99	101.3
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	30.00	762.1	30.11	764.8	39.7	4.3	80.3	4	.....	3	14	6	1	2	1	.....	5461	8788	7	5.00	126.9
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.92	759.9	30.10	764.5	40.5	4.7	79.1	8	.....	.....	1	6	1	6	7	2	2916	4693	5	2.85	72.5
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	30.09	764.2	30.11	764.8	47.1	8.4	72.7	7	2	2	1	.....	1	8	10	.....	605	974	4	4.50	114.3
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.94	760.4	30.15	765.7	46.5	8.0	77.1	7	3	.....	2	4	5	1	5	4	4055	6526	5	3.80	96.5
Nemuro	N. 43 21	E. 145 35	9.50 p.m.	58	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.04	762.9	30.07	763.9	38.6	3.7	81.0	2	2	3	4	2	9	9	.....	.....	6205	9986	7	4.56	115.7
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	30.01	762.1	30.02	762.5	36.5	2.5	75.2	19	1	1	.....	1	1	4	4	.....	8802	14165	5	1.88	47.9
Supporo	N. 43 04	E. 141 23	9.33 p.m.	61	19	.....	.....	.....	.....	29.2	—1.6	83.	.....	2	1	9	5	1	.....	7	6	5985	9632	7	2.58	65.6
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.96	761.1	30.04	762.9	42.8	6.0	74.9	13	3	3	2	5	.....	1	2	2	4449	7160	6	1.61	41.0
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.04	763.1	30.10	764.5	45.0	7.2	69.3	8	6	2	1	1	.....	4	5	4	3980	6405	6	1.79	45.3
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.71	754.6	29.90	759.4	78.7	25.9	78.2	2	2	.....	.....	1	6	13	7	.....	.....	.....	9	17.53	445.3
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6683	2037	23.73	602.7	29.96	761.0	58.1	14.5	72.	.....	.....	1	8	4	8	1	6	3	.....	.....	2	0.02	0.4
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.44	620.5	30.15	765.8	55.6	13.1	76.	6	16	1	2	.....	1	.....	3	2	.....	.....	3	0.16	4.1
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.75	755.6	30.02	762.6	63.7	17.6	88.	2	11	.....	1	.....	5	7	5	.....	.....	.....	4	inap.	inap.
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.14	587.7	30.24	768.0	51.8	11.0	63.	1	3	1	5	.....	1	.....	1	19	.....	.....	2	1.56	39.5
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.23	615.3	30.38	771.5	57.0	13.9	73.	.....	.....	2	2	7	16	2	2	.....	.....	.....	4	0.21	5.2
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	24.00	609.7	30.07	763.6	53.6	12.0	65.	.....	1	.....	3	.....	.....	.....	4	23	.....	.....	6	0.13	3.2
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.47	595.2	30.87?	768.7?	48.2	9.0	71.	1	.....	.....	.....	.....	.....	.....	2	28	.....	.....	1	inap.	inap.
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	24.25	615.8	30.20	767.1	58.6	14.8	63.	.....	.....	1	4	1	10	14	1	.....	.....	.....	6	0.23	5.3
Zacatecas *a*	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.59	573.7	30.23	767.7	52.2	11.2	.....	3	3	3	8	.....	.....	1	6	6	.....	.....	2	0.43	11.0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.08	763.9	30.08	763.9	50.0	10.0	.....	3	3	9	10	3	1	1	1	.....	.....	.....	.....	2.49	63.2
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.94	760.4	29.99	761.8	47.8	8.8	.....	1	6	7	9	7	1	.....	.....	.....	.....	.....	.....	2.11	53.5
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.99	761.7	29.99	761.7	45.7	7.6	.....	2	2	6	8	12	.....	1	.....	.....	.....	.....	.....	1.50	38.0
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.04	763.0	30.04	763.0	50.4	10.2	76.0	1	3	10	14	1	2	.....	.....	.....	.....	.....	.....	2.31	58.6
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.00	761.9	30.04	763.1	51.8	11.0	68.0	1	3	6	15	5	.....	.....	1	.....	.....	.....	5	2.98	75.7
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.57	751.1	29.63	752.7	40.5	4.7	74.2	1	4	4	1	14	6	1	.....	.....	.....	.....	8	13.41	340.5
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.41	747.1	29.45	748.1	34.0	1.1	66.9	2	4	3	8	1	3	2	2	6	.....	.....	7	3.08	78.3
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.50	749.4	29.65	753.2	41.7	5.4	57.5	1	3	5	10	4	2	2	3	1	.....	.....	6	1.32	33.6
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.24	742.7	29.26	743.3	28.2	—2.1	.....	2	4	4	5	3	8	2	.....	3	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.32	744.7	29.37	745.9	29.1	—1.6	74.	2	3	7	8	3	1	2	1	4	.....	.....	7	2.60	65.9
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	59.2	15.1	76.3	1	.....	6	3	6	11	3	.....	1	.....	.....	4	0.79	20.1
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.20	741.7	30.20	767.0	63.9	17.7	42.9	6	2	3	3	3	.....	10	4	.....	.....	.....	3	0.85	21.6
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.20	767.1	30.29	769.3	64.0	17.8	55.2	4	1	2	13	1	2	4	2	2	.....	.....	4	2.98	75.8
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.89	759.1	30.25	768.3	59.4	15.2	59.8	12	2	3	3	2	.....	2	7	.....	.....	.....	4	0.93	23.7
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.37	771.4	30.44	773.2	62.2	16.8	67.3	1	2	2	4	5	2	3	6	6	.....	.....	4	2.20	56.0
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.67	753.7	29.87	758.7	82.4	28.0	86.4	.....	1	20	9	.....	.....	.....	1	.....	.....	.....	5	0	0
Serra da Estralla	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.41	645.5	30.21	767.3	44.6	7.0	56.7	2	5	4	.....	1	12	4	3	.....	.....	.....	4	4.11*e*	104.4*e*
RUSSIAN.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.96	735.7	30.12	765.0	18.3	—7.6	89.7	.....	.....	3	17	5	1	4	1	.....	.....	.....	6	0.17	4.4
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.46	748.3	29.48	748.8	28.0	—2.2	82.0	.....	4	7	4	5	9	2	.....	.....	.....	.....	8	0.73	18.5
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖ 68	‖ 21	30.20	767.0	30.12	764.9	40.8	4.9	63.6	.....	3	5	6	3	7	3	1	3	.....	.....	7	0.90	22.8
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.69	754.2	30.22	767.7	24.8	—4.0	77.8	.....	.....	6	18	.....	.....	.....	.....	7	.....	.....	8	0.59	15.1
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.48	748.9	29.74	755.3	37.6	3.1	75.3	2	2	8	7	7	2	2	1	.....	.....	.....	9	1.69	42.9
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.80	731.6	29.80	757.0	28.6	—1.9	65.4	2	1	13	7	3	3	.....	2	.....	.....	.....	8	0.29	7.4
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.54	750.2	29.82	757.4	28.6	—1.9	73.5	2	3	3	9	11	3	.....	.....	.....	.....	.....	8	0.43	11.0
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.01	762.3	30.03	762.8	45.7	7.6	71.2	3	5	3	3	7	4	3	3	.....	.....	.....	5	0.32	8.2
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.26	743.2	29.91	759.6	46.2	7.9	56.5	1	6	7	6	2	7	2	.....	.....	.....	.....	6	1.88	47.8
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.79	756.6	29.99	761.8	44.1	6.7	54.4	.....	6	7	4	5	6	3	.....	.....	.....	.....	6	0.41	10.5
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.24	742.8	29.73	755.2	37.0	2.8	65.1	6	.....	1	4	17	1	.....	2	.....	.....	.....	7	1.83	46.0
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.00	762.1	30.08	763.9	49.6	9.8	62.6	5	5	2	4	8	2	1	2	2	.....	.....	5	0.35	8.8
Nikolaievsk *b*	N. 53 08	E. 140 45	9.31 p.m.	75?	23?	29.90	759.4	29.98	761.6	11.8	—11.2	85.4	.....	4	1	.....	.....	1	1	3	19	.....	.....	6	0.90	22.9
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.04	762.9	30.18	766.5	44.6	7.0	41.3	.....	6	.....	1	.....	8	.....	1	15	.....	.....	2	0.06	1.4
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.63	752.7	29.65	753.1	34.9	1.6	71.7	.....	7	9	4	6	2	2	1	.....	.....	.....	7	0.58	14.8
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.58	725.9	30.19	766.8	45.9	7.7	66.8	4	4	.....	.....	1	.....	1	2	19	.....	.....	6	3.11	79.1
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.68	728.4	30.12	764.9	50.4	10.2	40.4	4	10	1	.....	8	2	3	1	2	.....	.....	6	0.20	5.1
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.98	761.5	30.05	763.2	25.5	—3.6	76.3	8	4	.....	1	.....	5	2	1	10	.....	.....	4	0.14	3.6
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.52	749.7	29.94	760.6	48.2	9.0	64.1	.....	5	7	9	5	2	.....	1	2	.....	.....	8	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.43	747.5	29.86	758.4	43.2	6.2	68.7	2	6	5	8	5	3	.....	2	.....	.....	.....	8	1.87	47.5
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.85	758.1	30.15	765.8	25.7	—3.5	73.5	2	2	12	6	4	.....	2	2	1	.....	.....	7	0.68	17.3
SCOTTISH.																										
Monach Lt. House	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	30.00	762.1	30.11	764.8	59.9	15.5	59	1	1	4	4	8	10	2	1	.....	1708	2748	2	0.42	10.7
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.21	767.4	30.27	768.9	58.8	14.9	66	4	13	3	3	1	1	2	4	.....	2084	3353	6	2.60	66.1
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.23	691.6	30.23	767.8	52.2	11.2	56	12	2	5	.....	4	.....	.....	8	.....	5056	8137	4	0.64	16.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.95	709.8	30.17	766.4	59.2	15.1	42.7	3	4	.....	8	3	1	3	4	5	764	1229	2	0.50	12.6
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	30.01	762.3	30.15	765.8	56.3	13.5	59.0	.....	8	2	7	2	5	6	1	.....	1854	2983	3	0.43	11.0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.30	744.2	30.20	767.0	58.5	14.7	64.1	5	2	3	2	.....	.....	1	5	13	4805	8830	5	2.87	72.9
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	30.07	763.8	30.14	765.5	69.9	21.1	83.1	2	.....	.....	.....	1	9	9	.....	10	.....	.....	2	0.30	7.5
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.92	760.0	29.98	761.4	79.7	26.5	69.8	1	.....	.....	2	3	9	15	1	.....	.....	.....	3	1.21	30.7
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.13	765.3	30.23	767.8	64.2	17.9	48.9	1	1	7	2	2	3	10	5	.....	.....	.....	3	0.89	22.6
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.04	763.0	30.13	765.3	73.8	23.2	86	1	.....	.....	.....	.....	1	6	7	1	15	.....	4	2.29	58.2
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.89	759.2	30.02	762.5	74.8	23.8	81.4	.....	26	.....	2	2	1	.....	.....	.....	.....	.....	7	0.79	20.1

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for March, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
SWEDISH.	° ′	° ′																								
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.44	747.8	29.48	748.8	26.4	—3.1	80	5	8	3	1	9	3	.....	1	1	.....	.....	5	1.93	49.0
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.47	748.4	29.52	749.7	35.1	1.7	77	7	8	1	10	1	2	.....	2	.....	.....	.....	6	1.26	32.0
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.50	749.2	29.55	750.5	36.5	2.5	62	1	7	3	3	10	1	.....	1	5	.....	.....	6	0.35	8.9
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.50	749.2	29.67	753.7	38.8	3.8	66	.....	4	10	8	3	1	.....	5	.....	.....	.....	7	1.21	30.8
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.67	753.6	29.73	755.1	39.0	3.9	79	4	5	15	5	.....	1	1	.....	.....	.....	.....	5	1.08	27.4
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.55	750.5	29.63	752.7	38.7	3.7	68.5	2	4	10	7	5	2	1	.....	.....	.....	.....	7	1.31	33.3
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.69	728.6	30.12	765.1	51.1	10.6	52.6	17	2	2	4	2	.....	.....	4	.....	.....	.....	5	1.48	37.6
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.11	764.9	54.3	12.4	54	9	.....	.....	8	2	.....	3	9	.....	.....	.....	4	0.04	1.0
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.08	764.0	62.6	17.0	.....	.....	6	3	12	9	1	.....	.....	.....	.....	.....	5	4.6	11.7
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.01	762.2	64.6	18.1	67.9	8	4	4	7	3	.....	.....	5	.....	.....	.....	4	1.32	33.5
UNITED STATES.																										
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.01	762.2	30.10	764.5	36.8	2.7	71.5	5	5	8	2	7	.....	.....	1	3	5657	9104	7	1.79	45.5
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.39	746.5	30.09	764.3	24.1	—4.4	83.1	4	10	6	1	3	4	3	.....	.....	8908	14336	7	4.62	117.3
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.97	735.8	30.18	766.6	50.6	10.3	75.6	.....	10	7	3	3	.....	6	2	.....	7892c	12701c	6	4.16	105.7
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.09	764.3	30.10	764.5	38.7	3.7	78.7	8	6	4	2	4	3	2	2	.....	8190	13180	6	3.43	87.1
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	30.00	762.0	30.20	767.1	53.3	11.8	77.2	2	2	4	2	5	2	.....	5	9	3648	5871	4	6.80	172.7
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.10	764.5	30.15	765.8	41.2	5.1	72.2	9	5	1	1	5	1	4	3	2	4465	7187	6	3.43	87.1
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.08	764.0	30.10	764.5	38.3	3.5	80.2	7	7	5	1	5	2	3	1	.....	11532	18559	6	4.44	112.8
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1694	516	28.17	715.5	30.09	764.3	17.0	—8.3	83.0	1	12	1	.....	1	3	9	2	1	8887	14302	7	1.22	31.0
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.26	692.4	30.18	766.6	28.6	—1.9	84.9	2	4	7	.....	1	8	2	1	6	4311	6938	5	1.54	39.1
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.90	759.4	30.06	763.5	32.8	0.4	74.0	3	10	8	3	3	1	1	2	.....	9425	15168	5	3.35	85.1
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	30.00	762.0	30.05	763.3	67.0	19.4	92.1	2	3	.....	.....	8	6	2	1	9	6173	9934	6	3.54	89.9
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.30	744.2	30.09	764.3	31.6	—0.2	78.9	.....	2	7	8	3	4	1	6	.....	8811	14180	8	2.63	66.8
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.75	755.6	30.06	763.5	26.7	—2.9	72.1	7	5	1	.....	9	3	.....	4	2	6533	10514	7	2.34	59.4
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.75	755.6	30.17	766.3	46.9	8.3	76.7	6	6	2	1	7	5	1	2	1	7797	12548	4	4.22	107.2
Campc	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.47	697.7	30.08	764.0	34.6	1.4	81.2	.....	1	2	7	2	2	16	1	.....	4543	7311	3	1.01	25.7
Camp Thomas	N. 32 04	W. 110 06	4.49 a.m.	2710	826	27.26	692.4	30.04	763.0	41.4	5.2	74.8	.....	2	2	2	4	5	.....	.....	16	.....	.....	2	0.70	17.8
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.13	765.3	30.15	765.8	46.6	8.1	73.6	2	6	1	8	5	2	4	3	.....	10953	17627	5	3.73	94.7
Cape May *f*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.04	763.0	30.07	763.8	42.3	5.7	73.1	2	6	3	1	4	2	2	3	2	11807	20001	7	4.90	124.5
Castroville *a*	N. 29 25	W. 98 50	5.33 a.m.	780	238	29.27	743.4	30.10	764.5	58.2	14.6	85.0	2	6	3	.....	4	10	2	.....	3	3999*b*	6436*b*	8	2.38	60.5
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.17	766.3	30.19	766.8	63.0	17.2	79.8	4	2	2	2	4	3	6	2	6	6446	10374	4	2.60	66.0
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.24	742.7	30.10	764.5	36.8	2.7	76.4	1	8	1	4	4	5	2	6	.....	12433	20018	6	4.54	115.3
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.08	764.0	30.14	765.5	57.0	13.9	81.4	.....	2	5	13	.....	.....	2	7	2	6809	10958	4	5.96	151.4
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.26	743.2	30.14	765.5	48.2	9.0	74.7	1	2	5	4	3	1	3	12	.....	4885	7862	5	2.88	73.2
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.34	745.2	30.19	766.8	49.3	9.6	74.3	1	10	2	5	3	3	.....	5	2	5853	9419	5	4.56	115.8
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	23.96	608.6	30.14	765.5	26.1	—3.3	53.4	4	13	9	2	2	1	.....	.....	.....	10339	16639	2	0.06	1.5
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.33	745.0	30.07	763.8	35.0	1.7	84.6	2	9	5	2	4	4	2	3	.....	7778	12517	7	3.43	87.1
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.10	764.5	30.12	765.0	42.3	5.7	78.7	4	9	1	3	6	2	3	3	.....	10101	16256	5	3.11	79.0
Cincinnati	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.45	748.0	30.14	765.5	44.0	6.7	66.8	4	6	5	2	2	5	4	2	1	6176	9939	6	6.17	156.7
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.33	745.0	30.11	764.8	35.5	1.9	79.5	5	5	4	3	5	5	3	1	.....	8776	14123	8	3.82	97.0
Coleman City *g*	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.26	717.8	30.11	764.8	48.0	8.9	83.5	3	1	5	6	8	.....	.....	1	.....	5570	8964	5	1.09	27.7
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.22	742.2	30.11	764.8	39.5	4.2	71.8	2	9	4	6	2	4	3	1	.....	8250	13277	7	4.76	120.9
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.12	714.2	30.09	764.3	50.3	10.2	85.2	2	1	5	8	2	1	1	2	9	7401	11910	5	1.25	31.7
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.39	746.5	30.08	764.0	35.3	1.8	68.6	2	9	5	5	.....	2	4	4	.....	8960	14420	7	2.90	73.7
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.32	719.3	30.13	765.3	34.6	1.4	78.8	.....	.....	.....	15	1	8	2	2	3	4522	7277	5	1.97	50.0
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.27	641.8	30.11	764.8	25.8	—3.4	74.0	.....	3	1	16	.....	.....	.....	4	7	3940	6341	4	1.29	32.8
Decatur *d*	N. 33 10	W. 97 30	5.38 a.m.	1129	344	.....	.....	.....	.....	53.3	11.8	66.0	4	5	3	2	5	6	1	1	.....	7066	11372	5	0.78	19.8
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.10	764.5	30.12	765.0	40.5	4.7	83.0	8	5	1	2	7	3	.....	5	.....	14345	23086	7	3.15	80.0
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.26	743.2	30.08	764.0	54.0	12.2	79.7	3	.....	2	6	9	2	.....	4	5	6789	10926	6	1.03	26.2
Denver *a*	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.69	627.1	30.13	765.3	33.1	0.6	54.7	3	1	6	1	13	5	.....	1	.....	7424	11948	2	0.20	5.1
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.14	740.1	30.10	764.5	32.4	0.2	71.2	9	6	2	2	3	4	1	3	1	7188	11568	6	2.28	57.9
Detroit *a*	N. 41 21	W. 83 07	6.36 a.m.	661	201	29.36	745.7	30.11	764.8	37.2	2.9	80.5	5	10	2	2	3	4	2	2	.....	8800	14162	7	3.34	84.8
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.40	695.9	30.13	765.3	35.9	2.2	73.2	6	3	4	3	4	3	2	6	.....	10031	16143	4	0.24	6.1
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.32	744.7	30.07	763.8	31.0	—0.6	74.6	.....	12	4	5	2	3	3	2	.....	5387	8669	8	1.49	37.8
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.33	745.0	30.07	763.8	23.4	—4.8	79.3	.....	7	3	9	.....	.....	.....	11	1	6564	10564	6	3.05	77.5
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.28	743.7	30.10	764.5	57.8	14.3	86.6	3	3	.....	2	.....	16	1	1	5	4027	6481	7	0.77	19.6
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.31	642.9	30.18	766.6	16.0	—8.9	77.8	12	.....	1	16	.....	.....	.....	.....	2	8607	13851	4	3.45	87.6
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.94	760.5	30.01	762.2	27.0	—2.8	75.1	5	8	3	3	6	.....	.....	6	.....	9794	15762	6	7.54	191.5
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.28	667.5	30.08	764.0	43.3	6.3	56.1	2	10	9	.....	.....	.....	6	1	3	5791	9320	2	0.38	9.7
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.33	745.0	30.10	764.5	35.3	1.8	81.4	3	5	4	3	10	1	2	1	2	8950	14403	8	4.27	108.5
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.36	745.7	30.07	763.8	25.0	—3.9	83.0	8	2	6	1	3	2	2	4	3	7052	11349	8	2.73	69.3
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.51	724.1	30.08	764.0	44.3	6.8	59.1	1	6	5	6	1	2	3	5	2	2848	4583	3	inap.	inap.
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.06	636.5	30.08	764.0	30.7	—0.7	67.9	.....	1	.....	.....	1	3	5	20	1	5656	9102	2	1.69	27.7
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.14	689.3	30.15	765.8	21.1	—6.1	58.0	1	2	4	14	.....	2	.....	6	2	8768	14110	6	0.55	14.0
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.41	721.6	30.11	764.8	24.5	—4.2	77.2	2	8	3	.....	1	8	1	2	6	6975	11225	6	1.63	41.4
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.18	690.4	30.16	766.1	23.0	—5.0	71.6	1	1	3	9	.....	.....	1	6	10	8429	13566	6	1.09	27.7
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.01	711.4	30.15	765.8	17.5	—8.1	72.5	4	2	7	.....	4	2	6	4	2	8013	12895	8	0.69	17.5
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.81	681.0	30.14	765.5	26.7	—2.9	73.1	6	4	4	4	4	3	.....	1	5	7455	11997	6	0.07	1.8
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.24	641.1	30.12	765.0	42.9	6.1	69.9	1	.....	2	4	10	1	1	2	10	4468	7190	4	0.03	0.8
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.24	691.9	30.07	763.8	40.5	4.7	55.1	5	6	.....	6	4	3	2	5	.....	9839	15834	4	0.53	13.5
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.49	749.0	30.08	764.0	49.3	9.6	76.3	5	.....	1	.....	6	6	4	4	5	7185	11563	5	2.99	75.9
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.25	641.3	30.08	764.0	41.8	5.4	44.2	2	1	1	8	.....	5	11	2	1	5189	8351	2	1.84	46.7
Fort Griffin *j*	N. 32 53	W. 99 21	5.33 a.m.	1260	384	28.79	731.3	30.14	765.5	47.7	8.7	76.8	7	1	.....	3	4	.....	.....	2	4	4156	6688	3	0.99	25.1
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.47	697.7	30.12	765.0	24.7	—4.1	65.1	3	5	3	6	.....	6	5	2	1	7783	12525	5	0.41	10.4
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.15	765.8	30.16	766.1	50.9	10.5	78.4	3	5	5	4	3	.....	.....	11	.....	10517	16925	6	9.36	237.7
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.85	707.4	30.17	766.3	53.0	11.7	77.9	1	.....	2	9	9	2	3	2	3	6753	10868	5	0.39	9.9
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.72	678.7	30.10	764.5	23.5	—4.7	82.7	4	11	.....	5	1	3	.....	7	.....	3208	5163	5	0.71	18.0
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	30.14	765.5	30.18	766.6	10.9	—11.7	94.7	6	2	2	7	3	7	3	.....	1	6617	10649	2	0.28	7.1
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.33	668.8	30.13	765.3	22.2	—5.4	69.8	1	2	11	10	.....	1	.....	5	1	9857	15863	6	0.62	15.7
Fort Sill *a*	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.79	731.3	30.08	764.0	46.3	7.9	82.9	8	1	.....	.....	12	.....	.....	4	5	10018*b*	16122*b*	5	1.53	38.9
Fort Stevenson *f*	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.12	714.2	30.10	764.5	15.1	—9.4	79.7	3	8	1	1	.....	4	4	3	1	8262	13296	7	2.05	52.1
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	38.0	3.3	54.9	6	7	11	4	2	.....	1	.....	.....	.....	.....	2	0.01	0.3
Fort Washakie	N. 42 59	W. 108 43	4.50 a.m.	5580	1702	24.39	619.5	.....	.....	22.0	—5.6	66.8	6	6	7	3	1	4	3	.....	1	6041	9722	3	0.15	3.8
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.32	719.3	30.08	764.0	55.5	13.1	86.1	2	4	1	11	5	1	.....	2	5	5618	9041	7	2.01	51.1
Galveston	N. 29 18	W. 94 50	5.49 a.m.	48	15	30.06	763.5	30.10	764.5	65.1	18.4	82.9	4	1	1	1	15	4	3	2	.....	8668	13950	7	1.58	40.1
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.36	745.7	30.06	763.5	33.3	0.7	80.5	2	9	3	2	3	1	7	4	.....	10182	16386	8	5.85	148.6
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.13	765.3	30.15	765.8	50.2	10.1	79.6	5	3	4	5	1	2	4	7	.....	13350	21494	6	9.67	245.6
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.75	654.0	30.12	765.0	26.0	—3.3	63.5	1	7	7	12	.....	.....	.....	3	1	5805	9342	6	0.31	7.9
Henrietta *a*	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.10	739.1	30.14	765.5	49.9	9.9	82.1	5	1	1	3	11	1	2	1	5	7132*b*	11478*b*	6	1.84	46.7
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.63	727.2	30.11	764.8	24.7	—4.1	73.2	5	7	2	.....	2	11	4	.....	.....	11300	18185	8	0.80	20.3
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.27	743.4	30.11	764.8	39.5	4.2	76.3	5	6	3	1	5	6	4	.....	1	5734	9229	6	6.11	155.2
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.05	763.3	30.08	764.0	64.9	18.3	87.8	3	2	1	1	10	6	3	4	1	11616	18694	6	2.30	58.4
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.89	733.8	30.10	764.5	51.2	10.7	79.8	5	1	1	10	5	4	2	1	2	6867	11051	6	0.79	20.1
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.14	765.5	30.19	766.8	60.1	15.6	78.2	4	3	1	9	4	.....	2	5	3	6050	9736	4	0.89	22.6
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.38	746.2	30.08	764.0	36.0	2.2	74.3	1	7	4	4	1	3	2	5	4	6214	10000	6	3.30	83.8
Key West	N. 24 32	W. 81 48	6.41 a.m.	20	6	30.14	765.5	30.16	766.1	72.6	22.6	76.0	4	.....	.....	1	3	3	11	9	.....	7199	11586	4	0.01	0.3
Kittyhawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.14	765.5	30.16	766.1	47.6	8.7	79.3	3	4	6	4	3	1	5	5	.....	12840	20664	5	6.49	164.8
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.12	739.6	30.18	766.6	45.3	7.4	80.1	2	3	4	4	2	.....	2	10	4	5318	8858	5	4.35	110.5
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.23	742.4	30.05	763.3	31.3	—0.4	74.7	5	5	4	4	5	3	3	1	1	7175	11547	7	2.37	60.2
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.13	663.7	30.08	764.0	38.7	3.7	61.8	4	2	.....	3	.....	1	.....	.....	21	2757	4437	2	0.41	10.4
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.17	740.9	30.11	764.8	39.2	4.0	70.0	5	7	1	2	7	4	1	3	1	7696	12383	5	1.15	29.2
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.26	743.2	30.12	765.0	36.8	2.7	62.2	.....	.....	3	.....	3	3	16	4	2	3376	5428	5	0.67	17.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for March, 1882.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.78	756.4	30.11	764.8	53.5	11.9	76.6	5	1	3	5	5	2	.....	6	4	5245	8441	9	6.25	158.8
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.74	755.4	30.14	765.5	47.5	8.6	74.4	3	5	2	1	1	4	4	8	3	4431	7131	3	2.66	67.6
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.52	749.8	30.11	764.8	44.8	7.1	73.9	2	6	6	1	7	2	4	2	1	8128	13080	6	5.85	148.6
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.42	747.3	30.14	765.5	44.1	6.7	67.1	1	4	4	7	1	.....	3	4	7	3370	5423	6	4.33	110.0
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.00	736.6	30.08	764.0	30.3	−0.9	78.6	6	6	6	3	.....	4	4	2	.....	9734	15665	7	4.73	120.1
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.30	744.2	30.07	763.8	25.4	−3.7	77.9	2	6	6	5	2	5	5	.....	.....	7695	12384	8	2.75	69.8
Mason *a*	N. 30 42	W. 99 02	5.32 a.m.	1620	494	28.42	721.9	30.10	764.5	55.8	13.2	78.6	3	4	1	8	10	1	.....	2	1	6082	9788	6	1.19	30.2
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.79	756.7	30.14	765.5	52.6	11.4	75.8	1	4	2	5	2	4	.....	3	10	3703	4945	5	9.10	231.1
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.28	743.7	30.06	763.5	32.6	0.3	83.8	3	6	5	6	.....	6	3	2	.....	10641	17125	8	3.90	99.1
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.12	765.0	30.16	766.1	59.7	15.4	85.1	6	1	1	3	3	1	.....	4	12	4085	6574	4	5.13	130.3
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.93	760.2	30.17	766.3	55.3	12.9	80.7	3	4	4	4	2	5	2	2	5	4311	6938	5	6.92	175.8
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.00	736.6	30.08	764.0	12.9	−10.6	84.4	10	2	1	2	3	3	2	2	6	10215	16439	6	2.83	71.9
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.08	738.6	30.14	765.5	41.7	5.4	75.3	2	1	4	7	1	2	1	7	6	6209	9992	7	7.18	182.4
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.48	596.4	30.00	762.0	11.5	−11.4	81.1	4	19	5	1	1	.....	.....	1	.....	26488	42628	5	14.52	368.8
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.59	751.6	30.15	765.8	48.9	9.4	73.6	6	7	1	2	3	3	2	1	6	4133	6651	6	9.36	237.7
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.97	761.2	30.09	764.3	34.1	1.2	74.1	7	6	3	2	3	1	.....	4	5	6749	10861	7	3.59	91.2
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.05	763.3	30.10	764.5	36.3	2.4	70.3	9	7	4	4	3	2	.....	2	.....	7516	12095	6	3.50	90.4
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.07	763.8	30.13	765.3	63.7	17.6	79.9	6	.....	2	2	8	7	1	5	.....	5622	9048	4	0.92	23.4
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.02	762.5	30.07	763.8	35.4	1.9	74.7	6	7	5	4	4	.....	2	2	1	8875	14283	6	4.23	107.4
New River *e*	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	49.3	9.6	78.0	6	3	4	3	3	1	1	5	.....	.....	.....	6	6.67	169.4
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.04	763.0	30.07	763.8	36.2	2.3	74.2	6	8	2	4	1	3	.....	5	2	13887	22337	5	5.39	136.9
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.93	760.2	30.11	764.8	36.6	2.6	78.2	3	8	8	1	6	1	1	3	.....	8176	13158	6	2.32	58.9
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.12	765.0	30.15	765.8	47.8	8.8	71.4	3	7	2	6	2	3	4	4	.....	6288	10119	6	3.33	84.6
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.08	687.8	30.14	765.5	31.4	−0.3	70.8	2	12	4	1	.....	3	2	1	6	9495	15280	4	0.04	1.0
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	30.06	763.5	30.10	764.5	37.5	3.1	87.4	5	1	1	1	19	.....	.....	3	1	3826	6157	7	2.24	56.9
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.86	733.0	30.11	764.8	34.1	1.2	72.1	4	8	2	2	3	9	.....	3	.....	10002	16095	5	0.79	20.1
Ogglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	30.06	763.5	30.08	764.0	−8.8	−22.7	82.1	1	2	10	3	4	3	6	2	.....	11838	19051	5	0.51	13.0
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.72	754.9	30.00	763.5	32.4	0.2	73.5	4	5	5	3	7	4	.....	3	.....	8052	12958	6	3.28	83.3
Palestine *g*	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.56	750.8	30.13	765.3	57.0	13.9	75.3	4	2	1	.....	15	2	.....	.....	.....	6690	10766	5	2.37	60.2
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.14	765.5	30.17	766.3	60.4	15.8	86.2	7	2	2	5	5	3	3	2	2	5938	9556	4	3.07	78.0
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	92	28	30.03	762.7	30.13	765.3	40.6	4.8	70.4	2	8	4	6	1	4	1	5	.....	6851	11025	6	3.57	90.7
Pikes Peak	N. 38 48	W. 104 59	5.07 a.m.	14134	4308	17.56	446.0	30.16	766.1	4.3	−15.4	81.9	.....	5	3	19	1	1	.....	1	1	19552	31465	4	2.65	67.3
Ploche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.06	611.1	30.20	767.1	28.7	−1.8	60.0	6	9	1	2	11	1	.....	.....	1	7086	11404	3	0.30	7.6
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.27	743.4	30.12	765.0	38.7	3.7	73.6	4	6	5	1	4	4	4	2	1	6104	9823	8	3.78	96.0
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.14	765.5	30.16	766.1	64.1	17.8	89.2	4	1	1	1	8	6	6	4	.....	8248	13274	3	1.81	46.0
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.36	745.7	30.08	764.0	30.5	−0.8	84.6	2	10	3	3	4	2	2	3	2	7593	12220	8	5.25	133.4
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.98	761.5	30.03	762.7	33.0	0.6	69.8	5	12	1	4	3	.....	1	5	.....	7626	12273	6	3.97	100.8
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.05	763.3	30.12	765.0	38.7	3.7	86.3	1	6	1	1	10	2	.....	1	9	4127	6642	6	2.53	64.3
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	50.8	10.4	73.5	3	6	3	6	2	.....	1	10	.....	13686	22025	5	0.35	161.3
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.76	628.9	30.10	764.5	31.2	−0.4	56.9	4	.....	2	.....	22	.....	1	2	.....	5891	9480	1	0.0	0.0
Provincetown	N. 42 03	W. 70 12	7.27 a.m.	26	8	30.02	762.5	30.05	763.3	34.6	1.4	81.6	6	7	3	3	5	3	2	2	.....	10062	16193	6	4.55	115.6
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.15	765.8	30.16	766.1	65.5	18.0	80.0	4	2	.....	1	3	1	12	8	.....	7464	12012	2	0.15	3.8
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.72	754.9	30.10	764.5	44.9	7.2	77.1	11	6	.....	1	2	6	1	1	3	5537	8911	3	2.67	67.8
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.83	757.7	30.07	763.8	64.3	17.9	82.1	1	3	1	1	3	13	3	3	3	4936	7461	5	1.91	48.5
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.38	740.2	30.08	764.0	30.8	−0.7	84.4	1	7	6	1	6	3	3	.....	4	9938	15993	7	1.74	44.2
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.59	751.6	30.15	765.8	37.9	3.3	85.8	1	3	1	4	2	.....	8	.....	12	2279	3668	6	2.83	71.9
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	30.02	762.5	30.10	764.5	46.8	8.2	77.9	7	4	.....	3	2	12	1	.....	2	6396	10293	4	3.78	96.0
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.49	749.0	30.12	765.0	41.2	5.1	77.8	6	7	2	1	7	4	1	3	.....	8950	14403	5	3.49	88.6
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.12	739.6	30.04	763.0	27.5	−2.5	83.0	3	3	8	4	.....	5	4	3	1	7559	12165	6	3.25	82.5
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.16	740.7	30.10	764.5	6.2	−14.3	94.7	4	9	1	1	4	7	3	1	1	10009	16108	6	1.66	42.2
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.66	651.8	30.18	766.6	31.8	−0.1	56.6	3	3	1	1	.....	7	2	2	12	3810	6132	4	1.12	28.4
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.38	746.2	30.09	764.3	58.0	14.4	82.8	5	2	.....	.....	5	5	1	7	6	4283	6893	7	4.24	107.7
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	30.02	762.5	30.09	764.3	49.6	9.8	80.5	10	1	.....	1	2	1	6	9	1	4992	8034	4	1.02	25.9
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.38	746.2	30.10	764.5	37.0	2.8	78.4	4	7	4	6	3	5	.....	2	.....	12314	19817	8	4.02	102.1
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.07	763.8	30.11	764.8	37.9	3.3	78.4	4	9	3	4	3	3	1	4	.....	12741	20504	6	4.00	101.6
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.04	763.0	30.10	764.5	49.4	9.7	75.6	1	4	9	5	5	3	.....	3	1	7042	11333	4	3.45	87.6
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7106	2166	23.19	589.0	30.17	766.3	34.6	1.4	48.3	12	1	1	2	4	2	4	5	.....	7250	11668	3	0.23	5.8
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.08	764.0	30.18	766.6	57.4	14.1	72.2	5	5	7	4	4	1	2	2	1	6366	10245	4	4.19	106.4
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.87	758.7	30.12	765.0	56.7	13.7	85.0	4	2	2	3	12	2	2	3	1	5135	8264	6	3.16	80.3
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.26	616.2	30.04	763.0	33.8	1.0	52.6	.....	13	4	2	5	1	.....	.....	6	3344	5349	2	1.17	29.7
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.84	757.9	29.91	759.7	28.6	−1.9	71.2	.....	2	1	2	1	3	8	10	4	8200	13196	4	3.53	89.7
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.13	765.3	30.17	766.3	51.7	10.9	82.8	2	5	5	4	2	1	2	10	.....	8093	13024	5	7.81	198.4
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	28.00	711.2	30.13	765.3	30.4	−0.9	80.5	.....	1	2	11	6	1	3	2	5	4924	7924	5	1.04	26.4
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.39	746.5	30.11	764.8	39.5	4.2	69.0	4	7	2	1	6	6	2	2	1	8157	13127	5	4.92	125.0
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.95	760.7	30.09	764.3	34.7	1.5	70.6	6	6	3	1	10	.....	.....	4	1	5342	8598	6	2.98	75.7
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.63	727.2	30.19	766.8	43.6	6.4	77.8	2	3	2	3	9	7	1	4	.....	8018	13809	6	3.19	81.0
Stockton *e*	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.03	686.5	30.11	764.8	45.6	7.0	78.6	1	.....	2	11	6	2	.....	.....	6	5898	9492	2	0.16	4.1
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.99	761.7	30.05	763.3	33.8	1.0	80.8	2	10	2	6	4	1	3	3	.....	13139	21145	6	3.60	91.4
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.36	745.7	30.09	764.3	37.2	2.9	75.5	3	4	9	4	3	.....	3	5	.....	8019	12905	7	3.02	76.7
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.59	700.8	30.05	763.3	46.1	7.8	66.2	.....	.....	.....	2	9	16	1	.....	3	3085	4965	2	0.72	18.3
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.77	756.1	30.15	765.8	37.4	3.0	76.4	2	1	6	7	3	8	2	1	1	8002	12878	6	0.32	8.1
Uvalde *b*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.09	738.9	30.07	763.8	59.7	15.4	86.3	3	.....	.....	.....	1	12	3	1	9	2843c	4575c	8	1.41	35.8
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.89	759.2	30.15	765.8	58.2	14.0	78.1	2	6	.....	1	8	7	4	3	.....	4603	7408	6	7.41	188.2
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.72	754.9	30.10	764.5	45.5	7.5	77.6	2	5	2	2	5	8	4	2	1	3499	5631	3	1.47	37.3
Washington, D. C.	N. 38 53	W. 77 01	7.00 a.m.	106	32	30.03	762.7	30.15	765.8	40.2	4.6	79.6	3	11	1	.....	5	2	3	2	4	4723	7601	6	3.75	95.2
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3995	1190	26.03	661.2	30.11	764.8	29.1	−1.6	62.7	1	7	3	3	.....	.....	4	4	9	7232	11638	2	0.10	2.5
Wickenburg *c*	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	38.3	3.5	64.5	...	10	1	1	1	.....	.....	.....	15	.....	.....	2	0.0	0.0
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.49	749.0	30.12	765.0	36.4	2.4	71.2	2	11	3	.....	5	2	2	4	2	5071	8161	7	3.48	88.4
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.11	764.8	30.17	766.3	52.7	11.5	76.8	4	3	5	7	.....	.....	7	4	1	6046	9730	6	7.09	180.1
Winnemucca *a*	N. 41 00	W. 119 21	4.17 a.m.	4327	1319	25.65	651.5	30.15	765.8	26.7	−2.9	72.8	1	2	.....	12	1	2	1	12	.....	7249	11666	3	1.22	31.0
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.72	729.5	30.11	764.8	28.7	−1.8	76.2	3	8	2	1	1	5	0	3	2	7713	12413	6	0.06	1.5
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.87	758.7	30.02	762.5	51.7	10.9	54.8	9	4	.....	5	3	1	1	5	3	4081	7533	1	0.0	0.0
Sub-Series.																											
Bogota	N. 4 36	W. 74 14	7.41 a.m.	8655	2638	22.04	559.8	.....	.....	54.1	12.3	80	.....	4	.....	4	2	2	.....	2	17	2633	4237	8	3.51	89.2
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.07	763.8	30.08	764.0	78.0	25.6	82.7	3	.....	.....	.....	.....	.....	26	2	.....	.....	.....	4	0.04	1.0
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	18	5	29.99	761.7	30.01	762.2	77.0	25.0	90.8	4	.....	.....	2	14	2	.....	2	7	.....	.....	10	19.50	495.3
Guadeloupe	N. 10 12	W. 61 40	8.01 a.m.	?	?	29.95	760.7	29.97	761.2	75.3	24.1	87.1	.....	.....	.....	.....	.....	1	25	5	.....	.....	.....	4	4.13	104.9
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.14	765.5	30.18	766.6	74.2	23.4	77.2	3	.....	.....	.....	2	17	.....	2	7	2510	4039	4	0.20	5.1
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.09	764.3	30.10	764.5	71.	21.7	84	24	.....	.....	.....	.....	.....	.....	1	.....	2447	3938	6	1.23	31.2
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	30.12	765.0	30.20	767.1	76.0	24.4	75.9	.....	.....	.....	.....	.....	.....	.....	11	20	.....	.....	8	0.71	18.0
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.04	763.0	30.04	763.0	78.0	25.6	85.8	.....	.....	.....	.....	.....	.....	.....	27	4	.....	.....	8	9.61	244.1
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.50	749.3	29.96	761.0	86.	30.0	83.7	6	.....	.....	.....	.....	1	.....	2	22	.....	.....	9	10.81	274.6
Rivas *c*	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	.....	.....	93.3	.....	.....	.....	.....	.....	1	.....	27	.....	.....	.....	2	1.64	41.7
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.05	763.3	30.08	764.0	73.9	23.3	73.4	14	1	.....	.....	.....	.....	.....	1	15	.....	.....	2	imp.	imp.
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	30.29	769.4	30.34	770.6	−14.8	−26.0	.....	10	9	3	2	4	1	1	1	.....	.....	.....	3	0.30	9.1

Ocean Square Data for March, 1882.

Location of Centre of each Square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 2.5°	W. 37.5°																	
2.5	42.5																	
2.5	47.5																	
7.5	27.5	10	10															
7.5	32.5	6	7															
7.5	37.5	3	3															
7.5	42.5	4	4															
12.5	22.5	2	2	30.01	762.2	77.8	25.4											
12.5	27.5	6	7	30.06 e	763.5 e	76.7d	24.8d								30		1	1.9a
12.5	32.5	3	5												26		5	2.0 e
12.5	37.5	5	5															
12.5	42.5	1	1															
12.5	47.5	4	4															
12.5	52.5	3	3															
12.5	57.5	12	13															
17.5	22.5	3	3	30.09	764.3	73.8	23.2											
17.5	27.5	5	5	30.11 d	764.8 d	73.4c	23.0c								31			2.5
17.5	37.5	5	6											3	25		3	2.4 c
17.5	42.5	2	2															
17.5	47.5	1	1															
17.5	52.5	4	5															
17.5	57.5	4	6															
22.5	22.5	5	6	30.16	766.1	70.2	21.2							1	30			2.0
22.5	27.5			30.19	766.8	70.3	21.3						5	19	7			1.4
22.5	32.5			30.19 d	766.8 d	70.5c	21.4c				1		11	9	6		4	2.0 d
22.5	37.5	12	12	30.20 g	767.1 g	70.9f	21.6f	2			1		10	5	5	1	7	1.8 g
22.5	52.5	7	7															
22.5	57.5	5	7	30.17 j	766.3 j	72.3m	22.4m	1	3			1	1	4	11		10	1.8 j
22.5	62.5	14	17	30.14 d	765.5 d	72.4g	22.4g	1	4				2	4	16		4	2.2 d
22.5	67.5	11	15	30.17 c	766.3 c	72.6c	22.6c	1	1		1		1	10	14		3	1.7 c
22.5	72.5			30.18 c	766.6 c	72.6a	22.6a	1					3	11	15		1	1.8 a
27.5	22.5	3	3	30.26	768.6	67.3	19.6						2	11	18			1.7
27.5	27.5			30.26	768.6	66.8	19.3						12	14	5			1.6
27.5	32.5			30.25	768.3	67.5	19.7				2	1	18	6	4			2.0
27.5	37.5	5	5	30.22 b	767.6 b	67.4b	19.7b	2	1		1	6	14	3	1		3	1.9 c
27.5	42.5	9	10	30.21 f	767.3 f	67.3g	19.6g	1			3	3	10	3	4		7	1.4 f
27.5	47.5	1	1	30.16 j	766.1 j	67.0j	19.4j	1	2		3	3	4	3	4		11	1.5 k
27.5	52.5	2	2	30.15 j	765.8 j													
27.5	57.5	5	5	30.14 j	765.5 j			2	5	2	1	2	3	3	3		10	1.9 j
27.5	62.5	9	9	30.14 d	765.5 d	66.8f	19.3f	5	7	2	1	1	3	4	3		5	2.3 e
27.5	67.5	10	10	30.18 c	766.6 c	65.1c	18.4c	4	8		1	2	2					2.1 d
27.5	72.5	15	25	30.20	767.1	67.9	19.9	6	7		4		4	4	6			1.8
27.5	77.5	9	14	30.20	767.1	66.9	19.4	3	2	6	4	7	1	8				1.6
32.5	12.5	3	3	30.23	767.8	64.9	18.3	5	2		1		2	1	20			1.6
32.5	17.5	4	4	30.28	769.1	64.7	18.2	3	2		8	2	5	3	8			1.3
32.5	22.5	1	1	30.34	770.6	64.6	18.1	2			1	2	9	4	13			1.3
32.5	27.5	3	3	30.34	770.6	64.1	17.8		1		3	2	13	8	4			1.5
32.5	32.5	3	3	30.31 a	769.9 a	64.7a	18.2a		2		4	5	14	2	4			1.9 a
32.5	37.5	16	16	30.25 a	768.3 a	64.3a	17.9a	3	1		4	11	8		1	2		2.1 a
32.5	42.5	8	8	30.21 b	767.3 b	63.6a	17.6a	1	2	2	6	7	7	1	3		2	2.2 b
32.5	47.5	7	9	30.14 c	765.5 c	62.4b	16.9b	3	5	2	3	7	4	2	2		3	2.2 c
32.5	52.5	11	13	30.12 d	765.0 d	61.6d	16.4d	1	6	1	7	3	3	2	4		4	2.4 d
32.5	57.5	8	8	30.11 b	764.8 b	61.0c	16.1c	2	11	3	2	4	2	1	3		3	2.4 c
32.5	62.5	5	5	30.12 c	765.0 c	60.8c	16.0c	5	9	1		5	4	1	3		3	2.5 c
32.5	67.5	9	9	30.14 b	765.5 b	60.6b	15.9b	4	12		5	3	1	2	1		3	2.5 c
32.5	72.5	22	46	30.17	766.3	60.5	15.8	5	8	1	8	1	2		6			2.5
32.5	77.5	21	35	30.17	766.3	59.1	15.1	3	7		9	2	2	1	7			1.8
37.5	12.5	5	5	30.26	768.6	60.3	15.7	11	4				4	2	10			2.0
37.5	17.5	1	1	30.32	770.1	61.2	16.2	7	4	2	7	1	3	2	5			1.8
37.5	22.5	5	6	30.37	771.4	60.7	15.9	4	7	1	3	5	7		4			1.4
37.5	27.5	6	6	30.37	771.4	60.5	15.8	1	2	2	4	14	6		1	1		1.3
37.5	32.5	7	7	30.31	769.9	60.4	15.8		1	2	11	10	4		3			2.3
37.5	37.5	6	6	30.22	767.6	58.9	14.9	2	4	1	11	9	2	1	1			2.4
37.5	42.5	7	7	30.16 a	766.1 a	57.1	13.9	2	4		11	5	4	3	2			2.8
37.5	47.5	7	11	30.11 a	764.8 a	54.4	12.4	2	7	2	8	4	3	2	2		1	3.1 a
37.5	52.5 b	9	10	30.07	763.8	51.9	11.1	4	6	2	6	4	4	1	2		2	3.1
37.5	57.5 a	10	13	30.05	763.3	50.2	10.1	6	10	3	1	5	3		2		1	3.5
37.5	62.5 a	12	18	30.06	763.5	48.5	9.2	3	15		2	3	4	1	2		1	3.3
37.5	67.5 a	18	26	30.13	765.3	46.8	8.2	5	11	1	3	4	4		2		1	3.2
37.5	72.5	30	88	30.10	764.5	44.1	6.7	7	11		2	5	3		2		1	2.8 a
42.5	12.5	9	10	30.25	768.3	58.7	14.8	4	7	2	8	1	3		6			2.2
42.5	17.5	6	6	30.31	769.9	58.5	14.7	4	8	3	8	1	4	2	1			2.5
42.5	22.5	6	7	30.33	770.4	57.7	14.3	1	11	3	7	5	3		1			2.5
42.5	27.5	7	9	30.31	769.9	57.1	13.9	1	5	4	16	3	2					2.7
42.5	32.5	9	9	30.28	769.1	56.2	13.4	1	4	2	16	6	1	1				3.1
42.5	37.5	14	21	30.18	766.6	54.4	12.4	1	6	3	11	8	1		1			3.5
42.5	42.5	24	68	30.11	764.8	50.9	10.5	1	8	2	8	9		2	1			3.4
42.5	47.5	27	80	30.07	763.8	46.5	8.1	4	9		5	8	3	1	1			3.9
42.5	52.5	31	67	30.02	762.5	43.7	6.5	5	7		8	5	4		2			3.6
42.5	57.5	29	68	30.05	763.3	40.5	4.7	6	11	3	1	4	4	1	1			3.8
42.5	62.5	25	61	30.03	762.7	38.6	3.7	4	14	1	5	2	5					3.6
42.5	67.5	27	71	30.04	763.0	37.2	2.9	6	12	2	3	4	3		1			3.3
47.5	12.5	25	41	30.14	765.5	54.1	12.3	1	11	4	10	2	2		1			3.0
47.5	17.5	27	48	30.16	766.1	53.1	11.7	1	10	5	11	3	1					3.6
47.5	22.5	24	54	30.16	766.1	51.7	10.9	11	7	8	5							3.8
47.5	27.5	25	61	30.18	766.6	50.6	10.3		9	7	7	7			1			4.1
47.5	32.5	22	57	30.10	764.5	49.4	9.7		6	5	15	2	1		1	1		3.9
47.5	37.5	27	70	30.05	763.3	46.6	8.1	2	6	4	12	4	2		1			3.9
47.5	42.5	15	22	29.96	761.0	40.6	4.8	2	8	3	9	5	3		1			3.3
47.5	47.5	4	4	29.93	760.2	32.8	0.4	2	8	3	12	2	2		2			2.7
52.5	12.5	19	29	30.01	762.2	50.6	10.3	1	9	7	10	4						4.0
52.5	17.5	18	23	30.06	763.5	50.0	10.0		11	9	9	2						4.0
52.5	22.5	13	18	30.03	762.7	48.4	9.1		12	9	6	4						3.8
52.5	27.5	10	11	29.96	761.0	46.3	7.9		12	10	5	2	2					3.6
52.5	32.5	6	6	29.96	761.0	44.1	6.7		12	7	8	2	1				1	3.6 a
52.5	37.5	1	1	29.91	759.7	39.3	4.1		15	5	7	1	1		1		1	2.7 a
52.5	42.5			29.86	758.4	34.3	1.3		14	1	10	1	2		2		1	2.6 a
52.5	47.5 a			29.84	757.9	28.6	— 1.9	1	14		9		2		4		1	2.0
57.5	12.5	3	4	29.66	753.4	41.8	5.4		9	2	14	1			5			3.9
57.5	17.5	2	3	29.65	753.1	39.8	4.3	2	9	7	10		1		2			3.6
57.5	22.5	1	1	29.66	753.4	37.2	2.9	2	12	6	7	1	1		2			3.2
57.5	27.5			29.65	753.1	33.6	0.9	2	17	4	4		1	1	2			3.0
57.5	32.5			29.66	753.4	32.0	0.0		18	3	5	1	2	1			1	2.8 a
57.5	37.5			29.65	753.1	28.1	— 2.2	19	3	5	1			1			1	2.7 a
57.5	42.5 b			29.65	753.1	25.1	— 3.8	2	15	1	8		1		2		2	2.2
57.5	47.5 b			29.65	753.1	19.9	— 6.7		17		7			1	3		3	2.0

NOTE.—See General Remarks.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres.*]

With this REVIEW are issued two international storm-track charts. They are for the months of March and April, 1881, and continue the series of chart v., begun in November, 1877.

The data are charted for each day of the month, on the maps accompanying each issue of the "International Bulletin," and from these charts, and from additional reports, are traced the movements of the centres of barometric minima.

Twenty-six of the more important atmospheric depressions that have appeared in the northern hemisphere during the month of March, 1881, have thus been traced. The following concerns the general distribution of these depressions:

Ten appeared in the United States and Canada; of these, one has been traced from the Pacific coast eastward across the continent to the Atlantic, and three have been traced from the Atlantic coast eastward over the ocean.

Thirteen depressions appeared over Europe; three of which apparently developed in mid-ocean. Six of these depressions traversed northern and western Europe, the general direction of their movement being northeasterly; and seven are shown over the southern and eastern parts of the continent, moving generally in an easterly or southeasterly track.

Three storms are traced over Asia; one of these appeared in Asiatic Russia, one in China, and one in eastern Japan.

The following are brief descriptions of the storms that occurred in the United States and Canada:

I.—This was a continuation of the storm traced as low-area viii. of the February chart. At the close of February the disturbance was central in Ontario, Canada, whence it moved eastward over the New England states, and on March 1st was central, as a somewhat severe storm, off the coast. The depression exhibited much energy during the 2d and 3d, and on the latter date it probably merged with an extensive depression which, on that day, occupied the north Atlantic east of the fortieth meridian.

II.—This disturbance developed in the northwest territories of British America, and moved in a southeasterly direction toward the state of Kansas, where it was central on the 2d. The course then changed to the east-northeastward, and the centre of disturbance appeared in eastern Indiana on the morning of the 3d, causing rain or snow in the northern quadrants of the depression, and cloudy or partly cloudy weather to the south and eastward. During the 3d the disturbance apparently moved slowly and developed increased energy, and on the 4th was central over the southern part of Lake Michigan, while another depression had developed in Virginia. Under the combined influence of these depressions, the rain and snow areas increased in all directions. On the 5th the two depressions united near Lake Ontario, and the storm moved with decreasing energy over the New England states to the Atlantic, and on the 6th it was central to the southward of Nova Scotia, attended by moderate gales and rain. On the 7th the storm centre was near N. 45°, W. 51°, the pressure having decreased as the disturbance moved over the ocean; the lowest reported barometric reading was 29.15 (740.4), wind se., force 2, by the s. s "Köln," in N. 45° 06′, W. 49° 47′. On the 8th the disturbance moved slowly northeastward, the pressure remaining unchanged, but on the 9th a great increase of pressure set in, and the depression gradually filled up south of Greenland.

III.—This was a secondary depression, which developed in Georgia on the 3d, and which moved northward, exhibiting great energy. On the 4th the depression was central in Virginia, whence it moved northward and merged with low-area ii., above described.

IV.—This disturbance first appeared in southern New Mexico on the 6th, and, moving slowly northeastward, was apparently central in Indian Territory on the following day. On the 8th the storm-centre was in eastern Illinois, causing general rains in the southern and middle Atlantic states and light snows in the lake region; during the 8th its course changed to the eastward, and the disturbance exhibited increased energy as it moved toward the coast. On the 9th the storm was central in eastern Virginia, and during the 10th and 11th it moved northeastward in a line parallel to the coast, causing violent gales. During the 12th and 13th it remained near the coast of Nova Scotia, with strong easterly gales and rain and snow prevailing over the Maritime Provinces. On the 13th the storm-centre began to move eastward over the ocean, the wind changing to northerly over the Maritime Provinces and moderating in force. On the 14th the centre of disturbance was near N. 45°, W. 48°, the atmospheric pressure having somewhat decreased; on that date the s. s. "Scythia," in N. 44° 01′, W. 45° 11′, reported barometer 29.19 (741.4), wind ssw., force 7, rainy weather. On the 15th the disturbance appears to have moved northward and to have gradually dissipated, its eastward movement being checked by an area of high pressures which stretched from the British Isles in a southwesterly direction over the Atlantic.

V.—This depression appeared in the north Pacific coast region on the morning of the 9th, causing general rains in California; during the day the disturbance moved southeastward through Utah, and on the 10th the region of least pressure was shown in Colorado. The course then changed to easterly and the depression moved to eastern Kansas, where it was central on the morning of the 11th, causing rain in the southern and snow in the northern quadrants. By the 12th, the isobar of 29.4 (746.7) presented an elongated form, and extended from eastern Kansas to southern Michigan; general rains occurred in the southern and middle Atlantic states, and rain or snow in the lake region and in Ontario, accompanied by moderate easterly gales over the last-mentioned districts. By the morning of the 13th the pressure had greatly increased over the lake region and the Saint Lawrence valley, and the disturbance apparently disappeared, but the barometric readings remained low in the vicinity of Nova Scotia.

VI.—During the 13th and 14th a large area of low pressures, with no well-defined centre, occupied the country west of the hundredth meridian. On the last-mentioned date the depression apparently moved northeastward, and by the 15th it had disappeared near Lake Superior, without developing much energy.

VII.—During the 14th, 15th, and 16th the atmospheric pressure remained low over the extreme southwestern sections of the United States, and on the 16th a disturbance became central in the valley of the Rio Grande; on the 17th and 18th its centre moved very slowly through Texas, causing rainy and cloudy weather in that state. On the 19th the storm-centre was in northern Kentucky, attended by a great increase of energy; easterly and northeasterly gales, with heavy rain, prevailed over the lake region and the Saint Lawrence valley, while heavy snow-storms and northwesterly winds occurred in Missouri and Iowa. By the morning of the 20th the storm-centre was in northern Michigan, whence it moved slowly down the Saint Lawrence valley; after the 20th the rain changed to snow in the lake region and in the Saint Lawrence valley, and strong easterly winds and rain occurred in Nova Scotia. During the 21st and 22d the disturbance moved slowly across the Gulf of Saint Lawrence, and on the 23d was central east of Cape Breton Island, the pressure decreasing as the disturbance moved over the ocean, but owing to the moderate inclination of the barometric gradients on all sides of the depression, only fresh to strong breezes were reported by vessels within the area of disturbance. During the 24th and 25th the storm-centre moved very slowly eastward, but on the 26th the isobar of 29.2 (741.7), which enclosed the region of least pressure, became elongated and extended from the Banks of Newfoundland eastward to the twenty-second meridian, the winds remaining moderate in force. On the 27th the area of disturbance apparently separated into two parts; a further decrease of pressure occurring over the Gulf of Saint Lawrence, while to the eastward the pressure remained unchanged. During the 28th, 29th, and 30th the disturbance remained central

in the vicinity of the Azores, the winds increased in force over the region north of the centre, and the pressure gradually decreased over the Iberian peninsula. During the 30th a northeasterly movement began and the region of least pressure was near the Bay of Biscay at the close of the month, causing a rise in temperature and rainy weather over southwestern Europe.

VIII.—This was a secondary development of low-area vii., and appeared in Arkansas on the morning of the 21st. The disturbance increased in energy as the centre moved eastward to North Carolina, where it was shown on the 22d; by the 23d it had moved into the Atlantic, causing high winds on the coast and strong southerly gales at sea. During the 23d the depression probably moved northeastward and merged with low-area vii., then central near Nova Scotia.

IX.—As stated in the description of low-area vii., a decrease of pressure occurred over the Gulf of Saint Lawrence on the 27th. Strong westerly and northwesterly winds prevailed in the Maritime Provinces and along the Saint Lawrence valley during the 28th and 29th, after which date the pressure increased and the weather moderated over the districts above-named.

X.—This disturbance developed in Colorado on the 27th, but exhibited no unusual energy until the 28th, when it was central in Kansas, accompanied by rain near the centre and generally cloudy weather to the east and northward. By the 29th the storm-centre was in northern Tennessee, whence it moved in an east-northeasterly direction to Virginia. On the 30th rain became general in the southern sea-board states, with snow in the lake region, and strong gales occurred along the coast. At the close of the month the disturbance was central, as a severe storm, off the New England coast, the barometer at the centre reading 28.98 (736.1), or one inch below the normal.

The following descriptions relate to the storms that occurred over the Atlantic and in Europe:

XI.—At the close of February an area of low barometric readings remained over mid-ocean, attended by strong to moderate gales. These conditions were maintained during the 1st of March, the region of low pressures showing no change in position. On the 2d the storm-centre was transferred to the vicinity of the Azores, the winds increasing in force over those islands; on the 3d the storm-centre, having moved rapidly northeastward, was shown off the southwestern coast of Ireland, the pressure at its centre being below 29.0 (736.6). The bark "Commewyne," in N. 52° 58′, W. 17° 44′, reported barometer 28.83 (732.3), wind ese., force 6, cloudy; s. s. "Cipero," in N. 52° 35′, W. 15° 05′, barometer 28.99 (736.3), wind sse., force 4; and the s. s. "Baltic," in N. 50° 59′, W. 14° 06′, barometer 29.00, (736.6), wind s., force 5, raining. On the 3d the temperature rose in western France and the British Isles, and heavy rains occurred over Ireland, with cloudy weather in England and Scotland. Steep barometric gradients were formed over the British Isles and western France, and strong easterly and southeasterly winds prevailed, increasing to gales on the coasts. The chart for the 4th shows the region of low barometer to be in nearly the same position as on the preceding day; the decrease extends slightly to the westward. On the 5th the storm-centre moved slowly north-northeastward, and on that day it was shown off the west coast of Ireland, the area of least pressure having an elliptical form. During the 4th and 5th the barometric pressure remained high over Scandinavia and northern Germany; the gradients became steeper, and the winds increased to hard gales over the British Isles. On the 6th the disturbance was central northwest of Ireland; the anticyclone over Scandinavia began to give way and the winds decreased in force over the southern part of the British Isles, but continued with undiminished force in northern Scotland. During the 7th and 8th the depression moved slowly northeastward, throwing off small subsidiary disturbances which traversed the North sea, and caused continuous rains over western Europe. By the morning of the 9th the pressure had increased slightly, and on the following day the disturbance disappeared in the Arctic ocean.

XII.—This was probably a continuation of the storm described as low-area xxi. on the February chart. At the close of that month the disturbance was central in southern France, and on March 1st the centre was shown in northern Italy, attended by strong winds and rain. On the 2d the storm-centre was over the Adriatic, the wind shifting to northerly over Italy after the passage of the centre. On the 3d the disturbance moved southeastward over the Mediterranean where it gradually dissipated.

XIII.—This was probably a secondary development of low-area xxi. on the February chart. On the morning of the 1st a shallow depression occupied northern Germany, southern Sweden, and the Baltic. The depression moved northeastward over the Baltic and disappeared in Finland on the following day.

XIV.—The atmospheric pressure remained low over the British Isles and western Europe during the 6th and 7th under the influence of low-area xi., and on the latter date a secondary depression developed in northeastern England. The disturbance moved over the North sea, causing heavy rains accompanied by severe thunder-storms in northern Germany; on the 8th the storm-centre was in southern Sweden. After the passage of the centre the winds changed to westerly over northern Germany, and rainy or cloudy weather continued, while snow was reported at stations in southern Scandinavia. Moving northeastward from the Baltic, the disturbance on the 9th appeared central over the Gulf of Finland, accompanied by occasional snows and rising temperatures in northwestern Russia, and followed by fresh westerly breezes over the Baltic. On the 10th the disturbance was apparently central near the White sea, and finally disappeared in the Arctic regions during the day.

XV.—On the morning of the 10th an area of low pressure extended from Prussia southeastward over Austro-Hungary to the Black sea. This depression caused strong westerly and southwesterly winds in southern Germany and in Austria. At Vienna the storm attained the violence of a hurricane. The following extract indicates the severity of the gale in that city:

> Vienna has been visited by the most severe storm that has been known for years; on the evening of the 9th the wind blew strongly from the southwest, and during the night it increased to hurricane force and continued during the 10th. While the storm lasted, travel on the streets was rendered exceedingly dangerous, splinters of glass, tiles, signs, &c., being blown in all directions by the wind. The damage to buildings and other property was very great, and several persons sustained more or less serious injury. The storm ended during the night of the 10th–11th.

On the 11th the disturbance was apparently central near Kieff, Russia, where the barometer read 29.56 (750.9), wind nne., light snow; on the 12th the depression finally disappeared in the Caucasus, accompanied by rain in that region.

XVI.—This depression appeared near the Shetland Islands on the 11th; it moved southeastward during the day, and on the 12th its centre was shown in northeastern Germany, causing rain or snow and rising temperature over that region, southern Scandinavia, and the Baltic, and brisk to strong north-northwesterly winds over Denmark and northwestern Germany. By the morning of the 13th an increase of pressure had taken place over Scandinavia and northwestern and central Europe, and the region of least pressure was transferred to southwestern Russia, near the western shores of the Black sea, while cold, clearing weather prevailed over northwestern Europe. On the 13th strong southeasterly winds prevailed over the western part of the Black sea, and on the 14th the depression passed eastward, the wind changing to northerly after the passage of the centre. During the 15th and 16th the disturbance moved slowly over the region between the Black and the Caspian seas, where it finally disappeared, the pressure gradually increasing. The area of high pressures, above referred to, had now spread over the whole of Europe, the centre of the anticyclone being in northern Germany and the

Baltic, where the barometer read 30.6 (777.2); and generally fine weather prevailed over western Europe.

XVII.—During the 11th and 12th a rapid decrease of pressure occurred over the ocean near the Azores, and by the morning of the latter date the centre of disturbance was apparently situated to the northeastward of those islands; the storm-centre then moved northeastward, with increasing pressure, to the Bay of Biscay, where it was central on the 13th, causing a rise in temperature and light rains in the northeast quadrant. On the 14th the depression was central in western France; its course then changed to the southeast and the disturbance passed over southern France toward the Mediterranean, where it dissipated on the 15th.

XVIII.—From the 12th to the 17th a small but deep depression remained near Iceland and did not materially affect the weather conditions over Europe until the 16th, when the anticyclone which prevailed over that continent began to give way. On the 17th the depression moved northeastward, and by the 18th it had reached northern Norway. The gradients became steep over the British Isles and Denmark, and strong southwesterly and westerly winds occurred, increasing to gales in the northern portions. On the 19th the disturbance was central near the White sea, barometer at the centre reading 28.00 (711.2), which was the lowest barometric reading ever reported at Archangel; strong westerly gales occurred over northern Europe, accompanied by generally colder weather, with snow in Norway. This depression was remarkable for the large extent of territory subjected to its influence, as will be seen by a reference to the daily charts for the 18th and 19th. On the 19th the central depression was near Archangel, while the wind-system of Europe was affected as far south as the forty-eighth parallel, being equal to a radius of twenty-seven degrees, or 1,620 geographical miles. During the 19th and 20th the region of high pressure was forced southward to the Mediterranean, and generally stormy weather prevailed over the greater part of the continent. On the 21st the pressure at the centre of depression showed a marked increase, and the disturbance moved toward the Ural mountains, in which vicinity it disappeared on the 21st.

XIX.—The daily chart for the 16th shows an area of low pressure, enclosed by the isobar of 29.4 (746.7), over the Atlantic near N. 40°, W. 48°. On that day the s. s. "Britannic," in N. 41° 49′, W. 50° 54′, reported barometer 29.27 (743.4), wind ne., force 8, rain and hail; and the s. s. "Strassburg," in N. 40° 20′, W. 57° 21′, barometer 29.7 (754.4), wind n., force 8–9, heavy ne. swell and threatening weather. By the 17th the region of least pressure had moved slowly northeastward, but its progress was apparently checked by the area of high barometer which extended from Europe westward to the thirtieth meridian, so that on the following days (18th, 19th and 20th) the position of the low area was but little changed, although the pressure had gradually diminished over the region to the east of the disturbance. By the 21st the depression was central near and to the westward of the Azores; the ship "City of Agra," in N. 38° 48′, W. 36° 40′, reported barometer 29.6 (751.8), calm, while strong south-southwesterly winds prevailed in the Azores. On the 22d the storm-centre moved to the northward of the Azores, the wind changing to westerly over those islands, while easterly winds of moderate force prevailed north of the forty-fifth parallel. During the day the disturbance moved rapidly northeastward, and on the 23d it appeared central off the western coast of Ireland, the area of least pressure being enclosed by the isobar of 29.2 (741.7); on the 23d a considerable rise in temperature occurred over the British Isles, and general rains with moderate southerly and southwesterly gales prevailed. The pressure decreased as the disturbance moved northeastward, and on the 24th the centre was near the Shetlands, the barometer at North Unst reading 28.45 (722.6), wind s., force 2, raining; during this day strong westerly winds prevailed over Scotland. On the 25th the storm-centre was near the northern part of the Gulf of Bothnia, whence it moved northeastward and disappeared on the 26th in the Arctic region.

XX.—This disturbance appeared over the Mediterranean on the 21st; it moved in an easterly path over Italy, and on the 22d it appeared as a well-defined depression central in Austro-Hungary, but which did not, however, exhibit any marked energy. On the 23d the disturbance dissipated in southern Russia.

XXI.—This was a slight depression which appeared over the Mediterranean on the 26th, when it was central near the island of Sardinia. The disturbance apparently dissipated near the Adriatic during the 27th.

XXII.—This depression appeared off the coast of northern Norway on the 28th, causing moderate westerly and northwesterly winds over the British Isles, except in the extreme northern part, where the wind blew with the force of a gale. On the 29th the region of least pressure was transferred to central and southern Scandinavia, accompanied by snow at stations in the peninsula; during the day the course changed to northeasterly, and on the 30th the centre of disturbance was in Finland. At the close of the month the depression was shown to the eastward of the White sea.

XXIII.—During the 29th the pressure decreased over the Gulf of Lyons, and by the 30th a distinct area of low pressure was shown over Italy. The depression moved northeastward, and on the 31st was central in Austro-Hungary.

The following are the descriptions of the barometric minima that occurred in Asia:

XXIV.—This disturbance apparently originated in the region near the sea of Aral on the 13th. It moved slowly eastward on the 14th, causing a southwesterly gale at Tashkend; its course then became northeasterly, and on the 15th the disturbance was shown in central Siberia, where it finally disappeared.

XXV.—This disturbance appeared on the 20th, to the southward of the island of Kiushiu, Japan. It moved northeastward, apparently skirting the coast of Japan, and on the 22d was central to the eastward of Niphon. It then passed beyond the range of observation.

XXVI.—This was a depression which formed probably in the interior of the Chinese Empire, and on the 31st was central near Pekin, causing a fall of .3 inch in the barometer at that station.

Chart v. for April, 1881, shows the tracks of twenty-eight of the principal depressions that have appeared over the northern hemisphere during that month. These depressions were distributed as follows:

Eight appeared in the United States and Canada; of these, two have been traced from the coasts of North America eastward over the Atlantic to the European coasts. Eleven barometric minima are shown over Europe; of these, two first appeared in Greenland, and moved in an easterly or southeasterly direction toward the continent; five prevailed in the southern part of Europe, and moved from west to east; three appeared in northern Europe, their movement being easterly or northeasterly. One depression only, moving from southwest to northeast, is shown over the British Isles. Nine depressions are shown over Asia; two of these occurred in Asiatic Russia, while seven, an unusually large number for the month, prevailed over eastern Asia.

The month of April, 1881, was characterized by an unusual freedom from violent storms in the northern hemisphere, but much damage was caused by floods, especially in the United States, in Spain and in Hungary. Earthquakes were frequent and severe, the most disastrous being that which occurred in the island of Chios.

The following brief descriptions concern the storms that occurred over the United States and Canada:

I.—This was a continuation of the depression traced as low-area x. on the March chart. On the last day of March the disturbance was central, as a deep depression of great energy, south of Nova Scotia; by April 1st it had moved to the eastward, attended by a slight increase of pressure, but the winds did not moderate in force except on the coasts of the United States; southward and eastward over the ocean very

strong gales continued. On the 2d the area of low-pressure became elongated and extended from the Gulf of Saint Lawrence eastward to the thirtieth meridian, the winds moderating slightly to the east of the centre, but showing no decrease in force on the south side of the depression. From the 3d to the 7th the disturbance remained over Newfoundland and the Gulf of Saint Lawrence, the region of least pressure occupying on each day the positions as traced on the chart. During the period from the 3d to the 7th the atmospheric pressure near the centre ranged from 29.0 (736.6) to 29.4 (746.7), and strong gales continued in the eastern and southern quadrants. During the 7th the disturbance began to move slowly eastward, and on the 8th was shown near N. 47°, W. 42°. By the 9th the storm-centre, having moved in a northeasterly track, was near N. 53°, W. 31°, attended by moderate to strong southerly gales in the eastern quadrants and causing a decrease of pressure over the western part of the British Isles. On the morning of the 10th the depression was central off the southwestern coast of Ireland, causing a slight rise in temperature over that island, with light rains in the southwestern portions. On the 11th the depression appeared to have withdrawn towards the west, but on the 12th it was again shown to the northwest of Ireland. It then moved northward, or to the west of north, and disappeared near Iceland on the 13th.

II.—This disturbance appeared in Montana on the 15th, and moved by a southeasterly course to Kansas, where it was central on the 6th. On the morning of the 7th the centre of the depression was in Arkansas, whence it moved eastward over Tennessee and North Carolina, attended by heavy rains near the track of its centre. On the 9th the disturbance was shown as a storm of considerable energy, central at some distance off the coast of Virginia; during the 10th and 11th the depression moved northeastward, the barometric readings near its centre being below 29.6 (751.8). On the 13th the storm-centre was apparently near N. 49°, W. 41°; on that date the s. s. "Circassian," in N. 47° 57′, W. 42° 28′, reported barometer 29.2 (741.7), wind wsw., force 1, and vessels in the southwest quadrant reported strong westerly gales. On the 14th the disturbance probably moved eastward; during the day the course apparently changed to the southeastward, and on the 15th the depression was central near the Azores, causing a slight decrease of pressure over the western part of the Iberian peninsula. On the 16th the area of disturbance presented the form of an ellipse, the lowest barometric readings being near the coast of Spain, while the decrease of pressure extended southeastward to the Madeira Islands. This disturbance is hereafter described as low-area xiii. of this chart.

III.—This depression developed in Texas on the 10th, and on the following day it appeared in Indian Territory, attended by rainy weather in the northeast quadrant. By the morning of the 12th the area of low-pressure covered the country from Texas northeastward to the southern part of the lake region; within this area the lowest barometric readings were in northern Kentucky and in southern Ohio, where the barometer read 29.65 (753.1), or about .3 inch below the normal. During the day the depression dissipated south of the lakes.

IV.—This was a secondary development of the preceding depression, low-area iii. It moved northeastward, followed in its immediate rear by a great fall in temperature. On the 13th the depression was in West Virginia, whence it moved into the Atlantic, and on the 14th it was central south of Nova Scotia. During the day it probably became merged in low-area v. During the passage of this depression, disastrous tornadoes occurred in Mississippi and Arkansas, and under the influence of the cold wave above referred to severe frosts, injuring vegetation, were reported throughout the state of Texas, except in the southern sections.

V.—This depression formed in Georgia during the 13th, and on the 14th appeared as a well-defined storm-centre off the coast of the Carolinas. A sudden and great decrease of pressure took place during the day as the depression moved northeastward in a line nearly parallel to the coast, and on the morning of the 15th the centre of depression was indicated by the isobar of 28.8 (731.5), and was situated to the southward of Nova Scotia. On this day strong easterly and northeasterly gales prevailed in Nova Scotia, with rain or snow at stations in the Maritime Provinces and in New England. The winds had changed to northwesterly on the coast of the United States, and blew with the force of a strong gale from North Carolina to the New England coasts. On the 16th, 17th, and 18th the storm moved slowly north-northeastward over the Gulf of Saint Lawrence and finally disappeared in Labrador. During this storm all vessels between the thirtieth and fortieth parallels and west of the sixtieth meridian reported winds of cyclonic tendency and of great force, in which many vessels lost sails, spars, boats, and sustained other damage.

VI.—This disturbance entered the United States from Manitoba on the 14th; it moved southeastward, causing light rains in Wisconsin and Iowa, and finally filled up near Lake Michigan.

VII.—On the 24th the pressure was generally low over the country west of the hundredth meridian, the lowest barometric values being reported from Dakota. By the morning of the 25th the disturbance occupied the lake region, while a slight and unimportant depression existed in Texas and Indian Territory. On the 26th the disturbance, having moved eastward, was central in Ontario, where it was attended by light but general rains. During the day the depression apparently dissipated in the valley of the Saint Lawrence.

VIII.—This disturbance was shown in Manitoba on the 26th; it passed eastward north of Lake Superior and disappeared in Labrador on the 28th.

The following descriptions relate to the storms that occurred over Europe:

IX.—This was probably a continuation of the depression traced as low-area vii. on the March chart. At the close of that month it was central near the Bay of Biscay; on April 1st and 2d it remained central near the southern shores of the bay, attended by rising temperatures and rain at stations on the coasts of France and Spain. During the 2d and 3d the decrease in pressure extended eastward over the Mediterranean to Italy, but the centre of disturbance appeared to be near the Pyrenees, while a second depression had developed near the coast of Portugal. By the 4th low-area ix. was central over the western part of the Mediterranean, whence it moved slowly eastward to Italy, where it was central on the 6th; its course then changed to northeasterly, and on the 7th the disturbance was over the Adriatic, causing rain at stations in the northern quadrants. During the 7th the pressure increased, and the disturbance gradually disappeared.

X.—On the 3d an area of low-pressure formed near the coast of Portugal, and caused strong southerly winds and rain at stations in the peninsula. During the 4th and 5th the centre of disturbance remained persistently off the coast, the pressure gradually decreasing at the land stations. By the morning of the 6th the area had become elongated, and extended eastward to Italy, and northward to northern France. Within this area the lowest barometric readings remained in Spain, while the rain-area extended to the English Channel. On the 7th the pressure began to increase, and on the 8th the disturbance dissipated in northern France. From the 2d to the 6th an area of high-pressure covered the British Isles and northern Europe, in consequence of which steep gradients were formed, and strong east and northeast gales occurred over the English Channel and in France. It was during the existence of depressions ix. and x. that the destructive floods occurred in southern Spain. The Guadalquivir overflowed its banks, inundating nearly forty square miles of country near its mouth. The valley in which Seville lies was flooded for a distance of thirty miles, half of the city of Seville being under water. Many houses were vacated, the foundations having been rendered insecure, and all railroad travel was suspended. Fears were entertained that famine would increase the distress, as more than 30,000 inhabitants of Seville and its environs

were without food. The damage was estimated at ten millions of francs. The districts of Badajoz, Granada, Murcia, Almeria, Huelva and Cordova were also flooded.

XI.—This was a deep depression which first appeared in the extreme northern part of Scandinavia on the 3d and 4th. On the 5th the disturbance moved into Finland, causing strong southwest and south-southwest winds over the Gulf of Bothnia. On the 6th the depression moved toward the White sea, and on the following day disappeared in the valley of the Obi.

XII.—This depression, the only one traced across the British Isles during the month, was probably a subsidiary disturbance of low-area i. On the 14th the depression, which was shallow, appeared over the Saint George's Channel; it moved northeastward, attended by rain in England. On the 15th the disturbance passed to the North sea, and apparently dissipated before reaching the continent.

XIII.—This was a continuation of the depression traced as low-area ii. of this chart. On the 17th the disturbance was central in the southern part of the Bay of Biscay, causing strong easterly winds over France and the English Channel. On the 18th the centre of the depression remained in Spain, and the pressure decreased over central and northern Europe as a new disturbance developed near the Baltic. On the 20th low-area xiii. was central over the Mediterranean, and, under the combined influence of this and low-area xv., a considerable decrease of pressure occurred over the whole of Europe. On the 21st and 22d the disturbance moved to Italy and Austro-Hungary, and on the 23d disappeared near the Black sea.

XIV.—This disturbance first appeared off the northern coast of Norway on the 18th and caused moderate to strong westerly winds in Scandinavia. On the 19th the depression disappeared north of the White sea.

XV.—This depression first developed in northern Germany on the 19th, and on the 20th was central over the Baltic, the pressure having greatly decreased near the centre, which was now enclosed by the isobar 29.0 (736.6). Strong gales, with snow, occurred over the Gulf of Bothnia and the Scandinavian peninsula, and strong northwest and west gales in Denmark, northern Germany, and over the Baltic. On the 21st the storm-centre maintained nearly the same position as on the preceding day, but the pressure had increased and the winds had generally moderated in force. By the 22d the centre of disturbance had moved northeastward to Finland, causing strong northerly gales and snow in northern Norway. On the 23d the disturbance was over the White sea, and probably disappeared in the Arctic regions during the day, but the atmospheric pressure did not recover quickly over northern Russia, owing to the advance of low-area xvi.

XVI.—This depression first appeared in western Greenland on the 23d; it moved eastward, and on the 24th was central near Iceland, causing a southeasterly gale and rain at Stykkisholm. On the 25th the centre of disturbance was between the Shetland Islands and Norway; a considerable decrease of pressure took place over the northern part of the British Isles, and westerly gales occurred over Scotland and the North sea; there was a general rise in temperature in northwestern Europe, and the rain-area extended southward to the Netherlands. During the 25th the storm-centre moved slowly southeastward to southern Norway. On the 26th strong westerly winds and a rise in temperature occurred over Denmark, while to the westward of the centre the winds shifted to northerly and decreased in force, accompanied by lower temperatures. On the 27th the disturbance was central near the eastern shores of the Baltic; its course then changed to the northeast and the centre of the depression moved into northwestern Russia, accompanied by generally rainy weather throughout that district. On the 29th the disturbance disappeared to the eastward of Archangel.

XVII.—This disturbance appeared near the Black sea on the 25th, causing rainy weather over that region. On the 26th the low area changed only slightly in position, but during the day an increase of pressure set in and the depression filled up after passing to the eastward of the Black sea.

XVIII.—This disturbance appeared in the Mediterranean on the 27th, on which date it was apparently central between Sardinia and Italy. Strong northwesterly gales and heavy rains occurred at stations on the shores of the Gulf of Lyons and in Sardinia, and strong westerly breezes prevailed in southern Italy. On the 28th the depression occupied the Adriatic sea and the Danubian Principalities, causing strong southwesterly breezes in the southern quadrants. On the 29th the disturbance was shown in European Turkey, and at the close of the month was gradually filling up near the Black sea.

XIX.—This disturbance appeared in southern Greenland on the 27th. On the 28th and 29th it moved southeastward, and at the close of the month was central off the western coast of Ireland, the region of least pressure being enclosed by the isobar of 29.6 (751.8).

The following are brief descriptions of the atmospheric depressions that appeared in Asia:

XX.—This was a continuation of low-area xxvi. on the March chart. The disturbance passed from central China northeastward to the Gulf of Pe-Che-Li on the 1st and 2d. After crossing the peninsula of Corea its course changed to the southeastward and the disturbance moved over the Sea of Japan. During the 2d it crossed Niphon and entered the Pacific ocean. On the 3d the s. s. "Oceanic," in N. 38° 36′, E. 147° 30′, reported barometer 29.6 (751.8), wind nw., force 6, squally. On the following day the disturbance passed beyond the range of the observations.

XXI.—This depression appeared near Pekin, China, on the 6th; it passed northeastward beyond the stations of observation during that day.

XXII.—On the 6th a great decrease of pressure occurred over Japan, and on the 7th the disturbance apparently passed northeastward over the Pacific ocean.

XXIII.—This disturbance appeared in Toorkistan on the 13th and on the 14th the region of least pressure was transferred to central Siberia; it then passed beyond the stations of observation.

XXIV.—This was a slight depression which appeared on the 13th south of the island of Kiu-Siu, Japan; it disappeared to the eastward on the following day.

XXV.—During the 16th the pressure decreased at Yeniseisk, Siberia, and on the 7th the disturbance was probably near Lake Barkal. On the 18th the depression reached the vicinity of Nertschinsk, while a great increase of pressure had set in over the region to the westward of that station. On the 19th and 20th the depression was shown near the Sea of Okhotsk, where it disappeared.

XXVI.—This disturbance apparently originated in the southwestern part of China. It moved north-northeastward, and entered the Gulf of Pe-Che-Li on the 19th; on the following day it was apparently central over the Sea of Japan and near to the southern coast of Niphon. Strong southerly breezes occurred over the eastern part of Niphon on the 20th; on the 21st the shifting of the wind on the eastern coast of the island indicated that the disturbance had passed into the Pacific.

XXVII.—From the 23d to the 26th the barometer remained low in central China, and on the latter date the decrease extended to the coast-line. On the 27th the wind at Zi-Ka-Wei indicated that the disturbance had passed to the northward of that station. On the 28th the centre of depression was in Japan, causing rain at stations near the centre, and strong southerly breezes to the eastward. On the 29th the disturbance passed into the Pacific and beyond the limits of the observations.

XXVIII.—On the 30th a great decrease of pressure took place over central China, the centre of disturbance being apparently south of Pekin at the close of the month. The minimum barometric reading of the month, 29.58 (751.3), occurred at Zi-Ka-Wei during the existence of this depression.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are applied at this office. In the naval and marine series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in metres per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometres per hour, to metres per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnston'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 originals, is carefully computed at this office. Generally, all conversions are made 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 alphabet of the letter so used. The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.)—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W., and respective observers.)—At Melbourne, the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers.)—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford, and Sandwick Manse the barometers are given as read off. The movement of the air is indicated by force, on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers.)—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers.)—At Cape Town, the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10 and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological observatory at Zi-Ka-Wei.)—At Zi-Ka-Wei, the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the directions to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. At Hankow the originals give the barometer in inches, temperature in Fahrenheit and force on the scale of 0 to 10.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force, on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second, for Mont Louis and Perpignan. In general, the rainfall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpig-

nan. At Guéret, the observations are taken at 12.00 m., instead of 12.16 p. m. At Gap, the observations are taken at 12.03 p. m., instead of 12.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumayer, Director of the German Marine Observatory at Hamburg.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower, the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin, observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.)—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on the scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta.)—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 m.m. as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals, where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry and Commerce—furnished by co-operation of Professor P. Tacchina, Director of the Central Meteorological Office at Rome, and respective observers.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4 as at Mondovi, Florence and Cagliari. No distinction is made between upper and lower clouds and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.)—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds and the amount is given on the scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius.)—All conversions are published as given in the originals. The direction of the wind is given to 64 points and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers.)—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on the scale of 0 to 10.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on the scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.)—The originals give the barometer in millimetres, reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen, observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon.)—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon of each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakhan, the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in metres per second. No distinction is made between upper and lower clouds; the amount is given on the scale of 0 to 10 and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Barnaul, observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers.)—The originals give the barometer as read off and the movement of the air as indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and respective observers.)—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva.)—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.)—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in metres per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at

Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army.)

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers.)—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa, the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary.)—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory, of the Infante Dom Luiz, at Lisbon.)—The originals give the barometer in millimetres, corrected for temperature only and the thermometer in Centigrade. The movement of the air is indicated by force on the scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on the scale of 0 to 10; the direction of movement is given without distinction between upper and lower. The height of sea-disturbance is given on the scale of 0 to 9, and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm.)—The originals give the barometer as read off. The movement of the air is indicated by force on the scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on the scale of 0 to 9, and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation.)—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels.)—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

DAILY BULLETIN, March 1st, 1882, page 6, United States Naval, "Shenandoah," barometer 764.3 mm., should read 764.0 mm.

4th, page 2, French, Privas, rainfall 4.6 mm., should read 46. mm.; page 8, S. E. J. Spicer, off the Highlands, N. Y., should read N. J.

22d, page 8, Miscellaneous, Bk. "Johanne Auguste," barometer 754.4 mm., should read 755.4 mm.

27th, page 6, United States Naval, "Wachusetts," barometer 29.30 inches, should read 29.32 inches.

29th, page 2, French, Rouen, reduced barometer 768.0 mm., should read 766.0 mm.

31st, page 2, German, Bamberg, actual barometer 28.88 inches, should read 28.89 inches; page 3, Italian, Cosenza, actual barometer 763.9 mm., should read 733.9 mm.; page 8, Warren Line, s. s. "Iowa," barometer 756.4 mm., should read 767.8 mm.

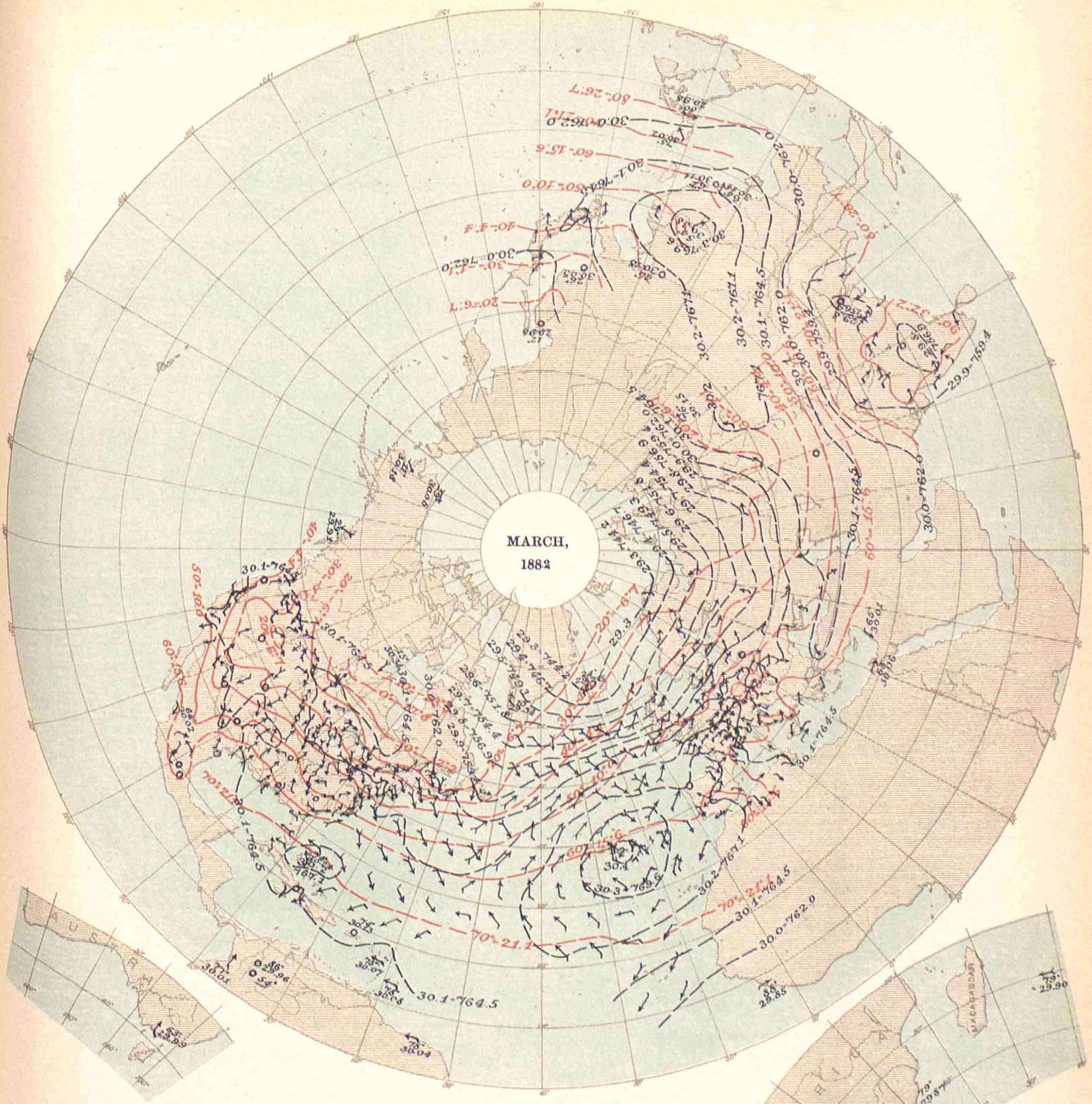
PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

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

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing January, 1877.



PREVAILING WINDS.

Arrows show the 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 4.0
	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 & over.

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Heliotype Printing Co. Boston.

ISOBARS AND ISOTHERMS.

Isobars in *black;* detached barometer means in English inches.

Isotherms in *red;* detached temperature means in degrees Fahrenheit.

Broken lines, are doubtful.

INTERNATIONAL MONTHLY CHART.

Showing mean pressure, mean temperature, mean force and prevailing direction of winds at 7:00 A. M., Washington mean time, for the month of March, 1882 based on the daily charts of the International Bulletin.

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing November, 1877.

Storm-tracks in *Black*. The Arabic numerals show location of the centres of Low Barometer, at 7:00 A. M., Washington mean time, of that date.

Broken or dotted lines, 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.

Showing Tracks of Centres of Low Barometer for March, 1881,

Heliotype Printing Co. Boston.

Office of the Chief Signal Officer,

UNITED STATES ARMY.

Charted from Actual Observations taken Simultaneously, Series commencing November, 1877.

Storm-tracks in *Black*. The Arabic numerals show location of the centres of Low Barometer, at 7:00 A. M., Washington mean time, of that date.
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W. B. Hazen

Brig. & Bvt. Maj. Gen'l.
Chief Signal Officer. U. S. A.

INTERNATIONAL CHART.
Showing Tracks of Centres of Low Barometer for
April, 1881,

Heliotype Printing Co. Boston.

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF APRIL, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
MAY, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

APRIL, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for April, 1882.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		0-10	Inch.	Mill.
ALGERIAN.	° ′	° ′																									
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.02	762.5	70.2	21.2	79.4	.....	2	14	2	.....	.....	1	11	.....	.....	.....		1	0.73	18.5
Algiers	N. 36 47	E. 3 04	0.20 p.m.	72	22	.....	.....	29.98	761.6	66.7	19.3	62.0	3	2	17	4	.....	.....	.....	4	.....	.....	.....		3	0.96	24.5
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.97	761.1	66.6	19.2	74.8	6	10	4	5	.....	1	2	2	.....	.....	.....		4	1.91	48.6
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.95	760.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.09	764.2	68.4	20.2	42.6a	7	14	3	2	.....	1	2	1	.....	.....	.....		2	1.02	25.9
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.05	763.2	57.4	14.1	63.0	5	5	6	8	2	4	.....	.....	.....	.....	.....		3	3.29	83.6
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	66.4	19.1	22.5	7	11	5	2	3	.....	.....	2	.....	.....	.....		3	0.17	4.3
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.09	764.3	70.9	21.6	58.3	.....	3	11	7	6	3	.....	.....	.....	.....	.....		1	0	0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.06	763.5	75.9	24.4	27.1	3	10	5	2	3	7	.....	.....	.....	.....	.....		3	0	0
AUSTRALIAN.																											
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.91	759.6	30.00	761.9	57.0	13.9	77	4	1	4	4	4	8	2	3	.....	.....	.....		6	2.32	58.9
AUSTRO-HUNGARIAN.																											
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.34	745.2	29.89	759.1	59.2	15.1	49.7	1	1	3	7	2	6	2	8	.....	.....	.....		6	1.52	38.5
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.13	739.8	29.89	759.2	56.1	13.4	50.1	3	.....	10	5	2	1	7	2	.....	.....	.....		6	1.34	33.9
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.00	736.5	29.85	758.1	50.2	10.1	65.0	11	3	.....	.....	9	2	.....	.....	5	.....	.....		6	1.28	32.5
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.64	727.4	29.88	758.9	56.3	13.5	57.0	.....	7	2	3	7	3	8	.....	.....	.....	.....		5	3.80	96.4
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.44	722.4	29.84	757.9	60.8	16.0	47	2	6	2	1	5	11	3	.....	.....	.....	.....		6	2.48	62.9
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.56	725.5	29.88	758.9	52.9	11.6	60.9	.....	5	7	1	.....	.....	.....	14	3	.....	.....		6	2.04	51.7
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.89	733.8	29.87	758.6	55.8	13.2	46.5	3	1	.....	6	5	4	5	6	.....	.....	.....		6	0.93	23.6
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.78	750.5	29.90	759.4	59.4	15.2	64.4	.....	2	8	3	4	5	6	2	.....	.....	.....		5	2.05	52.1
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.38	746.3	29.84	758.0	62.2	16.8	44	1	5	3	5	7	2	3	4	.....	.....	.....		5	1.80	45.6
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.59	751.6	29.86	758.4	58.5	14.7	53.6	1	7	2	4	7	2	1	2	4	.....	.....		6	1.73	44.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.81	757.2	29.91	759.8	60.3	15.7	50.2	.....	.....	.....	3	.....	1	2	11	13	.....	.....		6	2.96	75.3
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.19	741.3	29.92	759.9	55.6	13.1	51	1	8	5	1	1	6	5	2	1	.....	.....		6	1.49	37.9
BRITISH.																											
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.70	754.4	29.80	756.9	44.1	6.7	71.6	.....	4	5	.....	5	5	9	2	.....	.....	.....		7	3.20	81.3
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.51	749.5	29.75	755.6	49.6	9.8	67.9a	3	1	2	7	2	3	7	5	.....	.....	.....		6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.73	755.1	50.2	10.1	74.0	.....	2	7	5	.....	2	9	5	.....	.....	.....		6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.24	742.7	29.78	756.4	49.2	9.6	69.2	1	1	3	6	4	3	9	3	.....	.....	.....		7	.....	.....
Bradford g	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.30	744.2	29.70	754.4	49.8	9.9	76.0	.....	.....	2	6	.....	7	5	3	.....	.....	.....		4	4.33a	110.0a
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.97	761.2	30.00	762.0	82.1	27.8	67.3	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....		4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.76	755.9	55.0	12.8	66.2	1	4	1	6	5	4	7	2	.....	.....	.....		6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.70	754.4	29.83	757.7	51.8	11.0	74.2	.....	1	3	9	5	.....	2	8	2	.....	.....		7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.60	751.8	29.80	756.9	52.0	11.1	73.1	1	2	6	2	7	4	8	.....	.....	.....	.....		6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.61	701.3	29.83	757.7	78.8	26.0	50.7	5	.....	.....	.....	.....	8	11	4	2	.....	.....		2	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.62	752.3	29.85	758.2	87.1	30.6	65.5	1	7	14	7	.....	.....	.....	.....	1	.....	.....		3	.....	.....
Galway	N. 53 15	W. 9 03	11.32 a.m.	32	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.02	762.5	30.08	764.0	68.8	20.4	75.1	.....	1	16	9	.....	.....	4	.....	.....	.....	.....		3	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.54	750.3	29.74	755.4	47.4	8.6	65.6	2	2	2	5	3	.....	8	8	.....	.....	.....		7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.61	752.1	29.78	756.4	53.6	12.0	69.5	3	1	4	4	5	4	4	5	.....	.....	.....		7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.50	749.3	29.79	756.7	52.3	11.3	82.9	1	4	4	5	3	6	.....	7	.....	.....	.....		6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.75	755.6	29.78	756.4	53.0	11.7	63.9	3	3	3	4	5	5	4	3	.....	.....	.....		7	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.49	749.0	29.75	755.6	52.2	11.2	67.3	1	4	2	7	2	5	.....	8	1	.....	.....		6	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.83	757.7	29.90	759.4	64.0	17.8	69.9	4	11	4	1	.....	3	3	4	.....	.....	.....		4	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.07	763.8	30.11	764.8	76.9	24.9	77.1a	.....	.....	.....	11	4	7	1	7	.....	.....	.....		6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.23	742.4	29.75	755.6	50.9	10.5	68.2	4	2	2	3	5	8	3	3	.....	.....	.....		7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.54	750.3	29.77	756.1	52.3	11.3	66.4	2	2	3	6	4	5	5	3	.....	.....	.....		6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.68	753.9	29.75	755.6	53.9	12.2	75.0	.....	3	2	7	2	9	2	4	1	.....	.....		6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.82	757.4	43.7	6.5	76.6	1	4	4	1	2	8	8	1	1	.....	.....		6	.....	.....
Scutari Cemetery	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.80	756.9	29.87	758.7	58.2	14.6	57.7	2	1	1	8	3	.....	.....	15	.....	.....	.....		6	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.49	749.0	29.77	756.1	52.0	11.1	72.6	1	.....	2	8	3	2	2	11	1	.....	.....		7	3.21	81.5
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.71	754.6	29.74	755.4	49.8	9.9	71.5	1	2	4	5	.....	3	12	3	.....	.....	.....		6	2.87	72.9
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.76	755.9	49.1	9.5	66.4a	2	1	6	5	1	2	8	5	.....	.....	.....		8	.....	.....
Strathfeld Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	54.4	12.4	66.5	1	4	3	7	2	7	3	3	.....	.....	.....		6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.72	754.9	29.76	755.9	57.4	14.1	72.1	2	7	1	5	4	6	2	3	.....	.....	.....		6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.69	754.1	29.71	754.6	51.7	10.9	73.4	2	7	1	3	4	7	5	1	.....	.....	.....		7	.....	.....
CANADIAN.																											
Bathurst d	N. 47 39	W. 65 43	7.45 a.m.	35	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.88	758.9	29.93	760.2	28.2	— 2.1	82.0	4	6	5	3	6	1	1	2	2	5314	8552		4	3.64	92.5
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.90	759.4	29.96	761.0	27.4	— 2.6	81.7a	1	13	.....	4	3	1	1	3	4	4136	6656		6	1.97	50.0
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.94	760.5	29.96	761.0	28.1	— 2.2	90.7	8	4	1	6	2	.....	3	4	2	13814	22231		8	1.42	36.1
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.27	743.4	30.14	765.5	26.0	— 3.3	88.9	6	1	1	.....	2	7	6	.....	7	5983	9628		4	0.47	11.9
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.82	757.4	29.96	761.0	31.6	— 0.2	79.8	5	6	8	1	3	1	1	4	1	.....	.....		6	4.83	122.7
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	358	109	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.66	753.4	30.01	762.2	34.6	1.4	73.9	11	3	7	2	3	1	.....	3	.....	6354	10226		7	1.23	31.2
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.77	756.1	29.99	761.7	32.0	0.0	71.9	7	2	7	.....	3	.....	4	5	2	.....	.....		6	2.01	51.1
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.32	744.7	30.04	763.0	32.1	0.1	80.5	6	3	5	1	2	2	4	7	.....	7279	11714		4	1.66	42.2
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.33	745.0	30.04	763.0	37.2	2.9	88.6	2	3	5	5	1	.....	1	10	3	6735	10839		6	1.39	35.3
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.37	746.0	30.04	763.0	35.8	2.1	79.9	2	5	8	2	1	.....	7	5	.....	.....	.....		6	1.57	39.9
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.66	753.4	30.00	762.0	27.2	— 2.7	83.4a	8	7	2	.....	.....	.....	4	6	3	.....	.....		6	1.83	46.5
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.55	750.6	30.03	762.7	30.0	— 1.1	75.1	3	10	3	1	.....	3	2	1	7	.....	.....		6	1.83	46.5
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.31	744.5	30.04	763.0	35.5	1.9	78.8	2	4	4	5	2	2	3	7	1	8836	14220		5	2.70	68.6
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.90	759.4	29.95	760.7	31.4	— 0.3	80.2	6	9	3	2	1	4	.....	3	2	.....	.....		5	2.79	70.9
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for April, 1882. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
CANADIAN—C't'd.	° ′	° ′																								
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.86	758.4	29.92	760.0	28.5	— 1.9	75.4	3	3	7	4	3	1	3	.....	6	7279	11714	7	3.18	80.8
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.65	753.1	30.05	763.3	37.1	2.8	71.9	6	6	4	2	1	1	3	6	1	9898	15929	6	1.03	26.2
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.88	758.9	29.95	760.7	33.7	0.9	85.9	5	6	2	5	2	4	.....	5	1	6591	10607	5	3.59	91.2
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.10	764.5	30.13	765.3	68.7	20.4	77.7	.....	1	13	6	3	2	4	1	.....	.....	.....	5	1.10	27.9
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	29.99	761.7	30.03	762.7	70.1	21.2	70.2	10	9	4	.....	7	6	.....	.....	2	.....	.....	5	2.00	50.8
CHINESE.																										
Sub Series.																										
Hankow *h*	N. 30 34	E. 114 20	7.45 p.m.	260	79	29.91	759.7	30.18	766.6	59.3	15.2	83	4	1	1	2	2	5	5	1	1	.....	.....	5	6.53	165.9
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.00	762.0	30.02	762.6	53.8	12.1	83	3	1	3	.....	2	5	12	3	1	.....	.....	7	3.37	85.6
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.85	758.2	29.90	759.4	48.0	8.9	65	1	3	2	3	7	8	4	1	1	.....	.....	5	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.83	757.6	29.85	758.1	48.4	9.1	77	.....	1	5	9	2	3	6	2	2	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.88	759.0	29.93	760.1	24.1	—4.4	83	8	5	1	.....	2	3	.....	8	4	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.96	761.0	30.00	762.1	29.1	—1.6	91	.....	.....	.....	.....	3	4	8	12	3	.....	.....	5	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.84	757.8	29.87	758.7	41.7	5.4	76	6	.....	2	3	.....	6	2	10	1	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.73	755.1	29.82	757.4	46.0	7.8	75	.....	3	3	4	5	1	6	5	3	.....	.....	6	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.28	743.8	29.93	760.3	58.6	14.8	74.1	3	2	3	4	5	1	.....	.....	12	.....	.....	.....	3.37	85.7
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.32	744.7	29.87	758.6	54.9	12.7	77.7	5	.....	2	5	10	2	1	5	.....	.....	.....	.....	1.91	48.6
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.56	750.9	29.82	757.4	55.0	12.8	60.9	4	3	5	4	2	6	2	3	1	.....	.....	.....	1.95	49.5
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.82	757.5	29.90	759.5	64.4	18.0	51.4	11	5	1	6	1	4	1	1	.....	.....	.....	6	2.98	75.8
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.32	744.8	29.88	758.9	57.2	14.0	53	.....	.....	.....	3	12	12	3	.....	.....	.....	.....	6	1.99	50.6
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.58	751.4	29.85	758.1	50.3	13.5	54.4	3	1	3	3	4	8	8	.....	.....	.....	.....	6	2.71	68.9
Besançon	N. 47 14	E. 6 01	0.32 p.m.	846	258	28.95	735.3	29.84	757.8	58.8	14.9	57.3	2	1	1	6	6	.....	1	13	.....	.....	.....	4	2.57	65.3
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.63	752.6	29.89	759.2	59.7	15.4	60.8	2	5	9	4	3	4	3	.....	.....	.....	.....	8	3.71	94.3
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.33	745.0	29.91	759.7	58.5	14.7	50.5	3	1	5	5	5	5	2	3	1	.....	.....	6	1.28	32.5
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.60	751.7	29.84	757.9	56.7	13.7	73.2	3	1	8	8	3	.....	1	3	3	.....	.....	.....	2.87	73.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.74	755.4	29.82	757.3	57.6	14.2	62.9	1	4	4	6	4	6	1	4	.....	.....	.....	6	1.84	46.7
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.52	749.7	29.83	757.6	59.7	15.4	54.4	2	.....	2	5	8	3	1	2	7	.....	.....	4	2.67	67.9
Charleville *t*	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.32	744.8	29.84	757.9	56.7	13.7	58.2	.....	1	3	3	5	6	2	1	.....	.....	.....	6	1.85	47.1
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.53	724.6	29.86	758.5	59.4	15.2	46.5	5	1	4	3	4	6	2	5	.....	.....	.....	6	2.33	59.1
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.05	737.8	29.89	759.2	57.6	14.2	54.6	6	3	2	2	8	5	2	2	.....	.....	.....	.....	1.12	28.4
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.02	737.2	29.89	759.2	56.7	13.7	48.2	2	1	2	6	2	4	5	8	.....	.....	.....	4	3.10	78.7
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.35	694.6	29.84	757.9	58.5	14.7	36.6	10	1	4	2	4	.....	1	..	8	.....	.....	.....	1.19	30.3
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.75	730.3	29.87	758.8	61.7	16.5	41.6	1	.....	.....	.....	2	12	7	8	.....	.....	.....	5	1.44	36.5
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.11	739.5	29.87	758.8	59.5	15.3	55.9	6	8	.....	2	1	6	5	2	.....	.....	.....	.....	2.44	62.1
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.32	719.2	29.89	759.1	55.0	12.8	59.5	1	.....	3	13	3	6	1	3	.....	.....	.....	.....	4.01	101.9
Lamballe *a*	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.57	751.1	29.84	758.0	55.9	13.3	67.1	4	2	5	2	5	5	.....	6	.....	.....	.....	6	2.08	52.7
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.35	745.6	29.91	759.7	62.2	16.8	61.1	.....	1	12	8	1	.....	6	2	.....	.....	.....	5	4.44	112.9
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.76	755.8	29.86	758.4	57.7	14.3	78.1	1	2	4	6	6	4	1	5	1	.....	.....	6	4.14	105.1
Lyon	N. 45 41	E. 3 30	0.25 p.m.	981	299	28.85	732.9	29.90	759.5	57.6	14.2	48.9	6	5	.....	1	7	6	4	1	.....	.....	.....	.....	3.02	76.8
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.56	750.7	29.86	758.5	55.6	13.1	70.2	3	6	2	6	5	3	1	4	.....	.....	.....	5	2.83	71.9
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.63	752.5	29.89	759.3	62.6	17.0	49.4	.....	5	9	5	1	6	4	.....	.....	.....	.....	.....	1.05	26.6
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.71	627.6	29.55	750.6	45.9	7.7	54.8	.....	2	6	14	.....	1	2	5	.....	.....	.....	5	.....	.....
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.76	755.9	29.89	759.2	63.7	17.6	59.9	6	.....	.....	.....	.....	5	12	7	.....	.....	.....	3	1.86	47.2
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.07	738.4	29.85	758.1	56.3	13.5	57.1	4	4	3	4	4	4	.....	7	.....	.....	.....	4	2.13	54.0
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.72	754.9	29.88	759.0	58.8	14.9	61.5	5	3	2	9	4	2	2	3	.....	.....	.....	7	2.16	54.9
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.80	757.0	29.91	759.7	61.5	16.4	53.1	5	4	.....	1	7	6	3	4	.....	.....	.....	7	1.85	47.0
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.08	535.5	.....	.....	26.6	—3.0	.....	1	5	3	12	2	1	1	4	1	.....	.....	8	6.26	158.9
Privas..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.84	732.4	29.89	759.2	58.8	14.9	57.0	5	.....	.....	.....	14	5	.....	.....	6	.....	.....	4	3.60	91.3
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	24.99	634.7	.....	.....	37.4	3.0	82.7	3	4	4	8	4	4	2	1	.....	.....	.....	7	4.15	105.4
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.87	758.6	29.90	759.4	60.8	16.0	91.9	1	2	8	8	3	4	.....	3	1	.....	.....	6	1.46	37.1
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.64	752.9	29.85	758.2	58.1	14.5	65.7	3	5	4	7	3	1	1	6	.....	.....	.....	6	3.04	77.3
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.79	705.9	29.94	760.4	52.9	11.6	68.9	1	12	2	1	1	2	8	2	1	.....	.....	6	4.36	110.7
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.78	756.5	29.83	757.7	57.0	13.9	61.4	1	1	3	7	6	3	3	6	.....	.....	.....	5	1.66	42.1
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.69	754.2	29.86	758.4	56.7	13.7	55.1	3	1	5	4	4	6	1	6	.....	.....	.....	6	1.85	47.1
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.24	742.6	29.96	760.9	59.5	15.3	68.7	.....	8	5	4	1	11	1	.....	.....	.....	.....	6	4.08	103.7
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.37	745.9	29.86	758.4	56.1	13.4	54.0	2	1	6	8	4	2	5	2	.....	.....	.....	4	2.35	59.8
Sub-Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	29.58	751.2	29.87	758.6	57.0	13.9	53.9	1	.....	5	6	3	5	3	7	.....	.....	.....	6	2.10	53.4
GERMAN.																										
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.05	737.9	29.90	759.5	54.3	12.4	47.8	2	4	5	8	2	3	1	5	..	.....	.....	5	1.40	35.5
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.72	754.8	29.89	759.3	55.2	12.9	46.3	5	2	3	6	.....	7	3	4	.....	.....	.....	6	1.00	25.5
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.41	747.0	29.94	760.4	53.2	11.8	54.4	2	5	3	5	4	4	3	4	.....	.....	.....	6	0.58	14.6
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.47	748.4	29.90	759.5	55.9	13.3	48.8	2	.....	.....	11	1	2	4	10	.....	.....	.....	6	2.06	52.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.14	740.2	29.85	758.3	50.5	13.6	45.2	4	4	2	2	12	.....	2	4	.....	.....	.....	5	0.67	17.0
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.50	749.2	29.86	758.4	56.8	13.8	46.2	5	2	1	10	4	2	2	4	.....	.....	.....	5	2.20	55.9
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.47	723.1	29.91	759.0	52.5	11.4	68.4	...	1	5	13	6	.....	1	4	.....	.....	.....	5	3.34	84.8
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.80	757.0	29.90	759.4	51.3	10.7	63.6	1	2	2	9	2	4	7	3	.....	.....	.....	6	0.84	21.2
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.86	758.4	29.87	758.8	49.1	9.5	64.3	2	.....	4	8	3	3	4	6	.....	.....	.....	6	1.48	37.6
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.49	749.1	29.91	759.7	54.0	12.2	48.1	1	3	1	12	1	1	4	7	.....	.....	.....	6	1.71	43.4
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.71	754.6	29.90	759.4	54.9	12.7	49.8	2	4	5	8	1	2	5	3	.....	.....	.....	6	1.28	32.5
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.95	760.6	29.99	761.8	48.6	9.2	61.5	1	5	5	4	5	2	2	6	.....	.....	.....	5	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.08	713.2	29.94	760.4	52.3	11.3	50.2	3	12	.....	.....	.....	3	1	3	8	.....	.....	6	1.90	48.3
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.94	760.4	29.95	760.8	50.7	10.4	61.0	6	3	1	4	5	1	2	8	.....	.....	.....	6	1.00	25.3
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.36	745.8	29.89	759.1	55.6	13.1	54.5	5	.....	5	1	8	.....	2	7	2	.....	.....	6	2.17	55.1
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	28.94	735.1	29.83	757.6	55.9	13.3	50.3	10	.....	8	4	2	2	3	1	.....	.....	.....	5	2.55	64.8
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.90	759.4	29.93	760.1	48.9	9.4	72.1	3	.....	2	8	2	5	3	6	1	.....	.....	6	1.15	29.3
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	360	110	29.52	749.9	29.92	759.9	63.1	17.3	.....	4	1	3	9	2	.....	.....	11	.....	.....	.....	6	1.37	34.9
ITALIAN.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.51	749.5	29.91	759.8	59.7	15.4	57	1	.....	.....	11	2	1	6	6	3	.....	.....	6	7.98	202.7
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.38	740.3	29.87	758.6	60.3	15.7	48	5	3	1	5	1	10	3	2	.....	.....	.....	3	3.50	88.8
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.79	756.7	29.90	759.5	59.4	15.2	51	3	1	2	2	4	7	6	5	.....	.....	.....	5	2.80	71.2
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	28.98	736.0	29.87	758.8	58.6	14.8	49	3	6	1	.....	5	5	8	2	.....	.....	.....	5	2.26	57.4
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.70	754.3	29.89	759.1	60.6	15.9	53	1	5	2	13	4	5	.....	.....	.....	.....	.....	4	2.29	58.1
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	27.97	710.3	29.89	759.3	54.9	12.7	52	4	7	12	.....	2	1	1	3	.....	.....	.....	3	2.37	60.3
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.85	758.2	29.85	759.4	57.6	14.2	63	11	.....	2	3	.....	3	9	2	.....	.....	.....	5	1.07	27.1
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.63	752.7	29.88	759.1	63.0	17.2	43	1	2	5	5	5	.....	1	11	.....	.....	.....	5	3.23	82.0
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.77	756.1	29.89	758.2	61.9	16.6	55	2	4	9	3	7	1	2	2	.....	.....	.....	5	0.96	24.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.71	754.6	29.90	759.0	64.6	18.1	44	6	5	5	4	9	.....	.....	1	.....	.....	.....	6	2.28	58.0
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.64	752.6	29.89	759.2	61.9	16.6	58	10	5	4	3	2	1	1	4	.....	.....	.....	5	1.98	50.3
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.02	737.0	29.90	759.5	60.8	16.0	74	2	7	8	5	3	2	1	2	.....	.....	.....	7	3.93	99.8
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.70	754.3	29.89	759.2	63.7	17.6	55	.....	12	.....	1	3	11	2	.....	1	.....	.....	5	3.14	79.8
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.68	753.9	29.93	760.2	63.0	17.2	54	2	3	5	4	.....	1	1	14	.....	.....	.....	6	2.63	66.7
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.84	757.9	29.88	759.0	63.0	17.2	66	1	3	7	1	3	5	7	3	.....	.....	.....	7	2.32	59.0
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.37	746.0	29.89	759.1	61.9	16.6	61.5	.....	2	3	15	1	2	4	3	.....	.....	.....	7	2.10	53.3
Stelvio	N. 46 32	E. 10 26	0.50 p.m.	8343	2543	22.00	558.8	.....	.....	30.8	—0.7	66.6	.....	.....	2	11	1	3	3	10	.....	.....	.....	1	2.34	59.4
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.03	559.6	.....	.....	33.4	0.8	62.6	7	.....	.....	.....	.....	1	19	3	.....	.....	.....	7	5.12	130.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. 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.
	° ′	° ′																								
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.77	756.0	29.82	757.3	84.4	29.1	63.	.....	1	14	15	.....	.....	.....	.....	.....	.....	.....	3	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.25	742.9	29.70	754.5	98.9	37.2	22.	1	5	12	11	1	.....	.....	.....	.....	.....	.....	2	0	0
Bombay	N 18 54	E. 72 49	5.00 p.m.	37	11	29.74	755.3	29.78	756.3	85.5	29.7	67.	.....	20	9	1	.....	.....	.....	.....	.....	.....	.....	1	0.08	2.0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.89	708.5	29.69	754 0	95.0	35.0	18.	2	8	16	3	.....	1	.....	.....	.....	.....	.....	3	0.75	19.0
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.24	691.9	29.73	755.2	84.0	28.9	55.	.....	1	10	16	2	1	.....	.....	.....	.....	.....	3	2.32	58.9
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.95	735.3	29.68	753.8	90.5	32.7	25.	6	5	7	.....	.....	.....	3	3	6	.....	.....	3	0.99	25.2
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.78	731.1	29.66	753.3	92.0	33.3	18.	.....	13	1	4	1	2	1	2	6	.....	.....	3	0.15	3.8
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.12	739.7	29.66	753.5	98.5	36.9	14.	6	4	18	.....	2	.....	.....	.....	.....	.....	.....	1	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.64	727.4	29.64	752.8	100.2	37.9	17.	3	8	5	.....	3	2	2	1	6	.....	.....	3	0.11	2.8
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.36	720.5	29.67	753.7	99.2	35.7	15.	8	4	8	1	.....	.....	.....	2	7	.....	.....	2	0.98	24.9
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.31	744.5	29.67	753.7	98.0	36.7	22.	.....	9	5	3	.....	.....	3	2	8	.....	.....	1	0.16	4.1
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.35	745.5	29.65	753.1	97.0	36.1	19.	2	12	2	1	3	.....	.....	3	7	.....	.....	2	0.02	0.5
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.51	749.6	29.69	754.2	93.7	34.3	25.	2	10	7	.....	.....	4	7	.....	.....	.....	.....	2	0.03	0.8
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.70	703.7	29.66	753.3	91.0	32.8	21.	7	13	4	2	1	1	1	1	.....	.....	.....	4	1.27	32.3
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.64	752.7	29.72	754.8	88.3	31.3	53.	1	1	2	8	14	3	.....	.....	1	.....	.....	4	1.26	32.0
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	7	29.69	754.1	29.71	754.6	87.4	30.8	53.	1	5	.....	6	13	2	1	1	1	.....	.....	4	0.25	6.4
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.59	751.5	29.71	754.5	83.0	28.3	61.	.....	1	.....	1	1	.....	6	8	13	.....	.....	3	2.50	63.5
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.69	754.1	29.78	756.3	82.1	27.8	75.	1	.....	8	13	4	1	.....	2	1	.....	.....	3	0.22	5.6
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	112	29.44	747.8	29.78	756.4	76.8	24.9	80.	.....	.....	.....	5	.....	1	2	22	.....	.....	.....	6	8.98	228.1
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.28	718.2	29.67	753.7	95.7	35.4	13.	4	15	7	4	.....	.....	.....	.....	.....	.....	.....	2	0	0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.87	758.7	.....	.....	83.9	28.8	73.	.....	1	1	3	15	7	3	.....	.....	.....	.....	7	11.09	281.7
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.25	717.5	.....	.....	98.1	36.7	19.	.....	3	2	2	1	16	5	1	.....	.....	.....	6	0.01	0.3
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.50	749.3	.....	.....	95.2	35.1	39.	.....	2	1	2	3	9	10	2	1	.....	.....	5	0	0
JAPANESE.																										
Aomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.91	759.8	29.95	760.7	45.4	7.4	80.8	10	1	6	2	7	.....	2	1	1	7274	11706	6	1.62	41.2
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.93	760.1	29.94	760.4	43.4	6.3	83.	5	.....	8	1	.....	1	9	2	4	8414	13541	6	4.45	112.9
Hiroshima †	N. 34 20	E. 132 27	8.58 p.m.	14	4	29.95	760.8	29.97	761.1	54.9	12.7	79.5	15	1	4	2	2	.....	.....	6	.....	3900	6276	5	9.11	231.3
Kanazawa	N. 36 33	E. 136 40	9.14 p.m	95	29	29.90	759.5	30.01	762.1	50.7	10.4	84.0	3	.....	5	2	2	9	9	.....	.....	5198	8365	6	5.39	136.9
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.83	757.6	30.00	762.0	53.1	11.7	81.3	9	7	1	2	5	1	4	.....	1	2794	4496	5	8.19	208.1
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.99	761.6	30.01	762.2	60.1	15.6	79.0	2	8	2	.....	3	1	12	2	.....	6441	10366	6	15.13	384.4
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.81	757.3	30.02	762.4	56.7	13.7	81.9	10	.....	2	9	4	1	.....	2	2	4072	6553	6	20.12	511.0
Nemuro	N. 43 21	E. 145 35	9.50 p.m.	58	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.95	760.7	29.99	761.6	50.5	10.3	82.5	8	1	8	3	1	3	1	1	4	5955	9583	6	3.46	87.9
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.96	760.9	29.97	761.3	48.9	9.4	85.2	10	2	3	2	6	1	5	1	.....	9388	15107	5	4.08	103.6
Supporo	N. 43 04	E. 141 23	9.33 p.m.	61	19	.....	.....	.....	.....	41.0	5.0	84.	.....	2	1	.....	7	5	1	.....	14	5710	9189	6	4.72	120.0
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.91	759.7	29.98	761.4	55.0	12.8	91.4	6	1	.....	.....	13	1	7	.....	2	4934	7940	6	3.86	98.0
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.94	760.5	29.99	761.8	57.5	14.2	74.9	1	4	.....	.....	7	.....	11	6	1	3649	5872	5	4.79	121.8
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.78	756.4	29.97	761.2	79.2	26.2	70.1	.....	.....	.....	.....	.....	5	24	1	.....	.....	.....	5	1.46	37.1
MEXICAN.																										
Guanajuato *a*	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.69	601.7	29.91	759.7	62.2	16.8	61.	1	.....	3	8	1	9	1	2	4	.....	.....	2	inap.	inap.
Leon *a*	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.39	619.4	30.06	763.4	59.5	15.3	70.	10	11	1	1	.....	.....	.....	5	1	.....	.....	5	0.08	2.0
Mazatlan *a*	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.69	754.1	29.95	760.7	65.3	18.5	78.	2	10	3	.....	.....	.....	8	4	2	.....	.....	3	inap.	inap.
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.10	586.7	30.17	766.3	54.7	12.6	66.	.....	1	.....	.....	.....	.....	.....	29	.....	.....	.....	3	0.91	23.2
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.23	615.4	30.35	770.8	59.7	15.4	76.	.....	.....	.....	.....	6	23	1	.....	.....	.....	.....	2	inap.	inap.
Pabellon *a*	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.94	608.2	29.95	760.8	59.1	15.1	58.	1	1	7	5	1	.....	.....	1	13	.....	.....	4	inap.	inap.
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.40	594.2	30.13	765.1	54.2	12.3	79.	.....	2	.....	.....	.....	.....	1	5	22	.....	.....	1	0.40?	5.1?
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	24.18	614.2	30.13	765.2	62.4	16.9	53.	1	1	5	4	4	6	9	.....	.....	.....	.....	5	0	0
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.53	572.3	30.19	766.8	54.9	12.7	59.	.....	.....	6	7	5	.....	.....	1	11	.....	.....	3	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.84	758.0	29.84	758.0	53.6	12.0	.....	1	.....	7	4	5	4	6	3	.....	.....	.....	.....	2.07	52.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.79	756.7	29.85	758.1	51.6	10.9	.....	1	4	1	7	9	.....	6	2	.....	.....	.....	.....	2.31	58.6
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.82	757.4	29.82	757.4	48.9	9.4	.....	.....	2	3	4	8	2	6	5	.....	.....	.....	.....	1.86	47.3
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.83	757.7	29.83	757.7	53.6	12.0	65.6	.....	.....	2	10	4	4	6	4	.....	.....	.....	.....	2.47	62.7
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.82	757.3	29.86	758.5	54.9	12.7	58.0	.....	.....	2	6	7	5	4	6	.....	.....	.....	5	2.06	52.2
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.74	755.4	29.80	757.0	46.2	7.9	58.	.....	13	1	2	7	4	2	1	.....	.....	.....	6	3.32	84.2
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.84	757.9	29.88	758.9	39.9	4.4	62.	3	2	3	4	1	3	.....	9	5	.....	.....	5	1.47	37.3
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.70	754.4	29.85	758.2	45.5	7.5	63.	5	.....	2	4	6	4	6	1	2	.....	.....	6	2.30	58.3
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.77	756.1	29.79	756.7	33.1	0.6	.....	1	6	7	5	2	.....	2	3	4	.....	.....	9	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.83	757.6	29.87	758.8	34.9	1.6	72.	1	1	4	6	3	.....	2	7	6	.....	.....	6	1.27	32.2
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	61.2	16.2	74.4	5	6	8	4	2	5	.....	.....	.....	.....	.....	4	2.06	52.3
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.02	737.2	30.02	762.4	64.2	17.9	52.6	2	3	10	5	7	.....	2	1	.....	.....	.....	7	1.64	41.7
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.11	704.8	30.20	767.0	65.7	18.7	63.4	.....	.....	.....	23	.....	3	1	.....	3	.....	.....	4	0.60	15.3
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.73	755.2	30.10	764.4	61.2	16.2	62.9	6	5	8	4	6	.....	.....	.....	1	.....	.....	6	2.14	54.4
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	60	20	30.11	704.9	30.19	766.7	64.2	17.9	66.9	3	2	10	7	5	3	.....	.....	.....	.....	.....	5	1.65	41.9
St. Paul de Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.70	754.3	29.90	759.4	81.1	27.3	84.5	.....	5	12	9	.....	.....	4	.....	.....	.....	.....	5	3.70	93.9
Serra da Estralla	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.23	640.8	30.02	762.5	42.3	5.7	79.4	1	8	12	.....	2	2	5	.....	.....	.....	.....	8	30.70	779.7
RUSSIAN.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.84	732.5	29.96	760.9	31.8	−0.1	75.5	4	1	3	8	6	2	4	2	.....	.....	.....	6	0.32	8.2
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.89	759.2	29.91	759.7	33.6	0.9	76.3	4	6	8	1	7	1	1	1	.....	.....	.....	7	0.13	3.4
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖ 68	‖ 21	30.03	702.7	29.94	760.6	50.5	10.3	53.5	5	5	2	1	5	4	3	3	2	.....	.....	8	0.92	23.5
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.58	751.2	30.10	764.4	37.4	3.0	50.6	3	1	6	5	.....	.....	1	7	7	.....	.....	5	0.37	9.5
Derpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.71	754.7	29.96	761.0	47.8	8.8	60.3	3	2	5	6	3	4	2	5	.....	.....	.....	7	0.69	17.6
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.90	734.0	29.88	759.0	37.2	2.9	53.5	2	1	7	7	2	5	1	5	.....	.....	.....	7	0.29	7.3
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.66	753.3	29.94	760.4	38.1	3.4	58.9	5	4	.....	7	5	3	2	2	2	.....	.....	6	0.22	5.7
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.87	758.7	29.89	759.2	50.0	10.0	70.0	6	1	.....	.....	5	6	1	9	2	.....	.....	5	0.74	18.9
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.27	743.5	29.91	759.6	51.6	10.9	49.8	9	.....	1	2	2	4	4	6	2	.....	.....	6	0.50	12.8
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.70	754.4	29.91	759.6	53.6	12.0	49.5	5	5	1	6	3	3	3	4	.....	.....	.....	8	0.19	4.8
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.41	747.0	29.89	759.3	44.8	7.1	54.2	9	4	1	2	11	.....	1	1	1	.....	.....	6	1.59	40.3
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.89	759.3	29.96	761.1	58.6	14.8	49.5	4	1	1	1	7	.....	2	7	7	.....	.....	3	0.24	6.1
Nikolaievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	75?	23?	29.71	754.0	29.80	756.8	30.2	−1.0	72.7	1	.....	1	.....	.....	2	5	1	19	.....	.....	5	0.62	15.8
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.80	756.9	29.94	760.5	61.9	16.6	38.6	.....	4	.....	5	.....	4	.....	.....	17	.....	.....	3	0.37	9.3
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.93	760.3	29.95	760.7	43.5	6.4	56.7	.....	9	4	3	3	5	2	4	.....	.....	.....	6	0.59	15.0
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.38	746.3	30.06	763.4	41.9	5.5	52.6	5	.....	2	3	1	1	4	3	11	.....	.....	5	inap.	inap.
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.38	720.7	29.92	760.0	63.1	17.3	66.5	3	5	.....	.....	.....	.....	.....	4	18	.....	.....	7	2.48	63.0
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.48	723.5	29.89	759.1	59.2	15.1	44.8	2	17	.....	.....	1	8	.....	.....	2	.....	.....	7	2.51	63.7
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.86	758.4	29.93	760.1	38.5	3.6	81.0	3	3	2	2	3	6	1	2	8	.....	.....	7	2.91	73.8
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.48	748.8	29.91	759.6	54.7	12.6	48.8	4	3	3	3	5	4	3	4	1	.....	.....	7	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.54	750.3	29.96	760.9	52.2	11.2	53.3	6	1	4	4	7	3	3	2	.....	.....	.....	7	0.83	21.1
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.72	754.8	30.01	762.3	33.8	1.0	57.5	.....	6	14	4	2	1	3	.....	.....	.....	.....	5	0.54	13.7
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.80	756.9	29.91	759.6	63.0	17.2	65.6	.....	.....	1	10	7	7	4	1	.....	1870	3009	3	1.39	35.3
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.91	759.7	29.97	761.2	64.4	18.0	60.	5	17	3	.....	1	2	1	1	.....	2429	3909	7	3.56	90.3
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.00	685.9	29.96	760.9	55.8	13.2	55.	6	.....	2	11	7	.....	.....	4	.....	662	1065	6	1.35	34.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.75	704.8	29.95	760.6	56.8	13.8	47.9	1	2	7	13	2	2	.....	3	.....	948	1525	6	0.70	17.9
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.80	756.9	29.93	760.2	62.6	17.0	56.0	.....	9	2	2	7	4	3	3	.....	1952	3141	6	1.67	42.4
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.04	737.6	29.94	760.4	57.0	13.9	74.8	2	2	6	9	2	1	1	1	6	700	1127	8	10.97	278.7
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.96	760.9	30.02	762.5	74.4	23.6	83.1	.....	.....	.....	2	3	8	10	1	6	.....	.....	3	4.90	124.8
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.86	758.4	29.91	759.8	82.6	28.1	70.6	2	.....	.....	1	2	4	20	1	.....	.....	.....	4	1.61	40.8
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.00	762.0	30.10	764.5	65.9	15.4	61.3	1	3	14	4	1	.....	3	.....	4	.....	.....	5	1.88	47.8
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.98	761.4	30.07	763.7	76.1	24.5	86.	.....	.....	.....	.....	4	7	2	2	15	.....	.....	3	1.78	45.2
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.81	757.2	29.94	760.5	78.8	26.0	77.9	1	22	.....	1	5	.....	.....	1	.....	.....	.....	6	0.74	18.1

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
SWEDISH.	° ′	° ′																								
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.87	758.8	29.91	759.8	34.9	1.6	72	8	1	1	3	9	3	.....	4	1	.....	.....	6	2.56	64.9
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.87	758.7	29.92	760.0	39.0	3.9	72	3	4	2	10	2	.....	2	7	.....	.....	.....	7	1.99	50.5
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.85	758.3	29.91	759.6	39.2	4.0	67	5	3	1	.....	5	4	2	4	6	.....	.....	6	1.46	37.1
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.73	755.1	29.91	759.6	44.8	7.1	55	1	1	7	3	3	3	7	5	.....	.....	.....	5	0.96	24.5
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.85	758.1	29.91	759.6	44.8	7.1	72	5	1	9	4	4	3	1	3	.....	.....	.....	4	0.83	21.0
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.79	756.6	29.87	758.8	45.3	7.4	58.2	6	3	4	3	4	2	5	3	.....	.....	.....	6	1.87	47.6
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.48	723.5	29.91	759.8	52.9	11.6	49.5	12	5	4	2	5	1	.....	.....	1	.....	.....	5	4.02	102.1
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.91	759.8	57.6	14.2	56	14	.....	.....	9	2	3	.....	2	.....	.....	.....	6	0.91	23.1
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	29.95	760.7	63.7	17.6	.....	.....	10	8	10	1	1	.....	.....	.....	.....	.....	5	4.53	175.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.88	759.0	67.5	19.7	72.8	4	2	6	14	1	.....	1	2	.....	.....	.....	5	6.25	158.7
UNITED STATES.																										
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.96	761.0	30.04	763.0	43.9	6.6	60.3	7	6	7	2	4	1	.....	2	1	5513	8872	6	1.27	32.3
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.40	746.7	30.09	764.3	34.0	1.1	73.0	2	9	6	.....	2	2	5	4	.....	7410	11925	5	2.65	67.3
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.90	734.0	30.09	764.3	57.6	14.2	78.5	2	4	5	2	1	5	9	2	.....	5278	8494	6	5.21	132.3
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.04	763.0	30.05	763.3	44.1	6.7	76.1	6	3	5	3	3	2	2	6	.....	7578	12195	6	3.21	81.5
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.91	759.7	30.10	764.5	59.9	15.5	82.7	1	.....	1	3	1	3	.....	6	15	2739	4408	5	4.77	121.2
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.05	763.3	30.10	764.5	47.5	8.6	67.9	6	7	2	1	2	.....	2	5	5	4422	7116	6	2.14	54.4
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.04	763.0	30.06	763.5	44.3	6.8	73.3	7	5	4	3	4	1	2	4	.....	9680	15578	6	4.16	105.7
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1694	516	28.18	715.8	30.05	763.3	34.2	1.2	84.4	3	4	.....	1	1	6	10	5	.....	10035	16149	7	3.56	90.4
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.16	689.9	30.00	762.0	39.9	4.4	75.8	1	7	14	1	.....	2	3	1	1	5064	8150	5	2.33	59.2
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.86	758.4	30.02	762.5	38.7	3.7	67.6	1	10	7	3	.....	3	1	5	.....	8239	13259	4	2.50	63.5
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	29.87	758.7	29.92	760.0	71.2	21.8	90.0	2	2	.....	.....	3	14	.....	2	7	5614	9035	7	1.63	41.4
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.27	743.4	30.04	763.0	38.4	3.6	74.3	2	1	2	10	5	.....	....	8	2	7666	12337	7	2.23	56.6
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.70	754.4	30.00	762.0	35.8	2.1	69.2	7	1	3	.....	4	1	.....	.....	14	5293	8518	6	1.23	31.2
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.66	753.4	30.07	763.8	55.4	13.0	75.5	5	1	2	2	7	4	4	2	3	6481	10430	5	4.14	105.2
Campo *b*	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.42	696.5	30.00	762.0	36.3	2.4	85.0	.....	4	3	6	8	4	.....	2	1	3979	6404	2	1.10	27.9
Camp Thomas	N. 33 04	W. 110 06	4.49 a.m.	2710	826	27.17	690.1	29.90	759.4	44.8	7.1	59.1	1	5	.....	.....	.....	8	1	.....	15	.....	.....	1	0.02	0.5
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.07	763.8	30.09	764.3	51.5	10.8	75.4	4	5	.....	7	3	2	.....	9	.....	9757	15702	5	3.92	99.6
Cape May *a*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.04	763.0	30.07	763.8	46.8	8.2	75.1	2	3	4	3	2	3	3	8	1	9432	15179	5	2.44	62.0
Castroville	N. 29 25	W. 98 50	5.33 a.m.	780	238	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.04	763.0	30.06	763.5	69.5	20.8	83.3	3	1	3	3	2	2	4	11	1	7053	11350	6	3.00	76.2
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.20	741.7	30.04	763.0	45.8	7.7	77.8	3	2	.....	3	6	1	4	11	.....	10051	16175	7	3.86	98.0
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.01	762.2	30.07	763.8	62.8	17.1	84.3	4	2	3	7	.....	.....	2	9	3	6064	9759	6	2.72	69.1
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.20	741.7	30.06	763.5	54.8	12.7	78.7	2	.....	3	7	4	1	6	7	.....	4186	6737	7	5.93	150.6
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.26	743.2	30.09	764.3	56.2	13.4	76.7	4	2	1	5	4	1	.....	7	6	4634	7458	5	4.61	117.1
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	23.92	607.6	29.92	760.0	31.9	—0.1	63.5	7	8	6	4	1	1	2	1	.....	7990	12858	4	0.46	11.7
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.32	744.7	30.05	763.3	43.4	6.3	77.7	4	6	2	5	2	2	7	2	.....	7275	11708	6	6.72	170.7
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.05	763.3	30.07	763.8	47.4	8.6	76.9	5	8	1	3	1	2	4	6	.....	8035	12931	5	0.63	16.0
Cincinnati	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.40	746.7	30.07	763.8	49.8	9.9	72.5	9	1	1	3	3	8	2	3	.....	4421	7115	6	2.71	68.8
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.31	744.5	30.07	763.8	42.1	5.6	70.4	2	1	4	5	4	2	2	10	.....	6833	10996	7	2.20	55.9
Coleman City *b*	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.15	715.0	29.97	761.2	55.6	13.1	81.9	2	2	2	2	7	9	1	3	.....	7017	11293	5	0.24	6.1
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.19	741.4	30.06	763.5	44.9	7.2	74.2	9	2	3	2	4	1	1	8	.....	5950	9575	6	4.87	123.7
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.03	711.9	29.97	761.2	55.5	13.1	76.3	3	1	5	2	4	4	2	2	7	8363	13459	5	0.17	4.3
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.36	745.7	30.03	762.7	46.0	7.8	73.1	1	5	1	5	1	2	9	5	1	7665	12335	6	3.15	80.0
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.25	717.5	30.00	762.0	37.4	3.0	82.1	1	.....	1	15	2	2	5	2	2	4145	6671	5	4.08	103.6
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.28	642.1	29.97	761.2	32.9	0.5	80.0	2	.....	.....	10	3	1	.....	4	10	3178	5114	5	7.31	185.7
Decatur *c*	N. 33 10	W. 97 30	5.38 a.m.	1129	344	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.06	763.5	30.08	764.0	45.6	7.6	82.0	2	4	4	5	1	3	3	8	.....	11473	18464	5	1.99	50.5
Denison *b*	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.16	740.7	29.96	761.0	57.8	14.3	81.4	6	2	.....	2	12	2	2	2	.....	5082*d*	8178*l*	5	2.07	52.6
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.63	625.6	29.90	759.4	38.4	3.6	62.1	4	4	.....	3	11	7	.....	1	.....	6093	9806	5	2.60	66.0
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.10	739.1	30.03	762.7	43.3	6.3	76.0	7	3	1	3	2	5	5	2	2	6351	10221	4	1.47	37.3
Detroit	N. 42 21	W. 83 07	6.36 a.m.	661	201	29.34	745.2	30.07	763.8	42.8	6.0	72.1	7	5	5	3	1	.....	1	8	.....	8072	12990	6	3.47	88.1
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.32	693.9	29.96	761.0	42.8	6.0	75.5	6	3	3	2	7	3	1	2	3	19109	17879	5	1.13	28.7
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.30	744.2	30.03	762.7	41.8	5.4	70.5	2	3	4	1	2	2	8	6	2	4786	7702	6	0.68	17.3
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.40	746.7	30.12	765.0	33.9	1.1	73.3	3	6	.....	3	.....	.....	.....	16	2	7589	12213	5	4.47	113.5
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.16	740.7	29.97	761.2	64.0	17.8	77.3	1	3	.....	.....	.....	16	.....	5	5	5474	8809	6	2.51	63.8
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.22	640.6	29.94	760.5	32.3	0.2	80.2	11	.....	2	13	1	.....	1	1	1	8702	14004	6	1.25	31.7
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.90	759.4	29.97	761.2	32.7	0.4	72.0	8	8	1	5	3	.....	3	2	.....	7472	12025	4	3.35	85.1
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.22	666.0	29.96	761.0	49.1	9.5	46.1	2	13	4	.....	.....	1	6	3	1	6437	10359	5	3.03	77.0
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.30	744.2	30.05	763.3	42.4	5.8	73.9	1	4	1	6	2	1	1	8	6	7603	12236	2	6	0
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.42	747.3	30.11	764.8	33.5	0.8	76.0	14	4	2	.....	1	1	2	3	3	7535	12126	6	3.31	84.1
Florence	N. 33 03	W. 111 17	4.43 a.m.	1480	451	28.42	721.9	29.92	760.0	47.4	8.6	53.2	4	.....	6	10	2	2	1	4	1	2947	4744	6	1.30	33.0
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.00	635.0	29.92	760.0	32.7	0.4	69.1	.....	.....	1	1	.....	.....	11	16	1	6160	9913	1	imap.	imap.
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.13	689.1	30.03	762.7	33.6	0.9	71.3	1	1	2	9	3	1	2	10	1	7817	21580	2	0.91	23.1
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.39	721.1	30.03	762.7	37.9	3.3	82.0	7	2	2	1	.....	9	3	4	2	8095	13027	6	0.84	21.3
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.16	689.9	30.02	762.5	34.4	1.3	70.6	1	1	1	4	.....	.....	3	8	12	7256	11677	7	3.04	77.2
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.03	711.9	30.10	764.5	34.5	1.4	77.9	2	2	4	.....	.....	5	7	9	1	8880	14291	6	1.22	31.0
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.77	679.9	29.95	760.7	36.2	2.3	80.5	6	2	5	2	5	6	2	1	1	6951	11186	7	0.94	23.9
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.17	639.3	29.96	761.0	47.1	8.4	56.8	6	1	1	3	10	3	.....	.....	6	4786	7703	2	1.12	28.4
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.16	689.9	29.94	760.5	44.0	6.7	53.4	1	5	.....	1	6	6	2	6	3	10712	17239	4	0.26	6.6
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	29.41	747.0	29.99	761.7	55.7	13.2	78.0	4	1	1	.....	.....	7	6	4	2	6854	11030	5	0.66	16.8
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.19	639.8	29.92	760.0	44.9	7.2	36.0	2	1	.....	4	1	5	10	3	4	5774	9292	5	1.24	31.5
Fort Griffin	N. 32 53	W. 99 21	5.33 a.m.	1260	384	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	0.07	1.8
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.45	697.2	29.99	761.7	36.7	2.6	71.7	2	5	3	3	.....	10	1	5	1	9163	14746	7	2.06	52.3
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.07	763.8	30.08	764.0	56.8	13.8	86.2	7	4	3	4	1	2	1	8	.....	9204	14812	5	5.55	141.0
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.74	704.6	30.00	762.0	57.6	14.2	70.6	2	1	.....	9	10	5	2	1	.....	7468	12018	3	0.70	17.8
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.68	677.7	29.98	761.5	34.3	1.3	86.2	5	6	2	13	2	.....	1	1	.....	3308	5324	5	0.65	16.5
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	30.03	762.7	30.07	763.8	13.7	—10.2	93.4	4	4	.....	5	8	5	.....	2	2	4899	7808	2	0.04	1.0
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.32	668.5	29.99	761.7	31.6	—0.2	74.7	4	2	14	4	2	.....	1	1	2	6887	11083	5	0.97	24.6
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.72	729.5	29.96	761.0	51.6	10.9	79.2	10	2	.....	1	10	3	.....	.....	4	10753	17305	4	1.61	40.9
Fort Stevenson *f*	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.08	713.2	29.98	761.5	33.1	0.6	89.1	2	1	4	.....	1	4	4	6	2	6454*h*	10386*h*	6	5.36	136.1
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	43.1	6.2	49.1	5	2	6	6	5	3	.....	3	.....	.....	.....	2	0.03	0.8
Fort Washakie	N. 42 59	W. 108 43	4.50 a.m.	5580	1702	24.36	618.7	.....	.....	31.3	—0.4	79.1	.....	8	5	3	3	6	1	1	3	5283	8502	6	1.81	46.0
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.22	716.8	29.94	760.5	59.6	15.3	88.2	1	4	2	9	3	3	.....	4	4	5589	8994	7	0.78	19.8
Galveston	N. 29 18	W. 94 50	5.49 a.m.	48	15	29.94	760.5	29.98	761.5	69.6	20.9	87.5	3	2	.....	5	8	7	4	1	.....	9551	15371	7	0.83	21.1
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.38	746.2	30.07	763.8	40.3	4.6	72.5	2	8	2	2	4	.....	4	8	.....	9580	15417	5	2.17	55.1
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.05	763.3	30.07	763.8	55.6	13.1	81.4	7	2	2	5	1	.....	3	10	.....	12935	20816	6	4.07	103.4
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.74	653.8	30.00	762.0	34.5	1.4	67.3	.....	5	16	6	.....	.....	.....	1	2	4752	7647	6	0.94	23.9
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.00	736.6	30.03	762.7	56.0	13.3	78.8	8	3	.....	1	14	1	.....	2	1	9016	14510	3	0.80	20.3
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.58	725.9	30.03	762.7	36.8	2.7	78.5	4	5	2	.....	2	7	5	5	.....	10010	16109	6	4.18	106.2
Indianapolis	N. 39 47	W. 86 00	6.24 a.m.	753	229	29.23	742.4	30.05	763.3	47.8	8.8	71.9	8	1	1	3	3	2	5	4	3	4386	7058	5	3.68	93.5
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.93	760.2	29.96	761.0	70.1	21.2	89.9	3	.....	1	1	8	12	3	2	.....	11098	17860	6	1.26	32.0
Jacksboro *k*	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.80	731.5	29.98	761.5	59.1	15.1	79.5	3	1	.....	3	4	6	.....	2	.....	4886	7863	3	0.54	13.7
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.02	762.5	30.06	763.5	67.6	19.8	84.9	2	1	1	4	5	1	6	10	.....	5400	8690	5	5.23	132.8
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.33	745.0	30.00	762.0	47.3	8.5	76.1	2	3	1	5	2	2	8	4	3	5686	9151	4	3.22	81.8
Key West	N. 24 32	W. 81 48	6.41 a.m.	20	6	30.02	762.5	30.04	763.0	76.4	24.7	76.8	1	.....	2	4	4	6	7	5	1	6782	10914	5	3.93	99.8
KittyHawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.07	763.8	30.09	764.3	51.9	11.1	80.4	3	2	7	2	3	.....	4	9	.....	11854	19077	5	4.92	125.0
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.05	737.9	30.09	764.3	53.5	11.9	77.0	9	.....	2	6	2	.....	.....	6	5	4654	7490	5	3.88	98.6
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.25	742.9	30.05	763.3	42.5	5.8	62.4	9	2	1	1	6	4	3	4	.....	6774	10902	4	1.91	48.5
La Mesilla	N. 32 17	W. 106 48	5.01 a.m.	3900	1189	26.06	661.9	29.94	760.5	42.9	6.1	50.9	1	1	1	.....	.....	5	.....	.....	22	3129	5036	2	0.01	0.3
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.09	738.9	30.00	762.0	49.8	9.9	72.2	4	5	.....	.....	8	3	3	.....	7	6369	10250	6	4.15	105.4
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.17	740.9	30.02	762.5	41.2	5.1	66.9	.....	1	6	2	1	7	7	3	3	2692	4332	5	0.80	20.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Altitude of Barometer above sea: Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
U. S.—Continued.	° ′	° ′																								
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.70	754.4	30.02	762.5	57.5	14.2	85.1	1	5	.....	3	3	5	2	6	5	4476	7203	4	5.59	142.0
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.67	753.6	30.07	763.8	48.2	9.0	80.8	4	7	2	4	.....	2	1	6	4	2876	4628	3	1.83	46.5
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.46	748.3	30.02	762.5	51.8	11.0	70.8	7	.....	.....	3	8	2	2	6	2	6036	9714	7	2.17	55.1
Lynchburg *a*	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.40	746.7	30.11	764.8	50.8	10.4	69.5	.....	.....	1	3	4	.....	2	4	15	2640	4249	5	2.30	58.4
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.02	737.1	30.06	763.5	39.8	4.3	81.1	2	3	3	4	3	1	8	5	1	8613	13861	6	4.21	106.9
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.38	746.2	30.13	765.3	34.4	1.3	69.9	6	9	5	.....	2	2	2	4	.....	6917	11132	6	2.48	63.0
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.70	754.4	30.04	763.0	58.3	14.6	77.0	5	4	1	2	4	9	.....	4	1	5042	8114	4	3.56	90.4
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.29	744.0	30.06	763.5	40.5	4.7	79.2	3	6	6	5	.....	1	3	6	.....	9646	15524	6	1.92	48.8
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.00	762.0	30.04	763.0	64.8	18.2	84.2	8	.....	3	1	1	4	1	7	5	4289	6902	5	9.92	252.0
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.83	757.7	30.06	763.5	61.2	16.2	82.4	7	1	1	4	2	8	4	1	2	3687	5934	5	5.03	127.8
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.03	737.3	30.06	763.5	33.6	0.9	84.4	8	.....	1	1	3	8	2	5	2	9280	14944	4	1.69	42.9
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.05	737.9	30.09	764.3	47.1	8.4	46.4	2	1	2	4	1	.....	1	4	15	4447	7157	6	3.36	85.3
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.52	597.4	29.93	760.2	15.5	−9.2	84.7	3	18	3	.....	.....	1	.....	3	2	22005	35413	4	11.20	284.5
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.50	749.3	30.04	763.0	54.9	12.7	76.2	4	5	4	2	4	4	3	2	2	3329	5357	6	3.55	90.2
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.92	760.0	30.04	763.0	39.2	4.0	68.8	8	2	5	4	1	2	1	6	1	6194	9968	5	1.55	39.4
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.00	762.0	30.04	763.0	42.9	6.1	69.8	8	4	9	3	.....	2	.....	4	.....	6440	10364	3	3.40	86.4
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.95	760.7	30.01	762.2	68.4	20.2	83.0	4	.....	2	3	3	4	10	3	1	6070	9768	6	4.83	122.7
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.97	761.2	30.02	762.5	40.5	4.7	72.5	4	7	6	5	.....	1	1	5	1	7462	12009	5	4.54	115.3
New River *a*	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	56.8	13.8	81.0	8	1	4	4	.....	.....	3	8	1	.....	.....	4	3.71	94.2
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.00	762.0	30.03	762.7	40.7	4.8	71.9	5	7	1	5	.....	2	2	1	7	11552	18591	5	4.83	122.7
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.89	759.2	30.07	763.8	41.9	5.5	73.2	9	3	4	6	.....	1	2	4	1	6991	11251	5	2.15	54.6
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.06	763.5	30.09	764.3	53.2	11.8	75.9	5	4	2	3	2	3	4	7	.....	5525	8891	5	3.23	82.0
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.01	686.0	29.97	761.2	40.0	4.4	77.3	2	8	2	3	.....	4	2	4	5	9412	15147	6	1.94	49.3
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.99	761.7	30.03	762.7	39.1	3.9	87.2	4	.....	.....	5	14	.....	.....	2	5	3866	6222	6	4.57	116.1
Omaha *a*	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.81	731.8	30.02	762.5	45.3	7.4	76.0	3	4	.....	4	2	7	3	3	3	8856	14252	6	4.31	109.5
Ogdaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.96	761.0	29.98	761.5	−0.7	−18.2	86.9	2	.....	8	2	7	6	4	.....	1	7852	12636	7	0.41	10.4
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.67	753.6	30.01	762.2	39.2	4.0	67.9	.....	5	6	2	2	6	.....	9	.....	8267	13304	5	2.08	52.8
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.45	748.0	30.01	762.2	61.5	16.4	86.1	3	2	3	3	9	4	2	4	.....	6924	11143	6	3.42	86.9
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.01	762.2	30.04	763.0	66.6	19.2	85.9	8	1	1	1	3	3	8	4	1	6306	10148	6	4.27	108.5
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	92	28	29.98	761.5	30.08	764.0	45.6	7.6	66.8	4	7	4	2	1	3	2	7	.....	5932	9546	6	2.12	53.8
Pikes Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.57	446.3	29.85	758.2	9.5	−12.5	81.4	1	10	3	14	1	1	.....	.....	.....	16938	27259	3	1.79	45.5
Ploche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	23.96	608.6	29.95	760.7	35.1	1.7	58.0	5	8	1	1	12	.....	.....	1	2	6498	10457	4	0.98	24.9
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.23	742.4	30.06	763.5	44.9	7.2	67.6	6	8	2	2	5	.....	2	4	1	4636	7461	5	1.39	35.3
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.01	762.2	30.02	762.5	69.9	21.1	90.5	4	1	1	4	4	4	6	5	1	9040	14548	4	3.50	88.9
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.35	745.5	30.05	763.3	38.6	3.7	78.7	3	1	10	2	1	2	3	7	1	8003	12879	6	2.33	59.2
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.94	760.5	29.98	761.5	39.9	4.4	60.6	4	8	3	2	2	1	3	5	2	6813	10964	6	1.97	50.0
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	29.98	761.5	30.05	763.3	42.6	5.9	82.2	.....	4	1	1	8	6	1	1	8	4793	7713	7	4.60	116.8
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	57.0	13.9	73.9	4	1	2	4	2	1	1	15	.....	12702	20442	6	5.57	141.5
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.70	627.4	29.92	760.0	36.2	2.3	49.2	1	.....	1	.....	28	.....	.....	.....	.....	6341	10205	1	0.28	7.1
Provincetown	N. 46 03	W. 70 11	7.27 a.m.	26	8	29.98	761.5	30.01	762.2	39.2	4.0	79.4	2	9	.....	6	1	6	1	5	.....	7963	12815	6	4.70	119.4
Punta Rassa *a*	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.02	762.5	30.03	762.7	72.5	22.5	81.2	1	.....	1	3	5	3	8	8	.....	8032	13892	6	3.59	91.2
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.67	753.6	30.04	763.0	47.4	8.6	76.1	7	13	.....	1	4	1	.....	.....	4	4651	7485	3	2.12	53.8
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.68	753.9	29.88	758.9	69.7	20.9	81.6	4	1	.....	.....	2	16	2	.....	5	5076	8169	7	1.50	38.1
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.34	745.2	30.03	762.7	38.4	3.6	74.6	2	2	8	4	1	4	2	6	1	9106	14654	6	2.18	55.4
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.53	750.0	30.09	764.3	41.6	5.3	85.7	.....	3	.....	4	5	2	2	1	13	2756	4435	7	5.14	130.6
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.97	761.2	30.05	763.3	49.2	9.6	79.6	7	3	1	.....	6	11	.....	.....	2	5785	9310	2	1.99	50.5
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.43	747.5	30.04	763.0	51.4	10.8	81.2	3	3	1	4	8	5	2	3	1	7817	12570	6	3.58	90.9
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.15	740.4	30.04	763.0	38.6	3.7	75.9	3	5	2	1	.....	4	8	3	4	6131	9867	4	1.61	40.9
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.20	741.7	30.11	764.8	27.0	−2.8	81.6	6	4	2	.....	3	4	5	6	.....	8244	13267	4	0.90	22.9
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.55	649.0	29.92	760.0	40.1	4.5	19.4	4	6	2	.....	.....	3	3	3	9	5009	8061	6	3.81	96.8
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.25	742.9	29.95	760.7	63.5	17.5	85.2	4	1	1	1	2	4	4	1	12	4136*c*	6656*c*	7	0.92	23.4
San Diego *a*	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.95	760.7	30.02	762.5	50.8	10.4	85.6	6	.....	4	4	.....	.....	5	10	.....	4767	7672	4	0.45	11.4
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.36	745.7	30.06	763.5	44.0	6.7	71.7	3	4	5	5	3	1	3	6	.....	11093	16098	6	2.75	69.8
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.03	762.7	30.07	763.8	42.9	6.1	77.5	5	9	4	.....	4	3	1	4	.....	10305	16584	5	3.19	81.0
San Francisco *a*	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.02	762.5	30.09	764.3	48.6	9.2	81.4	.....	3	10	12	1	.....	.....	.....	3	7652	12316	4	1.22	31.0
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7106	2166	23.14	587.7	29.90	759.4	38.3	3.5	50.0	2	4	.....	2	3	6	4	7	2	8068	12984	4	0.26	6.6
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.99	761.7	30.08	764.0	63.8	17.7	80.6	5	2	4	3	3	3	2	5	3	4947	7961	6	2.94	74.7
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.77	756.1	30.01	762.2	60.7	15.9	87.2	5	.....	2	2	14	1	3	3	.....	4765	7668	7	5.44	138.2
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.20	614.7	29.88	758.9	36.9	2.7	48.0	...	10	11	1	5	1	.....	.....	2	3813	6136	1	0.08	2.0
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.69	754.1	29.75	755.6	35.6	2.0	72.8	.....	5	.....	3	.....	5	5	7	5	6507	10472	6	4.21	106.9
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.04	763.0	30.08	764.0	59.0	15.0	86.4	4	2	6	3	1	1	5	8	.....	7501	12168	5	1.63	41.4
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910†	582†	27.95	709.9	30.01	762.2	36.5	2.5	83.3	.....	.....	4	5	5	5	2	5	4	4866	7831	6	2.84	72.1
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.34	745.2	30.04	763.0	49.4	9.7	70.7	1	3	1	3	5	3	5	6	3	6659	10716	5	3.85	97.8
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.91	759.7	30.04	763.0	41.4	5.2	64.5	8	5	4	3	7	.....	1	1	1	4934	7940	6	1.35	34.3
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.56	725.4	30.08	764.0	51.8	11.0	76.0	4	1	3	1	9	4	4	4	.....	7881	12683	5	3.71	94.2
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	26.94	684.3	29.97	761.2	49.3	9.6	68.2	2	.....	2	4	12	2	.....	1	7	7733	12445	3	0.12	3.0
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.94	760.5	29.99	761.7	39.5	4.2	77.3	2	11	1	4	4	3	1	4	.....	10033	16147	4	2.73	69.3
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.34	745.2	30.06	763.5	42.9	6.1	71.6	5	2	11	3	.....	.....	6	2	1	7850	12643	6	1.66	42.2
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.51	698.7	29.90	759.4	49.4	9.7	55.4	.....	.....	2	1	4	21	1	.....	1	3396	5449	1	0.05	1.3
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.70	754.4	30.07	763.8	41.3	5.2	72.6	.....	2	6	9	2	8	1	.....	2	7010	11281	5	0.76	19.3
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	28.98	736.1	29.95	760.7	63.7	17.6	80.2	3	1	.....	.....	1	14	2	4	5	4141	6664	8	0.33	8.4
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.77	756.1	30.03	762.7	61.9	16.6	78.7	3	1	2	2	3	12	.....	5	2	3173	5106	6	5.44	138.2
Visalia *d*	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.65	753.1	30.02	762.5	47.2	8.4	77.5	1	14	.....	2	1	4	4	.....	.....	3369	5422	3	0.97	24.6
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.99	761.7	30.11	764.8	46.1	7.8	75.8	3	9	2	1	1	5	.....	5	4	4041	6503	6	2.55	64.8
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.95	659.1	29.91	759.7	38.0	3.3	64.9	2	3	9	3	1	1	4	4	3	9344	15037	3	0.98	24.9
Wickenburg *e*	N. 33 58	W. 112 42	4.37 a.m.	?	?	.....	.....	.....	.....	42.9	6.1	71.6	.....	3	1	.....	1	.....	.....	.....	22	.....	.....	1	0.04	1.0
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.45	718.0	30.06	763.5	40.5	4.7	69.0	2	6	8	1	.....	4	1	4	4	4245	6832	7	2.24	56.9
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.03	762.7	30.09	764.3	58.7	14.8	79.2	2	1	5	2	1	.....	3	7	9	5258	8462	6	2.27	57.7
Winnemucca	N. 41 00	W. 117 43	4.17 a.m.	4327	1319	25.57	649.5	29.97	761.2	34.7	1.5	73.3	4	1	.....	15	2	1	1	5	1	7057	11357	4	0.85	21.6
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.65	727.7	29.99	761.7	41.0	5.0	79.1	.....	8	2	1	3	4	7	4	1	9032	14535	6	2.93	74.4
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.75	755.6	29.90	759.4	54.3	12.4	57.9	3	7	3	8	.....	2	1	3	3	4608	7416	1	0.0	0.0
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.41 a.m.	8655	2638	22.04	559.8	.....	.....	54.5	12.5	83	2	2	5	6	2	2	3	.....	8	.....	.....	7	2.56	65.0
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.04	763.0	30.05	763.3	80.0	26.7	86.1	.....	.....	.....	.....	2	.....	28	.....	.....	.....	.....	10	2.56	65.0
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	18	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guadeloupe	N. 16 12	W. 61 40	8.01 a.m.	?	?	29.94	760.5	29.96	761.0	77.4	25.2	84.7	.....	.....	.....	.....	1	9	16	4	.....	.....	.....	4	2.21	56.1
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.02	762.5	30.06	763.5	77.5	25.3	81.2	1	.....	.....	1	1	17	2	1	7	2020	3251	4	4.85	123.2
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.03	762.7	30.04	763.0	76.9	24.9	69.3*a*	10	.....	.....	.....	.....	3	.....	.....	17	3219	5180	1	0.15	3.8
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.04	763.0	30.04	763.0	78.6	25.9	85.5	1	.....	.....	.....	.....	3	22	4	.....	.....	.....	9	10.36	263.1
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.49	749.0	29.95	760.7	79.7	26.5	84.6	6	1	.....	.....	2	.....	1	1	19	.....	.....	9	9.36	237.7
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	.....	.....	92.4	.....	1	.....	.....	.....	5	2	22	.....	.....	.....	3	.....	.....
Santiago deCuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.01	762.2	30.04	763.0	77.1	25.1	74.4	10	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	4	2.41	61.2
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	29.99	761.7	30.04	763.0	8.0	−13.3	87.6	5	3	1	3	3	6	5	4	.....	.....	.....	4	0.14	3.6

Ocean Square Data for April, 1882.

Location of Centre of each Square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 7.5°	W. 27.5°	12	15															
7.5	32.5	4	4															
12.5	22.5	2	2	30.04	763.0	77.8	25.4								24		6	2.1
12.5	27.5	8	8															
12.5	32.5	5	6															
12.5	37.5	1	1															
17.5	22.5			30.10	764.5	75.3	24.1								19		11	2.2
17.5	27.5	5	6															
17.5	32.5	2	2															
17.5	37.5	2	2															
17.5	52.5	1	1															
17.5	57.5	6	8															
22.5	22.5	6	6	30.16	766.1	73.1	22.8						1	2	17		10	1.7
22.5	27.5	3	3															
22.5	32.5	3	3															
22.5	37.5	5	8															
22.5	42.5	1	1															
22.5	57.5	2	2															
22.5	62.5	4	4	30.08	764.0	74.3	23.5				1	2	4	9	7		7	2.1
22.5	67.5	8	10	30.10	764.5	74.9	23.8				2	3	5	10	5		5	1.6
22.5	72.5			30.09	764.3	75.6	24.2				3	2	5	10	7		3	1.6
27.5	22.5	3	3	30.18	766.6	69.5	20.8	2	3			1	3	4	8		9	1.7
27.5	27.5	6	7	30.17	766.3	70.0	21.1		3	1	2		5	2	3	1	13	1.4
27.5	32.5	2	2															
27.5	37.5	2	2															
27.5	42.5	3	3															
27.5	62.5	4	5	30.08	764.0	70.5	21.4	2	5	1	6			2	5		9	1.6
27.5	67.5	12	17	30.10	764.5	70.8	21.6	2	3		4	6		2	8	1	4	1.5
27.5	72.5	18	27	30.09	764.3	71.0	21.7	2	3	1	6	3	4	8	3			1.6
27.5	77.5	19	28	30.08	764.0	71.5	21.9		1		6	5	7	3	8			1.8
32.5	12.5	1	1	30.15	765.8	66.6	19.2	7	3	1	6	1	1		11			1.2
32.5	17.5	4	4	30.19	766.8	66.7	19.3	1		2	14		7		5	1		1.0
32.5	22.5	2	2	30.19	766.8	64.4	18.0	1	4		7		4	2	6		6	1.5
32.5	27.5	1	1	30.16	766.1	66.4	19.1	2	3	1	5		6	3	2		8	2.1
32.5	32.5	4	6	30.13	765.3	65.7	18.7	1	4		7	1	3	1	1		12	2.8
32.5	37.5	4	7	30.09	764.3	64.0	17.8	1	3	6	3	2	3		2		10	2.6
32.5	42.5	6	7	30.09	764.3	62.6	17.0	1	8	1	3	2	1		1		13	2.6
32.5	47.5	2	2	30.11	764.8	63.2	17.3	3	5		2	6		1	2		11	2.6
32.5	52.5	3	4	30.07	763.8	64.3	17.9	3	4		6	3	1	1	3		9	2.2
32.5	57.5	2	2	30.07	763.8	65.6	18.7	2	4	2	9		3		3		7	2.2
32.5	62.5	3	3	30.03	762.7	66.0	18.9	5	5	3	6	3		1	7			1.9
32.5	67.5	4	4	30.05	763.3	64.9	18.3	1	11	1	7	2		2	3		3	2.0
32.5	72.5	20	30	30.08	764.0	65.0	18.3	4	7		8	2	1	2	3	1	2	1.7
32.5	77.5	23	49	30.08	764.0	64.1	17.8	4	2		6	2	4	4	8			1.9
37.5	12.5	6	6	30.09	764.3	62.2	16.8	4	15	3	5	1	1		1			1.9
37.5	17.5	4	4	30.10	764.5	62.5	16.9		15	3	8		2		2			1.6
37.5	22.5	1	1	30.12	765.0	62.5	16.9		14	4	7	2	2		1			2.4
37.5	27.5			30.13	765.3	62.0	16.7	4	7	5	6	4	4					2.1
37.5	32.5			30.05	763.3	60.5	15.8		8	2	15	2	1				2	2.8
37.5	37.5	3	3	30.06	763.5	58.3	14.6		11	5	11	1			1		1	3.0
37.5	42.5	6	6	30.01	762.2	55.8	13.2	2	10	2	9	3		1	1		2	3.3
37.5	47.5	11	11	30.04	763.0	53.9	12.2	4	11	1	5	3	2		3		1	3.6
37.5	52.5	22	34	30.02	762.5	53.5	11.9	3	10		10	3	3		1			3.7
37.5	57.5	18	30	30.00	762.0	53.9	12.2	4	9	3	5	4	2		3			3.7
37.5	62.5	16	26	29.98	761.5	53.4	11.9	4	13	2	5	3	1		2			3.5
37.5	67.5	21	40	30.00	762.0	51.1	10.6	3	15	2	3	2	2		3			3.3
37.5	72.5	29	81	30.05	763.3	48.3	9.1	6	10		2	1	5	1	5			2.2
42.5	12.5	16	17	29.97	761.2	59.2	15.1	1	9	6	9		1		4			2.6
42.5	17.5	1	1	29.99	761.7	57.3	14.1	1	14	5	5	1	2	1	1			2.9
42.5	22.5	1	1	30.02	762.5	59.1	15.1		11	5	9		3		2			3.1
42.5	27.5	5	5	30.02	762.5	58.3	14.6	2	9	2	11	4	2					3.4
42.5	32.5	11	14	29.98	761.5	57.3	14.1	2	8	2	16	2						3.6
42.5	37.5	25	62	29.93	760.2	55.1	13.4	2	12	3	10	2		1				3.7
42.5	42.5	28	81	29.94	760.5	51.6	10.9	3	10	2	10	2	1	1	1			4.0
42.5	47.5	28	112	29.98	761.5	45.4	7.4	3	14	1	4	5	1	1	1			4.1
42.5	52.5	29	105	29.97	761.2	44.3	6.8	5	11	2	4	5	2	1				3.5
42.5	57.5	27	83	29.95	760.7	43.9	6.6	3	13	1	4	3	4		2			3.5
42.5	62.5	25	95	29.96	761.0	42.6	5.9	5	11		3	5	2	2	2			3.2
42.5	67.5	28	73	29.99	761.7	40.6	4.8	6	7	4	4		2	2	5			2.6
47.5	12.5	30	68	29.78	756.4	54.0	12.2	2	6	4	6	5	2	2	3			3.9
47.5	17.5	27	65	29.80	756.9	53.1	11.7	4	7	6	4	3	4	2				3.9
47.5	22.5	28	73	29.81	757.2	52.6	11.4	3	7	5	6	8	1					4.0
47.5	27.5	30	87	29.80	756.9	52.5	11.4	4	8	3	7	6	1	1				4.3
47.5	32.5	27	88	29.77	756.1	50.9	10.5	3	7	3	8	4	4	1				4.1
47.5	37.5	26	68	29.76	755.9	48.5	9.2	3	8	4	7	3	5					3.9
47.5	42.5	20	37	29.78	756.4	43.4	6.3	3	13	2	5	1	3		2		1	3.5
47.5	47.5	4	4	29.80	756.9	36.6	2.6	3	12	1	4	3	3	1	1		2	3.1
52.5	12.5	19	36	29.73	755.1	51.4	10.8	3	6	1	3	6	5	2	4			3.8
52.5	17.5	16	31	29.75	755.6	50.5	10.3	5	9		4	4	4	2	2			3.9
52.5	22.5	17	29	29.75	755.6	49.4	9.7	1	9	2	5	4	5		4			3.8
52.5	27.5	16	21	29.74	755.4	48.3	9.1	3	8	2	5	2	5	2	3			4.1
52.5	32.5	11	15	29.72	754.9	46.7	8.2	1	6	1	5	2	6		4		5	4.0
52.5	37.5	3	3	29.78	756.4	43.1	6.2	3	6		3		3	2	3		10	3.5
57.5	12.5	3	3	29.78	756.4	43.9	6.6	4	1		2	3	9	1	10			3.3
57.5	17.5	4	4	29.80	756.9	42.6	5.9	4	1		2	3	5	4	11			3.0
57.5	22.5	3	4	29.80	756.9	40.6	4.8	2	1		1	3	6	4	13			2.9
57.5	27.5	1	1	29.82	757.4	39.2	4.0	4	2			3	3	4	10		4	2.7
57.5	32.5			29.84	757.9	37.9	3.3	1	2		3		1	3	7		12	2.8

NOTE.—See General Remarks.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade.*]

Beginning with the issue of the BULLETIN OF INTERNATIONAL METEOROLOGY for month of April, 1882, the following changes, relating to the charts issued with this publication, have been made, viz.:

The chart showing the pressure and temperature for each day over the northern hemisphere, as charted from observations taken simultaneously at 7 a. m., Washington mean time, will hereafter be published as chart i.

The chart showing the monthly mean pressure, mean temperature, and the prevailing wind-direction (chart iv.) will hereafter be referred to as chart ii., and will continue the series of international charts begun in January, 1877.

Chart v., showing the storm-tracks over the northern hemisphere, will hereafter be designated as chart iii. This chart continues the series of international charts begun in November, 1877. It will be noticed that these changes affect only the numerical value and not the character of the charts, the change having been made in order to secure uniformity.

With this REVIEW is issued chart iii., showing the international storm-tracks for the month of May, 1881. (See General Remarks.)

The following descriptions relate to chart iv. for the months of April and May, 1881 (which charts were issued with the SUMMARY for the respective months). In these descriptions much valuable information has been obtained from the "Monatliche Uebersicht der Witterung," published by Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg, Germany, and from the "Bulletin Mensuel," published by Mr. Marc Dechevrens, of Zi-Ka-Wei, China:

For the month of April, 1881, the most marked area of mean low-pressure is indicated by the isobar of 29.7 (754.4), and occupies that part of the northern hemisphere lying between 40° and 70° west longitude, and between 40° and 60° north latitude. The countries within this region are eastern Canada, including the Maritime Provinces, Newfoundland, and the extreme southern part of Greenland. An area of low mean pressures, 29.7 (754.4), is also shown over the extreme northern part of the Scandinavian peninsula. In Asia the isobar of 29.7 (754.4) occupies the central and eastern provinces of British India, lying north of the twentieth parallel of latitude; within this area the mean pressure ranged from 29.64 (752.8), at Patna, to 29.68 (753.9) at Lahore, Nagpur, and Calcutta. South of the fortieth parallel the pressure gradually increases until the isobar of 30.0 (762.0), which extends from the North American continent eastward to northern Africa, is reached.

The areas of barometric maxima are indicated by the isobarometric lines of 30.1 (764.5) and 30.0 (762.0). The first of these extends over Oregon and Washington and Idaho territories; the second, 30.0 (762.0), covers the northern part of the British Isles and extends eastward over Denmark, northern Germany, and central Russia to about 47° east longitude. The barometric gradients were of moderate inclination in both the eastern and western hemispheres.

Compared with the preceding month (March, 1881,) there has been a general increase of pressure over the North American continent, except in the Canadian Maritime Provinces, eastern Quebec, and Newfoundland. In Europe the mean atmospheric pressure has decreased over the countries lying south of the fiftieth parallel, while the contrary is exhibited over the countries situated to the north of that parallel, the greatest increase, about .22 inch, appearing over the Danish and Scandinavian peninsulas. In Asia the pressure has decreased throughout the continent, the most noteworthy and important change occurring in Siberia, where the mean pressure averages .4 inch below that of the preceding month. In British India the decrease averages .15 inch, and in China and Japan it is about .2 inch.

Compared with the corresponding month of previous years the mean atmospheric pressure is above the normal over that part of the United States lying between the eighty-fifth meridian and the Rocky mountains. From that meridian eastward to the Atlantic the mean pressure is generally below the normal, the greatest departures occurring near the coast and in Maine. On the Pacific coast the pressure is below the normal. In Canada it was below the normal, except in western Ontario, where it was about normal.

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of April, 1881, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:

Countries.	Mean pressure.			Mean temperature.		
	Apr., 1877, 1878, 1879, 1880.	April, 1881.	Departure.	Apr., 1877, 1878, 1879, 1880.	April, 1881.	Departure.
				°	°	°
Algeria	29.97	29.98	+0.01	66.8	69.3	+2.5
Austria	29.79	29.91	+0.12	57.6	51.5	−6.1
British Isles	29.80	29.95	+0.15	49.5	49.9	+0.4
Denmark	29.85	30.02	+0.17	45.8	42.8	−3.0
France	29.80	29.88	+0.08	57.0	56.4	−0.6
Germany	29.84	29.97	+0.13	51.0	48.7	−2.3
India *	29.74	29.71	−0.03	89.5	90.1	+0.6
Italy	29.83	29.87	+0.04	61.9	61.5	−0.4
Norway	29.90	29.95	+0.05	44.9	39.0	−5.9
Portugal	29.99	29.90	−0.09	60.1	61.4	+1.3
Russia	29.91	29.98	+0.07	47.0	46.4	−0.6
Spain	29.90	29.89	−0.01	61.4	60.7	−0.7
Sweden	29.90	29.93	+0.03	39.5	36.9	−2.6

* Means for three years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of April, 1881, as compared with the means of four years:

Stations.	Mean pressure.			Mean temperature.		
	Apr., 1877, 78, 79, 80.	Apr., 1881.	Departure.	Apr., 1877, 78, 79, 80.	Apr., 1881.	Departure.
				°	°	°
San José, Costa Rica, C. A.	.....	.....	.....	68.6	65.7	−2.9
Gibraltar	30.00	29.97	−0.03	65.9	65.3	−0.6
Malta, Mediterranean Sea	29.88	29.88	normal.	62.2	68.2	+6.0
Sandwick Manse, Orkney Islands*	29.85	30.03	+0.18	45.1	43.1	−2.0
Bridgetown, Barbadoes	30.02	30.00	−0.02	82.6	83.4	+0.8
Cape Town, Cape Good Hope	30.06	30.11	+0.05	72.2	70.7	−1.5
Fort Napier, Natal, South Africa*	29.94	29.93	−0.01	76.0	72.2	−3.8
Free Town, Sierra Leone	29.91	29.83	−0.08	87.5	87.5	normal
Mauritius, Indian Ocean	30.00	29.98	−0.02	79.0	79.7	+0.7
Melbourne, New South Wales	30.14	30.18	+0.04	58.3	57.0	−1.3
Nassau, Bahamas	30.06	30.08	+0.02	76.2	75.3	−0.9
Godthaab, Greenland	29.82	29.73	−0.09	28.5	33.8	+5.3
Stykkisholm, Iceland	29.81	29.89	+0.08	34.0	38.3	+4.3
Thorshavn, Färöe Islands	29.87	30.02	+0.15	43.7	42.3	−1.4
Zi-Ka-Wei, China	30.07	29.99	−0.08	54.4	55.2	+0.8
Athens, Greece	29.88	29.93	+0.05	67.8	68.0	+0.2
Cagliari, Sardinia, Italy	29.83	29.87	+0.04	63.6	66.6	+3.0
Tokei, Japan	30.07	30.02	−0.05	52.8	51.1	−1.7
Angra, Azores	30.06	30.02	−0.04	61.3	59.0	−2.3
Funchal, Madeira Islands	30.14	30.02	−0.12	65.1	64.9	−0.2
Ponta Delgado, Azores	30.08	30.04	−0.04	63.6	61.7	−1.9
Archangel, Russia	29.92	29.81	−0.11	33.1	30.2	−2.9
Tiflis, Russia	29.90	29.84	−0.06	63.7	62.7	−1.0
Astrakhan, Russia	29.99	29.89	−0.10	56.5	60.3	+3.8
Ekaterinburg, Russia	29.95	29.93	−0.02	40.0	49.1	+8.5
Nukuss, Toorkistan, Asia	.....	.....	.....	.....	.....	.....
Tashkend, Toorkistan, Asia	30.04	29.80	−0.24	65.2	70.2	+5.0
Barnaul, Siberia, Asia	30.09	29.99	−0.10	35.6	48.0	+12.4
Yeniseisk, Siberia, Asia	30.00	30.09	+0.09	31.2	35.8	+4.6
Pekin, China	30.02	29.94	−0.08	56.5	55.9	−0.6
Nikolaevsk on the Amoor, Asia	.....	.....	.....	21.3	26.1	+4.8
San Juan de Puerto Rico, W. I.	30.03	30.07	+0.04	77.3	78.6	+1.3
Beirut, Turkey in Asia	29.92	29.90	−0.02	70.4	70.5	+0.1
Mexico, Mexico*	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I*	30.02	30.08	+0.06	75.7	74.1	−1.6
Paramaribo, D. Guiana, S. A.	30.00	30.01	+0.01	81.2	79.1	−2.1
York Factory, B. A.	30.10	30.04	−0.06	12.8	5.6	−7.2

* Means for three years only.

In the United States the mean temperature of the air was below the normal throughout the country east of the hundredth meridian, except in Arkansas, Louisiana, and eastern Texas, where it was normal. West of the hundredth meridian the temperature ranged from 1° to 5° above the normal. In Canada it was slightly below the normal. In Europe the mean temperature for the month was below the normal. During the first and last decades of the month the temperature was daily below the normal, and damaging frosts occurred in many sec-

tions. In the second decade (8th–18th) a constant rise of temperature took place, and the maximum temperatures of the month occurred during that period. In Siberia the mean temperature was above the normal. In British India the highest mean temperature reported was 100°.7 Fahr. (38°.2 Cent.) at Nagpur, and the lowest was 73°.7 Fahr. (23°.2 Cent.) at Sibsagar.

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

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	87.5	30.8	York Factory, B. A	5.6	—14.7
Manila, Philippine Islands	84.6	29.2	Nikolaevsk on the Amoor	26.1	— 3.3
Bridgetown, Barbadoes	83.4	28.6	Archangel, Russia	30.2	— 1.0
Mauritius, Indian ocean	79.7	26.5	Jacobshavn, Greenland	31.1	— 0.5

In the United States the prevailing wind-directions were westerly, northwesterly, and northerly over the country north of the thirty-fourth parallel, and eastward from the Rocky mountains to the Atlantic. On the south Atlantic coast the winds were southwesterly; in Texas they were southerly and southeasterly. On the Pacific coast they were northwesterly, except in the northern district, where southerly winds prevailed. In Canada the winds were westerly and northwesterly. Over the north Atlantic ocean the wind-directions were as follows: Northwesterly from the coasts of the United States eastward to W. 60°; north of the thirtieth parallel and from W. 60° to W. 20°, generally westerly and southwesterly; off the coast of the British Isles, and over the Bay of Biscay, northeasterly. In Europe the winds were mostly easterly and northeasterly, except in the Scandinavian peninsula and in Spain and Portugal, where southerly and southwesterly winds prevailed.

The rainfall (including melted snow), during the month of April, 1881, was very much below the average in all districts of the United States, except in Florida and in the north Pacific coast region, where the precipitation was about the average. In Canada the rainfall was also much below the average. In Europe the rainfall was much below the average in the northern districts of central Europe, but in the countries to the south of the forty-seventh parallel the rainfall was above the average, the excess being greatest in Austro-Hungary and in Spain.

For the month of May, 1881, the distribution of mean atmospheric pressure over the northern hemisphere is as follows:

The area of absolute minima occupies British India north of the twentieth parallel, where the mean pressure ranges from 29.54 (750.3) to 29.6 (751.8). Over southern China and British India, except the region above-mentioned, the pressure ranges from 29.64 (752.8) to 29.88 (758.9). In Greenland the pressure ranges from 29.73 (755.1) at Godthaab to 29.82 (757.4) at Jacobshavn. Over the North American continent, Europe, and northern Asia the mean atmospheric pressure is not less than 29.8 (756.9), except at Nikolaevsk on the Amoor, Asia, where it is 29.76 (755.9).

From Greenland south-southeastward to the Azores the barometric gradient steadily increases until the area of barometric maxima is reached. This area, indicated by the isobarometric line of 30.2 (767.1), occupies the Atlantic ocean between N. 30° and 40° and W. 20° and 40°, including within its limits the Western Islands.

Compared with the chart for the preceding month (April, 1881,) there has been a slight decrease of pressure over the western part of the United States; there has also been a uniform decrease over Asia. In the eastern part of the United States, Canada, the Atlantic ocean, and the whole of Europe there has been a more or less marked increase of pressure. The increase is greatest over eastern Canada and the Maritime Provinces, the Azores and the Iberian peninsula, and is least over the Russian Empire and the Scandinavian peninsula. The increase of pressure averages about .4 inch over the Canadian Maritime Provinces; over the Azores it is about .2 inch.

Compared with the corresponding month of previous years the mean atmospheric pressure in the United States is above the normal, except in Texas, Florida, and in the Pacific coast regions. It is also above the normal in Canada, the excess being greatest over the Maritime Provinces. In Europe the pressure is much above the normal. In this connection may be mentioned the unusually high pressures that prevailed over the British Isles and western Europe from the 7th to the 12th. During that period the pressure ranged from 30.3 (769.6) to 30.7 (779.8). On the 9th–10th the pressure at stations in Scotland and in northern England was 30.77 (781.5), and was maintained throughout the twenty-four hours.

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of May, 1881, in the several countries, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:

Countries.	Mean pressure.			Mean temperature.		
	May, 1877, 1878, 1879, 1880.	May, 1881.	Departure.	May, 1877, 1878, 1879, 1880.	May, 1881.	Departure.
				°	°	°
Algeria	30.02	30.06	+0.04	72.7	69.7	—3.0
Austria	29.87	29.97	+0.10	62.5	64.6	+2.1
British Isles	29.96	30.07	+0.11	54.4	58.5	+4.1
Denmark	29.90	30.06	+0.16	52.5	53.8	+1.3
France	29.92	30.10	+0.18	61.9	63.8	+1.9
Germany	29.93	30.08	+0.15	58.8	60.7	+1.9
India*	29.63	29.63	normal	90.6	93.0	+2.4
Italy	29.91	29.98	+0.07	67.4	67.3	—0.1
Norway	29.84	29.98	+0.14	52.2	49.5	—2.7
Portugal	30.00	30.06	+0.06	67.7	69.0	+1.3
Russia	29.88	29.99	+0.11	61.5	61.7	+0.2
Spain	29.96	30.06	+0.10	68.2	70.0	+1.8
Sweden	29.87	30.01	+0.14	50.0	48.6	—1.4

* Means for three years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during May, 1881, as compared with the means of four years:

Stations.	Mean pressure.			Mean temperature.		
	May, 1877, '78, '79, '80.	May, 1881.	Departure.	May, 1877, '78, '79, '80.	May, 1881.	Departure.
				°	°	°
San José, Costa Rica, C. A	.....	.....	.....	70.0	67.5	— 2.5
Gibraltar	30.02	30.06	+ 0.04	69.3	70.2	+ 0.9
Malta, Mediterranean Sea	29.92	29.98	+ 0.06	69.1	68.2	— 0.9
Sandwick Manse, Orkney Islands	29.89	30.02	+ 0.13	48.6	50.7	+ 2.1
Bridgetown, Barbadoes	30.01	29.94	— 0.07	82.6	84.8	+ 2.2
Cape Town, Cape Good Hope	30.07	30.00	— 0.07	66.2	63.1	— 3.1
Fort Napier, Natal, South Africa	29.98	29.82	— 0.16	72.0	71.1	— 0.9
Free Town, Sierra Leone	29.95	29.83	— 0.12	85.9	88.0	+ 2.1
Mauritius, Indian Ocean	30.07	30.07	normal	74.9	76.5	+ 1.8
Melbourne, New South Wales	30.03	30.08	+ 0.05	53.4	55.6	+ 2.2
Nassau, Bahamas	30.02	29.98	— 0.04	76.5	78.6	+ 2.1
Godthaab, Greenland	29.87	29.73	— 0.14	34.7	36.7	+ 2.0
Stykkisholm, Iceland	29.88	29.86	— 0.02	42.0	43.5	+ 1.5
Thorshavn, Färöe Islands	29.87	30.01	+ 0.14	45.9	47.3	+ 1.4
Zi-Ka-Wei, China	29.89	29.97	+ 0.08	63.5	61.5	— 2.0
Athens, Greece	29.93	29.95	+ 0.02	74.2	72.0	— 2.2
Cagliari, Sardinia, Italy	29.90	29.97	+ 0.07	69.4	68.5	— 0.9
Tokei, Japan	29.93	29.98	+ 0.05	61.0	61.0	— 0.6
Angra, Azores	30.14	30.25	+ 0.11	63.2	61.9	— 1.3
Funchal, Madeira Islands	30.10	30.13	+ 0.03	68.2	68.4	+ 0.2
Ponta Delgado, Azores	30.15	30.27	+ 0.12	65.4	65.1	— 0.3
Archangel, Russia	29.87	29.95	+ 0.08	47.5	41.9	— 5.6
Tiflis, Russia	29.87	29.89	+ 0.02	71.4	70.3	— 1.1
Astrakhan, Russia	29.90	29.90	normal	72.6	71.4	— 1.2
Ekaterinburg, Russia	29.86	29.93	+ 0.07	57.2	61.3	+ 4.1
Tashkend, Toorkistan, Asia	29.86	29.86	normal	78.4	77.9	— 0.5
Barnaul, Siberia, Asia	29.90	29.96	+ 0.06	57.8	59.0	+ 1.2
Pekin, China	29.83	29.87	+ 0.04	67.1	70.5	+ 3.4
Nikolaevsk on the Amoor, Asia	.....	.....	.....	35.2	37.2	+ 2.0
Yeniseisk, Siberia, Asia	29.92	29.98	+ 0.06	48.2	43.0	— 5.2
San Juan de Puerto Rico, W. I.*	30.01	29.98	— 0.03	80.3	79.2	— 1.1
Beirut, Turkey in Asia	29.93	29.92	— 0.01	76.2	75.6	— 0.6
Havana, Cuba, W. I*	30.01	30.00	— 0.01	78.3	78.0	— 0.3
Paramaribo, D. Guiana, S. A	30.04	30.00	— 0.04	81.3	79.4	— 1.9
York Factory, B. A*	30.01	30.08	+ 0.07	27.7	28.3	+ 0.6

* Means for three years only.

In May, 1881, the mean temperature of the air in the United States was above the normal, except in Texas, New Mexico, and the Florida peninsula, where it ranged from 0°.5 below to normal. In Canada the mean temperature was above the normal in the western part of the dominion, but in the Mari-

time Provinces and eastern Quebec it was slightly below the normal. In Europe the temperature was slightly above the normal. During the prevalence of high pressures, from the 7th to the 12th, the minimum temperatures of the month occurred, and heavy and damaging frosts prevailed in nearly all parts of central Europe and in the British Isles. In British India the highest mean temperature, 104°.9 Fahr. (40°.5 Cent.), was reported at Deesa, and the lowest, 81°.5 Fahr. (27°.5 Cent.), at Dhubri and at Sibsagar.

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

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	88.0	31.1	Fort St. Michael, Alaska	27.3	— 2.6
Kingston, Jamaica	86.3	30.2	York Factory, B. A.	28.3	— 2.1
Manila, Philippine Islands	85.5	29.7	Gjaesvaer, Finmark, Nor'y	31.6	— 0.2
Bridgetown, Barbadoes	84.8	29.3	Jacobshavn, Greenland	36.3	2.4

In the United States the prevailing winds were as follows: From the eightieth meridian eastward to the Atlantic coast, generally northeasterly, except on the middle Atlantic coast, where they were southeasterly; from the eightieth meridian westward to the Rocky mountains, southerly and southeasterly; on the Pacific coast, westerly to northerly; over the Atlantic ocean north of 30° north latitude, and from the coast of the United States eastward to 60° west longitude, the prevailing winds were northeasterly; between N. 30° and 40° and W. 60° and 50° they were mostly southeasterly; from the fiftieth meridian eastward to the European coasts they were generally southwesterly; south of N. 30° they were northeasterly. In central Europe the winds were generally from northeast to northwest; in the British Isles, and also at stations on the coast of France, the prevailing direction was southwesterly; in Scandinavia it was southerly and southwesterly. The winds were easterly and southeasterly on the coast of China, and southerly and southwesterly in Japan.

In the United States the rainfall was generally below the average, except in the New England states, Louisiana, Texas, and Arkansas. It was also slightly above the average in Minnesota, Dakota, Kansas, Nebraska, Iowa, and Missouri. In Europe the rainfall was generally below the average, except in the southern part of Germany, and in Austria, where it was above the average.

Chart iii. (formerly chart v.) exhibits the tracks of barometric minima for the month of May, 1881, which have been traced from the daily international charts.

The data are charted for each day of the month on the maps accompanying each issue of the INTERNATIONAL BULLETIN, and from these charts and from additional reports are traced the movements of the centres of barometric minima.

Twenty-three of the more important atmospheric depressions that have appeared in the northern hemisphere have thus been traced. None of these exhibited any unusual development of storm-energy, nor have any of them been traced farther eastward over the Atlantic than the fiftieth meridian. The general distribution of these depressions was as follows:

Six appeared in the United States and Canada; only one of these, number v., appeared on the Pacific coast; of the remainder, numbers iv. and vi. are interesting because of the abnormal paths of their centres. Nine depressions are shown over Europe; all of these apparently developed near the coasts, with the exception of number xi, which first appeared in Greenland. Four depressions moved in an east-northeasterly direction south of the fiftieth parallel, while the remaining five pursued northeasterly paths over the northern part of the continent. One disturbance, number vii., developed and dissipated in the Atlantic ocean between the meridians of fifty-five and forty west longitude, and one, number xvi., remained in Greenland at the close of the month. Six depressions are traced in Asia; of these three prevailed over Siberia and three are shown in China and Japan.

On this chart is also shown the track of the first typhoon of the season of 1881 (May 22d, 28th) that occurred in the China sea.

The following are brief descriptions of the depressions that appeared in the United States and Canada:

I.—This disturbance appeared near Lake Superior on the 1st; it moved eastward, causing showery weather in the lake region and in the Saint Lawrence valley. It passed toward the Gulf during the 2d and 3d, and disappeared south of Greenland on the last-mentioned date. In connection with this disturbance rain fell in the Maritime Provinces and in New England during the 2d, attended by moderate southerly breezes. The depression was immediately followed by an area of high pressures, which caused strong northwesterly winds in the lake region and in New England and the Maritime Provinces.

II.—From the 5th to the 7th there was a slow but gradual decrease of pressure in Minnesota and Dakota. On the latter date the centre of disturbance became defined, and was indicated by the isobar of 29.6 (751.8), which covered Minnesota. During the period from the 7th to the 11th there was a slight increase of pressure, but the disturbance still remained near the lake region and the northwest, attended by cloudy weather and light rains in those districts. On the 12th the depression moved over the Saint Lawrence, attended by light local rains and constantly increasing pressure. During the day its course apparently changed to the southeastward, and the depression passed off the New England coast into the Atlantic. On the 13th the storm-centre was situated near N. 36°, W. 64°. Vessels near the fortieth parallel reported moderate east and northeast winds, while westerly winds prevailed at Bermuda. On the 14th the disturbance was central near N. 40°, W. 60°, where it gradually filled up, and by the 15th it had ceased to exist as a depression.

III.—This disturbance developed in the extreme northwest during the 13th; it moved southeastward, and on the 14th was central near Saint Paul, Minnesota, where the barometer read 29.72 (754.9), wind sw. By the morning of the 15th the centre was in Ontario, attended by light rains and southerly winds in the eastern part of the lake region, the middle Atlantic and New England states, while clearing weather and northwesterly winds had set in over the western part of the lake region. During the 15th the low area apparently moved southeastward, and by the morning of the 16th it was off the coast of Virginia, the pressure near the centre having decreased to 29.6 (751.8). Moderate to strong southerly winds were reported by vessels to the east of the centre, and fresh to strong northeasterly winds occurred over the Maritime Provinces and along the Atlantic coast. On the 17th the pressure began to increase and the disturbance gradually disappeared.

IV.—This was a secondary development of the low area just described. On the 18th an area of high pressures extended from the Canadian Maritime Provinces southeastward to the thirtieth parallel of latitude, while the pressure remained comparatively low off the coast of the Carolinas. In consequence of this distribution of pressure strong southerly breezes to moderate gales were encountered by vessels between 60° and 70° west longitude. On the 19th the region of least pressure was transferred to the southern part of Pennsylvania, and was attended by cloudy weather and occasional rains. During the day the disturbance moved north-northwestward, and on the 20th it was central in Ontario, where it finally disappeared. During the 19th the pressure increased over eastern Canada, causing moderate northeasterly gales along the Saint Lawrence.

V.—This was a slight depression which appeared in southern California on the 21st; it exhibited no energy, and finally filled up in Utah on the 22d.

VI.—This depression appeared in Minnesota on the 28th, on which date the atmospheric pressure decreased over the interior of the country from Minnesota to Texas, accompanied by light rain in Dakota, Kansas, and Missouri, and heavy rains in Texas. On the morning of the 29th the disturbance was shown in northern Kansas, whence it moved slowly southward to Texas, where it was central on the 30th and 31st. On the

latter date the pressure began to increase and the disturbance gradually dissipated.

The following descriptions refer to the depressions that appeared over the Atlantic and in Europe:

VII.—This depression appeared near N. 43°, W. 54°, on the morning of the 8th, causing moderate northerly gales in the western quadrants, and moderate to strong southerly gales in the eastern quadrants. The s. s. "Scythia," in N. 42° 41′, W. 52° 23′, reported barometer 29.35 (745.5), wind wsw., force 5, and the s. s. "Republic," in N. 42° 00′, W. 53° 51′, barometer 29.52 (749.8), wind s., force 2. On the 9th the disturbance was central near N. 45°, W. 47°, the pressure having increased slightly at the centre, but no diminution of wind-force occurred, owing to the formation of steep barometric gradients on the eastern and western sides of the depression. On the morning of the 10th the depression filled up and was followed by clearing weather. From the 10th to the 13th an extensive area of barometric maxima occupied the Atlantic from the coast of the United States to Europe, the highest readings being in the British Isles. During this period moderate winds and generally fair weather prevailed over the ocean.

VIII.—This was probably a continuation of the disturbance described as low-area xix. of the April chart. On the 1st an elongated area of low pressures stretched from the British Isles eastward to the Danish peninsula; light rains occurred in Scotland and at stations in Denmark, and the winds remained moderate in all quadrants of the depression. On the 2d the centre of disturbance was over the southwestern part of the Baltic, while another depression had developed in northwestern France; rain becoming general at stations within the zone of low pressures, but no high winds occurred. On the 3d the centre of disturbance remained over the Baltic; the region of low pressures now embraced northern France, Belgium, and Germany, the disturbance mentioned as appearing in France having apparently merged in the larger depression. On the 3d an area of high pressures began to spread over the British Isles and western France, causing the winds to shift to northerly and the temperature to fall several degrees over these districts. On the morning of the 4th the depression occupied the Gulf of Finland, attended by cloudy weather in northwestern Russia; during the day it moved northeastward, and on the 5th was near Archangel, whence it disappeared in the Arctic regions.

IX.—This was probably a secondary development of low-area viii. It appeared near the northern shores of the Bay of Biscay on the 2d, and moved eastward, causing rains and thunder-storms at numerous places in France. On the 3d, it apparently again united with low-area viii.

X.—This disturbance appeared in the region between the Black and the Caspian seas on the 1st, and was probably a continuation of the depression charted as xviii. on the chart for April. On the 2d the depression was over the Caspian sea, and on the following day it dissipated near the Sea of Aral.

XI.—This depression developed in Greenland on the 2d, when the barometer at Godthaab read 29.43 (747.5), being a fall of .42 inch in twenty-four hours. On the 3d and 4th the storm-centre moved slowly eastward, causing cloudy weather and strong southeasterly wind at Stykkisholm, Iceland. On the 5th the depression was central south of Iceland, and a decrease of pressure had set in over the northern part of the British Isles and the Scandinavian peninsula. On the 6th the centre was near the Färöe Islands; rain fell in the British Isles, and the wind veered to southwest and west and increased to moderate gales. On the 7th the centre of disturbance was transferred to Finland, while a rapid increase of pressure took place in its rear, and strong westerly winds occurred over the British Isles and southern Scandinavia, accompanied by generally clearing weather. On the 8th the storm-centre was over the White sea; it moved eastward, and on the 9th was in the vicinity of the Ural mountains, whence it moved into Siberia and beyond the stations of observation.

XII.—On the 9th pressures ranging from 30.4 (772.1) to 30.7 (779.8) occupied northwestern Europe and the British Isles, while in southern Europe the barometer was relatively low. In consequence of this distribution of pressure, strong northerly and northeasterly winds prevailed over the northwestern part of the continent, and a considerable fall in temperature took place. On the morning of the 10th a depression was over the southern part of Italy, attended by strong breezes and occasional rains in the northern quadrants. On the 11th the disturbance passed into Austro-Hungary, and during the 12th, 13th, and 14th it remained over Hungary and the Danubian Principalities, the barometer near the centre fluctuating between 29.6 (751.8) and 29.8 (756.9). By the 15th the depression had moved to the Black sea, and moving eastward during the day it finally disappeared in the Caucasus on the 16th.

XIII.—This depression appeared near the Färöe Islands on the 13th, and caused moderate southwesterly breezes over the northern part of the British Isles. By the morning of the 14th the centre had passed to the northern part of the Scandinavian peninsula, causing fresh to strong southwesterly winds in the Gulf of Bothnia and in northwestern Russia. On the 15th the depression was near Archangel, where it disappeared during the day.

XIV.—This disturbance apparently developed on the 14th in mid-ocean near N. 51°, W. 27°; on that day the s. s. "Pennsylvania," in N. 48° 36′, W. 25° 22′, reported barometer 29.86 (758.4), wind w., force 5, cloudy, while the s. s. "Volmer," in N. 50° 25′, W. 27° 44′, had a heavy nw. gale. During the day the disturbance moved eastward with rapidly decreasing pressure, and on the 15th it was shown as a deep depression of some energy, central in Ireland. Rain fell at stations in the British Isles, and the winds, increasing in force, blew with the force of a gale in the western part of Ireland. By the 16th the disturbance had moved northeastward over the North sea, and was central to the west of the Danish peninsula; rain was general over the British Isles and at stations along the coast of France near the Channel, while strong northerly and northwesterly winds prevailed in the western, and equally strong southerly and southeasterly winds prevailed in the eastern quadrants of the depression. On the 17th the storm-centre, having moved northward, was shown near the northern part of the Scandinavian peninsula. On the 18th it was to the northward of the Gulf of Bothnia, where it apparently dissipated.

XV.—This disturbance appeared northwest of Ireland on the 17th, causing rain and brisk south and southwest winds in the British Isles. During the 18th and 19th no change occurred in the distribution of pressure; the low area maintained its position over the northern part of Scotland, and rainy weather continued in the British Isles and at stations on the eastern shores of the North sea. By the morning of the 20th there was a general increase of pressure, although the lowest barometric readings were still in northern Scotland; a general improvement in the weather set in over the British Isles, but the rain still continued in France. On the 21st the depression apparently filled up off the southern coast of Norway.

XVI.—From the 21st to the 30th the barometer remained low and unsteady in the southern part of Greenland, but at the close of the month a recovery began, and the depression was apparently filling up without having moved beyond the coasts.

XVII.—This depression apparently developed between the Azores and the Iberian peninsula during the 23d. On the 24th it was central over the southern part of the Bay of Biscay; on this day fresh easterly winds prevailed over the British Isles and central Europe, but on the 25th the area of low pressures extended to the French coasts, the English channel and the southern part of England, and the winds shifted to southerly on the French coasts and in the southern part of England. During the day the disturbance moved northeastward over the English channel, and on the 26th it was central over the North sea, between the southeast coast of England and the Netherlands, the area of disturbance having become contracted;

but on the 27th the decrease again extended over central Europe, and the region of least pressure was in southeastern Germany and in Austria. During the 26th and 27th general rains, accompanied by thunder-storms, occurred over northwestern Europe, and the temperature fluctuated irregularly. On the 28th the disturbance was still in Austria, while a slight but gradual increase of pressure had set in over the country to the westward. On the 29th the storm-centre remained in Hungary and was moving very slowly toward the Black sea. By the 30th the disturbance, having moved northeastward, was situated to the northeast of the sea of Azof, causing brisk to strong northwesterly winds in southwestern Russia. On the 31st the depression was central to the north of Orenburg, eastern Russia.

Of the depressions that occurred over Asia the following are charted:

XVIII.—This disturbance apparently moved eastward, south of Pekin, during the 5th, and on the 6th it was central over the Yellow sea, causing fresh to strong south and southwest winds and rain over Japan. It moved in a course slightly north of east, and on the 7th and 8th was central, with decreased pressure, in the island of Niphon; during the latter date it passed off into the Pacific and beyond the range of the observations.

XIX.—This disturbance appeared in central Siberia on the 10th, on which date the centre was near Yeniseisk, where the barometer read 29.63 (752.6), wind w., raining. On the 11th the centre of disturbance was northwest of Nertschinsk, and by the following day it had disappeared south of that station.

XX.—This depression developed in Siberia, between Yeniseisk and Barnaul, at which stations the barometer read 29.4 (746.7) on the 13th. During the day the centre moved eastward, and on the 14th it was between Lake Barkol and Nertschinsk, while the wind at Yeniseisk had shifted to northwest and increased to a moderate gale with snow and sleet. On the 15th the shift of wind at Nertschinsk indicated that the storm-centre had passed to the northeast of that station and beyond the range of the observations.

XXI.—From the 9th to the 16th an area of high but gradually decreasing pressure occupied eastern China and Japan, and on the latter date a depression, indicated by the isobar of 29.6 (751.8), appeared near Pekin. On the 17th the position of the centre apparently remained unchanged, but the decrease of pressure had extended southward to Zi-Ka-Wei and to Amoy. During the 18th and 19th a secondary disturbance appears to have developed in southern China, and passing northeastward, attended by rain at Hankow, probably merged with xxi. over the sea of Japan. On the 20th the disturbance passed into the Pacific, causing strong westerly winds near the fortieth parallel.

XXII.—On the 26th an extensive depression appeared in the vicinity of the Ural mountains; by the 27th it was shown near Yeniseisk, the pressure near the centre having decreased to 29.3 (744.2). On the 28th the pressure increased at Yeniseisk but remained low at Barnaul; on the 29th the increase became general over that part of central Siberia lying between 80° and 100° east longitude, while a decrease had set in to the eastward. On the 30th the depression was near Nertschinsk, where the barometer read 29.23 (742.4), wind sw. By the 31st the pressure had increased and the disturbance passed beyond the limits of the stations of observation.

The track of the first typhoon of 1881, shown on chart iii., has been copied from a tracing of the same in "The Typhoons of the Chinese Sea in the year 1881," an interesting and valuable work published by Mr. Marc Dechevrens, director of the Zi-Ka-Wei Observatory, Shanghai, China.

The following brief notes in connection with this typhoon are taken from the same publication:

The typhoon probably developed between the Pelew Islands and the Philippinas Archipelago, about 135° east longitude, and between 8° and 10° north latitude; it must have begun about May 14th, when the prevailing wind at Manila changed suddenly, but its progress was very slow at first, and its presence was not determined by the observer at Manila before the 22d. On the 23d, at 8 a. m., a telegram from Tayabas, nearly sixty miles southeast of the capital, showed that the barometer at that station was about .08 inch lower than at Manila; on the eastern coast of southern Luzon the wind blew strongly from the northeast, with heavy rain—the typhoon evidently approaching. At Manila, between 9 a. m. and 4 p. m., on the 23d, the barometer fell, and after 4 p. m. the wind oscillated between north and northwest. At sunset the horizon assumed a purple coppery hue, resembling the blaze of an immense fire. At 10 p. m. the wind blew strongly from the northwest, with heavy showers. At 8 a. m. of the 24th the centre of the typhoon was east of Manila; it entered the Laguna and moved directly westward. At about 10.30 a. m., according to observations taken on board the steamer "Lipa," anchored at Santa Cruz, the central calm extended over the Laguna; at 1 p. m. the wind abated and ceased for a few moments; at 1.15 p. m. it shifted suddenly from north-northwest to east-southeast, and increased in force. The barometer reached its lowest point, 29.52 (749.8), and remained stationary until 2 p. m., when it began to rise; the wind oscillated between east and southeast, and increased in violence till 2.45 p. m., when it attained a velocity of 75.4 miles. It then settled to the east-southeastward, thus keeping a direction of marked convergence to the centre, which was running away westward and entering the China sea. It thus appears that Manila, if not in the very path of the typhoon, was at least within the narrow circle of central calm. The observations made at the observatory, when compared with those taken on board the sloop of war "Doña Maria de Molina," lying at anchor at Canacao, and with those made at Corregidor island, at the entrance to Manila bay, indicate that the centre must have passed to the southwest at about 1.30 p. m. During the passage of the storm the wind was much more violent after than before the barometric minimum occurred, being stronger from east-southeast than from northwest; the strongest squalls attained a velocity of 88 miles an hour, but such violent blows were infrequent and of short duration; the maximum velocity generally did not exceed 72 miles an hour.

Moving from Manila the typhoon passed a little to the south of the Paracels Islands and touched the coast of Cochin China on the 29th, near the fifteenth degree of latitude. It then turned back towards the east, the deflection being caused probably by the coast line; and on again reaching the open sea it appears to have abated and soon disappeared entirely. During the progress of this typhoon the s. s. "Elgin" was totally wrecked on the Paracels Reefs, and several other vessels sustained more or less damage.

From the 22d to the 24th the mean velocity of the typhoon along the eastern coast of the Philippinas Archipelago appears to have been about four to five miles an hour. Between the 24th and 28th, over the China sea, it increased to about 13.5 miles. The typhoon, at the time its central region passed Manila, seems not to have exceeded one hundred and seventy-two miles in diameter from north to south. The region of calm and of barometric minimum must have been about eighteen or twenty miles in diameter, for, according to trustworthy observations taken on board the sloop of war "Doña Maria de Molina," the centre passed over Cavite, nine miles from Manila, which town was on the limit of the central calm. The barometric gradient in this typhoon was inconsiderable, the pressure at the centre being probably not less than 29.00 (736.6).

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are applied at this office. In the naval and marine series,

corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in metres per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometres per hour, to metres per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnston'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 originals, is carefully computed at this office. Generally all conversions are made 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 alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING THE DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted. Broken lines indicate that the lines so broken are doubtful.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

Arrows show the 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 iii. shows tracks of centres of low barometer. Storm-tracks in red. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date. Broken or dotted lines are doubtful.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Galway, Oxford, and Sandwick Manse the barometers are given as read off. The movement of the air is indicated by force on a scale of 0 to 12, except pounds pressure per square foot at Greenwich. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. At Hankow the originals give the barometer in inches, temperature in Fahrenheit, and force on a scale of 0 to 10.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centi-

grade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time, but at Lyons at the moment of simultaneous observation. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12 m., instead of 12.16 p. m. At Gap the observations are taken at 12.03 p. m., instead of 12.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchina, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiana).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakhan the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in metres per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols. At Barnaul observations are taken at 6.18 p. m., local time.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air as indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—

The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.)—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in metres per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Office, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea-disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

Daily Bulletin, April 4th, 1882, page 4, North German Lloyd, s. s. "Salier," longitude E. 68° 34′, should read E. 8° 34′.

5th, page 6, British Naval, H. M. S. "Alert," temperature, Fahr., 82.2°, should read 88.2°.

8th, page 3, Netherlands, Utrecht, actual barometer, 30.28 inches, 769.2 mm., should read 30.32 inches, 770.2 mm.

11th, page 5, United States, Newport, Rhode Island, actual barometer, 754.6 mm., should read 755.6 mm.

23d, page 4, United States, Fort Assinnaboine, Montana, temperature, Centigrade, 5.8°, should read 5.0°.

26th, page 1, Austro-Hungarian, Kremsmunster, actual barometer, 29.17 inches, should read 28.17 inches.

28th, page 5, United States, Morgantown, West Virginia, actual barometer, 713.0 mm., reduced barometer, 739.4 mm., should read 738.4 mm. and 764.8 mm., respectively.

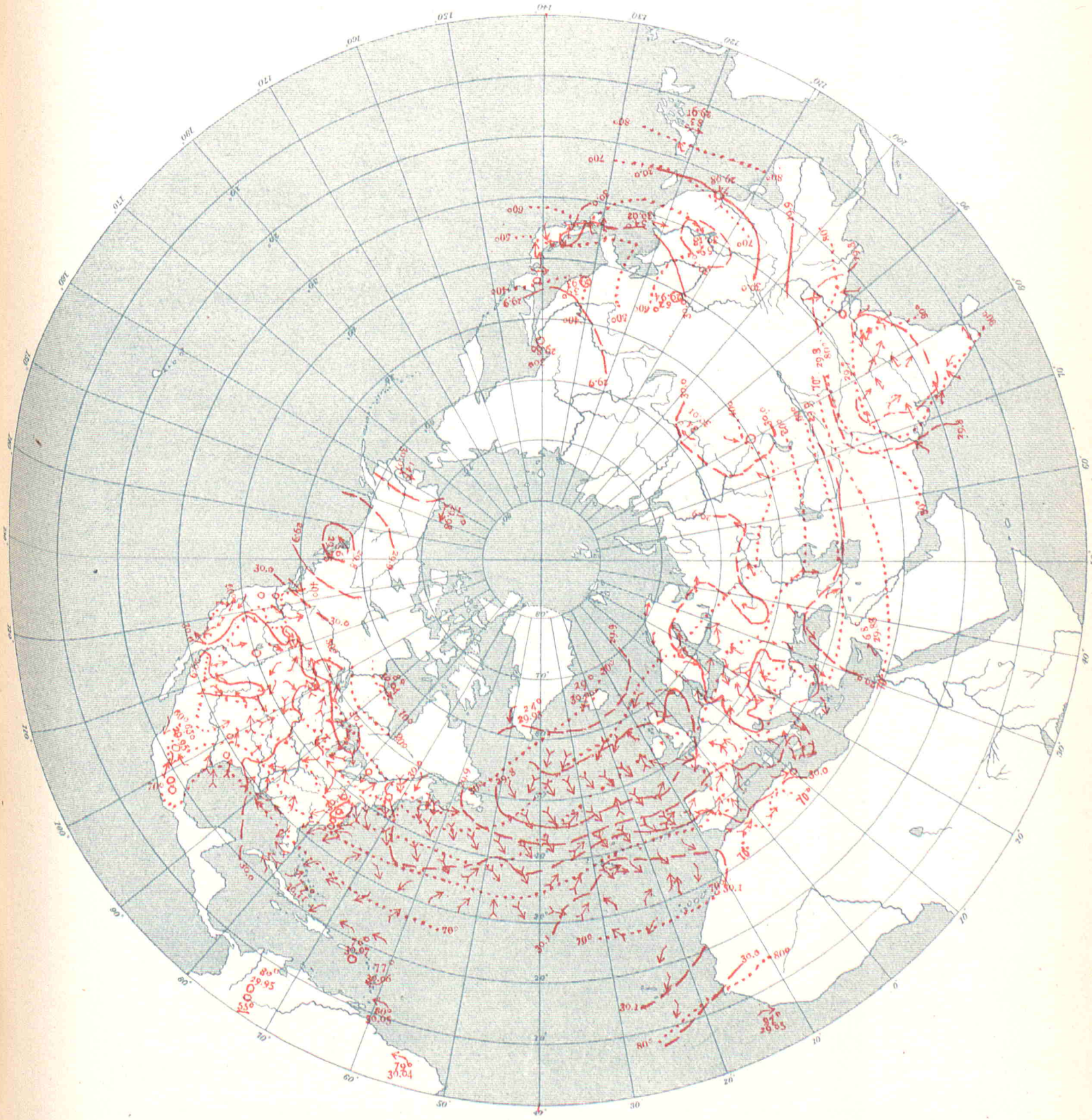
30th, page 2, French, Pic-du-Midi, temperature, 51.7° Fahr., 12.6° Cent., should read 34.7° Fahr., 1.5° Cent.

Attention is called to changes made in the latitude and longitude of the following stations of the United States series, which should date back to the first issue of SUMMARY: Camp Thomas, Detroit, Pike's Peak, Provincetown, Washington, Yankton.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

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

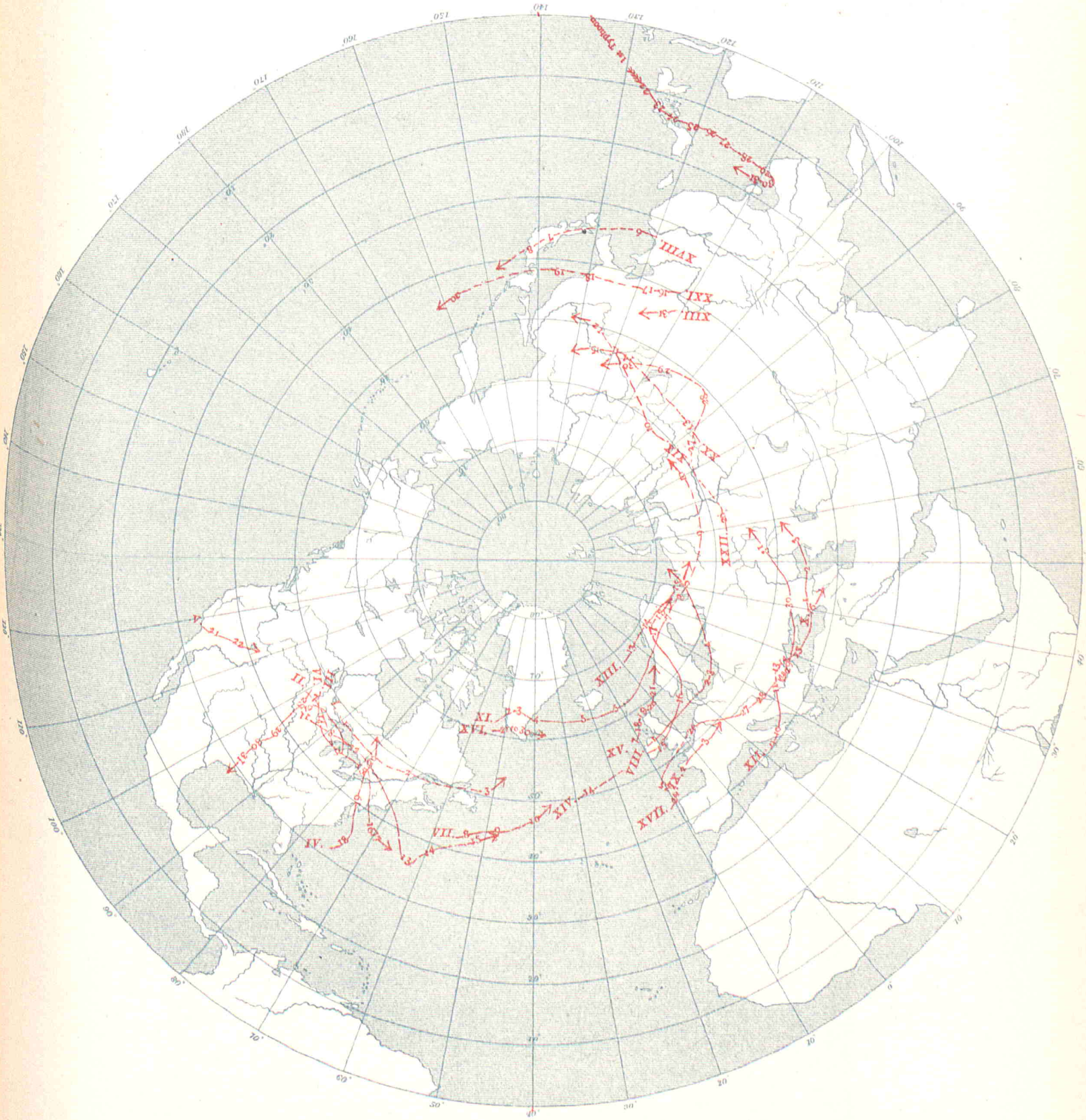
International Chart II. April, 1882. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

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

International Chart III. May, 1881. Storm-Tracks.



UNITED STATES OF AMERICA.

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

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF MAY, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
JUNE, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MAY, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.01	762.2	72.0	22.2	76.7	.....	6	4	14	2	.....	1	4	.....	.....	.....	1	0.13	3.4
Algiers	N. 36 47	E. 3 04	0.20 p.m.	72	22	.....	.....	30.01	762.2	72.1	22.3	60.7	1	24	2	1	.....	.....	1	2	.....	.....	.....	1	0.11	2.8
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.02	762.4	73.9	23.3	68.5g	7	4	4	1	2	.....	3	10	.....	.....	.....	3	2.26	57.5
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.02	762.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.07	763.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.09	764.3	67.5	19.7	61.5	.....	8	.....	7	.....	13	2	1	.....	.....	.....	2	1.07	27.2
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	77.9	25.5	20.2	3	4	1	6	5	9	2	1	.....	.....	.....	3	0 85	21.6
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.11	764.7	82.0	27.8	58.9	3	.....	8	.....	6	2	10	2	.....	.....	.....	1	1.04	26.5
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.09	764.2	87.8	31.0	25.1	1	7	2	1	.....	20	.....	.....	.....	.....	.....	3	0.16	4.2
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.92	760.0	30.01	762.3	53.7	12.1	79	8	8	3	6	3	1	.....	2	.....	.....	.....	6	2.54	64.5
AUSTRO-HUNGARIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.44	747.7	30.00	761.9	69.6	20.9	48.2	.....	1	3	10	1	4	2	10	.....	.....	.....	5	1.84	46.7
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.22	742.3	29.98	761.5	61.9	16.6	58.9	6	3	7	4	2	.....	5	4	.....	.....	.....	7	3.98	101.1
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.08	738.7	29.97	761.3	57.0	13.9	73.0	10	5	.....	.....	8	3	.....	1	4	.....	.....	7	1.94	49.2
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.75	730.3	29.98	761.4	64.0	17.8	65.6	2	6	3	6	9	2	2	1	.....	.....	.....	5	0.89	22.5
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.52	724.3	29.91	759.7	66.4	19.1	55.	5	11	3	1	2	7	1	1	.....	.....	.....	6	5.16	131.1
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.66	728.0	29.98	761.5	62.1	16.7	65.7	3	4	3	3	.....	1	3	11	3	.....	.....	6	3.72	94.5
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.96	735.6	29.93	760.1	62.4	16.9	58.8	3	8	.....	3	3	6	3	5	.....	.....	.....	6	3.99	101.4
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.90	759.4	30.01	762.3	61.7	16.5	58.8	.....	.....	7	4	5	9	6	.....	.....	.....	.....	4	1.79	45.5
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.46	748.2	29.91	759.6	67.5	19.7	58	6	6	1	7	1	5	3	2	.....	.....	.....	5	3.10	78.7
Szegedin c	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.66	753.4	29.94	760.5	68.0b	20.0b	58.6b	4	9	3	3	5	2	1	.....	1	.....	.....	6	1.54	39.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.93	760.2	30.03	762.8	68.9	20.5	55.2	.....	.....	5	6	.....	.....	.....	5	15	.....	.....	4	3.26	82.9
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.30	744.1	30.00	761.9	65.5	18.6	48.3	5	7	7	.....	1	8	1	2	.....	.....	.....	5	2.42	61.5
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.94	760.5	30.04	763 0	50.6	10.3	70.2	.....	2	1	.....	6	11	8	3	.....	.....	.....	5	1.50	38.1
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.76	755.9	30.00	762.0	55.9	13.3	64.3	2	2	.....	9	5	6	6	1	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	30.02	762.5	57.6	14.2	73.6	1	3	8	4	4	1	8	2	.....	.....	.....	5	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.48	748.8	30.01	762.2	57.6	14.2	58.7	1	1	4	5	9	3	5	3	.....	.....	.....	6	.....	.....
Bradford d	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.58	751.3	29.98	761.5	57.4	14.1	58.4	.....	2	6	7	.....	7	2	3	.....	.....	.....	5	0.91	23.1
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.97	761.2	30.00	762.0	83.4	28.6	65.8	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	30.02	762.5	61.9	16.6	61.3	7	3	1	3	4	3	7	3	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.92	760.0	30.05	763.3	59.8	15.4	66.7	2	.....	...	10	2	.....	.....	12	5	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.80	756.9	30.03	762.7	56.5	13.6	70.5	.....	4	1	3	5	6	9	3	.....	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.69	703.3	29.91	759.7	69.0	20.6	47.1	2	3	3	2	2	4	6	1	8	.....	.....	4	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.61	752.1	29.84	757.9	87.0	30.6	62.9	2	11	11	6	.....	.....	.....	.....	1	.....	.....	3	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	29.97	761.2	30.02	762.5	69.8	21.0	78.1	.....	1	14	4	.....	2	7	3	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.81	757.2	30.01	762.2	55.4	13.0	58.7	1	.....	5	7	3	1	7	7	.....	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.87	758.7	30.05	763.3	61.8	16.6	61.9	4	.....	3	4	7	.....	6	7	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.75	755.6	30.05	763.3	57.4	14.1	77.3	2	3	4	2	8	2	4	6	.....	.....	.....	4	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	30.01	762.2	30.05	763.3	59.8	15.4	57.9	5	1	4	7	3	2	4	5	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.78	756.4	30.03	762.7	55.4	13.0	61.3	1	1	2	9	1	2	4	10	1	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.94	760.5	30.01	762.2	72.7	22.6	61.7	.....	10	1	2	1	10	1	6	...	.....	.....	3	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.06	763.5	30.10	764.5	79.6	26.4	78.7a	1	2	.....	9	2	1C	1	6	.....	.....	.....	7	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.52	749.8	30.04	763.0	57.9	14.4	65.3	5	4	1	3	6	.....	4	7	1	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.81	757.2	30.04	763.0	59.0	15.0	59.1	4	1	5	2	6	3	2	8	.....	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.95	760.7	30.02	762.5	59.7	15.4	60.5	1	2	3	7	9	1	6	1	1	.....	.....	6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	30.00	762.0	50.4	10.2	73.8a	.....	1	6	6	.....	8	8	2	.....	.....	.....	5	.....	.....
Scutari Cemetery	N 41 00	E. 29 03	2 04 p.m.	60	18	29.85	758.2	29.91	759.7	69.2	20.7	58.9	9	.....	1	5	5	.....	.....	9	2	.....	.....	5	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.77	756.1	30.04	763.0	60.7	15.9	68.7	.....	2	1	9	1	2	6	10	.....	.....	.....	5	1.44	36.6
Stilton Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.91	759.7	29.95	760.7	58.2	14.6	63.4	1	1	7	7	3	1	9	.....	2	.....	.....	4	1.80	45.7
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	30.04	763.0	57.4	14.1	60.5c	.....	1	8	4	4	2	8	4	.....	.....	.....	6	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.83	757.7	30.05	763.3	61.2	16.2	62.1	4	1	3	11	3	2	1	6	.....	.....	.....	5	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	30.00	762.0	30.02	762.5	62.5	16.9	62.1	.....	8	.....	6	4	4	7	2	.....	.....	.....	5	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.94	760.5	29.97	761.2	57.0	13.9	70.5	1	2	4	10	3	5	5	1	.....	.....	.....	6	.....	.....
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	80	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.93	760.2	29.97	761.2	41.6	5.3	78.4	3	6	5	2	9	1	3	2	.....	5508	8864	6	3.67	93.2
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.93	760.2	29.99	761.7	40.6	4.8	71.4	5	4	5	7	4	1	2	2	1	4141	6664	6	4.05	102.9
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.97	761.2	29.99	761.7	39.4	4.1	77.8	3	2	10	3	.....	1	1	10	1	13181	21212	5	1.73	43.9
Fort Garry h	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.21	741.9	30.04	763.0	43.1	6.2	77.6	4	.....	1	...	5	2	7	1	.....	4671	7517	3	0.86	21.8
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.88	758.9	30.01	762.2	43.8	6.6	78.6	4	8	5	3	3	2	2	4	.....	.....	.....	5	4.70	119.4
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.69	754.1	30.03	762.7	45.6	7.6	71.7	5	3	6	4	.....	1	2	10	.....	6357	10230	7	4.06	103.1
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.81	757.2	30.02	762.5	46.0	7.8	64.2	5	3	2	4	3	4	2	7	1	.....	.....	6	1.55	39.4
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.35	745.5	30.05	763.3	43.8	6.6	67.7	4	2	2	4	3	.....	5	9	2	6560d	10557d	4	2.09	53.1
Peterborough	N. 44 17	W. 78 20	6.54 a.m.	688	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29 33	745.0	30.03	762.7	45.6	7.6	84.2	3	2	2	5	3	.....	1	14	1	6840	11008	5	5.33	135.4
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.36	745.7	30.01	762.2	45.5	7.5	80.6	6	4	4	2	1	1	9	4	.....	.....	.....	4	4.14	105.2
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.74	755.4	30.03	762.7	41.8	5.4	77.5	4	4	6	.....	.....	.....	5	9	3	.....	.....	5	2.05	52.1
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.58	751.3	30.05	763.3	41.6	5.3	65.6	5	10	2	.....	.....	.....	4	1	9	.....	.....	4	2.67	67.8
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.30	744.2	30.02	762.5	44.3	6.8	75.5	2	1	.....	6	1	3	3	11	4	8736	14059	4	1.59	40.4
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.94	760.5	29.99	761.7	42.4	5.8	73.0	4	5	5	1	2	3	4	5	2	.....	.....	4	2.61	66.3
St. John, N.B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CANADIAN—C't'd.	° ′	° ′																								
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.91	759.7	29.97	761.2	40.4	4.7	79.0	8	4	4	9	1	1	.....	2	2	7370	11860	6	5.22	132.6
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.66	753.4	30.05	763.3	45.8	7.7	66.7	5	2	6	2	1	2	7	5	1	8638	13901	5	3.60	91.4
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.93	760.2	30.00	762.0	43.1	6.2	81.7	5	5	2	4	2	1	6	4	2	6287	10119	4	1.37	34.8
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.96	761.0	30.21	767.3	43.4	6.3	87.2	.....	2	8	10	3	.....	4	4	.....	.....	.....	5	2.65	67.3
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.10	764.5	30.13	765.3	65.3	18.5	81.1	.....	.....	12	8	1	3	3	3	1	.....	.....	4	4.39	111.5
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	30.06	763.5	30.10	764.5	65.5	18.6	69.6	1	6	4	2	14	4	.....	.....	.....	.....	.....	5	2.78	70.6
CHINESE.																										
Sub Series.																										
Hankow	N. 30 34	E. 114 20	7.45 p.m.	260	79	29.73	755.2	29.76	755.8	76.1	24.5	90.8	.....	1	.....	1	2	15	9	3	.....	.....	.....	6	8.67	220.2
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.85	758.2	29.87	758.8	62.6	17.0	85.4	3	1	2	1	4	10	9	1	.....	.....	.....	7	4.35	110.6
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	30.00	762.0	30.05	763.2	55.4	13.0	61	5	8	2	3	3	8	.....	.....	2	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	30.04	762.9	30.06	763.4	56.7	13.7	73	2	7	7	3	3	6	3	.....	.....	.....	.....	5	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.93	760.1	29.97	761.2	34.2	1.2	77	9	2	1	2	.....	1	1	8	7	.....	.....	6	0.04	0.9
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.90	759.5	29.95	760.6	37.0	2.8	84	.....	3	1	.....	1	3	7	7	9	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.93	760.3	29.97	761.2	47.5	8.6	78	2	.....	4	6	3	5	2	7	2	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.95	760.7	30.04	763.0	54.5	12.5	71	3	5	7	4	4	4	2	1	1	.....	.....	4	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.39	746.6	30.03	762.8	66.6	19.2	62.2	4	.....	6	1	2	6	.....	1	11	.....	.....	.....	3.34	84.9
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.53	759.0	30.08	764.0	58.6	14.8	77.7	7	.....	.....	5	9	3	1	6	.....	.....	.....	4	3.05	92.8
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.78	756.3	30.03	762.8	60.6	15.9	62.3	d	9	2	6	4	3	1	2	.....	.....	.....	4	1.58	40.1
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.93	760.1	30.00	762.1	71.6	22.0	54.3	14	5	2	5	1	2	2	.....	.....	.....	.....	4	1.70	43.3
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.50	749.3	30.05	763.3	54.1	12.3	49	.....	.....	1	3	6	9	11	1	.....	.....	.....	7	1.32	33.5
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.80	757.0	30.07	763.7	62.4	16.9	52.5	.....	2	2	2	2	7	6	10	.....	.....	.....	7	2.29	58.2
Besançon	N. 47 14	E. 6 01	0.32 p.m.	846	258	29.10	739.2	29.98	761.4	66.0	18.9	59.9	5	1	1	3	7	.....	4	10	.....	.....	.....	4	4.87	123.7
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.74	755.5	30.00	762.0	65.3	18.5	56.3	3	1	7	4	2	7	1	6	.....	.....	.....	7	5.18	131.7
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.50	749.2	30.04	763.0	65.1	18.4	50.7	9	2	2	7	1	2	4	4	.....	.....	.....	1	1.32	33.5
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.79	756.7	30.04	762.9	62.2	16.8	65.4	3	1	1	12	1	.....	3	9	1	.....	.....	6	2.56	65.0
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	30.00	761.9	30.05	763.3	62.6	17.0	57.2	6	2	2	4	10	1	5	1	.....	.....	.....	6	2.71	68.8
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.69	754.0	30.00	762.0	64.8	18.2	58.9	3	1	1	6	8	3	2	2	5	.....	.....	5	1.35	34.4
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.54	750.2	30.04	763.0	64.6	18.1	a53.2	3a	1	4	1	6	5	8	2	.....	.....	.....	6a	0.49	12.5
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.67	728.3	30.00	761.9	66.6	19.2	49.6	10	1	2	6	2	3	1	6	.....	.....	.....	.....	2.85	72.4
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.19	741.5	30.02	762.6	64.0	17.8	56.9	5	3	1	2	5	3	5	7	.....	.....	.....	4	4.05	102.8
Cominercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.20	741.7	30.06	763.4	63.9	17.7	53.0	6	4	5	2	2	5	4	3	.....	.....	.....	5	1.36	34.6
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.46	697.5	29.93	760.2	66.4	19.1	46.9	3	2	1	.....	3	4	2	.....	16	.....	.....	.....	2.05	67.3
Gréasque	N. 43 25	E. 5 37	0.32 p.m.	1056	322	28.89	733.7	29.98	761.5	70.0	21.1	46.2	.....	.....	.....	.....	1	7	13	10	.....	.....	.....	5	0.87	22.0
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.23	742.5	29.98	761.6	66.6	19.2	56.1	2	14	5	1	5	2	2	.....	.....	.....	.....	.....	3.15	79.9
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.46	722.9	30.03	762.7	61.0	16.1	54.4	.....	3	1	10	4	3	6	4	.....	.....	.....	.....	2.39	60.6
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.75	755.7	30.02	762.6	62.2	16.8	60.6	4	3	1	2	6	3	3	9	.....	.....	.....	5	2.13	54.0
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.44	747.8	29.99	761.7	68.5	20.3	54.7	3	3	10	1	4	.....	6	4	.....	.....	.....	5	3.37	85.7
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.94	760.4	30.04	763.0	64.2	17.9	63.4	1	1	1	10	3	3	5	7	.....	.....	.....	5	0.73	18.5
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.98	736.2	30.02	762.6	64.2	17.9	54.2	7	3	1	.....	6	7	4	3	.....	.....	.....	.....	4.02	102.1
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.75	755.6	30.06	763.4	61.2	16.2	58.8	1	3	3	5	3	3	5	8	.....	.....	.....	4	3.75	95.3
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.73	755.1	30.00	761.9	69.1	20.6	55.9	.....	2	7	12	3	3	4	.....	.....	.....	.....	.....	0.74	18.8
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.84	631.0	29.69	754.0	54.9	12.7	57.1	.....	1	3	12	1	7	4	3	.....	.....	.....	5	1.94	49.4
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.86	758.5	29.99	761.7	69.4	20.8	63.5	9	.....	.....	.....	.....	3	10	9	.....	.....	.....	3	1.59	40.4
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.26	743.3	30.04	763.0	63.0	17.2	54.3	12	4	4	5	4	2	.....	.....	.....	.....	.....	.....	2.30	58.5
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.90	759.4	30.06	763.5	64.9	18.3	54.8	4	2	1	7	3	1	4	9	.....	.....	.....	6	2.41	61.2
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.89	759.2	30.00	761.9	69.4	20.8	49.9	5	3	.....	3	4	14	2	.....	.....	.....	.....	6	0.50	12.8
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.25	539.8	.....	.....	37.4	3.0	.....	.....	2	1	15	5	4	.....	4	.....	.....	.....	4	1.74	44.1
Privas..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.96	735.5	30.00	762.1	66.0	18.9	54.8	12	.....	.....	.....	9	1	1	.....	8	.....	.....	2	3.39	86.0
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.17	639.3	.....	.....	45.0	7.2	80.8	1	1	4	9	2	3	5	6	.....	.....	.....	2	3.82	97.0
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.98	761.6	30.02	762.4	67.1	19.5	98.4	1	1	1	7	5	2	2	10	2	.....	.....	5	0.96	24.4
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.80	756.8	30.00	762.1	64.0	17.8	60.4	4	2	4	3	4	3	7	4	.....	.....	.....	4	4.74	120.3
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.88	708.1	29.98	761.5	64.0	17.8	53.9	3	.....	.....	6	1	6	8	1	6	.....	.....	5	2.33	59.1
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.99	761.7	30.05	763.2	62.2	16.8	58.6	5	1	1	8	4	2	5	5	.....	.....	.....	5	4.07	103.4
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.89	759.2	30.06	763.4	62.4	16.9	55.3	5	2	4	4	5	2	3	6	.....	.....	.....	6	2.74	69.5
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.33	745.0	30.06	763.4	69.3	20.7	57.2	4	5	3	1	1	9	5	3	.....	.....	.....	5	1.16	29.6
Tours	N. 47 24	E. 0 41	0.11 p.m.	171	52	29.86	758.4	30.04	762.9	65.1	18.4	57.8	1	.....	4	11	1	2	4	8	.....	.....	.....	.....	4.11	104.3
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.56	750.9	30.06	763.4	62.2	16.8	51.3	3	1	6	8	1	3	5	4	.....	.....	.....	6	1.37	34.7
Sub-Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	29.77	756.2	30.06	763.6	62.4	16.9	54.0	5	1	3	6	5	2	3	6	.....	.....	.....	6	1.13	28.7
GERMAN.																										
Bamberg *d*	N. 49 54	E. 10 54	0.51 p.m.	796	242	29.17	741.0	30.02	762.6	64.2	17.9	50.6	1	4	2	4	6	3	1	6	.....	.....	.....	5	1.20	30.6
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.85	758.3	30.03	762.7	61.7	16.5	53.8	8	6	2	3	2	6	1	2	1	.....	.....	7	2.31	58.6
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.52	749.7	30.05	763.2	60.4	15.8	57.6	6	7	7	.....	1	5	2	2	1	.....	.....	6	3.56	90.4
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.62	752.4	30.06	763.4	63.9	17.7	57.5	2	1	1	6	2	1	7	11	.....	.....	.....	7	3.36	85.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.30	744.3	30.02	762.4	63.7	17.6	51.8	5	6	4	1	8	3	3	1	.....	.....	.....	6	1.94	49.3
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.67	753.7	30.03	762.8	64.4	18.0	51.2	8	6	.....	4	5	2	1	5	.....	.....	.....	6	2.22	56.4
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.60	726.5	30.02	762.4	61.5	16.4	66.8	2	.....	1	13	9	.....	.....	6	.....	.....	.....	6	5.56	141.2
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.97	761.3	30.07	763.7	58.8	14.9	58.6	6	6	2	5	1	3	6	2	.....	.....	.....	6	1.88	47.7
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	30.04	763.0	30.06	763.4	56.5	13.6	59.4	7	3	4	1	3	2	5	6	.....	.....	.....	2	2.14	54.3
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.64	752.8	30.05	763.2	61.3	16.3	54.4	3	6	.....	4	4	1	8	5	.....	.....	.....	7	2.52	64.1
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.86	758.4	30.05	763.2	61.5	16.4	54.9	4	7	6	1	1	6	3	3	.....	.....	.....	6	1.96	49.9
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.00	762.0	30.05	763.2	56.5	13.6	64.2	2	7	4	4	3	4	2	5	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.22	716.8	30.09	764.2	61.5	16.4	49.8	3	9	.....	1	.....	1	3	10	4	.....	.....	5	2.34	59.3
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.02	762.5	30.04	762.9	56.5	13.6	67.6	11	4	1	1	1	5	1	5	2	.....	.....	6	4.76	120.9
Neustadt *a*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.52	749.8	30.05	763.2	63.5	17.5	59.4	6	1	3	.....	5	1	6	2	6	.....	.....	7	2.00	66.1
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.09	738.9	29.97	761.1	64.0	17.8	54.6	12	4	4	.....	4	.....	6	1	.....	.....	.....	6	3.80	96.5
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.06	763.5	30.08	764.1	56.3	13.5	68.6	8	1	5	3	2	3	4	5	.....	.....	.....	7	0.48	12.2
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	360	110	29.59	751.5	.....	.....	74.7	23.7	.....	2	2	1	14	5	.....	.....	7	.....	.....	.....	4	0.61	15.4
ITALIAN.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.63	752.5	30.03	762.7	69.1	20.6	64	1	1	6	10	5	3	1	2	2	.....	.....	5	4.10	104.1
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.51	749.6	30.02	762.5	70.0	21.1	45	1	3	3	8	1	6	3	6	.....	.....	.....	5	1.52	38.5
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.91	759.7	30.02	762.5	68.7	20.4	50	1	1	3	5	4	5	9	3	.....	.....	.....	4	1.01	25.7
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.12	739.6	30.01	762.2	66.4	19.1	54	5	5	.....	3	8	5	5	.....	.....	.....	.....	6	4.39	111.5
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.84	758.0	30.04	762.9	66.2	19.0	56	6	2	2	12	.....	8	.....	1	.....	.....	.....	5	1.42	36.2
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.12	714.2	30.05	763.2	62.6	17.0	60	2	9	12	.....	1	2	4	.....	1	.....	.....	5	4.36	110.8
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.97	701.2	30.14	765.6	65.8	18.8	61	3	.....	2	2	.....	8	6	10	.....	.....	.....	6	0.89	22.6
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.76	755.9	30.01	762.2	71.4	21.9	43	2	2	8	10	1	1	.....	7	.....	.....	.....	4	0.97	24.6
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.88	759.0	29.97	761.2	68.4	20.2	56	1	6	6	9	5	2	2	.....	.....	.....	.....	6	1.41	35.9
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.83	757.7	30.00	762.0	73.6	23.1	41	5	2	9	7	5	2	1	.....	.....	.....	.....	6	1.05	26.7
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.74	755.5	29.99	761.8	72.7	22.6	43	7	5	2	3	4	5	2	3	.....	.....	.....	3	0.37	9.5
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.12	739.6	29.99	761.7	73.0	22.8	77	2	4	3	4	2	10	5	1	.....	.....	.....	4	0.77	19.6
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.77	756.2	29.96	761.0	70.7	21.5	58	.....	7	.....	2	11	11	.....	.....	.....	.....	.....	4	0.95	24.2
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.79	756.6	30.03	762.8	70.7	21.5	52	.....	4	1	.....	1	.....	2	23	.....	.....	.....	4	0.16	4.0
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.93	760.2	29.97	761.3	72.9	22.7	58	1	1	1	3	11	4	4	6	.....	.....	.....	5	0.11	2.8
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.47	748.6	29.98	761.6	71.4	21.9	57.0	2	1	2	13	1	3	4	5	.....	.....	.....	4	1.63	41.3
Stelvio	N. 46 32	E. 10 26	0.50 p.m.	8343	2543	22.20	563.9	.....	.....	41.2	5.1	58.7	.....	.....	5	12	1	1	2	10	.....	.....	.....	6	2.50	64.9
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.24	565.0	.....	.....	40.8	4.9	67.5	6	2	1	.....	1	6	13	2	.....	.....	.....	8	6.85	174.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for May, 1882. Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
INDIAN.	° ′	° ′																								
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.68	753.9	29.73	755.2	85.9	29.9	78	.....	.....	14	17	.....	.....	.....	.....	.....	.....	.....	3	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.17	740.8	29.02	752.2	102.5	39.2	26	.....	1	12	15	2	1	.....	.....	.....	.....	.....	1	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.74	755.3	29.77	756.2	86.5	30.3	69	.....	14	15	2	.....	.....	.....	.....	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.88	708.2	29.69	754.2	90.1	32.3	35	.....	6	23	1	.....	1	.....	.....	.....	.....	.....	4	1.85	47.0
Belary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.22	716.8	29.64	752.9	93.7	34.3	34	.....	3	10	5	4	8	.....	1	.....	.....	.....	6	2.76	70.1
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.23	691.7	29.74	755.1	81.1	27.3	62	.....	.....	11	19	.....	.....	1	.....	.....	.....	.....	4	2.90	73.7
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.83	732.4	29.54	750.4	100.9	38.3	19	2	5	9	1	.....	1	4	4	5	.....	.....	2	0.22	5.6
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.69	728.7	29.55	750.6	95.5	35.3	24	.....	14	.....	8	1	3	1	3	1	.....	.....	2	0.20	5.1
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.02	737.2	29.56	750.9	100.2	37.9	22	4	11	5	.....	1	3	5	1	1	.....	.....	2	0.94	23.9
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.57	725.7	29.57	751.0	100.9	38.3	21	2	5	2	9	.....	1	2	3	7	.....	.....	6	0.27	6.9
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.30	718.9	29.61	752.0	96.9	36.1	21	5	8	7	2	4	.....	1	1	3	.....	.....	4	0.14	3.6
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.23	742.3	29.59	751.6	90.2	35.7	29	.....	5	5	2	.....	2	5	3	9	.....	.....	2	1.60	40.6
Allahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.28	743.6	29.57	751.2	99.0	37.2	23	1	11	1	1	.....	.....	3	12	2	.....	.....	2	0.01	0.3
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.45	748.1	29.63	752.6	91.8	33.2	49	.....	5	4	.....	.....	.....	9	13	.....	.....	.....	3	1.98	50.3
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.64	702.2	29.60	751.8	89.4	31.9	32	6	11	3	3	3	2	2	1	.....	.....	.....	4	2.49	63.2
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.58	751.3	29.66	753.4	87.6	30.9	62	1	1	.....	5	16	7	.....	1	.....	.....	.....	6	5.79	147.1
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	7	29.63	752.6	29.65	753.1	85.7	29.8	64	.....	1	1	13	10	2	2	2	.....	.....	.....	5	6.05	153.7
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.55	750.7	29.67	753.6	82.2	27.9	71	2	.....	.....	1	1	3	5	9	10	.....	.....	4	13.38	339.8
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.63	752.6	29.72	754.9	81.6	27.6	78	.....	.....	7	6	6	5	4	1	2	.....	.....	4	0.99	25.2
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.39	746.6	29.73	755.2	75.5	24.2	77	1	1	.....	4	2	1	3	18	1	.....	.....	6	4.02	102.1
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.19	715.9	29.57	751.0	100.4	38.0	20	1	17	8	2	.....	.....	1	2	.....	.....	.....	4	0.45	11.4
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.94	760.5	.....	.....	82.3	27.9	70.9	1	.....	.....	3	13	10	1	2	1	.....	.....	6	9.85	250.2
JAPANESE.																										
Aomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.82	757.3	29.85	758.2	51.3	10.7	81.9	5	.....	8	4	3	1	4	1	5	5850	9414	6	3.18	80.8
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.83	757.7	29.85	758.2	48.9	9.4	82	4	1	6	2	3	2	8	.....	5	8207	13207	6	4.63	117.5
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	29.83	757.8	29.85	758.1	61.1	16.2	79.5	17	.....	6	1	1	.....	2	2	2	3815	6140	5	4.23	107.3
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.79	756.6	29.89	759.2	57.6	14.2	83.0	2	1	6	.....	3	11	8	.....	.....	5005	8054	6	3.06	77.7
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.71	754.6	29.88	759.0	59.0	15.0	78.4	9	7	4	1	0	2	.....	2	.....	2690*b*	4328*b*	5	5.10	129.6
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.86	758.5	29.89	759.1	64.5	18.0	79.2	7	9	7	1	1	1	3	2	.....	5500	8851	5	11.79	299.5
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.68	753.9	29.88	759.0	62.3	16.8	80.9	8	1	1	3	6	3	1	4	4	3045	5806	4	7.21	183.9
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.84	757.8	29.87	758.7	57.1	14.0	81.8	7	1	4	5	.....	6	5	1	2	5725	9213	7	2.80	71.0
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.85	758.0	29.86	758.5	54.8	12.7	80.4	11	4	1	2	7	2	4	.....	.....	8545	13430	7	4.98	126.4
Supporo	N. 43 04	E. 141 23	9.33 p.m.	61	19	.....	.....	.....	.....	49.5	9.7	84	4	4	.....	.....	5	8	3	1	6	7880	12681	6	5.43	137.8
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.79	756.7	29.86	758.4	60.3	15.8	80.5	6	1	1	.....	12	5	6	.....	.....	4688	7544	6	7.40	187.9
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.82	757.4	29.87	758.8	62.7	17.1	75.6	5	5	1	.....	6	.....	7	1	6	3362	5410	6	3.24	82.3
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.85	758.2	30.04	763.0	77.5	25.3	65.3	.....	1	2	1	.....	3	20	4	.....	.....	.....	4	0.87	22.1
MEXICAN.																										
Guanajunto *a*	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.67	601.2	29.96	759.5	60.6	15.9	76	.....	.....	.....	2	.....	3	1	1	23	.....	.....	4	5.68	144.2
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.31	617.3	29.77	756.1	60.3	15.7	82	10	13	.....	5	.....	1	.....	2	.....	.....	.....	5	3.12	79.3
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.67	753.5	29.93	760.1	70.8	21.5	91	3	2	.....	1	.....	7	3	14	1	.....	.....	4	0	0
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.10	586.8	30.11	764.9	55.4	13.0	76	.....	3	1	1	.....	.....	.....	1	25	.....	.....	6	3.99	101.4
Morelia	N. 19 42	W. 101 00	5.22 a.m.	6247	1940	24.14	613.2	30.18	766.5	62.1	16.7	71	1	.....	1	.....	1	23	3	2	.....	.....	.....	3	1.55	39.3
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.94	608.2	29.90	759.4	60.8	16.0	72	3	2	5	3	1	1	.....	2	14	.....	.....	4	1.31	33.3
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.41	594.1	29.81?	764.5?	55.3	12.9	83	2	2	.....	.....	.....	.....	.....	2	25	.....	.....	3	8.33	211.6
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	24.18	614.1	30.04	763.1	62.1	16.7	65	2	.....	2	6	2	6	12	1	.....	.....	.....	5	3.95	100.4
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.46	571.0	30.09	764.4	55.9	13.3	71	1	4	3	8	1	1	.....	1	12	.....	.....	4	4.45	113.1
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	30.08	763.9	30.08	763.9	60.8	16.0	.....	9	1	6	5	2	2	5	1	.....	.....	.....	.....	0.89	22.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	30.02	762.4	30.07	763.8	59.7	15.4	.....	7	5	.....	0	5	2	2	4	.....	.....	.....	.....	0.88	22.3
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	30.07	763.8	30.07	763.8	55.8	13.2	.....	3	6	1	1	8	1	4	7	.....	.....	.....	.....	1.44	36.5
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	30.06	763.4	30.06	763.4	61.7	16.5	62.0	4	2	2	6	4	2	7	4	.....	.....	.....	.....	0.03	10.1
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	30.02	762.6	30.07	763.8	62.8	17.1	54.3	7	3	2	4	6	5	3	1	.....	.....	.....	5	2.09	52.3
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.94	760.5	30.00	762.1	43.7	6.5	61	1	10	5	3	9	2	1	.....	.....	.....	.....	6	3.32	84.4
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.92	760.0	29.96	761.0	48.7	9.3	69.7	11	1	2	11	.....	.....	.....	1	5	.....	.....	7	2.51	63.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.84	757.9	29.98	761.6	57.2	14.0	56	4	1	1	4	11	2	2	6	.....	.....	.....	7	2.18	55.4
Gjesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.91	759.7	29.93	760.3	40.3	4.6	.....	3	3	8	3	2	1	2	1	8	.....	.....	8	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.91	759.6	29.95	760.8	44.2	6.8	70.0	2	2	2	12	3	1	.....	6	3	.....	.....	7	4.57	116.1
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	60.8	16.0	70.7	4	11	6	3	1	4	.....	2	.....	.....	.....	4	1.82	46.1
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	28.98	736.0	29.96	761.0	67.1	19.5	49.6	1	.....	4	8	11	2	2	3	.....	.....	.....	7	5.87	149.1
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.01	762.2	30.10	764.4	66.6	19.2	62.4	.....	.....	5	18	2	1	3	.....	2	.....	.....	6	1.22	31.1
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.65	753.1	30.01	762.2	63.7	17.6	63.5	3	4	3	5	11	1	3	.....	1	.....	.....	7	2.97	75.4
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.07	763.7	30.14	765.5	63.9	17.7	61.6	8	3	12	1	3	2	.....	1	1	.....	.....	4	2.07	52.6
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.73	755.2	29.93	760.3	78.4	25.8	89.2	1	8	11	11	.....	.....	.....	.....	.....	.....	.....	5	0.06	1.4
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.23	640.8	29.95	760.8	48.0	8.9	74.4	.....	4	3	2	6	14	2	.....	.....	.....	.....	8	14.70	373.4
RUSSIAN.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.73	729.8	29.78	756.4	63.9	17.7	47.4	2	5	3	6	2	2	4	6	1	.....	.....	5	0.89	22.7
Archangel	N. 64 33	E. 40 32	2.50 p.m.	10	5	29.94	760.0	29.96	761.1	44.6	7.0	68.4	1	11	4	1	3	2	2	4	3	.....	.....	8	1.64	41.6
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖ 08	‖ 21	29.96	761.0	29.88	758.9	72.1	22.3	48.5	4	1	2	4	7	6	4	1	2	.....	.....	6	0.90	22.8
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.37	745.9	29.86	758.4	58.8	14.9	49.0	2	7	5	4	.....	1	.....	4	8	.....	.....	6	1.41	35.9
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.76	756.0	30.00	762.1	59.7	15.4	52.1	3	4	4	5	4	2	2	7	.....	.....	.....	6	1.82	46.3
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.92	734.6	29.87	758.7	57.7	14.3	51.9	5	6	5	5	2	1	1	1	5	.....	.....	7	2.24	56.8
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.67	753.5	29.93	760.1	64.0	17.8	47.7	6	3	5	6	2	1	4	2	2	.....	.....	6	1.17	29.7
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.86	758.8	29.88	759.0	63.7	17.6	74.0	4	4	.....	1	8	8	3	3	.....	.....	.....	5	1.16	29.6
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.28	743.6	29.89	759.2	66.9	19.4	45.6	6	1	4	3	2	3	7	5	.....	.....	.....	6	1.68	42.8
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.67	753.5	29.87	758.6	71.8	22.1	44.5	3	2	3	7	4	4	4	4	.....	.....	.....	7	3.23	82.0
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.43	747.6	29.89	759.2	64.6	18.1	43.1	4	5	.....	8	7	2	.....	1	4	.....	.....	4	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.88	758.9	29.95	760.7	73.2	22.9	44.5	4	1	.....	6	8	1	1	5	5	.....	.....	3	0.14	3.6
Nikolaievsk	N. 53 08	E. 140 45	9.31 p.m.	75?	23?	29.78	756.4	29.87	758.6	40.5	4.7	84.7	2	1	.....	.....	.....	5	6	3	14	.....	.....	8	3.38	85.9
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.64	752.9	29.78	756.5	71.2	21.8	40.7	.....	6	.....	7	1	6	.....	2	9	.....	.....	3	1.33	33.7
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.97	761.2	29.98	761.6	56.1	13.4	51.6	1	10	6	2	2	1	2	7	.....	.....	.....	5	1.07	27.2
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.24	742.7	29.88	758.8	66.6	19.2	40.8	1	5	4	2	1	1	1	7	9	.....	.....	6	0.49	12.4
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.35	720.1	29.85	758.2	77.0	25.0	49.3	5	3	1	.....	.....	1	.....	1	20	.....	.....	4	1.21	30.8
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.49	723.7	29.88	758.8	68.2	20.1	57.1	2	10	1	.....	5	4	2	1	6	.....	.....	7	4.62	117.3
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.75	755.7	29.82	757.4	47.7	8.7	84.5	1	3	.....	2	1	12	4	1	7	.....	.....	6	3.17	80.5
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.57	751.0	29.98	761.5	61.9	16.6	54.7	6	4	2	6	3	4	.....	5	1	.....	.....	9	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.57	751.0	29.98	761.4	62.6	17.0	54.7	5	7	2	1	7	4	2	3	.....	.....	.....	6	1.67	42.4
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.89	759.2	29.99	761.8	68.9	20.5	62	.....	.....	2	6	6	8	8	1	.....	1529	2461	3	0.55	13.9
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.95	760.6	30.00	762.1	69.4	20.8	55	.....	12	3	1	3	5	5	2	.....	1552	2498	7	1.38	35.0
Burgos	N. 42 20	W. 3 40	11.53 a.m.	2821	860	27.06	687.2	29.98	761.6	60.4	15.8	63	5	.....	1	10	5	.....	.....	10	.....	5380	8658	6	4.78	121.5
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.77	705.3	29.93	760.2	70.2	21.2	49.9	1	.....	5	10	2	5	4	3	1	803	1292	3	3.30	83.9
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.83	757.6	30.00	761.9	67.1	19.5	60.4	.....	1	.....	3	4	7	12	4	.....	1921	3091	6	0.99	25.1
Santiago	N. 42 53	W. 8 28	11.34 a.m.	803	263	29.01	730.9	29.89	759.3	63.1	17.3	66	1	.....	2	10	3	1	1	6	7	828	1332	7	7.04	194.1
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.95	760.7	30.01	762.4	77.2	25.2	80.2	2	.....	.....	2	4	13	7	3	.....	.....	.....	4	7.62	193.5
Manilla	N. 14 35	E. 121 00	8.12 p.m.	56	17	29.82	757.5	29.88	759.0	83.9	28.8	75.8	7	2	2	3	8	6	1	2	.....	.....	.....	4	5.92	150.4
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.94	760.5	30.04	763.1	66.8	19.3	67	.....	2	15	4	2	6	2	.....	.....	.....	.....	5	2.74	69.6
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.98	761.4	30.07	763.7	79.5	26.4	87.1*n*	.....	.....	.....	1	2	7	2	.....	19	.....	.....	3	3.61	91.8
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.77	756.1	29.90	759.4	80.4	26.9	79.9	1	21	2	.....	1	3	2	.....	1	.....	.....	6	0.93	23.7

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for May, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
SWEDISH.	° ′	° ′																								
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.96	760.9	30.00	761.9	47.1	8.4	64	8	1	1	3	14	.....	1	2	1	.....	.....	7	0.56	14.1
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.95	760.6	30.00	761.9	51.1	10.6	64	4	3	.....	8	6	1	6	3	.....	.....	.....	7	1.70	43.3
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.93	760.1	29.98	761.4	52.9	11.6	62	7	1	1	4	9	2	3	4	.....	.....	.....	6	2.31	58.7
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.83	757.7	30.01	762.2	55.9	13.3	52	6	.....	4	7	7	2	1	4	.....	.....	.....	6	2.15	54.5
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.95	760.6	30.00	762.1	53.6	12.0	66	8	4	6	4	1	3	3	2	.....	.....	.....	4	0.85	21.6
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.89	759.2	29.98	761.4	56.1	13.4	56.8	5	3	3	7	7	3	.....	3	.....	.....	.....	7	2.81	71.3
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.61	726.8	30.02	762.4	61.9	16.6	58.3	15	3	1	1	4	2	.....	5	.....	.....	.....	4	3.54	90.0
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.97	761.3	63.3	17.4	55	10	.....	1	5	3	3	2	7	.....	.....	.....	4	1.49	37.8
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.08	763.9	72.3	22.4	.....	.....	10	7	13	1	.....	.....	.....	.....	.....	.....	3	.....	.....
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.92	759.9	73.2	22.9	69.3	4	3	10	13	.....	.....	.....	1	.....	.....	.....	3	2.57	65.3
UNITED STATES.																										
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.97	761.2	30.05	763.3	52.5	11.4	62.0	9	1	5	4	6	1	.....	2	3	4120	6630	7	4.15	105.4
Alpena *a*	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.40	746.7	30.06	763.5	43.2	6.2	66.7	2	7	4	.....	.....	5	8	3	1	7582	12202	5	4.49	114.0
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.89	733.8	30.06	763.5	60.5	15.8	75.0	3	6	3	5	3	4	5	2	.....	5755	9262	5	3.02	76.7
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.01	762.2	30.02	762.5	52.1	11.2	82.2	6	2	2	7	2	2	3	7	.....	9307	14978	7	5.27	133.9
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.89	759.2	30.08	764.0	63.4	17.4	80.8	.....	4	4	2	5	2	2	4	8	2975	4787	5	3.70	94.0
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.02	762.5	30.06	763.5	55.8	13.2	73.4	7	1	2	.....	7	2	5	3	4	4210	6775	7	3.42	86.9
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.01	762.2	30.03	762.7	52.1	11.2	80.2	4	3	3	5	4	4	7	1	.....	9878	15897	6	7.22	183.4
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1694	516	28.16	715.3	29.94	760.5	44.3	6.8	79.1	4	5	1	.....	3	4	6	5	3	8707	14012	4	3.46	87.9
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.14	689.3	29.98	761.5	46.8	8.2	70.2	5	9	12	1	.....	.....	.....	2	.....	4985	8022	4	0.34	8.6
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.88	758.9	30.04	763.0	47.5	8.6	70.6	2	3	9	5	.....	1	2	8	1	8955	14411	6	6.05	153.7
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	29.84	757.9	29.88	758.9	75.4	24.1	91.0	3	1	.....	.....	3	10	8	.....	6	5435	8747	7	7.07	179.6
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.28	743.7	30.02	762.5	46.6	8.1	70.0	5	1	4	3	4	3	2	9	.....	6723	10819	6	6.89	175.0
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.73	755.1	30.02	762.5	47.7	8.7	65.3	7	1	1	1	8	2	1	.....	10	4310	6946	7	2.00	50.8
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.63	752.6	30.03	762.7	59.5	15.3	79.1	5	4	1	4	5	4	2	3	3	6015	9680	6	10.22	259.6
Campc *d*	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.36	694.9	29.89	759.2	39.2	4.0	76.6	.....	4	3	7	8	1	2	2	.....	3692*e*	5942*e*	3	0.18	4.6
Camp Thomas	N. 33 04	W. 110 06	4.49 a.m.	2710	826	27.13	689.1	29.80	756.9	52.6	11.4	56.4	6	.....	.....	.....	5	7	.....	.....	13	.....	.....	2	0.47	11.9
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.03	762.7	30.05	763.3	58.7	14.8	78.3	.....	6	4	8	3	1	1	8	.....	10298	16583	5	5.18	131.6
Cape May *d*	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.98	761.5	30.01	762.2	52.9	11.6	82.2	2	3	1	5	1	1	4	7	3	9771	15725	6	4.40	111.8
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.03	762.7	30.05	763.3	71.7	22.1	74.9	2	2	3	1	4	6	7	5	1	7166	11436	5	1.71	43.4
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.15	740.4	29.95	760.7	51.2	10.7	79.2	7	1	.....	3	9	2	3	6	.....	9610	15406	6	8.55	217.2
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.00	762.0	30.05	763.3	68.0	20.0	82.4	1	4	5	9	1	.....	1	8	2	6454	10386	5	1.82	46.2
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.18	741.2	30.02	762.5	60.8	16.0	75.9	3	4	3	10	3	1	1	6	.....	4224	6798	5	3.22	81.8
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.23	742.4	30.04	763.0	59.1	15.1	78.5	4	6	3	5	5	3	2	.....	3	4458	7174	5	4.46	113.3
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	23.99	609.3	29.86	758.4	38.6	3.7	73.5	5	8	3	4	6	3	.....	2	.....	8457	13610	6	2.73	69.3
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.28	743.7	29.98	761.5	49.5	9.7	76.1	5	2	2	4	5	3	2	8	.....	7232	11638	6	5.52	140.2
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.01	762.2	30.03	762.7	55.2	12.9	85.2	5	3	2	2	7	1	4	7	.....	7880	12681	6	4.16	105.7
Cincinnati	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.36	745.7	30.01	762.2	55.7	13.2	77.0	8	1	1	1	4	8	5	3	.....	4113	6619	6	8.47	215.1
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.28	743.7	30.01	762.2	48.6	9.2	75.0	2	2	1	2	3	8	2	10	1	6029	9703	6	5.27	133.9
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.15	715.0	29.94	760.5	60.3	15.7	81.5	3	3	1	2	8	8	2	4	.....	8230	13245	6	3.91	99.3
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.14	740.1	29.98	761.5	51.9	11.1	76.6	8	3	1	5	3	6	1	3	1	4990	8030	6	9.59	243.6
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.01	711.4	29.91	759.7	61.8	16.6	72.1	2	3	1	4	5	5	3	5	3	9364	15070	6	2.20	57.4
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.33	745.0	29.97	761.2	51.2	10.7	73.8	2	4	.....	3	6	4	3	8	1	7680	12360	6	5.49	139.4
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.27	718.0	30.02	762.5	43.3	6.3	80.5	.....	.....	1	14	.....	1	4	6	5	3833	6168	4	1.93	49.0
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.33	643.4	29.84	757.9	41.8	5.4	80.8	3	2	.....	17	3	.....	2	3	1	4463	7182	6	7.05	179.1
Decatur *g*	N. 33 10	W. 97 30	5.38 a.m.	1129	344	.....	.....	.....	.....	59.6	15.3	62.1	4	4	.....	1	2	7	.....	6	.....	6285	10114	5	4.61	117.1
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.01	762.2	30.03	762.7	53.2	11.8	84.7	4	2	1	7	3	.....	3	11	.....	12967	20868	6	2.36	59.9
Denison *a*	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.14	740.1	29.94	760.5	60.9	16.1	79.6	3	5	1	2	9	3	1	.....	6	5050	8127	5	4.64	117.9
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.69	627.1	29.85	758.2	45.4	7.4	70.2	5	5	4	2	12	1	1	1	.....	5708	9186	5	2.98	75.7
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.08	738.6	29.97	761.2	48.8	9.3	80.0	5	1	1	3	6	.....	3	8	4	6268	10087	7	8.53	216.7
Detroit	N. 42 21	W. 83 07	6.36 a.m.	661	201	29.31	744.5	30.01	762.2	49.3	9.6	74.9	6	4	3	2	5	1	2	8	.....	7931	12764	6	4.82	122.4
Dodge City *b*	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.35	694.7	29.90	759.4	49.1	9.5	83.4	8	4	1	2	6	5	.....	3	.....	11276	18137	6	3.87	98.3
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.27	743.4	29.97	761.2	49.7	9.8	72.4	3	4	3	.....	9	3	2	6	1	5190	8352	6	4.16	105.7
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.34	745.2	30.04	763.0	42.3	5.7	69.5	3	3	1	5	.....	1	.....	15	3	6233	10031	5	7.14	181.4
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.14	740.1	29.94	760.5	68.8	20.4	79.4	.....	.....	.....	.....	.....	2	19	5	1	5442	8758	6	4.98	126.5
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4050	1415	25.24	641.1	29.92	760.0	38.7	3.7	67.3	10	1	3	6	10	.....	.....	.....	1	8088	13016	3	0.30	7.6
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.94	760.5	30.01	762.2	43.3	6.3	70.6	5	3	5	2	6	.....	2	7	1	7533	12123	5	3.30	83.8
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.20	665.5	29.84	757.9	55.3	12.9	52.7	1	18	1	.....	.....	1	4	4	2	5811	9352	1	0.10	2.5
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.30	744.2	30.02	762.5	49.3	9.6	73.9	1	1	2	2	8	1	3	10	3	5566	8958	4	5.63	143.0
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.38	746.2	30.04	763.0	43.8	6.6	72.3	9	3	2	1	4	1	1	5	5	7307	11759	5	4.94	125.5
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	24.98	634.5	29.80	756.9	39.3	4.1	60.9	.....	.....	1	1	.....	.....	13	16	.....	5735	9229	2	0.94	23.9
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.13	689.1	29.97	761.2	42.7	5.9	75.3	1	1	4	12	2	1	3	5	2	7224	11626	5	1.35	34.3
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.38	720.8	29.94	760.5	46.5	8.1	81.3	1	7	4	1	.....	12	.....	4	2	8194	13187	6	1.35	34.3
Fort Benton	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.16	689.9	29.95	760.7	43.1	6.2	76.4	.....	3	8	4	1	1	1	4	9	6906	11114	5	0.35	8.9
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.99	710.9	29.97	761.2	43.3	6.3	74.3	3	1	3	.....	3	.....	7	11	3	8458	13612	5	1.61	40.9
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.79	680.5	29.89	759.2	43.9	6.6	83.7	2	6	3	4	3	7	3	2	1	6396	10293	6	4.45	113.0
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.16	639.1	29.88	758.9	55.6	13.1	60.9	5	2	.....	7	8	.....	1	.....	8	4000	7403	3	0.04	1.0
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.16	689.9	29.86	758.4	50.2	10.1	65.6	6	7	.....	1	1	11	2	2	1	9411	15145	4	7.48	190.0
Fort Gibson	N. 35 43	W. 95 16	5.48 a.m.	540	165	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4800	1481	25.16	639.1	29.77	756.1	55.0	12.8	27.4	.....	1	1	6	.....	8	8	4	3	5302	8533	3	0.81	20.6
Fort Keogh *a*	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.44	697.0	29.89	759.2	44.7	7.1	74.0	1	4	3	6	.....	9	2	5	.....	9211	14823	6	2.57	65.3
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.04	763.0	30.05	763.3	64.0	17.8	85.0	4	1	4	7	4	.....	5	6	.....	9793	15760	4	2.11	53.6
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.72	704.1	29.96	761.0	63.4	17.4	74.6	3	1	1	5	8	9	1	2	1	7748	12469	4	3.96	100.6
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.71	678.4	30.01	762.2	40.9	4.9	84.2	.....	5	4	10	2	3	1	6	.....	3101	4990	5	0.96	24.4
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.95	760.7	29.98	761.5	31.0	—0.6	93.8	11	1	.....	7	3	3	1	4	1	5152	8291	3	0.18	4.6
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.34	669.0	29.94	760.5	39.0	3.9	79.2	1	2	25	1	1	.....	1	.....	.....	6024	9694	5	1.45	36.8
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.72	729.5	29.94	760.5	57.9	14.4	81.7	6	4	.....	.....	8	3	3	1	6	9482	15260	5	4.40	111.8
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.12	714.2	29.95	760.7	42.9	6.1	85.9	1	4	1	2	1	3	8	7	4	7507	12084	5	2.49	63.2
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	51.2	10.7	47.8	2	10	7	8	2	2	.....	.....	.....	.....	.....	2	0.19	4.8
Fort Washakie	N. 42 59	W. 108 43	4.50 a.m.	5580	1702	24.42	620.3	.....	.....	37.9	3.3	81.7	1	5	8	4	1	3	2	.....	7	4494	7231	6	5.77	146.6
Fredericksburg *d*	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.22	716.8	29.94	760.5	63.4	17.4	88.4	2	2	2	6	2	3	4	1	5	4748	7641	6	5.57	141.5
Galveston	N. 29 18	W. 94 50	5.49 a.m.	48	15	29.91	759.7	29.96	761.0	72.2	22.3	79.1	2	1	.....	2	6	13	1	6	.....	10216	16441	5	3.75	95.2
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.34	745.2	30.00	762.0	49.1	9.5	66.2	2	2	2	6	2	1	6	10	.....	8478	13644	5	4.04	102.6
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.03	762.7	30.05	763.3	62.4	16.9	83.2	3	2	.....	10	3	.....	3	9	1	11972	19267	4	1.02	25.9
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.77	654.5	29.94	760.5	42.7	5.9	66.3	.....	2	9	9	1	3	.....	.....	7	4901	7887	6	0.54	13.7
Henrietta *a*	N. 33 42	W. 98 00	5.36 a.m.	980	300	28.98	736.1	29.96	761.0	61.0	16.1	77.4	6	2	2	.....	6	9	.....	3	2	8217	13224	4	2.73	9.3
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.58	725.9	29.93	760.2	45.5	7.5	81.0	5	6	2	.....	5	7	3	3	.....	8966	14429	6	4.50	114.3
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.19	741.4	29.98	761.5	53.7	12.1	71.7	4	3	.....	3	6	5	4	5	1	4148	6514	6	7.65	194.3
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.92	760.0	29.94	760.5	72.3	22.4	84.5	5	.....	1	1	5	11	2	6	.....	11495	18419	5	6.58	167.1
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.79	731.3	29.94	760.5	61.0	16.1	83.1	5	2	1	3	7	4	8	1	.....	7226	11629	5	2.72	69.1
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.01	762.2	30.05	763.3	72.4	22.4	76.5	1	.....	3	6	5	2	8	4	2	5120	8240	4	2.20	55.9
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.30	744.2	29.95	760.7	52.4	11.3	80.1	3	4	1	2	2	6	5	3	5	6044	9727	6	7.11	180.6
Key West	N. 24 32	W. 81 48	6.41 a.m.	20	6	29.99	761.7	30.01	762.2	78.9	26.1	72.8	3	1	.....	1	5	5	7	4	5	6667	10033	5	7.46	189.5
KittyHawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.05	763.3	30.07	763.8	59.0	15.0	84.7	4	1	4	9	1	1	2	9	.....	11354	18272	4	2.22	56.4
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.02	737.1	30.04	763.0	57.5	14.2	82.9	3	.....	4	8	.....	2	2	8	4	4299	9618	5	6.77	172.0
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.21	741.9	29.97	761.2	50.2	10.1	57.2	6	1	4	2	8	3	1	5	1	7201	11589	5	2.49	63.2
La Mesilla	N. 32 17	W. 106 48	5.48 a.m.	3900	1189	26.03	661.2	29.79	756.7	49.3	9.6	53.9	.....	.....	1	.....	.....	3	.....	.....	27	2562	4123	3	0.10	2.5
Leavenworth	N. 39 19	W. 94 57	5.10 a.m.	842	256	29.08	738.6	29.96	761.0	53.0	11.7	77.1	3	7	.....	.....	7	3	4	.....	7	5378	8655	7	2.53	64.3
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.18	741.2	30.02	762.5	48.0	8.9	72.4	.....	.....	.....	1	2	1	4	9	3	11	2479	3990	5	0.65	16.5
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.66	753.4	29.97	761.2	60.9	16.1	87.0	3	5	4	1	2	2	6	4	4	4391	7006	6	15.91	404.1
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.60	751.8	30.00	762.0	52.6	11.4	81.7	6	1	2	4	3	5	5	4	1	3877	6239	4	0.63	16.0
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.41	747.0	30.05	763.3	64.1	17.8	79.2	2	1	5	6	2	8	3	2	2	3875	6236	5	2.94	74.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for May, 1882.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.37	746.0	30.05	763.3	58.2	14.6	69.6	2	4	.....	7	4	.....	2	4	8	2695	4337	6	3.15	80.0
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	28.99	736.3	29.99	761.7	46.6	8.1	80.2	3	3	3	1	5	4	5	7	.....	8340	13431	6	2.89	73.4
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.33	745.0	30.05	763.3	45.1	7.3	62.0	4	6	3	4	3	1	3	5	2	6139	9880	4	2.88	73.2
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.07	753.6	30.00	762.0	62.7	17.1	77.0	2	3	4	1	4	7	4	6	.....	4700	7574	6	9.14	232.2
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.25	742.9	29.99	761.7	46.2	7.9	74.6	7	.....	3	7	3	1	3	7	.....	10211	16333	6	2.03	51.6
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.00	762.0	30.04	763.0	66.8	19.3	81.4	12	1	1	3	4	4	2	3	1	5487	8830	4	6.78	172.2
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.82	757.4	30.05	763.3	64.1	17.8	79.2	2	1	5	6	2	8	3	2	2	3875	6236	5	2.94	74.7
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.99	736.3	29.97	761.2	43.6	6.4	80.4	3	3	2	2	4	7	1	6	3	9202	14809	5	5.32	135.1
Morgantown	N. 39 30	W. 79 52	6.48 a.m.	903	293	29.01	736.8	30.02	762.5	54.8	12.7	75.9	2	.....	.....	2	1	1	2	1	22	3942	6344	5	4.51	114.6
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.67	601.2	29.85	758.2	24.7	—4.1	87.0	2	19	2	.....	.....	3	3	2	.....	27241	43839	5	8.91	226.3
Nashville	N. 36 11	W. 86 53	6.21 a.m.	597	154	29.47	748.5	30.00	762.0	59.2	15.1	80.4	3	5	4	2	1	6	1	2	7	3362	5410	6	7.34	186.4
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.91	759.7	30.03	762.7	48.7	9.3	72.8	8	2	2	6	2	1	2	8	.....	6846	11018	7	5.05	128.3
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	29.99	761.7	30.04	763.0	50.8	10.4	74.7	7	3	3	2	3	2	2	8	1	6285	10114	6	4.13	104.9
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.95	760.7	30.00	762.0	70.7	21.5	77.0	2	4	1	2	6	5	6	5	.....	6250	10068	5	6.83	173.5
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.98	761.5	30.03	762.7	49.0	9.4	73.2	7	3	4	8	.....	.....	1	7	1	7050	11346	6	4.55	115.6
New River *f*	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	63.0	17.2	78.5	2	3	4	3	3	.....	.....	7	3	.....	.....	3	2.79	70.9
New Shoreham	N. 41 10	W. 71 37	7.22 a.m.	27	8	29.99	761.7	30.02	762.5	47.8	8.8	81.0	2	4	3	6	1	1	.....	11	3	12382	19926	6	5.51	140.0
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.87	758.7	30.05	763.3	50.5	10.3	78.4	4	3	5	6	1	1	1	9	1	7018	11294	6	4.21	106.9
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.02	762.5	30.05	763.3	60.7	15.9	78.5	3	5	2	9	1	.....	3	8	.....	5021	9046	6	5.87	149.1
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.04	686.8	29.91	759.7	48.0	8.9	82.0	6	6	1	.....	2	7	5	2	2	9393	15116	7	3.98	101.1
Olympia	N. 47 02	W. 122 50	3.56 a.m.	36	11	30.04	763.0	30.08	764.0	44.6	7.0	86.4	1	1	1	1	14	.....	.....	3	10	3039	4891	6	2.30	58.4
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.81	731.8	29.97	761.2	51.3	10.7	79.8	9	2	2	.....	1	7	3	2	3	8495	13671	7	4.91	124.7
Ogdhaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	30.07	763.8	30.09	764.3	19.0	—7.2	99.4	1	1	3	4	1	5	4	12	.....	10188	16396	8	0.44	11.2
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.70	754.4	30.02	762.5	47.7	8.7	69.2	2	.....	7	4	4	4	2	7	1	6728	10828	5	4.83	122.7
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.45	748.0	30.00	762.0	63.3	17.4	85.2	7	3	2	1	4	7	4	3	.....	6951	11186	5	7.56	192.0
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.01	762.2	30.04	763.0	68.8	20.4	80.1	8	4	.....	1	7	7	1	3	.....	7155	11515	4	3.51	89.2
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	92	28	29.95	760.7	30.05	763.3	53.4	11.9	75.2	3	7	1	6	2	2	2	8	.....	5719	9204	6	5.06	128.5
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.09	449.3	29.75	755.6	16.1	—8.8	84.6	2	6	5	14	.....	2	.....	2	.....	14716	23683	5	12.34	313.4
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	23.96	608.6	29.88	758.9	43.8	6.6	43.4	4	10	1	.....	8	3	.....	.....	5	6733	10836	3	0.29	7.4
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.20	741.7	30.00	762.0	51.1	10.6	77.0	7	5	.....	3	4	1	3	7	1	4034	6492	6	5.80	147.3
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.83	706.9	.....	.....	.....	.....	.....	1	7	.....	6	3	13	.....	1	.....	.....	.....	4	3.68	93.5
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.01	762.2	30.02	762.5	71.8	22.1	80.4	7	1	.....	3	3	9	4	3	1	8739	14004	3	6.37	161.8
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.34	745.2	30.02	762.5	45.8	7.7	76.5	6	1	3	5	2	1	3	9	1	7941	12780	6	4.99	126.7
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.96	761.0	30.02	762.5	48.1	8.9	65.1	4	3	5	4	5	2	2	6	.....	7080	11394	6	3.95	100.3
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.01	762.2	30.08	764.0	48.1	8.9	79.8	2	2	.....	1	7	3	1	.....	14	4094	6588	6	1.84	46.7
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	64.6	18.1	76.2	1	2	3	9	2	.....	1	12	1	12313	19815	6	0.58	14.7
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.70	627.4	29.80	756.9	43.4	6.3	44.8	....	.....	.....	.....	31	.....	.....	.....	.....	5992	9643	2	0.45	11.4
Provincetown	N. 40 03	W. 70 11	7.27 a.m.	26	8	29.99	761.7	30.02	762.5	46.5	8.1	83.0	5	3	2	7	4	1	2	7	.....	7947	12789	6	5.96	151.4
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.01	762.2	30.02	762.5	74.0	23.3	77.3	2	.....	2	4	.....	4	10	9	.....	7595	12078	5	2.51	63.8
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.59	751.6	29.96	761.0	56.4	13.6	59.0	12	7	2	.....	4	4	.....	.....	2	5527	8895	3	0.33	8.4
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.67	753.6	29.91	759.7	74.5	23.6	84.2	2	3	.....	.....	8	12	3	2	1	5410	8706	6	4.11	104.4
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.30	745.7	30.02	762.5	46.4	8.0	70.6	2	3	6	6	1	2	7	2	2	8043	13587	6	5.57	141.5
Roseburg *a*	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.52	749.8	30.06	763.5	44.7	7.1	82.8	.....	3	.....	1	4	1	5	3	13	2540	4088	5	0.85	21.6
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	70	21	29.87	758.7	29.95	760.7	54.8	12.7	73.8	4	2	.....	.....	4	18	.....	.....	3	5593	9001	2	0.35	8.9
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.40	746.7	29.99	761.7	53.5	11.9	92.3	8	3	2	1	9	5	.....	3	.....	7924	12752	7	4.55	115.6
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.12	739.6	29.96	761.0	47.7	8.7	68.2	7	2	3	2	1	5	7	2	2	8221	13230	6	2.44	62.0
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.13	739.9	29.99	761.7	41.7	5.4	78.9	3	5	2	.....	4	7	1	8	1	7975	12834	4	2.94	74.7
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.56	649.2	29.88	758.9	49.2	9.6	46.5	.....	6	.....	.....	.....	6	4	2	13	5509	8902	4	0.26	6.6
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.24	742.7	29.94	760.5	66.6	19.2	85.5	7	.....	.....	2	1	6	6	4	5	4033	7456	6	6.79	172.5
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.88	758.9	29.94	760.5	57.4	14.1	80.2	3	5	4	5	2	3	5	4	.....	4857	7816	4	0.18	4.6
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.32	744.7	29.99	761.7	50.4	10.2	76.0	8	1	2	4	4	2	6	4	.....	10031	17109	6	7.11	180.6
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.00	762.0	30.04	763.0	51.4	10.8	79.7	2	4	4	6	2	.....	5	8	.....	10214	16438	5	7.21	183.1
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.93	760.2	30.00	762.0	52.4	11.3	81.2	.....	1	15	11	3	.....	.....	.....	1	8300	13357	4	0.21	5.3
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7106	2166	23.17	588.5	29.78	756.4	44.3	6.8	48.4	2	.....	.....	2	2	4	8	11	2	7373	11866	3	1.06	26.9
Savannah *a*	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.98	761.5	30.07	763.8	68.9	20.5	75.8	6	4	3	5	4	2	2	4	.....	5385	8666	4	1.60	40.6
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.74	755.4	29.98	761.5	63.6	17.6	84.5	5	3	1	1	5	7	3	1	5	4068	7512	5	4.59	116.6
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.21	614.9	29.76	755.9	44.1	6.7	48.0	2	10	7	4	3	.....	.....	.....	5	2847	4582	2	1.37	34.8
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.91	759.7	29.97	761.2	43.1	6.2	75.1	1	1	.....	3	1	6	3	12	4	5700	9270	6	2.89	73.4
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.02	762.5	30.06	763.5	65.2	18.4	81.5	5	4	5	4	2	1	5	5	.....	7915	12736	4	1.17	29.7
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.97	710.4	30.02	762.5	44.4	6.9	79.5	1	3	2	3	9	1	2	3	7	4646	7477	6	1.54	39.1
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.31	744.5	29.98	761.5	53.3	11.8	74.3	6	3	1	3	7	3	2	5	1	6553	10546	6	10.59	269.0
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.91	759.7	30.04	763.0	49.9	9.9	69.7	7	2	3	.....	10	1	.....	8	.....	4649	7482	6	6.11	155.2
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.54	724.9	30.02	762.5	54.9	12.7	82.4	4	4	2	1	9	6	3	2	.....	7708	12405	7	8.07	205.0
Starkville *c*	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.54	750.3	.....	.....	64.7	18.2	82.7	7	2	2	3	3	9	.....	2	.....	6673	9773	5	3.95	100.3
Stockton	N. 39 50	W. 102 50	5.16 a.m.	3010	917	26.91	683.5	29.92	760.0	57.7	14.3	76.4	.....	2	2	4	11	4	3	1	4	9128	14685	3	0.99	25.1
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.96	761.0	30.01	762.2	45.5	7.5	81.6	3	3	9	2	2	.....	4	8	.....	10870	17493	5	8.72	221.5
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.31	744.5	29.99	761.7	49.7	9.8	72.3	7	1	6	4	.....	.....	9	3	1	7688	12372	6	4.99	126.7
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2309	722	27.47	697.7	29.81	757.2	57.6	14.2	40.0	...	.....	.....	.....	12	14	3	.....	2	3133	5042	2	0.01	0.3
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.70	754.4	30.07	763.8	47.5	8.6	67.4	.....	4	5	6	3	6	3	2	2	6837	11003	5	0.26	6.6
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	28.96	735.6	29.91	759.7	66.4	19.1	82.1	2	.....	.....	1	2	10	3	2	5	4250	6840	6	4.73	120.1
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.76	755.9	30.01	762.2	65.2	18.4	77.3	2	3	2	2	3	7	6	.....	6	3132	5040	5	8.30	210.8
Visalia *j*	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.55	750.6	29.92	760.0	55.4	13.0	71.5	.....	13	3	.....	1	.....	1	1	2	2940	4741	2	0.37	9.4
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.94	760.5	30.06	763.5	55.0	12.8	78.3	5	4	.....	2	7	1	1	5	6	3690	5938	6	5.00	127.0
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.99	660.1	29.85	758.2	48.7	9.3	74.2	3	6	5	1	.....	3	6	2	5	9983	16066	6	5.06	128.5
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.44	747.8	30.04	763.0	49.4	9.7	73.2	2	3	5	1	.....	3	3	3	11	3489	5615	6	6.66	169.2
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.01	762.2	30.06	763.5	64.4	18.0	79.0	1	3	7	3	3	.....	4	5	5	5499	8850	5	1.40	35.6
Winnemucca	N. 41 00	W. 117 43	4.17 a.m.	4327	1319	25.60	650.2	29.95	760.7	40.7	4.8	59.9	1	2	.....	14	2	1	.....	10	1	7281	11717	3	0.63	16.0
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.67	728.2	29.95	760.7	48.0	9.2	75.7	5	5	2	3	3	5	1	3	4	8294	13348	5	5.25	133.4
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.65	753.1	29.80	756.9	63.3	17.4	58.3	2	5	4	3	1	3	1	2	10	4370	7042	1	0	0
Sub-Series.																											
Bogota	N. 4 36	W. 74 14	7.41 a.m.	8655	2638	22.05	560.1	.....	.....	53.7	12.1	83	2	1	5	4	1	2	4	5	7	.....	.....	8	3.92	99.6
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.03	762.7	30.04	763.0	82.0	27.8	88.7	....	.....	.....	.....	.....	1	25	5	.....	.....	.....	9	3.73	94.7
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	18	5	29.98	761.5	30.01	762.2	76.7	24.8	91.0	....	.....	.....	.....	1	8	1	.....	1	20	.....	9	20.10	662.9
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.99	761.7	30.04	763.0	79.4	26.3	78.3	1	.....	.....	.....	.....	1	11	4	.....	14	2090	3364	3	7.56	192.0
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.01	762.2	30.02	762.5	79.6	26.4	71.0	6	.....	.....	.....	.....	2	9	.....	14	4202	6761	3	2.17	55.1
Maguana	N. 19 17?	W. 71 08?	7.24 a.m.	1000?	305?	.....	.....	.....	.....	73.0	22.8	.....	6	.....	.....	.....	.....	.....	1	2	23	.....	.....	8	3.39	86.1
Navassa	N. 18 25	W. 75 03	7.43 a.m.	77	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.04	763.0	30.04	763.0	78.0	25.6	88.0	....	.....	.....	.....	.....	5	26	.....	.....	.....	.....	8	11.36	288.5
Puerto Berrio	N. 6 32	W. 74 28	7.10 a.m.	542	165	29.50	749.3	29.96	761.0	79.5	26.4	82.0	5	.....	.....	.....	5	.....	2	1	18	.....	.....	8	11.39	289.3
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	.....	.....	93.9	2	4	1	1	.....	7	4	12	.....	.....	.....	5	4.26	108.2
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	29.96	761.0	29.99	761.7	78.6	25.9	80.4	10	1	.....	.....	.....	.....	.....	.....	20	.....	.....	6	4.53	115.1
York Factory	N. 57 02	W. 92 26	5.58 a.m.	51	15	30.06	763.5	30.11	764.8	29.9	— 1.2	94.1	5	4	.....	1	8	5	1	7	.....	.....	.....	5	0.54	13.7

Ocean Square Data for May, 1882.

Location of Centre of each Square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 7.5°	W. 22.5°	3	3															
7.5	27.5	10	15															
7.5	32.5	3	3															
7.5	37.5	2	2															
7.5	47.5	6	6															
12.5	22.5	1	1	30.08	764.0	79.9	26.6				1				30			2.0
12.5	27.5	10	15	30.08	764.0	78.1	25.6							1	22		8	2.1
12.5	32.5	1	1															
12.5	37.5	3	3															
12.5	42.5	2	2															
12.5	47.5	1	1															
12.5	52.5	6	6															
12.5	57.5	15	16															
17.5	22.5	4	4	30.10	764.5	74.0	23.3								27		4	2.3
17.5	27.5	6	8	30.13	765.3	76.3	24.0							1	25		5	2.5
17.5	32.5	7	7	30.15	765.8	75.8	24.3						1	3	12		15	2.6
17.5	37.5	3	3															
17.5	42.5	3	3															
17.5	57.5	8	8	30.09	764.3	79.1	26.2						2	18	2		9	2.6
22.5	22.5	10	12	30.12	765.0	73.5	23.1	6	1						18		6	2.1
22.5	27.5	8	8	30.17	766.3	73.4	23.0	2	1				1	2	17		8	2.2
22.5	32.5	3	3	30.20	767.1	73.5	23.1						2	2	14		13	2.8
22.5	37.5	4	4															
22.5	42.5	2	2															
22.5	52.5	2	2															
22.5	57.5	6	6	30.16	766.1	76.6	24.8					1	15	1	2		12	2.2
22.5	62.5	8	12	30.12	765.0	77.4	25.2						11	11	4		5	2.3
22.5	67.5	6	10	30.09	764.3	77.7	25.4				3		9	11	4		4	1.2
22.5	72.5			30.08	764.0	78.0	25.6			1	2	2	8	8	6		4	1.4
27.5	22.5	7	7	30.14	765.5	69.9	21.1	4	5	1	1				11		9	2.1
27.5	27.5	5	5	30.17	766.3	70.7	21.5	4	5		2				9		11	1.9
27.5	32.5	1	1	30.21	767.3	71.0	21.7	3	4					1	8		15	2.7
27.5	37.5	7	7	30.26	768.6	71.6	22.0	2	2		2		2	3	7		13	2.1
27.5	42.5	4	4	30.26	768.6	71.6	22.0	1			3	3	3	4	4		13	2.1
27.5	47.5	6	6	30.24	768.1	72.8	22.7				5	2	10	2	1		11	1.7
27.5	52.5	2	2	30.22	767.6	72.6	22.6				4	4	10	1			12	1.8
27.5	57.5	2	2	30.18	766.6	73.1	22.8		1		3	6	8	1			12	2.3
27.5	62.5	8	8	30.12	765.0	72.7	22.6	1	3		6	3	7	1	3		7	1.9
27.5	67.5	9	19	30.10	764.5	73.3	22.9	1	5		7	1	5	1	8		3	1.9
27.5	72.5	18	21	30.10	764.5	77.1	25.1		2		4	2	7	5	9		2	2.1
27.5	77.5	17	22	30.07	763.8	75.3	24.1	1		2	3	2	11	6	6			1.7
32.5	12.5	2	2	30.08	764.0	67.8	19.9	4	1	2	15				8		1	1.5
32.5	17.5	9	10	30.16	766.1	66.9	19.4	2		4	14		2	1	7	1		1.2
32.5	22.5	3	3	30.12	765.0	67.1	19.5	3	6	2	4		1		6		9	2.5
32.5	27.5			30.16	766.1	67.5	19.7	4	7	1	4		1	1	4		9	2.3
32.5	32.5			30.18	766.6	67.9	19.9	2	11	1	3		2		4		8	2.3
32.5	37.5	4	5	30.20	767.1	68.5	20.3	5	8	1	4	2	3	1	2		5	2.2
32.5	42.5	10	12	30.23	767.8	68.9	20.5	3	2	2	7	2	3	1	4	1	6	2.1
32.5	47.5	7	8	30.21	767.3	68.6	20.3		2	2	11	5	2	1	3	1	4	2.2
32.5	52.5	4	4	30.17	766.3	69.0	20.6		2		7	8	5		3		6	2.3
32.5	57.5	5	5	30.13	765.3	69.8	21.0		4		6	7	6	1	2		5	2.4
32.5	62.5	8	9	30.07	763.8	70.5	21.4	2	4		7	11	4		3			2.5
32.5	67.5	8	9	30.06	763.5	69.8	21.0	6	6	2	8	2	1	1	5			2.1
32.5	72.5	17	31	30.07	763.8	68.7	20.4	3	1		10	4	4	1	8			2.3
32.5	77.5	20	2	30.06	763.5	69.9	21.1	3	3		10	5		2	8			2.5
37.5	12.5	11	11	30.02	762.5	63.7	17.6	4	8		14		2		3			2.3
37.5	17.5	6	9	30.05	763.3	63.5	17.5	2	8	6	7	1			7			2.1
37.5	22.5	6	6	30.09	764.3	63.1	17.3	3	12	4	5	2	1		4			2.6
37.5	27.5	2	2	30.12	765.0	62.4	16.9	3	14	3	3	2	2		4			2.4
37.5	32.5	2	2	30.12	765.0	62.3	16.8	5	8	4	7	2	2		2		1	2.8
37.5	37.5	5	5	30.13	765.3	62.4	16.9	3	11	4	6	4	1		1		1	3.0
37.5	42.5	5	6	30.18	766.6	61.8	16.6	6	7	2	9	4			2		1	3.1
37.5	47.5	11	13	30.13	765.3	61.2	16.2	2	6	1	15	4	1		1		1	2.7
37.5	52.5	13	18	30.11	764.8	61.3	16.2	1	8		13	4	2		3			2.8
37.5	57.5	17	24	30.08	764.0	61.9	16.6	5	3	1	9	8	2	1	2			3.0
37.5	62.5	19	30	30.06	763.5	61.1	16.2	4	7		6	4	5	1	3	1		2.7
37.5	67.5	24	39	30.04	763.0	59.1	15.3	6	7	1	5	5	2	2	2		1	3.3
37.5	72.5	29	107	30.04	763.0	56.0	13.3	5	7	1	7	2	2		7			2.5
42.5	12.5	7	8	29.95	760.7	61.1	16.2	2	6	1	8	1	2		10	1		2.5
42.5	17.5	8	10	30.00	762.0	60.0	15.6	1	6	6	6	3	1		8			2.7
42.5	22.5	7	10	30.02	762.5	59.1	15.1	5	8	3	9	1	1		3		1	2.9
42.5	27.5	13	16	30.03	762.7	58.5	14.7	4	13	1	9	1	1	1	1			3.4
42.5	32.5	17	25	30.03	762.7	58.0	14.4	4	13	1	10	3						3.3
42.5	37.5	20	32	30.06	763.5	57.9	14.4	2	14	3	5	5	1		1			3.8
42.5	42.5	27	90	30.08	764.0	55.7	13.2	3	8	2	12	5			1			3.4
42.5	47.5	29	100	30.07	763.8	53.7	12.1	5	7	4	9	3			3			3.1
42.5	52.5	30	78	30.06	763.5	52.5	11.4	1	9		12	5	2		2			3.2
42.5	57.5	30	109	30.04	763.0	52.4	11.3	3	4	3	8	9		2	2			3.1
42.5	62.5	31	117	30.02	762.5	51.3	10.7	2	7	1	5	6	1	2	7			3.0
42.5	67.5	31	86	30.01	762.2	49.0	9.4	3	8		8	3	2		7			2.9
47.5	12.5	23	62	29.95	760.7	56.8	13.8	1	3	2	7	2	8	6	2			3.4
47.5	17.5	28	69	29.94	760.5	55.8	13.2	5	3	4	6	3	7	1	2			3.5
47.5	22.5	30	70	29.90	759.4	54.3	12.4	2	5	3	7	6	5		3			3.7
47.5	27.5	28	70	29.88	758.9	53.0	11.7	6	10	1	6	5	3					3.9
47.5	32.5	29	89	29.92	760.0	52.5	11.4	7	9		9	3	1	1	1			4.0
47.5	37.5	28	72	29.96	761.0	51.2	10.7	7	12	3	4	3	2					4.1
47.5	42.5	12	20	30.01	762.2	48.0	8.9	7	5	3	7	2	4		2		1	3.0
47.5	47.5	4	4	29.96	761.0	45.2	7.3	4	4	3	7	1	4		4		4	2.9
52.5	12.5	24	43	29.95	760.7	54.3	12.4	4	1	3	7	4	6	2	4			3.3
52.5	17.5	20	38	29.91	759.7	53.1	11.7	5	3	3	6	6	5		3			3.6
52.5	22.5	23	36	29.86	758.4	51.0	10.6	4	3	1	7	5	4	2	5			3.7
52.5	27.5	12	19	29.82	757.4	50.2	10.1	6	6		8	3	4	1	3			3.7
52.5	32.5	4	4	29.86	758.4	48.6	9.2	8	4		8	3	2	1	3		2	3.7
52.5	37.5	1	1	29.89	759.2	47.1	8.4	6	7	2	5		3	1	2		5	3.5
52.5	42.5	1	1	29.89	759.2	43.5	6.4	5	6	2	4		6		5		3	3.0
52.5	47.5			29.91	759.7	41.5	5.3	1	9	2	1		7		5		6	2.6
57.5	12.5	9	10	29.94	760.5	49.1	9.5	3	2		8	4	4	4	6			3.1
57.5	17.5			29.91	759.7	47.1	8.4	4	2	1	5	7	4		8			3.1
57.5	22.5			29.90	759.4	44.6	7.0	1	2		6	1	6	1	12		2	2.9
57.5	27.5			29.86	758.4	41.7	5.4	5	3		6		6	1	6		4	3.1
57.5	32.5	2	2	29.83	757.7	42.0	5.6	4	3		4	1	6		8		5	3.2
57.5	37.5	2	2	29.83	757.7	40.7	4.8	7	4	1	4	2			4		9	3.4
57.5	42.5	7	7	29.86	758.4	39.3	4.1	5	6	4			2	2	6		6	3.1
57.5	47.5	5	5	29.91	759.7	35.4	1.9	5	9		3			1	4		9	3.1

NOTE.—See General Remarks.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade.*]

With this REVIEW is issued chart iii., which exhibits the tracks of the more important atmospheric depressions that have appeared in the northern hemisphere during the month of June, 1881. This chart continues the series of international charts begun in November, 1877.

The following descriptions relate to chart ii. (formerly iv.), for the months of June and July, 1881, (which were issued with the SUMMARY for the respective months). This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing direction of the wind in the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich mean time.

In the description of these charts much valuable information has been obtained from the "Monatliche Uebersicht der Witterung," published by Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg, Germany; and from the "Bulletin Mensuel," published by Mr. Marc Dechevrens, of Zi-Ka-Wei, China.

For the month of June, 1881, the mean atmospheric pressure was distributed as follows: The area of lowest mean pressures was indicated by the isobarometric line of 29.4 (746.7), and occupied a small territory in British India between the states of Cashmere and Rajputana, which included Lahore, where the mean pressure was 29.39 (746.5). In that part of India lying between N. 20° and 30° the mean pressure ranged from 29.43 (747.5) to 29.54 (750.3). South of the twentieth parallel it ranged from 29.7 (754.4) to 29.75 (755.6). Over Greenland and Iceland the mean pressure was 29.77 (756.1) in the former and 29.73 (755.1) in the latter. Over European Russia and at stations in Sweden, on the shores of the Gulf of Bothnia, the mean atmospheric pressure ranged from 29.7 (754.4) to 29.8 (756.9). In the Black sea region it was above 29.8 (756.9). In Canada, Ireland, Scotland, and in the eastern part of Europe, excluding Russia, the mean pressure ranged from 29.8 (756.9) to 29.9 (759.4). In the United States, east of the ninetieth meridian, in England, and in central Europe it ranged from 29.9 (759.4) to 30.0 (762.0); over the greater part of France and the Iberian peninsula it was above 30.0 (762.0). Over the Atlantic ocean south of the fiftieth parallel, and from W. 60° eastward to the European coasts, the mean atmospheric pressure was above 30.0 (762.0); the area of barometric maxima being situated over the Azores, in which region the pressure ranged from 30.15 (765.8) to 30.3 (769.6).

Compared with the preceding month (May, 1881,) there has been a general decrease of pressure throughout the United States, except in the Florida peninsula, where there has been a slight rise. In Canada the decrease of pressure has averaged .14 inch, and was greatest in the Maritime Provinces. Over the continent of Europe and the British Isles, there has been a decrease of pressure; the decrease was greatest in northern Europe and in Russia, and was least in the southern and western parts of the continent. In Asia, from the Ural mountains eastward to Japan, there has been a decrease of pressure ranging from .1 inch in Japan and British India to .2 inch in Siberia and China.

Compared with the corresponding month of previous years, the mean atmospheric pressure is below the normal in all parts of the United States, except in the northern sections of Wisconsin and Michigan. In Canada, the pressure was below the normal, the departure being greatest in the Maritime Provinces.

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of June, 1881, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:

Countries.	Mean pressure.			Mean temperature.		
	June, 1877, 1878, 1879, 1880.	June, 1881.	Departure.	June, 1877, 1878, 1879, 1880.	June, 1881.	Departure.
				°	°	°
Algeria	30.05	30.03	—0.02	82.8	79.6	—3.2
Austria	29.93	29.89	—0.04	72.2	70.0	—2.2
British Isles	29.89	29.95	+0.06	60.5	61.1	+0.6
Denmark	29.89	29.91	+0.02	61.5	60.0	—1.5
France	29.98	30.02	+0.04	70.7	69.3	—1.4
Germany	29.96	29.94	—0.02	68.6	66.7	—1.9
India	29.54	29.55	+0.01	89.0	87.6	—1.4
Italy	29.99	29.95	—0.04	77.1	74.4	—2.7
Norway	29.81	29.82	+0.01	59.2	60.6	+1.4
Portugal	30.07	30.07	normal	71.7	75.5	+3.8
Russia	29.87	29.80	—0.07	70.3	69.3	—1.0
Spain	30.01	30.03	+0.02	75.7	74.6	—1.1
Sweden	29.83	29.81	—0.02	59.6	58.4	—1.2

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of June, 1881, as compared with the means of four years:

Stations.	Mean pressure.			Mean temperature.		
	June, 1877, '78, '79, '80.	June, 1881.	Departure.	June, 1877, '78, '79, '80.	June, 1881.	Departure.
				°	°	°
San José, Costa Rica, C. A.	.....	.....	.....	68.7	68.2	— 0.5
Gibraltar	30.02	30.05	+ 0.03	74.5	73.0	— 1.5
Malta, Mediterranean Sea	29.99	29.98	— 0.01	78.0	75.1	— 2.9
Sandwick Manse, Orkney Islands	29.90	29.97	+ 0.07	54.5	51.1	— 3.4
Bridgetown, Barbadoes	30.02	29.99	— 0.03	82.3	84.1	+ 1.8
Cape Town, Cape Good Hope	30.15	30.19	+ 0.04	62.0	51.2	—11.4
Fort Napier, Natal, South Africa	30.04	30.06	+ 0.02	68.2	68.0	— 0.2
Free Town, Sierra Leone	29.95	29.87	— 0.08	84.5	85.8	+ 1.3
Mauritius, Indian Ocean	30.15	30.16	+ 0.01	72.9	73.7	+ 0.8
Melbourne, New South Wales	30.14	30.02	— 0.12	47.9	47.1	— 0.8
Nassau, Bahamas	30.04	30.03	— 0.01	82.2	84.8	+ 2.6
Godthaab, Greenland	29.83	29.77	— 0.06	42.0	40.6	— 1.4
Stykkisholm, Iceland	29.81	29.73	— 0.08	49.1	47.3	— 1.8
Thorshavn, Färöe Islands	29.85	29.84	— 0.01	51.4	48.6	— 2.8
Zi-Ka-Wei, China	29.80	29.80	normal	70.7	72.3	+ 1.6
Athens, Greece	29.93	29.95	+ 0.02	84.6	79.9	— 4.7
Cagliari, Sardinia, Italy	29.98	29.96	— 0.02	78.2	80.1	+ 1.9
Tokei, Japan	29.86	29.89	+ 0.03	67.6	68.5	+ 0.9
Angra, Azores	30.19	30.15	— 0.04	66.9	66.9	normal
Funchal, Madeira Islands	30.18	30.18	normal	71.0	71.4	+ 0.4
Ponta Delgado, Azores	30.19	30.31	+ 0.12	69.7	69.6	— 0.1
Archangel, Russia	29.75	29.82	+ 0.07	57.5	55.9	— 1.6
Tiflis, Russia	29.84	29.85	+ 0.01	78.2	79.5	+ 1.3
Astrakhan, Russia	29.85	29.87	+ 0.02	81.0	77.2	— 3.8
Ekaterinburg, Russia	29.71	29.68	— 0.03	64.1	64.0	— 0.1
Tashkend, Toorkistan, Asia	29.77	29.71	— 0.06	84.4	83.5	— 0.9
Barnaul, Siberia, Asia	29.69	29.72	+ 0.03	69.0	69.6	+ 0.6
Yeniseisk, Siberia, Asia	29.73	29.82	+ 0.09	65.6	60.6	— 5.0
Pekin, China	29.70	29.63	— 0.07	76.5	75.9	— 0.6
Nikolaevsk on the Amoor, Asia	.....	.....	.....	50.9	50.7	— 0.2
San Juan de Puerto Rico, W. I.	30.04	30.04	normal	82.4	80.6	— 1.8
Beirut, Turkey in Asia	29.84	29.91	+ 0.07	83.9	81.1	— 2.8
Mexico, Mexico	30.05	30.05	normal	58.0	56.9	— 1.1
Havana, Cuba, W. I.	30.04	30.03	— 0.01	81.6	82.0	+ 0.4
Paramaribo, D. Guiana, S. A.	30.06	30.05	— 0.01	80.6	79.2	— 1.4
York Factory, B. A.	29.96	29.94	— 0.02	46.6	50.0	+ 3.4

In the United States the mean temperature of the air was below the normal from Lake Superior eastward to the Atlantic coast, and southeastward to North Carolina. Elsewhere the mean temperature was above the normal, the greatest departures occurring in the Gulf states and in the eastern Rocky mountain slope. On the Pacific coast the temperature was from normal to 3° below the normal. In Europe the mean temperature of the air was slightly below the normal.

Referring to the temperature in China, Mr. Marc Dechevrens, in the "Bulletin Mensuel," for June, 1881, states:

> At Zi-Ka-Wei the maximum temperature of the 6th did not exceed 72°.5 Fahr. (22°.5 Cent.), yet, at Chang-Kia-Chuang (Tientsin, Pekin), the thermometer reached 110°.5 Fahr. (46°.3 Cent.) in the shade; but this high temperature was fortunately accompanied by an extreme dryness of the air (7 per cent. at 7 p. m.).

In British India the highest mean temperature reported was 100°.4 Fahr. (38°.0 Cent.) at Lahore, and the lowest was 76°.2 Fahr. (24°.6 Cent.) at Belgaum.

The following are some of the extreme mean temperatures reported at isolated stations for the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	85.8	29.9	Godthaab, Greenland	40.6	4.8
Bridgetown, Barbadoes	84.1	28.9	Fort Saint Michael, Alaska	41.0	5.0
Tashkend, Asia	83.5	28.6	Stykkisholm, Iceland	47.3	8.5
Manila, Philippine Islands	83.5	28.6	York Factory, B. A	50.0	10.0

In the United States the prevailing wind directions were as follows: Generally southwesterly in the country between the Atlantic and the ninetieth meridian and south of the fortieth parallel; northerly in the western, and easterly and northeasterly in the eastern part of the lake region; northerly in New England; southerly and southeasterly in Texas and the Rocky mountain region, and westerly and southwesterly on the Pacific coast. In Canada the prevailing winds were northerly and northwesterly in the western part of the Dominion; in the Maritime Provinces they were generally southerly and southwesterly. Over the Atlantic ocean the prevailing winds were mostly southwesterly from the coast of North America northeastward to the British Isles; over the region between W. 15° and 45° and N. 20° and 40° the winds were mostly northeasterly. In the British Isles the prevailing winds were southerly and southwesterly; in central Europe they were mostly northwesterly; in France and the Netherlands they were northerly, westerly, and southwesterly, the westerly predominating. In Russia the winds were mostly westerly and northwesterly, except in the Black sea region, where they were southerly. At Zi-Ka-Wei, China, the prevailing wind was southeasterly; in Japan it was southerly.

The rainfall during the month of June, 1881, in the United States was much below the average in the country east of the one hundred and fifth meridian and south of the thirty-ninth parallel; it was also below the average in Minnesota, Wisconsin, and Michigan. In the country north of N. 39° and east of W. 89°, except in the states named above, the precipitation was in excess of the average. In Canada it was above the average. In Europe it was generally below the average. At Zi-Ka-Wei, China, rain fell on fifteen days, the total precipitation for the month being 6.70 inches, or 170.3 millimetres.

In July the distribution of mean atmospheric pressure over the northern hemisphere was as follows: The mean pressure was lowest in the northern and northwestern provinces of British India, where it ranged from 29.43 (745.5) to 29.49 (749.0). In northeastern and central India the pressure ranged from 29.50 (749.3) to 29.56 (750.8), and over the country south of N. 20° it ranged from 29.7 (754.4) to 29.8 (756.9). In Greenland, Iceland, northern Scandinavia, and the eastern half of European Russia, from the Arctic ocean to the Caspian sea, the mean pressure was below 29.7 (754.4). In Siberia and the whole of the Chinese Empire the pressure ranged from 29.52 (749.8) to 29.7 (754.4). In the United States there were two areas of comparatively low pressure; the first of these was situated in southern California and Arizona, and was inclosed by the isobarometric line of 29.8 (756.9); the second area occupied the region near Hudson's bay, the mean pressure at York Factory being 29.78 (756.4). The isobar of 29.8 (756.9) extended over northern Scotland, the Scandinavian peninsula, except the extreme northern and southern parts, and over western Russia southward to the Black sea. The line of 29.9 (759.4) extended from eastern Canada northeastward over the Atlantic and through the northern parts of Ireland and England eastward to the Baltic, thence southward to Austro-Hungary. In the United States, south of the lake region and east of the hundredth meridian, the mean pressure ranged from 30.0 (762.0) to 30.07 (763.8). Over the whole of central and southern Europe it ranged from 30.0 (762.0) to 30.1 (764.5), except over a small area in Spain, where it was slightly below 30.0 (762.0).

The most marked area of barometric maxima was that of the Atlantic; it was indicated by the isobar of 30.1 (764.5), and covered the ocean from the northwestern coast of Africa westward to the fifty-second meridian, and from N. 18° northward to N. 45°. The centre of the high area was in the Azores, where the mean pressure was 30.35 (770.9). The second area of high pressures, inclosed by the isobar of 30.1 (764.5), occupied the Bay of Biscay and stretched southeastward over southwestern France to the Pyrenees.

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of July, 1881, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:

Countries.	Mean pressure.			Mean temperature.		
	July, 1877, 1878, 1879, 1880.	July, 1881.	Departure.	July, 1877, 1878, 1879, 1880.	July, 1881.	Departure.
				°	°	°
Algeria	30.03	30.05	+0.02	89.9	89.3	−0.6
Austria	29.90	29.98	+0.08	73.8	76.4	+2.6
British Isles	29.90	29.97	+0.07	62.9	65.9	+3.0
Denmark	29.80	29.88	+0.08	63.3	63.1	−0.2
France	30.02	30.07	+0.05	73.0	79.2	+6.2
Germany	29.90	30.00	+0.10	69.2	73.6	+4.4
India	29.58	29.54	−0.04	84.2	83.5	−0.7
Italy	29.96	30.02	+0.06	81.4	84.3	+2.9
Norway	29.75	29.73	−0.02	62.6	62.2	−0.4
Portugal*	30.05	30.03	−0.02	80.2	81.5	+1.3
Russia	29.77	29.80	+0.03	73.4	73.9	+0.5
Spain*	30.01	30.06	+0.05	80.5	83.2	+2.7
Sweden	29.76	29.76	normal.	64.1	63.2	−0.9

* Means for three years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of July, 1881, as compared with the means of four years:

Stations.	Mean pressure.			Mean temperature.		
	July, 1877, '78, '79, '80.	July, 1881.	Departure.	July, 1877, '78, '79, '80.	July, 1881.	Departure.
				°	°	°
San José, Costa Rica, C. A.	.....	.....	.....	.....	.....	.....
Gibraltar	30.00	30.06	+0.06	78.1	77.7	−0.4
Malta, Mediterranean Sea	29.97	30.02	+0.05	84.3	84.4	+0.1
Sandwick Manse, Orkney Islands	29 82	29.77	−0.05	55.8	55.9	+0.1
Bridgetown, Barbadoes	.....	.....	.....	.....	.....	.....
Cape Town, Cape Good Hope	30.16	30.25	+0.09	61.9	62.5	+0.6
Fort Napier, Natal, South Africa	30.04	30.00	−0.04	68.4	66.3	−2.1
Free Town, Sierra Leone	30.00	29.94	−0.06	81.3	85.2	+3.9
Mauritius, Indian Ocean	30.22	30.18	−0.04	71.4	72.3	+0.9
Melbourne, New South Wales	30.14	30.27	+0.13	47.9	48.2	+0.3
Nassau, Bahamas	30.03	30.05	+0.02	84.1	85.2	+1.1
Godthaab, Greenland	29.80	29.70	−0.10	44.8	43.0	−1.8
Stykkisholm, Iceland	29.82	29.67	−0.15	52.6	50.4	−2.2
Thorshavn, Färöe Islands	29.80	29.71	−0.09	54.1	53.1	−1.0
Zi-Ka-Wei, China	29.72	29.72	normal.	77.9	77.9	normal.
Athens, Greece	29.88	29.91	+0.03	88.2	86.4	−1.8
Cagliari, Sardinia, Italy	29.97	30.03	+0.06	82.1	83.5	+1.4
Tokei, Japan	29.86	29.87	+0.01	76.0	73.6	−2.4
Angra, Azores	30.30	30.32	+0.02	72.1	74.1	+2.0
Funchal, Madeira Islands	30.15	30.20	+0.05	72.1	72.0	−0.1
Ponta Delgado, Azores	30.30	30.35	+0.05	74.8	76.8	+2.0
Archangel, Russia	29.70	29.73	+0.03	63.8	70.0	+6.2
Tiflis, Russia	29.75	29.78	+0.03	89.0	82.0	−7.0
Astrakhan, Russia	29.79	29.69	−0.10	85.7	81.5	−4.2
Ekaterinburg, Russia	29.66	29.64	−0.02	71.0	68.9	−2.1
Nukuss, Toorkistan, Asia	.....	.....	.....	.....	.....	.....
Tashkend, Toorkistan, Asia	29.70	29.62	−0.08	87.5	88.5	+1.0
Barnaul, Siberia, Asia	29.64	29.61	−0.03	74.7	73.6	−1.1
Yeniseisk, Siberia, Asia	29.65	29.71	+0.06	71.1	68.4	−2.7
Pekin, China	29.66	29.65	−0.01	79.8	82.2	+2.4
Nikolaevsk on the Amoor, Asia	.....	.....	.....	58.9	57.6	+1.3
San Juan de Puerto Rico, W. I.	30.02	30.07	+0.05	82.8	82.0	−0.8
Beirut, Turkey in Asia	29.76	29.78	+0.02	89.0	86.2	−2.8
Mexico, Mexico	30.08	30.15	+0.07	55.8	56.7	+0.9
Havana, Cuba, W. I.	30.05	30.05	normal.	82.0	81.6	+0.4
Paramaribo, D. Guiana, S. A	30.02	30.06	+0.04	82.0	79.0	−3.0
York Factory, B. A	29.83	29.78	−0.05	53.3	56.0	+2.7

Compared with the chart for the preceding month (June, 1881,) there has been an increase of pressure ranging from .01 to .1 inch over the United States, the region of greatest increase comprising the country between the eighty-ninth and ninety-fifth meridians. In Canada the mean pressure was slightly lower than for the preceding month. In Europe the changes were as follows, viz.: an increase over the southern part of the British Isles, and over the whole of central and southern Europe; over the Scandinavian and Danish peninsulas the pressure has decreased about .05 inch, and in European Russia it has remained unchanged. In Greenland it has decreased about .08 inch. In Asia there has been a slight in-

crease of pressure over British India, but in Siberia, China, and Japan there has been a decrease.

Compared with the corresponding month of previous years, the mean atmospheric pressure is slightly below the normal over that part of the United States east of the Mississippi river and south of the fortieth parallel; elsewhere the pressure is slightly above the normal.

In the United States the mean temperature of the air was from 1° to 4° below the normal over the country west of the the one hundred and seventh meridian; eastward of that meridian the temperature ranged from normal in the middle Atlantic states and in the upper Mississippi valley to 2° above the normal in the Ohio valley and Tennessee.

In Europe the mean temperature was above the normal, except in Denmark and in Scandinavia, where it was slightly (less than 1°) below the normal. In connection with this subject may be mentioned the remarkably high temperatures (in many cases unprecedented) which prevailed throughout Europe during this month. In England and Denmark the highest temperatures of the month occurred on the 15th; in central and western Europe the maxima were registered during the period from the 17th to the 20th, inclusive. In Spain and Portugal the highest temperatures were recorded on the 24th and 25th; in Italy on the 6th, and in Russia on the 27th and 28th.

The following notes and data referring to this subject are taken from "Symons' Monthly Meteorological Magazine," for August, 1881:

The exceptional temperatures, in England, were very local, and were confined to the southern part of England. July 5th was a hot summer day; temperatures slightly exceeding 90° were recorded at several stations, and over the greater part of England it was the hottest day of the month; but none of the temperatures observed on that day were unprecedented. The remarkable feature of the month was the temperature reached on July 15th, in a belt of country extending from Wiltshire, through the north of Hampshire, north Surrey, west Kent, Middlesex, Essex, Suffolk, and Norfolk.

The following data are taken from tables published by Mr. Symons, giving the highest maximum temperatures and dates at several of the principal cities of Europe:

6th: Rome, Italy, 94°.8 Fahr. (34°.9 Cent.). 12th: Christiania, Norway, 81°.0 Fahr. (27°.2 Cent.). 15th: Greenwich, England, 97°.1 Fahr. (36°.2 Cent.); Copenhagen, Denmark, 86°.5 Fahr. (30°.3 Cent.). 16th: Vienna, Austria, 92°.3 Fahr. (33°.5 Cent.). 17th: Avignon, France, 101°.1 Fahr. (38°.4 Cent.). 18th: Bordeaux, France, 102°.4 Fahr. (39°.1 Cent.). 19th: Paris, (Montsouris), France, 99°.0 Fahr. (37°.2 Cent.); Paris, (Parc St. Maur), 101°.1 Fahr. (38°.4 Cent.); Geneva, Switzerland, 96°.6 Fahr. (35°.9 Cent.). Brussels, Belgium, 95°.4 Fahr. (35°.2 Cent.). 20th: Berlin, Germany, 94°.5 Fahr. (34°.7 Cent.); Hamburg, Germany, 87°.3 Fahr. (30°.7 Cent.). 24th: Lisbon, Portugal, 93°.9 Fahr. (34°.4 Cent.). 25th: Madrid, Spain, 102°.6 Fahr. (39°.2 Cent.). 27th: Saint Petersburg, Russia, 82°.9 Fahr. (28°.3 Cent.). 28th: Moscow, Russia, 92°.5 Fahr, (33°.6 Cent.).

In the south of England the hottest day was on the 15th; on that day the temperature reached or exceeded 100° Fahr. (37°.8 Cent.) at the following French stations: Paris, 100° Fahr. (37°.8 Cent.); Nancy, 101°.1 Fahr. (38°.4 Cent.); Nantes, 101°.5 Fahr. (38°.6 Cent.); and Biarritz, 100°.4 Fahr. (38°.0 Cent.).

The following are additional data to those given above: 19th, France, Charleville, 100°.4 Fahr. (38°.0 Cent.); Le Mans, 101°.7 Fahr. (37°.7 Cent.); Belgium, Arlon, 96°.8 Fahr. (36°.0 Cent.); Maeseyck, 99°.1 Fahr. (37°.3 Cent.).

In British India the highest monthly mean temperature reported was 93°.5 Fahr. (34°.2 Cent.) at Lahore, and the lowest was 71°.1 Fahr. (21°.7 Cent.) at Belgaum. At Zi-Ka-Wei, China, the absolute maximum temperature of the month was 97° Fahr. (36°.1 Cent.), and occurred on the 25th; the minimum was 76°.1 Fahr. (19°.5 Cent.) on the 8th.

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

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
Tashkend, Asia	88°.5	31°.4	Godthaab, Greenland	43°.0	6°.1
Athens, Greece	86.4	30.2	Stykkisholm, Iceland	50.4	10.2
Beirut, Syria	86.2	30.1	Gjaesvaer, Finmark, Norway	52.0	11.1
Nassau, Bahamas	85.2	29.6	York Factory, B. A.	56.0	13.3

In the United States the prevailing directions of the wind were as follows: Between the eightieth and ninetieth meridians, from west to north; in the south Atlantic states, southwesterly; in the middle Atlantic and New England states southwest, west, and northwest. Over the country, from W. 90° to W. 110°, the prevailing winds were generally southerly and southeasterly. On the Pacific coast they were westerly and northwesterly. In Canada they were westerly and southwesterly. Over the Atlantic, from the coast of North America northeastward to the European coasts, the winds were mostly southwesterly. Over the Azores, and within the region of the barometric maxima, viz., from the northwestern coast of Africa westward to W. 50°, and between N. 20° and 45°, the winds were mostly northeasterly; south of N. 20° they were northeasterly.

In the British Isles the prevailing winds were westerly and southwesterly; throughout central Europe they were southwesterly, and from west to northwest. At Zi-Ka-Wei, China, it was southeasterly, and in Japan the prevailing directions were southerly and southwesterly.

The rainfall during the month was below the average in the United States east of the hundredth meridian, except in the upper Mississippi valley, the upper lake region, the south Atlantic states, and the Florida peninsula. The deficiency was greatest in the Ohio valley and in Tennessee. There was a slight excess in the north Pacific coast region. The rainfall was slightly below the normal in the northern, and about normal in the southern parts of central Europe.

Chart ii. (formerly v.) exhibits the tracks of barometric minima for the month of June, 1881, which have been traced from the daily international charts. On this chart is also shown the track of the second typhoon that occurred in the China sea during the season of 1881.

The data are charted for each day of the month on the maps accompanying each issue of the INTERNATIONAL BULLETIN, and from these charts and from additional reports are traced the movements of the centres of barometric minima.

Twenty-two depressions in the northern hemisphere have thus been traced for the month of June, 1881. Their general distribution was as follows:

Six appeared in the United States and Canada; all of these pursued an east-southeasterly course over the country north of the fortieth parallel. No storm has been traced over the region west of the Rocky mountains during the month. Number v. is the only depression traced over the ocean after leaving the North American continent; it moved north-northeastward to Iceland, and extended its influence over the northern part of Great Britain and over northern Scandinavia.

Nine depressions are shown over Europe; three of these moved from west to east over the country south of the forty-eighth parallel, while the remaining six prevailed north of the fiftieth parallel, their movement being mostly from southwest to northeast. Depression xii. was remarkable for the persistence with which it remained over central Europe, having continued for ten days between the meridians of 15° and 35° east longitude. Depression xiv. originated in Greenland, and moved southward to N. 51°, where it remained for several days, materially affecting the weather conditions over the British Isles. Seven depressions are traced in Asia; four of these appeared in the eastern part of the continent and three in Siberia; of the latter, two were continuations of storms that were first observed in Europe.

The following are brief descriptions of the depressions traced in the United States and Canada:

I.—On the 2d, an area of low pressures stretched from the Lake Superior region southeastward to the south Atlantic coast. In the lower lake region clear weather prevailed, while in the upper lake region and on the Atlantic coast, from North Carolina to New York, the weather was generally cloudy with frequent, and occasionally heavy, rains. On the 3d, the centre of least pressure was in northern Illinois; the areas of cloud and rain now included the lower lakes, while to the west-

ward fair weather obtained. During the 3d, the disturbance moved eastward along the fortieth parallel, and by the 4th, it was central off the New England coast, the pressure having decreased as the disturbance neared the ocean. On the 4th, heavy rains occurred along the Atlantic coast and in the Maritime Provinces, and continued until the 5th, on which date an improvement took place in the weather, and the disturbance moved northeastward to the Gulf of Saint Lawrence. On the 5th, the pressure began to increase, and by the following day the depression had filled up over the Gulf.

II.—During the 6th and 7th, the pressure remained uniformly low over the central part of the United States, but on the 8th, the disturbance became well-defined and was indicated by the isobar of 29.8 (756.9), which stretched from northern Texas to Indiana. On the 8th, rain became general over the country from Missouri eastward to the Atlantic coast, and thunder-storms were of frequent occurrence. On the 9th, the low area, having become contracted and circular in form, was central in West Virginia; during the day it moved off into the Atlantic, attended by moderate gales along the coast and at sea. On the 10th, it was central near N. 39°, W. 71°, and appears to have moved northeastward, causing rainy weather in the Maritime Provinces. By the 11th, the depression had filled up, and clearing weather set in.

III.—This was a small but well-defined depression which appeared in Dakota on the 11th, and was accompanied by heavy rains. It apparently moved northward, and united, on the 12th, with low area iv., which was then moving from British America toward Minnesota. On the 12th, severe hail-storms and tornadoes occurred in Kansas, Missouri, and Iowa, and caused great loss of life and destruction to property.

IV.—On the morning of the 12th, this disturbance occupied Manitoba and the Lake Superior region. On the 13th, it was central near the northern shore of Lake Superior, causing rain at stations in the eastern quadrants. During the 13th and 14th, the disturbance moved in an easterly direction along the Saint Lawrence, and by the 15th, it was central near the western part of the Gulf, attended by rainy weather and moderate breezes. On the 16th, the disturbance moved to Newfoundland, where it appears to have gradually filled up.

V.—This disturbance first appeared in Dakota on the 15th. It moved with decreasing pressure east-southeastward to Minnesota, where it was central on the 16th. During the day it continued its east-southeasterly course over the lake region, causing heavy rains and thunder-storms in the eastern quadrants; and on the morning of the 17th, it was central, with increased pressure, over Lake Erie. During the 18th and 19th, it remained over the Saint Lawrence valley and the Maritime Provinces, causing unsettled and showery weather in those districts. On the 21st, the storm-centre was apparently to the south of Nova Scotia; by the following day it had passed slowly along the coast of Nova Scotia, and was central to the eastward of Cape Breton island. During the 22d, it moved over the Atlantic, and on the 23d, was shown near N. 51°, W. 45°; on that day the s. s. "Nova Scotian," in N. 49° 02′, W. 47° 08′, reported barometer 29.26 (743.2), wind wnw., force 5, drizzling; and the s. s. "Circassian," in N. 54° 34′, W. 42° 00′, reported barometer 29.46 (748.3), wind ese., force 5, overcast. On the 24th, the storm-centre was probably to the southwest of Iceland, the barometer at Stykkisholm reading 29.30 (744.2), a fall of .47 inch in twenty-four hours; the temperature rose several degrees and the wind shifted to southeast and increased to a fresh gale with rain. On the 25th, the disturbance was central near the west coast of Iceland, the pressure having further decreased to 28.89 (733.8), the wind shifting to southwest and moderating to force 2. On the 26th, the depression maintained nearly the same position as on the preceding day, but the pressure had increased about .13 inch. During the 25th and 26th, there was a uniform decrease of pressure over the British Isles, and cloudy weather and rain prevailed, more particularly in the northwestern districts. On the 27th, the disturbance passed to the northeastward of Iceland, the wind having shifted to northwesterly over that island. During the 28th and 29th, the storm-centre apparently remained over the ocean between Iceland and the Scandinavian peninsula, but the depression was filling up, although unsettled and showery weather still prevailed in the extreme northern part of Scotland and in the Scandinavian peninsula.

Note.—In connection with the depression (v.), attention is called to the remarks under "Errata," page 14, of this BULLETIN.

VI.—This disturbance is not shown on the chart for the 22d, but its position has been indicated from the following vessel-report, which appears sufficiently reliable to justify a notice of the disturbance: The bark "Justin H. Ingersoll," in N. 34° 24′, W. 75° 00′, on the 22d, reported: "noon, wind se.; at 3 p. m. it hauled to ene., and then backed again to se.; weather threatening, with torrents of rain and heavy swell from all directions; barometer 29.8 (756.9), vessel under lower topsails. At 5 p. m. it became calm, then the wind suddenly struck out from the nw. with great violence, blowing away sails and throwing the vessel on her beam ends. At 7 p. m. the wind hauled to n. and increased in fury; obliged to cut away the mainmast to save the vessel; barometer 29.2 (741.7). The hurricane lasted until 9 p. m., when it moderated to a ne. gale. Other data are too meagre to admit of a tracing of the subsequent course of this storm.

VII.—This disturbance probably developed in the Saskatchewan valley on the 26th, and moved by a southeasterly course to eastern Minnesota, where it was central on the 27th. Rainy weather prevailed in the lake region and in eastern Canada on the 27th, and by the 28th, the low area extended from Lake Superior to the Saint Lawrence valley; in the latter region, numerous thunder-storms and heavy rains occurred. During the 28th, the disturbance moved, by a course slightly south of east, to the Maritime Provinces, where it was central on the 29th, the barometric pressure having decreased at the centre. On the 30th, the depression was central near the southern coast of Newfoundland. No unusual storm-energy was displayed during the progress of the disturbance. On the 30th, vessels east of the central depression reported moderate southerly gales.

The following descriptions refer to the storms that appeared in Europe:

VIII.—This disturbance appeared near the Ural mountains on the 1st, and was a continuation of the depression described as low area xvii. of the May chart. By the 2d, it had moved slowly east-northeastward, and on the 3d, was central northeast of Barnaul, Siberia, barometer 29.27 (743.4), wind south, force 4. After the 3d, the disturbance disappeared beyond the stations of observation.

IX.—On the 2d and 3d, a large depression existed off the coast of northern Scandinavia, causing higher temperatures and rainy or cloudy weather over that region. It apparently moved southeastward with decreasing pressure, and on the 4th, it was central south of Archangel, where the barometer read 29.09 (738.6). On the 5th, 6th, and 7th, it moved eastward into Siberia and beyond the stations of observation, having caused strong southwesterly winds and higher temperatures in northeastern Russia and in Siberia.

X.—This depression appeared central between the Färöe Islands and Norway on the 5th, the region of least pressure being inclosed by the isobar of 29.2 (741.7). Moderate to fresh northwesterly breezes prevailed over the northern part of Scotland, accompanied by showery weather; the winds were southerly and southwesterly in the southern, and easterly in the northern part of the Scandinavian peninsula, and remained moderate in force. By the 6th, the storm-centre had moved to the White sea, where it disappeared, while another depression developed off the Norwegian coast.

XI.—This depression developed off the Norwegian coast on the 6th, immediately after the passage of x., and was probably a secondary development of that depression. On the 7th,

the disturbance was central in southern Norway, while a small subsidiary area, which formed over the southern part of the North sea on the 6th, had moved northeastward and united with the central depression, where the pressure was now below 29.15 (740.4). Fresh to strong northwesterly winds and rainy weather prevailed over the British Isles and the western part of the continent, while over the Baltic and the Gulf of Bothnia, the winds were southerly and southeasterly. By the morning of the 8th, an increase of pressure had set in over the British Isles and the southern part of Scandinavia, and the depression moved northward, and finally disappeared off the extreme northern coast of Norway.

XII.—This depression was closely connected with low areas x. and xi., and was remarkable on account of the erratic course and exceedingly slow movement of the centre over the continent. Under the influence of low area xi., the pressure remained low over the whole of central Europe on the 7th. On the 8th, a recovery set in over the western part of the continent, and the area of low pressure was transferred to eastern Prussia and the Austrian Empire. On the 9th, the depression extended from the Baltic southeastward to the Black sea, the barometric readings being lowest over the former sea. Within the area of low pressures, and also over the country to the westward, very heavy rains occurred on the 8th and 9th, the winds shifted to north and northwest, and a considerable fall in temperature occurred over western Europe, while southeasterly winds and higher temperatures prevailed in western Russia. On the 10th, the centre of disturbance was between Wilna and Kieff, causing strong southwesterly winds on the northern shores of the Black sea. The pressure continued to increase in the region west of the centre, while it decreased at the centre of disturbance; in consequence, the barometric gradient became steeper and the northwesterly winds increased in force over eastern Germany and Denmark, but moderated in France. During the 11th, 12th, and 13th, the depression remained in western and central Russia, between Moscow and the Baltic Provinces, the winds in central Europe being controlled by the movements of the disturbance, and the weather remaining cloudy and rainy. On the 14th, the storm-centre was near Kasan, eastern Russia; it then appears to have recurved toward the west, as, on the 15th, the region of least pressure was again near Moscow. On the 16th and 17th, it remained in central Russia, near Moscow, causing moderate northeasterly winds in the Baltic Provinces of Russia; the pressure began to increase slowly, and on the last-mentioned date, the disturbance was indicated by the isobar of 29.8 (756.9), which presented an elongated appearance and stretched from E. 30° eastward beyond the Ural mountains. The depression hereafter described as low area xviii. was probably a continuation of this disturbance.

XIII.—This disturbance developed over the Gulf of Genoa on the 6th and 7th, on which days the whole of Europe was under the influence of low area xi. On the 7th, the centre of this disturbance was near Milan, whence it moved northeastward to Austria and became merged in low area xii. on the 8th.

XIV.—The barometer was low in Greenland for several days prior to the 11th, but on that day a further decrease of pressure occurred, and on the 12th, the disturbance was central to the westward of Iceland, where fresh to strong southerly gales prevailed, the wind having shifted to northwest in Greenland. During the 12th, the centre of depression appears to have moved nearly due southward, and on the 13th, it was near N. 54°, W. 25°. The s. s. "Hermann," in N. 49° 26′, W. 24° 49′, reported barometer 29.44 (747.8), wind ssw., force 8, overcast; and the s. s. "Britannic," to the west of the centre, in N. 48° 57′, W. 32° 36′, reported barometer 29.76 (755.9), wind nnw., force 6, rainy. On the 14th, the disturbance moved slowly eastward, causing a decrease of pressure with strong southeasterly winds in Ireland. On the 15th, the storm-centre was near N. 50°, W. 21°; the pressure had decreased slightly near the centre, and a corresponding decrease occurred over the British Isles. During the 16th and 17th, the depression remained persistently off the west coast of Ireland, causing unsettled and rainy weather in the British Isles and in France. On the 18th, the disturbance moved into Ireland and the rain-area extended to the eastern shores of the North sea. On the 19th, the storm-centre moved northeastward with increasing pressure, and on the following day, it was to the northward of Scotland, causing strong southerly and southwesterly breezes at stations in southern Scandinavia. On the 21st, the disturbance apparently dissipated in northern Scandinavia, but no decided increase of pressure occurred in the districts after the passage of the centre, owing to the advance of low area xv.

XV.—This disturbance appeared on the 20th over the ocean at some distance southwest of Ireland; on that date the s. s. "Braunschweig," in N. 49° 42′, W. 16° 38′, reported barometer 29.22 (742.2), wind sse., force 4, raining; and the s. s. "Köln," in N. 49° 15′, W. 19° 35′, barometer 29.33 (745.0), wind wnw., force 4-5, cloudy. During the day the disturbance moved, with decreasing pressure, north-northeastward along the Irish coast and caused heavy rains in Ireland, and showery, unsettled weather in Great Britain, accompanied by a general rise in temperature. On the 21st, the storm-centre was near the northern coast of Ireland, where the barometric readings ranged from 29.02 (737.1) to 29.16 (740.6). On the 22d, the depression was between the Shetlands and the Färöe Islands. It moved northeastward along the Norwegian coast, and on the 23d, it was central in northern Scandinavia, causing rainy weather and fresh southerly and southwesterly gales over the Gulf of Bothnia. On the 24th, the disturbance disappeared in the Arctic ocean north of Lapland.

XVI.—From the 23d to the 27th, an area of high pressure occupied the British Isles and central Europe, but on the 25th, it began to give way in the northern part of the British Isles, under the influence of low area v. On the 26th, there was also a slight decrease of pressure in Austro-Hungary; the disturbance, which was very slight, moved east-northeastward on the 27th and 28th, and dissipated near the Black sea on the last-mentioned date.

XVII.—This disturbance, which was also unimportant, developed over the Gulf of Genoa on the 26th. It passed in a southeasterly course through Italy and disappeared over the Adriatic on the 28th. On the 28th, an area of high pressure began to spread over western Europe, and at the close of the month, it occupied the central part of the continent.

XVIII.—This disturbance was probably a continuation of low area xii. On the 18th, the position of the storm-centre could not be definitely located, but on the 19th, it became well-defined near Kasan, where the barometer read 29.58 (751.4). The depression moved eastward, and on the 20th, it was central in the Ural region, barometer at Ekaterinburg 29.35 (745.5). During the 21st and 22d, it passed northeastward into northern Siberia and beyond the stations of observation.

The following descriptions are given of the storms traced in Asia:

XIX.—This disturbance moved from southwestern China on the 3d, and was central near Zi-Ka-Wei on the 4th. On the 5th, the depression was central over the Yellow sea; moving eastward over the island of Niphon, it disappeared in the Pacific on the 6th. Very heavy rains fell at Zi-Ka-Wei on the 4th and 5th, after the passage of the centre.

XX.—This depression moved northeastward from central China on the 9th, and was central over the Gulf of Pe-Chi-Li on the 10th. On the 11th, the centre was probably in the northern part of Corea, whence it moved northeastward to Tartary and disappeared on the 12th.

XXI.—This depression followed immediately in rear of xx., but pursued a more southerly course than its predecessor. It passed into the Yellow sea on the 13th, and moved over the southern part of the peninsula of Corea. On the 14th, it reached Niphon, and disappeared to the eastward over the Pacific.

XXII.—This disturbance probably originated in central China; it moved northeastward, and on the 18th and 19th, was

central in the Gulf of Pe-Chi-Li. On the 20th and 21st, it passed northeastward to Amoor and beyond the stations of observation.

The following notes, relating to the second typhoon of 1881 (June 26th—July 5th), are taken from Mr. Marc Dechevrens' "Typhoons of the Chinese Sea in 1881":

The typhoon moved from the region of Mindanao on the 25th and 26th, and passed along the eastern coasts of the islands to the latitude of Manila. On the 28th, it lay to the east of that town and turned aside from its original track to avoid the high mountains of Luzon. It is clear that the high mountain chain that runs along the eastern coast of Luzon repelled the typhoon, though its first direction would have led it to the same place on the eastern coast of China. The centre passed Manila on June 28th, when the barometric pressure was 29.5 (749.3). Before the passage of the centre, with the wind blowing from northeast and north-northwest, there was but little rain; after the passage, the wind blew from south-southwest and south, and there was a heavy rainfall (six inches during the night of 28-29). This is easily accounted for. The polar winds, on passing over the high mountains to the north of Manila, were almost entirely deprived of moisture, whilst, on the equatorial winds being forced up the sides of the same mountains, there must have been a considerable condensation, and consequently a diluvial rain on the southern side of the chain.

On July 1st, about midnight, the typhoon crossed the twentieth parallel, on the one hundred and seventeenth meridian (east), and, passing to the right of Hong-Kong, it entered the continent a few miles below Swatow on the morning of the 2d. During the passage of the disturbance from Manila to Swatow there was no casualty at sea worth noticing.

After reaching the continent the atmospheric depression seemed about to fill up. In front of it, at Hankow, no rain fell whatever, but to the right hand of the track, at Foo-Chow, Ning-po, at Zi-Ka-Wei, and at sea, there were heavy rains on July 3d and 4th. After remaining on the Chinese continent, during the 2d, 3d, 4th and 5th of July, it again took to the sea between Foo-Chow and Ning-po in about N. 28°. At sea the south and southwest winds blew rather hard, but along the Chinese coast the winds continued to blow feebly until the typhoon had left the continent. The disturbance appeared to have dissipated after reaching the ocean, as there were no indications of it in Japan.

The velocity of the typhoon in the first part of its track was about seven miles an hour, having left Luzon on the morning of June 29th and reached Swatow on July 2d (about 510 miles in 72 hours). It appears afterward to have traveled at about ten miles an hour. Manila was near the centre, and had probably to bear the greatest violence of the wind. The mean velocity of the wind on June 28th, between 7 and 9 p. m., was 81.4 miles an hour; it even reached 90.2 miles an hour during some of the squalls. At Swatow the typhoon did considerable damage to the houses near the river and destroyed several jetties; most of the buildings on the Swatow side were inundated to a depth of three feet. In Manila bay one vessel dragged her anchors and had to cut away masts to avoid collision.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are applied at this office. In the naval and marine series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in metres per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometres per hour, to metres per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnston'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 originals, is carefully computed at this office. Generally all conversions are made 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 alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING THE DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted. Broken lines indicate that the lines so broken are doubtful.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

Arrows show the 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 iii. shows tracks of centres of low barometer. Storm-tracks in red. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date. Broken or dotted lines are doubtful.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of

Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. At Hankow the originals give the barometer in inches, temperature in Fahrenheit, and force on a scale of 0 to 10.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12 m., instead of 12.16 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchina, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiana).—The originals give the barometer

in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakhan the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in metres per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air as indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.)—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in metres per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Office, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrib. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea-disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

On the chart for June 24th, 1881, the area of lowest readings should appear in Iceland. The isobarometric line of 29.4 (746.7)

should cover the western part of Iceland, while the lines of 29.6 (751.8) and 29.8 (756.9) should run northeastward between Iceland and the Färöe Islands.

On the chart for June 25th, 1881, the area of least pressures should be in Iceland, and should be indicated by the isobarometric line of 29.0 (736.6). Southward and eastward of this region the pressure increases until the isobar of 29.6 (751.8) is reached; this line should run north-northeastward between the Färöe Islands and the Shetlands. The isobar of 29.8 (756.9) should include Scotland only, and not parts of Ireland and England, as indicated on the chart.

The line of 30.0 (762.0) remains unchanged.

Daily Bulletin, January 1st, 1881, page 5, Russian Series, Saint Petersburg, reduced barometer, 30.73 inches, should read 29.73 inches.

Daily Bulletin, May 1st, 1882, page 2, French, Mont-Louis, humidity, 84, should read 94.

2d, page 1, Austro-Hungarian, Kremsmunster, actual barometer, 729.0 mm., should read 728.0 mm.; page 5, United States, the direction of clouds at the following stations should be: Moorhead, upper; Morgantown and Mount Washington, lower; Nashville and New Haven, upper.

3d, page 1, Canadian, Halifax, velocity, 11 miles, should read 14 miles.

8th, page 3, Japanese, Tokei, temperature, 59°.3 Fahr., 15°.0 Cent., should read 59°.0 Fahr., 15°.3 Cent.

14th, page 4, United States, Cheyenne, velocity, 10.0 metres, should read 9.8 metres.

17th, page 3, Japanese, Nobiru, velocity, 0.3 miles, should read 10.3 miles; page 8, Miscellaneous, "Antonio Lopez," N. 30° 11′, should read N. 30° 01′.

18th, page 7, American Steamship Co., s. s. "Indiana," longitude, E., should read W.; Hamburg-American Packet Co., s. s. "Bohemia," latitude, N. 40° 39′, should read N. 49° 39′.

21st, page 1, Canadian sub-series, Saint John's Newfoundland, reduced barometer, 29.42 inches, should read 30.42 inches.

22d, page 8, Miscellaneous, s. "Ismir," latitude N. 64° —′, should read N. 6° 40′.

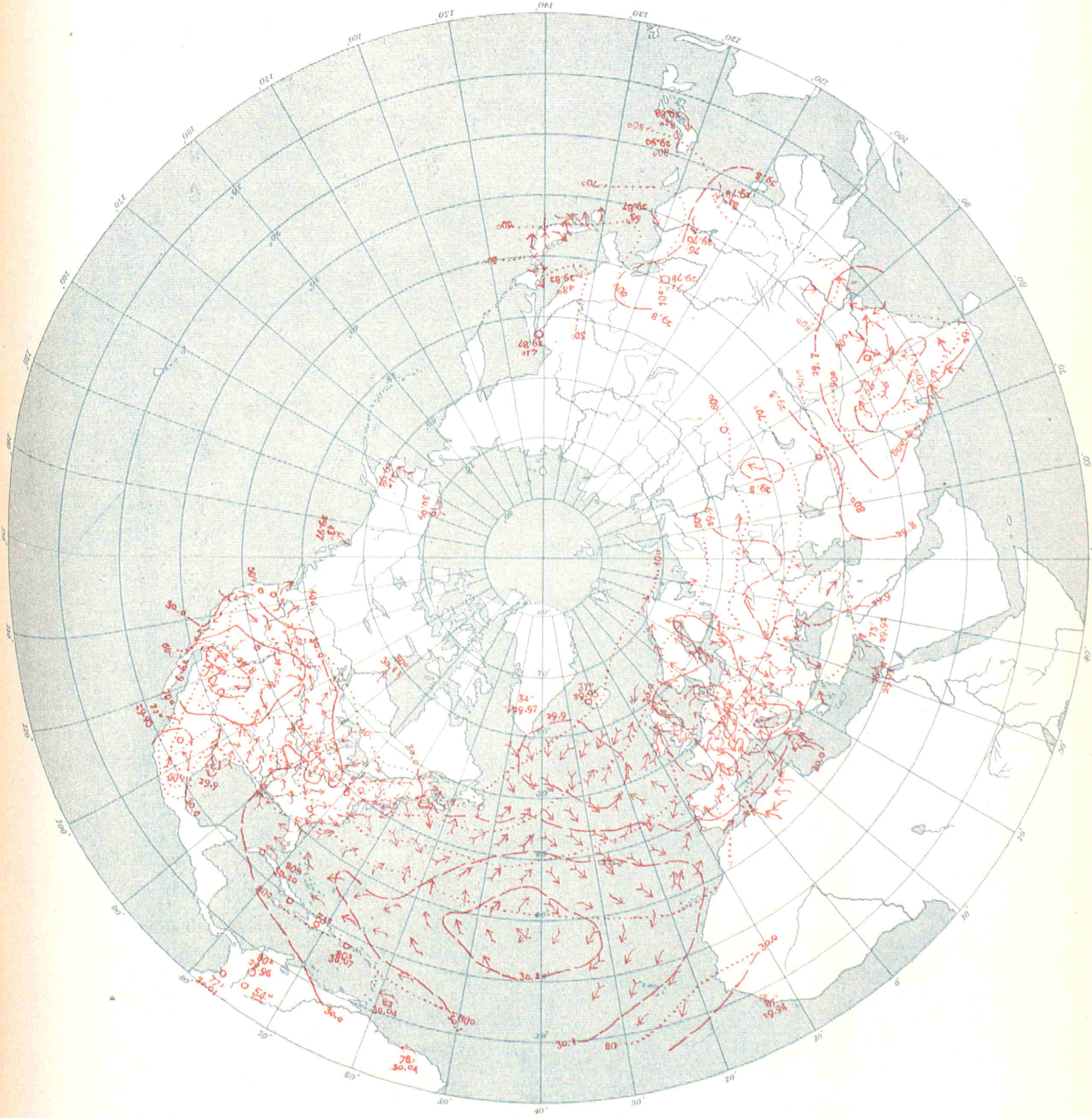
26th, page 3, Portuguese, Saint Paul de Loando, temperature, Fahr., 74°.3, should read 76°.3.

28th, page 4, United States, Champaign, temperature, Cent., 19°.6, should read 10°.6.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

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

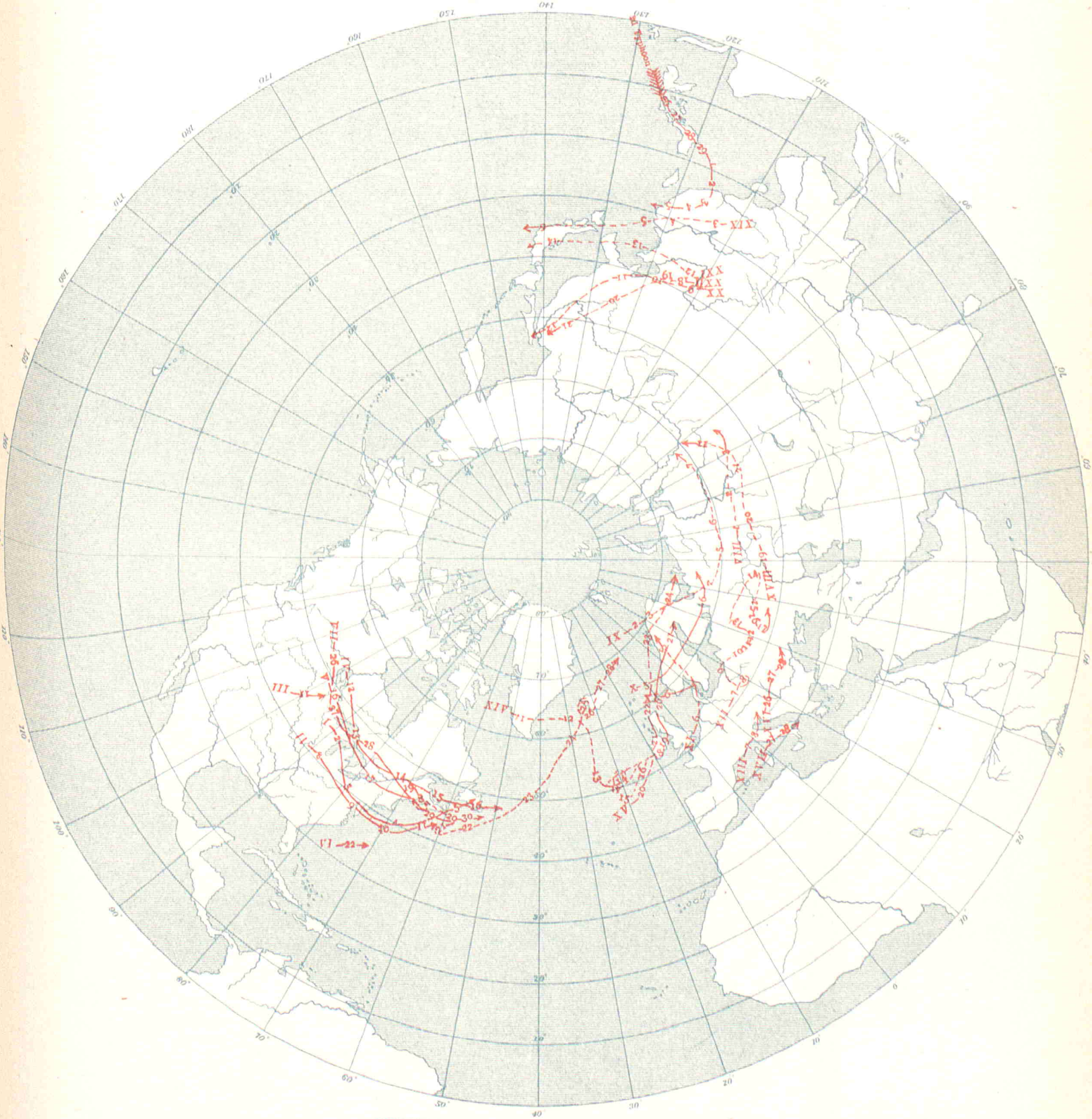
International Chart II. May, 1882. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

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

International Chart III. June, 1881. Storm-Tracks.



UNITED STATES OF AMERICA.

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

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF JUNE, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
JULY, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JUNE, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for June, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
Algerian.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.02	762.4	75.6	24.2	72.1	4	1	.....	4	10	4	6	1	.....	.....	.....	2	0.16	4.0
Algiers	N. 36 47	E. 3 04	0.20 p.m.	72	22	.....	.....	30.04	763.1	75.6	24.2	63.9	6	4	10	.....	.....	.....	.....	10	.....	.....	.....	2	0.42	10.8
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.04	763.1	78.8	26.0	66.4	9	5	1	.....	.....	.....	7	8	.....	.....	.....	2	0.02	0.5
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.06	763.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.12	765.1	85.6	29.8	36.1	2	2	2	3	2	9	5	5	.....	.....	.....	2	0.14	3.5
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.13	765.3	83.1	28.4	26.3	5	4	7	5	2	4	1	2	.....	.....	.....	2	1.54	39.2
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	88.3	31.3	19.2	3	5	6	1	8	3	1	3	.....	.....	.....	2	0.48	12.1
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.13	765.2	92.1	33.4	33.1	5	1	6	.....	2	1	11	4	.....	.....	.....	1	0.62	15.7
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.11	764.9	94.5	34.7	23.1	.....	5	2	1	.....	18	.....	2	2	.....	.....	3	1.10	28.0
Australian.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.96	760.9	30.05	763.2	47.0	8.3	86	5	3	6	4	7	1	1	2	1	.....	.....	5	1.38	35.0
Austro-Hungarian.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.42	747.3	29.96	760.9	70.7	21.5	52.3	.....	.....	2	12	2	3	4	7	.....	.....	.....	4	4.06	103.1
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.18	741.1	29.97	761.2	64.8	18.2	58.1	.....	7	5	7	1	.....	6	4	.....	.....	.....	7	2.39	60.6
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.06	738.0	29.89	759.3	61.2	16.2	72.4	9	3	1	.....	8	2	1	.....	6	.....	.....	6	2.32	58.8
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.73	729.7	29.95	760.6	66.7	19.3	74.8	.....	9	6	7	4	1	1	2	.....	.....	.....	4	3.74	94.9
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.53	724.6	29.91	759.6	70.3	21.3	56.	5	14	1	.....	2	6	2	.....	.....	.....	.....	7	5.07	128.7
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.64	727.5	29.96	760.9	63.7	17.6	66.2	.....	9	6	5	.....	.....	.....	7	3	.....	.....	6	4.18	106.1
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.94	735.0	29.89	759.3	66.9	19.4	53.3	.....	10	.....	7	4	3	.....	6	.....	.....	.....	7	2.94	74.6
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.87	758.6	29.98	761.4	74.7	23.7	63.5	.....	.....	4	1	6	14	5	.....	.....	.....	.....	5	2.19	55.7
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.46	748.2	29.91	759.6	71.8	22.1	45	2	4	3	8	4	3	1	5	.....	.....	.....	6	3.09	78.4
Szegedin c	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.67	753.7	29.94a	760.4a	69.6a	20.9a	53.3e	5	3	1	4	10	1	.....	.....	6	.....	.....	6	1.72	43.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.89	759.2	29.99	761.8	85.6	29.8	49.6	.....	.....	3	7	2	2	1	6	9	.....	.....	5	2.82	71.5
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.26	743.3	29.97	761.2	66.9	19.4	51.5	1	5	14	1	.....	8	.....	1	.....	.....	.....	5	1.15	29.2
British.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.71	754.6	29.81	757.2	55.0	12.8	74.1	3	4	3	1	6	7	3	3	.....	.....	.....	6	2.45	62.2
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.86	758.4	58.1	14.5	72.2	1	2	13	4	3	3	3	1	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.32	744.7	29.85	758.2	57.8	14.3	73.9	.....	7	7	6	5	2	3	.....	.....	.....	.....	8	.....	.....
Bradford d	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.45	748.0	29.85	758.2	59.5	15.3	63.7	.....	7	3	7	.....	6	.....	3	.....	.....	.....	7	3.93	99.8
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.80	756.9	29.94	760.5	60.7	15.9	69.7	1	4	3	7	6	.....	1	3	5	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.75	755.6	29.97	761.2	58.9	14.9	73.5	.....	4	9	5	5	5	1	1	.....	.....	.....	6	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.72	704.1	30.04	763.0	71.0	21.7	33.3	1	1	.....	.....	3	4	8	2	11	.....	.....	1	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.67	753.6	29.91	759.7	84.5	29.2	75.7	.....	12	14	4	.....	.....	.....	.....	.....	.....	.....	4	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.02	762.5	30.07	763.8	77.2	25.1	75.4	.....	3	7	5	.....	.....	10	5	.....	.....	.....	2	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.60	751.8	29.80	756.9	58.8	14.9	63.9	.....	2	8	9	3	2	1	5	.....	.....	.....	7a	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.74	755.4	29.91	759.7	61.3	16.3	68.7	1	4	4	7	10	.....	1	3	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.70	754.4	30.00	762.0	59.4	15.2	80.7	2	6	9	5	5	2	.....	1	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.89	759.2	29.93	760.2	61.1	16.2	62.0	2	1	12	9	2	.....	1	3	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.62	752.3	29.87	758.7	60.6	15.9	64.2	.....	9	.....	15	1	2	.....	3	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.94	760.5	30.02	762.5	78.8	26.0	61.6	1	5	2	2	1	5	4	10	.....	.....	.....	2	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.10	764.5	30.14	765.5	83.1	28.4	75.7	1	.....	1	5	6	12	3	2	.....	.....	.....	6	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.37	746.0	29.88	758.9	58.7	14.8	69.5	3	4	3	5	9	1	2	3	.....	.....	.....	8	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.68	753.9	29.91	759.7	59.5	15.3	67.0	.....	4	7	6	6	3	.....	4	.....	.....	.....	9	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.88	758.9	29.95	760.7	60.8	16.0	73.3	1	3	9	8	4	3	2	.....	.....	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.81	757.2	53.1	11.7	82.6	2	6	4	4	.....	4	8	2	.....	.....	.....	6	.....	.....
Scutari Cemetery a	N. 41 00	E. 29 03	2 04 p.m.	60	18	29.86	758.4	29.93	760.2	75.8	24.3	56.0	5	1	.....	8	6	1	.....	9	.....	.....	.....	3	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.58	751.3	29.86	758.4	62.4	16.9	77.2a	1	5	1	11	3	1	3	5	.....	.....	.....	8	3.08	78.2
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.79	756.7	29.80	756.9	60.8	16.0	69.0	1	6	7	10	.....	1	5	.....	.....	.....	.....	6	3.04	77.2
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.87	758.7	58.0	14.4	70.4	.....	5	12	5	4	1	3	.....	.....	.....	.....	8	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.71	754.6	29.93	760.2	61.9	16.6	66.2	.....	8	7	9	1	1	4	.....	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.94	760.5	29.95	760.7	63.0	17.2	71.9	.....	10	5	7	5	1	2	.....	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.88	758.9	29.91	759.7	57.5	14.2	77.1	.....	5	5	10	3	5	2	.....	.....	.....	.....	7	.....	.....
Canadian.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	80	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.76	755.9	29.80	756.9	56.0	13.3	81.1	2	2	4	7	8	3	.....	2	2	3553	5718	8	3.27	83.1
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.73	755.1	29.79	756.7	55.4	13.0	83.4	1	4	1	9	5	2	1	5	2	3777	6078	7	6.77	172.0
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.72	754.9	29.74	755.4	51.3	10.7	87.7	1	4	14	1	1	.....	.....	7	2	11660	18765	7	3.66	93.0
Fort Garry k	N. 49 51	W. 97 07	5.39 a.m.	754	230	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.72	754.9	29.85	758.2	57.3	14.1	81.0a	1	6	2	7	5	4	5	.....	.....	.....	.....	4	5.51	140.0
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.55	750.6	29.86	758.4	58.5	14.7	80.1	4	10	7	1	1	.....	2	3	2	4975	8006	7	3.67	93.2
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.61	752.1	29.81	757.2	60.6	15.9	71.8	.....	6	7	8	6	1	.....	.....	2	.....	.....	5	4.73	120.1
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.22	742.2	29.86	758.4	55.7	13.2	80.3b	1	3	6	1	6	4	7	2	.....	5685	9149	5	3.51	89.2
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.21	741.9	29.89	759.2	58.4	14.7	82.7	2	4	5	6	.....	.....	.....	4	9	4485	7218	6	3.30	83.8
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.26	743.2	29.89	759.2	55.4	13.0	83.5	4	4	8	1	1	2	7	2	1	.....	.....	5	4.73	120.1
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.48	748.8	29.80	756.9	54.8	12.7	85.2	6	1	13	1	.....	.....	2	3	4	.....	.....	5	4.99	126.7
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.36	746.2	29.83	757.7	53.7	12.1	81.0	1	8	7	.....	.....	1	5	.....	8	.....	.....	6	4.28	108.7
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.19	741.4	29.86	758.4	55.0	12.8	85.4	1	3	5	7	5	5	2	1	1	5948	9572	5	2.33	59.2
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.76	755.9	29.81	757.2	54.2	12.3	78.9	4	8	3	3	4	5	.....	1	2	.....	.....	3	4.31	109.5
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.77	756.1	29.83	757.7	54.8	12.7	79.9	5	2	5	11	3	1	2	.....	1	7021	11299	6	6.17	156.7
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.52	749.8	29.89	759.2	58.7	14.8	74.8	5	4	4	5	2	.....	3	2	5	6730	10831	6	2.69	68.3
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.78	756.4	29.85	758.2	53.6	12.0	86.5	2	7	1	7	6	1	2	.....	4	4038	6498	4	3.31	84.1
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.97	761.2	30.22	767.6	55.1	12.8	85.7	.....	.....	7	9	6	3	.....	5	.....	.....	.....	6	6.19	157.2
Cape Colony																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.16	766.1	30.19	766.8	65.3	18.5	75.6	.....	3	8	10	.....	2	1	5	1	.....	.....	4	1.04	26.4
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	30.14	765.5	30.18	766.6	62.0	16.7	77.9	.....	17	5	3	2	2	.....	.....	1	.....	.....	5	3.30	83.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for June, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
CHINESE.	° ′	° ′																								
Sub Series.																										
Hankow *f*	N. 30 34	E. 114 20	7.45 p.m.	260	79	29.65	753.1	29.86	758.4	75.6	24.2	88	2	1	.....	2	1	8	2	4	4	.....	.....	8	4.45	113.0
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.75	755.7	29.78	756.3	70.7	21.5	88	1	1	.....	1	2	8	11	5	1	.....	.....	8	8.69	220.8
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.80	756.9	29.85	758.1	61.9	16.6	66	3	1	4	6	4	9	2	.....	1	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.81	757.1	29.83	757.6	61.9	16.6	77	.....	5	10	4	3	4	4	.....	.....	.....	.....	7	.....	.....
Godthaab *k.*	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.77	756.2	29.82	757.3	37.8	3.2	89.1	4	.....	.....	1	5	.....	.....	5	4	.....	.....	8	1.57	40.0
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.89	759.1	29.93	760.2	43.9	6.6	82	.....	2	1	.....	1	9	10	5	2	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.85	758.3	29.89	759.2	50.4	10.2	80	5	.....	.....	3	1	1	2	13	5	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.72	755.0	29.82	757.3	60.6	15.9	74	.....	6	3	6	2	2	5	3	3	.....	.....	5	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.45	747.9	30.08	764.0	68.7	20.4	64.6	2	3	7	3	.....	1	.....	.....	14	.....	.....	.....	2.21	56.2
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.49	749.1	30.04	763.1	63.1	17.3	82.9	1	2	3	15	4	1	2	2	.....	.....	.....	.....	2.65	67.4
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.70	755.9	30.01	762.3	62.1	16.7	68.6	1*b*	10	5	3	3	2	1	3	.....	.....	.....	.....	2.67	67.8
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.93	760.2	30.01	762.2	77.7	25.4	47.1	13	8	.....	4	3	.....	.....	2	.....	.....	.....	4	0.10	2.5
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.47	748.6	30.02	762.5	65.5	18.6	60	3	3	4	6	8	4	2	.....	.....	.....	.....	8	4.19	106.4
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.73	755.1	29.98	761.6	65.8	18.8	56.1	1	2	12	5	3	3	3	1	.....	.....	.....	5	2.34	59.3
Besançon	N. 47 14	E. 6 01	0.32 p.m.	846	258	29.10	739.0	30.02	762.5	67.5	19.7	66.1	2	.....	2	8	12	1	.....	5	.....	.....	.....	.....	6.11	155.2
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.82	757.3	30.07	763.8	67.3	19.6	57.5	2	6	10	5	2	.....	3	2	.....	.....	.....	8	1.51	38.4
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.50	749.4	30.05	763.2	66.6	19.2	55.9	5	3	9	5	5	1	1	1	.....	.....	.....	.....	2.52	63.9
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.86	750.8	30.04	763.0	63.5	17.5	73.0	2	5	7	10	1	1	.....	3	1	.....	.....	8	6.33	160.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.90	759.5	29.98	761.4	63.9	17.7	65.9	2	6	4	5	9	1	.....	3	.....	.....	.....	6	4.16	105.8
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.65	753.1	29.97	761.2	64.4	18.0	62.5	.....	1	8	4	11	2	2	.....	2	.....	.....	6	3.02	76.7
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.46	748.2	29.96	760.9	64.6	18.1	57.0	.....	4	4	11	8	2	1	.....	.....	.....	.....	8	4.32	109.7
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.70	728.9	30.02	762.4	68.2	20.1	54.1	7	5	6	4	.....	1	2	5	.....	.....	.....	7	2.75	69.8
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.22	742.2	30.00	763.4	66.9	19.4	60.8	2	7	6	6	1	2	2	4	.....	.....	.....	7	3.55	90.2
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.15	740.5	30.00	762.0	64.6	18.1	63.6	.....	4	14	7	1	.....	2	2	.....	.....	.....	.....	6.06	153.9
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.53	699.3	29.97	761.3	73.9	23.3	39.5	3	4	5	8	4	1	.....	4	1	.....	.....	.....	0.43	10.9
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.90	734.0	29.98	761.4	77.7	25.4	30.4	.....	.....	.....	.....	.....	21	4	5	.....	.....	.....	6	0	0
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.24	742.8	29.99	761.7	68.7	20.4	63.4	3	14	7	2	.....	1	3	.....	.....	.....	.....	.....	2.32	58.9
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.50	723.9	30.06	763.4	62.8	17.1	67.1	1	3	6	16	1	1	1	1	.....	.....	.....	6	3.27	83.0
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.76	755.8	30.03	762.8	62.4	16.9	70.1	2	8	6	5	4	3	1	1	.....	.....	.....	6	2.64	67.0
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.52	749.9	30.08	764.0	68.9	20.5	61.5	2	6	8	6	5	2	1	.....	.....	.....	.....	4	2.57	65.3
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.95	760.8	30.06	763.4	63.7	17.6	68.4	1	3	8	11	5	1	.....	1	.....	.....	.....	8	2.85	72.5
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.01	736.8	30.04	763.1	68.5	20.3	53.6	8	6	1	.....	7	3	3	2	.....	.....	.....	.....	3.46	87.9
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.73	755.1	30.03	762.8	63.5	17.5	66.5	.....	10	6	6	2	3	1	2	.....	.....	.....	5	4.44	112.8
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.74	755.4	30.00	762.0	75.6	24.2	45.9	.....	8	9	4	5	4	.....	.....	.....	.....	.....	.....	0.01	0.2
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.93	633.3	29.76	756.0	61.5	16.4	46.9	1	1	4	7	2	5	8	2	.....	.....	.....	4	2.30	58.3
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.89	759.1	30.01	762.2	75.7	24.3	52.5	3	.....	.....	.....	.....	14	10	2	1	.....	.....	3	0.16	4.
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.22	742.3	29.99	761.8	64.9	18.3	63.8	3	2	3	9	12	.....	.....	1	.....	.....	.....	.....	3.91	99.4
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.91	759.7	30.07	763.8	65.7	18.7	64.5	2	1	10	14	1	.....	1	1	.....	.....	.....	9	3.66	93.0
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.94	760.5	30.04	763.1	74.1	23.4	47.7	1	7	1	2	2	12	3	2	.....	.....	.....	5	0.14	3.6
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.36	542.6	.....	.....	43.2	6.2	.....	.....	2	3	18	3	1	1	2	.....	.....	.....	5	2.65	67.3
Privas..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.99	730.3	30.02	762.5	72.9	22.7	43.8	12	3	1	1	7	2	.....	.....	4	.....	.....	6	1.15	29.2
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.21	640.4	.....	.....	47.1	8.4	86.7	1	.....	17	3	3	1	4	1	.....	.....	.....	7	5.92	150.4
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.04	763.1	30.08	763.9	68.4	20.2	95.4	.....	2	14	8	3	.....	2	1	.....	.....	.....	7	6.61	168.
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.84	758.0	30.05	763.3	64.4	18.0	72.5	1	2	5	14	3	1	2	2	.....	.....	.....	6	3.38	85.8
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.99	710.9	30.10	764.4	65.3	18.5	60.1	.....	8	4	5	.....	4	4	2	3	.....	.....	.....	1.82	46.3
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.94	760.4	29.98	761.6	64.0	17.8	65.5	.....	2	4	14	7	.....	2	1	.....	.....	.....	7	3.32	84.2
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.84	757.9	30.00	762.1	64.8	18.2	61.4	2	4	4	9	5	2	2	1	1	.....	.....	8	1.84	46.6
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.41	747.0	30.13	765.4	71.4	21.9	57.4	5	7	7	2	2	5	.....	2	.....	.....	.....	5	2.00	50.9
Tours	N. 47 24	E. 0 41	0.11 p.m.	164	50	29.86	758.4	30.04	762.9	66.9	19.4	62.7	4	2	7	15	.....	1	1	.....	.....	.....	.....	.....	2.94	74.6
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.51	749.6	30.00	762.1	64.0	17.8	58.8	4	2	12	6	2	2	1	1	.....	.....	.....	8	1.90	48.2
Sub-Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	29.72	755.0	30.01	762.3	64.4	18.0	60.8	.....	5	8	7	5	1	2	2	.....	.....	.....	8	1.28	32.6
GERMAN.																										
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	796	242	29.13	739.8	29.98	761.4	65.8	18.8	57.8	.....	4	8	6	1	4	3	1	3	.....	.....	5	2.74	69.5
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.82	757.4	29.99	761.8	66.0	18.9	54.1	2	5	4	5	2	10	1	1	.....	.....	.....	7	3.51	89.2
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.45	747.9	29.98	761.4	64.8	18.2	51.6	2	4	8	5	2	4	4	1	.....	.....	.....	7	3.27	83.1
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.55	750.6	29.98	761.4	66.9	19.4	61.2	.....	.....	2	17	.....	1	3	7	.....	.....	.....	7	5.70	144.7
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.19	741.4	29.90	759.5	67.5	19.7	57.6	3	2	7	8	6	2	1	1	.....	.....	.....	7	5.92	150.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.59	751.5	29.95	760.6	67.8	19.9	55.4	2	3	7	8	6	4	.....	.....	.....	.....	.....	6	3.08	78.2
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.59	720.1	29.99	761.7	64.9	18.3	66.5	.....	1	4	15	7	1	.....	2	.....	.....	.....	6	8.58	217.9
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.79	756.7	29.89	759.1	64.0	17.8	60.8	.....	2	8	9	1	4	5	1	.....	.....	.....	7	3.51	89.2
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.83	757.7	29.85	758.1	63.0	17.2	63.3	3	2	9	6	1	5	2	1	1	.....	.....	7	3.08	78.3
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.52	749.7	29.93	760.2	66.4	19.1	54.7	2	3	3	8	6	5	3	.....	.....	.....	.....	7	4.43	112.6
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.71	754.7	29.90	759.4	66.0	18.9	54.3	1	2	10	4	5	4	2	2	.....	.....	.....	6	2.72	69.1
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.89	759.2	29.93	760.3	65.1	18.4	60.0	1	8	3	7	6	1	3	1	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.20	716.2	30.06	763.6	63.9	17.7	52.4	2	16	2	.....	.....	.....	2	4	4	.....	.....	6	4.41	112.0
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.90	759.5	29.92	759.9	63.5	17.5	63.6	6	3	4	5	2	4	1	5	.....	.....	.....	7	2.08	52.7
Neustadt *a*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.43	747.6	29.95	760.8	66.7	19.3	59.8	2	.....	13	1	6	.....	3	3	1	.....	.....	7 *d*	2.72	69.0
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.04	737.5	29.90	759.5	67.1	19.5	54.0	1	3	9	4	1	4	5	3	.....	.....	.....	6	3.56	90.5
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.87	758.6	29.89	759.2	63.7	17.6	81.6	1	4	4	6	4	7	2	2	.....	.....	.....	8	2.96	75.3
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	360	110	29.58	751.3	.....	.....	80.8	27.1	.....	.....	.....	.....	17	6	.....	.....	7	.....	.....	.....	2	0.18	4.0
ITALIAN.																										
Udine	N. 46 04	E. 13 14	1.01 p.m.	381	116	29.69	754.2	29.98	761.6	72.5	22.5	65	3	2	4	6	6	4	.....	2	3	.....	.....	6	5.38	136.7
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.46	748.3	29.96	760.9	76.5	24.7	41	.....	5	1	5	2	10	2	5	.....	.....	.....	5	2.18	55.4
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.86	758.4	29.97	761.1	74.8	23.8	44	1	.....	3	3	4	7	8	4	.....	.....	.....	5	1.87	47.6
Moncalieri	N. 45 00	E. 7 42	0.39 p.m.	853	260	29.06	738.0	29.93	760.2	75.2	24.0	41	6	3	2	.....	4	9	6	.....	.....	.....	.....	5	1.38	35.0
Genoa	N. 44 25	E. 8 55	0.44 p.m.	157	48	29.80	756.8	29.99	761.7	72.0	22.2	60	3	.....	.....	19	.....	7	1	.....	.....	.....	.....	4	0.48	12.1
Mondovi	N. 44 22	E. 7 48	0.39 p.m.	1824	556	28.07	713.0	29.91	759.8	73.4	23.0	47	3	6	12	1	.....	2	3	3	.....	.....	.....	3	0.37	9.4
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.92	759.9	29.97	761.1	73.4	23.0	57	3	1	3	2	.....	6	9	6	.....	.....	.....	4	0.34	8.7
Florence	N. 43 46	E. 11 14	0.53 p.m.	240	73	29.72	754.8	29.97	761.2	78.3	25.7	41	1	11	6	5	1	.....	1	5	.....	.....	.....	4	0.56	14.3
Leghorn	N. 43 32	E. 10 18	0.49 p.m.	79	24	29.84	758.0	29.93	760.2	74.5	23.6	60	.....	2	16	7	5	.....	.....	.....	.....	.....	.....	6	0.49	12.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.82	757.5	29.99	761.8	80.4	26.9	40	1	3	5	19	2	.....	.....	.....	.....	.....	.....	4	0.90	22.8
Lecce	N. 40 21	E. 18 12	1.21 p.m.	236	72	29.75	755.6	29.99	761.8	79.9	26.6	37	6	5	.....	7	5	.....	1	6	.....	.....	.....	2	0.48	12.3
Cosenza	N. 39 13	E. 16 15	1.13 p.m.	840	256	29.13	740.0	29.99	761.7	81.7	27.6	73	.....	.....	6	15	4	4	1	.....	.....	.....	.....	3	0.24	6.2
Cagliari	N. 39 13	E. 9 10	0.45 p.m.	180	55	29.77	759.2	29.97	761.3	77.7	25.4	47	.....	9	1	.....	4	15	.....	.....	1	.....	.....	2	0.30	7.6
Palermo	N. 38 07	E. 13 22	1.02 p.m.	236	72	29.80	756.8	30.04	763.1	77.2	25.1	52	.....	3	1	.....	.....	.....	12	14	.....	.....	.....	2	0.63	16.1
Syracuse	N. 37 03	E. 15 18	1.09 p.m.	43	13	29.96	760.9	30.00	761.9	78.6	25.9	62	3	1	.....	.....	13	3	4	6	.....	.....	.....	4	0.03	0.8
Sub-Series.																										
Naples	N. 40 52	E. 14 18	1.05 p.m.	489	149	29.49	749.0	30.00	761.9	76.3	24.6	56.2	1	1	4	14	3	2	5	.....	.....	.....	.....	3	0.71	18.0
Stelvio	N. 46 32	E. 10 26	0.50 p.m.	8343	2543	22.23	564.5	.....	.....	44.6	7.0	58.7	1	.....	8	8	3	4	2	4	.....	.....	.....	2	6.12	155.7
Valdobbia	N. 45 47	E. 7 54	0.40 p.m.	8360	2548	22.27	565.6	.....	.....	45.9	7.7	68.2	14	1	.....	.....	.....	.....	9	6	.....	.....	.....	8	1.50	38.1
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.51	749.6	29.56	750.9	88.5	31.4	77	.....	.....	13	17	.....	.....	.....	.....	.....	.....	.....	5	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.02	737.2	29.48	748.8	98.3	36.8	41	.....	.....	7	20	2	.....	.....	1	.....	.....	.....	5	1.21	30.7
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.63	752.6	29.67	753.6	82.6	28.1	84	.....	1	17	8	4	.....	.....	.....	.....	.....	.....	9	27.54	699.5
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.82	706.6	29.66	753.4	78.8	26.0	68	.....	.....	13	15	1	1	.....	.....	.....	.....	.....	8	9.31	236.5
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.47	748.5	29.74	755.5	88.8	31.6	49	1	16	10	1	2	.....	.....	.....	.....	.....	.....	9	0	0
Beliary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.21	716.6	29.65	753.2	86.9	30.5	49	.....	3	21	6	.....	.....	.....	.....	.....	.....	.....	.....	0.02	0.5
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.20	691.1	29.75	755.6	71.8	22.1	86	.....	.....	14	16	.....	.....	.....	.....	.....	.....	.....	8	16.95	430.5
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.65	727.6	29.34	745.3	104.8	40.4	26	3	3	9	3	1	2	2	2	5	.....	.....	2	0.47	11.9
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.54	724.9	29.40	746.7	95.5	35.3	46	.....	7	3	2	1	4	5	2	6	.....	.....	4	5.37	136.4
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.88	733.6	29.46	748.3	95.6	35.3	48	2	6	1	2	4	3	7	5	.....	.....	.....	4	2.06	52.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
INDIAN.—Cont'd.	° ′	° ′																								
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.50	723.8	29.52	749.7	86.2	30.1	62	1	6	5	10	1	1	1	.....	5	.....	.....	9	8.92	226.6
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.22	716.6	29.55	750.5	84.3	29.1	65	.....	5	8	2	4	2	4	1	4	.....	.....	8	23.93	607.8
Lucknow	N. 26 50	E. 81 08	5.32 p.m.	369	112	29.07	738.4	29.44	747.6	93.1	33.9	56	2	1	4	5	.....	2	3	2	11	.....	.....	4	4.67	118.6
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.12	739.7	29.42	747.4	92.0	33.3	59	.....	2	1	4	1	3	8	3	8	.....	.....	6	11.11	282.2
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.31	744.4	29.49	749.0	88.2	31.2	71	.....	2	2	2	1	6	9	8	.....	.....	.....	6	7.77	197.4
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.51	698.8	29.48	748.9	82.3	27.9	60	4	6	3	1	5	4	6	.....	1	.....	.....	8	10.10	256.5
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.44	747.7	29.52	749.7	87.7	30.9	67	1	.....	1	8	9	5	1	2	3	.....	.....	6	6.46	164.1
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	7	29.48	748.8	29.50	749.4	84.0	28.9	83	.....	2	1	13	10	3	.....	1	.....	.....	.....	8	9.99	253.8
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.38	746.2	29.50	749.2	82.3	27.9	83	.....	.....	.....	3	3	1	5	3	15	.....	.....	6	29.28	743.7
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.51	749.8	29.60	751.8	81.5	27.5	86	.....	1	1	3	13	6	2	.....	4	.....	.....	7	1.49	37.8
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.23	742.4	29.56	750.8	84.8	29.3	79	.....	.....	.....	15	1	1	1	12	.....	.....	.....	7	9.29	236.0
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.05	712.4	29.58	751.4	96.5	35.8	41	.....	8	7	2	3	2	5	3	.....	.....	.....	6	1.08	27.4
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.03	762.7	.....	.....	82.5	28.1	59	.....	.....	.....	2	13	13	.....	.....	2	.....	.....	6	0.49	12.4
JAPANESE.																										
Aomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.76	755.9	29.79	756.7	59.9	15.5	84.3	6	2	9	3	1	.....	3	2	4	3658	5887	7	2.51	63.7
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.77	756.3	29.78	756.5	56.0	13.4	89	1	.....	7	3	2	1	9	.....	7	5185	8344	6	1.78	45.2
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	29.75	755.5	29.76	755.9	68.1	20.1	85.4	9	1	8	7	4	.....	1	.....	.....	2933	4720	7	7.10	180.4
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	29.80	756.9	29.90	759.5	64.7	18.2	87.2	9	1	5	.....	4	4	5	2	.....	4155	6687	9	6.36	161.7
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.62	752.6	29.80	756.9	67.8	19.9	80.0	5	2	4	3	8	1	4	2	1	1786	2874	8	5.99	152.2
Kochi	N. 33 33	E. 133 34	9.02 p.m.	20	6	29.80	756.8	29.82	757.4	69.4	20.8	88.5	3	8	3	.....	7	1	6	2	.....	4319	6951	10	24.31	617.6
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.61	752.1	29.81	757.1	67.8	19.9	87.4	5	.....	3	9	5	1	2	3	2	3476	5594	8	20.96	532.4
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	58	18	29.76	756.0	29.82	757.5	49.8	9.9	90.7	3	1	1	.....	1	5	1	2	16	.....	.....	9	5.55	141.0
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.76	755.8	29.79	756.7	63.5	17.5	89.4	12	.....	5	4	.....	.....	4	4	1	3814	6138	8	3.02	76.6
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.77	756.2	29.79	756.6	62.4	16.9	89.1	10	2	.....	2	8	2	3	3	.....	6249	10056	8	5.50	137.5
Supporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	56.6	13.7	88	6	4	.....	.....	1	7	2	.....	10	4784	7699	7	1.78	45.3
Tokei	N. 35 40	E. 139 45	9.27 p.m.	63	19	29.73	755.1	29.80	756.8	67.0	19.4	88.8	5	1	1	2	14	.....	5	1	1	3635	5850	7	7.55	191.8
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.75	755.6	29.80	756.9	68.9	20.5	82.1	2	.....	2	4	6	.....	6	4	6	2483	3996	8	10.77	273.6
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.95	760.7	30.14	765.5	73.2	22.9	65.3	.....	2	2	2	3	10	11	.....	.....	.....	.....	5	2.86	72.6
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.70	602.0	29.92	760.0	60.8	16.0	86	1	.....	1	2	.....	.....	3	9	14	.....	.....	6	9.25	235.0
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.33	618.0	29.96	760.9	61.3	16.3	85	4	15	1	3	.....	1	.....	5	1	.....	.....	7	4.78	121.4
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.67	753.7	29.93	760.2	76.4	24.7	88	2	6	.....	1	.....	6	5	10	.....	.....	.....	5	0.81	20.5
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.12	587.3	30.14	765.5	56.1	13.4	80	1	9	2	.....	.....	.....	.....	.....	18	.....	.....	8	4.98	126.4
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.20	614.7	30.16?	768.7?	60.8	16.0	61	6	.....	.....	.....	1	8	1	14	.....	.....	.....	4	4.99?	126.0?
Pabellon *a*	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.94	608.0	29.88	758.9	62.8	17.1	88	4	.....	3	1	3	5	1	1	11	.....	.....	.....	5.78	146.6
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.43	595.1	30.16	766.1	55.3	12.9	89	.....	.....	.....	.....	.....	.....	.....	2	28	.....	.....	3	11.33?	261.8?
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	24.25	615.8	30.15	765.8	62.6	17.0	69	.....	1	1	1	1	7	16	3	.....	.....	.....	7	2.56	65.0
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.59	553.8	30.18	766.3	56.3	13.5	83	2	.....	3	1	.....	2	9	5	8	.....	.....	4	3.56	90.4
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.94	760.5	29.94	760.5	62.4	16.9	.....	.....	3	12	7	1	3	2	2	.....	.....	.....	.....	3.02	76.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.82	757.4	29.87	758.8	62.4	16.9	.....	6	6	3	6	7	1	1	.....	.....	.....	.....	.....	5.04	127.9
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.87	758.8	29.87	758.8	58.6	14.8	.....	1	3	8	10	3	1	3	1	.....	.....	.....	.....	4.76	121.0
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.92	759.9	29.92	759.9	62.2	16.8	70.3	.....	7	8	8	.....	1	1	3	2	.....	.....	.....	4.74	120.3
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.87	758.6	29.91	759.8	64.0	17.8	67.4	1	.....	8	13	4	3	.....	1	.....	.....	.....	6	5.75	146.1
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.72	755.0	29.79	756.6	62.1	16.7	60.3	3	9	5	.....	7	4	2	.....	.....	.....	.....	6	4.54	115.2
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.81	757.2	29.85	758.2	58.6	13.8	60.2	9	4	2	2	.....	4	2	6	1	.....	.....	5	1.80	45.6
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.67	753.6	29.81	757.2	64.2	17.9	57.1	3	2	1	8	6	2	6	2	.....	.....	.....	7	3.18	80.7
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.93	760.1	29.95	760.7	45.1	7.3	.....	3	3	7	2	.....	2	2	6	5	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.87	758.6	29.91	759.8	53.2	11.8	54.6	3	2	1	3	2	.....	5	9	5	.....	.....	5	1.28	32.4
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	66.6	19.2	78.6	2	3	10	2	1	9	2	1	.....	.....	.....	3	0.14	3.5
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.07	738.4	30.04	762.9	77.7	25.4	34.4	5	3	7	7	3	2	3	.....	.....	.....	.....	2	0.11	2.8
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.13	765.3	30.22	767.5	69.3	20.7	64.8	4	.....	.....	26	2	.....	.....	.....	1	.....	.....	6	0.97	24.6
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.78	756.3	30.13	765.3	69.6	20.9	52.0	10	8	2	5	3	.....	1	1	.....	.....	.....	2	0.35	9.0
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.26	768.7	30.34	770.5	71.4	21.9	62.9	3	1	5	5	1	4	.....	4	7	.....	.....	4	0.60	15.3
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.81	757.2	30.02	762.4	73.4	23.0	88.6	11	4	10	3	1	1	.....	.....	.....	.....	.....	4	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.39	645.0	30.05	763.2	57.9	14.4	49.8	2	6	7	.....	.....	7	5	3	.....	.....	.....	3	1.94	49.4
RUSSIAN.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.65	727.7	29.67	753.7	73.4	23.0	36.9	2	5	6	9	1	5	1	.....	1	.....	.....	4	0.56	14.1
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.84	757.9	29.86	758.4	53.2	11.8	67.9	4	8	7	2	1	1	3	.....	4	.....	.....	7	2.79	70.8
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	‖68	‖21	29.89	759.1	29.80	757.0	80.6	27.0	45.9	4	2	7	4	3	6	2	.....	2	.....	.....	4	1.66	42.3
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.25	742.9	29.73	755.1	66.2	19.0	53.8	3	3	5	4	3	.....	.....	5	7	.....	.....	6	2.20	56.0
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.65	753.1	29.89	759.1	66.4	19.1	55.7	5	2	6	3	1	1	5	7	.....	.....	.....	7	1.63	41.4
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.80	731.4	29.72	755.0	64.4	18.0	57.0	1	4	10	2	2	1	3	5	2	.....	.....	8	3.63	92.1
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.46	748.2	29.72	754.8	69.6	20.9	55.8	4	4	3	5	5	1	1	5	2	.....	.....	9	3.52	89.4
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.82	757.4	29.84	757.9	71.2	21.8	66.9	2	6	2	2	7	6	1	1	3	.....	.....	4	1.88	47.7
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.20	741.6	29.81	757.2	68.0	20.0	53.7	6	8	5	5	2	2	.....	2	.....	.....	.....	7	4.04	102.6
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.55	750.6	29.75	755.6	75.2	24.0	49.3	3	6	8	4	4	3	1	1	.....	.....	.....	7	3.01	76.5
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.27	743.4	29.72	754.9	68.0	20.0	52.8	14	.....	2	4	6	.....	2	1	1	.....	.....	6	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.82	757.3	29.89	759.1	76.1	24.5	52.3	7	3	1	7	6	.....	.....	3	3	.....	.....	4	2.73	69.4
Nikolaievsk	N. 53 08	E. 140 45	9.31 p.m.	75?	23?	29.67	753.7	29.76	755.9	54.9	12.7	80.2	3	.....	.....	.....	.....	7	4	2	14	.....	.....	7	2.03	51.6
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.51	749.5	29.65	753.1	80.4	26.9	48.6	.....	1	.....	4	2	3	.....	1	19	.....	.....	4	2.72	69.2
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.85	758.2	29.87	758.6	63.7	17.6	50.3	3	10	4	1	2	.....	3	7	.....	.....	.....	5	1.16	29.4
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.12	739.7	29.74	755.5	75.7	24.3	36.7	6	7	3	3	.....	.....	.....	3	8	.....	.....	4	1.53	38.8
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.21	716.6	29.07	753.7	86.4	30.2	40.8	3	1	1	.....	.....	.....	.....	1	24	.....	.....	3	0	0
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.46	723.0	29.81	757.2	80.4	26.9	43.1	2	7	2	.....	8	4	3	.....	4	.....	.....	4	1.21	30.8
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.67	753.6	29.74	755.3	55.8	13.2	92.5	.....	.....	.....	.....	.....	22	1	.....	7	.....	.....	7	.....	.....
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.49	749.1	29.90	759.5	66.6	19.2	54.0	2	10	3	3	4	2	4	2	.....	.....	.....	9	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.48	748.8	29.89	759.1	67.6	19.8	49.6	3	5	7	6	1	1	1	5	1	.....	.....	6	2.32	59.0
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	29.72	754.9	29.80	756.9	56.1	13.4	93.0	6	4	3	4	3	5	3	.....	2	.....	.....	6	3.6	91.4
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.91	759.7	30.01	762.3	72.7	22.6	66	.....	.....	.....	3	7	7	12	1	.....	1584	2549	3	0.27	6.9
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.06	763.5	30.12	765.0	72.7	22.6	58	1	21	3	.....	1	1	2	1	.....	1838	2958	6	1.02	25.9
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.16	689.8	30.04	763.0	69.1	20.6	54	.....	.....	2	4	1	3	.....	20	.....	4403	7183	3	0.26	6.5
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.85	707.3	29.98	761.4	78.6	25.9	37.7	3	5	3	8	5	1	2	3	.....	740	1191	2	0.30	7.7
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.91	759.7	30.07	763.8	73.9	23.3	56.0	.....	3	.....	.....	2	9	9	7	.....	1945	3130	3	0	0
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.19	741.4	30.07	763.8	65.1	18.4	71	6	3	.....	9	1	.....	1	3	7	5923	9532	7	2.09	53.0
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.99	761.8	30.06	763.5	80.2	26.8	80	1	.....	.....	1	.....	8	11	.....	9	.....	.....	3	3.29	83.6
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.81	757.1	29.86	758.5	82.4	28.0	79.7	2	4	.....	7	4	5	7	1	.....	.....	.....	7	8.43	214.1
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.99	761.8	30.09	764.2	75.3	24.1	57	.....	3	12	3	3	1	6	.....	2	.....	.....	2	inap.	inap.
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.01	762.3	30.10	764.6	82.4	28.0	83	.....	.....	.....	2	1	9	13	.....	5	.....	.....	3	1.28	32.5
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.73	755.1	29.87	758.7	81.3	27.4	82.8	2	13	3	1	5	1	.....	5	.....	.....	.....	4	1.79	45.5
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.87	758.6	29.91	759.6	55.9	13.3	65	3	2	.....	6	8	1	.....	9	1	.....	.....	6	2.26	57.5
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.85	758.3	29.91	759.6	60.4	15.8	54	1	3	.....	10	6	3	4	3	.....	.....	.....	5	1.19	30.2
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.84	757.9	29.89	759.2	58.8	14.9	60	1	1	3	1	10	2	6	6	.....	.....	.....	5	0.88	22.3
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.71	754.5	29.88	759.0	63.7	17.6	49	2	2	5	4	2	7	4	4	.....	.....	.....	5	1.31	33.3
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.79	756.6	29.85	758.1	62.6	17.0	61	7	3	3	6	2	5	3	1	.....	.....	.....	4	1.12	28.5
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.77	756.1	29.85	758.3	63.3	17.4	55.6	5	2	.....	6	3	4	4	6	.....	.....	.....	6	1.49	37.8
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.64	727.5	30.03	762.7	66.6	19.2	56.7	9	4	1	5	8	2	.....	1	.....	.....	.....	.....	4.08	103.6

‖ Below sea level.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for June, 1882. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
TURKISH.	° ′	° ′																								
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.98	761.4	73.6	23.1	.....	8	4	.....	7	5	.....	.....	6	.....	.....	.....	4	0.82	20.9
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.11	764.8	78.8	26.0	.....	.....	1	1	1	1	9	4	13	.....	.....	.....	3	0	0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.72	755.0	79.0	26.1	62.9	4	5	10	9	.....	.....	.....	2	.....	.....	.....	1	0.06	1.5
UNITED STATES.																										
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.81	757.2	29.89	759.2	66.6	19.2	65.6	7	2	5	4	11	.....	.....	.....	1	4217	6786	5	3.98	101.1
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.23	742.4	29.88	758.9	55.7	13.2	75.0	1	10	7	1	1	3	4	2	1	6562	10560	5	6.66	169.2
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.89	733.8	30.04	763.3	71.3	21.8	79.1	2	10	8	1	1	.....	7	1	.....	5089	8190	6	3.22	81.8
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	29.91	759.7	29.92	760.0	65.1	18.4	77.4	5	4	3	5	7	1	1	4	.....	6246	10052	4	1.72	43.7
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.87	758.7	30.06	763.5	73.6	23.1	81.3	.....	4	3	6	3	2	2	1	9	2636	4242	6	4.12	104.6
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	29.91	759.7	29.96	761.0	69.9	21.1	67.3	5	7	5	5	4	2	.....	2	.....	4723	7601	5	2.30	58.4
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	29.90	759.4	29.92	760.0	66.0	18.9	74.7	6	6	3	6	8	.. ..	1	.....	.....	7473	12026	5	3.26	82.8
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.75	755.6	29.77	756.1	40.6	4.8	.....	2	1	.....	5	6	4	4	7	1	8960	14420	9	2.03	51.6
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1694	516	28.09	713.5	29.84	757.9	56.5	13.6	81.4	1	5	1	.....	2	6	6	4	5	5977	9619	5	3.88	98.6
Block Id	N. 41 10	W. 71 37	7.22 a.m.	27	8	29.88	758.9	29.91	759.7	61.8	16.6	78.2	5	5	4	10	.....	2	3	1	.....	8957	14415	4	2.86	72.6
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.10	688.3	29.88	758.9	52.6	11.4	65.3	4	6	10	2	.....	1	1	2	4	3597	5644	3	0.29	7.4
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.73	755.1	29.88	758.9	62.5	16.9	70.4	1	3	12	6	2	2	1	2	1	5586	8990	5	1.03	26.2
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	29.89	759.2	29.93	760.2	78.0	25.6	88.9	2	.....	.....	1	9	9	1	1	7	5335	8586	3	1.69	42.9
Buffalo *a*	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.17	740.9	29.91	759.7	59.9	15.5	72 9	.....	1	2	8	4	2	3	3	6	6192	9965	6	2.96	75.2
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.55	750.6	29.84	757.9	62.2	16.8	70.1	3	2	.....	3	15	.....	.....	3	4	4846	7799	5	3.17	80.5
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.61	752.1	30.00	762.0	72.4	22.4	79.9	2	4	3	10	2	3	.....	2	4	4581	7372	5	3.34	84.8
Campc	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.36	694.9	29.84	757.9	41.7	5.4	80.3	.....	1	11	2	13	2	.....	.....	1	3863	6217	2	0.20	6.6
Camp Thomas	N. 33 04	W. 110 06	4.49 a.m.	2710	826	27.16	689.9	29.79	756.7	62.1	16.7	59.2	.....	1	3	2	7	8	2	1	6	.....	.....	3	1.26	32.0
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	29.96	761.0	29.98	761.5	70.5	21.4	74.7	1	4	4	12	5	2	.....	2	.....	8749	14080	4	2.87	72.9
Cape May *b*	N. 38 56	W. 74 58	7.08 a.m.	27	8	29.90	759.4	29.93	760.2	65.9	18.8	79.4	.....	3	6	6	6	2	1	4	.....	8788	14143	5	2.62	66.5
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.05	763.3	30.07	763.8	78.2	25.7	79.2	2	.....	10	6	4	.....	4	3	1	6249	10057	6	9.56	242.8
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.11	739.4	29.90	759.4	64.7	18.2	76.9	1	3	5	8	4	1	4	4	.....	8415	13542	7	9.93	252.2
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	29.97	761.2	30.02	762.5	76.8	24.9	79.0	3	2	12	8	.....	1	1	3	.....	6160	9913	5	9.12	231.6
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.14	740.1	29.98	761.5	73.5	23.1	68.6	.....	4	6	9	4	.....	3	4	.....	3382	5444	5	1.98	50.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.24	742.7	30.05	763.3	70.9	21.6	80.4	.....	2	7	8	3	.....	1	4	5	3598	5790	5	4.97	126.2
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	24.05	610.9	29.79	756.7	51.3	10.7	75.5	1	14	5	4	5	.....	.....	1	.....	6261	10076	5	1.85	47.0
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.19	741.4	29.88	758.9	61.2	16.2	82.2	5	1	7	6	2	.....	4	5	.....	5916	9521	6	5.71	145.0
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	29.93	760.2	29.95	760.7	68.7	20.4	83.0	4	5	3	2	9	.....	3	3	1	6342	10206	4	2.06	52.3
Cincinnati	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.32	744.7	29.97	761.2	68.6	20.3	75.7	1	3	6	6	5	5	2	2	.....	4291	6906	5	4.34	110.2
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.21	741.9	29.94	760.5	62.5	16.9	70.8	1	2	3	6	6	7	1	4	.....	6483	10433	5	4.22	107.2
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.18	715.8	29.93	760.2	70.4	21.3	81.1	.....	1	1	5	8	9	2	2	2	7411	11927	4	2.11	53.6
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.10	739.1	29.94	760.5	64.6	18.1	76.7	1	3	5	8	6	2	1	4	.....	5554	8938	7	6.01	152.7
Concho	N. 31 22	W. 100 20	5.26 a.m.	1990	579	28.04	712.2	29.92	760.0	71.4	21.9	81.4	.....	.....	1	2	13	2	1	5	6	9339	15029	4	2.86	72.6
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.26	743.2	29.90	759.4	63.6	17.6	82.8	2	1	7	7	1	2	6	3	1	6348	10216	7	8.43	214.1
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.21	716.5	29.95	760.7	51.6	10.9	78.9	5	1	.....	14	3	.....	1	.....	6	3305	5319	4	0.77	19.6
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.33	643.4	29.76	755.9	52.5	11.4	83.7	6	.....	3	14	3	.....	1	.....	3	3582	5764	6	5.78	150.8
Decatur *f*	N. 33 10	W. 97 30	5.38 a.m.	1129	344	.....	.....	.....	.....	74.0	23.3	55.3	2	1	.....	1	6	13	1	.....	.....	5738	9234	3	2.91	73.9
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	29.92	760.0	29.94	760.5	66.2	19.0	83.8	2	3	5	11	1	3	.....	5	.....	9303	14971	5	1.13	28.7
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.17	740.9	29.95	760.7	71.7	22.1	82.3	1	2	.....	4	16	2	.....	2	3	5561	8949	3	1.80	47.2
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.73	628.1	29.77	756.1	57.1	13.9	72.4	3	3	.....	3	15	3	1	2	.....	5259	8463	4	4.96	126.0
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.02	737.1	29.90	759.4	62.0	16.7	81.5	3	1	5	5	4	2	4	4	2	5262	8468	7	12.16	308.8
Detroit *a*	N. 42 21	W. 83 07	6.36 a.m.	661	201	29.20	741.7	29.88	758.9	63.0	17.2	71.6	5	4	1	5	1	4	4	5	.....	7006	11270	6	3.70	94.0
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.32	693.9	29.83	757.7	64.4	18.0	82.0	4	2	1	2	15	2	2	2	.....	8249	13275	4	1.51	38.4
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.19	741.4	29.88	758.9	61.6	16.4	76.1	3	4	5	4	3	5	4	2	.....	3990	6421	6	6.29	159.8
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.22	742.2	29.91	759.7	54.2	12.3	72.5	.....	10	4	1	.....	1	1	9	4	4671	7517	5	6.72	170.7
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.17	740.9	29.96	761.0	75.2	24.0	82.8	.....	.....	.....	.....	.....	25	....	1	4	5318	8558	4	1.02	25.9
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.24	641.1	29.83	757.7	40.9	8.3	61.2	8	.....	2	3	12	.....	.....	.....	4	7482	12041	2	0.52	13.2
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.76	755 9	29.83	757.7	55.0	12.8	73.8	4	8	2	4	10	.....	.....	1	1	5062	8146	5	6.53	165.9
El Paso	N. 31 40	W. 106 32	5.02 a.m.	3760	1146	26.23	666.2	29.82	757.4	65.8	18.8	52.3	.....	13	1	.....	.....	1	4	7	4	4323	6957	3	0.43	10.9
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.20	741.7	29.92	760.0	63.2	17.3	73.0	1	2	1	9	7	2	1	1	6	5567	8959	4	3.43	87.1
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.23	742.4	29.88	758.9	56.0	13.3	76.0	10	6	1	.....	2	1	2	1	7	5480	8829	5	0.15	156.2
Fort Apache	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.02	635.5	29.76	755.9	48.5	9.2	58.8	.....	.....	.....	.....	.....	1	14	15	.....	5045	8119	4	3.27	83.1
Fort Assinnaboine	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.10	688.3	29.89	759.2	53.5	11.9	73.2	1	1	2	16	2	.....	1	6	1	6107	9828	4	1.00	20.9
Fort Bennett	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.27	718.0	29.81	757.2	58.0	14.4	87.9	6	8	1	.....	1	13	1	.....	.....	5763	9274	6	4.06	103.1
Fort Benton *j*	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.13	689.1	29.90	759.4	53.3	11.8	80.2	1	.....	10	1	1	1	1	.....	5	3272	5266	4	0.13	3.3
Fort Buford	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.94	709.7	29.90	759.4	53.0	11.7	74.8	2	2	3	1	3	.....	10	6	3	5029	8093	4	1.87	47.5
Fort Custer	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.78	680.2	29.84	757.9	55.6	13.1	87.2	5	4	5	4	2	3	5	1	1	4697	7559	6	2.43	61.7
Fort Davis	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.22	640.6	29.83	757.7	66.6	19.2	62.7	2	1	.....	8	5	1	1	.....	12	4084	6572	3	3.19	81.0
Fort Elliott	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.17	690.1	29.84	757.9	63.2	17.3	69.1	.....	2	1	3	4	13	.....	5	2	8749	14080	4	1.54	39.1
Fort Grant	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.22	640.6	29.76	755.9	63.5	17.5	42.9	8	5	.....	2	.....	4	5	5	1	5316	8555	4	1.47	37.3
Fort Keogh	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.40	695.9	29.83	757.7	55.4	13.0	77.8	....	3	1	7	2	7	4	5	1	5704	9180	5	1.70	44.7
Fort Macon	N. 34 42	W. 76 40	7.01 a.m.	11	3	29.99	761.7	30.00	762.0	73.2	22.9	82.5	3	4	3	8	2	5	.....	5	.....	9610	15466	6	1.52	38.6
Fort McKavett	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.76	705.1	29.96	761.0	70.5	21.4	74.8	.....	.....	.....	8	12	5	2	1	2	7008	11278	3	1.90	48.3
Fort Missoula	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.68	677.7	29.94	760.5	52.5	11.4	77.0	2	3	1	12	4	4	.....	4	.....	2733	4398	5	1.51	38.4
Fort St. Michael	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.85	758.2	29.88	758.9	46.0	7.8	90.1	2	3	2	6	1	4	2	7	3	5031	8096	7	0.25	6.3
Fort Shaw	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.32	668.5	29.89	759.2	49.4	9.7	78.4	1	1	25	2	.....	.....	.....	.....	1	5147	8283	4	1.09	42.9
Fort Sill	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.72	729.5	29.92	760.0	69.9	21.1	81.4	3	.....	.....	1	18	2	3	.....	3	8670	13953	4	3.25	82.5
Fort Smith	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.51	749.5	29.97	761.2	70.8	21.6	85.6	1	1	1	1	.....	5	11	1	9	2965	4772	4	2.10	53.3
Fort Stevenson	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.06	712.7	29.86	758.4	55.3	12.9	86.1	1	4	2	4	.....	7	5	6	1	5062	8146	5	5.61	142.5
Fort Verde	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	61.9	16.6	48.1	.....	9	4	8	6	3	.....	.....	.....	.....	.....	4	1.35	34.3
Fort Washakie	N. 42 59	W. 108 43	4.50 a.m.	5580	1702	24.46	621.3	29.84	757.9	47.4	8.6	79.9	.....	6	10	7	.....	.....	1	2	4	4343	6989	6	1.51	38.4
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.25	717.5	29.93	760.2	70.2	21.2	87.1	1	.....	.....	18	4	.....	1	1	5	5744	9245	3	0.30	7.6
Galveston	N. 29 18	W. 94 50	5.49 a.m.	48	15	29.94	760.5	29.99	761.7	78.7	25.9	83.4	1	.....	2	10	11	1	1	4	.....	9329	15013	4	6.16	156.5
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.23	742.4	29.88	758.9	60.7	15.9	75.2	.....	2	4	3	5	4	6	6	.....	7094	11416	5	6.05	153.7
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	29.98	761.5	30.00	762.0	73.1	22.8	80.2	1	5	2	8	4	3	1	6	.....	12409	19970	4	0.03	10.0
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.76	654.3	29.88	758.9	53.6	12.0	66.3	.....	2	12	11	1	.....	.....	.....	4	4625	7443	5	1.18	30.0
Henrietta *a*	N. 33 42	W. 98 00	5.36 a.m.	980	300	28.99	736.3	29.97	761.2	74.2	23.4	74.6	2	1	1	.....	18	2	1	1	3	7323	11785	4	2.13	54.1
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.51	724.1	29.85	758.2	57.5	14.2	84.3	1	8	1	.....	5	5	6	4	.....	6646	10696	5	5.80	148.8
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.15	740.4	29.93	760.2	67.6	19.8	74.7	1	5	4	8	4	2	2	2	2	3787	6094	6	9.35	237.5
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.95	760.7	29.98	761.5	77.8	25.4	87.6	2	.....	.....	1	12	11	.....	4	.....	9351	15049	4	1.79	45.5
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.81	731.8	29.93	760.2	72.4	22.4	78.1	2	.....	.....	6	12	4	4	1	1	6677	10745	3	2.08	52.8
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.02	762.5	30.06	763.5	79.2	26.2	75.5	1	.....	1	14	6	2	.....	2	4	3775	6075	6	5.14	130.6
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.25	742.9	29.89	759.2	66.7	19.3	80.2	3	2	6	6	2	3	4	2	2	5100	8207	6	9.45	240.0
Key West	N. 24 32	W. 81 48	6.41 a.m.	20	6	30.03	762.7	30.05	763.3	83.3	28.5	70.9	.....	.....	.....	3	3	15	6	1	2	4949	7904	4	3.48	88.4
KittyHawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	29.99	761.7	30.01	762.2	70.4	21.3	79.3	3	2	6	7	3	2	4	3	.....	9969	16043	3	4.99	126.7
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.03	737.3	30.04	763.0	67.5	19.7	86.4	4	.....	3	12	1	4	.....	5	1	3925	6316	5	3.50	90.4
La Crosse *a*	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.12	739.6	29.88	758.9	63.1	17.3	66.6	6	.....	.....	2	4	8	6	1	1	4842	7792	5	4.78	121.4
La Mesilla	N. 32 17	W. 106 48	5.48 a.m.	3900	1189	26.08	662.4	29.80	756.9	60.7	15.9	61.0	2	1	.....	1	1	4	.....	.....	21	1967	3166	4	0.72	18.3
Leavenworth	N. 39 19	W. 94 57	5.10 a.m.	842	256	29.04	737.6	29.91	759.7	67.2	19.6	76.8	.....	5	.....	1	10	4	2	1	7	4254	6846	5	5.06	128.5
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.10	739.1	29.92	760.0	58.8	14.9	63.4	.....	1	5	1	2	4	9	1	7	2598	4181	4	0.36	9.1
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.67	753.6	29.98	761.5	72.5	22.5	87.8	1	4	1	5	5	2	1	.....	11	3470	5584	4	1.96	49.6
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.58	751.3	29.98	761.5	56.3	13.5	81.8	3	2	3	6	6	2	5	3	.....	4125	6638	4	inap.	inap.
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.39	746.5	29.94	760.5	69.3	20.7	78.1	2	2	1	8	9	4	.....	2	2	5568	8961	6	5.23	132.8
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.30	744.2	29.97	761.2	72.0	22.2	67.5	1	1	4	12	3	.....	3	3	3	2447	3938	6	4.00	103.1
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	28.90	734.0	29.89	759.2	59.0	15.0	81.8	3	3	7	4	2	3	6	2	.....	6400	10300	6	7.76	197.1
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.19	741.4	29.91	759.7	56.2	13.4	64.7	6	5	5	2	3	3	1	2	3	4908	7898	4	2.09	68.3
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.67	753.6	30.00	762.0	74.6	23.7	78.6	.....	3	2	3	11	8	2	.....	1	3703	5959	4	4.15	105.4
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.15	740.4	29.89	759.2	58.5	14.7	78.7	8	3	8	3	1	3	2	2	.....	8178	13161	6	3.77	95.8
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.61	762.2	30.05	763.3	76.4	24.7	83.7	5	2	11	2	.....	1	4	5	.....	3943	6346	5	2.40	61.0
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.82	757.4	30.05	763.3	74.2	23.4	82.1	.....	4	5	12	2	4	1	1	1	3516	5658	5	3.98	101.1
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.91	734.3	29.88	758.9	55.5	13.1	81.9	5	1	1	1	2	8	.....	5	7	6848	11021	5	5.43	137.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for June, 1882.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	28.97	735.8	29.97	761.2	65.9	18.8	79.7	1	1	.....	9	1	.....	1	2	15	3280	5279	6	3.39	86.1
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.69	601.7	29.81	757.2	39.6	4.2	83.5	1	22	2	2	1	.....	.....	.....	2	28235	45439	4	11.40	289.6
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.48	748.8	30.00	762.0	72.1	22.3	77.0	.....	3	11	8	4	2	1	.....	1	2634	4239	5	2.51	63.8
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.79	756.7	29.90	759.4	62.7	17.1	73.8	9	3	2	5	6	2	.....	2	1	4682	7535	5	2.74	69.6
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	29.86	758.4	29.91	759.7	64.7	18.2	77.9	1	4	6	4	6	1	2	2	4	4474	7200	4	4.85	123.2
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.97	761.2	30.02	762.5	78.2	25.7	79.1	2	.....	2	8	7	1	5	2	3	4497	7237	5	2.71	68.8
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.86	758.4	29.91	759.7	63.5	17.5	72.1	1	7	2	10	3	1	2	4	.....	5536	8909	4	2.99	75.9
New River *d*	N. 34 30	W. 77 23	6.58 a.m.	.....	.....	.....	.....	.....	.....	73.8	23.2	78.5	.....	4	5	5	1	2	.....	5	4	.....	.....	4	6.27	159.3
New York *a*	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.75	755.6	29.92	760.0	64.3	17.9	74.6	2	3	3	9	3	4	1	4	.....	5220	8401	4	2.82	71.6
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	29.95	760.7	29.98	761.5	72.3	22.4	73.5	4	1	7	9	3	2	3	1	.....	5281	8499	5	3.12	79.2
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.01	686.0	29.81	757.2	60.9	16.1	83.2	5	2	2	1	2	3	6	5	4	7109	11441	5	4.84	122.9
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.99	761.7	30.03	762.7	51.3	10.7	87.1	2	4	2	1	8	.....	.....	4	9	2775	4466	6	1.00	25.4
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.76	730.5	29.90	759.4	65.4	18.6	78.7	1	5	.....	4	3	5	3	5	4	6747	10858	6	12.05	306.1
Ooglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.86	758.4	29.88	758.9	31.6	—0.2	98.5c	6	5	2	2	.....	1	8	6	.....	7426	11951	5	0.63	16.0
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.55	750.6	29.87	758.7	60.6	15.9	75.5	1	1	11	3	8	3	.....	3	.....	5539	8914	4	3.72	94.5
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.48	748.8	30.02	762.5	73.1	22.8	84.1	2	.....	1	9	11	1	4	2	.....	6715	10806	4	0.83	21.1
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.01	762.2	30.04	763.0	77.1	25.1	85.2	4	2	3	8	4	1	5	1	2	5957	9587	5	3.95	100.3
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	92	28	29.84	757.9	29.94	760.5	68.6	20.3	69.3	2	6	3	8	8	.....	.....	3	.....	4900	7982	4	1.90	48.3
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.88	454.1	29.70	754.4	26.8	—2.9	83.1	2	6	14	4	2	.....	.....	1	1	15023	24177	4	3.10	78.7
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.00	609.6	29.80	756.9	51.7	10.9	53.9	1	4	3	3	14	1	1	.....	3	5752	9257	4	3.23	82.0
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.14	740.1	29.93	760.2	64.0	17.8	76.2	5	2	5	4	5	.....	1	5	3	3870	6228	5	4.14	105.2
Poplar River *a*	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.78	705.6	.....	.....	.....	.....	.....	.....	3	.....	6	3	14	.....	3	.....	.....	.....	3	0.74	18.8
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.04	763.0	30.05	763.3	77.3	25.2	89.1	.....	3	3	10	8	2	3	.....	1	6134	9872	4	3.70	94.0
Port Huron	N. 42 58	W. 82 29	6.38 a.m	633	193	29.22	742.2	29.89	759.2	59.0	15.0	79.7	5	1	2	5	4	2	1	7	3	5237	8428	6	0.34	161.0
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.80	756.9	29.85	758.2	61.8	16.6	67.1	4	4	6	3	5	1	1	4	2	5820	9366	5	3.20	81.3
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m	67	20	29.95	760.7	30.02	762.5	55.0	12.8	83.6	1	8	1	1	7	1	.....	.....	11	3722	5990	6	1.91	48.5
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.75	628.6	29.77	756.1	52.1	11.2	52.2	.....	.....	.....	7	23	.....	.....	.....	.....	6263	10079	2	0.47	11.9
Provincetown	N. 46 03	W. 70 11	7.27 a.m.	26	8	29.85	758.2	29.88	758.9	61.6	16.4	77.3	.....	10	2	8	4	3	1	2	.....	6296	10132	4	2.73	69.3
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.04	763.0	30.05	763.3	79.4	26.3	77.3	2	1	.....	5	4	3	11	4	.....	6352	10222	5	8.46	214.9
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.53	750.0	29.89	759.2	62.9	17.2	61.2	8	5	1	1	8	3	.....	.....	4	4244	6830	2	0.15	3.8
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.73	755.1	29.96	761.0	78.6	25.9	80.1	.....	2	.....	.....	4	18	4	1	1	6962	11204	3	0.40	11.7
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.23	742.4	29.88	758.9	60.2	15.7	76.1	.....	2	11	11	1	.....	2	2	1	7703	12396	5	2.50	63.5
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.49	749.0	30.04	763.0	53.0	11.7	80.9	2	5	.....	.....	.....	.....	1	2	20	2591	4170	5	0.61	15.5
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	65	20	29.81	757.2	29.88	758.9	57.9	14.4	76.7	.....	.....	.....	1	13	13	.....	1	2	5529	8898	2	0.10	2.5
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.37	746.0	29.96	761.0	66.8	19.3	92.3	2	3	3	3	10	4	2	3	.....	7207	11602	6	4.53	115.1
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.02	737.1	29.87	758.7	60.0	15.6	77.2	2	4	2	6	1	5	5	4	1	6280	10106	5	2.68	68.1
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.04	737.6	29.89	759.2	52.2	11.2	82.4	4	7	3	2	4	5	3	2	.....	6323	10176	4	3.35	85.1
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.57	649.5	29.79	756.7	58.1	14.5	49.1	2	1	.....	1	2	7	5	2	10	4713	7585	5	2.24	56.9
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.28	743.7	29.96	761.0	73.8	23.2	87.9	2	.....	.....	1	1	10	.....	5	11	4549	7321	5	0.11	2.8
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.87	758.7	29.94	760.5	60.8	16.0	79.1	3	6	4	4	4	1	1	6	1	4559	7337	6	0.07	1.8
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.24	742.7	29.91	759.7	64.0	17.8	73.8	1	3	2	9	3	4	5	3	.....	9342	15034	6	3.71	94.2
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	29.89	759.2	29.93	760.2	65.3	18.5	78.8	1	8	4	10	.....	2	1	4	.....	8044	12945	4	2.60	66.0
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.88	758.9	29.95	760.7	53.7	12.1	87.2	.....	2	7	17	4	.....	.....	.....	.....	9739	15673	5	0.04	1.0
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7106	2166	23.27	591.0	29.78	756.4	54.3	12.4	51.5	2	.....	.....	1	3	4	11	7	2	6925	11144	4	1.36	34.5
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.95	760.7	30.04	763.0	77.7	25.4	74.5	5	1	9	12	1	.....	2	.....	.....	5147	8283	6	7.95	201.9
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.78	756.4	30.01	762.2	72.9	22.7	84.4	1	1	3	1	15	.....	4	2	3	3744	6025	4	0.65	16.5
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.29	617.0	29.79	756.7	53.7	12.1	57.4	.....	12	5	5	2	.....	.....	.....	6	2360	3798	3	1.92	48.8
Sitka *b*	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.88	758.9	29.94	760.5	48.9	9.4	79.1	.....	2	.....	3	1	3	5	5	9	4771	7678	8	3.71	94.2
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	29.98	761.5	30.02	762.5	74.5	23.6	78.5	1	9	8	4	1	2	4	1	.....	7942	12781	4	2.76	70.1
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.91	708.9	29.95	760.7	54.3	12.4	78.0	...	1	3	10	2	2	3	2	7	4296	6914	5	1.17	29.7
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.26	743.2	29.93	760.2	66.8	19.3	80.0	1	1	5	6	7	4	1	4	1	4963	7987	6	12.71	322.8
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.77	756.1	29.90	759.4	65.1	18.4	71.6	5	1	6	2	14	.....	.....	2	.....	3700	5954	6	4.44	112.8
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.55	725.2	30.01	762.2	68.6	20.3	82.9	.....	3	1	1	18	3	.....	2	2	6003	9661	5	2.70	68.6
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.57	751.1	30.04	763.0	75.2	24.0	81.3	.....	3	1	10	5	7	1	.....	3	5116	8233	4	2.65	67.3
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	26.95	684.5	29.87	758.7	67.0	19.4	82.0	3	.....	3	6	10	5	.....	.....	3	8910	14339	3	3.59	91.2
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.83	757.7	29.88	758.9	59.5	15.3	82.5	3	7	12	1	3	2	.....	1	1	7098	11423	4	1.33	33.8
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.22	742.2	29.90	759.4	64.7	18.2	71.0	2	2	5	7	1	3	6	3	1	6856	11034	6	4.51	114.6
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.49	698.2	29.79	756.7	66.6	19.2	50.3	.....	1	1	.....	13	6	4	.....	5	2791	4492	3	0.99	25.1
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.61	752.1	29.97	761.2	58.0	14.4	62.1	2	1	5	10	.....	4	3	2	3	6862	11043	4	0.17	4.3
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.00	736.6	29.94	760.5	73.5	23.1	86.1	.....	.....	.....	1	4	15	4	2	4	4062*a*	6537*a*	5	0.36	9.1
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.78	756.4	30.03	762.7	74.4	23.6	82.1	1	1	.....	4	6	7	3	.....	8	1895	3050	4	0.40	10.2
Visalia *b*	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.52	749.8	29.89	759.2	60.8	16.0	63.3	1	14	1	3	1	3	1	.....	4	2619	4215	2	0.02	0.5
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.85	758.2	29.96	761.0	69.3	20.7	74.6	3	4	3	4	6	1	2	1	6	3303	5316	5	2.33	59.2
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.01	660.6	29.79	756.7	59.5	15.3	74.7	2	5	5	2	1	4	3	1	7	7045	11338	4	2.49	63.2
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.33	745.0	29.93	760.2	62.9	17.2	72.9	2	1	13	2	.....	.....	2	2	8	3495	5624	6	3.25	82.5
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	29.96	761.0	30.01	762.2	73.6	23.1	77.5	1	6	7	5	.....	2	3	3	3	4962	7985	5	2.96	75.2
Winnemucca	N. 41 00	W. 117 43	4.17 a.m.	4327	1319	25.57	649.5	29.83	757.7	51.6	10.9	60.9	1	1	.....	6	2	2	2	14	2	5715	9197	4	1.17	29.7
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.61	726.7	29.89	759.2	61.4	16.3	77.1	1	3	5	2	3	6	2	6	2	6127	9860	5	4.87	123.7
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.63	752.6	29.77	756.1	69.0	20.6	58.0	1	2	3	1	2	5	1	1	14	4210	6775	2	0.05	1.3
Sub-Series.																											
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.05	560.1	.....	.....	53.5	11.9	76	1	1	5	2	2	1	1	8	9	13458	21658	7	3.17	80.5
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.06	763.5	30.07	763.8	81.5	27.5	93.1	.....	.....	.....	.....	.....	.....	19	.....	11	.....	.....	10	12.31	312.7
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	18	5	29.99	761.7	30.02	762.5	77.1	25.1	90.5	1	.....	.....	.....	9	1	.....	.....	19	.....	.....	5	24.77	629.2
Havana *i*	N. 23 09	W. 82 22	6.39 a.m.	50	15	30.01	762.2	30.06	763.5	82.5	28.1	79.0	.....	.....	.....	.....	.....	5	1	.....	15	1360?	2189?	4	2.45	62.2
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.04	763.0	30.05	763.3	81.7	27.6	73.4	8	.....	.....	.....	.....	1	7	.....	14	5453	8776	5	0.76	19.3
Magua	N. 19 17?	W. 71 08?	7.24 a.m.	1000?	305?	.....	.....	.....	.....	73.2	22.9	.....	1	.....	.....	.....	1	1	11	.....	15	.....	.....	2	0.77	19.6
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.07	763.8	30.07	763.8	78.1	25.6	87.2	.....	.....	.....	.....	.....	8	22	.....	.....	.....	.....	9	12.26	311.4
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.48	748.8	29.96	761.0	79.3	26.3	85.5	1	.....	.....	.....	8	2	1	.....	18	.....	.....	8	8.24	209.3
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	.....	.....	96.7	.....	.....	1	.....	2	6	4	17	.....	.....	.....	4	8.80	223.5
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.03	762.7	30.05	763.3	80.3	26.8	74.2	7	.....	.....	.....	.....	.....	.....	23	.....	.....	.....	3	0.48	12.2
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.99	761.7	30.05	763.3	45.0	7.2	91.5	7	2	.....	3	5	2	1	10	.....	.....	.....	4	4.15	105.4

Ocean Square Data for June, 1882.

Location of Centre of each Square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 7.5°	W. 22.5°	2	2															
7.5	27.5	14	21															
7.5	32.5	4	4															
12.5	22.5	1	1	30.07	763.8	79.5	26.4				2		1	1	26			1.5
12.5	27.5	6	6	30.14	765.5	78.3	25.7					1	1		16		12	1.7
12.5	32.5	5	5															
12.5	37.5	1	1															
12.5	42.5	2	2															
12.5	47.5	3	4															
12.5	52.5	1	1															
12.5	57.5	9	9															
17.5	22.5	5	5	30.11	764.8	77.9	25.5	1						2	24		3	1.7
17.5	27.5	2	2	30.14	765.5	77.3	25.2	1						2	18		9	1.7
17.5	32.5	3	3															
17.5	37.5	5	5															
17.5	42.5	1	1															
17.5	47.5	1	1															
17.5	52.5	2	2															
17.5	57.5	3	3	30.12	765.0	81.5	27.5							16	3		11	1.5
22.5	22.5	6	6	30.17	766.3	75.7	24.3					1		1	24		4	1.9
22.5	27.5	1	1	30.20	767.1	75.5	24.2						2	7	13		8	2.0
22.5	32.5			30.22	767.6	76.3	24.6					1		12	6		11	2.6
22.5	37.5	4	5	30.23	767.8	76.6	24.8						7	7	4		12	1.9
22.5	42.5	2	3	30.23	767.8	77.0	25.0					1	8	9			12	2.3
22.5	47.5	4	4															
22.5	52.5	1	1															
22.5	57.5	5	5	30.15	765.8	79.6	26.4				1	5	6	5	1		12	2.0
22.5	62.5	3	3	30.13	765.3	81.0	27.2				2	1	5	13	3		6	1.6
22.5	67.5	8	9	30.12	765.0	81.5	27.5			2	2	3	6	12	3		2	1.3
22.5	72.5			30.11	764.8	81.9	27.7		2		2	1	15	5	2	3		2.0
27.5	22.5	1	1	30.23	767.8	73.2	22.9	2					2	2	21		3	1.9
27.5	27.5			30.27	768.8	73.9	23.3	1					2	6	12		9	1.9
27.5	32.5			30.26	768.6	74.0	23.3	1	1		1	1	2	9	3		12	2.0
27.5	37.5	4	4															
27.5	42.5	3	3															
27.5	47.5	5	5															
27.5	57.5	3	3	30.14	765.5	77.6	25.3		1	1	6	5	3	1	2		11	1.6
27.5	62.5	4	5	30.12	765.0	78.4	25.8	1	2	2	7	5	2	3	2	5	1	1.5
27.5	67.5	16	19	30.10	764.5	79.2	26.2	2	2	2	5	9	4		3		3	1.4
27.5	72.5	13	18	30.11	764.8	80.1	26.7	4	3	1	4	5	7	5	1			1.8
27.5	77.5	13	16	30.11	764.8	80.7	27.1	4	2		7	8	7	2				1.3
32.5	12.5	7	7	30.17	766.3	70.7	21.5	6	1		2				21			2.1
32.5	17.5	8	10	30.22	767.6	70.1	21.2	5	1		3	1			20			1.5
32.5	22.5			30.28	769.1	71.3	21.8	3	2	1			3		16		5	2.0
32.5	27.5			30.31	769.9	72.0	22.2	1	2	2		2	3	6	7		7	1.3
32.5	32.5			30.29	769.4	72.4	22.4		3		3	3	9	2	3		7	1.3
32.5	37.5	6	7	30.27	768.8	72.5	22.5	1		1	6	7	4	3			8	1.7
32.5	42.5	3	4	30.28	769.1	73.0	22.8				6	4	6	2			12	1.9
32.5	47.5	3	3	30.19	766.8	73.2	22.9			1	6	6	6				11	2.0
32.5	52.5	3	3	30.18	766.6	75.2	24.0	1	1	2	7	10	1		2		6	2.0
32.5	57.5	1	1	30.10	764.5	74.9	23.8	1	1	1	11	9			2		5	1.7
32.5	62.5	4	4	30.08	764.0	75.0	23.9	3		2	14	9	1		1			1.3
32.5	67.5	10	11	30.05	763.3	74.6	23.7	5	8	1	10	5			1			1.7
32.5	72.5	19	29	30.05	763.3	75.5	24.2	3	4		8	11	1		3			2.5
32.5	77.5	23	48	30.04	763.0	76.2	24.6	1	8		10	4	3		4			2.3
37.5	12.5	8	9	30.17	766.3	68.4	20.2	12	6	4	3				5			2.4
37.5	17.5	7	12	30.23	767.8	67.8	19.9	13	7	4	1	1			4			2.2
37.5	22.5	5	5	30.29	769.4	69.0	20.6	9	8	1	2		2	2	6			2.0
37.5	27.5	8	9	30.31	769.9	69.4	20.8	3	7	2	4	5	4	4	1			1.7
37.5	32.5	9	10	30.28	769.1	69.7	20.9		3	1	11	6	2		3		4	2.1
37.5	37.5	5	5	30.23	767.8	70.0	21.1		2		13	6	4	1	1		3	2.3
37.5	42.5	2	3	30.17	766.3	70.0	21.1		2	1	11	7	3	2			4	2.8
37.5	47.5	6	6	30.13	765.3	69.7	20.9	1	3		11	11	1		1		2	2.8
37.5	52.5	12	14	30.08	764.0	70.7	21.5	1	4	1	7	14	2	1				2.5
37.5	57.5	21	26	30.03	762.7	70.9	21.6	3	5	2	7	10	3					2.5
37.5	62.5	13	19	29.97	761.2	69.9	21.1	2	6	1	10	9	1		1			2.8
37.5	67.5	14	22	29.96	761.0	68.2	20.1	1	12		11	2	2		2			2.7
37.5	72.5	28	97	29.93	760.2	67.3	19.6	2	7	4	7	4	3		3			2.5
42.5	12.5	2	2	30.13	765.3	65.8	18.8	4	18	1	4	1		1	1			2.7
42.5	17.5	1	1	30.16	766.1	64.8	18.2	4	13	7	3				3			2.8
42.5	22.5	9	12	30.20	767.1	65.3	18.5	3	12	5	5				2		3	2.5
42.5	27.5	12	16	30.23	767.8	65.2	18.4	2	7	6	12				2		1	2.9
42.5	32.5	16	23	30.22	767.6	65.7	18.7	3	4	2	15	3			1		2	3.0
42.5	37.5	24	49	30.15	765.8	65.9	18.8		3		13	9	1	2	2			2.8
42.5	42.5	28	86	30.13	765.3	65.7	18.7		4	1	13	10	1	1				2.8
42.5	47.5	30	87	30.08	764.0	64.4	18.0	2	2	2	10	12		1	1			2.5
42.5	52.5	27	83	30.00	762.0	64.7	18.2	1	3	1	11	12	2					2.7
42.5	57.5	27	72	29.93	760.2	65.7	18.7		5	3	9	11	1		1			3.1
42.5	62.5	27	76	29.89	759.2	63.5	17.5		8	1	7	8	2		4			2.8
42.5	67.5	29	89	29.88	758.9	61.2	16.2	2	7	3	11	3	2		2			3.0
47.5	12.5	23	42	30.02	762.5	61.2	16.2	1	10	8	7	2		1	1			3.8
47.5	17.5	24	56	30.02	762.5	60.2	15.7	4	9	7	8	1		1				3.9
47.5	22.5	29	62	30.06	763.5	59.4	15.2	1	10	8	7	1	1		2			3.6
47.5	27.5	27	64	30.08	764.0	59.0	15.0	2	13	3	7	2	1		2			3.2
47.5	32.5	25	61	30.08	764.0	59.0	15.0	2	9	3	10	5		1				2.9
47.5	37.5	26	53	30.07	763.8	58.7	14.8		8	5	12	4	1					2.9
47.5	42.5	13	16	30.01	762.2	57.7	14.3	1	6	1	14	7				1		2.6
47.5	47.5	8	11	29.91	759.7	54.5	12.5	1		3	17	7	2					2.2
52.5	12.5	23	40	29.91	759.7	58.3	14.6		11	8	4	4	3					3.8
52.5	17.5	18	27	29.90	759.4	56.9	13.8	3	11	5	2	3	2		3		1	3.4
52.5	22.5	21	28	29.94	760.5	56.1	13.4	3	10	5	6		1	1	3		1	3.7
52.5	27.5	14	17	29.96	761.0	55.4	13.0	1	11	5	6		3	1	2		1	2.9
52.5	32.5	6	6	29.97	761.2	53.3	11.8	2	3	4	10	2	2		2		5	2.5
52.5	37.5	5	7	29.96	761.0	52.5	11.4	1	8	4	6	2	2		2		5	2.3
52.5	42.5	3	4	29.95	760.7	51.1	10.6		4	1	7	4	2		1		11	1.8
52.5	47.5			29.90	759.4	49.5	9.7		3		4	4	8				11	2.0
57.5	12.5	9	10	29.84	757.9	53.3	11.8	8	3	2	2	3	7	1	4			3.2
57.5	17.5	1	1	29.83	757.7	52.0	11.1	8	5		3	2	2	4	5		1	2.7
57.5	22.5	1	1	29.88	758.9	50.1	10.1	3	8	2	2	1	3	2	8		1	2.5
57.5	27.5			29.91	759.7	49.1	9.5	8	7	2	3	3	1	2	3		1	2.1
57.5	32.5			29.91	759.7	47.8	8.8	3	5	1	4	1	1	1	2		12	2.3

NOTE.—See General Remarks.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade.*]

With this REVIEW is issued chart iii., which exhibits the tracks of the more important atmospheric depressions that have appeared in the northern hemisphere during the month of July, 1881. This chart continues the series of international charts begun in November, 1877.

The following description relates to chart ii. (formerly iv.), for the month of August, 1881, (which chart was issued with the SUMMARY for that month). It continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing direction of the wind, in the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich mean time.

In the description of these charts, much valuable information has been obtained from the "Monatliche Uebersicht der Witterung," published by Professor, Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg, Germany; and from the "Bulletin Mensuel," published by Mr. Marc Dechevrens, of Zi-Ka-Wei, China.

For the month of August, 1881, two areas of barometric minima are shown on the chart; these are both enclosed by the isobarometric line of 29.6 (751.8), and are situated, the one in the Scandinavian peninsula, where the mean pressure ranges from 29.57 (751.1) to 29.6 (751.8); the other in British India, where the pressure ranges from 29.49 (749.0) at Lahore, to 29.59 (751.6) at Nagpur. In southern Scandinavia, northern Russia, and northern Siberia the mean atmospheric pressure was below 29.7 (754.4). In North America the isobar of 29.8 (756.9) occupies the Hudson's Bay region, while that of 29.9 (759.4) is shown over the northwestern part of the United States and British America; elsewhere in the United States the pressure ranges from 29.9 (759.4) to 30.08 (764.0).

The most marked area of barometric maxima is that indicated by the isobar of 30.2 (767.1), which occupies the Azores. In Europe the region of greatest pressures occupies western and southwestern France and the eastern part of the Bay of Biscay; within that region the barometric means range from 30.0 (762.0) to 30.08 (764.0). In Algeria the mean pressure is above 30.0 (762.0).

The following table shows the mean pressure and the mean temperature, with corresponding departures, for the month of August, 1881, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:

Countries.	Mean pressure.			Mean temperature.		
	Aug., 1877, 1878, 1879, 1880.	Aug., 1881.	Departure.	Aug., 1877, 1878, 1879, 1880.	Aug., 1881.	Departure.
				°	°	°
Algeria	30.00	30.03	normal	89.4	92.0	+2.6
Austria	29.89	29.89	normal	74.2	76.3	+2.1
British Isles	29.84	29.82	−0.02	63.4	61.4	−2.0
Denmark	29.84	29.71	−0.13	65.4	60.4	−5.0
France	29.94	29.98	+0.04	74.7	72.4	−2.3
Germany	29.92	29.87	−0.05	70.2	68.1	−2.1
India	29.62	29.59	−0.03	82.7	82.3	−0.4
Italy	29.94	29.93	−0.01	81.9	82.3	+0.4
Norway	29.83	29.57	−0.26	64.2	59.0	−5.2
Portugal	30.00	30.03	+0.03	80.1	85.4	+5.3
Russia	29.85	29.77	−0.08	71.4	71.4	normal
Spain*	29.94	29.98	+0.04	81.1	82.9	+1.8
Sweden	29.85	29.62	−0.23	65.1	59.2	−5.9

* Means for 3 years only.

Compared with the preceding month, (July, 1881,) there has been an increase of pressure in the United States east of the one-hundredth meridian, except in Florida and on the shores of the Gulf of Mexico; from the hundredth meridian westward to the Pacific coast there has been a slight decrease of pressure. In Europe the pressure has decreased throughout the continent, the decrease being most marked in the British Isles, Denmark, and the Scandinavian peninsula, and least in Russia. In Algeria there has been a slight decrease of pressure; in China, Japan, and in British India there has been a slight increase.

Compared with the corresponding month of previous years the mean atmospheric pressure is generally normal or slightly below over the entire country, except in the middle Pacific coast region and in the upper lake region, where it is slightly above the normal. In Canada it was generally above the normal.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of August, 1881, as compared with the means of four years:

Stations.	Mean pressure.			Mean temperature.		
	Aug., 1877, '78, '79, '80.	Aug., 1881.	Departure.	Aug., 1877, '78, '79, '80.	Aug., 1881.	Departure.
				°	°	°
Gibraltar	29.96	30.03	+ 0.07	79.4	83.7	+ 4.3
Malta, Mediterranean Sea	29.94	.....	.....	84.2	84.6	+ 0.4
Sandwick Manse, Orkney Islands	29.83	29.71	− 0.12	57.8	53.2	− 4.6
Bridgetown, Barbadoes	29.98	30.01	+ 0.03	83.4	84.6	+ 1.2
Cape Town, Cape Good Hope	30.17	30.24	+ 0.07	60.9	63.3	+ 2.4
Fort Napier, Natal, South Africa	29.99	29.99	normal	70.1	68.3	− 1.8
Free Town, Sierra Leone	29.99	29.93	− 0.06	80.8	83.0	+ 2.2
Mauritius, Indian Ocean	30.18	30.21	+ 0.03	71.6	71.8	+ 0.2
Melbourne, New South Wales	30.08	30.12	+ 0.04	50.3	48.8	− 1.5
Nassau, Bahamas	30.01	29.99	− 0.02	83.8	84.3	+ 0.5
Godthaab, Greenland	29.79	29.78	− 0.01	*45.7	41.7	− 4.0
Stykkisholm, Iceland	29.82	29.80	− 0.02	52.8	48.9	− 3.9
Thorshavn, Färöe Islands	29.86	29.68	− 0.18	53.4	52.5	− 0.9
Zi-Ka-Wei, China	29.79	29.76	− 0.03	76.5	78.6	+ 2.1
Athens, Greece	29.88	29.88	normal	87.5	90.1	+ 2.6
Cagliari, Sardinia, Italy	29.93	29.96	+ 0.03	84.4	84.6	normal
Tokei, Japan	29.84	29.91	+ 0.07	75.8	77.9	+ 2.1
Angra, Azores	30.14	30.20	+ 0.06	73.0	72.9	− 0.1
Funchal, Madeira Islands	30.10	30.09	− 0.01	70.1	76.1	normal
Ponta Delgado, Azores	30.15	30.22	+ 0.07	75.8	73.9	− 1.9
Archangel, Russia	29.80	29.66	− 0.14	60.3	64.0	+ 3.7
Tiflis, Russia	29.78	29.82	+ 0.04	84.8	87.3	+ 2.5
Astrakhan, Russia	29.86	29.86	normal	80.8	83.7	+ 2.9
Ekaterinburg, Russia	29.75	29.71	− 0.04	66.4	69.1	+ 2.7
Tashkend, Toorkistan, Asia	29.76	29.69	− 0.07	81.8	84.2	+ 2.4
Barnaul, Siberia, Asia	29.74	29.76	+ 0.02	67.4	69.6	+ 2.2
Yeniseisk, Siberia, Asia	29.77	.....	.....	64.2	.....	.....
Pekin, China	29.76	29.77	+ 0.01	76.1	76.1	normal
Nikolaevsk on the Amoor, Asia*	.....	.....	.....	58.9	59.9	+ 1.0
San Juan de Puerto Rico, W. I.	30.00	30.07	+ 0.07	81.7	82.0	+ 0.3
Beirut, Turkey in Asia	29.78	29.74	− 0.04	88.9	89.4	+ 0.5
Mexico, Mexico*	30.08	30.12	+ 0.04	56.7	56.2	− 0.5
Havana, Cuba, W. I.	30.00	30.00	normal	81.5	80.8	− 0.7
Paramaribo, D. Guiana, S. A.	30.01	30.04	+ 0.03	81.1	78.9	− 2.2
York Factory, B. A.	29.92	29.78	− 0.14	46.8	47.3	+ 0.5

* Mean for three years only.

In the United States, the mean temperature of the air was from 0°.5 to 3°.0 above the normal in all districts east of the hundredth meridian, except in Florida, where it was normal. West of the above-mentioned meridian, the mean temperature was from 3°.1 to 5°.1 below the normal, except in the south Pacific coast region, where it remained normal. In Europe, the temperature was generally below the normal, except in the southern peninsulas and in Austria, where it was slightly above. In British India, the highest mean temperature reported was 88°.6 Fahr. (31°.4 Cent.) at Lahore, and the lowest was 71°.5 Fahr. (21°.9 Cent.) at Belgaum.

The following are some of the extreme mean temperatures reported at isolated stations for the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Athens, Greece	90.1	32.3	Godthaab, Greenland	41.7	5.4
Beirut, Turkey in Asia	89.4	31.9	York Factory, B. A.	47.3	8.5
Tiflis, Caucasia, Russia	87.6	30.7	Stykkisholm, Iceland	48.9	9.4
Bridgetown, Barbadoes	84.6	29.2	Thorshavn, Faroe Islands	52.5	11.4

In the United States, the prevailing winds were southerly and southeasterly over the country between W. 90° and 100°, and from the Gulf of Mexico northward to Manitoba. In the lake region, they were generally northerly; on the Atlantic coast and in Florida, they were northeasterly and easterly; elsewhere the winds were variable. In Canada, the prevailing winds were mostly westerly and southwesterly. Over the north Atlantic ocean, the winds were as follows: from the seventieth meridian eastward to W. 35°, southerly and southwesterly; near the Azores, northeasterly; north of the Azores, from W.

35°, eastward to the European coasts, it was generally westerly. At Zi-Ka-Wei, China, the wind was easterly, and in Japan it was southerly.

In the United States, the rainfall of the month was very much below the average, causing a severe drought in nearly all parts of the country, except in Florida, the east Gulf, and in Minnesota, where the rainfall was in excess of the average. In Europe, the rainfall was everywhere above the average.

Chart iii. (formerly v.) exhibits the tracks of barometric minima for the month of July, 1881, which have been traced from the daily international charts. This chart also exhibits the tracks of three typhoons that occurred in the China sea during the month.

The data are charted for each day of the month on the maps accompanying each issue of the INTERNATIONAL BULLETIN, and from these charts and from additional reports are traced the movements of the centres of barometric minima.

Twenty-eight depressions have been traced in the northern hemisphere for the month of July, 1881. They were distributed as follows: Seven appeared in the United States and Canada, four of these originated in the northwest and moved in an east-southeasterly direction across the country; the remaining depressions prevailed in the lake region and in eastern Canada. Two storms have been traced from the Maritime Provinces northeastward to northern Europe, and thence into Siberia, and six have moved from southwest to northeast over the British Isles. Two depressions moving northeastward are traced in northwestern Europe, while two have prevailed in the southern part of the continent. Two depressions, in addition to those mentioned above, originated off the Norwegian coast and moved northeastward over the peninsula. Of the depressions shown in Asia, three are continuations of storms which appeared first in Europe and moved into Siberia; three are traced in eastern Asia, and one in Japan.

The following are descriptions of the depressions shown on the chart:

I.—This was probably a continuation of low-area vii. of the June chart. At the close of June the disturbance was central near Newfoundland; by July 1st it had moved northeastward to about N. 53°, W. 50°, in which region the pressure was below 29.6 (751.8). On the 1st there was a destructive easterly gale in the Straits of Belle Isle; nearly all the small craft in the various harbors were destroyed, and several large vessels were driven ashore and totally wrecked. On the 2d the disturbance was central to the southeastward of Greenland; on the 3d it was between Iceland and the Faröe Islands. During the day it moved eastward, and on the 4th the centre was shown in Scandinavia. This disturbance is hereafter described as low-area ix.

II.—This depression appeared in the Saskatchewan valley on the 3d, and on the 4th, was central in Manitoba. Moving in an easterly track north of the lakes the centre of disturbance reached eastern Ontario on the 5th, where it was accompanied by higher temperatures, but with slight precipitation. On the 6th the disturbance passed off the coast into the Atlantic, and ceased to exist as a distinct area of low pressure. No high winds occurred during the passage of this depression.

III.—This depression developed over the Maritime Provinces, where, on the 4th, the pressure was below 29.8 (756.9). On the 5th, the centre of disturbance was off the southeast coast of Nova Scotia, having caused heavy rains in that province during the 4th. By the morning of the 6th, the storm-centre had moved to the northeastward of Newfoundland, and on the 7th, it was near N. 58°, W. 38°. During the day, the disturbance moved slowly northeastward, and, on the morning of the 8th, it was to the southwestward of Iceland. During the 9th, 10th, and 11th, the depression hovered near Iceland, and the winds increased somewhat in force in the southern and eastern quadrants; on the last-mentioned date, a decided decrease of pressure occurred, the barometer at the centre of disturbance, which was then in Iceland, reading 29.08 (738.6). On the 12th, the depression passed to the northward of Iceland, with constantly diminishing pressure at the centre, which was now indicated by the isobar of 29.0 (736.6); on the 13th, the disturbance moved slowly eastward with slightly increased pressure, and by the 14th, it was off the extreme northern coast of Norway, the lowest barometric readings being inclosed by the isobarometric line of 29.4 (746.7). During the progress of this disturbance over the ocean no violent winds were reported. This disturbance in its course over the land-areas, is hereafter described as xiii.

IV.—This depression appeared in British America, north of Dakota, on the 7th; it moved eastward and on the 8th was central northeast of Fort Garry, Manitoba, attended by brisk to high winds in the western quadrants. During the day, the depression disappeared and was immediately followed by an area of barometric maxima.

V.—During the 11th, the atmospheric pressure began to decrease in Manitoba, and in the northwestern part of the United States, and by the 12th, the isobar of 29.8 (756.9) included within its limits the Lake Superior region. On the 13th, the region of least pressure was in the Saint Lawrence valley, where it was attended by westerly and southwesterly winds and a decided rise in temperature. During the day, the depression moved eastward, followed by cooler weather and northerly winds, and on the 14th, it was central over the Gulf of Saint Lawrence; during the day, showery weather prevailed in the Maritime Provinces, while the wind reached the force of a moderate gale over the Gulf. On the 15th, the depression passed to the eastward of Newfoundland, causing moderate gales to the eastward. During the 16th and 17th, vessels between 50° and 30° west longitude reported moderate to strong southwest to northwest gales, but the data are not sufficient to warrant a further tracing of this disturbance.

VI.—On the 17th, the pressure fell below 29.6 (751.8) in the Maritime Provinces and eastern Quebec, and showery weather prevailed throughout those provinces. The disturbance remained nearly stationary until the 19th, and during this time, the area of disturbance extended southward to the New England states, and the rainy weather, accompanied by moderate winds, continued. On the 20th, the depression dissipated over the Gulf, but on the following day, the increase of pressure was checked by the advance of low-area vi *a*.

VI *a*.—This depression appeared in Ontario on the 20th, causing light rains there; it moved east-southeastward into Quebec, where it was central on the 21st. On the 22d and 23d, it remained central off the coast of Nova Scotia, and on the 24th, it disappeared to the northeastward of Newfoundland, having caused during its passage heavy rains in the Maritime Provinces, and moderate gales in the Gulf of Saint Lawrence.

VII.—This depression appeared in Dakota on the 19th, and moving southeastward, became central in the southeastern part of that state on the 20th, on which date, cloudy or rainy weather prevailed at stations east of the centre. On the 21st, the disturbance was central, with slightly increased pressure, in Iowa; on the 22d, it occupied the country north of N. 35° from Illinois eastward to the Atlantic, the lowest barometric readings being in southern Indiana, while the rain-area extended to the south Atlantic states.

VIII.—This depression appeared in the lower lake region on the morning of the 25th, causing showery weather and thunderstorms in western Canada. On the 26th, the depression was in Ontario; on the following day it remained over the Saint Lawrence valley, but the pressure had begun to increase, and during the day the depression filled up.

The following descriptions refer to the depressions that appeared in Europe:

IX.—This was a continuation of low-area i. described above; on the 3d the disturbance was central north of the British Isles, causing strong southerly winds in Scandinavia and rainy weather with westerly winds in Scotland. On the 4th the centre of disturbance passed over Scandinavia to the western shore of the Gulf of Bothnia; rain continued in Scandinavia, in northern Scotland, and at stations on the shores of the

Baltic, and the winds were fresh to strong in force. On this day a small depression, 29.6 (751.8), was shown near Iceland, but it filled up during the day without exhibiting any special energy. On the 5th the area of low pressures (ix.) extended from Finland eastward to the Ural mountains, the region of least pressure being between Saint Petersburg and Archangel; moderate to strong westerly and northwesterly winds and rainy weather with lower temperature prevailed at stations west of the centre. On the 6th the position of the storm-centre remained unchanged, but the pressure had decreased about .2 inch, and the northwesterly winds increased to strong gales over the Baltic and the Gulf of Bothnia, while rainy weather continued at stations in central and eastern Russia.

X.—This was an extensive depression which on the 6th occupied the whole of Scotland and England, except the southwestern part of the latter country. Strong northerly and northwesterly winds occurred at stations west of the centre and over the English Channel. During the day the disturbance moved slowly northeastward with decreasing pressure, and on the 7th it was central near the west coast of southern Norway. The pressure having increased rapidly over western Europe the barometric gradient became somewhat steep, and strong westerly winds, increasing to moderate gales, prevailed over the North Sea and at stations in Denmark and northern Germany. On the 8th the depression moved northward and disappeared off the Norwegian coast.

XI.—This was a slight disturbance that appeared in the Saint George's Channel on the 8th; it moved northeastward, causing showery weather, but was unaccompanied by high winds. On the 9th the disturbance was central over the Skager Rack, where it apparently dissipated during the day.

XII.—This disturbance appeared in west Russia on the 10th, and caused rainy weather in that region; during the 11th and 12th, it moved slowly northeastward, and on the latter date, the region of least pressure was in central Russia. Fresh northerly winds prevailed in the northwestern part of the country; in the southern quadrants of the depression, the winds were between west and south, and were moderate to fresh in force. On the 13th, the pressure began to increase, and by the 14th, the depression had disappeared.

XIII.—This was a continuation of low-area iii. before described. On the 14th, the disturbance was central in northern Scandinavia, the region of least pressure being enclosed by the isobar of 29.4 (746.7). Rain fell at stations in Scandinavia, and strong westerly breezes to fresh gales occurred at the northern stations. By the 15th, the depression having moved by a course slightly south of east, was central in the neighborhood of the White sea, and on the 16th, it was in eastern Russia, where it ceased to exist as a distinct low-area.

XIV.—This depression appeared over the ocean to the west of Norway on the 15th, on which date moderate to fresh westerly and southwesterly breezes prevailed in Scotland and in southern Scandinavia, and a slight but general rise occurred in temperature. During the 15th, the disturbance moved eastward, with decreasing pressure, over Scandinavia, and by the morning of the 16th, it was shown as a large depression extending from the White sea southeastward to the Caspian sea. Fresh to strong northerly and northwesterly gales occurred at Swedish stations, on the shores of the Gulf of Bothnia, and cooler northwest winds prevailed over the greater part of the British Isles. On the 17th, the depression was central over the White sea, the barometer at Archangel reading 29.16 (740.7), wind southwest, while the strong northwesterly winds continued over the Gulf of Bothnia and in Sweden. During the 18th and 19th, the disturbance remained in northern Russia, finally disappearing in the Arctic regions on the last mentioned date.

XV.—This disturbance appeared in the Bay of Biscay on the 19th; it advanced northeastward through France and Germany, causing unsettled and showery weather in the British Isles and northwestern Europe, but was not attended by high winds. On the 20th, the disturbance probably united, when over the North sea, with depression xvi. then advancing toward the Norwegian coast.

XVI.—This depression appeared between the Shetland and Faröe Islands on the 20th; it moved eastward and on the 21st, was shown in Scandinavia; the region of least pressure enclosed by the isobar of 29.4 (746.7). Rain fell at stations in southern Scandinavia, and moderate to fresh westerly and northwesterly breezes prevailed west of the centre of depression. On the 22d, the disturbance was in Lapland where it disappeared, being replaced on the following day by an area of relatively high pressures.

XVII.—This disturbance appeared in southern France on the 20th; moving eastward during the day, it passed into northern Italy where it was central on the 21st. It then moved to Austro-Hungary, and disappeared in the Black sea region on the 23d.

XVIII.—This disturbance developed apparently off the northwest coast of Scotland; it moved eastward and was central in the northern part of that country on the 22d, attended by moderate to fresh southerly and southwesterly winds and rainy weather. On the 23d, the disturbance having moved over the North sea, was central in southern Norway; on that date, the barometric pressure was high over the Gulf of Bothnia and Sweden, and during the day, the depression appears to have filled up in Norway.

XIX.—On the 24th, the circulation of the winds in the British Isles indicated the presence of a depression to the westward of Scotland and north of Ireland; during the day rain fell at stations in the British Isles, and on the eastern shores of the North sea, but the winds remained moderate. On the 25th, the disturbance, which had moved northeastward with decreased pressure, was central over the North sea, where it exhibited increased energy. Fresh to strong easterly and southeasterly gales prevailed in Denmark and in southern Scandinavia, while in Scotland, the wind blew strongly from west and northwest. The storm-centre moved northward along the Norwegian coast, with constantly decreasing pressure, the centre being enlosed by the isobar of 29.4 (746.7) on the 26th, and fresh to strong southerly winds and rainy weather prevailed at the Swedish stations and on the Baltic. On the 27th, the disturbance disappeared in northern Scandinavia, but the increase of pressure which occurred after the passage of the centre was checked by the immediate advance of low-area xx.

XX.—This depression advanced from the English Channel northeastward through France to Belgium, where it was central on the 26th. On this date, general rains occurred in France and Belgium, and at a few stations in England, and the winds remained light or moderate, except in the southern quadrants, where they blew with the force of a moderate gale. On the 27th, the storm-centre was in southern Sweden, where the barometric readings were below 29.25 (742.9). On the 28th, the depression was central in Sweden, attended by general rains and causing moderate westerly gales in the southern, and easterly gales in the northern quadrants. On the 29th, the disturbance passed off the northwestern coast of Norway into the Arctic ocean.

XXI.—This depression appeared over the western part of the Mediterranean on the 26th, and moved with slowly decreasing pressure to northern Italy, where it was central on the 27th. The course then changed to southeastward and the disturbance gradually dissipated over the Adriatic on the 28th.

XXII.—On the 28th, the wind in Ireland shifted to south and blew strongly, accompanied by rain, and the pressure began to diminish somewhat rapidly, indicating the advance of a depression from the westward. During the day, the disturbance moved northeastward along the Irish and Scottish coasts, and on the 29th, it was central near the Shetlands, where it probably combined with low-area xx., then off the Norwegian coast, the two forming an extensive area of low pressures over the ocean north of the sixtieth parallel of latitude.

XXIII.—On the 30th, there was a general decrease of press-

ure over the British Isles and western Europe. On the 31st, the decrease became more marked, the region of least pressure occupying Great Britain, the Irish sea, and the northwestern part of Ireland. Within this area, the lowest barometric readings were 29.22 (742.2) at Liverpool, and 29.27 (743.4) at Sheffield. Heavy rains occurred in the British Isles, except in the extreme northern part of Scotland, and strong southwesterly winds prevailed over the English Channel and at stations on the northwest coast of France.

XXIV.—On the 1st, a barometric depression occupied eastern Russia, and extended beyond the Ural mountains into Asia. Moving east-southeastward, the region of least pressure, 29.37 (746.0), was shown near Akmolinski, western Siberia, on the 2d. During the 3d and 4th, the disturbance moved slowly northeastward through Siberia, where the barometer remained low for several days.

The following descriptions refer to the depressions traced in Asia:

XXV.—This disturbance was apparently central near the Gulf of Pe-Chi-Li, on the 2d. It moved eastward over the sea of Japan and on the 3d, it was central in the island of Niphon; during the 4th and 5th, the pressure gradually increased and the disturbance disappeared in the sea of Japan. This depression was probably closely connected with the typhoon traced on chart iii. for June, 1881.

XXVI.—This disturbance moved from central China on the 10th; on the 11th, the centre of depression was south of Pekin, where the barometric pressure was 29.56 (750.8). Moving eastward, the storm-centre reached the Gulf of Pe-Chi-Li, on the 12th, causing a southerly gale at Cheefoo. On the 13th, the disturbance disappeared to the north of Corea. This disturbance occasioned very high temperatures in northern China during its passage.

XXVII.—This depression probably developed from the remains of the typhoon traced as ii. (July 10th-17th). On the 18th, the disturbance was central over the southern part of the sea of Japan; during the 19th and 20th, it hovered near the islands of Japan, attended by gradually increasing pressure, and without exhibiting any storm-energy. On the 21st, it disappeared, moving probably into the Pacific.

XXVIII.—This depression appeared to the north of Pekin on the 28th; it moved by a southeasterly course over the Gulf of Pe-Chi-Li, and on the 29th, it was central over the Yellow sea, and at the close of the month, it was apparently in the peninsula of Corea.

The following notes on the three typhoons that occurred in the China sea during July, 1881, are taken from Mr. Marc Dechevren's "Typhoons of the Chinese Sea, 1881:"

I.—(July 6th to 11th.) This typhoon appears to have formed to the west of Mindanao, Philippine Islands, on the 5th or 6th. On the 7th, it was near N. 12°, E. 120°. On the 8th, the s. s. "Plainmeller" encountered the typhoon in N. 15° 21′, E. 116° 33′, wind w. The bark "Fabius" reported calms on Macclesfield Bank for four days, followed by the typhoon in N. 18° 40′, E. 113° 28′, barometer 29.48 (748.8), wind blowing with hurricane force; the vessel was hove to until the morning of the 9th, when the wind veered to nnw. On the 10th, the s. s. "Consolation" encountered the typhoon at the entrance to the Gulf of Tonquin. The lowest barometric reading observed on board H. M. S. "Magpie," anchored in Manin Bay, Island of Hainan, was 29.41, at 1 p. m. of the 10th. The typhoon appears to have vanished before reaching the western shores of the Gulf of Tonquin, although the barometer remained low over Hainan and over the gulf.

II.—(July 10th to 17th.) This typhoon developed in the Philippine archipelago almost simultaneously with, and under the same conditions as, typhoon i. That disturbance originated to the westward of Mindanao between the 4th and 6th, while typhoon ii. sprang up to the eastward of Mindanao between the 6th and 9th. To the southeast and southwest of that island, from the 6th to 12th, the wind blew from west and southwest with varying force (5–9) and with heavy rain all the time, while to the north of the archipelago the wind was from east and southeast. At Manila, Luzon, the barometer gave no indication of the approach of the typhoon until the evening of the 11th. The centre moved northwestward at some distance from the eastern coast of Luzon, and, by the 14th, it was off the northeast point of the island. At Manila the general direction of the wind was from west to east, with little variation; it first blew from northwest to southeast when the centre was to the southeast, then from west to east, when it reached the latitude of Manila, and, lastly, from southwest to northeast, when it passed the straits that separate Luzon and Formosa. The centre passed much nearer to Tuguegarao than to Manila; the barometric minimum, 29.58 (751.3), occurred at Manila at about 4 p. m. of the 14th. At Tuguegarao the barometer reached its lowest point, 29.45 (748.0), at 6 a. m. of the 14th. An effect of the mountain chain that runs along the eastern coast of Luzon must be noticed; the strong northwest, west, or southwest winds that blew at Tuguegarao struck directly against the western slope of the mountains and rain fell abundantly on that side. During the 15th, the typhoon traversed the island of Formosa from south to north and caused some damage in that island. At Tai-wan-foo (N. 22° 58′, E. 120° 13′) the lowest barometric reading was 29.29 (744.0) at 4 a. m. of the 15th, wind blowing half a gale from nnw. At Tamsui, Formosa, (N. 25° 10′, E. 121° 25′,) the barometric minimum occurred at 7 a. m. of the 15th, wind n., 10–11 (Beaufort scale). At 7.40 a. m. it became quite calm, the sun being visible for ten minutes. At 9.30 the wind came with great violence and very suddenly from the west, gradually changing to southwest. At Keelung, twenty miles east of Tamsui, the calm lasted from 7 to 7.30 a. m., and the barometer fell to 28.6 (726.4); wind ne., force 8, at 5 a. m.; ene., force 9, at 7 a. m.; s., force 4, at 8 a. m., sw., force 9, at 9 a. m.; sw., force 10, at 10 a. m.; sw., force 11, at noon; sw., force 8, at 2 p. m.; sw., force 6, at 4 p. m. At Twatutia, eight miles south, east of Tamsui, the calm lasted from 7 to 8 a. m. The barometric minimum seems to have occurred at 8 o'clock, after the period of calm. The wind went through the same variations as at Keelung—e. and ne. before the calm, and sw. after. After leaving Formosa, the typhoon moved northward to the coast of China, and on the 16th it was near Shanghai. The s. s. "Keelung," from Cheefoo for Swatow, first noted indications of the typhoon on the morning of the 15th in N. 27° 53′, E. 121° 42′, barometer 29.54 (750.3), wind se., force 5, dense showers of rain, heavy cross-sea from ne. and se. At 3 p. m. of the 15th, in N. 26° 58′, E. 121° 00′, the barometer reached its lowest point, 28.78 (731.0), wind nnw., force 10 (Beaufort scale). At 4 p. m., the wind gradually shifted to wsw., with furious squalls of hurricane force and very heavy rain. The heaviest gusts of wind were from sw. by w. The brig "Emily" appears to have passed near the centre of the typhoon on the 15th, in N. 27° 00′, E. 121° 30′, 3.45 p. m. barometer (aneroid) fell to 28.84 (732.5). At 4.30 p. m., after a period of calm, the wind veered from e. to se., s., and ssw. Another vessel, the brig "Peter," passed close to the same position at about 3 p. m. She reported the same brief calm, winds from e. to se. and sw., barometer 28.85 (732.8). Towards evening of the 15th, the rainfall became heavy and the wind increased at Shanghai. By 2 a. m. of the 16th, the rain had ceased, wind blowing in violent squalls between e. and se. At 2.30 a. m. the wind shifted to ne. and rain began to fall abundantly. At 3.30 the wind again went back to ese. Between 4 and 5 a. m. the barometric minimum, 29.13 (739.9), occurred, wind sse., 45 miles; the velocity of the squalls may have reached fifty-five or sixty miles an hour; several trees were uprooted at Zi-Ka-Wei. The wind veered from east to west, through south, consequently the typhoon passed to the westward of Zi-Ka-Wei. Much damage was done to junks and other vessels on the river, and some loss of life occurred. The typhoon continued its northerly course and crossed the Yang-tsi-Kiang river to the east of Ching-Kiang, one hundred and ten miles northwest of Shanghai, and forty-seven miles east of Nanking. The lowest barometric reading, 29.2 (741.7), was observed at 9 a. m. of the 16th, wind nne., force 9–12. The worst of the gale was between 9. a. m. and 3 p. m. from nne. and nnw. At 4 p. m. it began to abate. On the 17th, the typhoon reached Cheefoo. Its course then appears to have been influenced by the high promontory of Shan-Tung, as reports indicate that it did not cross the thirty-seventh parallel of latitude between Corea and China. After the 17th, the disturbance cannot be traced as a typhoon, but the depression shown in Japan as low-area xxvii. was evidently the remains of this typhoon, which had now lost the greater part of its storm-energy. During the passage of this typhoon two shipwrecks occurred in the China sea. The bark "Aberdonian" was wrecked on one of the islands of the Chusan archipelago on the night of the 16th, and the brigantine "Annie J. Hall" was lost on the same night. After encountering the typhoon the vessel was so damaged as to be unmanageable, and was abandoned off Fung-me island, one of the Taichow group.

III.—(July 26th to August 2d.) The first indications of this typhoon were noticed at Manila on the 24th, when the barometer began to fall. It attained its minimum, 29.72 (754.9) on the 26th, the centre of disturbance remaining apparently to the northeast of Luzon. On the island of Formosa, both at Tai-wan-foo, in the south, and at Tamsui, in the north, the barometer remained low during the 28th, 29th, and 30th, the absolute minimum, 29.55 (750.6), being observed on the evening of the 28th. The typhoon moved slowly northeastward at a great distance from the coasts of China, and by August 1st it was south of Japan. At Siwomisaki light-house (N. 32° 26′, E. 135° 45′) the wind attained hurricane force, being the only station at which violent winds occurred. The barometric reading was 29.05 (737.9) at 9 a. m. of the 1st. On that day five inches of rain fell, making a total of eight inches from July 30th. Severe local floods occurred in the southern provinces of Japan. The typhoon then moved in a northeasterly direction at some distance from the coast of Japan. The barometric minimum, 29.42 (747.3), occurred between 2 and 3 p. m. of the 2d at Omaisaki light-house (N. 34° 36′, E. 138° 13′). The typhoon passed at considerable distance from the capital of Japan, as no heavy weather was experienced there or in the the Gulf of Yedo. The lowest barometric reading at Tokei was observed at 1 a. m. of the 3d, when it was 29.55 (750.6), and the wind did not exceed ten miles an hour. The typhoon then passed east-northeastward into the Pacific.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are applied at this office. In the naval and marine series, corrections for temperature and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz.: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in metres per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometres per hour, to metres per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnston'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 originals, is carefully computed at this office. Generally all conversions are made 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 alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING THE DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted. Broken lines indicate that the lines so broken are doubtful.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. Storm-tracks in red. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date. Broken or dotted lines are doubtful.

Arrows show the 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 9.1	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.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of

simultaneous observation. At Hankow the originals give the barometer in inches, temperature in Fahrenheit, and force on a scale of 0 to 10.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12 m., instead of 12.16 p. m. The original at Besancon for June, 1882, states that observations for this month are taken at midday instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchina, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions (subject to correction at this office) are published as given in the originals. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiana).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakhan the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in metres per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air as indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale

of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is iven in gen eral (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut.)—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in metres per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Office, U. S. Army). On June 1st, 1882, elevation of barometer cistern at Sacramento, California, changes from 70 to 65 feet.

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer. On June 1st, 1882, the elevation of barometer cistern at York Factory, B. A., changes from 51 to 55 feet, and on June 25th, at Puerto Berrio, U. S. C., from 454 to 542 feet.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea-disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

Monthly Summary, October, 1880, page 2, Cape Colony series, Cape Town, temperature 80°.2 Fahr., 26°.8 Cent., should read 73°.7 Fahr., 23°.2 cent.

Monthly Summary, May, 1882, page 5, United States sub-series, elevation of barometer cistern at Puerto Berrio, 542 feet, 165 meters, should read 454 feet, 138 meters.

Daily Bulletin, June 13th, 1882, page 4, United States, Buffalo, actual barometer 28.53 inches, should read 28.43 inches.

14th, page 7, North German Lloyd, s. s. Elbe, longitude E., should be W.

19th, page 6, British naval, H. M. S. Dido, longitude N. 50′ 10°, should read N. 10° 50′.

21st, page 7, Merchants S. S. Co., s. s. Glenfyne, longitude E., should be W.

24th, page 2, Indian, Deesa, actual barometer 30.08 inches, should read 29.08 inches.

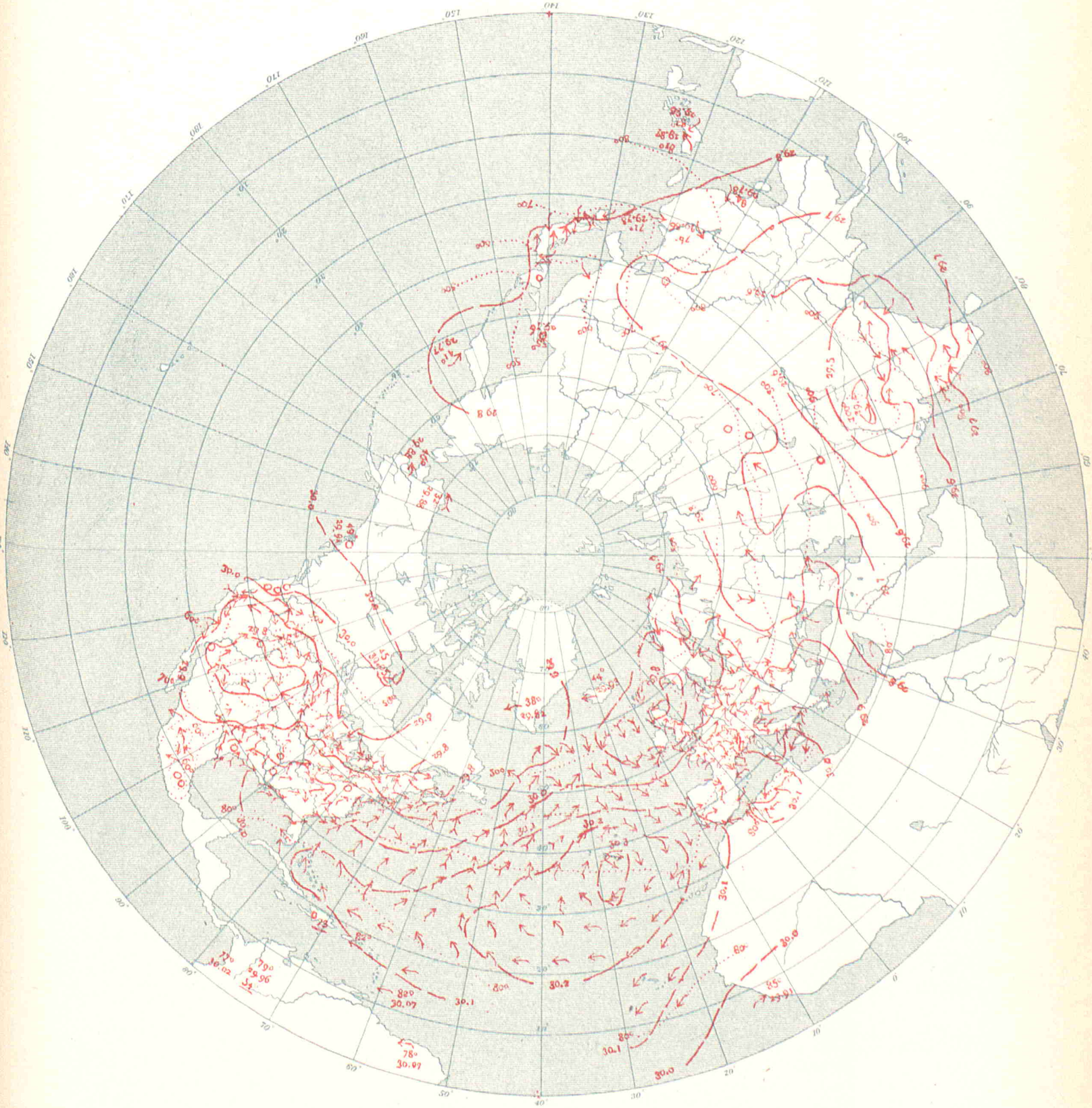
25th, page 1, Austro-Hungarian, Agram, actual barometer 29.65 inches, should read 29.55 inches; page 7, North German Lloyd, s. s. Hohenzollern, longitude E., should read W.

29th, page 5, United States, Morgantown, actual barometer 29.95 inches, should read 28.95 inches.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

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

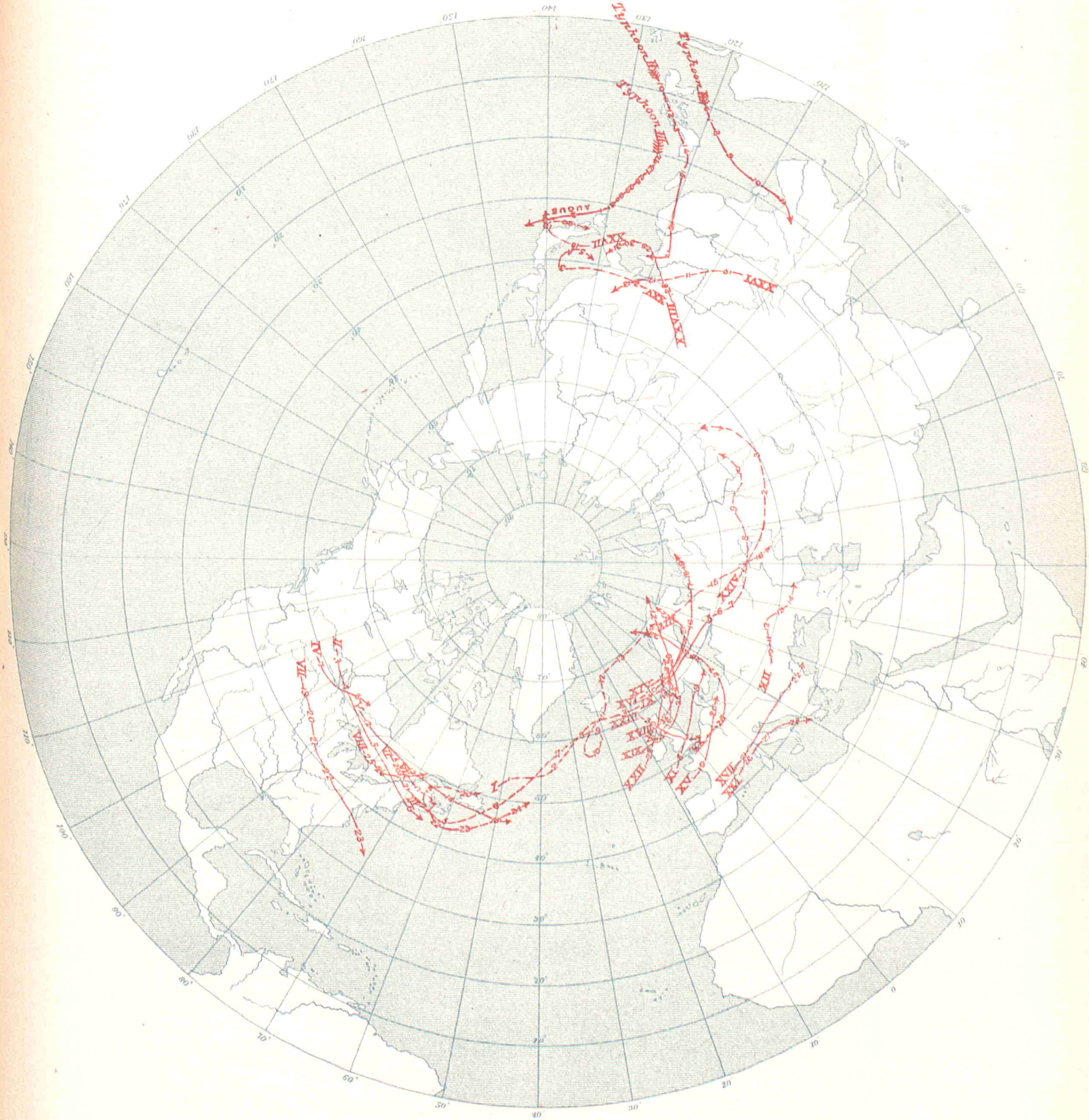
International Chart II. June, 1882. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

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

International Chart III. July, 1881. Storm-Tracks.



UNITED STATES OF AMERICA.

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

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF JULY, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
AUGUST, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JULY, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for July, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.02	762.5	78.4	25.8	75.9	6	.....	2	9	11	3	.....	.....	.....	.....	.....	2	inap.	inap.
Algiers	N. 36 47	E. 3 04	0.20 p.m.	72	22	.....	.....	30.03	762.7	79.7	26.5	59.2	9	5	.....	.....	.....	.....	3	14	.....	.....	.....	1	inap.	inap.
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.00	762.0	82.4	28.0	65.3	9	7	2	2	.....	1	1	6	3	.....	.....	1	0.16	4.0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.00	761.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.06	763.4	90.7	32.6	30.6	1	.....	.....	6	6	4	7	7	.....	.....	.....	1	0.22	5.6
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.06	763.4	85.8	29.9	28.6	6	10	4	6	2	2	1	.....	.....	.....	.....	1	0.39	10.0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	94.3	34.6	6.3	3	13	6	4	3	2	.....	.....	.....	.....	.....	1	0.19	4.8
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.01	762.3	98.1	36.7	34.1	2	1	14	.....	1	2	5	6	.....	.....	.....	1	0.75	19.0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.07	763.7	97.7	36.5	24.5	1	4	.....	2	1	22	.....	1	.....	.....	.....	1	0.12	3.0
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.93	760.3	30.03	762.6	47.2	8.4	81	14	1	7	2	2	3	.....	2	.....	.....	.....	6	2.11	53.6
AUSTRO-HUNGARIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.34	745.3	29.86	758.5	73.8	23.2	53.1	1	2	6	10	2	5	1	4	.....	.....	.....	4	4.04	102.7
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.13	739.8	29.86	758.4	73.9	23.3	58.5	1	5	9	6	.....	.....	5	5	.....	.....	.....	7	3.89	98.7
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	28.99	736.3	29.82	757.3	69.3	20.7	72.2	12	1	.....	.....	4	2	.....	.....	12	.....	.....	6	3.24	82.3
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.67	728.3	29.87	758.7	72.9	22.7	75.1	1	9	2	9	3	5	1	.....	1	.....	.....	5	4.94	125.0
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.43	722.1	29.78	756.3	78.4	25.8	56	1	16	2	1	3	6	2	.....	.....	.....	.....	6	5.98	151.8
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.60	726.5	29.90	759.5	67.6	19.8	72.6	.....	6	7	2	.....	1	1	8	6	.....	.....	7	9.35	236.6
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.94	735.0	29.89	759.2	75.0	23.9	59.8	1	4	1	6	2	7	3	7	.....	.....	.....	7	10.27	260.8
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.79	756.7	29.90	759.4	79.5	26.4	57.1	1	.....	12	4	.....	9	3	2	.....	.....	.....	4	0.90	22.8
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.35	745.4	29.79	756.7	79.9	26.6	53	4	4	7	6	2	2	6	.....	.....	.....	.....	5	6.40	162.6
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.54*b*	750.3*b*	29.81*c*	757.1*c*	77.7*a*	25.4.*a*	56.7*b*	2*b*	5	1	2	10	1	1	3	4	.....	.....	5*b*	2.57	65.2
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.82	757.5	29.93	760.1	79.9	26.6	52.1	.....	1	1	14	1	.....	3	2	9	.....	.....	4	2.12	53.9
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.27	743.4	29.96	760.9	72.9	22.7	56.9	3	10	12	.....	1	5	.....	.....	.....	.....	.....	5	5.04	128.0
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.60	751.8	29.70	754.4	60.1	15.6	72.6	1	3	1	1	9	14	1	1	.....	.....	.....	6	3.61	91.7
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.48*a*	748.8*a*	29.71*a*	754.6*a*	59.9	15.5	79.0	2	.....	6	10	10	3	.....	.....	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.010	752.10	61.9	16.6	75.5	.....	1	10	12	4	3	1	.....	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.25	742.9	29.77	756.1	60.2	15.7	76.4	.....	2	4	13	9	2	1	.....	.....	.....	.....	8	.....	.....
Bradford *e*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.39	746.5	29.78	756.4	61.7	16.5	68.0	.....	4	4	13	.....	4	.....	1	.....	.....	.....	8	4.07	103.4
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	30.03	762.7	30.06	763.5	82.3	27.9	76.6	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.83	757.7	68.0	20.0	71.4	1	3	5	15	4	1	1	1	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.76	755.9	29.89	759.2	65.5	18.6	68.9	.....	2	.....	17	5	.....	.....	4	3	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.66	753.4	29.88	758.9	62.5	16.9	73.1	.....	6	4	12	8	1	.....	.....	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.82	706.6	30.04	763.0	68.9	20.5	37.5	2	.....	1	.....	1	4	11	9	3	.....	.....	2	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.67	753.6	29.90	759.4	83.8	28.8	77.3	3	10	12	6	.....	.....	.....	.....	.....	.....	.....	4	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.00	762.0	30.05	763.3	79.3	26.3	74.6	.....	.....	13	4	.....	1	10	3	.....	.....	.....	3	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.48	748.8	29.69	754.1	60.9	16.1	68.8	1	2	6	11	6	3	.....	2	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.70	754.4	29.87	758.7	68.1	20.1	62.8	3	1	3	15	6	.....	1	2	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.64	752.8	29.94	760.5	62.2	16.8	79.5	3	3	6	17	1	.....	1	.....	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.84	757.9	29.88	758.9	64.9	18.3	64.8	1	1	3	15	6	.....	2	3	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.57	751.1	29.81	757.2	65.1	18.4	62.9	2	2	1	24	.....	1	.....	1	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.87	758.7	29.94	760.5	81.3	27.4	64.6	.....	11	2	.....	1	1	1	6	.....	.....	.....	c	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.13	765.3	30.18	766.6	85.1	29.5	71.1	.....	.....	.....	3	5	15	6	2	.....	.....	.....	5	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.31	744.5	29.82	757.4	63.2	17.3	70.8	2	1	3	4	18	1	.....	2	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.63	752.6	29.86	758.4	64.1	17.8	71.9	1	2	2	7	14	3	2	.....	.....	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.81	757.2	29.88	758.9	64.5	18.1	75.6	.....	1	6	12	11	.....	.....	1	.....	.....	.....	6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.56*f*	750.8*f*	58.7*e*	14.8*e*	79.9*e*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5*f*	.....	.....
Scutari Cemet'y *a*	N 41 00	E. 29 03	2.04 p.m.	60	18	29.70	754.4	29.77	756.1	87.5	30.8	48.4	6	.....	1	7	4	.....	.....	11	1	.....	.....	2	.....	.....
Sheffield *b*	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.55	750.6	29.82	757.4	60.8	19.3	70.1	...*a*	.....	2	22	2	1	1	2	.....	.....	.....	7*a*	2.49	63.2
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.71	754.6	29.73	755.1	63.0	17.2	73.5	.....	.....	10	14	7	.....	.....	.....	.....	.....	.....	6	5.97	151.6
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.81*a*	757.2*a*	61.3	16.3	71.5	.....	1	11	9	8	.....	1	1	.....	.....	.....	8	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.64*b*	752.8*b*	29.86*b*	758.4*b*	63.5	17.5	67.5	.....	2	4	20	2	.....	1	2	.....	.....	.....	6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.87	758.7	29.89	759.2	66.2	19.0	68.8	.....	10	7	13	1	.....	.....	.....	.....	.....	.....	6	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.76	755.9	29.78	756.4	59.5	15.3	71.7	.....	3	10	9	6	3	.....	.....	.....	.....	.....	8	.....	.....
CANADIAN.																										
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.87	758.7	29.91	759.7	63.0	17.2	81.4	2	2	6	12	3	2	2	.....	2	5220	8401	7	3.68	93.5
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.88	758.9	29.94	760.5	62.0	16.7	85.3	2	2	6	10	6	2	.....	3	.....	3213	5171	6	4.40	111.8
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.87	758.7	29.89	759.2	56.3	13.5	87.0	.....	1	12	8	1	1	.....	5	3	11450	16817	7	3.05	77.5
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.08	738.6	29.89	759.2	56.4	13.6	89.8	8	6	3	2	6	4	2	.....	.....	8044	12945	6	7.10	180.3
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.86	758.4	29.99	761.7	62.1	16.7	87.7	2	3	7	8	4	4	1	2	.....	.....	.....	6	5.19	131.8
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.64	752.8	29.96	761.0	64.2	17.9	82.7	5	2	6	8	3	.....	1	5	1	4892	7873	6	1.99	50.6
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.73	755.1	29.93	760.2	65.0	18.3	78.6	4	1	17	2	2	.....	4	1	.....	.....	.....	6	6.04	153.4
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.29	744.0	29.96	761.0	62.9	17.2	80.9	3	1	3	8	6	2	2	3	3	6292	10126	4	2.06	52.3
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.33	745.0	30.00	762.0	63.1	17.3	93.8	3	3	6	8	1	....	.....	1	9	4189	6741	4	0.98	24.9
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.37	746.0	30.00	762.0	61.7	16.5	87.9*a*	4	3	14	2	3	2	2	.....	1	.....	.....	5	0.98	24.9
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.62	752.3	29.93	760.2	60.8	16.0	89.7	1	1	16	.....	.....	.....	7	1	5	.....	.....	6	4.41	112.0
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.48	748.8	29.93	760.2	59.2	15.1	87.3	.....	10	4	.....	.....	2	4	.....	11	.....	.....	5	3.85	97.8
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.30	744.2	29.97	761.2	61.2	16.2	87.4*a*	1	4	3	8	6	2	1	2	4	6480	10428	4	0.78	19.8
St. Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.90	759.4	29.95	760.7	59.3	15.2	87.5	1	5	3	.....	2	8	2	3	7	.....	.....	3	2.57	65.3
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.89	759.2	29.95	760.7	55.3	12.9	79.9	3	1	1	17	3	.....	1	2	3	8041	12940	7	3.68	93.5
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.63	752.6	30.00	762.0	63.9	17.7	75.7	3	6	8	3	3	.....	2	2	4	6284	10113	5	1.07	27.2
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.92	760.0	29.98	761.5	57.9	14.4	92.6	1	1	1	10	5	2	3	.....	8	.....	.....	4	0.66	16.8
Sub-Series.																										
Mt. Forrest	N. 44 01	W. 80 54	6.44 a.m.	1375	419	28.59	726.2	30.05	763.3	58.9	14.9	86.0	2	7	13	7	.....	.....	1	.....	1	.....	.....	6	0.80	20.3
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	30.00	762.0	30.24	768.1	60.3	15.7	85.7	3	4	1	17	4	.....	1	1	.....	.....	.....	4	4.68	118.9
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.21	767.3	30.24	768.1	62.7	17.1	80.3	1	.....	9	8	.....	4	2	5	2	.....	.....	8	2.84	72.1
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	30.15	765.8	30.19	766.8	62.3	16.8	74.0	1	10	4	1	8	6	1	.....	.....	.....	.....	4	5.33	135.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for July, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHINESE.	° ′	° ′																								
Sub Series.																										
Hankow	N. 30 34	E. 114 20	7.45 p.m.	260	79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.73	755.2	29.76	755.8	76.1	24.5	90.8	.....	1	.....	1	2	15	9	3	.....	.....	.....	6	8.67	220.2
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.81	757.1	29.85	758.3	67.8	19.9	65	1	6	3	5	5	7	2	1	1	.....	.....	6	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.83	757.7	29.85	758.2	65.5	18.6	73	2	4	7	12	3	2	.....	.....	1	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.58	751.4	29.63	752.5	48.0	8.9	80	.....	.....	4	.....	4	7	9	2	5	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.60	751.7	29.63	752.6	54.9	12.7	84	2	.....	2	5	4	3	4	6	5	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.74	755.4	29.83	757.7	63.7	17.6	79	1	5	4	13	4	1	1	.....	2	.....	.....	5	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.45	748.0	30.09	764.3	73.0	22.8	62.6	1	5	2	1	3	5	.....	2	12	.....	.....	.....	0.28	7.2
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.44	747.7	29.99	761.7	66.6	19.2	76.6	4	1	1	11	13	.....	.....	1	.....	.....	.....	.....	3.96	100.6
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.71	754.7	29.97	761.1	65.7	18.7	72.9	1	4	7	10	4	.....	.....	5	.....	.....	.....	.....	1.86	47.2
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.88	759.0	29.96	761.0	79.2	26.2	52.3	17	9	.....	2	2	1	.....	.....	.....	.....	.....	6	1.16	29.6
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.46	748.2	30.00	761.9	67.8	19.9	62.0	1	1	2	5	9	5	6	2	.....	.....	.....	7	5.76	146.3
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.71	754.6	29.97	761.1	69.3	20.7	57.1	2	6	1	6	10	4	1	1	.....	.....	.....	7	3.34	84.7
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.09	738.8	29.96	760.9	68.9	20.5	67.4	5	.....	1	2	14	2	1	6	.....	.....	.....	6	8.32	211.2
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.78	756.4	30.03	762.8	71.6	22.0	51.8	2	7	5	7	3	.....	6	1	.....	.....	.....	7	2.10	53.2
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.48	748.7	30.01	762.3	69.4	20.8	58.9	7	3	6	6	6	3	.....	.....	.....	.....	.....	.....	3.88	98.5
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.75	755.6	29.99	761.8	66.0	18.9	73.5	5	1	4	20	.....	.....	.....	1	.....	.....	.....	7	3.37	85.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.95	760.7	30.02	762.6	66.0	18.9	65.9	1	3	6	9	6	3	1	1	1	.....	.....	6	2.55	64.8
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.63	752.5	29.94	760.4	68.9	20.5	66.2	.....	1	5	3	13	.....	.....	3	6	.....	.....	6	2.88	73.2
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.43	747.6	29.93	760.2	69.1	20.6	59.1	6	4	11	5	1	1	1	1	1	.....	.....	.....	4.15	105.4
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.68	728.5	29.99	761.8	70.3	21.3	54.6	8	1	4	4	1	3	3	7	.....	.....	.....	6	4.45	113.0
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.18	741.2	30.00	762.1	68.9	20.5	60.4	.....	8	4	6	7	3	.....	3	.....	.....	.....	6	7.12	180.9
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.14	740.2	29.99	761.7	67.1	19.5	65.3	2	3	11	10	2	2	1	.....	.....	.....	.....	7	5.10	129.4
Gap *a*	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.48	697.9	29.91 *c*	759.8 *c*	74.1	23.4	42.2	4	2	3	3	4	3	4	7	1	.....	.....	4	0.81	20.5
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.85	732.9	29.92	760.0	81.0	27.2	33.7	.....	.....	.....	.....	1	15	13	2	.....	.....	.....	2	0.91	23.0
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.22	742.3	29.96	761.0	70.5	21.4	64.8	1	18	5	.....	.....	2	3	2	.....	.....	.....	.....	2.19	55.6
Guéret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.48	723.3	30.02	762.5	65.8	18.8	61.5	1	5	8	9	1	.....	1	6	.....	.....	.....	.....	3.90	99.1
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.70	754.3	29.97	761.1	64.8	18.2	73.1	5	5	3	4	11	2	.....	1	.....	.....	.....	4	2.59	65.7
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.48	748.9	30.03	762.8	71.8	22.1	57.3	3	.....	16	4	.....	.....	6	2	.....	.....	.....	3	1.61	41.0
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.90	759.5	30.00	762.1	66.7	19.3	73.4	1	.....	7	14	5	.....	.....	.....	4	.....	.....	7	4.16	105.6
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.97	735.8	30.01	762.2	69.8	21.0	54.8	10	8	.....	2	5	5	1	.....	.....	.....	.....	.....	5.07	128.7
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.69	754.2	30.00	761.9	66.9	19.4	66.8	1	4	10	7	3	2	2	2	.....	.....	.....	7	3.07	77.9
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.69	754.0	29.95	760.7	77.5	25.3	44.9	.....	5	13	7	2	4	.....	.....	.....	.....	.....	.....	0.63	16.0
Mont-Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.91	632.7	29.76	755.8	63.9	17.7	47.1	2	7	7	8	2	.....	4	1	.....	.....	.....	3	1.51	38.3
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.84	757.9	29.97	761.1	78.8	26.0	54.9	4	.....	.....	.....	.....	16	6	5	.....	.....	.....	2	1.32	33.6
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.23	742.4	29.99	761.8	67.3	19.6	67.5	.....	4	6	4	15	2	.....	.....	.....	.....	.....	.....	3.99	101.3
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.88	759.0	30.04	762.9	70.0	21.1	61.4	4	2	6	11	5	1	.....	2	.....	.....	.....	8	3.43	87.0
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.89	759.2	29.99	761.8	77.9	25.5	41.7	1	15	.....	.....	1	1	3	10	.....	.....	.....	3	0.84	21.3
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21 37	542.8	.....	.....	46.2	7.9	.....	.....	3	4	13	3	4	2	2	.....	.....	.....	6	3.41	86.5
Privas ..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.96	735.6	30.00	761.9	74.5	23.6	47.7	11	2	.....	1	15	.....	2	.....	.....	.....	.....	3	2.03	51.6
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.21	640.4	.....	.....	49.3	9.6	84.7	4	4	7	11	1	3	.....	1	.....	.....	.....	.....	6.56	166.5
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.02	762.5	30.05	763.3	72.7	22.6	95.4	2	2	10	11	4	1	.....	1	.....	.....	.....	6	5.94	151
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.78	756.3	29.98	761.5	68.9	20.5	70.3	5	3	2	11	7	1	.....	2	.....	.....	.....	6	3.13	79.4
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.92	709.1	30.01	762.3	67.8	19.9	63.6	2	10	10	.....	.....	4	2	2	1	.....	.....	6	4.42	112.2
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.91	759.8	29.96	761.0	67.6	19.8	68.7	1	5	3	9	9	1	.....	3	.....	.....	.....	6	4.90	124.5
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.81	757.2	29.98	761.4	69.1	20.6	57.3	5	2	4	8	6	3	1	2	.....	.....	.....	7	2.29	58.2
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.39	746.4	30.11	764.8	74.8	23.8	52.5	6	6	7	2	.....	4	4	2	.....	.....	.....	3	3.49	88.7
Tours	N. 47 24	E. 0 41	0.11 p.m.	104	50	29.81	757.1	30.00	761.9	70.7	21.5	61.7	4	.....	4	20	1	.....	.....	2	.....	.....	.....	.....	1.74	44.1
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.49	749.0	29.98	761.5	68.4	20.2	58.3	6	2	6	13	.....	.....	1	3	.....	.....	.....	6	2.61	66.2
Sub-Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	29.69	754.2	29.98	761.6	68.4	20.2	61.0	3	5	4	12	6	1	.....	.....	.....	.....	.....	7	1.82	46.1
GERMAN.																										
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	796	242	29.10	739.2	29.96	760.9	69.1	20.6	62.8	.....	7	7	6	1	1	1	1	7	.....	.....	6	5.85	148.6
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.82	757.4	29.99	761.7	73.4	23.0	50.1	4	3	10	6	3	2	.....	2	1	.....	.....	8	7.40	188.0
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.40	746.8	29.93	760.3	73.4	23.0	48.4	4	7	4	4	1	3	4	4	.....	.....	.....	6	1.67	42.4
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.53	750.0	29.95	760.6	68.4	20.2	71.2	.....	3	2	13	1	4	3	5	.....	.....	.....	7	7.06	179.2
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.18	741.2	29.89	759.3	71.6	22.0	58.2	2	8	2	4	12	2	.....	1	.....	.....	.....	7	5.80	147.4
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.56	750.8	29.92	760.0	69.8	21.0	65.4	4	2	1	12	9	.....	2	1	.....	.....	.....	7	7.89	200.5
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.56	725.4	29.95	760.8	67.1	19.5	72.4	1	1	4	16	7	.....	.....	2	.....	.....	.....	6	6.63	168.5
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.80	757.0	29.90	759.4	68.7	20.4	61.2	1	3	7	8	6	3	.....	3	.....	.....	.....	7	3.80	96.5
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.85	758.2	29.87	758.6	67.8	19.9	61.3	.....	3	9	6	3	3	1	6	.....	.....	.....	7	3.33	84.5
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.50	749.4	29.91	759.7	71.8	22.1	57.1	2	3	3	11	5	3	2	2	.....	.....	.....	7	6.55	166.4
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.70	754.4	29.88	759.0	72.5	22.5	56.9	1	5	6	7	6	1	2	3	.....	.....	.....	7	5.98	151.8
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.88	759.0	29.93	760.2	70.0	21.1	67.0	3	7	11	3	2	2	3	.....	.....	.....	.....	5	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.17	715.6	30.04	762.9	66.9	19.4	59.5	2	6	10	1	.....	1	5	4	2	.....	.....	6	7.13	181.2
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.89	759.2	29.91	759.6	70.3	21.2	62.9	8	3	7	.....	3	1	6	3	.....	.....	.....	6	5.27	133.8
Neustadt *a*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.42	747.2	29.95	760.6	68.4	20.2	67.1	1	1	13	1	4	.....	1	3	6	.....	.....	7	4.87	123.6
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.01	736.9	29.87	758.8	69.8	21.0	61.2	13	1	10	6	1	.....	.....	.....	.....	.....	.....	6	4.39	111.5
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.89	759.1	29.91	759.6	68.5	20.3	71.8	2	4	8	5	2	5	2	3	.....	.....	.....	7	3.29	83.6
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.44	747.8	29.80	757.0	89.1	31.7	.....	1	.....	.....	14	6	.....	1	9	.....	.....	.....	2	0.18	4.6
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.52	749.8	29.91	759.8	78.6	25.9	53	.....	1	3	6	10	2	5	2	2	.....	.....	5	3.87	98.2
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.41	746.9	29.90	759.5	80.8	27.1	41	2	2	2	6	5	5	4	5	.....	.....	.....	4	2.24	56.9
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.80	757.0	29.91	759.7	80.1	26.7	43	1	5	3	3	3	9	2	5	.....	.....	.....	4	1.41	35.9
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	853	260	29.01	736.9	29.88	759.0	78.1	25.6	43	2	3	.....	5	4	3	12	2	.....	.....	.....	4	2.05	52.0
Genoa *a*	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.74	755.5	29.93	760.2	76.6	24.8	59	4	1	.....	10	1	14	.....	.....	1	.....	.....	2	2.11	53.5
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.04	712.2	29.88	758.9	74.7	23.7	47	3	9	11	2	1	1	1	3	.....	.....	.....	2	0.56	14.2
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.87	758.6	29.90	759.4	77.5	25.3	58	8	1	1	6	1	2	5	7	.....	.....	.....	3	1.37	34.8
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.67	753.5	29.91	759.7	81.9	27.7	42	6	2	7	8	1	3	1	3	.....	.....	.....	4	1.32	33.5
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.80	756.8	29.88	758.9	77.7	25.4	60	.....	4	21	2	4	.....	.....	.....	.....	.....	.....	3	0.20	5.0
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.76	755.8	29.93	760.1	84.4	29.1	36	3	4	6	13	5	.....	.....	.....	.....	.....	.....	2	0.98	24.8
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.65	753.1	29.89	759.2	82.6	28.1	40	6	6	.....	1	5	1	5	7	.....	.....	.....	1	0.53	13.4
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.06	738.2	29.91	759.7	84.2	29.0	72	.....	2	9	13	3	4	.....	.....	.....	.....	.....	2	0.20	5.1
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.74	755.5	29.93	760.2	81.7	27.6	41	.....	12	2	.....	5	12	.....	.....	.....	.....	.....	2	0.05	1.3
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.74	755.3	29.98	761.4	81.1	27.3	44	2	5	1	2	.....	.....	2	19	.....	.....	.....	1	0.03	0.8
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	43	13	29.86	758.5	29.91	759.7	82.2	27.9	54	2	.....	.....	3	11	1	5	9	.....	.....	.....	2	0	0
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.42	747.2	29.91	759.8	80.4	26.9	55.9	1	1	7	10	3	4	2	3	.....	.....	.....	3	1.30	32.9
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.19	563.7	.....	.....	48.1	8.9	55.5	.....	1	8	3	1	1	8	9	.....	.....	.....	6	4.51	114.5
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.30	566.3	.....	.....	51.1	10.6	69.0	9	.....	.....	.....	.....	.....	11	11	.....	.....	.....	7	2.39	60.6
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.48	748.8	29.53	750.0	85.0	29.4	79	.....	.....	15	15	.....	1	.....	.....	.....	.....	.....	7	8.38	212.8
Deesa	N. 24 16	E. 72 14	4.57 p.m.	465	142	29.01	736.9	29.48	748.6	85.4	29.7	68	.....	.....	5	16	5	4	1	.....	.....	.....	.....	8	12.63	320.8
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.61	752.2	29.65	753.1	79.5	26.4	90	.....	1	18	12	.....	.....	.....	.....	.....	.....	.....	10	26.96	684.8
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.80	706.1	29.66	753.3	74.8	23.8	80	.....	1	19	11	.....	.....	.....	.....	.....	.....	.....	9	7.51	190.8
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.48	748.8	29.76	755.8	87.6	30.9	47	.....	17	13	1	.....	.....	.....	.....	.....	.....	.....	9	0.04	1.0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.21	716.6	29.66	753.4	83.5	28.6	57	.....	8	22	1	.....	.....	.....	.....	.....	.....	.....	9	0.27	5.9
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.19	690.7	29.75	755.6	69.8	21.0	91	.....	.....	15	16	.....	.....	.....	.....	.....	.....	.....	9	32.15	816.6
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.71	729.3	29.43	747.5	92.0	33.3	60	1	2	1	1	.....	1	9	8	8	.....	.....	5	13.03	331.0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.58	726.0	29.46	748.3	86.5	30.3	76	3	.....	1	2	4	6	5	3	7	.....	.....	7	17.08	433.8
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.90	734.0	29.45	748.0	85.5	29.7	78	1	2	1	1	.....	3	17	4	2	.....	.....	6	18.06	458.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for July, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	O	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN.—Cont'd.	° ′	° ′																								
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.48	723.5	29.51	749.6	80.7	27.1	78	1	5	14	6	1	.....	.....	1	3	.....	.....	9	23.44	595.4
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.17	715.5	29.51	749.5	80.2	26.8	82	2	5	11	2	1	1	3	3	3	.....	.....	9	30.61	777.5
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	112	29.10	739.2	29.47	748.5	88.2	31.2	68	1	.....	.....	1	.....	2	7	2	18	.....	.....	6	5.19	131.8
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.14	740.1	29.44	747.9	85.8	29.9	79	.....	1	.....	1	.....	3	6	9	11	.....	.....	8	14.00	355.6
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.32	744.7	29.50	749.3	86.6	30.3	75	2	1	.....	1	.....	2	21	3	1	.....	.....	7	3.86	98.0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.50	698.4	29.47	748.5	80.8	27.1	78	1	4	.....	.....	3	8	11	2	2	.....	.....	9	9.11	231.4
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.40	746.8	29.48	748.8	84.4	29.1	81	.....	.....	5	11	7	3	3	2	.....	.....	.....	8	26.01	660.6
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	7	29.46	748.2	29.48	748.7	83.1	28.4	85	.....	1	.....	7	8	12	2	.....	1	.....	.....	8	11.76	298.7
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.43	747.5	29.55	750.7	83.8	28.8	83	1	.....	.....	1	1	.....	3	5	20	.....	.....	8	6.74	171.2
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.48	748.8	29.57	751.0	82.1	27.8	85	.....	.....	1	4	5	14	4	.....	3	.....	.....	8	0.90	22.9
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.21	741.8	29.53	750.2	86.9	30.5	77	.....	.....	1	5	1	.....	2	21	1	.....	.....	7	10.26	260.6
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.05	712.6	29.47	748.4	82.9	28.3	80	.....	9	3	3	1	5	7	3	.....	.....	.....	8	12.27	311.6
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.06	763.5	.....	.....	81.3	27.4	58	.....	.....	.....	1	15	14	1	.....	.....	.....	.....	5	0.22	5.6
JAPANESE.																										
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.82	757.5	29.86	758.3	68.6	20.3	82.7	8	2	3	1	3	2	4	3	5	3987	6416	7	5.89	149.8
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.84	758.0	29.85	758.2	63.5	17.5	91	1	2	1	1	2	1	14	.....	9	5585	8988	7	7.00	177.8
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	.....	.....	.....	.....	75.9	24.4	83.8	6	1	11	8	5	.....	.....	.....	.....	851	1370	6	5.21	132.1
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.70	754.3	29.86	758.5	75.7	24.3	81.4	7	4	4	4	9	2	1	.....	.....	3011	4846	6	3.76	95.7
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.65	753.0	29.84	757.9	75.7	24.3	87.3	1	.....	.....	6	7	1	3	5	8	3913	6300	7	20.89	530.6
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	58	18	29.89	759.1	29.95	760.7	59.2	15.1	90.5	4	.....	1	4	5	5	1	.....	11	.....	.....	7	3.82	96.9
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.83	757.3	29.87	758.6	72.4	22.5	88.3	3	.....	6	2	3	8	6	3	.....	3559	6785	7	4.85	123.4
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.86	758.4	29.87	758.8	72.1	22.3	84.3	5	1	.....	1	14	6	3	1	.....	5762	9273	8	6.78	172.1
Osaka *e*	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.85	758.2	29.86	758.4	76.9	24.9	81.8	2	1	9	6	2	3	.....	3	.....	.....	.....	6	3.82	97.0
Supporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	64.4	18.0	88	5	.....	.....	.....	5	13	.....	1	7	5528	8896	6	2.45	62.2
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.81	757.1	29.88	759.0	73.7	23.2	86.0	.....	.....	.....	1	22	2	6	.....	.....	6550	10541	7	3.64	92.5
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.82	757.3	29.86	758.5	77.0	25.0	80.3	2	1	.....	4	15	.....	.....	1	8	7087	11405	5	5.54	140.5
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	30.02	762.5	30.21	767.3	71.4	21.9	69.1	.....	.....	.....	2	1	5	21	2	.....	.....	.....	6	2.76	70.1
MEXICAN.																										
Guanajuato *a*	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.75	603.2	29.98	761.4	58.3	14.6	83	3	.....	.....	4	.....	3	2	13	5	.....	.....	4	3.85	117.7
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.37	618.9	30.03	762.7	59.6	15.3	86	2	13	.....	6	.....	3	1	6	.....	.....	.....	6	4.09	103.8
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.73	755.0	29.98	761.5	78.3	25.7	89	2	4	1	2	1	3	8	10	.....	.....	.....	7	1.67	42.5
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.17	585.5	30.21	767.4	54.3	12.4	84	.....	6	1	.....	.....	.....	.....	.....	24	.....	.....	6	3.88	98.5
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.28	616.6	30.36	771.1	59.2	15.2	62	1	.....	.....	.....	5	16	4	5	.....	.....	.....	5	5.65	143.4
Orizaba *e*	N. 18 51	W. 97 54	5.36 a.m.	1227	374	26.13	663.6	30.09	764.2	62.2	16.8	81	1	.....	.....	.....	12	1	4	.....	9	.....	.....	3	1.99	49.9
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	24.02	610.1	29.99	761.8	61.2	16.2	82	.....	4	4	6	.....	1	.....	.....	16	.....	.....	4	0.98	25.4
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.47	596.0	30.26	768.3	52.6	11.3	86	.....	.....	.....	.....	.....	.....	.....	6	25	.....	.....	1	7.88	194.1
San Luis Potosi	N. 22 10	W. 100 51	5.25 a.m.	6211	1893	24.28	616.8	30.20	767.6	64.9	18.3	63	.....	.....	1	2	2	9	17	.....	.....	.....	.....	8	0.19	4.8
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.64	575.1	30.28	769.1	57.6	14.2	77	6	.....	1	2	1	2	12	7	.....	.....	.....	3	1.52	38.6
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.93	760.2	29.93	760.2	66.4	19.1	.....	2	3	13	6	4	1	2	.....	.....	.....	.....	.....	3.60	91.4
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.83*a*	757.6*a*	29.88*a*	759.0*a*	66.7	19.3	.....	3*a*	2	5	11	3	.....	1	5	.....	.....	.....	.....	3.15	80.0
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.88	759.0	29.88	759.0	62.8	17.1	.....	2	4	.....	11	11	1	.....	2	.....	.....	.....	.....	3.49	88.7
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.92	759.9	29.92	759.9	66.6	19.2	72.0	.....	4	7	12	3	1	2	1	1	.....	.....	.....	2.53	64.3
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.87	758.7	29.92	759.9	68.2	20.1	69.3	2	2	5	10	10	2	.....	.....	.....	.....	.....	6	3.80	98.1
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.69	754.0	29.75	755.6	63.0	17.2	67.8	2	4	5	4	12	4	.....	.....	.....	.....	.....	6	9.18	233.3
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.71	754.5	29.74	755.5	62.6	17.0	62.3	5	1	3	7	4	5	2	2	2	.....	.....	6	2.63	66.7
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.63	752.5	29.77	756.1	67.5	19.7	63.4	3	.....	1	8	13	2	3	1	.....	.....	.....	7	6.26	158.9
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.73	755.1	29.75	755.7	57.0	14.2	.....	1	1	11	3	1	1	2	3	8	.....	.....	6	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.70	754.3	29.74	755.5	59.7	15.4	64.8	2	.....	2	14	1	1	3	1	7	.....	.....	6	4.15	105.4
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	72.0	22.2	82.0	4	3	12	1	3	2	6	.....	.....	.....	.....	4	0.35	9.0
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.04	737.5	29.99	761.7	83.5	28.6	33.3	3	4	6	9	2	2	2	1	2	.....	.....	2	0.67	17.0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.10	764.4	30.18	766.6	73.6	23.1	66.0	.....	.....	1	27	.....	3	.....	.....	.....	.....	.....	4	0	0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.74	755.4	30.09	764.3	73.8	23.2	52.3	11	8	1	7	1	.....	1	2	.....	.....	.....	2	0.68	17.2
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.25	768.4	30.32	770.1	75.0	23.9	68.9	5	2	8	3	2	1	4	3	3	.....	.....	4	0.56	14.3
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.87	758.8	30.08	764.0	70.0	21.1	80.2	8	7	8	4	1	.....	1	2	.....	.....	.....	4	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.39	644.9	30.00	762.1	61.3	16.3	57.1	3	8	10	.....	.....	3	6	1	.....	.....	.....	3	4.83	122.7
RUSSIAN.																										
Akmolinski *a*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.63	727.2	29.66	753.3	70.9	21.6	45.6	3	3	4	8	2	.....	1	7	1	.....	.....	5	1.75	44.5
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.84	757.9	29.86	758.4	66.0	18.9	62.8	1	5	10	3	2	4	1	3	2	.....	.....	6	1.04	26.5
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	29.96	761.0	29.88	758.9	86.5	30.3	38.6	1	2	2	1	3	14	6	2	.....	.....	.....	4	0.34	8.5
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.22	742.2	29.70	754.3	69.6	20.9	59.3	2	9	3	5	1	3	1	4	3	.....	.....	7	3.10	78.7
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.65	753.0	29.88	758.9	75.6	24.2	55.8	3	2	6	5	3	4	5	3	.....	.....	.....	6	3.92	99.7
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.84	732.6	29.77	756.1	68.9	20.5	50.2	10	6	7	4	1	1	.....	2	.....	.....	.....	6	0.94	23.9
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.20	716.2	29.77	756.2	68.4	20.2	71.7	2	5	1	1	4	5	1	1	11	.....	.....	7	2.48	63.1
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.60	751.9	29.86	758.3	77.9	25.5	46.9	6	5	7	5	4	.....	.....	1	3	.....	.....	7	0.68	17.3
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.72	754.9	29.74	755.4	82.6	28.1	65.1	1	3	.....	.....	7	7	6	6	1	.....	.....	3	0.03	0.8
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.17	740.8	29.76	755.9	80.6	27.0	49.5	4	5	1	3	3	5	5	3	2	.....	.....	5	3.23	82.0
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.60	751.8	29.79	756.7	88.0	31.1	35.2	.....	1	2	4	2	5	11	6	.....	.....	.....	5	3.00	77.7
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.38	746.3	29.83	757.6	77.5	25.3	49.9	2	2	.....	6	6	6	2	.....	7	.....	.....	4	.....	.....
Nikolajev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.73	755.1	29.80	756.9	89.8	32.1	43.1	4	1	2	6	7	3	5	2	1	.....	.....	2	0.07	1.8
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.54	750.3	29.68	753.9	80.1	26.7	70.5	.....	3	.....	5	.....	4	.....	1	18	.....	.....	5	5.65	168.8
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.80	758.4	29.88	758.8	71.1	21.7	55.0	4	10	3	1	4	4	2	3	.....	.....	.....	5	2.91	74.0
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.08	738.6	29.69	754.2	78.1	25.6	41.8	5	10	3	1	.....	.....	2	4	6	.....	.....	6	0.07	1.8
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.17	715.5	29.63	752.5	86.9	30.5	41.2	.....	1	.....	.....	.....	1	.....	.....	29	.....	.....	2	0	0
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.44	722.3	29.76	755.8	92.1	33.4	29.4	.....	3	1	.....	10	12	2	.....	3	.....	.....	3	0.48	12.2
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.73	755.1	29.80	756.8	64.0	17.8	90.4	.....	1	.....	1	2	13	7	.....	7	.....	.....	7	2.28	57.9
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.46	748.2	29.86	758.4	74.8	23.8	53.8	5	7	5	.....	1	3	5	5	.....	.....	.....	8	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.47	748.6	29.87	758.7	75.6	24.2	58.7	1	5	4	3	2	10	3	3	.....	.....	.....	6	1.95	49.6
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.50	749.2	29.78	756.3	64.6	18.1	90.2	.....	2	13	5	2	2	2	1	4	.....	.....	5	4.42	112.4
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.63	752.6	59.5	15.3	94.0	1	1	2	12	10	3	.....	.....	2	.....	.....	7	4.10	104.1
North Unst	N. 69 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.70	754.4	.....	.....	.....	1	2	3	4	9	11	1	.....	.....	.....	.....	5	blank	blank
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.99	761.8	30.10	764.4	78.8	26.0	61	.....	.....	.....	11	9	10	1	.....	.....	2207	3552	1	0.61	15.5
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.03	762.7	30.09	764.2	76.8	24.9	55	5	20	2	.....	1	1	.....	1	1	1888	3038	5	1.99	50.6
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.14	689.4	30.02	762.5	69.3	20.7	49	6	.....	4	10	1	.....	1	9	.....	6081	9786	3	1.94	49.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.83	706.9	29.95	760.6	82.4	28.0	38.3	2	2	3	12	2	1	3	5	1	761	1224	2	0.62	15.8
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.15	740.4	30.02	762.6	68.2	20.1	67	3	1	5	10	1	.....	.....	8	3	787	1267	6	4.08	103.6
Sub-Series.																										
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.76	756.0	29.82	757.4	79.8	26.6	84.5	2	2	3	7	8	2	6	1	.....	.....	.....	7	21.33	541.7
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.97	761.1	30.06	763.5	78.2	25.4	59	.....	3	12	4	3	1	6	.....	2	.....	.....	3	0.02	0.5
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	30.03	762.7	30.12	765.1	81.1	27.3	84	.....	.....	.....	.....	.....	13	7	.....	11	.....	.....	3	8.50	215.8
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.66	753.4	29.79	756.7	82.8	28.2	85.9	2	17	.....	4	4	3	1	.....	.....	.....	.....	7	3.78	96.0
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.80	756.9	29.84	757.9	62.8	17.1	70	5	.....	.....	11	9	3	.....	3	.....	.....	.....	6	0.92	23.5
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.77	756.2	29.82	757.5	67.3	19.6	60	2	1	.....	13	5	4	5	1	.....	.....	.....	5	2.36	59.9
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.75	755.7	29.80	757.0	64.0	17.8	63	1	2	1	3	12	1	4	6	1	.....	.....	5	2.36	60.0
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.65	753.2	29.83	757.7	68.7	20.4	58	1	1	9	5	4	7	4	.....	.....	.....	.....	4	3.71	94.2
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.77	756.1	29.83	757.6	67.8	19.9	67	7	2	6	7	2	4	2	1	.....	.....	.....	4	3.28	83.3
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.71	754.7	29.80	756.9	69.1	20.6	58.2	1	4	2	7	8	4	3	2	.....	.....	.....	6	3.04	77.3
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.60	726.5	29.98	761.6	68.5	20.3	61.5	16	1	3	4	4	1	1	1	.....	.....	.....	6	3.21	81.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for July, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
TURKISH.	° ′	° ′																								
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.85	758.1	82.6	28.1	53.	7	.....	1	.....	3	1	2	14	3	.....	.....	3	0	0
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.03	762.8	83.1	28.4	.....	.....	10	5	7	9	.....	.....	.....	.....	.....	.....	2	0.47	12.
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.76	756.0	85.5	29.7	59.5	.....	.....	15	16	.....	.....	.....	.....	.....	.....	.....	2	0	0
UNITED STATES.																										
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.93	760.2	30.01	762.2	70.8	21.6	70.2	4	3	4	6	12	.....	1	1	.....	3671	5908	5	3.97	100.8
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.33	745.0	29.97	761.2	61.0	16.1	78.4	.....	6	12	5	3	3	.....	2	.....	6506	10470	5	1.48	37.6
Apache, Fort	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.11	637.8	29.85	758.2	58.6	14.8	71.8	.....	.....	.....	1	.....	3	14	13	.....	4625	7443	4	4.79	121.7
Assinnaboine, Ft.	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.19	690.6	29.92	760.0	57.2	14.0	65.9	.....	.....	.....	23	.....	3	.....	5	.....	7051	11347	3	1.37	34.8
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.95	735.3	30.10	764.5	70.6	21.4	83.2	1	10	5	2	2	2	6	2	1	5377	8653	6	6.61	167.9
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.01	762.2	30.02	762.5	71.6	22.0	82.3	1	3	3	10	5	.....	2	7	.....	5804	9340	5	2.52	64.0
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.93	760.2	30.12	765.0	74.0	23.3	82.2	2	2	2	4	2	3	.....	4	12	2577	4147	6	3.86	98.0
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.02	762.5	30.07	763.8	73.3	22.9	71.9	8	10	1	4	5	1	2	.....	.....	4213	6780	5	4.02	102.1
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.00	762.0	30.02	762.5	72.7	22.6	78.6	4	4	9	6	2	1	5	.....	.....	7208	11600	5	3.92	99.6
Bennett, Fort	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.41	721.6	29.95	760.7	61.1	16.2	84.8	1	11	2	1	.....	11	1	1	3	6955	11193	4	2.29	58.2
Benton, Fort *a*	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.22	691.4	29.92	760.0	57.7	14.3	67.3	2	3	7	4	.....	.....	2	1	11	5976	9617	3	0.85	21.6
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.74	755.4	29.76	755.9	46.6	8.1	.....	2	.....	.....	8	12	4	3	2	.....	8011	12892	9	1.45	36.8
Bismarck *a*	N. 46 48	W. 100 38	5.26 a.m.	1694	516	28.17	715.5	29.89	759.2	60.3	15.7	82.8	4	6	3	2	2	3	8	1	1	7545	12142	4	4.31	109.5
Block Id	N. 41 10	W. 71 37	7.22 a.m.	27	8	29.99	761.7	30.02	762.5	68.2	20.1	83.5	1	3	9	7	.....	2	2	2	5	7720	12424	4	3.62	91.9
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.20	690.9	29.92	760.0	64.4	18.0	57.5	8	4	12	2	.....	.....	.....	2	3	3476	5594	2	inap.	inap.
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.85	758.2	30.00	762.0	67.6	19.8	73.5	2	1	14	6	2	3	.....	1	2	5250	8449	5	3.91	99.3
Brownsville	N. 26 00	W. 97 30	5.38 a.m.	43	13	29.94	760.5	29.98	761.5	78.1	25.6	90.0	1	.....	.....	.....	15	8	1	1	5	6432	10351	3	0.70	17.8
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.27	743.4	30.00	762.0	65.4	18.6	75.5	1	3	2	4	13	1	1	3	3	6734	10837	5	1.19	30.2
Buford, Fort	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.01	711.4	29.95	760.7	56.9	13.8	75.5	2	2	8	2	1	.....	6	7	3	5954	9582	4	2.25	57.1
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.67	753.6	29.95	760.7	67.0	19.4	75.5	2	1	8	2	12	.....	1	2	3	4769	7675	5	2.37	60.2
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.70	754.4	30.09	764.3	72.0	22.2	80.7	4	.....	1	5	4	1	1	8	7	4296	6914	5	5.25	133.4
Campc	N. 32 22	W. 116 08	4.22 a.m.	2500	762	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Camp Thomas	N. 33 04	W. 110 06	4.49 a.m.	2710	826	27.22	691.4	29.82	757.4	74.1	23.4	60.1	2	1	2	1	7	8	3	.....	7	.....	.....	4	0.88	22.4
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.04	763.0	30.06	763.5	74.0	23.3	83.7	3	3	5	8	6	.....	3	3	.....	7056	11335	5	5.73	145.5
Cape May *a*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.02	762.5	30.04	763.0	71.5	21.9	84.1	1	4	5	2	9	1	3	2	.....	7582	12202	5	3.49	88.6
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.09	764.3	30.11	764.8	79.6	26.4	80.0	1	2	5	3	3	4	10	3	.....	5665	9117	5	10.33	262.4
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.24	742.7	30.03	762.7	65.2	18.4	74.5	6	3	7	3	5	3	2	2	.....	6975	11225	5	2.44	62.0
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.03	762.7	30.08	764.0	78.6	25.9	79.9	5	.....	6	14	1	.....	.....	5	.....	5633	9065	5	5.35	135.9
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.22	742.2	30.06	763.5	74.2	23.4	72.0	2	2	2	12	1	1	3	8	.....	3545	5705	6	5.39	136.9
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.30	744.2	30.10	764.5	70.0	21.1	86.8	3	2	1	10	3	.....	1	4	7	3574	5752	6	2.52	64.0
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	24.18	614.2	29.87	758.7	52.5	11.4	68.8	5	13	5	8	.....	.....	.....	.....	.....	6114	9839	3	2.30	58.4
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.32	744.7	30.01	762.2	65.6	18.7	74.1	2	4	7	9	3	.....	2	4	.....	5573	8969	4	3.43	87.1
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.02	762.5	30.04	763.0	73.0	22.8	86.7	6	8	1	5	6	.....	4	.....	1	5562	8951	5	2.13	54.1
Cincinnati	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.42	747.3	30.06	763.5	69.3	20.7	76.8	10	.....	4	3	3	2	9	.....	.....	3626	5835	5	2.91	73.9
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.32	744.7	30.04	763.0	65.7	18.7	74.0	3	1	2	5	12	6	.....	2	.....	5494	8842	4	5.27	133.9
Coleman City *a*	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.25	717.5	30.01	762.2	71.5	21.9	86.5	1	2	1	4	5	12	1	3	1	5214	8391	6	6.61	167.9
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.21	741.9	30.04	763.0	65.1	18.4	78.0	8	2	4	5	6	.....	2	2	2	4126	6640	5	2.62	66.5
Concho	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.12	714.2	30.00	762.0	71.9	22.2	82.3	2	1	.....	.....	7	2	8	3	8	6269	10089	5	5.57	141.5
Custer, Fort	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.86	682.2	29.88	758.9	57.4	14.1	74.3	3	3	2	4	7	6	2	2	2	5331	8579	4	0.54	13.7
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.39	746.5	30.02	762.5	65.1	18.4	80.4	4	8	2	4	4	1	4	2	2	5517	8879	5	4.41	112.0
Davis, Fort	N. 39 30	W. 103 45	5.13 a.m.	4940	1506	25.30	642.6	29.94	760.5	68.6	20.3	67.6	7	.....	.....	6	2	3	1	.....	12	4178	6724	4	3.28	83.3
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.30	718.8	30.01	762.2	54.8	12.7	71.8	3	.....	1	15	.....	2	1	2	7	2877	4630	2	0.83	21.1
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.45	646.4	29.87	758.7	56.6	13.7	74.1	2	.....	3	14	8	2	....	.....	2	3800	6115	3	4.81	122.2
Decatur *g*	N. 33 10	W. 97 30	5.38 a.m.	1129	344	.....	.....	.....	.....	74.7	23.7	60.6	1	.....	.....	2	10	10	.....	1	.....	5406	8700	5	15.23	386.8
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.02	762.5	30.04	763.0	70.3	21.3	89.2	3	5	7	10	.....	1	2	3	.....	8452	13602	5	3.35	85.1
Denison *b*	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.23	742.4	30.01	762.2	72.4	22.4	85.2	3	.....	1	3	6	3	3	1	9	4188	6740	5	6.32	160.5
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.86	631.4	29.87	758.7	60.6	15.9	62.0	4	8	.....	2	16	1	.....	.....	.....	4927	7929	2	0.66	16.8
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.15	740.4	30.03	762.7	62.7	17.1	82.9	5	4	3	5	2	3	.....	2	7	4430	7129	5	4.78	121.4
Detroit	N. 42 21	W. 83 07	6.36 a.m.	661	201	29.33	745.0	30.02	762.5	65.4	18.6	77.7	4	5	5	7	6	2	.....	1	1	6537	10520	4	1.65	41.9
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.46	697.5	29.96	761.0	65.5	18.6	81.6	5	1	.....	4	13	2	1	5	.....	8845	14234	5	3.04	77.2
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.32	744.7	30.01	762.2	63.1	17.3	77.6	.....	7	7	3	7	1	4	.....	2	3693	5943	4	1.48	37.6
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.23	742.4	29.95	760.7	59.8	15.4	77.2	3	5	7	5	.....	.....	.....	8	3	7617	12258	6	4.92	125.0
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.22	742.2	30.01	762.2	76.7	24.8	76.5	.....	.....	.....	.....	.....	25	1	1	4	4644	7474	4	3.54	89.9
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.35	643.9	29.90	759.4	51.1	10.6	57.8	8	.....	2	5	9	.....	.....	.....	7	8555	13868	1	0.30	7.6
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.89	759.2	29.95	760.7	59.8	15.4	78.9	3	1	1	7	9	.....	1	5	4	4655	7491	5	4.80	121.9
Elliott, Fort	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.28	692.9	29.92	760.0	64.5	18.1	70.4	6	1	.....	.....	5	12	1	3	3	7052	11349	5	5.65	143.5
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.30	668.0	29.90	759.4	71.8	22.1	62.6	.....	9	1	1	.....	2	17	1	1	4054	6524	4	1.26	32.0
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.31	744.5	30.02	762.5	67.2	19.6	74.9	.....	1	3	7	13	1	1	1	4	4049	6516	4	3.80	96.5
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.32	744.7	29.96	761.0	61.1	16.2	77.8	8	6	4	3	5	.....	.....	1	4	5797	9329	5	3.28	83.3
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.31	719.1	30.01	762.2	73.1	22.8	62.2	2	.....	1	6	8	.....	.....	1	13	4158	6692	5	4.28	108.7
Galveston	N. 29 18	W. 94 50	5.49 a.m.	48	15	30.00	762.0	30.05	763.3	80.3	26.8	80.6	3	2	.....	8	10	3	1	4	.....	8946	14397	5	4.34	110.2
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.36	745.7	30.01	762.2	65.4	18.6	75.2	3	5	3	2	8	3	3	2	2	7444	11980	3	3.72	94.5
Grant, Fort	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.30	642.6	29.87	758.7	70.0	21.1	55.8	1	5	.....	.....	2	4	4	10	5	5250	8449	5	2.02	51.3
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.05	763.3	30.07	763.8	76.8	24.9	84.8	2	3	5	11	.....	.....	2	8	.....	11318	18214	6	7.26	184.4
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.87	657.1	29.93	760.2	58.0	14.4	56.4	.....	.....	12	10	3	1	.....	.....	5	5204	8375	4	0.36	9.1
Henrietta *a*	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.07	738.4	30.05	763.3	76.3	24.6	76.2	4	.....	.....	.....	8	9	3	1	5	6318	10168	5	4.51	114.6
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.62	726.9	29.94	760.5	59.1	15.1	85.7	3	7	2	.....	5	10	2	2	.....	7436	11967	4	5.88	149.4
Indianapolis	N. 39 47	W. 86 00	6.24 a.m.	753	229	29.27	743.4	30.04	763.0	68.3	20.2	74.7	4	2	1	4	6	4	1	3	6	3183	5122	4	3.43	87.1
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	30.01	762.2	30.04	763.0	79.2	26.2	87.9	.....	.....	2	4	16	3	.....	4	2	8703	14006	4	2.45	62.2
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.88	733.5	30.00	762.0	72.6	22.6	85.5	1	3	.....	5	6	10	4	2	.....	5577	8975	5	10.51	267.0
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.06	763.5	30.10	764.5	79.8	26.6	80.2	1	.....	2	9	5	3	.....	3	8	4072	6553	5	5.75	146.0
Keogh, Fort	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.48	698.0	29.90	759.4	60.4	15.8	68.9	4	5	.....	6	1	7	3	5	.....	7959	12809	3	0.58	14.7
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.38	746.2	30.01	762.2	67.7	19.8	76.3	6	4	.....	3	5	2	2	1	8	3839	6178	4	4.53	115.1
Key West	N. 24 32	W. 81 48	6.41 a.m.	20	6	30.06	763.5	30.08	764.0	84.4	29.1	71.6	.....	.....	.....	2	5	10	10	3	1	4452	7165	4	4.45	113.0
KittyHawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.06	763.5	30.08	764.0	74.7	23.7	86.0	3	2	8	7	.....	1	7	2	1	8437	13578	5	15.36	390.1
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.10	739.1	30.10	764.5	67.6	19.8	91.7	1	.....	2	4	1	1	5	11	6	3427	5515	6	6.25	153.0
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.23	742.4	29.98	761.5	65.2	18.4	70.9	5	1	2	9	8	3	1	1	1	5388	8671	5	2.96	75.2
La Mesilla	N. 32 17	W. 106 48	5.48 a.m.	3900	1189	26.15	664.2	29.89	759.2	66.9	19.4	68.6	1	.....	.....	1	.....	3	.....	.....	26	1423	2290	5	1.32	33.5
Leavenworth	N. 39 19	W. 94 57	5.10 a.m.	842	256	29.18	741.2	30.04	763.0	66.7	19.3	78.6	2	5	.....	.....	9	.....	2	.....	13	3894	6267	4	3.44	87.4
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.19	741.4	30.00	762.0	63.6	17.6	54.3	.....	1	4	.....	.....	3	14	2	7	3030	4876	3	0.29	7.4
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.76	755.9	30.07	763.8	71.6	22.0	88.5	3	5	4	4	3	3	3	3	3	3497	5628	6	5.17	131.3
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.62	752.3	30.02	762.5	59.3	15.2	81.9	2	1	1	11	5	6	3	2	.....	4161	6696	4	0	0
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.49	749.0	30.04	763.0	69.7	20.9	80.4	8	1	3	2	8	3	1	1	4	4333	6973	6	4.57	116.1
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.40	746.7	30.07	763.8	71.6	22.0	73.4	.....	4	5	4	3	3	.....	3	9	1910	3074	6	4.10	104.1
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.06	763.5	30.07	763.8	76.3	24.6	86.3	4	5	5	9	.....	1	.....	7	.....	9083	14617	6	5.98	151.9
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.02	737.1	30.00	762.0	61.5	16.4	85.2	4	7	6	4	3	4	2	1	.....	5884	9469	4	2.70	68.6
Maginnis Fort *o*	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.66	651.8	.....	.....	56.7	13.7	57.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	4405	7089	2	0.19	4.8
McKavett, Fort	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.83	706.9	30 03	762.7	72.2	22.3	80.9	.....	1	.....	4	9	5	2	5	5	5315	8554	4	5.33	135.4
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.25	742.9	29.96	761.0	61.2	16.2	72.4	3	6	10	5	2	.....	.....	.....	5	6056	9746	5	2.76	70.1
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.74	755.4	30.07	763.8	73.1	22.8	82.1	3	2	3	3	5	8	2	4	1	4206	6769	5	4.13	104.9
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.27	743.4	30.00	762.0	62.5	16.9	80.4	5	5	9	5	4	.....	3	.....	.....	7613	12252	4	1.58	40.1
Missoula, Fort	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.79	680.5	29.98	761.5	54.3	12.4	69.0	1	7	2	12	4	2	1	1	1	3038	4889	3	0.03	16.0
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.06	763.5	30.10	764.5	74.5	23.6	88.6	8	3	5	2	1	.....	2	8	2	3607	5805	6	9.52	241.8
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.87	758.7	30.09	764.3	73.3	22.9	83.5	2	5	1	8	2	5	3	2	3	3050	4908	6	6.29	159.8
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.96	735.6	29.92	760.0	58.4	14.7	86.2	6	4	1	1	9	4	.....	1	5	7635	12287	5	4.92	125.0
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.09	738.9	30.09	764.3	67.1	19.5	83.6	1	.....	1	7	1	2	.....	2	17	2571	4138	4	3.64	92.5
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.88	606.5	29.95	760.7	44.6	7.0	92.6	2	20	3	1	1	1	1	2	.....	25082	40365	4	10.03	254.8
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.54	750.3	30.06	763.5	71.1	21.7	81.9	2	2	5	7	1	2	2	1	9	2217	3568	6	4.00	101.6
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.90	759.4	30.01	762.2	68.0	20.0	79.0	3	4	4	7	3	3	.....	3	4	4170	6711	4	3.03	77.0
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	29.98	761.5	30.02	762.5	69.4	20.8	79.2	2	2	2	4	3	1	1	1	14	3694	5945	4	3.02	76.7
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	30.02	762.5	30.07	763.8	78.1	25.6	82.2	2	2	.....	4	7	5	4	2	5	4135	6654	6	6.84	173.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for July, 1882.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																								
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	29.97	761.2	30.02	762.5	69.1	20.6	80.5	1	1	3	17	3	2	.....	3	1	4935	7942	4	2.18	55.4
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.86	758.4	30.03	762.7	70.2	21.2	77.5	2	3	8	9	1	1	3	4	.....	4879	7852	4	2.75	69.8
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.03	762.7	30.06	763.5	75.9	24.4	82.2	5	1	5	9	2	.....	4	2	3	4397	7076	5	4.90	124.5
North Platte *a*	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.14	689.3	29.94	760.5	63.3	17.4	79.3	3	3	3	.....	2	7	6	2	4	6495	10452	3	2.65	67.3
Olympia *a*	N. 47 02	W. 122 56	3.56 a.m.	36	11	30.07	763.8	30.11	764.8	51.9	11.1	84.1	4	.....	3	1	9	.....	.....	.....	13	2762	4445	5	0.67	17.0
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.89	733.8	30.02	762.5	66.9	19.4	79.0	6	8	2	1	6	3	3	.....	2	5950	9575	5	6.76	171.7
Ooglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.79	756.7	29.81	757.2	39.4	4.1	96.4	1	2	2	6	2	3	10	4	1	8024	12913	8	1.47	37.3
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.66	753.4	29.98	761.5	67.6	19.8	74.1	1	3	9	5	9	2	.....	2	.....	4925	9926	4	1.12	28.4
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.53	750.0	30.07	763.8	73.9	23.3	87.7	1	.....	.....	7	8	2	5	8	.....	6211	9995	5	6.52	165.6
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.06	763.5	30.09	764.3	75.7	24.3	88.0	3	3	4	4	3	2	3	6	3	4511	7260	6	7.02	178.3
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	92	28	29.95	760.7	30.05	763.3	73.4	23.0	69.6	.....	9	5	9	.....	2	1	4	1	3926	6318	5	1.37	34.8
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	18.04	458.2	29.82	757.4	34.2	1.2	74.6	2	14	8	2	.....	1	.....	4	.....	5865*d*	9439*d*	5	2.13	54.1
Ploche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.14	613.1	29.87	758.7	61.8	16.6	40.7	.....	10	2	3	11	1	.....	.....	4	5010	8063	2	0.21	5.3
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.25	742.9	30.04	763.0	65.4	18.6	82.7	1	6	4	5	4	1	2	3	5	3528	5618	5	1.99	50.6
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.86	707.6	.....	.....	.....	.....	.....	.....	8	.....	5	2	10	.....	6	.....	.....	.....	2	0.60	15.2
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.08	764.0	30.09	764.3	78.7	25.9	85.9	3	.....	2	6	5	7	.....	4	4	5209	8383	4	13.68	147.5
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.34	745.2	30.00	762.0	64.0	17.8	79.1	4	1	5	7	8	.....	1	1	4	5662	9112	5	1.91	48.5
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.91	759.7	29.96	761.0	67.8	19.9	73.0	4	3	12	4	4	.....	2	2	.....	5383	8663	4	2.00	50.8
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.03	762.7	30.10	764.5	56.1	13.4	80.5	5	8	1	.....	5	.....	.....	.....	12	3897	6272	3	0.95	24.1
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.89	632.2	29.88	758.9	61.5	16.4	64.7	.....	.....	.....	5	22	.....	3	.....	1	4363	7021	3	1.64	41.7
Provincetown	N. 46 03	W. 70 11	7.27 a.m.	26	8	29.97	761.2	30.00	762.0	68.5	20.3	78.9	3	6	6	5	7	1	.....	2	1	5538	8912	5	1.43	36.3
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.08	764.0	30.09	764.3	79.4	26.3	81.1	.....	.....	2	5	.....	.....	20	4	.....	6145	9889	6	5.58	141.7
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.56	750.8	29.92	760.0	71.0	21.7	48.1	7	1	1	1	6	7	.....	.....	8	3763	6056	1	inap.	inap.
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.78	756.4	30.01	762.2	79.5	26.4	75.9	.....	.....	.....	.....	.....	23	6	.....	2	7380	11877	2	1.48	37.6
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.34	745.2	29.99	761.7	63.8	17.7	81.8	.....	2	11	13	.....	.....	1	1	3	7061	11363	5	1.17	29.7
Roseburg *a*	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.55	750.6	30.09	764.3	54.1	12.3	80.8	.....	1	.....	.....	.....	.....	.....	.....	29	2258	3634	2	0.85	21.6
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	65	20	29.84	757.9	29.91	759.7	62.2	16.8	70.9	.....	1	.....	.....	10	17	1	.....	2	5443	8760	0	inap.	inap.
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.48	718.8	30.06	763.5	68.3	20.2	88.3	7	4	2	4	5	3	1	1	4	6169	9928	5	3.84	97.5
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.11	739.4	29.95	760.7	61.0	16.1	83.5	3	3	3	6	4	4	5	1	2	6822	10979	5	2.84	72.1
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.05	737.9	29.89	759.2	55.9	13.3	89.7	4	2	9	1	3	6	2	2	2	6703	10787	5	3.79	96.3
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.69	652.5	29.87	758.7	65.4	18.6	43.6	3	2	.....	.....	2	10	1	3	10	4321	6954	2	0.30	7.6
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.34	745.2	30.02	762.5	75.6	24.2	87.0	2	.....	.....	.....	2	8	4	4	11	3939	6339	5	2.92	74.2
San Diego *a*	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.90	759.4	29.97	761.2	62.9	17.2	85.2	10	6	1	5	5	.....	2	1	.....	4711	7582	1	0	0
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.36	745.7	30.02	762.5	66.9	19.4	75.3	3	2	3	9	10	1	.....	3	.....	8143	13105	4	1.51	38.4
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	29.99	761.7	30.02	762.5	71.8	22.1	79.6	.....	4	11	5	1	3	1	6	.....	7378	11874	4	2.35	59.7
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.92	760.0	29.99	761.7	55.0	12.8	89.3	.....	.....	12	18	.....	.....	.....	.....	1	9550	15369	5	0	0
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7106	2166	23.38	593.8	29.88	758.9	59.7	15.4	57.2	.....	.....	1	1	.....	4	8	12	5	6638	10683	5	1.17	29.7
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	30.01	762.2	30.10	764.5	79.4	26.3	76.0	6	1	3	13	5	1	1	1	.....	4573	7359	5	3.53	89.7
Shaw, Fort	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.42	671.1	29.93	760.2	52.3	11.3	68.7	.....	1	20	8	1	.....	1	.....	.....	6019	9766	3	1.47	37.3
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.84	757.9	30.07	763.8	73.3	22.9	88.9	.....	2	3	4	5	5	4	6	2	3671	5908	6	11.38	289.0
Sill, Fort	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.81	731.3	30.01	762.2	71.3	21.8	80.1	8	.....	.....	.....	7	5	2	3	6	7816	12578	6	4.66	118.4
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.38	619.2	29.84	757.9	61.1	16.2	55.2	5	9	8	.....	6	.....	1	1	1	2458	3956	4	1.84	46.7
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.95	760.7	30.01	762.2	50.4	10.2	84.4	1	3	2	2	2	6	3	4	8	5317	8557	8	6.68	170.7
Smith, Fort	N. 35 22	W. 94 24	5.51 a.m.	449	137	29.58	751.3	30.04	763.0	71.2	21.8	85.4	2	.....	.....	.....	1	1	18	2	7	3234	5204	5	1.77	45.0
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.05	763.3	30.08	764.0	76.8	24.9	81.3	8	2	9	7	.....	.....	1	4	.....	7439	11973	5	4.04	102.6
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	28.01	711.4	29.99	761.7	56.4	13.6	70.4	.....	2	4	10	3	1	2	.....	9	4929	7932	4	0.88	22.4
Springfield, Ill	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.39	746.5	30.05	763.3	67.0	19.4	76.4	8	1	6	1	6	2	1	2	4	4218	6588	4	1.89	48.0
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.89	759.2	30.02	762.5	69.9	21.1	77.7	4	.....	1	3	19	.....	1	2	1	3143	5058	6	1.92	48.8
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.65	727.7	30.04	763.0	67.5	19.7	85.2	3	.....	4	1	9	6	4	2	2	5184	8343	6	4.98	126.5
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.62	752.3	30.08	764.0	75.6	24.2	81.2	4	1	2	8	7	4	2	2	1	5071	8161	6	6.08	154.4
Stevenson, Fort	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.13	714.5	29.91	759.7	59.0	15.0	86.2	.....	8	1	5	1	3	4	5	3	6629	10668	4	4.34	110.2
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.03	686.5	29.97	761.2	68.2	20.1	82.7	2	.....	2	2	13	5	1	1	5	6855	11032	4	2.49	63.2
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.94	760.5	29.99	761.7	65.9	18.8	83.5	2	2	12	7	5	2	.....	1	.....	6281	10108	3	2.90	73.7
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.34	745.2	30.01	762.2	67.7	19.8	69.8	5	3	13	5	4	.....	.....	1	.....	5337	8589	5	3.04	77.2
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.55	699.8	29.87	758.7	76.2	24.6	68.1	.....	.....	1	.....	5	8	4	1	12	2776	4468	4	2.63	66.8
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.09	754.1	30.05	763.3	61.1	16.2	52.8	2	1	9	8	.....	5	5	1	.....	7663	12332	2	0.04	1.0
Uvalde *h*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.04	737.6	29.98	761.5	75.2	24.0	85.3	.....	.....	.....	.....	1	13	7	1	1	2377	3825	6	1.37	34.8
Verde, Fort	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	70.4	21.3	56.2	4	3	6	6	6	6	.....	.....	.....	.....	.....	3	1.25	31.7
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.84	757.9	30.08	764.0	73.6	23.1	86.8	2	1	.....	5	6	8	5	3	1	2627	4228	6	10.19	258.8
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washakie, Fort	N. 42 59	W. 108 43	4.50 a.m.	5580	1702	24.59	624.6	29.92	760.0	50.4	10.2	69.3	1	5	16	3	1	1	1	2	1	4731	7614	3	0.57	14.5
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.96	761.0	30.06	763.5	71.5	21.9	76.7	2	9	1	6	4	.....	2	1	6	2903	4672	5	4.46	113.3
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.12	663.4	29.88	758.9	62.6	17.0	74.3	1	2	2	3	1	2	6	1	13	4599	7401	4	1.69	42.9
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.45	748.0	30.03	762.7	65.4	18.6	79.4	1	1	15	1	.....	2	2	.....	9	3095	4981	5	4.01	101.9
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.03	762.7	30.08	764.0	75.4	24.1	85.8	2	1	8	5	.....	1	.....	10	4	4446	7155	6	8.89	225.8
Winnemucca	N. 41 00	W. 117 43	4.17 a.m.	4327	1319	25.68	652.3	29.90	759.4	56.7	13.7	40.4	1	.....	1	10	3	.....	1	14	1	6437	10359	1	0.01	0.3
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.73	729.7	30.00	762.0	62.8	17.1	74.7	.....	5	6	4	1	2	3	1	9	4086	6576	4	1.65	41.9
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.67	753.6	29.81	757.2	80.9	27.2	60.7	.....	1	.....	2	3	7	1	1	16	4675	7524	2	0.20	5.1
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.07	560.6	.....	.....	52.7	11.5	72	2	.....	4	3	8	3	2	3	6	7470	12022	7	2.13	54.1
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.07	763.8	30.08	764.0	81.2	27.3	93.6	.....	.....	.....	.....	.....	1	19	11	.....	.....	.....	5	6.86	174.2
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	18	5	29.98	761.5	30.01	762.2	76.9	24.9	91.3	3	.....	.....	2	9	1	.....	1	15	.....	.....	9	22.80	579.1
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.06	763.5	30.07	763.8	81.1	27.3	75	4	2	1	.....	.....	.....	5	.....	19	4562	7342	4	2.03	51.6
Magua	N. 19 17?	W. 71 08?	7.24 a.m.	1000	305?	.....	.....	.....	.....	73.9	23.3	.....	.....	.....	1	.....	.....	.....	3	2	25	.....	.....	3	5.03	127.8
Navassa	N. 19 25	W. 75 03	7.43 a.m.	77	23	29.94	760.5	30.02	762.5	81.2	27.3	74.3	.....	.....	.....	.....	.....	.....	23	8	.....	.....	.....	7	5.14	130.6
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.08	764.0	30.08	764.0	78.1	25.6	86.6	.....	.....	.....	.....	.....	19	9	3	.....	.....	.....	7	5.53	140.5
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.40	746.7	29.96	761.0	77.8	25.4	87.3	2	.....	.....	1	8	.....	.....	.....	20	.....	.....	7	2.22	56.4
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	76.6	24.8	95.8	.....	.....	.....	.....	.....	1	1	29	.....	.....	.....	6	4.04	102.6
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	30.04	763.0	30.07	763.8	80.3	26.8	74.8	7	.....	.....	1	.....	.....	.....	.....	23	.....	.....	3	1.69	42.9
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.96	761.0	30.02	762.5	58.7	14.8	88.2	7	4	4	2	3	3	2	6	.....	9250	14886	4	3.25	82.5

Ocean Square Data for July, 1882.

Location of Centre of each Square.		No. of days.	No. of ob's.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
				Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 7.5°	W. 22.5°	10	21															
7.5	27.5	11	17															
12.5	22.5	10	14	30.07	763.8	79.2	26.2				1				25		5	1.3
12.5	27.5	10	13	30.08	764.0	78.7	25.9					1	1	1	20	1	7	1.7
12.5	32.5	9	12															
12.5	52.5	4	5															
12.5	57.5	15	17															
17.5	22.5	5	5	30.12	765.0	78.0	25.6								25		6	1.5
17.5	27.5	9	10	30.12	765.0	78.1	25.6								24		7	1.9
17.5	32.5	4	5															
17.5	37.5	3	3															
17.5	42.5	2	2															
17.5	47.5	1	1															
17.5	52.5	1	1															
17.5	57.5	9	9	30.14	765.5	82.7	28.2						4	16	7		4	1.6
22.5	22.5	6	7	30.17	766.3	77.0	25.0							1	22		8	1.6
22.5	27.5	4	4	30.18	766.6	77.0	25.0	1						4	20		6	1.5
22.5	32.5	2	3	30.22	767.6	78.2	25.7						1	8	17		5	1.6
22.5	37.5	5	7	30.21	767.3	79.4	26.3						2	14	8		7	1.4
22.5	42.5	1	1	30.22	767.6	80.6	27.0					1	2	11	4		13	1.5
22.5	47.5	1	1	30.23	767.8	81.8	27.7	1				1	7	10			12	1.2
22.5	52.5	4	4	30.23	767.8	82.0	27.8						8	11			12	1.8
22.5	57.5	7	9	30.22	767.6	82.2	27.9					2	14	10			5	1.5
22.5	62.5	9	10	30.18	766.6	82.5	28.1					1	9	14	6		1	1.5
22.5	67.5	6	6	30.16	766.1	82.7	28.2						15	14	1		1	1.3
22.5	72.5			30.14	765.5	82.5	28.1					1	9	18	3			1.6
27.5	22.5	3	3	30.22	767.6	78.2	25.7	2							24		5	1.4
27.5	27.5			30.25	768.3	76.0	24.4							3	23		5	1.3
27.5	32.5	4	4	30.26	768.6	77.1	25.1	1					3	6	15		6	1.5
27.5	37.5	5	5	30.24	768.1	78.4	25.8	1					4	8	11		7	1.3
27.5	42.5	5	5	30.27	768.8	79.7	26.5					2	8	4	6		11	1.4
27.5	47.5	1	1	30.29	769.4	80.3	26.8					1	10	6	1		13	1.1
27.5	52.5			30.28	769.1	80.3	26.8			1		2	12	2			14	1.1
27.5	57.5	5	5	30.25	768.3	81.2	27.3				1	8	11	2			9	1.3
27.5	62.5	5	6	30.23	767.8	81.5	27.5	1			1	11	15	1	1		1	1.3
27.5	67.5	9	10	30.20	767.1	81.4	27.4	1			3	12	11	1	1		2	1.3
27.5	72.5	16	20	30.18	766.6	81.5	27.5	1	1		3	10	14	2				1.6
27.5	77.5	13	18	30.15	765.8	81.5	27.5	1	1		3	11	15					1.3
32.5	12.5	3	4	30.13	765.3	73.5	22.9	12	3	2	1				13			1.6
32.5	17.5	2	2	30.19	766.8	73.2	22.9	5	4		3				19			1.0
32.5	22.5			30.26	768.6	73.7	23.2	6	2						19		4	1.5
32.5	27.5	1	1	30.30	769.6	74.2	23.4	3	2					3	16		7	1.5
32.5	32.5			30.30	769.6	75.8	24.3	4	1				4	7	7		8	1.6
32.5	37.5	4	4	30.31	769.9	76.9	24.9	3		1	1	3	6	3	4		10	2.0
32.5	42.5	12	13	30.32	770.1	78.9	26.1	3			1	4	7	3	3		10	1.2
32.5	47.5	4	4	30.31	769.9	79.1	26.2		1	1	5	5	7	1	2		9	1.4
32.5	52.5			30.28	769.1	79.0	26.1			2	3	7	7	2			10	1.3
32.5	57.5	9	9	30.24	768.1	79.7	26.5			2	9	10	4	2			4	1.6
32.5	62.5	4	4	30 22	767.6	79.9	26.6			3	6	16	3	2			1	1.3
32.5	67.5	11	15	30.17	766.3	79.4	26.3		2		11	15	2		1			1.5
32.5	72.5	17	32	30.14	765.5	80.0	26.7		4		8	14	4		1			1.6
32.5	77.5	19	32	30.10	764.5	78.7	25.9	5	2	2	16	2		1	3			1.5
37.5	12.5	10	13	30.11	764.8	71.3	21.8	9	15		3		1		3			2.1
37.5	17.5	5	6	30.18	766.6	70.9	21.6	5	13	5		1			7			1.8
37.5	22.5	5	5	30.26	768.6	71.6	22.0	8	13	2	2			1	5			1.8
37.5	27.5	3	3	30.29	769.4	71.8	22.1	3	14	3	3	1	3	2	2			1.8
37.5	32.5	2	2	30.28	769.1	72.7	22.6	2	5	8	8	1	4	2			1	2.2
37.5	37.5	2	2	30.27	768.8	73.6	23.1	3	5	6	9	5	2				1	2.6
37.5	42.5	4	4	30.24	768.1	73.8	23.2	2	2	8	11	6		1	1			2.4
37.5	47.5	9	12	30.23	767.8	74.2	23.4		1	5	17	5		2	1			2.4
37.5	52.5	14	17	30.21	767.3	74.8	23.8		1	1	17	8	2	2				2.6
37.5	57.5	13	19	30.17	766.3	74.8	23.8	1	1	3	18	6	1		1			2.9
37.5	62.5	14	18	30.14	765.5	74.1	23.4	1	1	3	15	8		2	1			2.7
37.5	67.5	24	33	30.12	765.0	73.3	22.9	1	4	1	15	7	1	1	1			2.5
37.5	72.5	31	120	30.07	763.8	73.5	23.1	5	3		13	6	1	1	2			1.9
42.5	12.5	2	2	30.06	763.5	69.2	20.7	2	11	6	5		1		6			3.3
42.5	17.5			30.11	764.8	68.6	20.3	1	18	5	3				4			2.7
42.5	22.5	3	3	30.17	766.3	67.1	19.5		17	5	4			1	4			2.6
42.5	27.5	11	12	30.20	767.1	68.7	20.4		12	7	8	2	1				1	2.5
42.5	32.5	13	17	30.19	766.8	69.5	20.8	1	7	12	8	3						3.0
42.5	37.5	23	39	30.17	766.3	69.5	20.8	2	6	5	15	3						3.1
42.5	42.5	27	75	30.18	766.6	72.2	22.3	4	6	17	4							3.0
42.5	47.5	31	94	30.16	766.1	69.0	20.6		2	4	21	3			1			2.6
42.5	52.5	30	83	30.12	765.0	69.3	20.7		1	1	23	3		3				2.6
42.5	57.5	28	77	30.09	764.3	69.7	20.9	1	4	3	18	3		1	1			3.0
42.5	62.5	30	93	30.06	763.5	68.2	20.1		5	3	12	8	1		2			1.9
42.5	67.5	30	93	30.02	762.5	67.0	19.4	1	2	3	16	5	2		2			2.1
47.5	12.5	24	42	29.94	760.5	62.4	16.9	3	5	10	8	3			2			3.6
47.5	17.5	28	47	29.92	760.0	61.6	16.4	3	10	8	9	1						4.2
47.5	22.5	30	61	29.95	760.7	61.5	16.4	1	12	8	9	1						3.8
47.5	27.5	28	68	29.96	761.0	61.3	16.3	1	14	5	10	1						3.7
47.5	32.5	28	85	29.96	761.0	60.9	16.1	1	10	7	11	2						3.5
47.5	37.5	25	71	29.98	761.5	60.8	16.0	1	9	6	11	4						3.3
47.5	42.5	21	32	30.00	762.0	59.7	15.4		7	6	15	2	1					2.9
47.5	47.5	12	16	29.98	761.5	59.3	15.2		4	6	17	2		1			1	2.5
52.5	12.5	17	24	29.79	756.7	59.4	15.2	1	10	7	8	5						3.8
52.5	17.5	20	33	30.77	756.1	59.1	15.1	2	11	9	8	1						4.2
52.5	22.5	22	35	29.81	757.2	58.3	14.6	4	11	6	9	1						3.7
52.5	27.5	12	23	29.83	757.7	57.7	14.3	2	16	2	9	1	1					3.5
52.5	32.5	12	12	29.85	758.2	56.7	13.7	1	16	2	8	1	1				2	3.1
52.5	37.5	4	4	29.86	758.4	56.4	13.6	2	14	5	5	2					3	2.6
52.5	47.5			29.88	758.9	56.0	13.3		10	2	9	1	1		1		7	2.0
52.5	52.5	2	2	29.85	758.2	54.5	12.5	2	7		11	1	1		1		8	1.8
57.5	12.5	11	15	29.61	752.1	56.5	13.6	6	3	3	5	3	3		7		1	3.3
57.5	17.5	6	6	29.65	753.1	54.8	12.7	10	4	3	5	2		2	4		1	3.4
57.5	22.5	4	4	29.68	753.9	53.3	11.8	8	5	2	6	1	3		4		2	3.1
57.5	27.5	3	3	29.72	754.9	53.0	11.7	8	7	2	6	1	1		2		4	2.8
57.5	32.5	1	1	29.74	755.4	51.3	10.7	4	10	2	3	1	1		1		9	2.9
57.5	37.5	1	1	29.71	754.6	50.7	10.4	2	12	2	2			1	1		11	2.3

NOTE.—See General Remarks.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade.*]

The following descriptions refer to chart iv. for the months of September, October, November, and December, 1881, (which charts were issued with the SUMMARY for the respective months,) and present a brief summary of the meteorological conditions which prevailed over the northern hemisphere during these months. Chart iv. continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing directions of the wind over the northern hemisphere, and at certain isolated stations in the southern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m., Washington, or 0 h. 8 m. p. m., Greenwich mean time.

For the description of these charts, much valuable information has been obtained from the "Monatliche Uebersicht der Witterung," published by Professor Dr. G. Neumayer, Director of the German Marine Observatory at Hamburg, Germany; and from the "Bulletin Mensuel," published by Mr. Marc Dechevrens, of the Zi-Ka-Wei Observatory, Shanghai, China.

For the month of September, 1881, the area of least pressure is situated over the Panjab, in British India, where the barometric means range from 29.58 (751.3) to 29.6 (751.8). In other parts of British India the mean pressure ranges from 29.62 (752.3) in the central regions, to 29.83 (757.7) in the south. An area of low mean pressures, 29.7 (754.4), is shown in Greenland; from there the pressure gradually increases in a southerly and easterly direction until the isobar of 30.0 (762.0) is reached. The line of 30.0 (762.0) extends from Newfoundland southeastward to the northwestern part of the Iberian peninsula. An area of relatively low pressures, 29.9 (759.4), occupies Manitoba, Minnesota, and part of Dakota, where the pressures range from 29.87 (758.7) to 29.9 (759.4). In the middle and south Pacific coast regions the mean pressure is below 29.9 (759.4).

Three areas of barometric maxima appear on the chart, each being indicated by the isobarometric line of 30.1 (764.5). The first of these occupies the south Atlantic states, and stretches northeastward along the coast of the United States to the Maritime Provinces, and thence over the ocean to W. 58°. The second area is shown off the northwestern coast of Africa, and includes within its limits the Madeira Islands; the third area is situated in northern Europe, and covers the Gulf of Bothnia and Finland.

Compared with the preceding month, (August, 1881,) there has been a general increase of pressure in the United States, except in the country between the Mississippi and Missouri rivers, and in California, where there has been a decrease. In Europe, the pressure is everywhere higher than in the preceding month, the greatest change being in the northern part of the continent, where the increase is about .45 inch. The isobar of 29.6 (751.8), which, in August, occupied the Scandinavian peninsula, is now replaced by the isobar of 30.1 (764.5). There has been general increase of pressure throughout the continent of Asia, but there has been a slight decrease in northern Africa.

Compared with the corresponding month of previous years, the mean atmospheric pressure in the United States is generally below the normal, except along the immediate Atlantic coast, where there is a slight excess over the normal values. In Canada it is above the normal, except in Ontario. In Europe the mean pressure was considerably above the normal in the northern part of the continent, and normal or slightly below in the central and southern parts.

The following table gives the mean pressure and the mean temperature, with corresponding departures, for the month of September, 1881, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:

Countries.	Mean pressure.			Mean temperature.		
	Sept., 1877, 1878, 1879, 1880.	Sept., 1881.	Departure.	Sept., 1877, 1878, 1879, 1880.	Sept., 1881.	Departure.
				°	°	°
Algeria	30.03	29.97	—0.06	81.4	85.1	+3.7
Austria	29.97	29.97	normal	66.4	63.8	—2.6
British Isles	29.98	29.98	normal	57.2	59.5	+2.3
Denmark	29.90	29.98	+0.08	59.1	57.2	—1.9
France	30.02	30.00	—0.02	68.6	65.1	—3.5
Germany	30.01	29.95	—0.06	64.0	60.4	—3.6
India	29.70	29.68	—0.02	82.5	83.9	+1.4
Italy	29.98	29.97	—0.01	75.5	70.7	—4.8
Norway	29.79	30.03	+0.24	56.0	57.4	+1.4
Portugal	30.02	30.05	+0.03	74.8	76.2	+1.4
Russia	29.95	30.04	+0.09	62.0	61.0	—1.0
Spain*	30.03	30.02	—0.01	75.6	74.2	—1.4
Sweden	29.86	30.07	+0.21	56.1	54.4	—1.7

* Mean for three years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of September, 1881, as compared with the means of four years:

Stations.	Mean pressure.			Mean temperature.		
	Sept., 1877, '78, '79, '80.	Sept., 1881.	Departure.	Sept., 1877, '78, '79, '80.	Sept., 1881.	Departure.
				°	°	°
Gibraltar *	30.01	30.06	+ 0.05	75.9	76.7	+ 0.8
Malta, Mediterranean Sea	29.95	29.98	+ 0.03	82.4	80.1	— 2.3
Sandwick Manse, Orkney Islands	29.84	30.05	+ 0.21	54.3	53.2	— 1.1
Bridgetown, Barbadoes	29.94	.....	.....	82.6	.....	.....
Cape Town, Cape Good Hope	30.13	30.12	— 0.01	64.7	68.4	+ 3.7
Fort Napier, Natal, South Africa*	29.95	29.96	+ 0.01	74.2	70.1	— 4.1
Free Town, Sierra Leone	29.89	29.94	+ 0.05	82.1	84.2	+ 2.1
Mauritius, Indian Ocean	30.16	30.18	+ 0.02	73.0	72.3	— 0.7
Melbourne, New South Wales	30.03	30.05	+ 0.02	52.7	51.6	— 1.1
Nassau, Bahamas	29.98	29.99	+ 0.01	83.1	83.2	+ 0.1
Godthaab, Greenland	29.74	29.65	— 0.09	38.2	35.8	— 2.4
Stykkisholm, Iceland	29.62	29.75	+ 0.13	45.0	50.7	+ 5.7
Thorshavn, Färöe Islands	29.72	30.00	+ 0.28	51.3	51.4	+ 0.1
Zi-Ka-Wei, China	29.94	29.95	+ 0.01	70.5	71.8	+ 1.3
Athens, Greece	29.96	29.94	— 0.02	82.1	84.0	+ 1.9
Cagliari, Sardinia, Italy	29.95	29.97	+ 0.02	79.2	77.0	— 2.2
Tokei, Japan	29.94	29.97	+ 0.03	70.6	70.7	+ 0.1
Angra, Azores	30.18	30.05	— 0.13	70.7	68.9	— 1.8
Funchal, Madeira Islands	30.11	30.13	+ 0.02	75.9	75.0	— 0.9
Ponta Delgado, Azores	30.19	30.10	— 0.09	73.7	73.2	— 0.5
Archangel, Russia	29.87	30.08	+ 0.21	51.0	46.0	— 5.0
Tiflis, Russia	29.94	29.94	normal	75.6	77.9	+ 2.3
Astrakhan, Russia	30.02	30.06	+ 0.04	70.0	65.7	— 4.3
Ekaterinburg, Russia	29.94	29.82	— 0.12	53.6	45.7	— 7.9
Tashkend, Toorkistan, Asia	29.98	29.95	— 0.03	69.2	71.1	+ 1.9
Barnaul, Siberia, Asia	29.92	29.82	— 0.10	56.1	52.7	— 3.4
Yeniseisk, Siberia, Asia	29.95	29.87	— 0.08	47.9	44.2	— 3.7
Pekin, China	29.97	29.98	+ 0.01	67.5	68.4	+ 0.9
Nikolaevsk on the Amoor, Asia	.....	.....	.....	49.6	52.2	+ 2.6
San Juan de Puerto Rico, W. I	29.96	29.99	+ 0.03	81.6	80.8	— 0.7
Beirut, Turkey in Asia	29.86	29.86	normal	84.8	85.6	+ 0.8
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I	29.97	29.99	+ 0.02	81.4	79.5	— 1.9
Paramaribo, D. Guiana, S. A	30.04	30.02	— 0.02	82.3	80.1	— 2.2
York Factory, B. A	29.94	30.02	+ 0.08	36.4	36.2	— 0.2

* Mean for three years only.

The mean temperature of the air in the United States was above the normal from Lake Michigan southwestward to New Mexico and eastward to the Atlantic. In Florida, it was normal. In the south Pacific coast region the temperature was above the normal, but elsewhere in the United States it was below the normal. In Europe the temperature was much below the normal in the central and southern parts of the continent; in Norway it was about 1° above the normal. In British India the temperature was about 1°.4 above the average for four years; the highest mean temperature reported, was 92°.9 Fahr. (33°.8 Cent.), at Lahore, and the lowest was 72°.2 Fahr. (22°.3 Cent.), at Belgaum.

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

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Beirut, Turkey in Asia	85.6	29.8	York Factory, B. A	36.2	2.3
Santiago de Cuba, W. I	84.4	29.1	Gjaesvaer, Finmark, Norway	43.5	6.4
Freetown, Africa	84.2	29.0	Yeniseisk, Siberia	44.2	6.8
Athens, Greece	84.0	28.9	Ekaterinburg, Russia	45.7	7.6

In the United States the prevailing directions of the wind were as follows: from the ninety-fifth meridian eastward to the Atlantic, generally southerly and southeasterly. West of the Rocky mountains the winds were westerly and northwesterly. Over the Atlantic from the coast of North America eastward to the twenty-fifth meridian, and between N. 55° and 30° the prevailing winds were northerly and northwesterly; east of the twenty-fifth meridan they were southerly and southwesterly. In western and southern Europe the winds were mostly southwesterly; elsewhere they were northeasterly to southerly. On the coast of China they were easterly and southeasterly, and in Japan they were mostly northerly.

The rainfall during the month of September was largely in excess of the average in the United States, except in the middle and south Atlantic states, New England, and the lake region, where there was a deficiency. In Europe, the rainfall was above the average in the central and southern parts, and was normal or slightly below the average in the northern districts.

For the month of October, 1881, the area of least pressure occupies southern Greenland, where the mean pressure at Godthaab was 29.55 (750.6). The pressure gradually increases to the south and eastward, the isobar of 29.9 (759.4) extending from Newfoundland eastward over the Atlantic to near the Irish coast, where it turns abruptly to the northward. In British India the mean pressure ranges from 29.77 (756.1) in the northern and northeastern provinces, to 29.82 (757.4) in southern Hindostan. In northeastern Siberia it is below 29.8 (756.9). In Europe an area of mean pressure, enclosed bythe isobar of 29.9 (759.4), occupies the Italian peninsula, the Adriatic, the Gulf of Genoa, Sardinia, and Sicily; elsewhere in Europe the barometric means range from 29.95 (760.7) to 30.1 (764.5).

Throughout the United States and Canada the mean pressure is above 30.0 (762.0); in the Hudson's Bay region it is below 30.0 (762.0).

The most marked area of barometric maxima is that indicated by the isobarometric line for 30.1 (764.5); it extends from the northwestern part of the United States southward to Mexico, thence northeastward to Indian territory, and then eastward over the ocean to the northwestern coast of Africa. This extensive area of high pressure includes nearly the whole of the United States, the western part of Canada, the Atlantic ocean between the parallels of thirty and forty north latitude, and the Azores and Madeira islands. Within this region of high barometer are two districts of barometric maxima; both are situated in the United States, the first, in Idaho, Montana, and western Dakota, where the barometric means range from 30.2 (767.1) to 30.26 (768.6): the second is in Tennessee, Virginia, and the Carolinas, where the means range from 30.2 (767.1) to 30.27 (768.8). In Europe the region of barometric maxima is situated in the Baltic provinces of Russia, the Gulf of Finland, and the southern part of the province of that name. In Asia the isobar for 30.1 (764.5) extends from eastern Russia and the Caspian sea eastward over the Chinese Empire to the Yellow sea.

Compared with the preceding month, (September, 1881,) the mean pressure over the United States is everywhere higher, the increase being greatest in the region between the Mississippi and Missouri rivers. In eastern Canada and the Maritime Provinces there has been a decrease of pressure. In Europe the pressure has increased over that part of the continent lying north of the fiftieth parallel, whilst it has decreased in the countries south of that parallel, except Russia, over the whole of which country there has been an increase. Throughout Asia a marked increase has occurred; there has also been an increase in Algeria.

Compared with the corresponding month of previous years, the mean atmospheric pressure ranges from .05 to .12 inch above the normal in that part of the United States lying east of the ninetieth meridian, and in the eastern Gulf states it is about normal. From the above-mentioned meridian westward to the Pacific coast the pressure is below the normal. In Canada it it is above the normal, the departure being least in the Maritime Provinces. In Europe, the mean pressure was above the normal in the northern part of the continent, notably so in the Scandinavian peninsula, where the excess averaged .3 inch; in the southern part of Europe, the pressure was slightly below the normal.

The following table gives the mean pressure and the mean temperature, with corresponding departures, for the month of October, 1881, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:

Countries.	Mean pressure.			Mean temperature.		
	Oct., 1877, 1878, 1879, 1880.	Oct., 1881.	Departure.	Oct., 1877, 1878, 1879, 1880.	Oct., 1881.	Departure.
				°	°	°
Algeria	30.08	30.03	—0.05	70.9	75.3	+4.4
Austria	30.00	29.93	—0.07	57.9	50.2	—5.7
British Isles	29.91	29.99	+0.08	52.8	50.5	—2.3
Denmark	29.85	30.00	+0.15	49.6	45.6	—4.0
France	30.00	29.97	—0.03	64.5	54.4	—10.1
Germany	29.96	29.99	+0.03	51.9	46.0	—5.9
India	29.84	29.81	—0.03	80.6	82.8	+2.2
Italy	30.01	29.88	—0.13	65.8	61.2	—4.6
Norway	29.72	30.04	+0.32	45.1	44.4	—0.7
Portugal	30.05	29.99	+0.06	67.8	65.0	—2.8
Russia	29.96	30.07	+0.11	50.2	45.9	—4.3
Spain *	29.99	29.96	—0.03	67.9	63.3	—4.6
Sweden	29.74	30.07	+0.33	41.9	41.5	—0.4

* Mean for three years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of October, 1881, as compared with the means of four years:

Stations.	Mean pressure.			Mean temperature.		
	Oct., 1877, '78, '79, '80.	Oct., 1881.	Departure.	Oct., 1877, '78, '79, '80.	Oct., 1881.	Departure.
				°	°	°
Gibraltar	30.04	30.01	—0.03	69.8	71.9	+2.1
Malta, Mediterranean Sea	30.00	29.90	—0.10	73.6	74.3	+0.7
Sandwick Manse, Orkney Islands	29.82	30.00	+0.18	48.0	47.7	—0.3
Bridgetown, Barbadoes	29.93	.....	.....	82.3	.....	.....
Cape Town, Cape Good Hope	30.05	30.04	—0.01	69.4	75.9	+6.5
Fort Napier, Natal, South Africa	29.87	29.89	+0.02	71.8	76.9	+5.1
Free Town, Sierra Leone	29.92	29.89	—0.03	84.0	85.6	+1.6
Mauritius, Indian Ocean	30.11	30.13	+0.02	74.9	75.0	+0.1
Melbourne, New South Wales	29.98	30.03	+0.05	54.9	53.3	—1.6
Nassau, Bahamas	29.99	30.04	+0.05	79.8	79.2	—0.6
Godthaab, Greenland	29.78	29.55	—0.23	31.7	28.4	—3.3
Stykkisholm, Iceland	29.77	29.80	+0.03	38.2	41.4	+3.2
Thorshavn, Färöe Islands	29.70	29.98	+0.28	44.8	46.8	+2.0
Zi-Ka-Wei, China	30.17	30.12	—0.05	59.6	62.6	+3.0
Athens, Greece	30.02	29.97	—0.05	72.0	72.9	+0.9
Cagliari, Sardinia, Italy	29.98	29 85	—0.13	71.4	68.9	—2.5
Tokei, Japan	30.06	30.04	—0.02	57.8	57.8	normal.
Angra, Azores	30.04	30.15	+0.11	66.8	65.1	—1.7
Funchal, Madeira Islands	30.09	30.13	+0.04	73.4	72.5	—0.9
Ponta Delgado, Azores	30.05	30.17	+0.12	69.8	68.4	—1.4
Archangel, Russia	29.70	30.03	+0.33	39.1	36.1	—3.0
Tiflis, Russia	30.09	30.07	—0.02	67.1	64.2	—2.9
Astrakhan, Russia	30.14	30.11	—0.03	58.3	55.0	—3.3
Ekaterinburg, Russia	29.99	30.07	+0.08	39.2	36.5	—2.7
Tashkend, Toorkistan, Asia	30.24	30.13	—0.11	54.7	56.3	+1.6
Barnaul, Siberia, Asia	30.18	30.12	—0.06	39.6	38.5	—1.1
Yeniseisk, Siberia, Asia	30.10	30.08	—0.02	30.8	30.0	—0.8
Pekin, China	30.17	30.13	—0.04	52.5	55.2	+2.7
Nikolaevsk on the Amoor, Asia	.....	.....	.....	32.8	34.5	+1.7
San Juan de Puerto Rico, W. I	29.95	29.95	normal.	81.6	79.0	—2.6
Beirut, Turkey in Asia	29.94	29.95	+0.01	79.4	79.2	—0.2
Mexico, Mexico	30.23	30.16	—0.07	53.4	55.4	+2.0
Havana, Cuba, W. I	29.96	30.04	+0.08	79.0	77.7	—1.3
Paramaribo, D. Guiana, S. A	29.99	29.97	—0.02	81.2	80.4	—0.8
York Factory, B. A	29.96	29.97	+0.01	22.9	18.6	—4.3

In the United States the mean temperature of the air was generally above the normal over the country east of the ninety-fifth meridian; it was also above the normal in Texas, Kansas, and in eastern Colorado. To the westward of the ninety-fifth meridian, excluding the districts just named, the temperature was from 1° to 6° below the normal. The region of greatest excess was in the Gulf states, where it was 6°.8. In Canada the temperature was above the normal in the western, but below the normal in the eastern provinces of the Dominion.

In Europe the mean temperature was everywhere considerably below the normal, the departures being greatest in the central and southern districts, and least in the Scandinavian peninsula. The month is said to have been, in Europe, one of the coldest Octobers on record.

In Hindostan the temperature was about 2° above the average for four years; the highest mean temperature reported was 89°.4 Fahr. (31°.9 Cent.) at Agra, and the lowest was 77°.4 Fahr. (25°.2 Cent.) at Hazaribagh.

The following are some of the extreme mean temperatures reported at isolated stations for the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	85.4	29.8	York Factory, B. A.	18.6	— 7.4
Manila, Philippine Islands	81.3	27.4	Godthaab, Greenland	28.4	— 2.0
Saint Thomas, W. I.	80.9	27.2	Yeniseisk, Siberia	30.0	— 1.1
Guadeloupe, W. I.	80.5	26.9	Nikolaievsk on the Amoor, Asia	34.5	+ 1.4

In the United States the prevailing directions of the wind were: northeasterly in the south Atlantic states and in Florida; along the middle Atlantic and New England coasts, southwesterly and westerly. In the lake region the winds were generally southwesterly in the eastern part; southerly in the western, and northwesterly and northerly in the northern parts. Over the country between 90° and 100° west longitude from Texas northward to Dakota, they were mostly southerly; in the northwestern part of the country they were northeasterly and northerly, and on the Pacific coast they were generally southerly. Over the north Atlantic, south of the thirty-fifth parallel, the winds were northeasterly; between N. 35° and 45°, from North America to the Azores, they were generally northwesterly. Off the west coast of the British Isles they were southwesterly. In Europe the prevailing winds were northerly, northeasterly, and easterly, except in southern Italy, where they were southwesterly. On the coast of China they were easterly, and in Japan they were northerly and northeasterly.

The rainfall during the month of October, 1881, was below the average in New England, the south Atlantic states, and in Florida; in all other districts of the United States it was in excess of the average. In Canada the rainfall was below the average in Quebec and the Maritime Provinces; elsewhere it was above the average. In Europe the rainfall differed but slightly from the average.

During November, 1881, the region of least mean pressure is situated to the north of the sixtieth parallel, and between the meridians of 10° and 40° west longitude. It is indicated by the isobar for 29.3 (744.2), and encloses within its limits the island of Iceland, where the mean pressure was 29.21 (741.9). South of N. 60°, the barometric pressure gradually increases, the increase being greater toward the east and southeast than in a southerly direction. Over the British Isles and western Europe the barometric gradients are somewhat steep. In British India the mean pressure ranges from 29.86 (758.4) to 29.96 (761.0).

Four areas of barometric maxima are shown on the chart; two of these occupy the United States, the others being in southern Europe and in Siberia, respectively. Concerning the two areas situated in the United States, the first is indicated by the isobar for 30.3 (769.6), and occupies the territories of Idaho, Montana, Wyoming, and the eastern boundary of Oregon. Over the rest of the country west of the hundredth meridian, excepting California, and from the northern boundary of the United States southward to southern Mexico, the mean pressure ranges from 30.2 (767.1) to 30.29 (769.4). In California, it ranges from 30.05 (763.3) in the southern, to 30.17 (766.3) in the northern sections of the state. The second area of high pressure in the United States occupies that part of the country lying between the thirtieth and fortieth parallels of latitude, and from the ninety-first meridian eastward to the Atlantic; within this region the mean pressure ranges from 30.2 (767.1) to 30.27 (768.8). In Europe the region of barometric maxima occupies the southern part of the Iberian peninsula, the western part of the Mediterranean, and northern Africa; it then stetches northeastward to southeastern France, northern and central Italy, southern Germany, and the whole of Austro-Hungary. Throughout the region just mentioned the mean pressure ranges from 30.2 (767.1) to 30.29 (769.4). In Asia the region of greatest pressure comprises the governments of Yeniseisk and Irkoutsk, Siberia, where the mean pressure is 30.3 (769.6); elsewhere in Asia, except in western Siberia and Hindostan, the mean pressure ranges from 30.05 (763.3) to 30.24 (768.1).

The following table gives the mean pressure and the mean temperature, with corresponding departures for the month of November, 1881, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, and 1880:

Countries.	Mean pressure.			Mean temperature.		
	Nov., 1877, 1878, 1879, 1880.	Nov., 1881.	Departure.	Nov., 1877, 1878, 1879, 1880.	Nov., 1881.	Departure.
				°	°	°
Algeria	30.07	30.26	+0.19	63.6	63.0	— 0.6
Austria	30.00	30.24	+0.24	43.8	43.2	— 0.6
British Isles	29.89	29.84	—0.05	44.7	51.3	+ 6.6
Denmark	29.77	29.92	+0.15	41.3	43.5	+ 2.2
France	29.96	30.16	+0.20	46.6	54.4	+ 7.8
Germany	29.90	30.14	+0.24	41.4	46.1	+ 4.7
India	29.94	29.93	—0.01	74.5	75.1	+ 0.6
Italy	30.00	30.22	+0.22	56.0	54.9	— 1.1
Norway	29.74	29.70	—0.04	41.7	41.0	— 0.7
Portugal	30.06	30.23	+0.17	57.7	60.4	+ 2.7
Russia	29.98	30.00	+0.02	38.3	35.2	— 3.1
Spain *	30.02	30.20	+0.18	57.5	60.1	+ 2.6
Sweden	29.71	29.75	+0.04	32.1	35.4	+ 3.3

* Mean for three years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of November, 1881, as compared with the means of four years.

Stations.	Mean pressure.			Mean temperature.		
	Nov., 1877, '78, '79, '80.	Nov., 1881.	Departure.	Nov., 1877, '78, '79, '80.	Nov., 1881.	Departure.
				°	°	°
Gibraltar	30.04	30.25	+0.21	*64.1	68.2	+ 4.1
Malta, Mediterranean Sea	29.99	30.21	+0.22	68.7	65.7	— 3.0
Sandwick Manse, Orkney Islands	29.75	29.50	—0.25	42.4	46.7	+ 4.3
Bridgetown, Barbadoes	.....	.....	.....	.....	.....	.....
Cape Town, Cape Good Hope	30.02	29.98	—0.04	73.1	73.7	+ 0.6
Fort Napier, Natal, South Africa	29.80	29.78	—0.02	75.8	73.0	— 2.8
Free Town, Sierra Leone	29.92	29.86	—0.06	85.3	84.5	— 0.8
Mauritius, Indian Ocean	30.04	30.01	—0.03	77.0	77.3	— 0.3
Melbourne, New South Wales	29.92	29.87	—0.05	56.4	56.7	+ 0.3
Nassau, Bahamas	30.06	30.06	normal	75.9	77.4	+ 1.5
Godthaab, Greenland	29.68	29.35	—0.33	27.3	23.5	— 3.8
Stykkisholm, Iceland	29.71	29.21	—0.50	31.8	35.4	+ 3.6
Thorshavn, Färöe Islands	29.70	29.34	—0.36	39.8	44.8	+ 5.0
Zi-Ka-Wei, China	30.30	30.22	—0.08	53.6	51.8	— 1.8
Athens, Greece	30.06	30.16	+0.10	63.1	61.5	— 1 6
Cagliari, Sardinia, Italy	29.97	30.19	+0.22	63.7	66.9	+ 3.2
Tokei, Japan	30.08	30.03	—0.05	47.4	49.5	+ 2.1
Angra, Azores	30.10	30.08	—0.02	63.0	59.7	— 3.3
Funchal, Madeira Islands	30.08	30.21	+0.13	69.8	69.3	— 0.5
Ponta Delgado, Azores	30.13	30.11	—0.02	65.3	62.2	— 3.1
Archangel, Russia	29.70	29.60	—0.10	24.7	24.4	— 0.3
Tiflis, Russia	30.26	30.22	—0.04	55.7	50.9	— 4.8
Astrakhan, Russia	30.24	30.20	—0.04	42.9	36.9	— 6.0
Ekaterinburg, Russia	30.07	29.82	—0.25	25.8	16.2	— 9.6
Tashkend, Toorkistan, Asia	30.37	30.34	—0.09	13.8	43.9	+ 1.1
Barnaul, Siberia, Asia	30.29	30.28	—0.09	42.8	15.3	— 6.7
Yeniseisk, Siberia, Asia	30.24	30.20	+0.10	22.0	5.8	— 7.9
Pekin, China	30.30	30.24	—0.06	36.6	39.6	+ 3.0
Nikolaievsk on the Amoor, Asia	.....	.....	.....	12.3	16.5	+ 4.2
San Juan de Puerto Rico, W. I.	29.97	29.99	+0.02	78.9	78.6	— 0.3
Beirut, Turkey in Asia	30.04	29.98	—0.04	72.8	70.5	— 2.3
Mexico, Mexico	30.33	30.21	—0.12	49.2	51.1	+ 1.9
Havana, Cuba, W. I.	30.01	30.05	+0.04	73.8	75.7	+ 1.9
Paramaribo, D. Guiana, S. A.	29.96	29.95	—0.01	82.4	80.2	— 2.2
York Factory, B. A.	30.00	29.98	—0.02	2.5	— 5.9	— 8.4

* Mean for three years only.

Compared with the preceding month (October, 1881), the barometric pressure over the United States has slightly decreased in the lake region and New England; elsewhere there has been a decided increase of pressure. In Canada the pressure has decreased in the western part of the Dominion. In

Europe there has been a decrease of pressure, ranging from .1 to .3 inch over the British Isles, the Scandinavian and Danish peninsulas, and northern Russia; elsewhere there has been a considerable increase of pressure, the increase being most marked in the southern districts. In Asia there has been a general increase of pressure.

Compared with the corresponding month of previous years, the mean atmospheric pressure is above the normal in the United States, except in Florida, the upper lake region, and in Minnesota, Iowa, Illinois, and parts of Dakota and Nebraska, where it is slightly below the normal. In western Canada it is about normal, and in the Maritime Provinces it is from .05 to .1 inch above the normal. In Europe the pressure is generally above the normal.

In the United States the mean temperature of the air was above the normal over the country lying east of the ninety-seventh meridian, except in the west Gulf states, where it was normal, and in Minnesota, where there was a deficiency of about 1°. From W. 97° westward to the Pacific coast the temperature was below the normal, except in the northern Rocky mountain slope, where it was slightly above. In Canada the temperature was normal in the eastern, and slightly above in the western parts of the dominion. In Europe the temperature of the air was considerably above the normal, the greatest departures occurring in the British Isles, and in France and Germany. In the countries just named, the month was one of the warmest Novembers on record; in the British Isles the mean temperature of November exceeded that of October by 1°, and in France and Germany the mean was about the same for both months. In British India the temperature was slightly above the mean for the last four years. The highest mean temperature, 82°.0 Fahr., (28°.3 Cent.) was reported at Kurrachee, and the lowest, 68°.7 Fahr., (20°.4 Cent.) at Lahore.

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

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	84.5	29.2	York Factory, B. A.	− 5.9	−21.1
Zanzibar, Eastern Africa	83.6	28.7	Yeniseisk, Siberia	+ 5.9	−14.5
Bridgetown, Barbadoes	80.9	27.2	Akmolinski, Siberia	13.5	−10.3
Paramaribo, S. A.	80.2	26.8	Barnaul, Siberia	15.3	− 9.3

In the United States the prevailing directions of wind were: southerly over the country between the eighty-second and ninety-first meridians, and the thirty-second and forty-second parallels; northwesterly in New England and the middle Atlantic states; northeasterly and northerly along the Atlantic coast south of N. 43°; southerly and westerly in the lake region, and generally westerly or northwesterly over the country west of the ninety-fifth meridian. In Canada the prevailing winds were westerly and southwesterly. In Europe the winds were mostly southerly and southwesterly, except in Italy, where they were mostly northerly. Over the Atlantic ocean, between N. 35° and 60°, and from the coast of the United States eastward to the twenty-fifth meridian, the prevailing wind was northwesterly. East of the twenty-fifth meridian strong west, southwest, and south winds prevailed. South of N. 35° the winds were northeasterly.

In the United States the rainfall was in excess of the average, except along the immediate Atlantic and Pacific coasts. In western Canada it was above the average, but in the Maritime Provinces it was below the average. In the southern districts of central Europe there was a deficiency, but in other parts of the continent the rainfall differed but slightly from the average.

For December, 1881, the region of barometric minima is indicated by the isobarometric line of 29.2 (741.7), and is situated in Iceland and in eastern Greenland. At Stykkisholm, Iceland, the mean atmospheric pressure was 29.12 (739.6). Southwestward, southward, and southeastward, the pressure increases very rapidly until the isobar for 30.1 (764.5) is reached. That isobar runs from the Canadian Maritime Provinces, eastward along the forty-fifth parallel to northwestern Europe. An area of relatively low pressure also occupies Amoor and the sea of Okhotsk.

The regions of barometric maxima are situated in the United States; over the Azores, the Iberian peninsula, and northern Africa; and in Siberia and China. The first of these is indicated by the isobarometric line of 30.3 (769.6) and occupies the United States west of the hundredth meridian, and from Montana to Mexico, extending southward through the central part of Mexico, to about the eighteenth parallel of latitude. East of the hundredth meridian the mean pressure ranges from 30.1 (764.5), in the lower lake region, to 30.28 (769.1) in the southern states. The second area of high pressure is indicated by the isobar for 30.2 (767.1), which extends over the Atlantic ocean from about W. 35° eastward to the Iberian peninsula and northwestern Africa; at the Azores the mean pressure was 30.3 (769.6). In Europe the mean pressure ranges from 30.0 (762.0) to 30.2 (767.1) except in the British Isles and the Scandinavian peninsula, where it is from 29.6 (751.8) to 29.9 (759.4). In Asia the regions of greatest pressure are in central Siberia, where the mean pressure at Yeniseisk is 30.61 (777.5), and in China, where the pressure at Hankow is also 30.61 (777.5.)

Compared with the preceding month, (November, 1881,) there has been no change in the positions of the areas of barometric maxima and minima, but some changes of pressure have occurred. There has been a decrease of about .09 inch in Iceland, and there has also been a slight decrease in the Canadian Maritime Provinces and along the Atlantic coast of the United States. In Algeria and in central and southern Europe there has been a decrease, but in the British Isles, Denmark, Scandinavia, and the whole of European Russia, there has been a marked increase of pressure. In the United States the pressure has increased generally over the country west of the ninety-fifth meridian. A noteworthy increase of pressure has occurred in Asia; the area of barometric maxima, which in November occupied central Siberia, has apparently extended southeastward to southeastern China, and an increase of pressure, averaging .2 inch, is shown throughout the continent, except in Hindostan, where the increase is less marked.

Compared with the corresponding month of previous years the mean atmospheric pressure over the United States is generally above the normal, except in the country between W. 87° and W. 100°; in that region the pressure is from .05 to .14 inch below the normal. In Canada the mean pressure was above the normal, except in northern Ontario, where there was a slight deficiency. In Europe the mean pressure was everywhere above the normal, the greatest departures of excess occurring in northern Europe and throughout Russia.

The following table gives the mean pressure and mean temperature with corresponding departures for the month of December, 1881, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years, 1877, 1878, 1879, and 1880:

Countries.	Mean pressure.			Mean temperature.		
	Dec., 1877, 1878, 1879, 1880.	Dec., 1881.	Departure.	Dec., 1877, 1878, 1879, 1880.	Dec., 1881.	Departure.
				°	°	°
Algeria	30.14	30.16	+0.02	57.6	56.3	− 1.3
Austria	30.06	30.19	+0.13	32.1	35.8	+ 3.7
British Isles	29.95	29.92	−0.03	38.6	42.5	+ 3.9
Denmark	29.84	29.98	+0.14	34.4	37.9	+ 3.5
France	30.11	30.13	+0.02	41.6	41.7	+ 0.1
Germany	29.99	30.11	+0.12	33.1	36.1	+ 3.0
India	30.00	30.00	normal.	68.2	70.9	+ 2.7
Italy	30.04	30.10	+0.06	47.9	48.7	+ 0.8
Norway	29.72	29.79	+0.07	30.3	36.5	+ 6.2
Portugal	30.21	30.24	+0.03	59.0	30.5	− 8.5
Russia	29.99	30.22	+0.23	27.6	25.3	− 2.3
Spain *	30.13	30.19	+0.06	51.2	50.7	− 0.5
Sweden	29.75	29.96	+0.21	24.8	30.4	+ 5.6

* Mean for three years only.

The accompanying table shows the deviations in pressure

and temperature at isolated stations during December, 1881, as compared with the means for four years:

Stations.	Mean pressure.			Mean temperature.		
	Dec., 1877, '78, '79, '80.	Dec., 1881.	Departure.	Dec., 1877, '78, '79, '80.	Dec., 1881.	Departure.
				°	°	°
Gibraltar *	30.15	30.22	+0.07	59.2	59.8	+ 0.6
Malta, Mediterranean Sea	30.02	30 01	—0.01	61.8	62.2	+ 0.4
Sandwick Manse, Orkney Islands	29.74	29.64	—0.10	38.4	41.1	+ 2.7
Bridgetown, Barbadoes	.....	.....	.....	.....	.....	.....
Cape Town, Cape Good Hope *	30.01	29.98	—0.03	87.0	79.2	+ 2.2
Fort Napier, Natal, South Africa	29.78	29.78	normal.	76.3	77.2	+ 0.9
Free Town, Sierra Leone	29.90	29.87	—0.03	85.8	87.1	+ 1.3
Mauritius, Indian Ocean	29.96	29.96	normal.	79.8	80.0	+ 0.2
Melbourne, New South Wales	29.92	29.89	—0.03	59.1	60.5	+ 1.4
Nassau, Bahamas	30.11	30.18	+0.07	71.6	72.2	+ 0.6
Godthaab, Greenland	29.65	29.27	—0.28	20.8	14.9	— 5.9
Stykkisholm, Iceland	29.66	29.12	—0.54	25.7	31.5	+ 5.8
Thorshavn, Faröe Islands	29.76	29.48	—0.28	39.2	40.5	+ 1.3
Zi-Ka-Wei, China	30.34	30.41	+0.07	38.6	41.9	+ 3.3
Athens, Greece	30.04	30.11	+0.07	55.1	53.8	— 1.3
Cagliari, Sardinia, Italy	29.99	30.02	+0.03	55.1	57.6	+ 2.5
Tokei, Japan	29.99	30.11	+0.12	40.0	38.4	— 1.6
Angra, Azores	30.04	30.31	+0.27	60.4	59.4	— 1.0
Funchal, Madeira, Islands	30.14	30.29	+0.15	66.4	65.8	— 0.6
Ponta Delgado, Azores	30.08	30.37	+0.29	63.2	61.5	— 1.7
Archangel, Russia	29.79	29.95	+0.16	16.0	20.3	+ 4.3
Tiflis, Russia	30.20	30.31	+0.11	42.3	38.3	— 4.0
Astrakhan, Russia	30.21	30.36	+0.15	29.8	21 6	+ 8.2
Ekaterinburg, Russia	30.22	30.22	normal.	10.1	7.3	— 2.8
Tashkend, Toorkistan, Asia	30.40	30.45	+0.05	34.4	25.1	—10.3
Barnaul, Siberia, Asia	30.42	30.48	+0.06	1.1	— 0.6	— 1.7
Yeneiseisk, Siberia, Asia	30.46	30.61	+0.15	— 7.7	— 8.7	— 1.0
Pekin, China	30.38	30.46	+0.08	24.6	26.8	+ 2.2
Nikolaievsk on the Amoor, Asia	.....	.....	.....	— 5.4	—10.7	— 5.3
San Juan de Puerto Rico, W. I.	30.02	30.06	+0.04	76.1	73.9	— 2.2
Beirut, Turkey in Asia	30.02	30.04	+0.02	64.9	63.5	— 1.4
Mexico, Mexico	30.33	30.32	—0.01	46.1	44.2	— 1.9
Havana, Cuba, W. I.	30.09	30.12	+0.03	71.4	72.1	+ 0.7
Paromaribo, D. Guiana, S. A.	29.98	30.01	+0.03	80.2	78.2	— 2.0
York Factory, B. A.	29.00	30.10	+0.11	—15.3	—14.4	+ 0.9

* Mean for three years only.

In the United States the mean temperature of the air ranged from 9° to 13° above the normal in all parts of the country, except in California, where it was about 1° below the normal. In Canada it was also much above the normal. In Europe the mean temperature of the air was about normal in the southern part and above the normal in the northern part of the continent. In northern Russia (where the pressure was much above the normal) the temperature was above, whilst in southern Russia, it was below the normal. In Siberia the temperature was below, and in China and Japan it was slightly above the normal. In British India the highest mean temperature reported was 83°.2 Fahr. (28°.4 Cent.) at Poona, and the lowest was 63°.1 Fahr. (17°.3 Cent.) at Sibsagar.

The following are some of the extreme mean temperatures reported at isolated stations during the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	87.1	30.6	York Factory, British America	—14.4	—25.8
Zanzibar, east Africa	83.1	28.4	Nikolaievsk on the Amoor, Asia	—10.7	—23.7
Mauritius, Indian Ocean	80.0	26.7	Yeniseisk, Siberia	— 8.7	—22.6
Cape Town, Cape Good Hope	79.2	26.2	Fort Saint Michael, Alaska	— 6.0	—21.1

In the United States the prevailing winds were from south to west over the country north of the fortieth parallel, and from the Pacific eastward to the Atlantic. In Texas and the Gulf states winds were mostly northerly; in Florida and the south Atlantic states they were northeasterly. In California they were variable. In Canada they were westerly and southwesterly. In central Europe the prevailing winds were mostly southerly and southeasterly; in the British Isles they were westerly and southwesterly. In the southern peninsulas they were mostly northerly. In Algeria the winds were northwesterly. In China and Japan they were northerly and northwesterly. Over the north Atlantic ocean the winds were southwesterly and northwesterly from the coast of the United States eastward to W. 50°. Between W. 50° and 30°, and N. 35° and 60°, they were northwesterly. From W. 30° eastward to the European coasts they were mostly westerly and southwesterly. South of N. 35° they were northeasterly.

The rainfall for the month was below the average in the United States, from the Mississippi river westward to the Pacific; there was also a slight deficiency in Florida and the south Atlantic states; elsewhere the rainfall was above the average. In Canada it was above the average. In Europe the rainfall was, in general, below the average.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog: sk, smoke; inap, inappreciable; d, clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation 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 originals, 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 alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING THE DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted. Broken lines indicate that the lines so broken are doubtful.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date. Broken or dotted lines are doubtful.

Arrows show the 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.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Command-

ant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12 m., instead of 12.16 p. m., and at Besançon at midday instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms. During the months of July, August, and September, 1882, the rainfall at Nagasaki was measured at 9.36 p. m., and at Niigati during July and August, at 10.13 p. m., local time.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made, the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperatures in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiana.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brone the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakham the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature at Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puesto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

DAILY BULLETIN, July 2d, page 7, Occidental and Oriental Steamship Company, s. s. "Coptic," barometric reading doubtful.

5th, page 6, United States Naval, "Constellation," latitude S., should read N.

7th, page 1, Austro-Hungarian, Kremsmunster, upper clouds 3, should read C.

17th, page 3, Swedish, Umea, actual barometer 29.89 inches, should read 29.95 inches.

19th, page 5, United States, New London, reduced barometer 29.05 inches, should read 29.95 inches; page 7, British Meteorological Office, s. s. "Markland," longitude W. 102°, should read W. 103°.

22d, page 7, General Trans-Atlantic Company, s. s. "France," longitude E., should be W.

23d, page 3, Russian, Vladivostock, reduced barometer 29.62 inches, or 752.4 m.m., should read 29.66 inches, or 753.4 mm.

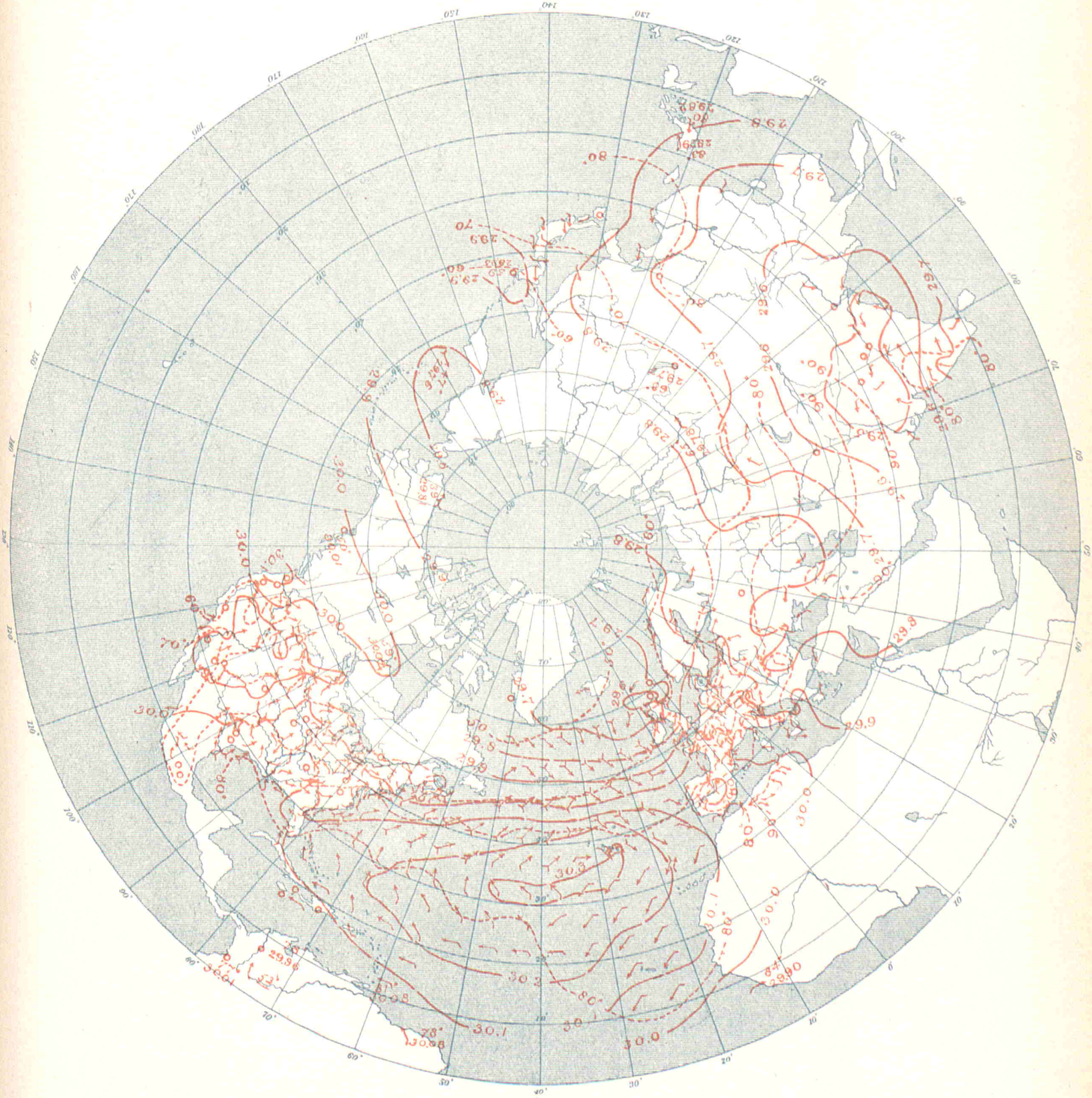
30th, page 7, Boston and Halifax, s. s. "Carroll," Seal island, Alaska, should read, Seal island, Nova Scotia.

United States, Bennett, Fort, all barometric readings for month of July, 1882, except monthly mean, are .06 inches, or 1.5 m.m. too low.

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, 1882. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

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

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF AUGUST, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
SEPTEMBER, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

AUGUST, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for August, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.04	763.1	80.8	27.1	76.5	.....	.....	1	6	21	3	.....	.....	.....	.....	.....	2	0	0
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.04	763.0	80.2	26.8	63.8	11	5	1	.....	1	.....	1	12	.....	.....	.....	1	0.34	8.5
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.02	762.5	84.2	29.0	64.5	11	7	.....	3	1	.....	2	7	.....	.....	.....	2	0.16	4.0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.02	762.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.08	764.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.08	764.0	83.5	28.6	26.5	10	3	7	4	3	2	.....	2	.....	.....	.....	1	0.05	1.3
Gerlville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	91.8	33.2	9.3	3	10	8	4	3	2	1	.....	.....	.....	.....	2	0.26	6.5
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.10	764.6	98.4	36.9	30.9	4	.....	3	3	3	5	8	5	.....	.....	.....	1	inap.	inap.
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.10	764.4	96.8	36.0	27.3	1	14	.....	5	.....	9	.....	.....	2	.....	.....	1	inap.	inap.
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.95	760.7	30.04	763.0	49.0	9.4	86	11	4	4	3	2	3	.....	.....	4	.....	.....	6	2.12	53.9
AUSTRO-HUNGARIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.39	746.5	29.92	760.0	71.6	22.0	61.3	.....	4	2	8	.....	6	4	7	.....	.....	.....	5	5.54	140.8
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.09	738.9	29.84	757.9	65.3	18.5	70.1	2	1	15	8	1	.....	4	.....	.....	.....	.....	8	8.27	210.1
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.00	736.5	29.84	757.9	62.8	17.1	80.7	1	7	.....	.....	6	.....	.....	.....	17	.....	.....	8	8.72	221.6
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.70	729.0	29.91	759.8	68.2	20.1	76.9	.....	8	6	7	5	3	.....	2	.....	.....	.....	6	5.82	147.7
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.48	723.4	29.84	758.0	72.7	22.6	61	.....	12	10	1	3	4	1	.....	.....	.....	.....	5	3.96	100.5
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.64	727.5	29.95	760.7	63.0	17.2	74.6	2	7	8	4	.....	2	1	2	5	.....	.....	8	6.47	164.4
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.87	733.4	29.83	757.6	68.7	20.4	65.3	.....	8	.....	5	3	4	3	8	.....	.....	.....	6	4.40	111.7
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.82	757.5	29.93	760.1	84.6	29.2	58.1	1	.....	7	7	5	8	1	2	.....	.....	.....	6	2.29	58.2
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.38	746.2	29.84	757.9	72.7	22.6	59	5	4	8	8	2	3	1	.....	.....	.....	.....	5	4.34	110.1
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.62*a*	752.4*a*	29.90*c*	759.4*c*	71.8*b*	22.1*b*	64.4*c*	.....	4	7	7	7	.....	.....	1	5	.....	.....	5	2.32	58.8
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.85	758.1	29.95	760.7	77.0	25.0	50.8	...0	.....	3	3	.....	1	1	3	5	.....	.....	5	5.72	145.4
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.24	742.8	29.95	760.6	66.4	19.1	64.6	.....	8	16	.....	.....	4	2	.....	.....	.....	.....	7	3.56	90.4
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.68	753.9	29.78	756.4	61.3	16.3	69.0	2	6	7	.....	7	7	1	1	.....	.....	.....	6	2.12	53.8
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.67*a*	753.6*a*	29.89*a*	759.2*a*	60.5*a*	15.8*a*	79.4*a*	1	9	6	7	6	1	1	.....	.....	.....	.....	8	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.88	758.9	60.5	15.8	73.7	.....	1	19	3	2	5	1	.....	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.32	744.7	29.85	758.2	60.8	16.0	76.4	.....	4	11	6	5	3	2	.....	.....	.....	.....	8	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.45	748.0	29.84	757.9	54.8	12.7	55.8	1	15	5	1	1	4	.....	.....	.....	.....	.....	7	1.64	41.7
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.98	761.5	30.01	762.2	83.5	28.6	74.5	.....	.....	.....	.....	.....	7	1	23	.....	.....	.....	4	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.88	758.9	66.5	19.2	72.8	5	9	9	4	2	1	1	.....	.....	.....	.....	7	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.80	756.9	29.92	760.0	64.5	18.1	70.4	.....	6	7	9	2	1	3	2	1	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.77	756.1	29.99	761.7	63.1*a*	17.3*a*	73.4*a*	.....	5	9	5	3	7	1	1	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.77	705.3	29.98	761.5	71.9	22.2	30.1	3	4	.....	1	.....	4	9	3	7	.....	.....	2	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.71	754.6	29.94	760.5	80.8	27.1	77.6	.....	6	13	11	1	.....	.....	.....	.....	.....	.....	6	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.00	762.0	30.05	763.3	78.9	26.1	80.3	.....	2	10	3	.....	1	13	2	.....	.....	.....	1	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.60	751.8	29.81	757.2	61.5	16.4	69.9	1	2	13	9	1	.....	3	2	.....	.....	.....	6	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.74	755.4	29.91	759.7	64.7	18.2	68.4	3	7	5	9	3	1	2	1	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.72	754.9	30.01	762.2	63.8	17.7	75.7	4	4	12	5	2	1	1	2	.....	.....	.....	5	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.89	759.2	29.92	760.0	64.5	18.1	62.6	1	5	10	5	2	1	4	3	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.63	752.6	29.87	758.7	63.6	17.6	68.8	2	9	4	9	4	1	.....	2	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.89	759.2	29.97	761.2	80.8	27.1	74.5	3	10	6	2	.....	1	1	8	.....	.....	.....	2	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.09	764.3	30.13	765.3	84.5	29.2	72.1	2	1	2	2	.....	15	3	6	.....	.....	.....	6	.....	.....
Oscott *d*	N. 52 28	W. 1 55	0.00 m.	483	147	29.41	747.0	29.92	760.0	61.4	16.3	77.6*e*	.....	8	5	5	6	.....	1	2	.....	.....	.....	8	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.68	753.9	29.91	759.7	63.3	17.4	69.5	2	1	9	9	4	2	.....	3	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.90	759.4	29.98	761.5	65.8	18.8	71.8	1	7	6	6	5	3	3	.....	.....	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.76	755.9	57.8	14.3	82.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y.	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.76	755.9	29.82	757.4	85.1	29.5	47.9	4	.....	.....	4	1	.....	.....	22	.....	.....	.....	3	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	200	79	29.60	751.8	29.87	758.7	66.4	19.1	68.2	1	5	7	8	4	1	.....	5	.....	.....	.....	6	1.63	41.4
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.80	756.9	29.83	757.7	63.3	17.4	73.6	1	7	7	10	3	1	1	.....	1	.....	.....	6	2.64	67.1
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.88	758.9	60.9	16.1	70.5	1	.....	17	7	2	2	1	1	.....	.....	.....	8	.....	.....
Stratfield Turgiss.	N. 51 17	W. 0 53	0.04 p.m.	197	60	.....	.....	.....	.....	65.5	18.6	69.7	.....	9	8	6	3	2	1	2	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.98	761.5	29.99	761.7	67.9	19.9	70.3	2	10	6	8	2	1	2	.....	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.95	760.7	29.98	761.5	61.6	16.4	80.3	.....	8	10	6	4	2	1	.....	.....	.....	.....	7	.....	.....
CANADIAN.																										
Bathurst *d*	N. 47 39	W. 65 43	7.45 a.m.	80	24	.....	.....	.....	.....	64.7	18.2	.....	.....	.....	9	.....	.....	.....	5	.....	13	.....	.....	5	1.54	39.1
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.92	760.0	29.96	761.0	63.1	17.3	81.7	6	3	7	5	5	3	.....	1	1	5724	9212	5	2.35	59.7
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.92	760.0	29.98	761.5	59.0	15.0	88.8	2	4	3	5	7	3	3	2	2	2465	3967	5	2.93	74.4
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.79	756.7	29.98	761.5	61.5	16.4	91.0	1	6	5	9	.....	2	6	2	.....	.....	.....	6	2.68	68.1
Dalhousie *c*	N. 48 04	W. 66 21	7.32 a.m.	35	11	29.79	756.7	29.95	760.7	60.0	15.6	.....	.....	.....	22	.....	.....	.....	4	.....	2	.....	.....	4	1.92	48.8
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.94	760.5	29.96	761.0	55.1	12.8	87.0	.....	4	11	7	.....	.....	.....	2	7	8312	13377	6	2.93	74.4
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.17	740.9	29.98	761.5	59.3	15.2	92.1	5	3	5	1	3	8	1	1	4	6001	9657	3	1.35	34.3
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.95	760.7	30.02	762.5	60.0	15.6	82.8	.....	7	5	.....	2	6	1	4	6	.....	.....	4	3.54	89.9
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.94	735.1	30.00	762.0	61.3	16.3	98.5	3	4	3	1	2	4	2	.....	12	.....	.....	6	2.59	65.8
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.87	758.7	29.99	761.7	61.9	16.6	86.2	4	7	9	2	4	1	2	.....	2	.....	.....	5	3.93	99.8
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	29.61	752.1	29.99	761.7	65.8	18.8	90.0	.....	3	4	10	.....	2	3	8	1	.....	.....	7	4.64	117.9
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.69	754.1	30.01	762.2	66.3	19.1	87.8	2	2	4	9	5	1	3	2	3	3421*b*	5506*b*	8	2.51	63.8
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.90	759.4	29.95	760.7	65.0	18.3	80.0	2	1	4	13	5	.....	4	2	.....	.....	.....	7	3.48	88.4
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.81	757.2	30.01	762.2	65.0	18.3	78.1	2	4	14	.....	2	2	1	6	.....	.....	.....	5	2.52	64.0
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.33	745.0	30.00	762.0	62.4	16.9	89.6	3	.....	1	4	5	7	8	2	5382	8661	6	2.74	69.6
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	688	210	29.30	744.2	30.01	762.2	66.1	18.9	80.7	.....	.....	5	.....	.....	2	2	4	18	.....	.....	4	1.43	36.3
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.34	745.2	29.98	761.5	64.2	17.9	96.1	4	1	2	4	2	1	4	4	9	3905	6284	7	3.31	84.1
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.37	746.0	30.00	762.0	64.1	17.8	90.4	.....	2	8	4	.....	3	9	4	1	.....	.....	7	4.22	107.2
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.69	754.1	30.00	762.0	59.7	15.4	84.3*a*	3	3	7	.....	.....	.....	5	4	9	.....	.....	4	5.91	150.1
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.56	750.8	30.01	762.2	60.1	15.6	88.1	5	3	7	.....	1	3	2	.....	10	.....	.....	6	3.53	89.7
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.94	760.5	29.99	761.7	58.4	14.7	86.0	4	4	2	2	1	2	1	3	12	.....	.....	5	1.61	40.9
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.83	757.7	30.00	762.0	58.4	14.7	85.6	3	1	1	14	2	1	3	6	.....	.....	.....	3	1.89	48.0
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.85	758.2	60.0	15.6	.....	.....	2	4	10	1	3	4	5	2	.....	.....	.....	4.11	104.4
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.29	744.0	29.98	761.5	63.1	17.3	86.8	2	.....	.....	4	3	11	7	2	2	5144	8278	6	1.82	46.2
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.90	759.4	29.96	761.0	62.4	16.9	84.2	3	3	5	11	4	.....	1	4	.....	7058	11359	8	5.48	139.2
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.65	753.1	30.02	762.5	64.1	17.8	89.3	5	.....	4	5	1	1	2	7	6	5975	9616	7	2.52	64.0
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	29.83	757.7	29.92	760.0	65.0	18.3	84.6	8	1	1	7	3	3	.....	1	7	.....	.....	4	0.91	23.1
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.95	735.3	29.98	761.5	63.8	17.7	91.2	4	3	3	6	3	1	4	6	1	.....	.....	7	3.54	89.9
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.95	760.7	30.02	762.5	57.6	14.2	93.3	1	4	4	8	3	1	.....	4	6	3684	5929	6	0.63	16.0
Sub-Series.																										
Mt. Forrest	N. 44 01	W. 80 54	6.44 a.m.	1375	419	28.64	727.4	30.04	763.0	60.2	15.7	93.2	...*b*	5	9	7	1	5	1	.....	1	.....	.....	9	.....	.....
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.94?	760.5?	30.19?	766.8?	61.5	16.4	88.6	4	.....	1	14	1	4	.....	7	.....	.....	.....	6	4.83	122.7
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.18	766.6	30.21	767.3	64.3	17.9	76.2	.....	1	9	8	.....	3	3	5	2	.....	.....	4	1.94	49.3
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	30.14	765.5	30.17	767.3	65.8	18.8	66.5	.....	11	3	3	5	9	.....	.....	.....	.....	.....	4	2.47	62.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for August, 1882. 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.
CHINESE.	° ′	° ′																								
Sub Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.75	755.7	29.78	756.4	75.6	24.2	90.1	3	4	1	2	.....	4	11	5	1	.....	.....	4	8.08	205.2
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.67	753.6	29.72	754.8	64.6	18.1	71	5	6	3	5	8	3	.....	1	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.72	754.8	29.74	755.3	63.9	17.7	77	.....	7	13	7	1	3	.....	.....	.....	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.81	757.2	29.85	758.3	41.0	5.0	91	3	.....	1	6	9	.....	.....	9	3	.....	.....	8	1.14	28.9
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.84	757.8	29.85	758.3	43.2	6.2	.....	.....	8	4	.....	.....	1	.....	.....	18	.....	.....	9	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.72	754.8	29.76	755.9	45.1	7.3	83	.....	1	2	2	.....	4	14	6	2	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.66	753.4	29.70	754.3	54.5	12.5	84	6	2	3	6	3	3	2	1	5	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.61	752.1	29.70	754.4	62.8	17.1	79	1	9	7	5	1	6	.....	...	2	.....	.....	6	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.47	748.5	30.09	764.2	72.3	22.4	63.2	1	9	8	3	3	3	2	2	.....	.....	.....	.....	1.12	28.5
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.50	749.2	30.05	763.3	66.4	19.1	76.1	5	2	2	13	6	1	.....	2	.....	.....	.....	.....	3.39	86.
Arras	N. 50 18	E. 2 40	0.19 p.m.	239	73	29.71	754.6	29.96	761.0	64.0	17.8	75.4	3	4	6	6	3	4	1	4	.....	.....	.....	.....	1.41	35.9
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.91	759.8	29.99	761.8	80.1	26.7	51.7	21	2	3	1	2	.....	1	1	.....	.....	.....	3	0.84	21.4
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.48	748.8	30.02	762.5	67.8	19.9	57	1	2	3	9	6	3	1	6	.....	.....	.....	8	1.57	39.9
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.74	755.3	30.00	761.9	66.6	19.2	64.3	1	4	9	4	4	3	2	4	.....	.....	.....	8	3.05	77.4
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	29.10	739.0	29.96	761.0	68.7	20.4	78.7	4	1	.....	6	13	1	.....	6	.....	.....	.....	5	3.65	92.6
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.81	757.2	30.07	763.7	72.7	22.6	58.3	2	5	9	6	1	2	1	5	.....	.....	.....	6	2.24	56.9
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.48	748.8	30.02	762.5	68.7	20.4	61.9	4	3	4	10	5	2	.....	3	.....	.....	.....	.....	4.16	105.7
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.83	757.6	30.07	763.8	68.4	20.2	70.9	1	1	10	8	2	1	1	7	.....	.....	.....	6	2.49	63.3
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.92	759.9	29.99	761.8	56.5	13.6	83.1	.....	4	15	6	1	1	.....	4	.....	.....	.....	6	1.79	45.5
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.66	753.3	29.97	761.2	68.4	20.2	71.4	1	2	6	12	2	.....	1	3	4	.....	.....	5	2.83	72.0
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.46	748.3	29.96	761.0	66.2	19.0	63.4	4	5	12	2	3	1	.....	4	.....	.....	.....	8	3.72	94.6
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.71	729.3	30.02	762.6	71.2	21.8	54.1	7	1	8	5	1	1	5	3	.....	.....	.....	2	1.86	47.2
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.22	742.2	30.05	763.3	70.0	21.1	55.2	1	7	4	6	4	.....	.....	9	.....	.....	.....	7	2.67	67.8
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	28.19	716.1	30.00	761.9	65.8	18.8	79.2	1	5	17	5	.....	1	1	1	.....	.....	.....	.....	2.56	65.0
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.55	699.7	29.87	758.8	74.7	23.7	39.1	23	.....	.....	.....	6	.....	.....	1	1	.....	.....	.....	0.32	8.2
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.90	734.0	29.97	761.2	79.7	20.5	39.3	1	.....	.....	.....	1	18	10	1	.....	.....	.....	2	0.79	20.1
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.19	741.4	29.93	760.3	71.1	21.7	64.9	2	14	1	1	.....	1	4	8	.....	.....	.....	.....	1.93	49.1
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	.....	.....	.....	.....	68.2	20.1	63.1	1	11	10	4	.....	1	2	2	.....	.....	.....	4	0.95	24.1
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.49	749.1	30.04	763.1	73.0	22.8	61.8	5	...	16	4	.....	.....	4	2	.....	.....	.....	5	4.60	116.8
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.98	761.4	30.08	764.0	68.7	20.4	74.0	3	1	9	6	4	1	1	6	.....	.....	.....	7	1.93	49.0
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	29.01	736.9	30.04	763.1	70.9	21.6	51.9	8	5	5	1	5	5	.....	2	.....	.....	.....	5	1.04	26.4
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.74	755.4	30.04	763.1	67.5	19.7	67.8	2	5	11	3	1	1	2	5	1	.....	.....	7	1.34	34.1
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.71	754.7	29.98	761.4	77.9	25.5	45.4	.....	7	14	6	3	.....	1	.....	.....	.....	.....	.....	0.25	6.3
Mont-Louis *t*	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.98	634.0	29.83	757.6	68.4	20.2	49.0	3	2	4	3	4	4	2	.....	.....	.....	.....	.....	2.19	55.7
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.86	758.5	29.98	761.6	78.8	26.0	62.2	6	.....	.....	.....	3	13	7	1	1	.....	.....	0	0.08	2.1
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.21	741.9	29.97	761.3	66.9	19.4	64.8	1	4	5	10	11	.....	.....	.....	.....	.....	.....	7	1.97	50.0
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.92	759.9	30.09	764.3	70.2	21.2	60.2	4	4	8	8	1	.....	3	3	.....	.....	.....	8	1.83	46.5
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.92	759.9	30.02	762.6	79.9	26.6	44.8	6	9	.....	2	3	7	2	2	.....	.....	.....	4	1.20	30.5
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.43	544.2	.....	.....	48.2	9.0	.....	3	2	7	11	3	4	.....	1	.....	.....	.....	5	2.38	60.4
Privas [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	29.00	730.6	30.04	762.9	72.1	22.3	51.6	15	2	1	.....	13	.....	.....	.....	.....	.....	.....	3	1.18	30.0
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.24	641.2	.....	.....	50.0	10.0	90.5	3	2	11	6	.....	5	2	2	.....	.....	.....	3	5.69	144.5
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	30.04	763.0	30.08	764.0	73.4	23.0	91.8	2	1	10	9	.....	2	1	5	1	.....	.....	5	7.52	191.0
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.84	758.0	30.05	763.3	70.2	21.2	67.5	2	6	14	2	2	1	3	1	.....	.....	.....	5	2.30	58.4
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.97	710.5	30.05	763.3	68.7	20.4	62.3	1	13	9	1	.....	1	2	1	3	.....	.....	4	2.48	63.0
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.96	761.0	30.01	762.2	66.2	19.0	69.8	2	4	15	3	3	.....	...	4	.....	.....	.....	6	6.78	172.2
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.84	758.0	30.01	762.2	67.5	19.7	62.0	4	5	4	10	4	2	.....	2	.....	.....	.....	3	2.32	58.9
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.42	747.2	30.14	765.6	76.6	24.8	53.0	3	11	9	1	1	5	.....	1	.....	.....	.....	4	2.26	57.3
Tours	N. 47 24	E. 0 41	0.11 p.m.	164	50	29.86	758.4	30.04	763.0	70.5	21.4	57.5	3	2	2	19	.....	.....	.....	5	.....	.....	.....	5	1.16	29.6
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.52	749.9	30.02	762.4	66.6	19.2	63.4	6	5	6	7	2	1	.....	4	.....	.....	.....	7	3.40	86.3
Sub-Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	29.92	760.0	30.21	767.4	67.1	19.5	64.0	3	4	5	10	3	4	.....	2	.....	.....	.....	8	2.54	64.5
GERMAN.																										
Ansbache	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.54	725.0	29.96	760.9	64.0	17.8	62.5	.....	5	10	8	.....	1	.....	4	3	.....	.....	6	3.83	97.3
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.11	739.4	29.97	761.1	65.8	18.8	63.2	1	5	10	9	2	.....	.....	2	2	.....	.....	6	3.84	97.6
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.65	753.1	29.82	757.5	67.1	19.5	61.2	2	4	7	11	2	3	2	...	.....	.....	.....	8	2.63	66.8
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.38	740.3	29.91	759.7	60.4	19.1	60.3	.....	5	12	8	2	3	.....	.....	1	.....	.....	7	3.10	78.8
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.55	750.5	29.98	761.4	67.6	19.8	63.7	1	2	2	19	.....	2	2	2	1	.....	.....	8	4.97	126.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.17	741.0	29.89	759.1	65.1	18.4	65.8	.....	9	7	6	7	1	1	.....	.....	.....	.....	7	3.65	92.6
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.58	751.4	29.94	760.4	68.4	20.2	64.7	1	5	3	17	3	2	.....	.....	.....	.....	.....	7	2.87	72.9
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.60	726.3	30.00	761.9	65.7	18.7	70.4	1	1	11	9	6	2	.....	1	.....	.....	.....	6	5.92	150.4
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.73	755.1	29.82	757.4	63.0	17.2	71.6	.....	6	6	10	5	2	1	.....	1	.....	.....	8	3.56	90.3
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.76	755.8	29.77	756.2	63.7	17.6	71.8	2	5	9	8	4	1	2	.....	.....	.....	.....	7	3.17	80.6
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.48	748.9	29.90	759.4	65.7	18.7	65.0	.....	9	10	7	2	1	2	.....	.....	.....	.....	8	3.06	77.8
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.67	753.6	29.85	758.2	65.3	18.5	71.7	.....	3	10	9	5	1	3	.....	.....	.....	.....	7	2.49	63.3
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.78	759.3	29.82	757.5	68.4	20.2	67.5	.....	8	4	13	4	1	1	.....	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.20	716.3	30.06	763.6	64.4	18.0	59.8	1	16	4	2	.....	.....	.....	6	2	.....	.....	6	5.32	135.2
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.78	756.4	29.80	756.8	68.0	20.0	66.2	4	2	2	11	1	1	3	7	.....	.....	.....	6	2.27	57.7
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.40	746.8	29.93	760.1	67.6	19.8	66.5	2	1	11	9	4	.....	1	2	1	.....	.....	6	3.30	83.8
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	29.03	737.4	29.90	759.4	67.3	19.6	61.3	8	2	14	4	.....	.....	2	1	.....	.....	.....	6	2.48	63.1
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.78	756.3	29.80	757.0	64.0	17.8	76.0	6	1	11	7	4	2	.....	.....	.....	.....	.....	7	3.72	94.4
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.49	749.1	29.86	758.4	86.7	30.4	.....	2	.....	1	14	2	1	.....	11	.....	.....	.....	4	1.89	48.1
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.55	750.6	29.95	760.7	76.6	24.8	49	1	.....	3	5	9	3	7	1	2	.....	.....	6	5.40	137.2
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.43	747.5	29.93	760.1	79.3	26.3	45	1	2	1	6	6	8	6	1	.....	.....	.....	4	3.98	101.0
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.82	757.5	29.93	760.2	78.3	25.7	47	.....	1	5	2	3	7	9	4	.....	.....	.....	4	3.30	83.8
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.04	737.5	29.91	759.7	77.4	25.2	48	4	7	1	2	7	.....	7	3	.....	.....	.....	4	1.89	48.1
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.73	755.1	29.94	760.5	77.2	25.1	57	2	1	.....	15	3	10	.....	.....	.....	.....	.....	3	1.13	28.8
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.06	712.6	29.91	759.8	75.6	24.2	42	2	11	6	.....	.....	3	5	4	.....	.....	.....	1	0.01	0.2
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.87	758.8	29.92	760.0	77.2	25.1	57	5	.....	1	3	.....	5	9	8	.....	.....	.....	4	3.13	79.4
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.69	754.0	29.93	760.2	81.0	27.2	40	2	11	4	11	1	.....	.....	2	.....	.....	.....	4	3.44	87.4
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.81	757.2	29.89	759.3	78.3	25.7	64	1	5	14	6	2	.....	.....	3	.....	.....	.....	4	0.81	20.6
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.77	756.2	29.94	760.5	83.7	28.7	40	3	.....	8	17	2	.....	.....	.....	1	.....	.....	3	1.04	26.5
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.68	753.9	29.92	760.0	80.4	26.9	47	3	3	2	6	3	.....	6	8	.....	.....	.....	2	0.26	6.6
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.08	738.7	29.93	760.3	82.9	28.3	72	.....	3	7	16	4	1	.....	.....	.....	.....	.....	3	0.42	10.8
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.76	750.0	29.95	760.8	82.0	27.8	46	.....	15	1	.....	5	10	.....	.....	.....	.....	.....	1	0.02	0.4
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.74	755.5	29.99	761.7	81.3	27.4	50	1	7	2	.....	.....	.....	2	19	.....	.....	.....	2	0.03	0.7
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.89	759.1	29.93	760.2	81.9	27.7	61	5	1	1	.....	6	3	2	13	.....	.....	.....	2	0	0
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.45	748.0	29.95	760.8	81.1	27.3	54.4	.....	.....	4	18	2	5	2	.....	.....	.....	.....	3	0.30	7.6
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.25	565.2	.....	.....	46.8	8.2	57.2	1	.....	9	7	1	2	6	5	.....	.....	.....	6	5.16	131.0
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.30	566.3	.....	.....	50.9	10.5	67.2	14	2	.....	.....	.....	.....	8	7	.....	.....	.....	6	2.27	57.8
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.61	752.0	29.66	753.2	83.2	28.4	78	.....	.....	15	16	.....	..	.....	.....	.....	.....	.....	7	0.92	23.4
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.14	740.2	29.61	752.1	85.9	29.9	61	.....	.....	5	23	2	1	.....	.....	.....	.....	.....	6	4.52	114.8
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.71	754.6	29.75	755.6	81.5	27.5	80	.....	6	20	5	.....	.....	.....	.....	.....	.....	.....	8	3.21	81.5
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.88	708.2	29.74	755.3	76.7	24.8	70	.....	3	17	11	.....	.....	.....	.....	.....	.....	.....	9	0.93	23.6
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.48	748.8	29.76	755.8	88.4	31.3	51	5	16	4	2	.....	1	1	2	.....	.....	.....	9	3.52	89.4
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.24	717.3	29.69	754.0	85.3	29.6	53	1	9	14	5	.....	.....	.....	2	.....	.....	.....	9	0.35	8.9
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.24	691.9	29.80	756.8	70.9	21.6	86	.....	3	18	10	.....	.....	.....	.....	.....	.....	.....	8	6.25	158.8
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	28.76	730.6	29.48	748.8	92.0	33.3	59	1	1	13	3	.....	2	2	2	7	.....	.....	3	9.10	231.1
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.62	727.0	29.50	749.3	87.5	30.8	70	2	8	6	1	.....	4	5	.....	5	.....	.....	7	10.21	259.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for August, 1882. 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.
INDIAN.—Cont'd.	° ′	° ′																								
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	28.99	736.2	29.54	750.2	87.7	30.9	68	.....	3	11	5	.....	.....	5	5	2	.....	.....	5	4.44	112.8
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.59	726.1	29.62	752.3	84.1	28.9	65	1	7	8	4	2	.....	.....	2	7	.....	.....	8	1.85	47.0
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1351	412	28.28	718.2	29.62	752.3	81.1	27.3	74	4	14	7	.....	2	.....	.....	.....	4	.....	.....	8	11.00	279.4
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.18	741.1	29.55	750.5	86.6	30.3	72	.....	2	2	3	.....	.....	2	2	20	.....	.....	6	9.42	239.3
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.24	742.7	29.55	750.5	85.2	29.6	78	.....	1	.....	5	.....	3	4	8	10	.....	.....	8	10.26	260.6
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.40	746.8	29.58	751.4	84.2	29.0	78	1	3	6	4	1	2	10	2	2	.....	.....	8	12.96	329.2
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.60	701.0	29.58	751.4	79.3	26.3	80	3	5	5	3	3	5	2	1	4	.....	.....	10	14.58	370.3
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.54	750.2	29.62	752.3	83.1	28.4	80	.....	1	6	6	9	1	.....	.....	8	.....	.....	7	16.11	409.2
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.58	751.2	29.60	751.8	81.7	27.6	87	4	2	1	6	6	6	2	2	2	.....	.....	9	10.87	276.1
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	118	36	29.48	748.8	29.60	751.8	81.2	27.3	87	.....	.....	.....	3	4	2	1	3	18	.....	.....	8	18.98	482.1
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.57	751.0	29.66	753.3	80.5	26.9	87	.....	.....	.....	5	8	15	2	.....	1	.....	.....	8	0.46	11.7
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.27	743.5	29.60	751.9	84.4	29.1	82	.....	1	3	13	2	1	2	9	.....	.....	.....	8	15.13	384.3
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.15	715.1	29.57	751.0	86.2	30.1	63	1	6	11	7	.....	1	2	3	.....	.....	.....	6	3.61	91.7
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	30.03	762.7	.....	.....	81.4	27.4	55	.....	.....	.....	.....	13	17	1	.....	.....	.....	.....	4	0.31	7.9
JAPANESE.																										
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.88	759.0	29.92	759.9	72.1	22.3	84.0	6	3	4	.....	7	1	.....	.....	10	2211	3558	5	6.29	159.5
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.90	759.0	29.91	759.7	69.0	20.6	87	3	3	3	1	1	10	2	7	2400	3862	5	5.02	127.4
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.74	755.2	29.90	759.5	75.6	24.2	81.8	9	5	1	4	3	3	6	.....	.....	3924a	6315a	6	4.90	124.4
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.62	752.3	29.81	757.2	77.7	25.4	81.4	2	3	1	4	3	3	6	5	4	4090	7550	4	10.09	256.3
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	58	18	30.00	762.1	30.07	763.8	65.7	18.8	94.2	3	.....	.....	2	10	3	1	1	11	.....	.....	7	1.51	38.4
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.87	758.7	29.91	759.6	76.1	24.5	80.6	5	.....	2	1	2	8	2	6	5	.....	.....	6	4.36	110.8
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	29.92	759.9	29.94	760.3	74.1	23.4	86.0	4	1	1	4	12	3	3	1	2	7105	11434	7	8.19	208.0
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.83	757.7	29.84	757.9	79.2	26.1	80.8	4	1	7	1	1	.....	10	6	1	4102	6601	7	2.55	64.8
Sapporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	68.4	20.2	88	2	6	.....	2	4	13	.....	.....	4	6309	10153	6	3.70	93.9
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.88	759.0	29.95	760.9	74.7	23.7	88.0	1	.....	1	.....	19	2	6	1	1	6096	9702	6	4.27	108.4
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.84	758.0	29.89	759.3	77.1	25.1	80.4	2	.....	1	2	9	.....	5	2	10	5848a	9411a	6	3.46	87.8
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.96	761.0	30.15	765.8	72.2	22.3	64.8	.....	.....	1	1	.....	2	23	4	.....	.....	.....	5	1.53	38.9
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.71	602.3	29.93	760.3	59.0	15.0	89	1	.....	.....	1	.....	1	2	9	17	.....	.....	4	10.97	278.6
Leon	N. 21 07	W. 101 35	5.22 a.m.	5902	1799	24.37	618.9	30.04	762.9	59.4	15.2	92	6	11	.....	.....	1	3	3	7	.....	.....	.....	7	10.05?	252.7?
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.74	755.4	29.87	758.7	77.2	25.2	81	2	.....	.....	2	2	4	7	14	.....	.....	.....	8	6.99	177.6
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.14	587.8	30.16	766.0	54.7	12.6	86	1	4	2	1	.....	.....	.....	.....	23	.....	.....	6	5.16	131.0
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.22	615.2	30.76?	768.8?	59.5	15.3	59	1	.....	.....	.....	4	17	4	5	.....	.....	.....	3	5.87	149.1
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.97	608.9	29.93	760.1	61.2	16.2	91	.....	2	3	1	.....	.....	.....	.....	25	.....	.....	6	7.70	195.2
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.52?	596.1?	30.24?	767.2?	54.4	12.0	88	2	.....	.....	.....	.....	.....	.....	5	24	.....	.....	8	19.44?	466.8?
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.58	573.4	30.15	765.9	56.7	13.7	80	4	4	4	3	.....	.....	5	11	.....	.....	.....	5	1.56	39.7
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.93	760.2	29.93	760.2	64.9	18.3	.....	3	3	10	8	3	1	2	1	.....	.....	.....	.....	3.58	91.0
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.79	756.6	29.84	758.0	63.1	17.3	.....	6	10	4	5	5	1	.....	.....	.....	.....	.....	.....	5.66	143.9
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.85	758.3	29.85	758.3	61.9	16.6	.....	3	6	7	5	7	2	1	.....	.....	.....	.....	.....	4.09	104.0
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.90	759.5	29.90	759.5	64.9	18.3	70.5	2	5	8	9	3	2	.....	2	.....	.....	.....	.....	2.76	70.2
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.86	758.4	29.91	759.6	65.3	18.5	72.2	2	5	9	6	5	3	.....	1	.....	.....	.....	6	4.28	108.6
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.61	752.1	29.67	753.7	61.5	16.4	71.5	5	8	4	3	10	1	.....	.....	.....	.....	.....	6	7.52	190.9
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.61	752.1	29.65	753.1	63.0	17.2	68.6	3	3	1	8	6	4	2	1	3	.....	.....	7	3.31	84.1
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.50	749.3	29.64	752.9	68.9	20.5	63.9	6	.....	.....	11	6	2	2	4	.....	.....	.....	6	3.80	96.5
Gjaesvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.66	753.4	29.69	754.0	57.2	14.0	.....	4	.....	3	3	1	3	4	3	10	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.61	752.0	29.65	753.2	60.4	15.8	73.7	4	1	1	10	1	.....	3	5	6	.....	.....	7	6.59	167.4
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	73.8	23.2	76.4	5	1	7	2	.....	12	3	1	.....	.....	.....	3	0	0
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.05	737.8	29.99	761.7	87.8	31.0	28.8	2	3	5	3	5	4	2	6	1	.....	.....	2	0	0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.07	763.8	30.16	766.0	74.1	23.4	64.9	.....	.....	.....	27	.....	3	.....	.....	1	.....	.....	5	0	0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.75	755.6	30.10	764.5	74.8	23.8	51.6	15	.....	.....	10	4	.....	.....	2	.....	.....	.....	2	0.04	0.9
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.23	767.8	30.30	769.6	75.9	24.4	64.7	6	2	1	3	2	6	.....	9	2	.....	.....	4	0.28	7.2
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.83	757.6	30.03	762.8	70.5	21.4	82.4	5	7	10	.....	.....	4	1	2	2	.....	.....	3	0.02	0.6
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.45	646.3	30.01	762.2	67.5	19.7	42.3	1	11	.....	.....	.....	8	10	1	.....	.....	.....	2	1.27	32.3
RUSSIAN.																										
Akmolinski *a*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.68	728.5	29.70	754.4	73.9	23.3	41.7	5	4	6	7	1	.....	1	3	4	.....	.....	5	0.17	4.4
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.78	756.3	29.80	756.8	70.0	21.1	63.7	3	4	6	.....	3	6	5	2	2	.....	.....	7	0.79	20.0
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	29.94	760.5	29.86	758.4	84.7	29.3	40.8	3	.....	4	2	3	11	5	3	.....	.....	.....	4	0.30	9.2
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.20	743.3	29.74	755.4	70.0	21.1	54.1	2	8	1	5	2	1	2	5	5	.....	.....	6	1.73	43.9
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.54	750.4	29.78	756.3	71.1	21.7	64.5	3	1	2	7	8	4	3	3	.....	.....	.....	6	2.15	54.5
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.88	733.6	29.81	757.2	66.0	18.9	55.5	6	6	8	5	1	1	.....	3	1	.....	.....	7	1.34	34.1
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.58	751.3	29.84	757.8	77.2	25.1	43.4	3	4	4	5	3	2	2	3	5	.....	.....	6	0.96	24.5
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.77	756.1	29.79	756.6	79.0	26.1	68.6	3	4	4	1	4	9	1	4	1	.....	.....	4	3.87	98.4
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.16	740.7	29.77	756.1	70.9	21.6	60.0	4	6	6	2	6	1	4	2	.....	.....	.....	6	.....	.....
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.57	751.1	29.77	756.1	80.2	26.8	52.0	1	2	5	8	5	3	4	3	.....	.....	.....	6	3.83	97.2
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.32	744.8	29.77	756.1	74.7	23.7	55.0	1	5	.....	7	11	2	1	1	3	.....	.....	5	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.78	756.4	29.85	758.2	80.2	26.8	52.2	7	2	4	3	4	.....	.....	2	9	.....	.....	3	2.12	53.8
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.67	753.5	29.81	757.1	76.5	24.7	74.8	.....	.....	.....	2	.....	.....	.....	.....	29	.....	.....	4	6.61	167.9
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.76	755.8	29.77	756.2	72.5	22.5	56.9	4	7	1	4	6	5	2	2	.....	.....	.....	6	3.08	78.1
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.13	739.8	29.74	755.5	77.5	25.3	43.7	5	11	4	2	1	1	2	2	3	.....	.....	5	0.98	25.0
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.20	716.4	29.67	753.5	86.4	30.2	42.2	1	1	.....	.....	.....	.....	.....	.....	29	.....	.....	0	0	0
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.44	722.4	29.76	755.9	91.6	33.1	34.0	2	7	.....	2	14	3	1	.....	2	.....	.....	3	0.14	3.6
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.80	756.9	29.87	758.6	68.5	20.3	88.0	4	.....	2	.....	1	11	1	.....	12	.....	.....	6	1.89	47.9
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.41	747.0	29.82	757.4	67.3	19.6	68.6	5	5	4	11	3	.....	1	1	1	.....	.....	8	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.40	746.7	29.80	756.9	71.1	21.7	63.4	2	4	2	9	6	2	1	2	3	.....	.....	6	1.29	32.8
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.62	752.4	29.90	759.5	63.5	17.5	75.3	2	2	13	5	2	2	1	2	2	.....	.....	5	1.44	36.6
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.78	756.4	57.6	14.2	93.4	2	8	8	7	4	1	1	.....	.....	.....	.....	10	4.30	109.2
North Unst	N. 60 51	W. 0 53	0.04 p.m	230	70	.....	.....	29.68	753.9	.....	.....	.....	3	8	6	3	7	3	.....	1	.....	.....	.....	9	blank	blank
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.90	759.4	30.00	762.0	79.2	26.2	67	.....	.....	.....	7	7	9	7	1	.....	1589	2557	3	1.77	45.0
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.08	764.1	30.14	765.6	76.3	24.6	62	1	26	.....	.....	1	2	.....	1	.....	1977	3182	6	1.58	40.1
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.17	690.2	30.02	762.4	75.0	23.9	44	3	.....	2	6	2	.....	3	15	.....	5196	8362	2	0	0
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.85	707.4	29.95	760.7	86.5	30.3	37.0	5	3	1	13	5	1	1	2	.....	6186	9956	1	0	0
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.87	758.8	30.00	761.9	79.5	26.4	58.0	.....	.....	.....	4	1	13	6	7	.....	1637	2634	3	0.03	0.7
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.35	745.2	30.21	767.2	62.5	16.9	74	12	13	.....	.....	.....	.....	4	2	.....	3098	4988	5	0.77	19.5
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.19	741.4	30.06	763.5	72.5	22.5	63.5	4	3	.....	8	.....	.....	1	6	9	5479	8817	6	0.94	24.0
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.99	761.9	30.06	763.6	78.3	25.7	84.6	.....	1	1	.....	.....	13	15	1	.....	.....	.....	4	4.23	107.4
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.81	757.2	29.87	758.6	80.6	27.0	83.5	4	.....	2	15	1	2	5	2	.....	.....	.....	5	12.06	306.3
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.97	761.1	30.06	763.5	80.2	26.8	52.1	.....	1	20	.....	3	.....	7	.....	.....	.....	.....	2	0	0
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.97	761.2	30.06	763.5	81.1	27.3	89	.....	.....	.....	1	3	9	2	.....	16	.....	.....	3	5.52	140.2
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.69	754.1	29.83	757.7	80.3	26.8	83.5	3	18	2	.....	4	4	.....	.....	.....	.....	.....	7	2.83	71.9
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.69	754.0	29.72	755.0	66.6	19.2	77	2	1	1	7	10	3	3	2	2	.....	.....	6	2.57	65.3
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.66	753.4	29.71	754.7	68.2	20.1	68	1	5	2	11	4	3	2	2	1	.....	.....	6	5.56	141.2
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.64	752.8	29.69	754.1	67.5	19.7	66	.....	3	.....	3	12	7	4	.....	2	.....	.....	5	2.41	61.2
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.52	749.9	29.70	754.4	69.4	20.8	57	3	1	1	6	9	5	5	.....	1	.....	.....	5	3.63	92.2
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.63	752.6	29.69	754.1	67.6	19.8	67	3	5	7	8	4	2	2	.....	.....	.....	.....	4	2.17	55.2
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.67	753.6	29.76	755.8	68.7	20.4	64.2	3	5	1	4	10	.....	.....	2	.....	.....	.....	7	2.79	70.9
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.64	727.5	30.03	762.7	69.1	20.6	54.6	9	4	2	3	8	2	1	2	.....	.....	.....	5	3.69	93.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Mean Barometer. Actual. Inch.	Mean Barometer. Actual. Mill.	Mean Barometer. Reduced. Inch.	Mean Barometer. Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Wind. Total Movement. Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Total Precipitation. Mill.
TURKISH.	° ′	° ′																								
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.89	759.1	79.9	26.6	54.	13	.....	.....	2	1	1	.....	14	.....	.....	.....	3	2.23	56.7
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.07	763.7	81.3	27.4	.....	.....	5	15	7	4	.....	.....	.....	.....	.....	.....	1	0	0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.81	757.2	86.4	30.2	57.3	.....	5	22	4	.....	.....	.....	.....	.....	.....	.....	3	0	0
UNITED STATES.																										
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	29.98	761.5	30.06	763.5	69.1	20.6	70.1	6	2	1	1	18	.....	1	2	.....	3513	5654	5	1.38	35.1
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.35	745.5	29.99	761.7	62.5	16.9	91.5	1	9	7	1	4	.....	8	.....	1	5869	9445	6	6.60	167.6
Apache, Fort	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.10	637.5	29.82	757.4	59.9	15.5	76.1	.....	.....	.....	.....	.....	.....	25	6	.....	3942	6344	4	7.36	186.9
Assinnaboine, Ft.	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.21	691.1	29.96	761.0	58.7	14.8	59.2	1	.....	1	14	5	3	1	6	.....	5609	9027	4	0.73	18.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.92	734.6	30.07	763.8	70.5	21.4	88.9	2	5	6	3	2	2	7	4	.....	4786	7702	7	5.86	148.8
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.03	762.7	30.04	763.0	70.8	21.6	84.4	7	3	3	5	3	1	6	2	1	6540	10525	6	14.87	377.7
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.90	759.4	30.09	764.3	74.4	23.6	85.0	1	1	2	3	4	1	2	5	12	2234	3595	6	4.72	119.9
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.03	762.7	30.08	764.0	70.0	21.1	79.6	3	3	2	2	6	1	8	6	.....	3522	5668	6	5.10	129.5
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.03	762.7	30.05	763.3	71.5	21.9	82.2	4	1	8	4	3	2	6	3	.....	8522	13715	6	8.21	208.5
Bennett, Fort	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.46	722.9	30.00	762.0	61.1	16.2	81.8	3	6	2	1	1	4	1	.....	13	4257*b*	6851*b*	4	0.32	8.1
Benton, Fort	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.24	691.9	30.03	762.7	59.5	15.3	66.3	.....	3	5	6	.....	1	1	1	14	3286	5288	3	0.27	6.9
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.85	758.2	29.87	758.7	52.4	11.3	.....	.....	1	.....	8	19	1	1	.....	1	7165	11531	9	1.07	27.2
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1694	516	28.22	716.8	29.97	761.2	61.5	16.4	78.8	4	4	.....	.....	1	2	12	2	6	5889	9477	2	0.30	7.6
Block Id	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.03	762.7	30.06	763.5	68.1	20.1	82.9	4	.....	4	9	1	2	1	6	4	5732	9225	4	1.48	37.6
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.19	690.6	29.94	760.5	58.5	14.7	60.8	4	11	13	1	1	.....	.....	1	.....	2720	4377	1	0	0
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.90	759.4	30.05	763.3	65.9	18.8	75.6	.....	8	10	7	2	1	1	1	1	5382	8661	4	1.46	37.1
Brownsville	N. 26 00	W. 97 30	5.38 a.m.	43	13	29.93	760.2	29.97	761.2	77.2	25.1	89.5	.....	.....	.....	.....	9	9	.....	1	12	4084	6572	5	2.21	56.1
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.30	744.2	30.02	762.5	65.8	18.8	79.7	1	1	.....	4	11	3	.....	11	.....	6247	10053	7	2.04	51.8
Buford, Fort	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.05	712.5	29.99	761.7	58.4	14.7	72.0	2	2	3	.....	3	.....	12	6	3	6243	10047	2	0.16	4.1
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.74	755.4	30.03	762.7	65.6	18.7	76.5	2	2	.....	.....	19	2	2	3	1	4504	7248	6	3.49	88.6
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.67	753.6	30.06	763.5	70.8	21.6	86.8	4	.....	6	7	4	.....	1	6	3	3742	6022	5	3.46	87.9
Campc	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.40	695.9	29.90	759.4	53.7	12.1	77.7	.....	.....	14	3	9	.....	3	2	.....	3549	5712	2	0.53	13.5
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.02	762.5	30.04	763.0	74.6	23.7	83.9	6	2	3	7	5	2	4	2	.....	6618	10650	6	4.44	112.8
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.02	762.5	30.05	763.3	71.1	21.7	82.7	4	4	1	3	5	3	6	5	.....	7741	12458	6	10.29	261.4
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.44	747.8	.....	.....	52.4*k*	11.3*k*	92.8*k*	26	.....	.....	.....	1	2	.....	.....	2	12842	20667	2	0	0
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.06	763.5	30.08	764.0	78.9	26.1	82.4	3	5	4	1	4	2	5	7	.....	5622	9048	5	13.72	348.5
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.21	741.9	30.00	762.0	66.2	19.0	83.3	4	3	5	4	6	4	1	4	.....	5605	9020	5	4.87	123.7
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.00	762.0	30.05	763.3	77.9	25.5	82.4	1	2	11	7	1	.....	.....	8	1	5312	8549	5	9.32	236.7
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.20	741.7	30.03	762.7	72.7	22.6	80.0	5	.....	4	9	2	4	2	5	.....	3031	4878	6	4.34	110.2
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.26	743.2	30.07	763.8	69.5	20.8	89.9	2	3	4	8	4	1	1	3	5	3065	4932	5	6.63	168.4
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	24.20	614.7	29.90	759.4	52.1	11.2	62.0	3	15	8	.....	.....	.....	.....	.....	5	4767	7672	3	0.23	5.8
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.29	744.0	29.98	761.5	67.9	19.9	84.9	4	2	3	10	2	1	4	5	.....	4997	8042	6	4.96	126.0
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.02	762.5	30.04	763.0	72.6	22.6	87.0	6	5	.....	2	5	6	3	3	1	5287	8508	6	4.23	107.4
Cincinnati	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.40	746.7	30.04	763.0	69.9	21.1	82.4	1	4	1	4	6	11	2	1	1	3140	5053	6	5.75	146.0
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.30	744.2	30.02	762.5	66.0	18.9	81.2	1	2	.....	6	10	10	2	.....	.....	5692	9160	6	3.16	80.3
Coleman City *f*	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.26	717.8	30.00	762.0	68.6	20.3	88.9	1	.....	.....	5	4	6	3	2	4	3565	5737	7	5.52	140.2
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.19	741.4	30.02	762.5	66.0	18.9	84.1	2	2	2	8	3	6	4	2	2	4146	6672	6	3.14	79.8
Concho, Fort	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.12	714.2	29.98	761.5	69.0	20.6	86.7	.....	1	.....	1	3	1	5	6	14	4343	6989	5	14.03	356.4
Custer, Fort	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.87	682.5	29.93	760.2	59.8	15.4	61.2	7	3	3	.....	9	3	2	3	1	4577	7366	3	0.11	2.8
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.37	746.0	30.00	762.0	67.1	19.5	84.5	3	7	2	6	2	.....	2	8	1	4959	7981	5	2.29	58.2
Davis, Fort	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.28	642.1	29.93	760.2	63.4	17.4	80.2	3	.....	.....	4	2	1	.....	2	19	3952	6360	4	9.17	232.9
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.30	718.8	30.01	762.2	53.1	11.7	72.2	2	.....	.....	11	2	5	.....	4	7	2773	4463	1	0.14	3.6
Deadwood *a*	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.47	646.9	29.90	759.4	59.2	15.1	68.5	6	2	3	9	2	1	5	2	.....	3666	5900	3	1.97	50.0
Decatur *a*	N. 33 10	W. 97 30	5.38 a.m.	1129	344	.....	.....	.....	.....	72.6	22.6	64.3	2	.....	.....	2	3	19	1	3	.....	4390	7065	3	4.63	117.6
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.03	762.7	30.05	763.3	69.9	21.1	90.1	3	2	3	5	5	2	2	9	.....	8804	14168	5	5.82	147.8
Denison *d*	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.23	742.4	30.01	762.2	70.0	21.1	88.1	8	1	1	2	5	3	.....	1	6	3197	5145	4	2.45	62.2
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.87	631.7	29.89	759.2	61.5	16.4	57.8	3	4	1	3	18	1	.....	.....	1	4440	7145	2	1.20	30.5
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.15	740.4	30.03	762.7	64.4	18.0	84.6	10	.....	3	5	3	1	.....	2	7	3623	5830	5	3.14	79.8
Detroit	N. 42 21	W. 83 07	6.36 a.m.	661	201	29.31	744.5	30.00	762.0	67.0	19.4	86.1	4	1	2	6	4	1	3	5	5	5416	8716	7	4.43	112.5
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.48	698.0	29.96	761.0	64.5	18.1	79.7	6	2	.....	2	14	3	.....	1	3	7166	11532	3	1.07	27.2
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.32	744.7	30.01	762.2	65.4	18.6	84.9	3	6	1	5	3	2	.....	4	7	3190	5134	5	2.29	58.2
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.29	744.0	30.01	762.2	61.3	16.3	84.5	2	5	3	4	.....	.....	.....	11	6	5713	9194	.....	3.47	88.1
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.21	741.9	30.00	762.0	74.2	23.4	85.9	.....	3	.....	1	1	16	....	1	9	3680	5922	4	6.04	153.4
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.35	643.9	29.90	759.4	53.8	12.1	55.4	9	.....	.....	10	6	.....	.....	.....	6	6884	11078	1	0.07	1.8
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	29.93	760.2	30.00	762.0	59.6	15.3	80.0	5	3	2	8	7	.....	.....	3	3	3811	6133	3	1.41	35.8
Elliott, Fort	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.28	692.9	29.92	760.0	61.8	16.6	76.0	2	7	.....	.....	1	12	.....	2	7	5236	8426	3	1.55	39.4
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.30	668.0	29.90	759.4	66.5	19.2	76.1	.....	6	.....	.....	.....	.....	8	12	5	3729	6001	2	2.82	71.6
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.31	744.5	30.02	762.5	67.3	19.6	82.4	.....	1	1	4	7	5	1	2	10	3666	5803	7	4.14	105.2
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.35	745.5	29.99	761.7	61.1	16.2	88.8	13	5	1	2	2	1	.....	2	5	5499	8850	7	4.59	116.6
Fredericksburg *b*	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.31	719.1	30.02	762.5	72.8	22.7	87.8	.....	2	1	3	2	.....	1	1	19	2612	4204	6	3.16	80.3
Galveston	N. 29 18	W. 94 50	5.49 a.m.	48	15	29.97	761.2	30.02	762.5	79.7	26.5	84.8	2	1	6	6	9	1	4	2	.....	6608	10634	7	9.85	250.2
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.33	745.0	29.98	761.5	66.2	19.0	87.6	.....	4	1	5	4	2	4	11	.....	6150	9897	6	2.77	70.4
Grant, Fort	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.28	642.1	29.85	758.2	65.5	18.6	76.3	2	1	1	1	1	2	14	6	3	4064	6540	4	4.73	120.1
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.02	762.5	30.04	763.0	77.4	25.2	84.0	3	2	4	5	2	4	2	9	.....	9694	15601	6	6.95	176.5
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.88	657.3	29.97	761.2	64.0	17.8	49.5	.....	.....	15	9	3	.....	.....	.....	4	4367	7028	2	0.15	3.8
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.08	738.6	30.08	764.0	72.6	22.6	81.2	4	1	.....	.....	10	4	1	2	9	4654	7490	4	4.76	120.9
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.65	727.7	29.99	761.7	59.6	15.3	85.7	1	8	1	1	1	10	5	4	.....	5661	9110	2	1.44	36.6
Indianapolis	N. 39 47	W. 86 00	6.24 a.m.	753	229	29.24	742.7	30.01	762.2	68.7	20.4	83.9	3	2	1	11	3	4	1	2	4	2985	4804	5	4.51	114.6
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.98	761.5	30.01	762.2	78.2	25.7	87.5	3	2	1	5	10	3	1	3	3	6716	10808	5	9.02	229.1
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.88	733.5	30.00	762.0	69.5	20.8	87.5	4	.....	1	6	4	4	5	1	6	3718	5984	3	3.90	99.1
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.03	762.7	30.07	763.8	79.0	26.1	81.9	1	.....	1	13	2	1	.....	3	10	4098	6595	4	5.65	143.5
Keogh, Fort	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.51	698.7	29.94	760.5	61.7	16.5	63.5	5	2	1	4	.....	6	2	7	4	6571	10575	3	Imap.	Imap.
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.35	745.5	29.98	761.5	68.9	20.5	82.6	5	4	.....	5	3	1	2	2	9	3359	5406	3	3.09	78.5
Key West	N. 24 32	W. 81 48	6.41 a.m.	20	6	30.03	762.7	30.05	763.3	83.6	28.7	74.8	3	1	.....	.....	3	10	5	7	2	4591	7388	4	4.97	126.2
Kittyhawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.04	763.0	30.06	763.5	75.9	24.4	83.6	1	3	4	4	2	3	7	6	1	8456	13608	5	7.48	190.0
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.06	738.1	30.07	763.8	67.5	19.7	94.0	1	.....	2	8	1	2	.....	11	6	3293	5299	7	6.06	153.9
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.24	742.7	29.99	761.7	66.7	19.3	80.1	11	4	.....	.....	9	5	.....	.....	2	4704	7570	6	3.25	82.5
Leavenworth	N. 39 19	W. 94 57	5.10 a.m.	842	256	29.17	740.9	30.03	762.7	66.4	19.1	82.0	5	7	.....	.....	11	1	.....	.....	7	3995	6429	3	0.83	21.1
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.19	741.4	30.00	762.0	63.4	17.4	48.4	1	1	1	.....	2	9	7	3	7	2651	4266	2	0.06	1.5
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.72	754.9	30.03	762.7	71.6	22.0	91.9	4	4	.....	4	3	1	4	2	9	2733	4398	4	3.17	80.5
Los Angeles *g*	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.57	751.1	29.96	761.0	62.2	16.8	81.7	1	1	10	4	2	1	2	2	1	3023	4865	2	0	0
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.46	748.3	30.01	762.2	69.2	20.7	86.7	6	.....	2	5	7	3	1	3	4	4026	6479	5	5.45	138.4
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.37	746.0	30.04	763.0	70.4	21.3	79.6	.....	2	5	4	3	2	1	9	5	1911	3075	6	5.49	139.4
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.04	763.0	30.05	763.3	76.7	24.8	88.2	5	5	8	6	.....	1	1	3	2	7904	12720	6	7.78	197.6
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.02	737.1	30.00	762.0	64.5	18.1	88.6	7	4	3	6	2	1	4	4	.....	5502	8854	6	6.83	173.5
Maginnis Fort *b*	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.68	652.3	.....	.....	60.0	15.6	52.8	5	10	3	.....	.....	3	1	7	.....	6984	11239	3	0.61	15.5
McKavett, Fort *l*	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.82	706.6	30.03	762.7	69.8	21.0	83.9	1	.....	.....	1	9	4	4	.....	7	3589	5776	5	6.14	156.0
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.31	744.5	30.02	762.5	60.7	15.9	83.5	7	7	4	1	1	2	1	4	4	4353	7005	6	3.62	91.9
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.71	754.6	30.04	763.0	72.1	22.3	87.7	4	1	6	.....	4	5	1	4	6	3394	5462	6	3.49	88.6
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.26	743.2	29.99	761.7	65.1	18.4	88.5	8	5	2	8	1	.....	4	3	.....	6740	10847	7	4.21	106.9
Missoula, Fort	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.80	680.7	30.02	762.5	53.7	12.1	72.4	2	5	1	14	2	2	1	3	1	2480	3991	1	0.31	7.9
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.02	762.5	30.06	763.5	75.0	23.9	88.9	4	5	6	7	.....	2	1	6	.....	3462	5571	5	8.76	222.5
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.83	757.7	30.06	763.5	73.7	23.2	90.0	2	3	4	5	3	7	3	1	3	2835	4562	6	3.41	86.6
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.03	737.3	30.00	762.0	60.1	15.6	86.6	4	4	1	.....	5	6	2	4	5	5781	9303	3	2.50	63.5
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.07	738.4	30.07	763.8	65.8	18.8	88.7	2	.....	.....	9	2	2	1	18	13	2841	4572	5	7.72	196.1
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.93	607.8	30.01	762.2	45.2	7.3	86.4	6	15	2	1	.....	1	.....	5	1	17255	27769	3	2.81	71.4
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.47	748.5	30.03	762.7	70.3	21.3	86.2	4	2	6	3	4	2	6	3	1	3277	5275	7	5.47	138.9
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.95	760.7	30.06	763.5	65.4	18.6	80.4	6	2	2	6	3	2	.....	6	4	4307	6931	5	0.26	6.6
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.02	762.5	30.07	763.8	68.5	20.3	78.9	9	1	3	4	6	1	1	.....	6	3843	6185	5	2.10	53.3
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.98	761.5	30.03	762.7	78.1	25.6	85.2	2	3	3	6	4	3	5	2	3	3158	5082	5	9.47	240.5
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.02	762.5	30.07	763.8	68.1	20.1	81.4	4	3	1	10	8	1	.....	3	1	4639	7466	4	1.66	42.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for August, 1882.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																								
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.90	759.4	30.08	764.0	67.9	19.9	82.3	4	1	4	6	3	.....	4	9	.....	5389	8673	4	1.63	41.4
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.02	762.5	30.05	763.3	75.7	24.3	80.7	4	2	4	3	3	4	5	4	2	4151	6680	6	4.53	115.7
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.16	689.9	29.96	761.0	61.8	16.6	78.8	2	2	1	1	4	5	5	6	5	6095	9809	3	1.68	42.7
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	30.05	763.3	30.09	764.3	51.9	11.1	87.8	1	.....	2	4	7	.....	.....	1	16	2258	3634	5	0.81	20.6
Ooglhamie *d*	N. 71 17	W. 156 40	1.41 a.m.	17	5	29.75	755.6	29.77	756.1	37.0	2.8	98.1	3	1	1	4	1	3	8	6	.....	10471	16851	9	1.45	36.8
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.90	734.0	30.04	763.0	66.5	19.2	83.9	9	3	.....	1	10	2	1	.....	5	5251	8450	5	0.95	24.1
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.70	754.4	30.02	762.5	67.6	19.8	74.9	2	.....	2	2	14	9	1	1	.....	4142	6666	6	3.09	78.5
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.51	749.5	30.05	763.3	71.8	22.1	88.6	4	.....	2	5	9	2	3	6	.....	4510	7258	5	5.32	135.1
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.02	762.5	30.05	763.3	76.0	24.4	91.6	2	7	5	3	5	.....	2	5	2	4525	7282	6	18.39	467.1
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	92	28	29.98	761.5	30.08	764.0	69.5	20.8	80.3	1	2	3	5	3	1	3	9	4	3635	5850	6	6.40	162.6
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	18.07	459.0	29.86	758.4	34.4	1.3	76.5	6	5	2	7	2	2	1	3	3	5222	8404	2	3.22	81.8
Ploche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.14	613.1	29.84	757.9	62.7	17.1	55.4	2	7	2	.....	18	.....	.....	.....	2	5089	8190	2	0.95	24.1
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.24	742.7	30.03	762.7	65.3	18.5	86.1	2	4	3	2	5	1	6	6	2	3370	5423	6	4.50	114.3
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.89	708.4	.....	.....	.....	.....	.....	1	4	.....	6	2	11	.....	7	.....	.....	.....	2	0.36	9.1
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.04	763.0	30.05	763.3	78.5	25.8	88.0	3	1	4	8	6	5	2	.....	2	5839	9397	5	6.97	177.0
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.33	745.0	29.99	761.7	64.9	18.3	88.6	.....	2	.....	4	4	3	7	4	7	3638	5855	7	7.36	186.9
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	29.96	761.0	30.02	762.5	66.1	18.9	74.6	5	7	7	9	1	.....	.....	1	1	5081	8177	3	0.66	16.8
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	30.00	762.0	30.07	763.8	55.7	13.2	83.0	3	8	3	.....	1	1	.....	.....	15	3565	5737	5	0.07	1.8
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.86	631.4	29.84	757.9	60.3	15.7	79.5	.....	.....	.....	3	23	1	.....	1	3	3459	5552	2	3.34	84.8
Provincetown	N. 46 03	W. 70 11	7.27 a.m.	26	8	30.02	762.5	30.05	763.3	68.1	20.1	81.5	2	3	3	10	7	1	1	4	.....	5206	8475	4	0.78	19.8
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	30.04	763.0	30.05	763.3	78.7	25.9	83.3	4	.....	1	2	.....	4	10	10	.....	5840	9398	5	3.62	91.9
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.540	759.30	29.900	759.40	67.80	19.90	53.10	11	6	1	.....	5	2	.....	1	5	16890	27180	0	0	0
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.78	756.4	30.02	762.5	77.3	25.2	84.0	1	.....	.....	.....	1	25	3	.....	1	5025	8087	3	4.52	114.8
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.37	746.0	30.02	762.5	63.9	17.7	84.6	1	1	5	13	1	7	.....	1	2	5326	8571	6	2.73	69.3
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.53	750.0	30.07	763.8	52.1	11.2	77.5	1	1	1	.....	.....	1	8	9	10	2596	4178	2	0	0
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	65	20	29.82	757.4	29.89	759.2	60.8	16.0	72.9	1	.....	.....	.....	9	20	1	.....	.....	4477	7205	0	0	0
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.44	747.8	30.02	762.5	68.4	20.2	95.9	4	4	3	3	9	4	.....	2	2	5476	8813	4	2.20	55.9
Saint Paul	N. 44 53	W. 93 05	5.50 a.m.	811	247	29.15	740.4	29.99	761.7	64.6	18.1	86.9	4	7	1	4	3	4	4	3	1	5311	8547	5	2.45	62.2
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.13	739.9	29.98	761.5	56.4	13.6	92.5	.....	4	8	1	.....	4	10	1	3	4947	7901	3	0.42	10.7
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.08	652.3	29.87	758.7	68.1	20.1	50.0	3	.....	.....	.....	2	10	.....	3	13	4476	7203	3	1.61	40.9
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.32	744.7	30.01	762.2	73.6	23.1	89.8	1	1	.....	1	.....	6	5	5	12	2020	4216	7	3.84	97.5
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.85	758.2	29.92	760.0	66.3	19.1	85.7	3	7	5	8	4	1	.....	2	1	4194	6749	1	map.	map.
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.34	745.2	30.00	762.0	68.1	20.1	80.9	1	.....	9	10	3	4	3	1	.....	7359	11843	6	8.02	203.7
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.04	763.0	30.07	763.8	69.9	21.1	82.5	2	1	8	6	.....	.....	6	8	.....	8383	13491	5	2.95	74.9
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.90	759.4	29.97	761.2	54.6	12.6	89.7	.....	.....	3	25	1	.....	.....	.....	2	9160	14741	5	0	0
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7106	2166	23.37	593.6	29.86	758.4	57.5	14.2	64.6	2	1	1	.....	1	3	10	13	.....	6607	10633	3	4.69	119.1
Savannah *b*	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.98	761.5	30.07	763.8	78.4	25.8	79.1	5	3	4	9	4	.....	1	3	.....	4481	7211	5	5.23	132.8
Shaw, Fort	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.45	671.8	29.98	761.5	52.9	11.6	72.3	.....	3	21	5	.....	.....	1	.....	1	4715	7588	1	0.68	17.3
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.79	756.7	30.02	762.5	72.5	22.5	91.6	4	1	1	4	5	5	1	2	8	2754	4432	5	3.97	100.8
Sill, Fort	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.81	731.5	29.99	761.7	67.6	19.8	84.2	18	.....	.....	.....	5	2	2	2	2	5722	9208	4	3.30	83.8
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.36	618.7	29.82	757.4	57.3	14.1	64.9	1	2	2	.....	15	.....	.....	1	10	2017	3246	3	6.00	152.4
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.89	759.2	29.95	760.7	52.5	11.4	87.4	.....	2	.....	5	2	2	4	8	8	5081	8177	6	6.33	160.8
Smith, Fort	N. 35 22	W. 94 24	5.51 a.m.	449	137	29.56	750.8	30.02	762.5	68.9	20.5	89.7	2	1	1	2	1	.....	11	1	12	2960	4764	3	1.34	34.0
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.01	762.2	30.05	763.3	76.6	24.8	83.4	4	8	8	5	1	.....	1	2	2	6748	10860	5	8.33	211.6
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	28.02	711.7	30.02	762.5	55.9	13.3	68.6	1	.....	.....	5	4	2	2	2	15	3794	6106	2	0.14	3.6
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.36	745.7	30.02	762.5	67.8	19.9	85.6	4	5	2	3	6	4	1	3	3	3709	5969	3	3.13	79.5
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.94	760.5	30.07	763.8	66.5	19.2	80.1	5	2	2	.....	18	2	.....	2	.....	3051	4910	4	1.86	47.2
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.63	727.2	30.02	762.5	65.5	18.6	87.0	4	.....	1	4	4	7	2	5	4	4697	7559	3	2.14	54.4
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.57	751.1	30.04	763.0	75.5	24.2	84.0	4	1	5	7	2	8	2	1	1	4159	6693	4	9.53	242.1
Stevenson, Fort	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.18	715.8	29.96	761.0	57.4	14.1	87.9	1	5	3	.....	.....	9	8	4	1	5074	8166	4	0.21	5.3
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.03	686.5	29.97	761.2	64.6	18.1	89.7	.....	2	1	3	11	3	2	1	8	5804	9340	4	7.10	180.3
Thomas, Camp	N. 33 04	W. 110 06	4.49 a.m.	2710	826	27.23	691.6	29.85	758.2	71.2	21.8	77.0	.....	1	8	.....	4	3	2	.....	13	.....	.....	4	2.48	63.0
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	29.99	761.7	30.04	763.0	62.8	17.1	83.4	4	5	2	8	7	.....	3	1	1	5789	9316	2	1.12	28.4
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.32	744.7	29.99	761.7	68.2	20.1	83.1	2	2	3	4	8	6	2	2	2	5272	8484	7	3.73	94.7
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.54	699.5	29.88	758.9	73.0	22.8	80.7	1	.....	.....	1	10	12	3	1	3	2727	4389	4	6.32	160.5
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.68	753.9	30.04	763.0	59.1	15.1	58.1	.....	.....	11	6	1	9	2	1	1	6452	10383	2	0	0
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.04	737.6	29.98	761.5	73.2	22.9	90.0	.....	.....	.....	1	2	13	4	4	7	3112	5008	7	3.23	82.0
Verde, Fort	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	69.9	21.1	62.2	5	12	5	5	1	2	.....	1	.....	.....	.....	3	1.18	30.0
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.80	756.9	30.04	763.0	73.0	22.2	91.8	4	2	1	3	7	5	3	3	3	2596	4177	6	4.42	112.3
Washakie, Fort	N. 42 59	W. 108 43	4.50 a.m.	5580	1702	24.60	624.8	29.94	760.5	54.0	12.2	64.6	.....	10	10	.....	1	1	2	2	5	4254	6846	3	0.25	6.3
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.96	761.0	30.07	763.8	69.5	20.8	84.2	3	6	2	3	1	.....	3	8	5	2633	4237	6	4.44	112.8
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.12	663.4	29.87	758.7	60.2	15.7	75.3	2	6	2	6	1	.....	4	9	1	6811	10901	3	1.89	48.0
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.47	748.5	30.05	763.3	64.6	18.1	81.9	1	4	7	2	.....	4	5	1	7	2422	3898	5	6.70	170.2
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.00	762.0	30.05	763.3	76.6	24.8	84.3	1	3	8	4	.....	1	7	7	7	3471	5584	6	8.09	205.5
Winnemucca	N. 41 00	W. 117 43	4.17 a.m.	4327	1319	25.66	651.8	29.89	759.2	55.5	13.1	30.7	1	.....	1	13	4	.....	1	9	2	6179	9944	2	0	0
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.75	730.2	30.02	762.5	63.7	17.6	75.7	4	2	.....	3	1	3	2	1	15	2093	3368	3	0.64	16.3
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.66	753.4	29.80	756.9	81.8	27.7	63.8	1	.....	1	.....	.....	11	2	2	14	4560	7338	5	0.03	0.8
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.06	560.3	.....	.....	52.4	11.3	69	1	2	3	2	5	7	2	.....	8	3988	6418	8	2.75	69.8
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	30.04	763.0	30.06	763.5	81.8	27.7	87.2	.....	.....	.....	.....	.....	4	21	6	.....	.....	.....	7	4.74	120.4
Buenaventura	N. 3 50	W. 76 55	7.00 a.m.	32	8	29.98	761.5	30.01	762.2	76.8	24.9	91.1	.....	.....	.....	1	8	1	.....	1	20	.....	.....	9	26.10	662.9
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.99	761.7	30.05	763.3	79.2	26.2	82.3	.....	1	.....	.....	.....	14	5	.....	11	3000	4828	4	4.87	123.7
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.02	762.5	30.03	762.7	79	26.1	78	13	1	.....	.....	.....	.....	1	.....	16	3103	4994	7	1.56	39.6
Magua	N. 19 17?	W. 71 08?	7.24 a.m.	1000?	305?	.....	.....	.....	.....	73.0	22.8	.....	.....	.....	.....	.....	.....	.....	2	.....	29	.....	.....	3	3.69	93.7
Navassa	N. 19 25	W. 75 03	7.43 a.m.	77	23	29.90	759.4	29.98	761.5	81.5	27.5	78	.....	.....	.....	.....	.....	.....	19	12	.....	.....	.....	6	0.77?	19.6?
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.06	763.5	30.06	763.5	79.1	26.2	84.8	.....	.....	.....	.....	3	20	8	.....	.....	.....	.....	6	8.18	207.8
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.42	747.3	29.98	761.5	76.8	24.9	84.0	6	.....	.....	.....	3	2	2	.....	18	.....	.....	9	6.53	165.9
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	.....	.....	96.1	.....	1	.....	2	.....	1	.....	27	.....	.....	.....	5	6.25	158.7
St. Paul, Alaska *d*	N. 57 47	W. 152 21	1.59 a.m.	54	16	29.77	756.1	29.83	757.7	49.5	9.7	95.5	4	5	1	.....	.....	3	.....	4	10	.....	.....	8	8.42	213.9
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	141	43	29.98	761.5	30.11	764.8	81.9	27.7	77.0	.....	.....	.....	3	.....	4	19	5	.....	.....	.....	4	2.70	68.6
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.91	759.7	29.97	761.2	47.7	8.7	93.1	9	4	2	5	3	2	2	4	.....	9210	14822	4	5.30	134.6

Ocean Square Data for August, 1882.

Location of Centre of each Square.		No. of days.	No. of ob's.	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°	7	8	30.06	763.5	79.9	26.6	5	1	2				1	13	1	8	1.3
12.5	27.5	17	26	30.04	763.0	80.3	26.8	6		2		1		2	9		10	1.1
12.5	32.5	10	14															
12.5	37.5	1	1															
12.5	42.5	5	5															
12.5	47.5	6	6															
12.5	52.5	1	1															
12.5	57.5	6	6															
17.5	22.5	4	4	30.08	764.0	79.0	26.1	1			1		1	1	13		14	1.2
17.5	27.5	15	22	30.08	764.0	79.2	26.2	1	1	1			2	3	13		11	1.1
17.5	32.5	7	7	30.10	764.5	79.7	26.5							7	9		15	2.1
17.5	37.5	8	11															
17.5	47.5	2	2															
17.5	52.5	4	5															
17.5	57.5	6	6															
22.5	27.5	7	8	30.13	765.3	78.0	25.6						1	7	12		11	1.5
22.5	32.5	2	2	30.14	765.5	78.5	25.8	1					1	8	12		9	1.9
22.5	37.5	6	6	30.17	766.3	80.4	26.9						3	13	4		11	1.5
22.5	42.5	8	9															
22.5	52.5	3	4															
22.5	57.5	4	4															
22.5	62.5	6	7	30.10	764.5	82.5	28.1					2	5	9	1		14	1.2
22.5	67.5	14	17	30.09	764.3	82.5	28.1		2			2	3	12	5		7	1.1
22.5	72.5			30.08	764.0	82.6	28.1	2			1	3	7	5	7		6	1.4
27.5	22.5	6	6	30.17	766.3	76.3	24.6						1	5	17		8	1.9
27.5	27.5	2	2	30.19	766.8	77.0	25.0						3	10	12		6	1.5
27.5	32.5	2	2	30.21	767.3	77.9	25.5	1					4	11	10		5	1.8
27.5	37.5	14	19	30.22	767.6	79.4	26.3					1	10	11	5		4	1.7
27.5	42.5	4	4	30.21	767.3	81.0	27.2					4	18	2	1	1	5	1.5
27.5	47.5	9	9	30.19	766.8	81.7	27.6					4	16	2	1		8	1.4
27.5	52.5	2	2															
27.5	62.5	5	5	30.11	768.4	81.2	27.3	3			4	4	2	4	3		11	1.0
27.5	67.5	21	29	30.10	764.5	81.5	27.5	6	3	1	2	6		2	6		5	1.2
27.5	72.5	22	34	30.11	764.8	81.7	27.6	2	5		2	8	2	3	4		5	1.4
27.5	77.5	16	23	30.10	764.5	81.5	27.5	3	4	1	1	5	12	1	4			1.5
32.5	12.5	3	3	30.12	765.0	73.8	23.2	5			3			1	21		1	1.3
32.5	17.5	5	5	30.16	766.1	72.9	22.7	2			4		1		23	1		1.3
32.5	22.5	3	4	30.23	767.8	74.3	23.5	1					1	4	22		3	2.1
32.5	27.5	1	1	30.24	768.1	75.5	24.2	1					10	4	14		2	1.4
32.5	32.5	7	8	30.26	768.6	77.0	25.0				1	10	5	12	2		1	1.7
32.5	37.5	20	22	30.26	768.6	79.0	26.1			1	6	12	5	4	1		2	1.7
32.5	42.5	11	14	30.25	768.3	79.9	26.6				1	14	10	2	1		3	1.9
32.5	47.5	19	23	30.19	766.8	80.2	26.8			1	2	18	4	1	3		2	2.0
32.5	52.5	7	7	30.18	766.6	80.3	26.8	1			2	12	4	1			11	1.8
32.5	57.5	3	3	30.12	765.0	80.0	26.7	1	2	1	3	11	3		1		9	1.5
32.5	62.5	1	1	30.07	763.8	79.6	26.4	2	5	1	2	13	2		5		1	1.5
32.5	67.5	15	17	30.07	763.8	80.3	26.8	4	4	2	4	5	2		6		4	1.7
32.5	72.5	23	43	30.07	763.8	80.4	26.9	4	6		2	11	2		4		2	1.5
32.5	77.5	26	67	30.06	763.5	79.0	26.1	3	2	3	9	4	3		7			1.7
37.5	12.5	14	17	30.13	765.3	72.3	22.4	17	3	2	3				6			2.3
37.5	17.5	13	15	30.20	767.1	71.5	21.9	10	1	3	4				13			2.4
37.5	22.5	11	12	30.26	768.6	72.6	22.6	14	2		2		1	3	9			1.9
37.5	27.5	8	9	30.29	769.4	73.1	22.8	6	2	3	3		8	2	7			1.4
37.5	32.5	16	18	30.29	769.4	74.3	23.5	4	2		7	9	4	1	4			2.6
37.5	37.5	19	25	30.26	768.6	76.1	24.5	2	2	2	7	11	3	1	3			2.4
37.5	42.5	15	25	30.20	767.1	76.8	24.9	1	2	1	10	10	4	1	2			2.4
37.5	47.5	12	16	30.15	765.8	75.9	24.4	2	2	2	10	12	3					2.5
37.5	52.5	11	21	30.10	764.5	75.4	24.1	2	4		9	10	3		1		2	2.8
37.5	57.5	21	31	30.06	763.5	75.4	24.1	4	6		8	8	2				3	2.8
37.5	62.5	15	20	30.07	763.8	74.2	23.4	5	9		5	7	2		3			2.7
37.5	67.5	19	28	30.07	763.8	74.0	23.3	5	4	2	3	8	2	1	6			2.3
37.5	72.5	31	148	30.06	763.5	71.1	21.7	5	3	1	4	6	5	3	4			2.2
42.5	12.5	5	6	30.15	765.8	70.2	21.2	4	11	1	4	2	3		6			1.8
42.5	17.5	8	10	30.19	766.8	69.3	20.7	3	17	1	3			1	6			1.8
42.5	22.5	15	15	30.23	767.8	70.1	21.2	4	11	2	6	1	2	1	4			2.1
42.5	27.5	14	18	30.24	768.1	70.9	21.6	4	3	4	13	1	3		2		1	2.5
42.5	32.5	19	21	30.23	767.8	71.8	22.1	2	4	3	13	6	1		2			2.5
42.5	37.5	22	32	30.19	766.8	72.5	22.5	3	3	2	14	8			1			2.8
42.5	42.5	25	55	30.13	765.3	71.8	22.1	2	5	2	12	9		1				2.9
42.5	47.5	30	78	30.09	764.3	69.3	20.7	3	4		12	11	1					2.6
42.5	52.5	29	87	30.05	763.3	69.0	20.7	2	3		11	11	1		2		1	2.7
42.5	57.5	30	110	30 02	762.5	68.7	20.4	5	4	4	10	4			4			3.0
42.5	62.5	29	97	30.03	762.7	67.3	19.6	5	7	2	7	6			4			2.8
42.5	67.5	31	135	30.03	762.7	66.1	18.9	7	2	4	9	6			3			1.9
47.5	12.5	28	68	30.06	763.5	64.5	18.1		7	10	3	3	2	2	4			3.4
47.5	17.5	29	56	30.09	764.3	63.5	17.5	1	4	14	7	1	2	1	1			3.3
47.5	22.5	26	60	30.10	764.5	63.4	17.4	2	6	9	8	4		1	1			3.5
47.5	27.5	29	72	30.12	765.0	62.4	16.9	6	7	7	3	8						3.6
47.5	32.5	29	71	30.09	764.3	64.3	17.9	1	7	5	9	8			1			3.0
47.5	37.5	29	77	30.05	763.3	64.3	17.9	2	7	3	12	6	1					3.0
47.5	42.5	25	54	30.02	762.5	62.2	16.8	1	5	3	11	5	5		1			2.7
47.5	47.5	16	29	30.00	762.0	60.2	15.7	2	4	1	13	7	3		1			2.4
52.5	12.5	26	52	29.97	761.2	60.5	15.8	3	8	10	3	6		1				3.3
52.5	17.5	21	40	29.97	761.2	59.7	15.4		13	7	5	6						3.3
52.5	22.5	22	37	29.99	761.7	59.1	15.1	1	10	4	8	7		1			1	3.3
52.5	27.5	23	45	29.99	761.7	58.6	14.8	1	10	5	8	5	1		1			3.3
52.5	32.5	18	21	30.00	762.0	58.3	14.6	2	8	5	10	5	1					2.9
52.5	37.5	12	13	29.96	761.0	57.7	14.3	4	6	7	8	4	1	1				2.7
52.5	42.5	5	6	29.95	760.7	56.2	13.4	3	6	2	10	3	2	1	1		3	2.4
52.5	47.5	3	3	29.94	760.5	54.8	12.7	2	7	2	7	4	4	1	1		3	2.1
57.5	12.5	14	20	29.80	756.9	55.1	12.8	7	6	2	10	2	2	1			1	3.3
57.5	17.5	9	13	29.82	757.4	53.6	12.0	9	5	4	2	2	7		1		1	3.2
57.5	22.5	9	10	29.82	757.4	52.3	11.3	4	10	1	9	3	2		2			3.3
57.5	27.5	3	4	29.85	758.2	51.5	10.8	7	9	2	5	4	2	1			1	2.9
57.5	32.5	1	1	29.86	758.4	50.5	10.3	1	15	2	7		2	2	1		1	2.2
57.5	37.5	4	4	29.87	758.7	49.8	9.9	3	12	1	6	2	1		3		3	2.0
57.5	42.5			29.87	758.7	48.3	9.1	2	7	1	5	3	2		3		8	1.7
57.5	47.5			29.87	758.7	47.5	8.6	4	8	1	2	5	1	1	1		8	1.6

NOTE.—See General Remarks.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade.*]

With this REVIEW is issued international storm-track chart iii. for the month of August, 1881. This chart continues the series of international charts begun in November, 1877.

The data are charted for each day of the month, on the maps accompanying each issue of the "International Bulletin," and from these charts, and from additional data, are traced the movements of the centres of barometric minima.

The paths of twenty-five of the more important atmospheric depressions that have appeared in the northern hemisphere during the month of August, 1881, have thus been traced. In addition are also shown the paths of three typhoons which occurred in the China sea during the month. The tracings of these are copied from Mr. Marc Dechevrens' "Typhoons of 1881."

The following concerns the general distribution of the depressions above referred to: Six were first observed in North America; two of these first originated south of the twenty-fifth parallel, and were probably tropical hurricanes; number vi. being especially notable on account of the unusual direction of the centre, and its great violence. Two depressions are shown over the Atlantic, but in neither case have these been traced farther eastward than the twenty-fifth meridian. Thirteen areas of barometric minima are exhibited in Europe; three of these are traced in the basin of the Mediterranean, and have moved toward the northeast; five have moved from southwest to northeast over the British Isles, while the remaining five prevailed in the northern part of the continent. Three depressions are traced in Asia.

The following are brief descriptions of the storms that occurred in the United States and Canada:

I. This disturbance originated far north of the stations of observation, and its path is therefore only approximately determined. On August 1st the pressure began to decrease in the Hudson Bay region, and by the 2d the barometer at York Factory read 29.17 (740.9), wind sw. 24 miles, raining. During the 3d and 4th the disturbance moved eastward over Hudson Bay and northeastern Canada, to Davis' Strait, where it was apparently central on the last mentioned date; pressure at Godthaab, Greenland, 29.37 (746.0), wind s., force 7, raining. On the 5th the region of least pressure was near Iceland, where the barometer read 29.49 (749.0), while a brisk decrease of pressure had extended to the British Isles and western Europe. From the 5th to the 9th the storm-centre remained, with slow and irregular movements, in the vicinity of Iceland, causing strong southwesterly winds and rain over the western part of the British Isles. After the 9th, the pressure in Iceland rose gradually until the 12th, when the barometer at Stykkisholm read 30.06 (763.5).

II.—This depression appeared in Manitoba on the 8th, the barometer at Fort Garry reading 29.56 (750.8) wind s., weather cloudy. The disturbance moved eastward, or slightly south of east, to the lake region, and on the 9th it was central in Ontario, accompanied by showery weather in that province and at stations in the lower lake region. During the day the disturbance passed eastward, the rains becoming general along the Saint Lawrence valley, in New England, and the Maritime Provinces; on the 10th the centre of depression occupied the provinces of Quebec and New Brunswick, and the northern part of the state of Maine. Moderate southerly winds and cloudy weather prevailed at stations in Nova Scotia and Newfoundland, whilst variable winds, mostly westerly, prevailed to the west of the centre. On the 11th the disturbance was central over the Gulf of Saint Lawrence, and on the 12th it apparently ceased to exist as a depression, but the barometer rose slowly, owing to the advance eastward of low area iii.

III.—This depression advanced to the United States from the region north of Montana, on the 10th, the pressure at the centre being about 29.65 (753.1). During the day the disturbance moved eastward, with gradually decreasing pressure at the centre, which was now enclosed by the isobar for 29.6 (751.8); on the 11th it was in Dakota and Minnesota, causing showery weather and moderate winds at stations to the eastward. On the 12th the storm-centre was in Ontario, attended by rainy weather in the lower lake region, New England, and the Saint Lawrence valley; on the following day the depression was shown in Quebec and the Maritime Provinces, the pressures near the centre ranging from 29.45 (748.0) to 29.55 (750.6). On the 14th the disturbance passed into the Gulf of Saint Lawrence and disappeared on the 15th, closely followed by an area of high pressures, which brought cool northerly winds and clearing weather.

IV.—The pressure remained unsteady at stations on the northeastern slope of the Rocky mountains from the 13th to the 16th; on that date the depression spread to the Missouri valley, where the pressures were from .1 to .2 inch below the normal. The disturbance moved slowly southeastward during the 17th and 18th, and finally dissipated in the south Atlantic states on the 19th, without having exhibited any decided storm-energy.

V.—This storm developed in the Gulf of Mexico prior to the 17th, on which date it was central off the west coast of southern Florida, attended by strong breezes and heavy rain. On the 18th the storm-centre was off the eastern coast of Florida. On reaching the Atlantic the disturbance appears to have moved northeastward, and on the 20th, it was central about N. 35° and between W. 65° and 70°. The ship "Great Admiral," in N. 39° 44′, W. 67° 26′, reported heavy south-southeast gale, veering to east and then to north, with vivid lightning and heavy rain; lowest barometer 29.48 (748.8); the gale lasted ten hours, during which time the vessel lost maintopsail and shifted cargo; two vessels near the same position as the "Great Admiral" had a similar experience, losing sails and rigging. On the 21st and 22d the disturbance was central south of Nova Scotia, causing unsettled and rainy weather in Canada and in New England. By the 23d the depression had apparently filled up.

VI.—This was a West Indian hurricane, the centre of which was supposed to be to the northeast of the Windward Islands on the 22d or 23d. The earliest reliable information respecting the presence of this hurricane was the report of the schooner "Walter L. Plummer," Capt. W. P. Allen. On the 22d the vessel was in N. 25°, W. 67° 30′, and reported at 4.26 p. m., calm; aneroid barometer 30.0 (762.0), the only indication of the proximity of a hurricane being the long, heavy se. swell. During the 23d the barometer remained steady, with a light wind from ene.; at 6.26 p. m. the wind increased and the weather became threatening; 8.26 p. m., the wind blowing a strong gale, accompanied by torrents of rain, barometer steady at 30.0 (762.0). At 10.26 p. m. the ship was hove to, having made, on a sw. by w. ¼ w. course, 291 miles; Turk's Island then bore ssw., distant about 130 miles. The storm-centre appears to have moved very slowly during the 23d and 24th, vessels near N. 22°, W. 67° and 69° having reported continuous east to southeast winds, of hurricane force, with torrents of rain, and much thunder and lightning on these dates. The hurricane apparently raged with unabated violence in the vicinity of the Windward Islands until the 25th, the brig "L'Edouard," having been driven ashore at Humacoa, Porto Rico, during a hurricane which prevailed there on that date. The absence of reliable data as to pressure and wind-direction renders it difficult to definitely locate the centre, but the report of the "Walter L. Plummer" seems to indicate that the storm-centre was to the northeastward of Turk's Island, and moving towards the northwest on the 24th. On that date the vessel was hove to

about 130 miles northeast of Turk's Island, and reported as follows:

Date.	Time.	Barometer. (*aneroid.*)	Wind.	Remarks.
24th.....	0.26 m	29.7 (754.4)	ene.	
"	1.26.....	29.6 (751.8)	ne. by e.	
"	2.66.....	29.5 (749.3)	ne.	
"	3.26.....	29.5 (749.3)	ne. by n.	
"	4.26.....	29.3 (744.2)	nne.	
"	6.26.....	29.2 (741.7)	n.	
"	8.26.....	29.1 (739.1)	nnw.	
"	10.26.....	29.3 (744.2)	wnw.	wind blowing with destructive violence.
"	14.26	29.3 (744.2)	wnw.	
"	16.26.....	29.4 (746.7)	sw.	moderating.
"	18.26.....	29.6 (751.8)	s.	
"	20.26.....	29.7 (754.4)	se.	wind and sea moderating.

On the 25th the storm-centre was to the eastward of the Bahamas, but by the 26th it had passed to the northwestward of those islands, as indicated by the shift of the wind from north to southwest at Nassau and the falling barometer at that station. The bark "Mexico," in N. 30° 35′, W. 77° 26′, on the 26th had a ne. hurricane in which she lost foremast, jibboom, and maintopmast, and had one seaman washed overboard. On the same day the ship "La Louisiane," after encountering the hurricane, was abandoned in N. 31°, W. 78°, in a waterlogged condition. On the 27th the hurricane was central off the coasts of Georgia and South Carolina; during its passage it displayed extreme violence and caused great damage to shipping and property. The captain of the s. s. "City of San Antonio," which put into Fernandina to repair damages, reported the gale as being one of the most terrific he ever experienced; several vessels were driven ashore on Frying Pan Shoals (off the coast of the Carolinas), whilst many others reached port with loss of sails, spars, and deck-fittings. During the 27th and 28th the hurricane did immense damage at Savannah, Charleston, and at adjacent places; twenty steamers and sailing vessels were blown from their moorings, many sank and others were seriously damaged by collision; several pilot-boats were also wrecked. At Charleston four schooners, three sloops, and three lighters were driven ashore during the hurricane; and vessels in the ports of Beaufort, South Carolina, and Wilmington, North Carolina, also sustained damages to a more or less extent. The loss was further augmented by the high tide and heavy swell which swept along the coast, submerging many rice fields and carrying away houses, &c. Instead of recurving to the northeastward, as is usual in the case of West Indian hurricanes, this storm appears to have continued its course toward the northwest, the region of least pressure on the 28th being in Georgia. During the day the pressure gradually increased and the storm diminished in violence, although, at sea, the wind still blew with the force of a strong gale. During the 29th and 30th the disturbance moved up the Mississippi valley with greatly diminished energy, and eventually dispersed on the last-mentioned date.

The damage done to the city of Savannah by this hurricane was estimated at $1,500,000; there was scarcely a building in the city but received more or less injury; over three hundred negroes and thirty-five white persons were killed or drowned. The damage to plantations could not be estimated. This storm was more destructive than the memorable one of 1854, being more violent and prolonged. It is of interest to note that an area of high pressures occupied the middle Atlantic states and the northern part of North Carolina, while the pressure remained relatively low in the northwest; to such a distribution of atmospheric pressure may possibly be due the abnormal path pursued by the centre of the hurricane.

The following are descriptions of the depressions that appeared over the Atlantic and in Europe:

VII.—On the 1st the atmospheric pressure was low over the ocean between Newfoundland and the fortieth meridian; vessels between N. 40° and 50° reporting moderate westerly and northwesterly gales. By the 2d an extensive depression, which to some extent affected the weather conditions in the British Isles, was shown between 55° and 20° west longitude, and from N. 45° northward to Greenland; within this region the pressure ranged from 29.64 (752.8) near the fortieth meridian, to 29.71 (754.6) near W. 25°. On the 3d the centre of disturbance was near N. 50° W. 32°, where the lowest reported pressures were 29.42 (747.3) and 29.44 (747.8). During the day the pressure increased both to the east and west, and on the 4th the depression either filled up or became merged in low area i.

VIII.—This was a continuation of the disturbance charted as low area xxiii. on the chart for July. At the close of that month the depression occupied Great Britain; passing northeastward during the 31st (July), the centre, enclosed by the isobar for 29.0 (736.7), reached the Norwegian coast on August 1st, and caused strong winds at stations on the eastern shores of the North sea. Continuing its north-northeasterly course along the Norwegian coast, the centre of disturbance was shown on the 2d, near Lodingen, at which station the barometer read 29.27 (743.4), calm, light rain, while moderate westerly gales prevailed in southern Scandinavia and in Denmark. During the day the disturbance apparently passed into the Arctic ocean.

IX.—On the 3d a depression appeared to the eastward of Iceland, the barometer at Thorshavn, Färoe Islands, reading 29.48 (748.8), a fall of .3 inch during the preceding twenty-four hours. On the 4th the region of least pressure was over the Gulf of Bothnia, attended by showery weather and high temperatures, with brisk to strong westerly winds at stations lying south of the centre. On the 5th the depression was central in northern Russia, in which region it caused rainy weather, with strong northwesterly winds over the Gulf of Finland. From the 7th to the 10th this depression moved slowly eastward over the Ural region to Siberia, where it disappeared on the last-mentioned date.

X. This disturbance, which was probably subsidiary to low area i., appeared between the Shetland and Färoe Islands on the 6th, and moved northeastward, causing moderate westerly and southwesterly gales, with rain over the northern part of the British Isles. On the 7th the depression occupied the Gulf of Bothnia and Finland; moving eastward it reached northeastern Russia, and probably combined with low area ix. in the Ural region.

XI.—This was a subsidiary disturbance which appeared off the western coasts of Iceland and Scotland on the 8th, causing general rains over those countries. During the day it moved eastward with decreasing pressure, and on the 9th it was central over northern Denmark, where the pressure was 29.39 (746.5). From the 9th to the 13th this depression remained persistently over southern Scandinavia, the barometer falling to 29.24 (742.7) at the centre of disturbance. During its prevalence, general rains, accompanied by strong westerly winds to moderate gales, occurred in the British Isles and western Europe, and heavy thunder-storms were also reported in central Europe. On the 14th the region of least pressure was transferred to the Baltic; stormy weather still prevailed throughout Europe, the southern part of the continent being now under the influence of a depression which had appeared in the Mediterranean. On the 15th the lowest barometric readings were over the Gulf of Finland, but the pressure had become more evenly distributed over northern and central Europe, and this disturbance ceased to exist as an important weather element.

XII.—This depression formed in the Gulf of Genoa and moved through northern Italy on the 10th, to the Adriatic, where it was central on the 11th. It dissipated in southern Italy on the 12th.

XIII.—This disturbance appeared in the Gulf of Finland and the Baltic provinces of Russia on the 12th; on the 13th the centre was west of Moscow, where the barometer read 29.27 (743.4), wind se., 27 miles, raining. The depression continued its easterly movement, and on the 14th it was central near Ekaterinburg, barometer 29.38 (746.2). By the 15th it had passed into Siberia, and on the 16th it was central north of Akmolinski, where it apparently dissipated.

XIV.—The area of low pressures which occupied Europe on the 14th extended southward to the Gulf of Genoa, over which a secondary disturbance appears to have developed. It moved over the Italian peninsula and the Adriatic, causing showery weather and strong winds over those districts. On the 15th the disturbance was shown in Austro-Hungary, where the pressure ranged from 29.50 (749.3) to 29.55 (750.6). During the day the depression passed toward the Black sea and disappeared on the 16th.

XV.—On the 16th a great depression occupied central and northern Europe, from the British Isles eastward to Russia and thence southward to the Black sea, and moderate winds and rainy weather generally prevailed at stations in the northern and central parts of the continent. The region of least pressure was situated in Scandinavia, where the barometric readings ranged from 29.43 (747.5) to 29.5 (749.3). On the 17th the depression was shown in Finland, the pressure at the centre having decreased to 29.1 (739.1); small secondary depressions also existed in Scandinavia and in Germany, so that unsettled weather continued in nearly all districts. On the 18th the storm-centre was over the northern part of the Gulf of Bothnia, where the lowest reading was 29.04 (737.6); the pressure had increased over western Europe, and the wind increased somewhat in force, while the weather became more settled. On the 19th the pressure increased in northern Scandinavia, but this was again checked by the advance of an important depression, xvi., which had appeared near the British Isles on that day.

XVI.—This was a rather deep depression which appeared over the Irish sea on the morning of the 19th, the region of least pressure being indicated by the isobar for 29.4 (746.7.) General rains, heaviest in the southern districts, occurred over the British Isles and the eastern shores of the North sea, and strong winds to moderate gales prevailed in the southern quadrants of the depression. By the 20th the centre of disturbance had moved by a northeasterly course over the North sea to southern Scandinavia, accompanied by rainy weather, rising temperature, and strong westerly and southwesterly gales. On the 21st the barometric depression was shown in Sweden, the pressure near the centre being about 29.37 (746.0); strong westerly and southwesterly winds prevailed over the Baltic, and light rains occurred at most stations. On the 22d the isobar for 29.40 (746.7), which indicated the region of least pressure, had assumed an elongated form, and now stretched from Sweden, over the Gulf of Bothnia and Finland, eastward to the White sea, and strong westerly winds to moderate gales continued over the Baltic. On the 23d the disturbance remained near the White sea, but the pressure had increased somewhat, and on the following day the disturbance disappeared in the Arctic ocean.

XVII.—This was a shallow depression which appeared near the Saint George's Channel on the 22d, causing rain in the southern counties of England. On the 23d the area of the disturbance increased and the isobar for 29.8 (756.9) now enclosed the greater part of the British Isles, France, and the Bay of Biscay. Rain continued over the British Isles and at scattering stations on the continent, but the winds remained light or moderate. By the 24th the centre of disturbance had moved over the North sea to Denmark, a slight decrease of pressure having occurred during its passage; the winds remained moderate in force, but rainy weather still continued at most stations. On the 25th the disturbance was over the Gulf of Bothnia, whence it moved northeastward into Russia and was central near Archangel on the 26th, disappearing to the northeastward on the 27th.

XVIII.—This deep depression appeared in the west of Ireland on the morning of the 25th, and was enclosed by the isobar of 29.2 (741.7). Rainy weather was general in the British Isles, except in the north and northeast, and strong southwesterly winds prevailed over the English Channel. The disturbance moved northeastward with diminishing pressure and increased energy, and on the 26th it was central over the North sea, barometer at the centre reading 29.0 (736.6). Heavy rains, with rising temperature, accompanied the depression, and strong winds prevailed, except at stations in France, where they had moderated to fresh breezes. On the 27th the centre of depression was shown off the Norwegian coast; the pressure was gradually increasing and the weather improved over the British Isles and northwestern Europe, but in southern Europe rainy weather continued, owing to the presence of low area xix. in southern France. On the 28th low area xviii. disappeared in the Arctic region north of Scandinavia.

XIX.—This disturbance appeared in the western part of the Mediterranean and near to the Spanish coast on the 27th; it moved east-northeastward, and on the 28th was central over the northern part of the Adriatic. Heavy rain fell over southern and southeastern Europe, and high winds were reported at stations south of the centre. During the day the course changed to the northeastward and the disturbance passed through Austro-Hungary and disappeared in Russia on the 29th.

Under the influence of the four depressions just described, (numbers xvi., xvii., xviii., and xix.,) numerous severe thunder storms occurred in Europe, and very heavy rains prevailed, which seriously affected the harvesting operations and caused some damage to growing crops.

XX.—The disturbance was first noted in the Atlantic near N. 52° W. 32°, on the 27th. On that date the s. s. "Adriatic," in N. 50° 10′, W. 30° 38′, reported barometer 29.65 (753.1), wind sw., force 4, while vessels near W. 37° had strong northwest gales. Moving eastward during the day, the centre of disturbance reached W. 21° on the 28th, and on the following day it was off the Irish coast, the lowest reported pressure being 29.64, (752.8) on board the s. s. "Illinois," in N. 50° 52′, W. 14° 36′, wind w., force 3. Rain occurred at stations in Ireland and England, but no high winds were reported. On the 30th the centre was over the North sea, and on the 31st it was shown over Denmark, having been accompanied by heavy rain during its passage northeastward. This area was followed by a brisk increase of pressure and by cool northerly winds.

XXI.—This was a slight depression that appeared near Newfoundland on the 29th; it moved eastward, causing strong southerly gales near the thirtieth meridian on the 30th and, at the close of the month, it was apparently central as a storm of slight energy in about N. 49°, W. 28°.

XXII.—The presence of this disturbance was indicated by a rapid fall of the barometer at Godthaab, Greenland, on the 31st, on which date the barometer at that station read 29.25 (742.9), a fall of .3 inch during the preceding twenty-four hours.

Of the depressions that appeared in Asia, the following are charted:

XXIII.—This was an area of low pressures which occupied the sea of Okhotsk and northeastern Siberia from the 5th to the 8th, after which date the pressure increased until the 14th, when there was another brisk decrease; the barometer at Nikolaievsk, on the Amoor, falling to 29.37 (745.0) on that date.

XXIV.—This disturbance apparently moved, on the 18th, from northern China northeastward to Amoor where it was shown on the 19th. By the following day it had passed beyond the stations of observation.

XXV.—This depression was probably near Pekin on the 20th; it moved northeastward over northern Corea and disappeared in the Sea of Okhotsk on the 21st.

The following notes on the typhoons of August, 1881, are taken from Mr. Marc Dechevrens' "Typhoons of the China sea, 1881:

1. This typhoon is remarkable, both on account of its having moved from east to west in a latitude where the usual course of storms is in the opposite direction; and for the frightful havoc it carried into densely populated regions of China. The present typhoon is, so far as known, unique in regard to direction; it moved from east to west at a comparative high latitude, and what is rather unusual, instead of abating in violence on reaching the continent, it appears to have gathered

new strength and become more furious. The approach of this typhoon was first noticed at Satanomisaki light house, on the southernmost headland of Japan, and at Nagasaki, Japan, as early as the 9th of August. At Zi-Ka-Wei, China, the barometer did not begin to fall until noon of the 10th. At Satanomisaki, and at Nagasaki the wind had blown steadily from the westward since the beginning of August, but on the 9th it suddenly shifted to the northeast at the former station; at the latter station the change to northeast occurred on the afternoon of the 10th. The wind then shifted to east and lastly to southeast after the typhoon had started on its course toward China.

At Satanomisaki the barometer fell .3 inch between the 9th and 11th, on which date it reached the minimum, 29.66 (753.4); it fell rapidly for twenty hours before the minimum reading was observed, and afterwards it rose very slowly. At Nagasaki the barometric minimum, 29.7 (754.4), occurred on the afternoon of the 11th. The wind was not very strong, except at Satanomisaki, where, on the 11th, there was a strong east to east-southeast gale.

At Zi-Ka-Wei, China, during the 11th, the sky was almost clear, but in the evening, between 8 and 9 o'clock, the eastern horizon became overspread, first, with cirri, then with cumuli, moving from the northeast; on the 12th low cumuli were observed moving swiftly from nne. to sse., while cirro-strati rose up in the ese. The barometer began to fall rapidly, indicating the approach of the typhoon toward the coast of China; the barometric minimum, 29.58 (751.3), occurred at 4 a. m. of the 13th, the wind changing from ne. to e. and se.; the highest wind-velocity recorded was twenty-three miles an hour. There is no notice of any vessel having encountered the typhoon in the open sea, the detailed reports being mostly furnished by ships that were sailing along the coasts. To the northward of the centre, the s. s. "Pecheli," in about N. 28° 50′, E. 122° 40′, reported barometer 28.9 (734.0), at 6.30 p. m. of the 12th; wind ene., force 12 (Beaufort scale). The s. s. "Swatow", took shelter under the lee of Poo-too island (N. 29° 58′, E. 122° 22′), where she remained until the 13th; the barometer minimum was observed on board the steamer, between 4 and 6 p. m. of the 12th, wind between nne. and ne., force 8–9 (Beaufort scale).

The steamer "Hwai-Yuen," to the southward of the centre, and anchored in Bullock harbor (N. 28° 05′, E. 121° 5′), reported lowest barometer 29.05 (737.9), wind wsw., force 12; furious squalls and very heavy rain. At Wanchow (N. 28° 0′, E. 120° 40′), the barometric minimum occurred at midnight on the 12th.

Other vessel reports indicating the violence of the typhoon are as follows: The bark "Omega," apparently passed near the centre of the typhoon about noon of the 12th (N. 28° 27′, E. 122° 41′); she reported wind of hurricane force from n. to wnw.; in the afternoon the wind veered from w. to sw., blowing hardest from the west; tremendous seas filled the vessel fore and aft; masts were broken, boats carried away, and one man was lost. At 4 p. m. the force of the wind was such as to lay the vessel over, dipping her topsail yards in the sea. The s. s. "Europe," from Shanghai to Foochow, reported: 9.45 a. m., 12th (N. 29° 9′, E. 122° 15′), very heavy squalls with torrents of rain, barometer 29.6 (751.8); at 10 a. m., blowing a hard gale with high sea from se. and ne.; ship burying herself in the sea and flooding the decks fore and aft; at noon, barometer 29.22 (742.2), hurricane from n. sea making a complete breach over the vessel: at 3 p. m., a heavy se. sea boarded the ship, carrying away boats, wheel, deck saloon, rails, and everything on deck, also filling the engine-room with water and putting out the fires; ship helpless. At 4.30 p. m., the barometer read 28.8 (731.5); the gale raged till 5 p. m., when it began to lull, wind ne.; at 9 p. m. gale and sea going down, barometer 28.83 (732.3). Captain Wynn of the s. s. Nügita Maru," in N. 28° 35′, E. 122° 58′, reported lowest barometer 28.4 (721.3), at 5 p. m. on the 12th; sea fearfully high and sweeping decks continually from every side. Captain Wynn is of opinion that this typhoon exceeded in violence any he had ever seen or heard of.

On reaching the continent the typhoon moved from ene. to wsw.; at towns along the Yang-tsi-Kiang river the typhoon caused strong east winds; at Kiukiang (N. 29° 43′, E. 116° 8′), on the 14th, the gale lasted three hours, accompanied by heavy rain. But it was in the province of Kiang-Si that the typhoon proved most destructive; in that province all water courses were swollen by the diluvial rain that accompanied the typhoon; crops, houses, and people were swept away; in many places even the soil of the rice fields was washed away. The loss of life amounted to several hundreds, many persons being swept away by the floods and others crushed in the ruins of houses. In towns of 1000 houses not more than five or six remained standing; the survivors were left destitute and starving.

From the observations in Japan it would appear that, on the 10th and 11th, the typhoon was of small extent and of moderate violence, but as it approached the Chinese coast it increased considerably in both respects. At Zi-Ka-Wei, during the night of August 13–14th, the anemograph of the observatory registered a velocity of twenty-six miles, ese.; the barometer fell to 29.57 (751.1), whilst at the centre of the typhoon, one hundred and fifty miles south, it read 28.4 (721.3). At Chinkiang, northwest of Shanghai, the wind blew steadily from the northeast, force 6, on the afternoon of the 13th; the centre was two hundred and fifty miles to the south-southeastward, the typhoon then raging in Kiang-Si. In the China sea, the south-southwest monsoon continued to blow with the greatest regularity, but it increased in force as the typhoon moved southward, and a heavy swell from the same direction arose. At Manila, during the night of the 12th, there was a very high swell in Manila harbor, with scarcely a breath of wind at the time. The bark "Star of India" left Manila on the 10th for Hong Kong, and reported having had a succession of westerly squalls of hurricane force. The typhoon appears to have been brought to a stand by a barrier of relatively high pressures along the southern coast of China; its dispersion probably took place somewhere in the region comprised within latitude 24° and 27° north, and longitude 106° and 109° east.

II.—This typhoon appears to have formed to the east-southeastward of Luzon, its approach being first noted at Manila on the 19th. On the afternoon of that day the wind began to blow strongly, and the storm lasted until 3 o'clock the next morning. The storm-vortex was probably about forty miles to the north of Manila. According to the estimate of the director of the observatory, the wind reached a velocity of one hundred miles an hour, though an exact account cannot be given, owing to the destruction of the two anemometers at the observatory. Immense damage was done to small craft, and several large vessels were also stranded. On shore the destruction was very great, especially to houses of light construction. The light-house of Saint Nicholas was completely destroyed and eleven lives were lost. A destructive tornado (or secondary whirlwind accompanying the typhoon,) was reported to have occurred in the village of Polo, near Bulacan (twenty miles north of Manila); nearly all the houses of light construction were razed to the ground, but no loss of life was reported. This phenomenon was also reported to have crossed the parish of Pineda, where it was accompanied by a great noise, and destroyed one house.

During its passage across the China sea, the centre of the typhoon passed about two hundred and forty miles northeast of H. M. S. "Magpie," then on survey duty on the Macclesfield Bank, to the east of the Paracels; that vessel reported wsw., wind of force 3-5, with heavy sea-swell from ne., and nne., lowest barometer 29.58 (751.3), weather squally, with bright flashes of lightning. The schooner "Wagren" was near the centre of the typhoon on the 21st, in N. 19° 42′, E. 116° 32′; the lowest reported reading of the barometer was 29.12 (739.6), wind nne., force 10; the vessel lost spars and sails.

On the 23d the typhoon was off the Chinese coast near

Hong Kong; at that station the barometric minimum, 29.07 (738.4), occurred at 3:30 p. m., wind e., force 11. Owing to the precaution taken before the storm began, very little damage was done either ashore or afloat. At Macao, the barometric minimum 29.16 (740.7), occurred at 4 p. m., wind nne., force 8-9. At this station the barometer remained low until 10 p. m., the rise being much slower than at Hong Kong. As far as can be ascertained, the typhoon, after passing Macao, China, moved westward and passed to the north of Pakhoi, Gulf of Tonquin, on the evening of the 23d.

This typhoon travelled from Luzon, Philippine Islands, to Macao, China, a distance of six hundred and twenty miles, in seventy-two hours (August 20th–23d), or at an average velocity of about 8.5 miles an hour; on the 18th and 19th, previous to its entry into the China sea, its velocity probably did not exceed seven miles an hour. It is interesting to note that, south of the track, with southwesterly and westerly winds, there was a great display of electric phenomena; whilst, to the north of the track, no thunder nor lightning were reported. The same pecularity was noted in regard to the rainfall, although at Hong Kong there were very heavy rains on the 22d, 23d, and 24th.

III.—This typhoon formed in the Pacific ocean to the northeast of the Philippine islands, on the 23d or 24th; it moved to the westward at a considerable distance from those islands, and on nearing the coast of China the course changed to the north and northeast; its trajectory thus presenting the form of a parabolic curve. This typhoon caused immense damage to property at sea and on shore, and is specially notable from the fact that, when near the island of Formosa, the principal typhoon split into two distinct typhoons, each pursuing a nearly parallel track. The easternmost segment appears to have moved with greater rapidity than that which passed through the Channel of Formosa; the former has been traced northward to the fortieth parallel, while the latter apparently dissipated to the north of Shanghai between N. 30° and 32°.

The first indications of the typhoon were noted by the ship "Bolton Abbey," on August 22d, when in N. 17° 35′, E. 127° 56′; at noon the barometer read 29.57 (751.1), with fresh nw. breeze; at 6 p. m. the weather became threatening, with heavy squalls, accompanied by thunder and lightning. By midnight of the 22–23d the barometer read 29.0 (736.6), heavy nw. gale and furious sea; at 1.30 a. m. blowing a hurricane, barometer 28.8 (731.5), ship laboring heavily, decks swept and bulwarks carried away; at 2.30 a. m., barometer 28.6 (726.4), wind wnw., blowing with unabated fury; at 4 a. m. the barometer read 28.45 (722.6) (the minimum), wind w., blowing furiously, the gale sounded as if voices were in the air all around the vessel. By this time the ship was almost a complete wreck, having lost all masts, boats, &c., and in a waterlogged condition. At daylight of the 23d the barometer began to rise slowly, but the wind continued to blow with hurricane force throughout the day. At noon of the 24th, barometer 29.5 (749.3), weather improving and gale moderating. August 25th, wind sw., moderate, weather cloudy.

The next report indicating the vicinity of the centre of disturbance is that of the British ship "Hindostan," about eighty miles north of Luzon. At noon of the 25th, in N. 20° 16′, E. 122° 17′, the barometer read 29.12 (739.6), wind w. by n., force 10–12; tremendous squalls with very high and confused sea; ship dismasted. The period from the 26th to 28th is worthy of special note; on the first mentioned date the typhoon, which had handled the "Bolton Abbey" and the "Hindostan" so roughly, apparently divided into two parts. This occurrence can be ascribed to no other cause than the action of the great mountain chain, ranging from 9,000 to 12,000 feet above sea-level, which runs through the island of Formosa from south to north; the effect was as that of a wedge driven into the body of the typhoon, and dividing it into two segments, which, moving aside to the right and left, formed two separate and distinct typhoons. The westernmost or "Pescadores" typhoon was encountered by the steamer "Abbay," which sailed from Tai-wan-foo Roads on the 25th for Pescadores; the gale began with heavy squalls from n. and nw., with falling barometer; at 5 p. m. of the 25th the ship was hove to, wind nnw., force 9, barometer 29.39 (746.5). By 4 a. m. of the 26th (near N. 21° 38′, E. 119° 44′), the barometer had fallen to 29.16 (740.7), the minimum reading, wind w. to wsw., force 10–11, terrific squalls; at 6 a. m. the barometer began to rise, wind ssw., but still blowing with hurricane force. By noon of the 27th the wind had settled into a hard gale from sw., barometer 29.44 (747.8). At about noon of the 26th the storm-centre passed north-northwestward, near Tai-wan-foo, at which station the lowest barometric reading was 28.83 (732.3), wind nw., shifting to w. and ssw. after the passage of the centre. At about 3 p. m. the centre passed between the coast of Formosa and the Pescadores Islands; the Chinese gunboat "Fei-Yuen," lying in Makung harbor (Pescadores), reported barometer 28.89 (733.8), wind nnw.; at about 4 p. m. the wind, which had previously blown with hurricane force, now lulled down to about force 5 for half an hour; Chinese fishermen also reported that a calm was experienced for a short interval near N. 23°, E. 120°.

The storm-centre appears to have remained over Formosa about twelve hours, during which time it travelled about seventy-two miles, or with a velocity of six miles an hour; the central region appears to have been about twenty to twenty-five miles in diameter, near Pescadores. Moving nearly due northward the centre was met at midnight of the 26–27th, by the s. s. "Glencoe," in N. 24° 50′, E. 119° 25′, lowest barometer 29.1 (739.1), wind moderating from ne., hurricane of force 12, to w. force 1–2, with heavy rain, wind unsteady. The easternmost, or "Chusan" typhoon had moved along the eastern coast of Formosa, and on the 25th its centre was to the north of Tamsui, northern Formosa. At that station the lowest barometer at 7 p. m. of the 26th was 28.9 (734.0), wind ese. to se., force 9–10, afterwards moderating to se. and sw., force 2–3, with continuous rain. Observations taken at light-houses on the coast of Formosa indicate that the two centres were near to each other on the 27th, but that the easternmost typhoon was slightly in advance of the "Pescadores" typhoon. On the afternoon of the 27th the direction of the "Pescadores" typhoon appears to have changed to the northeastward, thus crossing the track of the "Chusan" typhoon, which was moving north-northwestward. The centres passed about fifty miles east of Foochow, at which station the wind was the heaviest known for a number of years, and great destruction occurred to life and property. The eastern, or "Chusan" typhoon passed into the continent near Wanchow, on the 28th; moving through the province of Che-Kiang, it caused great damage to life and property at Ning-po, and in the islands of the Chusan archipelago, and passed into the Yellow sea on the 29th, its course changing to the northeastward.

On the 28th the s. s. "Takasaga Maru," in about N. 27° 52′, E. 123° 6′, passed within a few miles of the centre of the westernmost typhoon, which was now moving to the northeastward; the lowest barometric reading was 29.12 (739.6), at 7 a. m. of the 28th, wind ese., blowing with typhoon force, with very high sea and heavy rain squalls; at 10 a. m. the wind was sw., squally, and at 2 p. m. it suddenly shifted to nw., blowing strongly but decreasing gradually to a moderate breeze.

On the 29th the "Pescadores," or western typhoon passed to the eastward of Shanghai; the force of the wind at Zi-Ka-Wei observatory did not exceed thirty-nine miles an hour, but owing to its long duration it did as much damage as a stronger wind might have done in a shorter time. The village of Shetoe-sha, in the Kow-kan district near Shanghai, was submerged by the floods and totally destroyed, and many of the inhabitants were drowned. The village contained about three hundred families, only half of which managed to save themselves on hastily constructed rafts. At Woosing seventy junks were carried some distance inland from the river, and many were dismasted and broken. On the 30th this typhoon appears to have died out in the Yellow sea, near the thirty-third parallel,

but the eastern, or "Chusan," storm appears to have continued its course northward. On the 29th it was central in about N. 33° E. 124°, and observations at Cape Shan-Tung and Newchang indicate that the typhoon passed up the coast of Corea and finally disappeared.

The average velocity of translation of this typhoon, from the 22d to 25th, before dividing, was about six miles an hour; after dividing, the velocity of the "Pescadores" typhoon which travelled 1,344 miles, was about 7.7 miles, while that of the "Chusan" typhoon, which travelled 1,825 miles, was 8.4 miles an hour.

NOTE.—A very full and interesting account of this remarkable typhoon is given by Mr. Dechevrens in the work above referred to.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d, clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation 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 originals, 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 alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted. Broken lines indicate that the lines so broken are doubtful.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii., shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date. Broken or dotted lines are doubtful.

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.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12 m., instead of 12.16 p. m., and at Besançon at midday instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms. During the months of July, August, and September, 1882, the rainfall at Nagasaki was measured at 9.36 p. m., and at Niigati during July and August, at 10.13 p. m., local time.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made, the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperatures in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiana.)—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brone the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakham the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature at Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puesto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

DAILY BULLETIN, August 6th, 1882, page 5, United States, Rochester, reduced barometer 765.3 mm., should read 764.4 mm.

9th, page 2, French, Besançon, actual barometer 29.02? inches, should read 29.08? inches; page 7, Hamburg American Packet Company, s. s. Cimbria, latitude N. 47° 53′, should read N. 49° 53′.

11th, page 8, Miscellaneous, Bk. Warden Law, latitude S., should read N.

12th, page 1, Canadian Sub-series, Mount Forest, actual barometer, 84.54 inches, should read 28.54 inches.

13th, page 4, United States, Memphis, actual barometer 755.6 mm., should read 755.1 mm.

15th, page 3, Japanese, Nobiru, rainfall 2.231 inches, should read 2.131 inches.

16th, page 7, National Line, s. s. Denmark, longitude W. 148° —′, should read W. 1° 48′.

17th, page 4, United States, Charlotte, temperature 24°2 c., should read 23°.2 c.

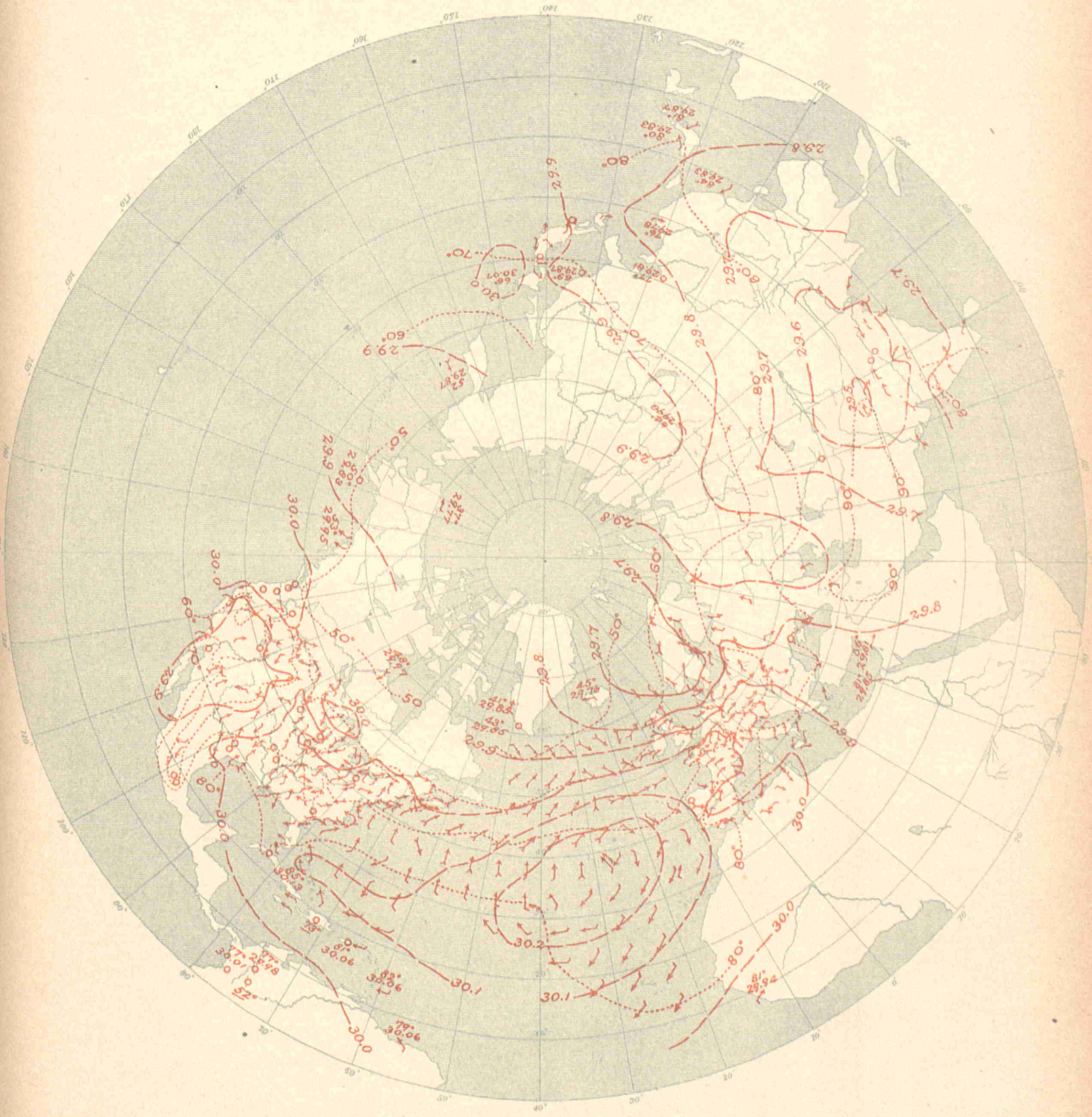
26th, page 6, Anchor Line, s. s. Utopia, latitude S., should read N.

International Meteorology. Summary for May, 1882, page 8, third par., sixth line: slightly lower, should read slightly higher.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

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

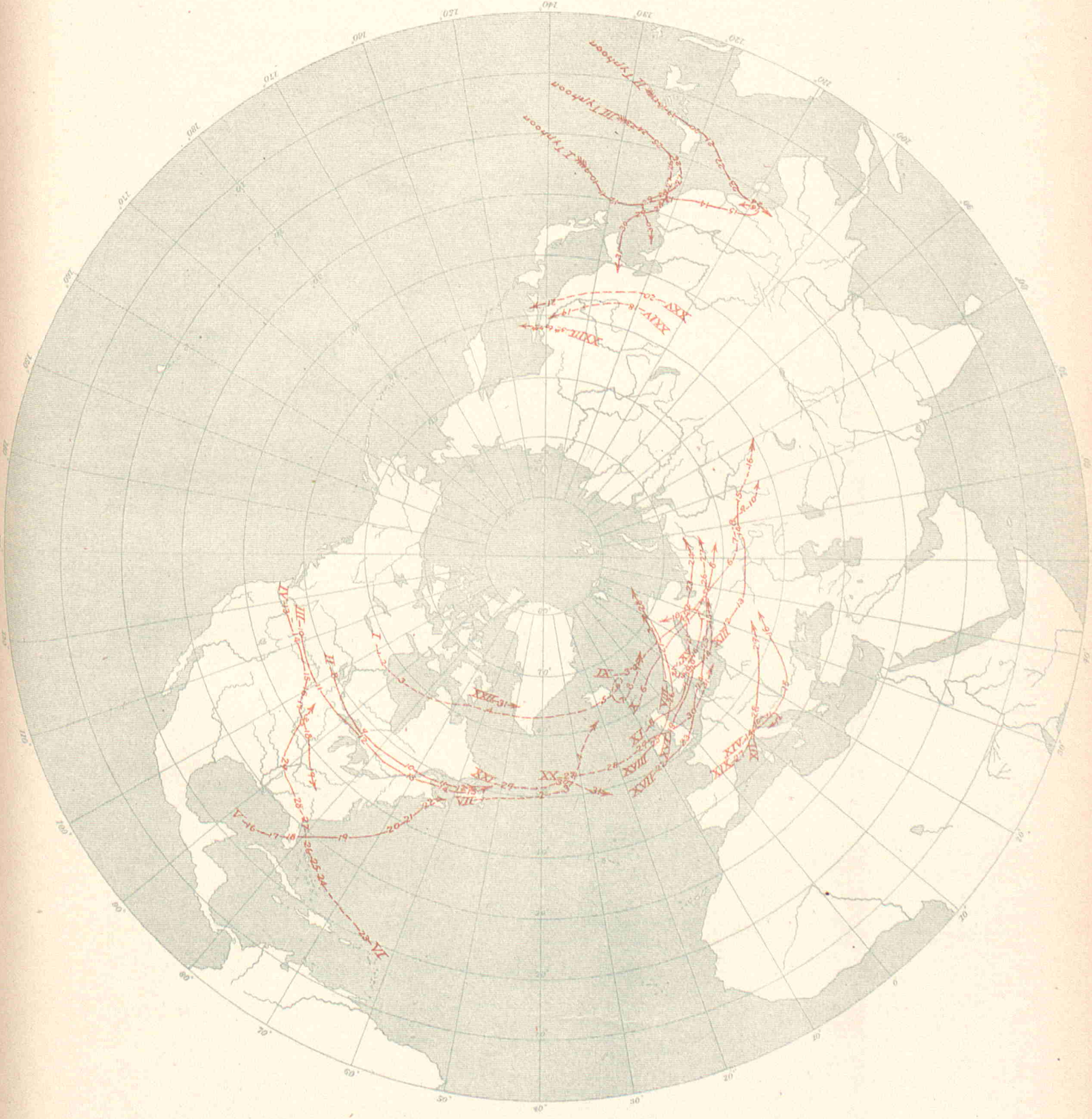
International Chart II. August, 1882. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

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

International Chart III. August, 1881. Storm-Tracks.



UNITED STATES OF AMERICA.

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

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF SEPTEMBER, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
OCTOBER, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

SEPTEMBER, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1882.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Algerian.	° ′	° ′																									
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.02	762.5	76.6	24.8	74.3	7	.....	1	.....	20	2	.....	.....	.....	.....	.....	1	inap.	inap.
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	29.97	761.3	76.3	24.6	54.4	5	1	14	2	1	.....	1	6	.....	.....	.....	1	6.24	158.5
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.94	760.5	77.4	25.2	73.0	8	8	2	.....	1	1	3	7	.....	.....	.....	2	2.86	72.7
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.95	760.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.05	763.3	80.2	26.8	56.0	2	6	7	6	.....	3	1	5	.....	.....	.....	1	0.57	14.5
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.04	763.1	76.3	24.6	82.3	9	2	10	2	2	.....	5	.....	.....	.....	.....	1	1.89	48.0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	77.5	25.3	20.2	2	10	8	5	3	.....	1	1	.....	.....	.....	2	0.49	12.4
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.08	764.0	86.7	30.4	37.7	5	.....	10	2	3	3	4	3	.....	.....	.....	1	0.87	22.0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.05	763.3	85.8	29.9	33.5	.....	17	.....	1	.....	12	.....	.....	.....	.....	.....	1	0.32	8.2
Australian.																											
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.85	758.2	29.94	760.5	53.2	11.8	74	9	5	9	3	.....	2	1	1	.....	.....	.....	6	1.15	29.2
Austro-Hungarian.																											
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.37	745.9	29.90	759.4	66.2	19.0	71.3	.....	3	4	10	2	3	1	7	.....	.....	.....	6	5.60	142.1
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.17	740.9	29.92	759.9	67.5	19.7	61.2	1	1	7	3	1	2	10	5	.....	.....	.....	5	1.81	45.9
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.08	738.6	29.93	760.3	59.9	15.5	78.2	3	1	.....	.....	12	1	.....	1	12	.....	.....	6	3.26	82.8
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.67	728.2	29.89	759.3	63.3	17.4	81.2	.....	2	3	7	11	3	2	2	.....	.....	.....	7	4.66	118.3
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.57	725.6	29.95	760.6	70.7	21.5	51	.....	6	1	.....	5	18	.....	.....	.....	.....	.....	5	1.68	42.8
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.54	724.8	29.85	758.2	57.7	14.3	80.1	2	5	2	1	.....	1	6	6	7	.....	.....	8	2.73	69.3
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.01	736.9	29.97	761.3	66.0	18.9	60.2	.....	2	2	7	4	13	.....	2	.....	.....	.....	4	1.64	41.6
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.78	756.4	29.89	759.2	69.6	20.9	71.7	.....	.....	9	3	2	4	10	2	.....	.....	.....	7	8.30	210.9
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.48	748.7	29.93	760.1	71.4	21.9	52	2	.....	1	6	2	14	3	2	.....	.....	.....	4	2.42	61.5
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.64	752.8	29.89c	759.3c	70.3c	21.3c	64.9c	.....	1	1	3	17	5	.....	.....	3	.....	.....	7	3.67	93.2
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.81	757.2	29.91	758.9	69.4	20.8	63.6	.....	4	3	5	.....	2	7	4	5	.....	.....	6	9.82	249.5
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.21	741.8	29.91	759.6	64.4	18.0	69.8	.....	2	4	1	2	15	2	.....	4	.....	.....	7	1.48	37.6
British.																											
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.71	754.6	29.81	757.2	55.8	13.2	74.0	1	7	5	.....	10	6	1	.....	.....	.....	.....	7	2.60	66.0
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.62	752.3	29.86	758.4	55.1	12.8	82.9	4	5	3	11	3	2	.....	2	.....	.....	.....	7	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.84	757.9	57.6	14.2	73.6	.....	3	11	3	2	7	1	3	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.31	744.5	29.84	757.9	56.7	13.7	74.8	1	3	6	3	10	2	1	4	.....	.....	.....	7	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.43	747.5	29.82	757.4	57.2	14.0	69.6	1	5	3	4	.....	6	.....	7	.....	.....	.....	7	1.99	50.5
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.95	760.7	29.98	761.5	84.0	28.9	70.1	.....	.....	1	.....	.....	12	4	13	.....	.....	.....	5	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.84	757.9	61.3	16.3	71.4	8	3	3	5	5	.....	3	3	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.74	755.4	29.87	758.7	60.0	15.6	74.8	3	2	3	6	2	3	4	2	.....	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.66	753.4	29.89	759.2	57.6	14.2	73.2	3	7	3	3	7	2	1	4	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.69	703.3	29.90	759.4	74.8	23.8	37.2	4	4	.....	.....	.....	6	10	6	.....	.....	.....	4	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.67	753.6	29.90	759.4	80.4	26.9	79.9	.....	2	11	12	3	.....	.....	.....	2	.....	.....	6	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.00	762.0	30.05	763.3	72.8	22.7	82.1	1	9	13	1	.....	1	1	4	.....	.....	.....	2	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.61	752.1	29.81	757.2	55.9	13.3	69.4	1	2	9	9	4	.....	4	1	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.69	754.1	29.86	758.4	59.9	15.5	71.4	8	3	1	5	6	2	1	4	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.60	751.8	29.90	759.4	59.5	15.3	77.3	5	4	5	5	4	2	.....	5	.....	.....	.....	6	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.83	757.7	29.87	758.7	60.0	15.6	64.9	8	2	4	4	4	2	3	3	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.60	751.8	29.85	758.2	59.9	15.5	68.5	.....	5	3	10	.....	3	1	8	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.88	758.9	29.95	760.7	80.2	26.8	89.8a	5	7	2	1	.....	7	6	2	.....	.....	.....	4	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.02	762.5	30.07	763.8	83.2	28.4	73.1	.....	.....	.....	2	2	7	8	11	.....	.....	.....	6	.....	.....
Oscott *e*	N. 52 28	W. 1 55	0.00 m.	483	147	29.30	744.2	29.81	757.2	58.0	14.4	71.4	6	3	3	.....	6	3	3	1	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.64	752.8	29.87	758.7	59.1	15.1	71.8	3	6	3	4	3	4	1	5	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.80	756.9	29.88	758.9	59.4	15.2	76.9	2	6	1	7	1	3	2	6	2	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.80	756.9	53.9	12.2	82.2	...0	.....	1	3	4	3	1	3	.....	.....	.....	7	.....	.....
Scutari Cemet'y *b*	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.86	758.4	29.92	760.0	81.6	27.6	45.9	.....	.....	...	5	3	1	.....	18	1	.....	.....	4	.....	.....
Sheffield *i*	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.49	749.0	29.76	755.9	59.1	15.1	77.9	.....	3	1	2	7	.....	1	6	2	.....	.....	7	1.70	43.2
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.80	756.9	29.83	757.7	59.4	15.2	70.4	4	3	9	4	5	.....	3	1	1	.....	.....	6	2.16	54.9
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.81	757.2	57.0a	13.9a	65.4a	5	3	7	4	8	1	1	1	.....	.....	.....	8	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.65	753.1	29.87	758.7	61.1	16.2	70.8	4	4	6	5	2	3	2	4	.....	.....	.....	6	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.87	758.7	29.90	759.4	63.2	17.3	69.6	3	9	3	5	2	1	4	3	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.52	749.8	29.94	760.5	57.3	14.1	73.0	6	9	4	5	4	2	.....	.....	.....	.....	.....	7	.....	.....
Canadian.																											
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	80	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.01	762.2	30.05	763.3	55.9	13.3	85.1	1	7	2	5	3	2	.....	9	1	6096	9810	8	4.12	104.6
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	30.02	762.5	30.08	764.0	52.0	11.1	91.5	4	5	4	6	.....	1	1	5	4	3152	5072	6	4.12	104.6
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dalhousie *c*	N. 48 04	W. 66 21	7.32 a.m.	35	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.06	763.5	30.08	764.0	47.9	8.8	88.0	2	5	7	6	.....	2	1	5	2	8428	13563	6	4.64	117.9
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.16	740.7	29.99	761.7	39.9	4.4	89.2	3	4	3	1	5	6	7	1	.....	7504	12076	6	0.91	23.1
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.95	760.7	30.08	764.0	55.9	13.3	91.8	5	4	6	2	3	4	.....	4	3	.....	.....	8	5.92	150.4
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.76	755.9	30.08	764.0	56.0	13.3	86.9	5	4	3	2	3	1	3	9	.....	4567	7350	7	3.83	97.3
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.88	758.9	30.08	764.0	54.6	12.6	83.9	8	5	3	3	2	1	2	6	.....	.....	.....	5	3.65	92.7
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.41	747.0	30.10	764.5	53.0	11.7	90.1	3	3	2	2	3	5	7	4	1	6308	10152	4	3.46	87.9
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	688	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.41	747.0	30.10	764.5	57.0	13.9	96.2	13	2	2	5	.....	.....	1	3	4	4730	7612	6	1.37	34.8
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.46	748.3	30.10	764.5	55.5	13.1	92.2	6	1	7	2	.....	3	3	6	2	.....	.....	4	2.06	52.3
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.78	756.4	30.10	764.5	52.1	11.2	87.1	4	1	4	.....	.....	1	11	5	4	.....	.....	6	5.88	149.4
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.66	753.4	30.11	764.8	48.6	9.2	91.7	.....	6	11	.....	1	1	2	.....	9	.....	.....	5	5.96	151.4
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.01	762.2	30.06	763.5	52.7	11.5	86.6	4	4	.....	2	2	3	3	8	4	.....	.....			
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	2.23	56.6
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.37	746.0	30.08	764.0	54.3	12.4	90.1	.....	2	2	3	4	7	1	4	7	5954	9582	4	2.52	64.0
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	30.00	762.0	30.06	763.5	56.0	13.3	87.5	5	2	2	9	5	.....	2	2	3	6273	10095	7	7.87	299.9
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.73	755.1	30.11	764.8	57.2	14.0	82.0	7	2	5	2	1	2	.....	8	3	6551	10543	6	2.10	53.3
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.98	761.5	30.05	763.3	55.4	13.0	92.2	3	1	2	4	2	.....	7	5	6	5630	9060	6	4.83	122.7
Sub-Series.																											
Mt. Forrest	N. 44 01	W. 80 54	6.44 a.m.	1375	419	28.70	729.0	30.10	764.5	51.0	10.6	91.2	2	11	6	4	3	2	1	.....	1	.....	.....	8	6.79	172.5
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	30.02	762.5	30.27	768.8	56.2	13.4	88.4	2	1	3	7	3	1	3	10	.....	.....	.....	6	5.61	142.5
Cape Colony																											
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.11	764.8	30.14	765.5	63.3	17.4	81.6	.....	.....	16	3	1	3	.....	7	.....	.....	.....	6	2.84	72.1
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	30.09a	764.3a	30.13a	765.3a	67.5a	19.7a	65.8a	.....	4	10	.....	8	8	.....	.....	.....	.....	.....	4	2.13	54.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for September, 1882. 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.
CHINESE.	° ′	° ′																								
Sub Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	29.94	760.4	29.96	761.0	72.0	22.2	90.5	1	2	1	.....	1	4	6	15	.....	.....	.....	6	3.39	86.0
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.84	758.0	29.89	759.2	61.0	16.1	71	2	2	1	3	5	8	5	4	.....	.....	.....	5	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.84	757.9	29.86	758.4	61.9	16.6	79	2	3	4	2	6	4	6	3	.....	.....	.....	6	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.60	751.9	29.65	753.0	37.0	2.8	90	3	.....	.....	2	15	.....	1	8	1	.....	.....	8	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.67	753.5	29.69	754.0	40.5	4.7	.....	3	1	1	.....	.....	6	.....	2	17	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.56	750.8	29.60	751.9	44.1	6.7	82	1	1	3	3	6	7	5	2	2	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.74	755.3	29.77	756.2	50.5	10.3	83	2	.....	2	5	6	4	3	6	2	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.77	756.2	29.86	758.5	60.3	15.7	78	2	3	3	3	3	2	5	5	4	.....	.....	6	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.38	746.2	30.02	762.4	63.0	17.2	79.3	.....	4	6	3	1	2	.....	1	13	.....	.....	8	4.56	115.8
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.37	746.1	29.93	760.1	60.8	16.0	81	10	1	1	6	8	1	1	2	.....	.....	.....	.....	2.54	64.4
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.05	753.0	29.90	759.4	61.0	16.1	81.8	8	4	6	5	1	2	2	2	.....	.....	.....	.....	0.94	24.0
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.84	757.8	29.91	759.8	68.2	20.1	68.4	12	4	1	.....	1	7	.....	5	.....	.....	.....	4	6.26	159.1
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.35	745.6	29.90	759.5	61.9	16.6	67	1	2	1	3	8	5	5	5	.....	.....	.....	9	3.31	84.0
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.63	752.6	29.89	759.2	62.2	16.8	68.4	4	4	3	6	2	3	4	4	.....	.....	.....	.....	3.32	84.4
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	28.98	736.2	29.86	758.5	61.7	16.5	77.1	.....	1	1	1	17	6	3	1	.....	.....	.....	.....	7.57	192.3
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.67	753.6	29.93	760.1	64.8	18.2	59.9	2	12	4	7	2	1	2	.....	.....	.....	.....	8	5.78	146.9
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.35	745.4	29.89	759.2	62.2	16.8	70.3	2	2	3	12	4	1	4	2	.....	.....	.....	6	3.85	97.7
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.70	754.3	29.94	760.5	61.2	16.2	77.6	5	4	5	6	1	.....	1	6	2	.....	.....	8	5.96	151.5
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.81	757.1	29.88	758.9	63.0	17.2	70.4	.....	3	8	5	3	2	3	6	.....	.....	.....	5	2.97	75.5
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.52	749.9	29.84	757.9	63.3	17.4	77.5	.....	1	4	2	3	1	3	.....	16	.....	.....	6	3.38	85.9
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.35	745.4	29.84	758.0	61.9	16.6	67.5	2	4	7	6	3	3	1	4	.....	.....	.....	7	5.95	151.1
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.57	725.6	29.89	759.2	63.7	17.6	63.4	10	2	2	9	2	3	1	1	.....	.....	.....	3	4.28	108.6
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.08	738.6	29.91	759.8	62.8	17.1	69.8	.....	9	1	8	3	2	.....	7	.....	.....	.....	.....	5.57	141.5
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	28.11	713.9	29.91	759.8	60.3	15.7	76.3	6	6	3	6	4	1	3	1	.....	.....	.....	.....	7.98	202.6
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.27	692.7	.....	.....	62.6	17.0	56.3	16	.....	.....	.....	14	.....	.....	.....	.....	.....	.....	.....	4.70	119.3
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.79	731.3	29.89	759.2	66.6	19.2	60.5	.....	.....	.....	.....	2	13	9	6	.....	.....	.....	6	3.72	94.4
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	.....	.....	.....	.....	62.6	17.0	78.8	1	14	1	5	3	2	3	1	.....	.....	.....	.....	4.66	118.3
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	.....	.....	.....	.....	63.0	17.2	67.6	.....	2	11	10	.....	1	3	3	.....	.....	.....	6	1.61	40.9
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.71	754.5	29.98	761.4	61.0	16.1	79.1	2	8	8	3	3	2	1	3	.....	.....	.....	.....	2.83	71.9
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.38	746.2	30.02	762.4	64.4	18.0	68.4	1	11	15	3	.....	.....	.....	.....	.....	.....	.....	6	4.54	115.3
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.83	757.6	29.93	760.2	63.5	17.5	71.3	5	2	6	8	4	.....	.....	4	1	.....	.....	8	4.18	106.2
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.87	733.4	29.91	759.8	62.8	17.1	68.4	3	6	1	2	8	4	4	2	.....	.....	.....	7	4.18	106.2
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.61	752.1	29.92	759.9	60.3	15.7	76.9	8	3	3	6	3	3	2	2	.....	.....	.....	6	3.56	90.3
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.63	752.7	29.90	759.4	67.8	19.9	62.1	.....	5	11	3	3	6	1	1	.....	.....	.....	.....	4.02	102.0
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.77	756.2	29.89	759.3	68.0	20.0	82.4	9	.....	.....	.....	2	7	8	4	.....	.....	.....	4	4.85	123.1
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.20	741.7	29.95	760.7	60.8	16.0	75.2	5	2	8	9	5	.....	.....	1	.....	.....	.....	.....	4.99	126.8
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.78	756.4	29.95	760.6	64.6	18.1	67.9	4	3	1	9	5	2	2	4	.....	.....	.....	8	3.70	94.0
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.82	757.3	29.92	760.0	68.7	20.4	57.6	4	6	2	1	2	8	4	3	.....	.....	.....	3	2.30	58.5
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.18	538.1	.....	.....	35.1	1.7	.....	.....	6	9	11	2	.....	.....	2	.....	.....	.....	4	7.89	200.4
Privas ..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.86	733.1	29.91	759.8	61.7	16.5	66.8	7	3	2	2	9	3	.....	3	1	.....	.....	5	6.44	163.7
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.08	637.0	.....	.....	43.9	6.6	95.1	2	3	10	8	2	1	.....	4	.....	.....	.....	8	7.36	186.9
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.91	759.6	29.94	760.4	65.3	18.5	79.5	.....	3	6	11	4	1	2	2	1	.....	.....	6	1.75	44.5
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.83	757.7	30.04	763.1	63.0	17.2	76.0	3	6	4	6	3	2	.....	6	.....	.....	.....	7	5.13	130.4
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.82	706.6	29.94	760.4	59.2	15.1	72.2	2	11	10	.....	1	1	4	.....	1	.....	.....	6	5.92	150.4
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.86	758.5	29.91	759.7	61.7	16.5	75.8	4	7	3	5	5	2	1	3	.....	.....	.....	6	2.47	62.8
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.72	755.0	29.89	759.2	62.1	16.7	70	6	5	3	5	4	3	.....	4	.....	.....	.....	3	2.93	74.5
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.28	743.8	30.00	762.1	64.9	18.3	70.1	2	6	9	3	.....	6	1	3	.....	.....	.....	6	5.94	150.8
Tours	N. 47 24	E. 0 41	0.11 p.m.	164	50	29.72	755.0	29.90	759.5	65.3	18.5	61.4	1	2	4	14	2	1	1	5	.....	.....	.....	4	2.27	57.7
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.40	746.8	29.91	759.6	61.3	16.3	69.7	7	4	6	3	5	.....	1	4	.....	.....	.....	7	2.63	66.9
Sub-Series.																										
Paris, Montsouris	N. 48 50	E. 2 20	0.17 p.m.	256	78	29.61	752.2	29.91	759.6	63.3	17.4	73.7	3	6	7	5	6	.....	1	2	.....	.....	.....	9	2.68	68.2
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.46	722.9	29.88	759.0	59.7	15.4	70.6	1	2	6	5	2	4	1	4	5	.....	.....	7	3.63	92.3
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.04	737.7	29.89	759.1	62.1	16.7	72.0	.....	2	7	5	2	4	3	4	3	.....	.....	7	3.55	90.1
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.09	754.2	29.87	758.7	65.8	18.8	63.4	4	5	.....	3	2	5	5	6	.....	.....	.....	6	2.98	75.7
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.40	746.7	29.93	760.1	66.4	19.1	59.2	1	1	6	3	3	12	3	1	.....	.....	.....	6	1.85	47.1
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.45	747.9	29.88	758.9	61.7	16.5	73.8	1	1	1	15	1	2	4	5	.....	.....	.....	8	8.44	214.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.13	739.8	29.84	757.9	63.9	17.7	68.6	4	5	1	2	7	4	.....	3	4	.....	.....	6	1.16	29.6
Frankfort on M	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.50	749.4	29.86	758.5	63.0	17.2	71.4	7	1	4	4	8	.....	4	2	.....	.....	.....	7	3.72	94.6
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.48	723.4	29.89	759.2	59.7	15.4	78.2	1	.....	4	14	5	3	.....	3	.....	.....	.....	7	14.72	373.9
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.79	756.6	29.88	759.0	62.2	16.8	68.4	2	4	1	6	2	9	4	2	.....	.....	.....	7	0.89	22.7
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.85	758.3	29.87	758.7	56.1	13.4	71.4	3	2	5	4	1	4	4	7	.....	.....	.....	6	1.70	43.3
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.40	748.3	29.87	758.8	63.0	17.2	72.8	3	6	4	2	2	5	6	2	.....	.....	.....	7	7.51	190.8
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.08	753.8	29.86	758.5	64.8	18.2	71.7	4	4	1	3	3	3	8	1	3	.....	.....	8	1.84	46.6
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.97	761.2	30.02	762.4	63.5	17.5	65.8	2	2	3	2	2	12	2	4	1	.....	.....	5	.....	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.09	713.4	29.95	760.6	59.9	15.5	67.9	4	10	.....	1	.....	3	1	6	5	.....	.....	7	4.77	121.1
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.93	760.1	29.94	760.5	65.1	18.4	67.2	4	2	1	2	1	9	5	6	.....	.....	.....	5	1.82	46.3
Neustadt, *a*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.34	745.3	29.87	758.6	62.6	17.0	74.6	1	.....	10	1	1	1	1	5	9	.....	.....	8	5.52	140.3
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	28.93	734.9	29.80	757.0	61.9	16.6	71.3	11	4	5	2	1	2	2	3	.....	.....	.....	7	4.82	122.5
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.89	759.2	29.91	759.8	63.1	17.3	72.7	1	3	3	5	1	8	4	5	.....	.....	.....	5	0.95	24.1
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.58	751.4	29.95	760.7	84.4	29.1	.....	.....	.....	1	11	5	1	.....	12	.....	.....	.....	3	0	0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.51	749.6	29.91	759.8	67.6	19.8	66	.....	.....	.....	1	1	1	5	4	18	.....	.....	7	15.10	283.5
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.39	746.4	29.89	759.2	67.5	19.7	64	1	.....	4	6	3	10	2	4	.....	.....	.....	7	13.14	333.8
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.79	756.6	29.89	759.3	68.2	20.1	66	3	2	5	1	5	.....	5	8	1	.....	.....	7	7.12	180.9
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	28.98	736.2	29.87	758.8	64.4	18.0	70	4	10	2	.....	2	1	8	3	.....	.....	.....	7	6.46	164.1
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.09	754.2	29.88	758.9	68.5	20.3	65	4	1	.....	8	5	7	2	2	1	.....	.....	6	17.34	440.5
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	27.99	710.9	29.86	758.5	62.6	17.0	67	1	10	17	.....	.....	.....	2	.....	.....	.....	.....	4	5.34	135.7
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.84	757.9	29.89	759.2	70.3	21.3	64	4	2	3	5	.....	4	6	6	.....	.....	.....	7	5.02	142.7
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.65	753.0	29.90	759.4	72.0	22.2	58	2	4	5	7	1	2	5	4	.....	.....	.....	7	10.11	256.8
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.75	755.7	29.84	757.8	70.7	21.5	68	.....	1	15	7	2	.....	2	3	.....	.....	.....	6	9.02	229.1
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.75	755.7	29.92	760.0	75.2	24.0	56	1	.....	6	19	3	1	.....	.....	.....	.....	.....	7	7.70	195.5
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.71	754.7	29.96	760.9	77.4	25.2	56	7	4	1	3	9	3	1	2	.....	.....	.....	5	1.82	46.3
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.10	739.0	29.95	760.8	78.1	25.6	72	.....	2	5	16	5	2	.....	.....	.....	.....	.....	6	4.15	105.4
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.72	754.9	29.91	759.6	75.7	24.3	57	.....	7	4	4	3	12	.....	.....	.....	.....	.....	4	2.68	68.1
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.73	755.1	29.97	761.3	77.4	25.2	53	.....	4	4	7	.....	.....	.....	15	.....	.....	.....	6	1.26	32.0
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.90	759.4	29.94	760.5	78.1	25.6	65	.....	.....	2	2	8	4	2	12	.....	.....	.....	6	0.68	17.3
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.43	747.6	29.95	760.8	73.9	23.3	63.6	.....	1	2	15	2	3	4	3	.....	.....	.....	6	5.51	140.6
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.13	562.0	.....	.....	40.5	4.7	74.5	.....	.....	11	10	.....	3	4	2	.....	.....	.....	8	8.63	219.5
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.15	562.6	.....	.....	40.1	4.5	77.0	6	.....	.....	.....	.....	.....	.....	19	5	.....	.....	9	6.58	167.0
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.72	755.0	29.77	756.2	84.1	28.9	75	.....	.....	13	17	.....	.....	.....	.....	.....	.....	.....	5	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.23	742.3	29.69	754.1	90.2	32.3	48	3	3	6	6	4	3	.....	3	2	.....	.....	4	1.86	47.2
Bombay	N 18 54	E. 72 49	5.00 p.m.	37	11	29.74	755.5	29.78	756.4	81.1	27.3	83	.....	14	13	3	.....	.....	.....	.....	.....	.....	.....	7	10.23	259.8
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.91	708.8	29.76	756.0	77.2	25.1	73	2	7	15	6	.....	.....	.....	.....	.....	.....	.....	9	5.60	142.2
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.50	749.2	29.77	756.2	88.3	31.3	51	5	21	4	.....	.....	.....	.....	.....	.....	.....	.....	9	3.32	84.3
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.27	717.9	29.72	754.9	82.6	28.1	62	.....	7	14	5	.....	3	.....	1	.....	.....	.....	9	0.76	19.3
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.20	692.5	29.82	757.5	70.7	21.5	88	.....	3	17	10	.....	.....	.....	.....	.....	.....	.....	9	8.72	221.5
Lahore	N. 31 34	E. 74 20	5.05 p m	732	223	28.92	734.6	29.65	753.2	86.4	30.2	65	2	1	1	5	.....	.....	4	4	13	.....	.....	2	10.35	262.9
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.75	730.1	29.63	752.5	86.9	30.5	67	.....	9	7	.....	1	2	.....	.....	11	.....	.....	3	1.88	47.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for September, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
INDIAN.—Cont'd.	° ′	° ′																								
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.09	738.9	29.64	752.9	90.6	32.6	55	.....	1	19	1	2	.....	5	2	.....	.....	.....	3	2.37	60.2
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.63	727.2	29.66	753.4	83.5	28.6	69	3	3	2	1	2	.....	3	14	.....	.....	.....	7	9.88	251.0
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.34	719.8	29.68	753.8	82.9	28.3	68	5	4	1	.....	1	1	3	7	8	.....	.....	6	2.21	56.1
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.28	743.8	29.65	753.1	89.5	31.9	57	1	1	.....	1	.....	.....	.....	3	24	.....	.....	2	1.12	28.4
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.34	745.1	29.64	753.0	84.5	29.2	76	2	.....	.....	.....	1	2	4	6	15	.....	.....	5	3.14	79.8
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.50	749.2	29.68	753.8	85.5	29.7	76	3	4	.....	1	.....	3	8	7	4	.....	.....	7	1.31	33.3
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.67	702.8	29.66	753.4	80.1	26.7	74	10	4	.....	1	2	4	3	1	5	.....	.....	9	11.99	304.5
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.58	751.4	29.66	753.5	80.1	26.7	81	.....	.....	.....	1	1	.....	1	2	25	.....	.....	6	12.45	316.2
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.65	753.2	29.67	753.7	82.2	27.9	86	.....	2	1	8	5	7	6	1	.....	.....	.....	8	10.50	266.7
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.57	751.1	29.69	754.1	80.6	27.0	88	1	.....	.....	1	2	2	1	5	18	.....	.....	6	18.14	460.8
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.64	752.8	29.73	755.0	81.8	27.7	86	.....	1	4	3	4	6	1	2	9	.....	.....	7	0.61	15.5
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.38	746.1	29.71	754.6	82.7	28.2	84	.....	2	.....	8	1	1	.....	18	.....	.....	.....	6	12.08	306.8
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.25	717.5	29.06	753.4	88.2	31.2	52	1	9	6	3	.....	1	5	5	.....	.....	.....	4	4.87	123.7
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.99	761.8	30.02	762.4	81.5	27.5	60	3	2	2	3	8	10	.....	1	1	.....	.....	5	0.42	10.7
JAPANESE.																										
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.93	760.3	29.97	761.1	63.1	17.3	83.8	1	.....	3	11	1	3	4	1	6	3719	5985	6	1.61	40.9
Hakodate..a	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.94	760.5	29.95	760.8	60.5	15.8	88	1	4	2	2	.....	1	6	3	10	5922	9530	5	5.76	146.2
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	.....	.....	.....	.....	71.1	21.7	78.9	21	1	1	2	1	.....	1	3	.....	1581	2542	5	3.24	82.2
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.78	756.5	29.96	760.9	68.0	20.0	84.0	22	1	4	.....	2	.....	1	.....	.....	2322	3737	6	4.46	113.4
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.72	754.8	29.92	759.9	71.4	21.9	84.0	7	.....	.....	2	3	1	.....	15	2	3285	5287	4	7.15	181.6
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	58	18	30.04	762.9	30.11	764.7	59.8	15.4	90.4	3	.....	1	.....	4	1	4	1	16	.....	.....	6	5.46	138.7
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	29.94	760.3	29.97	761.2	68.8	20.4	78.6	6	.....	3	1	1	11	2	5	1	4231	6765	7	1.36	34.5
Nobiru	N. 38 23	E. 141 12	9.32 p.m	15	5	29.97	761.3	29.99	761.7	68.2	20.1	81.7	15	2	.....	2	5	2	3	1	.....	6204	10081	7	3.46	87.5
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	29.94	760.4	29.95	760.8	69.8	21.0	79.5	9	.....	1	.....	.....	.....	14	3	3	3322	5186	5	3.27	83.1
Supporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	59.7	15.4	88	1	3	.....	3	4	11	1	2	5	4582	7374	4	3.20	81.4
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.91	759.7	29.98	761.5	68.3	20.2	88.0	11	.....	1	.....	8	1	5	2	2	4158	6692	7	8.79	223.2
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	29.89	759.2	29.94	760.5	72.2	22.3	76.8	6	.....	1	.....	1	1	3	6	12	4108a	6611a	6	3.66	92.8
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.95	760.7	30.14	765.5	72.7	22.6	65.3	5	.....	.....	.....	.....	6	17	2	.....	.....	.....	5	2.58	65.5
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.71	602.3	29.93	760.3	56.8	13.8	79	1	2	.....	2	2	1	7	15	.....	.....	.....	3	3.48	88.3
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.36	618.6	30.06	763.5	57.2	14.0	86	3	14	.....	.....	1	7	.....	4	1	.....	.....	5	1.33	33.7
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.67	753.5	29.96?	760.1?	78.1	25.6	89	1	2	.....	1	.....	3	5	18	.....	.....	.....	4	1.61	40.5
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.13	587.5	30.17	766.3	53.2	11.8	82	1	10	.....	.....	.....	.....	.....	.....	19	.....	.....	6	3.62	91.8
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.25	615.8	30.28	769.2	58.1	14.5	60	6	.....	.....	...	4	9	.....	11	.....	.....	.....	3	3.62	91.8
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.98	609.2	29.96	760.9	58.2	14.5	79	5	4	3	1	.....	.....	.....	7	10	.....	.....	4	0.43	10.8
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.41	594.6	30.16	766.2	52.7	11.5	84	1	2	.....	.....	.....	.....	.....	.....	27	.....	.....	8	3.86	97.9
Zacatecas	N. 22 44	W. 102 26	5.18 a.m.	8100	2469	22.55	572.7	30.19	766.8	54.8	12.7	59	.....	2	4	11	1	...	.....	1	11?	.....	.....	3	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.87	758.6	29.87	758.6	62.6	17.0	.....	5	1	4	4	4	3	3	6	.....	.....	.....	.....	2.66	67.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.80	756.8	29.85	758.2	60.1	15.6	.....	4	2	3	5	4	5	2	5	.....	.....	.....	.....	3.19	81.1
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.84	758.0	29.84	758.0	59.4	15.2	.....	5	.....	3	2	6	4	3	7	.....	.....	.....	.....	3.40	86.4
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.85	758.3	29.85	758.3	62.2	16.8	72.3	5	.....	3	7	2	2	3	7	1	.....	.....	.....	2.55	64.7
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.82	757.4	29.87	758.6	61.9	16.6	74.6	5	1	3	7	5	5	1	3	.....	.....	.....	6	3.35	85.1
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.78	756.4	29.84	758.0	59.0	15.0	70.0	1	4	5	1	10	5	3	.....	1	.....	.....	7	5.42	137.6
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.82	757.5	29.86	758.5	58.3	14.6	62.9	2	2	1	9	3	0	1	2	4	.....	.....	6	2.95	75.0
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.76	755.9	29.90	759.5	59.7	15.4	73.6	3	1	1	8	4	3	5	5	.....	.....	.....	7	3.46	88.0
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.79	756.7	29.82	757.3	49.5	9.7	.....	2	2	3	4	4	3	4	1	7	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.78	756.4	29.83	757.6	53.2	11.8	72.0	4	2	3	8	3	.....	1	2	7	.....	.....	6	8.16	207.2
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	71.8	22.1	76.5	2	3	5	2	.....	11	5	2	.....	.....	.....	3	0.26	6.5
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.03	737.4	30.01	762.3	72.7	22.6	51.2	3	.....	14	7	3	.....	2	1	.....	.....	.....	5	1.76	44.5
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.10	764.6	30.19	766.8	73.2	22.9	58.2	1	1	1	23	.....	3	.....	.....	1	.....	.....	6	0.04	1.0
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.74	755.3	30.09	764.3	68.7	20.4	57.7	9	5	3	7	1	.....	1	4	.....	.....	.....	5	0.77	19.6
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.22	767.5	30.29	769.3	73.8	23.2	64.1	4	.....	.....	5	1	1	3	9	7	.....	.....	4	1.91	48.4
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.77	756.2	29.98	761.4	73.2	22.9	82.5	4	10	12	2	.....	1	.....	.....	1	.....	.....	6	0.04	1.0
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.30	642.7	30.00	762.0	52.0	11.1	75.5	3	14	5	.....	.....	2	5	1	.....	.....	.....	6	24.48	621.7
RUSSIAN.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.80	731.4	29.85	758.1	62.2	16.8	44.4	.....	3	6	6	4	.....	2	4	5	.....	.....	5	0.19	4.8
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.98	761.6	30.00	762.1	52.9	11.6	78.7	3	3	7	5	2	2	3	2	3	.....	.....	8	0.78	19.7
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.12	764.9	30.03	762.8	73.4	23.0	38.9	5	2	1	2	2	12	3	3	.....	.....	.....	4	0.01	0.3
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.44	747.9	29.94	760.5	55.8	13.2	61.0	2	3	4	2	3	1	1	4	10	.....	.....	6	2.18	55.3
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.83	757.7	30.07	763.8	61.9	16.6	65.1	2	1	5	4	6	5	4	3	.....	.....	.....	6	0.91	23.0
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	28.96	735.7	29.92	760.0	53.2	11.8	61.4	4	6	10	4	3	.....	.....	3	.....	.....	.....	8	1.61	40.8
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.77	756.2	30.04	763.0	62.6	17.0	46.7	8	7	7	5	2	.....	.....	1	.....	.....	.....	6	0.42	10.8
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.96	761.0	29.98	761.5	70.0	21.1	71.4	6	3	.....	.....	1	4	6	10	.....	.....	.....	3	1.30	33.0
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.42	747.3	30.04	763.0	66.2	19.0	48.4	6	1	3	1	1	11	6	1	.....	.....	.....	3	.....	.....
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.83	757.6	30.03	762.7	71.6	22.0	40.5	3	2	1	3	3	1	8	9	.....	.....	.....	4	1.04	26.3
Moscow	N. 55 46	E. 37.40	2.39 p.m.	448	136	29.60	753.3	30.12	765.1	63.9	17.7	45.1	6	5	4	7	3	1	.....	2	2	.....	.....	4	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.98	761.5	30.05	763.3	75.2	24.0	43.2	2	.....	.....	1	3	3	8	9	4	.....	.....	1	1.19	30.2
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.85	758.1	29.99	761.7	67.3	19.6	72.9	.....	2	.....	4	.....	.....	.....	1	23	.....	.....	4	4.40	113.3
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	30.06	763.6	30.08	764.0	60.6	15.9	58.2	1	6	5	3	4	5	4	2	.....	.....	.....	5	1.66	42.2
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.31	744.5	29.95	760.8	63.5	17.5	49.3	6	7	3	2	1	1	4	1	5	.....	.....	4	0.68	17.2
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.38	720.8	29.89	759.3	72.5	22.5	53.2	.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	1	0.18	4.7
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.60	726.3	29.96	761.0	74.7	23.7	48.4	1	6	1	.....	5	9	3	1	4	.....	.....	5	4.19	106.4
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	29.92	760.1	29.99	761.8	62.1	16.7	81.7	6	2	.....	1	1	5	1	1	13	.....	.....	5	2.00	52.3
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.53	750.0	29.94	760.4	65.8	18.8	62.5	1	2	3	3	7	11	.....	3	.....	.....	.....	5	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.63	752.7	30.04	763.1	64.6	18.1	61.7	.....	.....	.....	2	8	10	2	3	5	.....	.....	5	0.96	24.3
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.78	756.4	30.07	763.7	47.3	8.5	80.6	1	1	10	5	3	4	2	.....	4	.....	.....	6	1.84	46.7
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.80	756.9	54.9	12.7	93.0	7	2	5	6	3	2	.....	4	1	.....	.....	9	4.7	119.4
North Unst	N. 60 51	W. 0 53	0.04 p.m	230	70	.....	.....	29.76	755.9	.....	.....	.....	2	3	3	7	4	3	3	5	.....	.....	.....	6	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.78	756.5	29.89	759.1	70.7	21.5	66	.....	1	5	7	4	7	4	2	.....	1974	3176	4	4.02	102.1
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.94	760.4	30.00	761.9	67.5	19.7	70	.....	20	1	2	1	4	1	1	.....	1768	2845	8	11.12	282.5
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.07	687.5	29.99	761.7	60.1	15.6	65	6	3	5	7	2	.....	.....	7	.....	4800	7724	6	3.21	81.5
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.78	705.7	29.95	760.8	69.1	20.6	48.9	1	4	0	9	3	.....	.....	5	2	6964	11208	2	2.73	69.4
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.81	757.1	30.00	761.9	71.6	22.0	57	.....	8	2	3	2	8	2	5	.....	1472	2368	5	3.53	89.7
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.15	740.0	30.01	762.3	61.7	16.5	83	5	7	.....	.....	1	1	14	2	.....	3174	5079	9	7.82	198.5
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.12	739.6	30.00	762.1	63.1	17.3	73	5	6	4	5	1	.....	.....	6	3	7142	11494	8	6.56	166.6
Sub-Series.																										
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.80	757.0	29.86	758.4	79.0	26.1	86.5	1	.....	.....	8	5	4	9	3	.....	.....	.....	7	12.82	325.7
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.99	761.7	30.09	764.2	71.8	22.1	61.3	.....	3	17	.....	4	2	1	.....	3	.....	.....	4	0.11	2.7
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.90	759.4	29.99	761.7	80.2	26.8	90	.....	.....	1	1	1	10	.....	.....	17	.....	.....	3	3.59	91.2
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.71	754.6	29.84	757.9	79.2	26.2	86.6	6	14	2	2	4	..	.....	1	1	.....	.....	7	4.66	118.3
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.93	760.2	29.97	761.2	54.0	12.2	80	3	.....	2	13	4	3	.....	4	1	.....	.....	6	0.69	17.5
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.93	760.3	29.98	761.6	56.5	13.6	73	2	3	1	15	.....	1	4	4	.....	.....	.....	7	1.12	28.5
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.93	760.3	29.98	761.6	56.7	13.7	76	1	3	2	2	10	7	.....	4	1	.....	.....	7	1.73	44.0
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.81	757.2	29.99	761.7	60.6	15.9	74	2	.....	2	2	7	5	9	3	.....	.....	.....	5	0.84	21.2
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.89	759.2	29.95	760.7	62.1	16.7	70	3	1	2	2	4	9	6	3	.....	.....	.....	5	1.10	27.9
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.87	758.6	29.95	760.8	60.6	15.9	70.4	3	.....	1	2	9	5	6	4	.....	.....	.....	6	1.12	28.4
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.52	724.3	29.92	759.9	60.6	15.9	73.2	14	3	.....	3	6	2	2	.....	.....	.....	.....	7	5.87	149.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1882.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
TURKISH.	° ′	° ′																								
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	29.98	761.6	77.5	25.3	51	10	.....	.....	4	3	.....	1	12	.....	.....	.....	4	0.03	0.8
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.10	764.4	79.0	26.1	.....	.....	5	5	10	8	1	.....	1	.....	.....	.....	4	1.61	41.
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.91	759.7	85.8	29.9	57.3	4	6	14	5	1	.....	.....	.....	.....	.....	.....	2	0	0
UNITED STATES.																										
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.02	762.5	30.10	764.5	61.5	16.4	77.2	15	2	3	2	7	.....	.....	1	.....	4001	6439	8	7.79	197.9
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.44	747.8	30.10	764.5	54.4	12.4	86.1	2	7	10	.....	2	3	4	2	.....	6039	9719	5	2.51	63.8
Apache, Fort	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.09	637.3	29.89	759.2	45.7	7.6	68.8	.....	.....	.....	3	.....	.....	8	19	.....	4108	6708	1	1.02	25.9
Assinnaboine, Ft.	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.18	690.4	30.04	763.0	47.4	8.6	66.6	1	.....	1	16	3	2	1	5	1	6158	9910	4	2.19	55.6
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.92	734.6	30.09	764.3	65.4	18.6	86.2	.....	8	.....	1	4	2	9	6	.....	5958	9588	5	3.51	89.2
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.03	762.7	30.04	763.0	67.0	19.4	86.2	7	2	4	3	3	5	2	4	.....	7765	12496	5	5.84	148.3
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.91	759.7	30.10	764.5	69.0	20.6	86.0	6	1	1	1	.....	1	2	4	14	2467	3970	5	3.22	81.8
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.05	763.3	30.10	764.5	65.0	18.3	82.2	11	3	.....	2	4	.....	3	4	3	3774	6074	6	9.38	238.3
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.02	762.5	30.04	763.0	67.2	19.6	84.2	6	2	4	4	3	2	7	2	.....	11140	17928	7	14.65	372.1
Behring Id.	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.82	757.4	29.84	757.9	48.5	9.2	.....	4	3	7	8	5	1	1	.....	1	7006	11275	5	1.32	33.5
Bennett, Fort	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.42	721.9	30.01	762.2	51.3	10.7	78.7	2	13	.....	1	.....	11	1	1	1	5770	9286	5	1.03	26.2
Benton, Fort	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.21	691.1	30.05	763.3	47.5	8.6	71.8	.....	.....	14	5	.....	.....	.....	4	17	4411	7099	6	2.89	73.4
Bismarck	N. 46 48	W. 100 38	5.26 a.m.	1694	516	28.18	715.8	29.97	761.2	50.7	10.4	77.8	2	4	1	4	2	2	7	3	5	6808	10950	5	1.74	44.2
Block Id.	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.03	762.7	30.06	763.5	63.5	17.5	87.0	4	1	2	5	2	1	2	10	3	12011	19329	7	5.96	151.4
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.21	691.1	29.98	761.5	49.9	9.9	72.4	3	6	10	.....	.....	1	4	3	3	2237	3600	3	1.36	34.5
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.93	760.2	30.08	764.0	60.0	15.6	84.4	3	5	6	5	2	1	1	7	.....	7425	11949	7	10.93	277.6
Brownsville	N. 26 00	W. 97 30	5.38 a.m.	43	13	29.94	760.5	29.98	761.5	73.4	23.0	87.5	10	.....	1	.....	3	1	1	1	13	2821	4540	4	2.68	68.1
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.36	745.7	30.09	764.3	58.3	14.6	83.0	6	2	2	3	7	.....	.....	10	.....	6236	10036	6	2.21	56.1
Buford, Fort *a*	N. 48 03	W. 103 58	5.12 a.m.	1900	579	28.02	711.7	30.00	762.0	47.5	8.6	68.9	3	1	8	1	2	.....	6	6	2	5303	8534	3	2.86	72.6
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.80	756.9	30.09	764.3	55.9	13.3	84.5	13	2	.....	.....	7	1	4	3	.....	5018	8070	7	5.22	132.6
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.74	755.4	30.14	765.5	63.4	17.4	87.0	5	.....	1	3	4	2	.....	9	6	4498	7239	4	3.28	83.3
Campc	N. 32 22	W. 116 08	4.22 a.m.	2500	762	27.41	696.2	29.95	760.7	45.0	7.2	71.5	3	.....	8	3	7	2	3	4	.....	3292	5298	1	0.02	0.5
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.04	763.0	30.06	763.5	70.8	21.6	83.7	10	1	2	5	4	1	2	4	.....	9292	14954	5	5.03	127.8
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.02	762.5	30.05	763.3	67.7	19.8	82.7	6	5	.....	5	2	5	1	5	1	9968	16042	6	7.05	179.1
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.42	747.3	29.94	760.5	54.0	12.2	86.4	24	.....	.....	.....	.....	.....	.....	.....	3	9295	14958	1	0.21	5.3
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	30.03	762.7	30.05	763.3	75.0	23.9	83.9	3	.....	1	1	.....	2	6	17	.....	6065	9760	3	9.37	238.0
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.29	744.0	30.09	764.3	56.6	13.7	77.4	6	3	4	2	3	4	2	6	.....	6971	11218	5	2.06	52.3
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.01	762.2	30.06	763.5	72.8	22.7	86.0	8	5	2	2	1	1	2	6	3	5365	8234	4	5.85	148.6
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.22	742.2	30.06	763.5	66.3	19.1	82.6	5	2	.....	9	3	1	3	6	1	3289	5293	4	4.58	116.3
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.30	744.2	30.11	764.8	63.3	17.4	91.3	3	5	1	3	1	3	1	6	7	3649	5872	4	3.57	90.7
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	24.12	612.6	29.98	761.5	44.2	6.8	46.6	.....	5	19	4	1	1	.....	.....	.....	5872	9450	2	0.35	8.9
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.38	746.2	30.07	763.8	60.7	15.9	79.1	1	5	4	5	3	5	2	5	.....	5695	9105	5	0.91	23.1
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.03	762.7	30.05	763.3	69.1	20.6	85.5	6	7	3	2	4	2	2	3	1	7465	12014	5	2.73	69.3
Cincinnati	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.46	748.3	30.11	764.8	63.3	17.4	80.6	4	3	1	4	5	3	2	5	3	3166	5095	4	3.16	80.3
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.38	746.2	30.10	764.5	59.4	15.2	83.3	1	2	1	3	4	12	5	2	.....	5402	8694	5	4.78	121.4
Coleman City	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.28	718.3	30.07	763.8	60.1	15.6	91.0	6	1	1	3	4	2	2	5	6	4519	7272	3	2.81	71.4
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.26	743.2	30.10	764.5	58.9	14.9	82.8	4	5	4	2	2	6	1	6	.....	4251	6841	5	2.91	73.9
Concho, Fort.	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.16	715.3	30.06	763.5	59.9	15.5	85.4	4	2	1	4	2	.....	.....	6	11	4309	6934	4	4.25	107.9
Custer, Fort	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.84	681.7	29.96	761.0	48.4	9.1	66.0	5	1	4	6	6	3	2	3	.....	4161[illegible]	6696[illegible]	5	1.28	32.5
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.45	748.0	30.10	764.5	58.2	14.6	84.3	2	6	1	5	1	2	6	7	.....	4793	7713	4	1.39	35.3
Davis, Fort *h*	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.30	642.6	30.00	762.0	56.2	13.4	82.4	3	.....	.....	1	.....	2	1	.....	15	2317	3729	2	2.26	57.4
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.26	717.8	30.00	762.0	50.6	10.3	67.7	.....	.....	.....	11	5	2	1	7	4	3545	5705	3	0.94	23.9
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.40	619.7	29.96	761.0	50.9	10.5	61.6	5	2	2	1	4	3	8	5	.....	3901	6278	4	0.28	7.1
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.04	763.0	30.06	763.5	67.8	19.9	86.5	5	3	2	4	4	2	1	9	.....	11591	18652	5	6.20	157.5
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.28	743.7	30.07	763.8	64.0	17.8	87.9	3	3	2	3	4	1	3	2	9	3399	5470	4	9.04	229.6
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.81	630.2	29.92	760.0	51.5	10.8	54.6	.....	2	.....	.....	19	5	.....	.....	4	4209	6774	1	0.06	1.5
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.20	741.7	30.09	764.3	56.1	13.4	83.2	3	3	.....	5	3	8	2	2	4	3475	5592	4	0.15	3.8
Detroit	N. 42 21	W. 83 07	6.36 a.m.	661	201	29.40	746.7	30.09	764.3	59.3	15.2	86.4	5	4	7	3	1	1	4	2	3	5687	9152	4	1.77	45.0
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.47	697.7	30.02	762.5	56.5	13.6	71.4	3	3	4	9	6	5	.....	.....	.....	8032	12920	3	0.15	3.8
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.40	746.7	30.10	764.5	56.0	13.3	86.6	4	2	2	3	4	4	1	3	7	2316	3727	5	2.60	66.0
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.33	745.0	30.07	763.8	55.0	12.8	81.5	3	9	5	2	1	1	3	3	3	6058	9749	5	1.29	32.8
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.28	743.7	30.08	764.0	67.6	19.8	79.4	.....	9	.....	.....	1	8	2	2	8	3710	5971	3	0.46	11.7
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.33	643.4	30.01	762.2	41.6	5.3	61.8	12	.....	7	9	.....	.....	.....	.....	2	6721	10816	2	1.17	29.7
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	30.00	762.0	30.07	763.8	53.7	12.1	82.6	6	4	.....	1	11	.....	1	7	.....	6539	10523	4	4.77	121.2
Elliott, Fort	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.31	693.7	30.00	762.0	55.2	12.9	75.5	2	4	4	2	4	2	.....	2	10	6049	9735	2	3.18	80.8
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.34	669.0	29.99	761.7	57.5	14.2	70.5	.....	7	1	.....	.....	1	4	5	12	2999	4820	2	0.40	10.2
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.38	746.2	30.09	764.3	60.4	15.8	82.2	2	1	1	3	10	.....	3	6	4	4872	7841	5	4.85	123.2
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.43	747.5	30.09	764.3	53.0	11.7	90.3	3	8	1	7	.....	3	.....	6	2	5583	8985	5	4.07	103.4
Fredericksburg	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.34	719.8	30.08	764.0	66.8	19.3	82.8	7	4	1	3	1	.....	1	1	12	3315	5335	4	5.06	128.5
Galveston	N. 29 18	W. 94 50	5.49 a.m.	48	15	29.98	761.5	30.03	762.7	75.8	24.3	81.8	5	1	2	1	8	4	4	5	.....	9153	14730	6	4.68	118.9
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.43	747.5	30.09	764.3	57.8	14.3	84.1	3	2	3	2	2	2	7	9	.....	6107	9828	5	0.81	20.6
Grant, Fort	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.29	642.4	29.89	759.2	59.0	15.0	61.8	3	.....	.....	1	1	4	16	4	1	4621	7437	1	0.80	20.3
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.04	763.0	30.06	763.5	73.0	22.8	86.6	3	2	4	3	1	4	3	9	1	11632	18710	5	7.67	194.8
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.83	656.1	30.00	762.0	56.0	13.3	60.2	2	1	1	14	2	1	.....	4	5	3869	6226	3	3.66	93.0
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	29.10	739.1	30.10	764.5	62.6	17.1	89.4	6	1	1	1	1	11	1	1	7	4619	7433	4	4.32	109.7
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.63	727.2	30.01	762.2	49.8	9.9	80.3	3	3	2	.....	1	19	1	1	.....	7192	11574	4	0.86	21.8
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.32	744.7	30.10	764.5	58.9	14.9	85.8	12	1	4	1	5	1	.....	2	4	3396	5405	4	0.72	18.3
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.98	761.5	30.01	762.2	74.2	23.4	85.3	11	2	.....	.....	6	5	.....	4	2	9151	14727	4	6.13	155.7
Jacksboro *g*	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.92	734.6	30.06	763.5	62.8	17.1	81.1	6	.....	.....	1	4	7	2	.....	3	2941*h*	4733*h*	5	6.04	153.4
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	30.01	762.2	30.05	763.3	73.4	23.0	86.6	.....	2	.....	2	1	1	7	6	11	3285	5287	3	4.39	111.5
Keogh, Fort	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.48	698.0	29.95	760.7	50.2	10.1	69.2	4	3	3	3	.....	1	6	7	3	5196	8302	6	1.21	30.7
Keokuk	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.43	747.5	30.08	764.0	58.7	14.8	83.7	1	1	4	4	1	1	6	3	9	3151	5071	4	1.52	38.6
Key West	N. 24 32	W. 81 48	6.41 a.m.	20	6	29.96	761.0	29.98	761.5	80.7	27.1	79.5	.....	.....	.....	2	.....	3	10	10	5	6143	9886	5	6.16	156.5
Kittyhawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.05	763.3	30.07	763.8	70.9	21.6	87.1	3	1	4	5	2	2	2	9	2	11193	18013	5	7.91	200.9
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.10	739.1	30.12	765.0	62.1	16.7	93.3	6	.....	.....	3	.....	1	1	12	7	3508	5640	4	4.15	105.4
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.31	744.5	30.08	764.0	57.7	14.3	77.5	5	.....	3	5	9	1	3	1	3	4280	6888	5	1.32	33.5
Leavenworth	N. 39 19	W. 94 57	5.10 a.m.	842	256	29.21	741.9	30.09	764.3	59.9	15.5	76.2	2	.....	2	1	5	7	1	3	9	4103	6603	4	0.95	24.1
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.16	740.7	29.99	761.7	55.3	12.9	60.4	1	.....	3	1	2	6	5	3	9	1904	3064	3	0.09	17.5
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.78	756.4	30.09	764.3	64.7	18.2	94.5	4	3	.....	1	1	1	.....	4	16	2542	4091	4	3.03	77.0
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.56	750.8	29.95	760.7	57.6	14.2	77.2	.....	.....	29	.....	.....	.....	.....	.....	1	3903	6281	1	[illegible]	[illegible]
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.52	749.8	30.07	763.8	61.9	16.6	89.1	13	1	2	1	7	1	1	.....	4	3482*j*	5604*j*	5	3.57	90.7
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.40	746.7	30.08	764.0	65.1	18.4	83.9	4	3	.....	3	3	1	.....	2	14	1780	2865	4	8.87	225.3
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.45	748.0	30.10	764.5	55.9	13.3	86.3	4	4	1	7	1	3	5	3	2	6752	10860	5	2.55	64.8
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.05	763.3	30.06	763.5	71.1	21.7	90.6	13	5	4	4	.....	1	.....	3	.....	8540	13744	6	6.83	173.5
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	29.09	738.9	30.09	764.3	56.1	13.4	88.4	4	1	3	7	2	3	5	5	.....	5266	8475	5	1.91	48.5
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.59	650.0	.....	.....	48.2	9.0	67.5	10	9	8	.....	1	.....	1	1	.....	7501	12072	5	0.73	18.5
McKavett, Fort *o*	N. 30 48	W. 99 58	5.28 a.m.	2240	683	27.85	707.4	30.07	763.8	57.8	14.3	79.4	.....	.....	.....	1	3	2	.....	1	3	5	2206	3550	1	3.05	77.5
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.37	746.0	30.09	764.3	53.7	12.1	82.6	3	5	11	5	2	1	.....	1	2	4533	7295	4	5.89	149.8
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.77	756.1	30.11	764.8	64.7	18.2	90.0	5	6	.....	1	2	7	1	4	4	4249	6838	4	2.18	55.4
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.34	745.2	30.08	764.0	58.7	14.8	84.5	1	5	5	7	3	1	3	5	.....	7514	12092	6	1.31	33.3
Missoula, Fort	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.73	678.9	30.00	762.0	47.0	8.3	71.7	3	.....	2	9	2	2	.....	4	8	2810	4522	4	0.83	21.1
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.02	762.5	30.06	763.5	68.9	20.5	88.4	19	6	.....	.....	.....	.....	2	3	.....	3919	6307	2	4.05	102.9
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.84	757.9	30.07	763.8	66.8	19.3	87.4	3	7	1	2	.....	3	2	5	7	2495*e*	4009*e*	3	4.18	106.2
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	29.04	737.6	30.03	762.7	48.9	9.4	86.6	4	3	1	.....	7	9	.....	3	3	8351	13439	4	1.23	31.2
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.12	739.6	30.12	765.0	59.8	15.4	89.0	1	1	.....	6	1	1	.....	7	13	2491	4002	5	7.23	183.6
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.91	607.3	30.06	763.5	41.4	5.2	82.7	1	14	5	1	3	.....	2	4	.....	21771	35030	4	13.32	338.3
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.52	749.8	30.09	764.3	64.3	17.9	86.5	4	6	2	1	4	3	2	3	5	3895	6208	5	1.57	39.9
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	29.95	760.7	30.06	763.5	60.9	16.1	84.3	7	3	1	2	3	1	.....	10	3	6279	10105	7	13.43	341.1
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.03	762.7	30.08	764.0	63.0	17.2	87.6	13	2	3	2	4	1	1	3	1	4857	7814	7	8.99	228.3
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.98	761.5	30.03	762.7	73.6	23.1	80.7	5	.....	.....	.....	1	4	9	8	3	4800	7821	3	1.59	40.4
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.02	762.5	30.07	763.8	62.7	17.1	85.0	7	1	3	5	2	1	3	8	.....	6604	10628	6	6.57	166.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for September, 1882.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0 10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																										
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.91	759.7	30.08	764.0	63.5	17.5	84.8	7	2	3	2	4	2	1	9	.....	6875	11064	7	14.51	368.5
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.03	762.7	30.06	763.5	69.5	20.8	86.8	6	1	5	5	1	3	.....	7	2	5063	8148	5	8.07	205.0
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.13	689.1	30.01	762.2	53.2	11.8	75.5	2	3	1	1	1	7	3	3	9	7741	12458	3	0.28	7.1
Olympia	N. 47 02	W. 122 56	3.56 a.m.	36	11	30.01	762.2	30.05	763.3	48.4	9.1	86.4	7	1	1	2	7	.....	.....	2	10	2100	3380	3	1.24	31.5
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.92	734.6	30.09	764.3	58.7	14.8	80.0	6	3	1	2	7	8	.....	.....	3	4984	8021	3	0.51	13.0
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.76	755.9	30.08	764.0	59.2	15.1	81.6	1	2	1	2	10	3	2	9	.....	5493	8840	5	2.42	61.5
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.54	750.3	30.09	764.3	66.2	19.0	87.9	7	2	1	.....	5	2	3	10	.....	5664	9115	5	2.25	57.1
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.02	762.5	30.05	763.3	70.8	21.6	88.2	5	3	2	1	1	2	2	12	2	5081	8177	3	8.49	215.6
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	92	28	29.99	761.7	30.09	764.3	65.3	18.5	81.1	2	7	1	4	2	3	2	7	1	5571	8966	5	12.09	307.1
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.96	456.2	29.94	760.5	25.2	—3.8	77.3	6	9	8	5	1	.....	.....	.....	1	8626e	13882e	2	0.39	9.9
Pioche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.09	611.9	29.87	758.7	52.3	11.3	41.9	1	5	1	5	15	.....	.....	.....	3	4977	8010	1	0.03	0.8
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.31	744.5	30.10	764.5	59.3	15.2	88.3	5	6	2	2	3	1	3	7	1	3316	5336	4	4.08	103.6
Poplar River *a*	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.85	707.4	.....	.....	.....	.....	.....	1	9	1	2	2	8	1	5	.....	.....	.....	3	0.78	19.8
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.01	762.2	30.02	762.5	76.0	24.4	84.6	6	1	.....	.....	1	8	9	5	.....	8936	14381	2	6.80	172.7
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.42	747.3	30.09	764.3	57.9	14.4	86.4	1	5	2	5	3	2	2	6	4	4960	7982	6	0.88	22.4
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.02	762.5	30.07	763.8	59.0	15.0	77.0	8	2	.....	10	2	.....	1	7	.....	6318	10168	6	7.58	192.5
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	29.96	761.0	30.04	763.0	51.8	11.0	89.3	4	4	1	1	4	.....	.....	.....	16	2653	4270	4	0.91	23.1
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	73.6	23.1	85.2	1	3	.....	3	1	8	1	13	.....	11023	17739	6	8.97	227.8
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.85	631.2	29.95	760.7	49.5	9.7	67.0	.....	.....	.....	9	20	1	.....	.....	.....	3923	6313	1	2.57	65.3
Provincetown	N. 46 03	W. 70 11	7.27 a.m.	26	8	30.03	762.7	30.06	763.5	61.3	16.3	87.2	1	3	3	2	5	4	3	9	.....	7721	12426	7	6.39	162.3
Punta Rassa	N. 26 36	W. 82 10	6.40 a.m.	13	4	29.99	761.7	30.00	762.0	76.6	24.8	86.9	2	.....	.....	1	1	3	7	16	.....	6626	10633	5	4.12	104.6
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	.....	.....	.....	.....	.....	.....	.....	12	.....	.....	.....	6	1	.....	1	10	.....	.....	2	0.49	12.4
Rio Grande City	N. 26 22	W. 98 45	5.33 a.m.	230	70	29.82	757.4	30.06	763.5	71.1	21.7	78.7	11	1	1	.....	.....	4	4	2	7	4195	6751	2	0.28	7.1
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.43	747.5	30.08	764.0	57.6	14.2	84.2	.....	3	4	10	2	2	2	5	2	6502	10464	6	0.82	20.8
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.50	749.3	30.05	763.3	48.9	9.4	80.9	2	1	.....	.....	2	4	2	6	13	1915	3082	2	1.36	34.5
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	65	20	29.85	758.2	29.92	760.0	59.8	15.4	73.2	2	1	1	.....	6	20	.....	.....	.....	3905	6284	1	0.57	14.5
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.52	749.8	30.11	764.8	60.9	16.1	90.4	10	2	3	1	5	2	1	5	1	6164	9920	4	1.73	43.9
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.19	741.4	30.05	763.3	54.8	12.7	84.5	3	2	.....	5	1	8	6	3	2	5442	8758	4	0.27	6.9
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	29.12	739.6	29.99	761.7	46.0	7.8	89.9	1	5	5	1	3	8	7	.....	.....	6502	10464	3	1.51	38.4
Salt Lake City *a*	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.65	651.5	29.90	759.4	56.8	13.8	47.0	2	1	.....	.....	2	16	2	1	5	3779	6082	3	0.37	9.4
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.35	745.5	30.04	763.0	67.1	19.5	86.3	9	4	.....	.....	1	3	1	5	7	3335	5367	5	8.95	227.3
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.86	758.4	29.93	760.2	62.0	16.7	87.1	5	16	1	5	.....	.....	1	2	.....	4576	7364	2	0.01	0.3
Sandusky	N. 41 27	W. 82 43	6.37 a.m.	639	195	29.42	747.3	30.09	764.3	62.5	16.9	78.8	2	1	6	4	6	4	3	4	.....	8575	13800	4	1.67	42.4
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.03	762.7	30.06	763.5	66.1	18.9	83.8	2	3	3	4	2	2	.....	14	.....	11971	19265	7	11.48	291.6
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.91	759.7	29.98	761.5	54.8	12.7	88.9	.....	.....	9	11	5	.....	.....	.....	5	7361	11846	4	0.26	6.6
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7106	2166	23.35	593.1	30.02	762.5	50.5	10.3	57.3	1	1	.....	.....	2	1	14	6	5	5485	8827	2	0.62	15.7
Savannah *a*	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.96	761.5	30.06	763.5	73.1	22.8	84.1	9	3	3	3	7	2	1	1	.....	4184	6733	4	7.42	188.5
Shaw, Fort	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.40	670.5	30.01	762.2	45.8	7.7	71.7	1	1	17	5	.....	.....	1	5	.....	5216	8394	4	4.79	121.7
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.84	757.9	30.08	764.0	66.7	19.3	89.4	6	.....	2	1	4	3	2	9	3	3573	5750	5	1.11	28.2
Sill, Fort	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.85	732.8	30.07	763.8	60.1	15.6	87.9	13	1	1	1	6	3	1	3	1	5717	9200	4	4.71	119.6
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.38	619.2	29.92	760.0	49.0	9.4	75.5	6	4	.....	.....	.....	1	.....	4	15	1584	2549	2	1.05	26.7
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.87	758.7	29.93	760.2	48.1	8.9	82.2	.....	4	2	1	1	5	9	7	1	6269	10089	7	9.67	245.6
Smith, Fort	N. 35 22	W. 94 24	5.51 a.m.	449	137	29.62	752.3	30.09	764.3	61.7	16.5	91.9	2	.....	2	.....	.....	1	12	3	10	2720	4377	3	5.81	147.6
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.03	762.7	30.07	763.8	70.2	21.2	87.0	8	6	3	5	.....	1	3	3	1	6151	9899	5	2.26	57.4
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.97	710.4	30.01	762.2	49.2	9.6	76.1	.....	4	.....	7	2	1	1	1	14	3204	5156	4	0.80	20.3
Springfield, Ill	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.44	747.8	30.11	764.8	58.5	14.7	81.6	5	3	3	2	2	4	3	3	5	4628	7448	4	1.21	30.7
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	29.96	761.0	30.09	764.3	60.1	15.6	85.5	14	2	2	1	7	1	2	1	.....	3969	6387	8	12.73	323.3
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.68	728.5	30.10	764.5	59.2	15.1	87.5	2	1	.....	4	4	5	7	6	1	5113	8228	4	4.48	113.8
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.59	751.6	30.06	763.5	67.2	19.6	85.6	8	7	3	3	4	5	.....	.....	.....	4813	7746	4	1.59	40.4
Stevenson, Fort	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.13	714.5	29.97	761.2	46.8	8.2	85.2	.....	5	3	3	.....	5	9	3	2	5845	9405	6	2.56	65.0
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	27.07	687.6	30.03	762.7	56.8	13.8	90.0	1	1	1	4	11	5	1	.....	6	5297	8525	3	6.82	173.2
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.03	762.7	30.08	764.0	58.6	14.8	87.0	2	3	3	4	5	.....	4	9	.....	9804	15778	6	7.40	188.0
Thomas, Camp	N. 33 04	W. 110 06	4.49 a.m.	2710	826	27.25	692.1	29.89	759.2	60.0	15.6	66.8	.....	.....	2	1	4	9	3	1	10	.....	.....	1	0.28	7.1
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.40	746.7	30.08	764.0	60.0	15.6	82.1	5	6	4	5	5	3	.....	2	.....	5336	8587	5	2.08	52.8
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.54	699.5	29.92	760.0	65.5	18.6	62.4	.....	.....	.....	.....	19	9	1	.....	1	3172	5105	1	0.32	8.1
Umatilla	N. 45 55	W. 119 21	4.11 a.m.	340	103	29.64	752.8	30.00	762.0	54.6	12.6	65.8	1	1	4	5	.....	9	6	1	3	5229	8415	3	1.20	30.5
Uvalde *c*	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.09	738.9	30.04	763.0	65.9	18.8	85.4	.....	3	.....	.....	.....	8	3	5	8	2620	4216	4	4.05	102.9
Verde, Fort	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	57.9	14.4	56.6	2	17	5	5	1	.....	.....	.....	.....	.....	.....	1	2.16	54.9
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.84	757.9	30.08	764.0	67.2	19.6	88.3	7	1	.....	1	2	7	3	9	.....	3570	5745	4	1.47	37.3
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.21	5.3
Washakie, Fort	N. 42 59	W. 108 43	4.50 a.m.	5580	1702	24.52	622.8	29.98	761.5	42.5	5.8	64.4	.....	9	10	1	2	1	2	.....	5	3959	6371	2	0.46	11.7
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	29.99	761.7	30.10	764.5	64.5	18.1	86.0	7	7	1	2	3	1	1	2	6	2994	4818	5	7.84	199.1
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3995	1190	26.10	662.9	29.93	760.2	51.5	10.8	65.4	4	6	7	3	2	2	1	4	1	7261	11685	3	inap.	inap.
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.53	750.0	30.12	765.0	58.8	14.9	85.3	3	3	10	1	1	3	1	1	7	2447	3938	6	2.12	53.8
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.02	762.5	30.07	763.8	70.4	21.3	88.1	3	4	3	5	1	.....	2	10	2	4027	6471	5	3.34	84.8
Winnemucca	N. 41 00	W. 117 43	4.17 a.m.	4327	1319	25.64	651.2	29.93	760.2	45.3	7.4	51.5	7	1	1	16	1	.....	1	2	1	5545	8924	2	1.28	32.5
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.75	730.2	30.04	763.0	52.8	11.6	72.5	.....	4	3	.....	3	4	2	2	12	2930	4715	3	0.07	1.8
Yuma	N. 32 44	W. 114 36	4.30 a.m.	141	43	29.69	754.1	29.83	757.7	71.0	21.7	61.6	5	3	1	1	2	2	.....	6	10	2001*h*	3220*h*	1	0.04	1.0
Sub-Series.																												
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.06	560.3	.....	.....	53.5	11.9	74	3	2	1	4	3	2	3	4	8	2647	4260	8	0.96	24.4
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	29.99	761.7	30.01	762.2	83.0	28.3	79	1	.....	.....	.....	.....	6	14	9	.....	.....	.....	9	2.73	69.3
Havana	N. 3 50	W. 82 22	6.39 a.m.	32	8	29.90	759.4	29.96	761.0	79.2	26.2	84.2	1	.....	.....	.....	1	10	5	1	12	3530	5681	5	5.97	151.6
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	29.97	761.2	29.98	761.5	78.3	25.7	82.1	11	1	.....	.....	.....	1	.....	.....	17	2639	4247	6	3.68	93.5
Navassa	N. 19 25	W. 75 03	7.43 a.m.	77	23	29.85	758.2	29.93	760.2	81.8	27.7	78	.....	.....	.....	.....	.....	.....	14	16	.....	.....	.....	6	5.85	148.6
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.01	762.2	30.01	762.2	80.6	27.0	80.7	.....	.....	.....	.....	2	19	9	.....	.....	.....	.....	6	1.24	31.5
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.40	746.7	29.96	761.0	77.4	25.2	89	4	.....	1	.....	2	.....	.....	.....	23	.....	.....	9	12.21	310.1
Rivas *a*	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	76.4	24.7	97.6	5	2	1	4	1	6	1	9	.....	.....	.....	6	7.65	194.3
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	29.95	760.7	29.98	761.5	79.8	26.6	80.3	9	.....	.....	.....	.....	.....	1	.....	4	16	.....	6	7.45	189.2
St. Paul, Alaska	N. 57 47	W. 152 21	1.59 a.m.	54	16	29.68	753.9	29.74	755.4	45.3	7.4	95.8	3	3	.....	4	1	3	2	5	9	.....	.....	7	7.59	192.8
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	141	43	29.92	760.0	30.05	763.3	82.0	27.8	80.4	1	.....	.....	.....	1	9	15	4	.....	.....	.....	4	4.50	114.3
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.95	760.7	30.01	762.2	39.2	4.0	93.4	6	3	2	3	5	4	3	4	.....	9000	15932	5	3.80	96.5

OCEAN SQUARE DATA FOR SEPTEMBER, 1882.

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°	30.02	762.5	80.4	26.9	1							26		3	1.1
12.5 27.5	30.03	762.7	81.3	27.4	2					1		22	1	4	1.3
12.5 32.5	30 02	762.5	81.6	27.6				1			4	17		8	1.0
12.5 37.5	30.03	762.7	82.0	27.8						4	4	9		13	1.0
17.5 22.5	30.06	763.5	79.4	26.3	1							28		1	1.3
17.5 27.5	30.07	763.8	80.3	26.8								26		4	1.2
17.5 32.5	30.07	763.8	80.6	27.0						3	6	10		11	1.0
17.5 37.5	30.08	764.0	81.1	27.3					1	2	5	9		13	1.0
17.5 57.5	30.02	762.5	82.0	27.8				1	3	4	10	4		8	1.2
22.5 22.5	30.10	764.5	77.8	25.4	1				3	2		24			2.0
22.5 27.5	30.10	764.5	78.2	25.7				1		4	14	9		2	1.1
22.5 32.5	30.05	763.3	79.2	26.2					1	7	7	7		8	1.8
22.5 37.5	30.10	764.5	80.1	26.7					1	8	7	5		9	1.1
22.5 42.5	30.09	764.3	80.8	27.1	1					4	7	4		14	1.0
22.5 57.5	30.07	763.8	81.1	27.3				1	4	6	2	6		11	1.2
22.5 62.5	30.02	762.5	81.7	27.6	2	1			2	10	5	8		2	1.2
22.5 67.5	30.01	762.2	81.8	27.7	3	2			3	9	6	5		2	1.1
22.5 72.5	30.02	762.5	81.9	27.7	3	1			2	7	5	11		1	1.6
27.5 22.5	30.16	766.1	75.6	24.2				1		1	8	18		2	2.1
27.5 27.5	30.16	766.1	76.4	24.7				1		3	17	7		2	2.0
27.5 32.5	30.16	766.1	77.4	25.2					1	12	8	5		4	2.0
27.5 37.5	30.19	766.8	78.0	25.6					1	13	6	3		7	1.8
27.5 57.5	30.04	763.0	79.4	26.3	2	2	1		6	2	3	3		11	1.5
27.5 62.5	30.03	762.7	80.3	26.8	3	1	1	3	3	8	3	8			1.4
27.5 67.5	30.03	762.7	80.4	26.9	3	6		1	4	7	1	7		1	1.3
27.5 72.5	30.03	762.7	80.4	26.9	2	1	1	1	6	3	5	11			1.7
27.5 77.5	30.04	763.0	80.0	26.7	1	2		2	1	4	10	10			1.7
32.5 12.5	30.14	765.5	72.6	22.6	20			3	2			5			1.9
32.5 17.5	30.19	766.8	73.1	22.8	6			2	1			21			1.3
32.5 22.5	30.21	767.3	73.8	23.2	3			2	1			24			1.4
32.5 27.5	30.22	767.6	74.5	23.6	1			2	1	8	10	8			1.1
32.5 32.5	30.21	767.3	75.6	24.2				2	3	11	9	5			1.1
32.5 37.5	30.19	766.8	76.4	24.7	2	1		1	3	16	4	2		1	1.6
32.5 42.5	30.16	766.1	76.9	24.9	2				6	12	3	4		3	1.5
32.5 47.5	30.13	765.3	76.8	24.9	2		2	2	2	11	3	2		8	1.8
32.5 52.5	30.08	764.0	77.1	25.1	1			3	4	7	2	4		9	1.5
32.5 57.5	30.05	763.3	77.2	25.1	2		2	1	7	4	1	6		7	1.8
32.5 62.5	30.04	763.0	77.4	25.2	4	2	1	4	3	5	5	6			1.7
32.5 67.5	30.06	763.5	77.6	25.3	4	3	2	3	5	1	3	9			2.2
32.5 72.5	30.03	762.7	78.1	25.6	7	3		1	1	10	2	4		2	2.1
32.5 77.5	30.05	763.3	74.5	23.6	6	5		7		1		11			2.1
37.5 12.5	30.12	765.0	68.9	20.5	16	6	1	4				3			2.5
37.5 17.5	30.19	766.8	69.7	20.9	10	7	1	4				8			2.5
37.5 22.5	30.24	768.1	68.7	20.4	16	5		3				6			1.9
37.5 27.5	30.28	769.1	72.0	22.2	5	3	2	3	3	8	4	2			1.5
37.5 32.5	30.25	768.3	72.7	22.6	3	5		3	10	7		2			1.6
37.5 37.5	30.23	767.8	73.7	23.2	3	2		4	10	5	3	2		1	2.2
37.5 42.5	30.18	766.6	73.6	23.1	2			5	11	5		5		2	2.4
37.5 47.5	30.14	765.5	72.6	22.6	2	1		4	10	4	1	3		5	2.3
37.5 52.5	30.11	764.8	71.7	22.1	4	3		3	2	11	1	3		3	2.4
37.5 57.5	30.08	764.0	71.8	22.1	2	1	2	3	6	8		5		3	2.8
37.5 62.5	30.05	763.3	71.4	21.9	1	4		2	7	7	1	8			2.8
37.5 67.5	30.03	762.7	70.9	21.6	3	4		3	6	5	3	6			2.6
37.5 72.5	30.05	763.3	69.9	21.1	7	2	1	5	3	4	3	5			2.9
42.5 12.5	30.08	764.0	65.7	18.7	9	10	1	4				6			2.9
42.5 17.5	30.14	765.5	66.4	19.1	6	11	2	4				7			2.9
42.5 22.5	30.20	767.1	67.9	19.9	7	14	2	2		1	1	3			2.5
42.5 27.5	30.23	767.8	69.1	20.6	4	6	3	8	1	2		6			2.1
42.5 32.5	30.22	767.6	70.1	21.2	3	5	2	7	9	4					2.7
42.5 37.5	30.19	766.8	70.4	21.3	4	4	2	11	9						2.5
42.5 42.5	30.16	766.1	70.3	21.3	6	3		6	11	3		1			2.7
42.5 47.5	30.19	766.8	68.1	20.1	3	2	1	5	6	6		7			2.6
42.5 52.5	30.10	764.5	66.7	19.3	4	4		1	7	11		3			2.8
42.5 57.5	30.08	764.0	65.5	18.6	3	5		4	5	6	2	5			2.7
42.5 62.5	30.07	763.8	64.1	17.8	1	4	1	3	7	6		8			3.5
42.5 67.5	30.05	763.3	62.2	16.8	6	3		6	4	4	2	5			2.9
47.5 12.5	29.97	761.2	60.1	15.6	6	10	6	4	1		1	2			3.4
47.5 17.5	30.03	762.7	60.2	15.7	4	13	4	5	2	1	1				3.6
47.5 22.5	30.06	763.5	60.4	15.8	4	11	6	4	2	1	1	1			3.5
47.5 27.5	30.10	764.5	60.9	16.1	3	11	8	4	2	1		1			3.4
47.5 32.5	30.12	765.0	62.7	17.1	3	13	1	10	3						3.5
47.5 37.5	30.11	764.8	61.3	16.3	3	8	1	9	7	1		1			4.0
47.5 42.5	30.09	764.3	61.3	16.3	2	5	4	10	7	1		1			3.1
47.5 47.5	30.07	763.8	57.9	14.4	5	5		9	5	2		4			2.9
52.5 12.5	29.92	760.0	57.1	13.9	4	9	4	9	1		1	2			3.6
52.5 17.5	29.93	760.2	56.7	13.7	4	12	4	7	2	1					3.7
52.5 22.5	29.99	761.7	56.5	13.6	5	10	7	7				1			3.6
52.5 27.5	29.99	761.7	56.6	13.7	1	15	3	7	4						3.8
52.5 32.5	30.04	763.0	56.9	13.8	4	14		9	3						3.7
52.5 37.5	29.99	761.7	56.4	13.6	4	10	2	7	6	1					3.3
52.5 42.5	29.99	761.7	55.3	12.9	2	10	1	10	4	3					1.9
52.5 47.5	29.97	761.2	51.7	10.9	3	7	5	6	3	3		2		1	3.0
57.5 12.5	29.76	755.9	52.1	11.2	5	2	2	12	5	1		3			3.5
57.5 17.5	29.76	755.9	51.1	10.6	5	5	4	9	4	1	1	1			3.7
57.5 22.5	29.76	755.9	50.0	10.0	6	7	6	7	2			1		1	3.6
57.5 27.5	29.80	756.9	49.3	9.6	7	9	3	6	4					1	3.4
57.5 32.5	29.79	756.7	48.3	9.1	3	13		9	4	1					3.5
57.5 37.5	29.78	756.4	46.4	8.0	3	13	1	7	4	2					3.1
57.5 42.5	29.79	756.7	46.2	7.9	4	12		9	1	3		1			2.7
57.5 47.5	29.77	756.1	45.0	7.2	5	8	3	3	2	3		4	1	1	2.2

NOTE.—See General Remarks.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade.*]

The following descriptions refer to chart ii. (formerly iv.) for the months of January, February, March, and April, 1882, (which charts were issued with the SUMMARY for the respective months,) and present a brief summary of the meteorological conditions which prevailed over the northern hemisphere during the above months. Chart ii. continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere and at certain isolated stations in the southern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m. Washington, or 0 h. 8 m. p. m. Greenwich, mean time.

For the description of these charts much valuable information has been obtained from the "Monatliche Uebersicht der Witterung," published by Professor Dr. G. Neumayer, director of the German Marine Observatory at Hamburg, Germany.

For the month of January, 1882, the region of least pressure is situated over the Arctic ocean to the north of Scandinavia, and includes the extreme northern part of that peninsula. At Gjaesvaer, in Finmark, the mean pressure is 29.26 (743.2); to the southward and westward of this region the pressure rapidly increases until the isobar of 30.3 (769.6) is reached. That isobar covers the continent of Europe from the Baltic to the Mediterranean and from the Bay of Biscay to the Black sea, the centre of greatest pressure being in central Europe. In the British Isles and southern Scandinavia the mean pressure ranges from 30.0 (762.0) to 30.2 (767.1); in Russia it ranges from 29.6 (751.8) in the northern to 30.2 (767.1) in the southern parts of the country.

In North America no marked depression appears; the pressure is least in the Lake Superior region, in the Maritime Provinces of Canada, and in Newfoundland, where it ranges from 29.8 (756.9) to 30.0 (762.0). In the United States the pressure ranges from 30.1 (764.5) to 30.25 (768.3). It is greatest in the south Atlantic states, Tennessee, and the southern parts of the Mississippi and Missouri valleys, and is least in the southern part of the west Gulf states and the Rio Grande valley.

In Asia the area of least pressure is shown in British India, where the barometric means range from 29.85 (758.2) to 30.05 (763.3). In Japan they range from 30.05 (763.3) to 30.15 (765.8); elsewhere in Asia the means are generally above 30.2 (767.1).

Respecting the areas of barometric maxima the most noteworthy are those which are shown in Europe and in Asia, and which are both indicated by the isobar for 30.5 (774.7). As previously stated, the area of high pressures, enclosed by the isobar for 30.4 (772.1), occupies nearly the whole of Europe, its centre being in Austria, where the greatest mean pressure at Vienna is 30.56 (776.2). This distribution of pressure in the continent of Europe gives the unusually large range of about 1.31 inches between the lowest barometric mean 29.26 (743.2), in Finmark, and the highest, 30.56 (776.2), in Austria. In Asia the centre of "high" is situated near Pekin, China, where the mean for the month is 30.57 (776.5).

Compared with the chart for the preceding month (December, 1881), there has been no very great change in the distribution of pressure over the United States. Over the country west of the Rocky mountains a slight but general decrease of pressure has occurred. In the Canadian Maritime Provinces and in Newfoundland there has been a decrease ranging from about .05 to .1 inch. In Europe important changes have occurred; there has been an increase of pressure ranging from .15 inch over the Iberian peninsula, to .3 inch over central and northern Europe and the British Isles. The only countries in which the pressure has decreased are Sweden and Russia; in the former there has been a decrease of about .1 inch, and in the latter the means average .12 inch below those of the preceding month. There has been a decrease of pressure in western Asia, so that the area of high pressures which, in December, stretched from the Ural region to the Chinese coast, is now confined to eastern China. In Greenland and in Iceland there has been an increase of pressure, the low area which occupied those places in December having moved eastward, as indicated on the chart for January, 1882.

Compared with the corresponding month of previous years, the mean atmospheric pressure is slightly below the normal over the greater part of the United States. In the northern part of the lake region, on the Atlantic seaboard, and on the Pacific coast, north of San Francisco, is was slightly above the normal; the departures were not large in any of the districts of the United States. In Canada the mean pressure ranged from normal in the west, to slightly below normal in the Maritime Provinces. In Europe the mean atmospheric pressure was considerably above the normal in all parts of the continent, excepting Sweden and Russia.

The following table gives the mean pressure and the mean temperature, with corresponding departures, for the month of January, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	Jan., 1877, 1878, 1879, 1880, 1881.	Jan., 1882.	Departure.	Jan., 1877, 1878, 1879, 1880, 1881.	Jan., 1882.	Departure.
				°	°	°
Algeria	30.14	30.41	+0.27	57.2	54.7	− 2.5
Austria	30.14	30.46	+0.32	32.4	36.8	+ 4.4
British Isles	30.00	30.27	+0.27	39.6	44.0	+ 4.4
Denmark	30.01	30.22	+0.21	30.6	39.0	+ 8.4
France	30.10	30.46	+0.36	41.7	41.9	+ 0.2
Germany	30.07	30.41	+0.34	31.3	35.8	+ 4.5
India*	29.93	30.02	+0.09	73.0	71.9	− 1.1
Italy	30.05	30.41	+0.36	47.8	48.8	+ 1.0
Norway	29.83	29.89	+0.06	28.6	36.9	+ 8.3
Portugal	30.15	30.37	+0.22	52.1	50.0	− 2.1
Russia	30.13	30.09	−0.04	20.6	31.2	+10.6
Spain	30.13	30.42	+0.29	52.5	51.6	− 0.9
Sweden	29.92	29.86	−0.06	24.1	31.9	+ 7.8

* Mean for four years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of January, 1882, as compared with the means of five years:

Stations.	Mean pressure.			Mean temperature.		
	Jan., 1877, 1878, 1879, 1880, 1881.	Jan., 1882.	Departure.	Jan., 1877, 1878, 1879, 1880, 1881.	Jan., 1881.	Departure.
				°	°	°
Gibraltar	30.14	30.34	+ 0.20	59.8	59.5	− 0.3
Malta, Mediterranean Sea	30.02	30.31	+ 0.29	59.8	56.9	− 2.9
Sandwick Manse, Orkney Islands	29.91	30.04	+ 0.13	38.1	43.2	+ 5.1
Bridgetown, Barbadoes	30.01	30.03	+ 0.02	80.1	79.5	− 0.6
Cape Town, Cape Good Hope	29.97	29.96	− 0.01	78.4	83.4	+ 5.0
Fort Napier, Natal, South Africa	29.80	29.78	− 0.02	78.2	79.0	+ 0.8
Free Town, Sierra Leone	29.89	29.87	− 0.02	85.7	87.6	+ 1.9
Mauritius, Indian Ocean	29.95	29.94	− 0.01	81.6	80.7	− 0.9
Melbourne, New South Wales	29.97	29.89	− 0.08	63.0	61.3	− 1.7
Nassau, Bahamas *	30.13	30.27	+ 0.14	71.3	70.8	− 0.5
Godthaab, Greenland	29.53	29.36	− 0.17	17.7	4.8	−12.9
Stykkisholm, Iceland	29.64	29.32	− 0.32	27.8	30.2	+ 2.4
Thorshavn, Färöe Islands	29.78	29.67	− 0.11	37.7	41.2	+ 3.5
Zi-Ka-Wei, China	30.40	30.35	− 0.05	33.9	40.1	+ 6.2
Athens, Greece	30.07	30.33	+ 0.26	52.7	50.4	− 2.3
Cagliari, Sardinia, Italy*	30.05	30.34	+ 0.29	54.2	57.0	+ 2.8
Tokei, Japan	30.06	30.12	+ 0.06	34.6	38.8	+ 4.2
Angra, Azores*	30.04	.....	.....	57.5	57.9	+ 0.4
Funchal, Madeira Islands	30.17	30.27	+ 0.10	64.9	64.0	− 0.9
Ponta Delgado, Azores	30.07	30.27	+ 0.20	60.7	59.7	− 1.0
Archangel, Russia	29.85	29.57	− 0.28	7.6	16.0	+ 8.4
Tiflis, Russia	30.18	30.28	+ 0.10	39.3	39.6	+ 0.3
Astrakhan, Russia	30.22	30.19	− 0.03	24.1	30.4	+ 6.3
Ekaterinburg, Russia	30.19	29.78	− 0.41	4.9	10.0	+ 5.1
Tashkend, Toorkistan, Asia	.....	.....	.....	.....	.....	.....
Barnaul, Siberia, Asia	30.46	30.20	− 0.26	0.2	8.4	+ 8.2
Yeniseisk, Siberia, Asia	30.46	30.16	− 0.30	−10.0	3.9	+13.9
Pekin, China	30.41	30.38	− 0.03	21.4	27.5	+ 6.1
Nikolaevsk on the Amoor, Asia	.....	.....	.....	− 7.2	− 8.0	− 0.8
San Juan de Puerto Rico, W. I*	30.06	30.12	+ 0.06	75.3	74.1	− 1.2
Beirut, Turkey in Asia	30.11	30.14	+ 0.03	60.1	57.6	− 2.5
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I*	30.09	30.20	+ 0.11	71.8	69.8	− 2.0
Paramaribo, D. Guiana, S. A	29.99	30.04	+ 0.05	78.9	77.1	− 1.8
York Factory, B. A	29.99	30.06	+ 0.07	−24.4	−29.5	− 5.1

* Mean for four years only.

In the United States the mean temperature of the air was everywhere above the normal, except in New England and in the country west of the Rocky mountains. In the first-mentioned district it was slightly below the normal; in the last-mentioned it was about 4°.5 below the normal. In Canada the mean temperature was about normal; where departures occurred they were extremely slight. In Europe the mean temperature of the air was greatly above the normal, except in the Iberian peninsula, where it was slightly below. The excess in temperature was most marked in the northern peninsulas and in Russia, but the abnormal conditions were also prominently exhibited in other sections of the continent. In Siberia and in China the temperature was above the normal. In British India it was slightly below the mean of four years. The highest temperature, 85°.6 Fahr., (29°.8 Cent.,) was reported at Poona, and the lowest, 62°.0 Fahr., (16°.7 Cent.,) at Sibsagar.

The following are some of the extreme monthly mean temperatures reported at isolated stations in the northern and southern hemispheres:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	87.6	30.9	York Factory, B. A	—29.5	—34.2
Cape Town, Cape of Good Hope	83.4	28.6	Ooglaamie, Alaska	—17.4	—27.4
Mauritius, Indian Ocean	80.7	27.1	Nikolaevsk on the Amoor, Asia	— 8.0	—22.2
Peurto Berrio, South America	80.3	26.8	Yeniseisk, Siberia	+ 3.9	—15.6
Bridgetown, Barbadoes	79.5	26.4	Akmolinski, Siberia	4.3	—15.4
			Godthaab, Greenland	4.8	—15.1

In the United States the prevailing winds were from south to west over the country between the ninety-second and seventy-eighth meridians; in New England and along the Atlantic coast southward to North Carolina they were northerly and northwesterly; in Texas the winds were mostly northerly; in the Rocky mountain regions they were variable, and on the Pacific coast they were southerly in the northern, and generally northerly and northeasterly in the southern districts. In Canada the winds were northerly and northwesterly. Over the north Atlantic ocean, from the coasts of North America eastward to the fortieth meridian and north of the thirtieth parallel, the winds were mostly northwesterly. From the fortieth meridian eastward to the European coasts the winds were southerly and southwesterly. South of N. 30° northeasterly winds prevailed from W. 75° to W. 40°; east of the fortieth meridian they were mostly southeasterly. In central and western Europe southerly and southwesterly winds were general; in the southern peninsulas the winds were easterly and northeasterly; in eastern Europe they were mostly westerly. In China and Japan northerly and westerly winds prevailed.

In the United States the rainfall for January, 1882, was below the average in the south Atlantic states, the Florida peninsula, and over the country west of the ninety-fifth meridian. Elsewhere the rainfall was greatly in excess of the average; in Tennessee the excess amounted to more than nine inches and caused disastrous floods in that region. In Europe the rainfall was much below the average, the precipitation, which was almost entirely in the form of rain, reaching only about one-half of the average January rainfall.

In connection with the abnormal meteorological conditions which prevailed in Europe during January, 1882, should be mentioned the remarkably high barometric pressures that prevailed during a greater part of the month. During the first decade of the month the pressure in northern Europe remained below the normal, but on the 12th it began to increase gradually and continued until the barometer indicated the extraordinary pressure of 31.0 inches (787.4) over northern and central Europe, on the 15th and 16th. A very slight decrease then occurred, but on the 17th the pressure over the above-mentioned districts and also the British Isles, was between 30.85 (783.6) and 30.95 (786.1). From the 18th to the 21st the pressure remained about 30.8 (782.3), after which a slow but gradual decrease set in, but it was not till the 27th that the pressure fell below 30.6 (777.2). Professor Neumayer in the "Monatliche Uebersicht der Witterung," for January, 1882, says: "* * * On the night of the 12th the region of maximum pressures occupied the lower Elbe where the barometer read 30.65 (778.0); on the following morning (13th) it lay over the lower Oder, barometer 30.75 (781.0). On the morning of the 14th it was in Poland, 30.83 (783.1), and by the morning of the 15th the barometer registered the remarkable pressure of 31.03 (788.0), which pressure was maintained throughout the day. * * * For one day the pressure at the centre of high area was 31.03 (788.0); for five successive days it was more than 30.91 (785.0), and for eight days in succession it was more than 30.71 (780.0)."

It would appear that so great a pressure has rarely, if ever before, been observed in Europe. At Paris, on February 6th, 1821, the reduced barometer read 30.99 (787.2); on January 17th, 1882, it read 30.97 (786.7), showing but a very slight difference. Professor Hann, in "Zeitschrift der Oesterreichischen Gesellchaft für Meteorologie," vol. xvii., page 96, gives the following instances of very high barometric readings in West Siberia, viz: January 13, 1872, Barnaul, 31.6 (802.6); temperature, —50°.8 Fahr. (—46° Cent.). December 16, 1877, Tomsk, 31.55 (801.4); temperature, —40° Fahr. (—40° Cent.). December 17, 1877, Barnaul, 31.64 (803.7); temperature, —54°.4 Fahr. (—48° Cent.). December 16, 1877, Semipalatinsk, 31.71 (805.7); temperature, —56°.2 Fahr. (—49° Cent.).

Another noteworthy phenomenon in connection with the weather for January, 1882, was the high temperature which prevailed in the extreme northern portions of Europe (the region of low barometer). At most stations in northern Scandinavia the mean temperature was above 32° Fahr.; in Iceland it was 30° Fahr. It is remarkable that even at the centre of the high-pressure area the weather remained very mild and open, the mean temperatures being, without exception, above 32° Fahr. Frost occurred in central and northwestern Europe on only two or three days during the month, and was not intense. Very little snow fell in the continent, the small precipitation of the month being chiefly rain; in the British Isles no snow whatever fell. In consequence of these unusual conditions many flowers were in blossom, and agriculture was greatly assisted.

For the month of February, 1882, the region of least pressure is indicated by the isobar for 29.3 (744.2), which covers northern Scandinavia and Lapland. The barometric means increase somewhat rapidly to the southward and westward (as in January, 1882). Over the southern part of the British Isles and the whole of Europe, excepting Scandinavia and Russia, the mean pressure ranges from 30.15 (765.8) in the northern to 30.35 (770.9) in the southern districts. In Russia the increase of pressure is much less rapid, the means ranging from 29.35 (745.7) at Archangel, to 30.1 (764.5) on the shores of the Black sea. In the Canadian Maritime Provinces the mean pressure ranges from 29.8 (756.9) to 30.0 (762.0); in the United States it ranges from 30.0 (762.0) to 30.25 (768.3). Over the Atlantic ocean, between W. 60° and 30° and north of the thirtieth parallel, the mean atmospheric pressure ranges from 29.7 (754.4) to 30.1 (764.5), increasing with the latitude on nearing the European coasts.

The principal areas of high barometer are shown in Asia and in Europe. The first is central near Pekin, China, where the mean pressure is 30.59 (777.0); the second, which is indicated by the isobar for 30.3 (769.6), comprises that part of Europe lying south of the fiftieth parallel, and extends from the interior of Austro-Hungary, southwestward to the Madeira Islands. In northern Africa (Algeria and Tunis) the mean pressure ranges from 30.32 (770.1) to 30.37 (771.4). In the United States the areas of barometric maxima occupy the middle and south Atlantic states, Florida, and the east Gulf states, the means ranging from 30.2 (767.1) to 30.25 (768.3). In Utah, Nevada, and northern Arizona the pressure is above 30.2 (767.1).

Compared with the preceding month (January), but slight changes have occurred in the positions of the areas of maxima

and minima, but there has been a general decrease of pressure over Europe. The area of abnormally high pressures which, in January, occupied central and northwestern Europe, maintains nearly the same position, but the pressure has decreased about .2 inch. A slight decrease is also shown in the region of low barometer. The decrease is most marked over the northern peninsulas and the northern part of the British Isles. In the North American continent there has been a slight decrease of pressure in the lake region, while a very slight increase has occurred over the Canadian Maritime Provinces. Elsewhere the pressure has remained unchanged. In Asia the pressure has decreased in western Siberia and in British India, but has increased in other parts of the continent.

The following table gives the mean pressure and mean temperature, with corresponding departures, for the month of February, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	Feb., 1877, 1878, 1879, 1880, 1881.	Feb., 1882.	Departure.	Feb., 1877, 1878, 1879, 1880, 1881.	Feb., 1882.	Departure.
				°	°	°
Algeria	30.12	30.35	+0.23	59.1	55.5	− 3.6
Austria	29.99	30.29	+0.30	37.3	39.6	+ 2.3
British Isles	29.80	30.18	+0.38	42.4	46.1	+ 3.7
Denmark	29.80	30.03	+0.23	32.9	40.2	+ 7.3
France	30.01	30.37	+0.36	46.9	46.0	− 0.9
Germany	29.91	30.24	+0.33	36.9	39.4	+ 2.5
India*	29.95	29.92	−0.03	74.6	75.0	+ 0.4
Italy	29.99	30.32	+0.33	50.7	49.6	− 1.1
Norway	29.69	29.73	+0.04	31.1	34.7	+ 3.6
Portugal	30.16	30.34	+0.18	54.8	56.4	+ 1.6
Russia	30.00	29.91	−0.09	25.9	29.2	+ 3.3
Spain	30.08	30.33	+0.25	55.4	54.0	− 1.4
Sweden	29.78	29.70	−0.08	23.1	28.8	+ 6.7

* Mean for four years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of February, 1882, as compared with the means of five years:

Stations.	Mean pressure.			Mean temperature.		
	Feb., 1877, 1878, 1879, 1880, 1881.	Feb., 1882.	Departure.	Feb., 1877, 1878, 1879, 1880, 1881.	Feb., 1882.	Departure.
				°	°	°
Gibraltar	30.13	30.36	+0.23	60.1	61.0	+ 0.9
Malta, Mediterranean Sea	30.00	30.27	+0.27	59.0	57.4	− 1.6
Sandwick Manse, Orkney Islands	29.68	29.86	+0.18	39.7	43.4	+ 3.7
Bridgetown, Barbadoes	30.00	30.04	+0.04	80.0	80.2	+ 0.2
Cape Town, Cape Good Hope	30.00	29.94	−0.06	79.2	82.8	+ 3.6
Fort Napier, Natal, South Africa	29.82	29.82	normal.	77.3	83.8	+ 6.5
Free Town, Sierra Leone	29.84	29.82	−0.02	80.2	88.1	+ 7.9
Mauritius, Indian Ocean	29.93	29.86	−0.07	81.2	80.5	− 0.7
Melbourne, New South Wales	30.03	29.89	−0.14	64.8	61.3	− 3.5
Nassau, Bahamas*	30.11	30.26	+0.15	71.1	71.7	+ 0.6
Godthaab, Greenland	29.54	29.58	+0.04	14.7	11.1	− 3.6
Stykkisholm, Iceland	29.53	29.48	−0.05	28.3	24.6	− 3.7
Thorshavn, Färöe Islands	29.63	29.72	+0.09	39.0	40.3	+ 1.3
Zi-Ka-Wei, China	30.31	30.37	+0.06	38.7	39.4	+ 0.7
Athens, Greece	30.02	30.25	+0.23	54.5	49.1	− 5.4
Cagliari, Sardinia, Italy	29.97	30.27	+0.30	57.1	56.1	− 1.0
Tokei, Japan*	30.11	30.08	−0.03	40.1	39.7	− 0.4
Angra, Azores*	.....	.....	.....	57.6	58.8	+ 1.2
Funchal, Madeira Islands	30.22	30.32	+0.10	64.9	63.7	− 1.2
Ponta Delgado, Azores	30.19	30.22	+0.03	60.1	61.0	+ 0.9
Archangel, Russia	29.80	29.35	−0.45	10.0	15.8	+ 5.8
Tiflis, Russia	30.09	30.16	+0.07	44.2	37.2	− 7.0
Astrakhan, Russia	30.13	30.08	−0.05	26.5	25.0	− 1.5
Ekaterinburg, Russia	30.04	29.69	−0.35	10.6	14.2	+ 3.6
Tashkend, Toorkistan, Asia	30.31	30.24	−0.07	38.1	34.5	− 3.6
Barnaul, Siberia, Asia	30.33	30.24	−0.09	3.3	14.2	+10.9
Yeniseisk, Siberia, Asia	30.29	30.27	−0.02	−0.1	14.2	+14.3
Pekin, China	30.34	30.42	+0.08	27.4	31.6	+ 4.2
Nikolaevsk on the Amoor, Asia	.....	.....	.....	−5.6	1.9	+ 7.5
San Juan de Puerto Rico, W. I.*	30.07	30.14	+0.07	74.8	72.1	− 2.7
Beirut, Turkey in Asia	30.03	30.07	+0.04	61.2	56.5	− 4.7
Mexico, Mexico*	30.24	30.30	+0.06	46.1	47.5	+ 1.4
Havana, Cuba, W. I.	30.00	30.21	+0.15	70.7	72.4	+ 1.7
Paramaribo, D. Guiana, S. A	30.01	30.05	+0.04	79.3	76.8	− 2.5
York Factory, B. A	30.08	30.03	−0.05	−21.8	−21.5	+ 0.3

* Means for four years only.

Compared with the corresponding month of previous years, the mean atmospheric pressure is above the normal in that part of the United States lying west of the Rocky mountains; between the Rocky mountains and the Mississippi river it is below the normal, and from the Mississippi to the Atlantic coast it is above the normal. In Canada the mean pressure was normal in the west, but was above the normal in Quebec and the Maritime Provinces. In Europe the pressure was above the normal except in Sweden and in Russia.

In the United States the mean temperature of the air was above the normal over the country lying east of the hundred and seventh meridian, the departures of excess ranging from 2°.5 in New England to 9°.9 in the upper Mississippi valley. West of the above-mentioned meridian the temperature was from 1° to 7° below the normal. In Canada the mean temperature was above the normal in the western and about normal in the eastern provinces. In Europe the temperature of the air was about normal in the southern districts, but was above the normal in the central and northern districts, the excess being most marked in the latter district. In British India the temperature was 0°.4 above the mean of four years. The highest mean, 86°.6 Fahr., (30°.3 Cent.,) was reported at Poona, and the lowest, 64°.3 Fahr., (17°.9 Cent.,) at Lahore.

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

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	88.1	31.2	Ooglaamie, Alaska	−27.2	−32.9
Zanzibar, Africa	84.8	29.3	York Factory, B. A.	−21.5	−29.7
Fort Napier, Africa	83.8	28.8	Fort Saint Michaels, Alaska	−16.5	−26.9
Cape Town, Africa	82.8	28.2	Nikolaievsk on the Amoor, Asia	1.9	−16.7
Puerto Berrio, South America	81.0	27.2	Akmolinski, Siberia	7.3	−13.7
Mauritius, Indian Ocean	80.5	26.9	Godthaab, Greenland	11.1	−11.6
Bridgetown, Barbadoes	80.2	26.8			

The prevailing winds in the United States were: southerly in the country between the meridians of 100° and 80° west; westerly and northwesterly from the last-mentioned meridian eastward to the Atlantic. Between the Rocky mountains and the Sierra Nevada mountains, generally southerly and southwesterly; on the Pacific coast variable. In Canada the winds were mostly west and northwest. Over the Atlantic ocean, north of N. 30° and from the United States eastward to W. 40°, northwesterly winds prevailed; east of the fortieth meridian, the winds were mostly southwesterly. In Europe the winds were southerly, southwesterly, and westerly in the central and northern districts, and generally easterly and northeasterly in the southern parts of the continent. On the coast of China and in Japan the winds were northeasterly and northerly.

The rainfall of February, 1882, was in excess of the average in the United States east of the hundredth meridian, except in the south Atlantic states, Florida, and the Rio Grande valley; west of the hundredth meridian there was a deficiency. In Canada the rainfall was above the average, except in the Maritime provinces, where there was a deficiency. In Europe the rainfall was below the average.

For the month of March, 1882, the distribution of mean atmospheric pressure over the northern hemisphere is as follows: The pressure is least in the vicinity of Iceland and the extreme northern part of the Scandinavian peninsula, where the mean pressure is 29.25 (742.9) in the former, and 29.26 (743.2) in the latter. To the southward and eastward the barometric gradient gradually increases until the isobar for 30.1 (764.5), which runs along the fiftieth parallel to about 10° east longitude, is reached. In Asia the regions of least pressure are in western Siberia and in Hindostan; in the former region the pressure is below 29.8 (756.9) in the northern part; in the latter region there are two areas of low pressure, one is situated in the Central Provinces of British India, and the other is in the Lower Provinces of the Presidency of Bengal. No marked depressions are shown in the United States.

Three areas of barometric maxima appear on the chart. The first of these is situated over the Atlantic ocean, with its centre in the Azores, where the pressure is 30.4 (772.1). The isobar for 30.2 (767.1) encloses the Bay of Biscay, Portugal, western Spain, and the Atlantic westward to the forty-second

meridian. The second area is situated in China, where the mean pressure is 30.38 (771.6), at Pekin. The third area is shown off the coast of southern Florida and covers the Bahamas, where the pressure is 30.24 (768.1).

Compared with the preceding month (February), there has been a very slight increase of pressure in the lake region and a slight decrease in the southern states; elsewhere the pressure has remained unchanged. Over the Atlantic ocean there has been an increase of pressure, except over the region north of the fifty-fifth parallel, where a decrease has occurred. In Europe the decrease of pressure has averaged from about .11 inch in the British Isles and northern Europe to about .25 inch in the central and southern districts. In central and eastern Asia the pressure has decreased about .2 inch.

The following table gives the mean pressure and mean temperature, with corresponding departures, for the month of March, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	Mch., 1877, 1878, 1879, 1880, 1881.	Mch., 1882.	Departure.	Mch., 1877, 1878, 1879, 1880, 1881.	Mch., 1882.	Departure.
				°	°	°
Algeria	30.07	30.18	+0.11	63.4	60.3	− 3.1
Austria	29.95	30.02	+0.07	43.5	54.0	+10.5
British Isles	29.94	29.98	+0.04	45.3	49.9	+ 4.6
Denmark	29.87	29.85	−0.02	35.1	43.7	+ 8.6
France	30.01	30.13	+0.12	52.9	54.5	+ 1.6
Germany	29.97	30.01	+0.04	40.9	49.9	+ 9.0
India*	29.80	29.84	+0.04	84.1	86.1	+ 2.0
Italy	29.97	30.04	+0.07	54.9	58.8	+ 3.9
Norway	29.77	29.58	−0.19	34.7	38.7	+ 4.0
Portugal	30.05	30.22	+0.17	59.2	61.7	+ 2.5
Russia	29.87	29.87	normal	32.9	41.5	+ 8.6
Spain	30.04	30.19	+0.15	59.6	58.4	− 1.2
Sweden	29.77	29.60	−0.17	28.9	35.8	+ 6.9

* Mean for four years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of March, 1882, as compared with the means of five years.

Stations.	Mean pressure.			Mean temperature.		
	Mch., 1877, 1878, 1879, 1880, 1881.	Mch., 1882.	Departure.	Mch., 1877, 1878, 1879, 1880, 1881.	Mch., 1882.	Departure.
				°	°	°
Gibraltar	30.04	30.24	+0.20	61.9	64.0	+ 2.1
Malta, Mediterranean Sea	29.97	30.02	+0.05	61.3	63.4	+ 2.1
Sandwick Manse, Orkney Islands	29.80	29.60	−0.20	39.8	42.7	+ 2.9
Bridgetown, Barbadoes	29.99	30.02	+0.03	80.6	81.1	+ 0.5
Cape Town, Cape Good Hope	30.00	30.00	normal	77.3	79.5	+ 2.2
Fort Napier, Natal, South Africa	29.89	29.87	−0.02	77.1	78.9	+ 1.8
Free Town, Sierra Leone	29.89	29.85	−0.04	87.3	87.7	+ 0.4
Mauritius, Indian Ocean	29.95	29.90	−0.05	81.3	78.7	− 2.6
Melbourne, New South Wales	30.07	29.99	−0.08	62.4	63.1	+ 0.7
Nassau, Bahamas	30.08	30.24	+0.16	72.3	74.0	+ 1.7
Godthaab, Greenland	29.79	29.54	−0.25	19.6	9.7	− 9.9
Stykkisholm, Iceland	29.67	29.25	−0.42	27.2	24.3	− 2.9
Thorshavn, Färöe Islands	29.77	29.45	−0.32	38.2	39.9	+ 1.7
Zi-Ka-Wei, China	30.25	30.24	−0.01	43.8	45.1	+ 1.3
Athens, Greece	29.98	30.08	+0.10	58.3	63.1	+ 4.8
Cagliari, Sardinia, Italy	29.95	30.01	+0.06	59.2	60.8	+ 1.6
Tokei, Japan*	30.04	30.04	normal	42 5	42.8	+ 0.3
Angra, Azores	30.11	.....	.....	58.0	59.2	+ 1.2
Funchal, Madeira Islands	30.12	30.29	+0.17	64.0	64.0	normal
Ponta Delgado, Azores	30.13	30.44	+0.31	60.6	62.2	+ 1.6
Archangel, Russia	29.66	29.48	−0.18	21.8	28.0	+ 6.2
Tiflis, Russia	29.95	39.12	+0.17	53.3	50.4	− 2.9
Astrakhan, Russia	29.97	30.12	+0.15	40.7	40.8	+ 0.1
Ekaterinburg, Russia	29.94	29.80	−0.14	26.2	28.6	+ 2.4
Tashkend, Toorkistan, Asia	30.13	30.19	+0.06	55.8	45.9	− 9.9
Barnaul, Siberia, Asia	30.26	30.22	−0.04	23.0	24.8	+ 1.8
Yeniseisk, Siberia, Asia	30.20	30.15	−0.05	22.5	25.7	+ 3.2
Pekin, China	30.22	30.18	−0.04	42.7	44.6	+ 1.9
Nikolaievsk on the Amoor, Asia	.....	.....	.....	7.6	11.8	+ 4.2
San Juan de Puerto Rico, W. I*	30.06	30.13	+0.07	76.0	73.8	− 2.2
Beirut, Turkey in Asia	29.98	30.01	+0.03	63.7	64.6	+ 0.9
Mexico, Mexico*	30.18	30.24	+0.06	49.9	51.8	+ 1.9
Havana, Cuba, W. I	30.05	30.18	+0.13	72.7	74.2	+ 1.5
Paramaribo, D. Guiana, S. A	30.02	30.04	+0.02	79.8	78.0	− 1.8
York Factory, B. A	30.06	30.34	+0.28	−12.4	−14.8	− 2.4

* Mean for four years only.

Compared with the corresponding month of previous years, the mean atmospheric pressure is everywhere above the normal in the United States. In Canada it is also above the normal, the increase being greatest in the eastern provinces. In central and southern Europe the mean pressure was from normal to slightly above the normal; in the northern peninsulas it was below the normal.

In the United States the mean temperature was above the normal in all districts east of the Rocky mountains. West of that range it was below the normal, except in Washington Territory and Oregon, where it was above the mean. In Canada the temperature was above the normal in the west, and below in the east. In Europe the temperature of the air was greatly above the normal. In Hindostan the highest mean temperature reported was 96°.4 Fahr. (35°.8 Cent.), at Nagpur, and the lowest was 71°.9 Fahr. (22°.2 Cent.), at Sibsagar.

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

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	87.7	30.3	York Factory, B. A	−14.8	−26.0
Pourto Berrio, S. A	86.0	30.0	Ooglaamie, Alaska	+ 8.8	−22.7
Bridgetown, Barbadoes	81.1	27.3	Sitka, Alaska	− 1.9	−18.8
Manila, Philippine Islands	79.9	26.5	Godthaab, Greenland	+ 9.7	−12.4

In the United States the winds were mostly northwesterly over the country lying north of the thirty-fifth parallel and from the hundredth meridian eastward to the Atlantic. In the southern states they were mostly southwesterly and southerly. In California they were westerly to northwesterly; in the north Pacific coast region they were southerly. Over the Atlantic ocean the winds were northwesterly from the coast of the United States eastward to 50° west longitude. North of the fiftieth parallel they were northwesterly, except off the British coasts, where they blew from southwest. From the fiftieth meridian eastward to the European coasts and between 30° and 50° north latitude they were mostly southwesterly. In central and northern Europe and the British Isles the winds were mostly westerly and southwesterly. In Russia they were southerly and southwesterly; in southern Europe they were variable, a northerly direction predominating. In China and Japan the winds were mostly northerly.

The rainfall for March, 1882, in the United States was below the average in the New England, middle Atlantic, and Gulf states. It was also below the average in Florida and over the country between the hundredth meridian and the Sierra Nevada mountains. In the lake region, Tennessee, the Ohio valley, and the south Atlantic states, it was in excess of the average. In Canada the rainfall was above the average. In the northern part of central Europe the rainfall was above the average. Elsewhere it was below the average.

For April, 1882, the region of least pressure is situated in British India, where the means range from 29.64 (752.8) to 29.8 (756.9). There are indicated on the chart three regions where the pressure is below 29.8 (756.9); the first of these is in the extreme northern part of Scandinavia, and replaces the area of absolute minima which occupied that region from December, 1881, till March, 1882. The second is shown in Alaska, the mean pressure at Sitka being 29.75 (755.6). The third and most extensive area occupies the ocean north of the forty-fifth parallel. The isobar for 29.8 (756.9), which indicates this region, is elongated in form and extends from W. 50° eastward to the North sea, including within its limits the British Isles.

The areas of high barometer are situated over the Atlantic, in the United States, and in Asia; they are all indicated by the isobar for 30.1 (764.5). The first is shown off northwestern Africa, and extends westward to about W. 35°, and includes the Madeira islands and the Azores. The second occupies the northern part of the lake region, Manitoba, and the southern portion of the Northwest Territories of British America. The third area is in China, the mean pressure at Pekin being 30.18 (766.6).

Compared with the preceding month (March) there has been a considerable increase of pressure over Greenland, Iceland,

Scandinavia, and northern and central Russia. There has also been a slight increase in the lake region of North America. In all other land areas within the field of observation, there has been a decided decrease of pressure. Over the Atlantic ocean the pressure has decreased, except over that part situated north of the fifty-fifth parallel which is included in the region of increased pressure mentioned above.

Compared with the corresponding month of previous years, the atmospheric pressure for April, 1882, is slightly above the normal, except in Colorado, New Mexico, and Utah, where it is slightly below. In Canada the pressure was above the normal. In Europe the pressure is about normal in the central and southern districts, but it is slightly below the normal in northern Europe.

The following table gives the mean pressure and mean temperature, with corresponding departures, in the several countries of the eastern hemisphere, for the month of April, 1882, as determined from observations taken during the last five years:

Countries.	Mean pressure.			Mean temperature.		
	Apr., 1877, 1878, 1879, 1880, 1881.	Apr., 1882.	Departure.	Apr., 1877, 1878, 1879, 1880, 1881.	Apr., 1881.	Departure.
				°	°	°
Algeria	29.97	30.04	+0.07	67.3	67.8	+ 0.5
Austria	29.81	29.88	+0.07	56.4	57.3	+ 0.9
British Isles	29.83	29.76	−0.07	49.6	51.4	+ 1.8
Denmark	29.88	29.86	−0.02	45.2	47.5	+ 2.3
France	29.82	29.87	+0.05	56.9	58.2	+ 1.3
Germany	29.87	29.90	+0.03	50.1	53.3	+ 3.2
India *	29.73	29.70	−0.03	89.6	90.4	+ 0.8
Italy	29.85	29.89	+0.04	61.8	60.9	− 0.9
Norway	29.91	29.84	−0.07	43.7	43.9	+ 0.2
Portugal	29.97	30.06	+0.09	60.4	62.7	+ 2.3
Russia	29.92	29.92	normal.	46.9	49.4	+ 2.5
Spain	29.90	29.97	+0.07	61.3	60.8	− 0.5
Sweden	29.91	29.91	normal.	39.0	41.3	+ 2.3

* Mean for four years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of April, 1882, as compared with the means for five years:

Stations.	Mean pressure.			Mean temperature.		
	April, 1877, 1878, 1879, 1880, 1881.	April, 1882.	Departure.	April, 1877, 1878, 1879, 1880, 1881.	April, 1882.	Departure.
				°	°	°
Gibraltar	29.99	30.08	+0.09	65.8	68.8	+ 3.0
Malta, Mediterranean Sea	29.88	29.90	+0.02	63.4	64.0	+ 0.6
Sandwick Manse, Orkney Islands*	29.90	29.82	−0.08	44.7	43.7	− 1.0
Bridgetown, Barbadoes	30.02	30.00	−0.02	82.8	82.1	− 0.7
Cape Town, Cape Good Hope	30.07	30.03	−0.04	71.9	70.1	− 1.8
Fort Napier, Natal, South Africa*	29.94	29.83	−0.11	75.0	78.8	+ 3.8
Free Town, Sierra Leone	29.89	29.85	−0.04	87.5	87.1	− 0.4
Mauritius, Indian Ocean	30.00	29.97	−0.03	79.1	79.2	+ 0.1
Melbourne, New South Wales	30.15	30.00	−0.15	58.0	57.0	− 1.0
Nassau, Bahamas	30.06	30.11	+0.05	76.0	76.9	+ 0.9
Godthaab, Greenland	29.80	29.93	+0.13	29.6	24.1	− 5.5
Stykkisholm, Iceland	29.79	30.00	+0.21	34.9	29.1	− 5.8
Thorshavn, Faröe Islands	29.90	29.87	−0.03	43.4	41.7	− 1.7
Zi-Ka-Wei, China	30.05	30.02	−0.03	54.6	53.8	− 0.8
Athens, Greece	29.89	29.92	+0.03	67.8	63.1	− 4.7
Cagliari, Sardinia, Italy	29.84	29.89	+0.05	64.2	63.7	− 0.5
Tokei, Japan	30.06	29.98	−0.08	52.5	55.0	+ 2.5
Angra, Azores	30.05	.....	.....	60.8	61.2	+ 0.4
Funchal, Madeira Islands	30.12	30.20	+0.08	65.1	65.7	+ 0.6
Ponta Delgado, Azores	30.07	30.19	+0.12	63.2	64.2	+ 1.0
Archangel, Russia	29.90	29.91	+0.01	32.5	33.6	+ 1.1
Tiflis, Russia	29.89	29.89	normal.	63.5	59.2	− 4.3
Astrakhan, Russia	29.97	29.94	−0.03	57.2	50.5	− 6.7
Ekaterinburg, Russia	29.95	29.88	−0.07	42.3	37.2	− 5.1
Tashkend, Toorkistan, Asia	29.99	29.92	−0.07	66.2	63.1	− 3.1
Barnaul, Siberia, Asia	30.07	30.10	+0.03	38.1	37.4	− 0.7
Yeniseisk, Siberia, Asia	30.02	30.01	−0.01	32.1	33.8	+ 1.7
Pekin, China	30.00	29.94	−0.06	56.4	61.9	+ 5.5
Nikolaievsk on the Amoor, Asia	.....	.....	.....	22.3	30.2	+7.9
San Juan de Puerto Rico, W. I.	30.04	30.07	+0.03	77.6	76.1	− 1.5
Beirut, Turkey in Asia	29.92	29.88	−0.04	70.4	67 5	− 2.9
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I.	30.03	30.06	+0.03	75.3	77.5	+ 2.2
Paramaribo, D. Guiana, S. A.	30.00	30.04	+0.04	80.8	78.6	− 2.2
York Factory, B. A.	30.09	30.04	−0.05	11.4	8.0	− 3.4

* Mean for four years only.

In the United States the temperature of the air was, generally, above the mean in the country east of the Rocky mountains. From the Rocky mountains westward to the Pacific it was below the normal. In Canada it was below the normal. In Europe the temperature was above the normal, but the excess was, in general, slight. In British India the temperature was 0°.8 above the mean of four years; the highest mean temperature reported was 100°.2 Fahr. (37°.9 Cent.), at Nagpur, and the lowest was 76°.8 Fahr. (24°.9 Cent.), at Sibsagar

The following are some of the extreme mean temperatures reported at isolated stations during the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	87.1	30.6	Ooglaamie, Alaska	− 0.7	−18.2
Manila, Philippine Islands	82.6	28.1	York Factory, B. A.	+ 8.0	−13.2
Bridgetown, Barbadoes	82.1	27.8	Godthaab, Greenland	24.1	− 4.4
Saint Paul de Loanda, Africa	81.1	27.3	Stykkisholm, Iceland	29.1	− 1.6
			Nikolaievsk on the Amoor, Asia	30.2	− 1.0

In the United States the winds were mostly west and northwest over the country from N. 35° to the lake region and from W. 90° to the Atlantic coast. In the Gulf states they were mostly southerly and in the south Atlantic states they were northerly and northeasterly. In the Mississippi and Missouri valleys the winds were mostly southeasterly and easterly. On the Pacific coast they were northwesterly in California and southerly in the northern district. In Canada the winds were, in general, northerly and northwesterly. Over the Atlantic ocean, between N. 35° and 55°, and from the United States eastward to W. 15°, northwesterly winds prevailed. On the European coast the winds were variable. In Europe the winds were as follows: In the British Isles easterly and southeasterly, in France southwesterly, in Germany southerly and southwesterly, in the Iberian peninsula westerly; elsewhere the winds were variable.

The rainfall in the United States for April, 1882, was less than the average from the ninetieth meridian eastward to the Atlantic coast, except in the upper lake region, Florida, and the east Gulf states. It was also below the average at stations in the Rocky mountain district, except in the northern slope. On the Pacific coast there was a deficiency in the middle and southern districts and an excess in the northern district. In the regions excepted above, the excesses were generally small. In the northern part of central Europe the rainfall was greater than the average; in other districts it was generally below the average.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog: sk, smoke; inap, inappreciable; d, clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation 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 originals, 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 alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted. Broken lines indicate that the lines so broken are doubtful.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date. Broken or dotted lines are doubtful.

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.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12 m., instead of 12.16 p. m., and at Besançon at midday instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms. During the months of July, August, and September, 1882, the rainfall at Nagasaki was measured at 9.36 p. m.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made, the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperatures in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiana.)—The originals give the barometer in millimetres reduced to sea-level and the

temperature in Centigrade. The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brone the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakhan the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature at Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puesto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given in hours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

MONTHLY SUMMARY, January, 1882, page 1, British, Fort Napier, actual barometer, 27.72 inches, 704.1 mm., should read 27.82 inches, 706.6 mm.

DAILY BULLETIN, September 2d, 1882, page 1, Canadian, Parry Sound, temperature 18°.3 Cent., should read 17°.8 Cent.

5th, page 5, Sitka, Alaska, temperature 7°.9 Cent., should read 9°.7 Cent.; page 8, Miscellaneous, Bk. Horace Scudder, latitude N. 23° 39′, should read N. 33° 39′.

10th, page 1, Algerian, Biskra, reduced barometer, 30.60 inches, should read 30.06 inches.

11th, page 2, German, Frankfort-on-the-Main, actual barometer 28.37 inches, should read 29.37 inches.

13th, page 7, Lampert and Holt's Line, s. s. Archimedes, longitude W. 52° 14′, should read W. 25° 14′.

16th, page 5, Montgomery, Alabama, reduced barometer 763.3 mm., should read 764.3 mm.

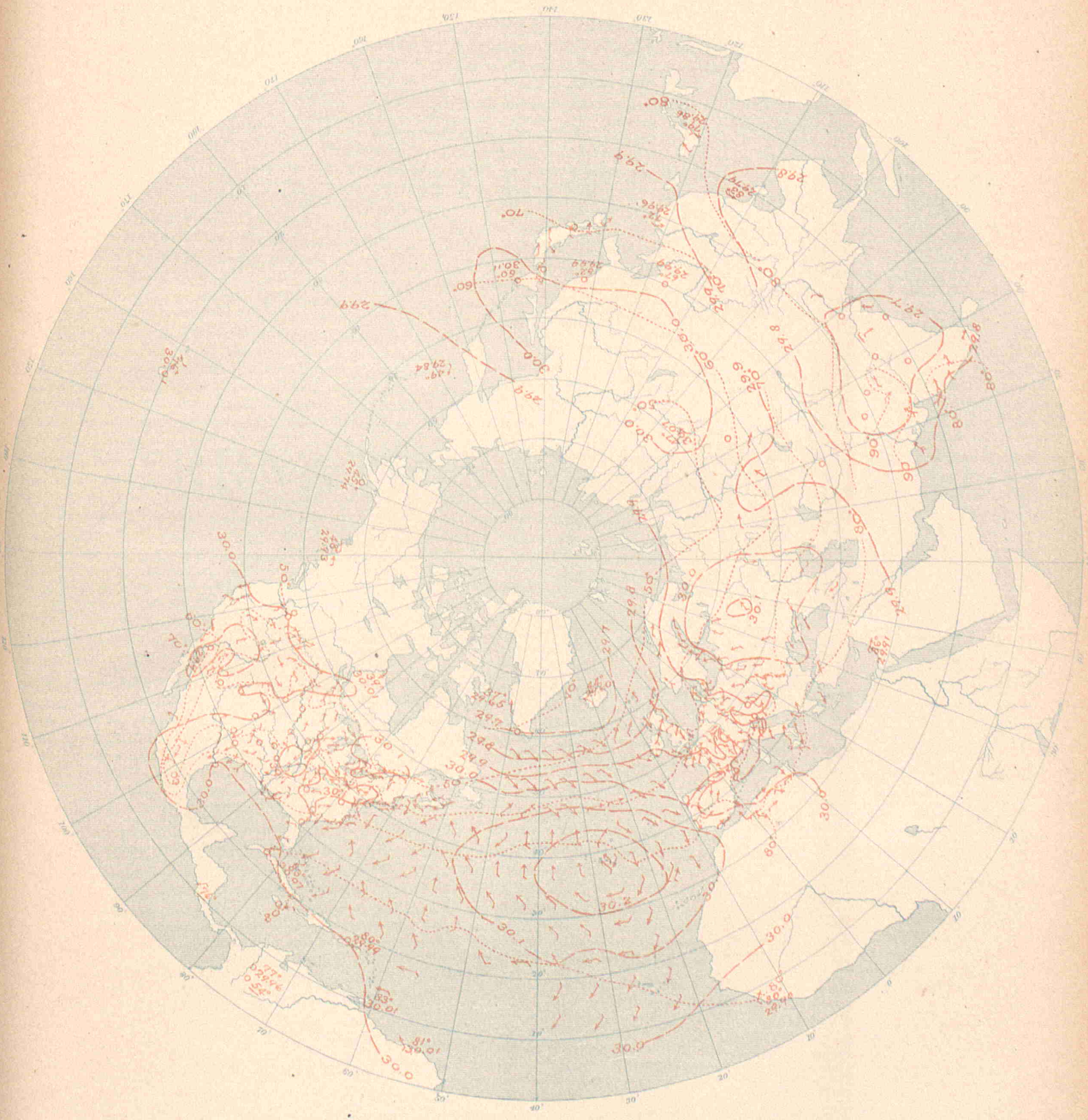
22d, page 2, German, Carlsruhe, temperature 12° Cent., should read 12°.8 Cent.

26th, page 4, United States, Milwaukee, Wisconsin, reduced barometer 672.7 mm., should read 772.7 mm.

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, 1882. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

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

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF OCTOBER, 1882.

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SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

OCTOBER, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Altitude of Barometer above sea. Met'rs	Result of Simultaneous Observations for October, 1882. 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.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.08	764.1	72.7	22.6	81.8	1	.....	1	3	22	2	2	.....	.....	.....	.....	2	0.16	4.2
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.04	763.1	71.2	21.8	62.1	5	2	13	5	.....	.....	.....	6	.....	.....	.....	3	2.68	68.2
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.01	762.2	74.5	23.6	66.2	4	11	4	6	3	1	.....	2	.....	.....	.....	3	2.01	51.0
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.02	762.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.11	764.8	78.6	25.9	57.4	.....	7	9	9	3	.....	.....	3	.....	.....	.....	2	0.42	10.7
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.10	764.5	71.2	21.8	47.9	15	3	7	4	2	.....	.....	.....	.....	.....	.....	1	0.05	1.2
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	74.3	23.5	20.7	6	11	7	4	1	.....	1	1	.....	.....	.....	2	inap.	inap.
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.16	766.1	81.3	27.4	34.8b	5	1	10	2	4	2	3	4	.....	.....	.....	1	0	0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.12	765.0	81.1	27.3	33.8	1	17	1	.....	.....	12	.....	.....	.....	.....	.....	3	inap.	inap.
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.87	758.7	29.96	760.9	54.8	12.7	79	4	3	4	1	8	6	5	.....	.....	.....	.....	4	2.05	52.1
AUSTRO-HUNGARIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.44	747.8	29.98	761.5	58.8	14.9	72.8	.....	.....	2	11	1	3	5	9	.....	.....	.....	7	5.62	142.8
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.27	743.5	30.05	763.2	51.1	10.6	77.0	1	.....	7	2	.....	2	5	14	.....	.....	.....	7	1.20	30.5
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.16	740.7	30.04	762.9	49.6	9.8	83.7	6	1	.....	.....	4	4	.....	.....	.....	.....	.....	8	2.11	53.7
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.75	730.2	29.99	761.8	56.1	13.4	82.1	6	1	2	5	5	5	5	2	.....	.....	.....	9	6.04	153.4
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.61	726.7	30.02	762.6	58.8	14.9	54	.....	6	2	2	4	13	4	.....	.....	.....	.....	5	0.66	16.8
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.62	726.9	29.96	760.9	51.8	11.0	86	1	3	3	1	.....	2	5	11	5	.....	.....	9	3.50	88.9
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	29.09	738.9	30.10	764.4	48.0	8.9	75.0	1	1	.....	2	5	12	2	8	.....	.....	.....	7	1.68	42.7
Polt	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.85	758.2	29.96	761.0	63.5	17.5	79.4	1	2	2	2	3	8	9	3	1	.....	.....	8	7.93	201.5
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.56	750.7	30.02	762.4	58.6	14.8	66	2	1	2	1	4	12	5	3	1	.....	.....	6	4.65	118.0
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.74	755.5	30.03a	762.7a	59.7a	15.4a	67.7	2	1	.....	1	12	5	1	.....	9	.....	.....	6	1.81	46.0
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.89	759.1	29.99	761.7	63.1	17.3	69.8	.....	.....	6	2	1	2	6	6	8	.....	.....	8	5.52	140.3
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.22	742.3	29.94	760.5	52.7	11.5	76.8	3	1	5	.....	1	9	2	2	8	.....	.....	7	2.07	52.5
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.75	755.6	29.85	758.2	51.5	10.8	78.4	1	2	5	2	1	12	4	4	.....	.....	.....	7	3.26	82.8
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.56	750.8	29.80	756.9	51.8	11.0	83.5	4	2	1	6	7	5	2	4	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.81	757.2	52.7	11.5	80.6	2	2	2	5	1	3	10	6	.....	.....	.....	8	.....	.....
Bolton *a*	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.27	743.4	29.81	757.2	51.8	11.0	81.2	2	1	.....	5	5	7	3	7	.....	.....	.....	8	.....	.....
Bradford *e*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.44	747.8	29.84	757.9	52.0	11.1	81.5	.....	1	2	6	.....	5	4	8	.....	.....	.....	8	4.07	103.4
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.92	760.0	29.95	760.7	82.7	28.2	74.4	.....	.....	.....	.....	.....	13	.....	18	.....	.....	.....	5	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	29.82	757.4	54.8	12.7	84.6	1	3	6	3	9	2	1	6	.....	.....	.....	8	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.70	754.4	29.83	757.7	57.2	14.0	80.0	1	1	.....	10	4	2	3	4	6	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.61	752.1	29.83	757.7	55.2	12.9	78.7	3	6	4	6	2	4	3	3	.....	.....	.....	7	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.94	709.7	29.86	758.4	74.0	23.3	49.9	1	4	.....	2	1	6	10	6	1	.....	.....	5	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.66	753.4	29.89	759.2	81.9	27.7	79.4	.....	2	15	13	.....	.....	.....	.....	1	.....	.....	6	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.04	763.0	30.09	764.3	69.3	20.7	84.6	.....	6	9	.....	.....	.....	13	3	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.60	751.8	29.80	756.9	51.2	10.7	77.1	2	.....	2	4	5	.....	9	9	.....	.....	.....	6	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.65	753.1	29.82	757.4	55.4	13.0	80.0	4	2	2	7	6	4	2	4	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.55	750.6	29.85	758.2	55.9	13.3	85.2	5	3	3	6	5	5	3	1	.....	.....	.....	7	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.80	756.9	29.83	757.7	55.0	12.8	75.8	2	3	5	4	9	2	2	4	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.56	750.8	29.82	757.4	53.7	12.1	80.4	3	1	.....	11	1	5	.....	10	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.95	760.7	30.03	762.7	75.6	24.2	92.9	1	7	6	1	4	10	.....	2	.....	.....	.....	5	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	29.93	760.2	29.98	761.5	80.5	26.9	79.5	.....	2	.....	7	4	4	4	10	.....	.....	.....	1	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.31	744.5	29.83	757.7	51.9	11.1	82.7	3	4	1	1	8	4	4	6	.....	.....	.....	8	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.60	751.8	29.82	757.4	53.3	11.8	83.1	3	2	2	5	5	7	.....	6	1	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.74	755.4	29.82	757.4	55.4	13.0	85.1	1	4	3	10	1	2	4	4	2	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	.....	.....	29.83	757.7	50.8	10.4	84.6	2	3	5	.....	3	13	5	.....	.....	.....	.....	5	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.97a	761.2a	30.03a	762.7a	64.0e	17.8e	64.5e	2	1	2	9	3	.....	.....	9	5	.....	.....	5	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.55	750.6	29.82	757.4	54.1	12.3	83.4a	2	1	.....	7	6	2	1	12	.....	.....	.....	7	4.36	110.7
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.77	756.1	29.80	756.9	53.5	11.9	80.9	3	1	5	1	3	3	11	2	2	.....	.....	6	3.01	76.5
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.82a	757.4a	52.2a	11.2a	76.8a	6b	2	1	6	2	2	4	6	.....	.....	.....	9	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.62	752.3	29.84	757.9	55.1	12.8	79.6	.....	6	4	6	5	4	1	5	.....	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.79	756.7	29.83	757.7	59.0	15.0	77.3	2	6	5	8	.....	6	1	3	.....	.....	.....	8	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.75	755.6	29.77	756.1	53.8	12.1	77.3	5	3	2	7	4	2	6	2	.....	.....	.....	8	.....	.....
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	80	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	30.00	762.0	30.04	763.0	47.3	8.5	84.8	6	4	7	5	3	1	.....	2	3	5879	9461	6	4.15	105.4
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	30.00	762.0	30.07	763.8	41.5	5.3	89.0	.....	3	3	11	1	.....	.....	3	10	2479	3999	5	2.93	74.4
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	35	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.01	762.2	30.03	762.7	41.0	5.0	76.0	3	2	7	7	5	1	.....	2	4	11460	18443	7	1.92	48.8
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.02	737.1	29.86	758.4	35.9	2.2	84.4	6	4	3	3	4	3	3	5	.....	8680	13969	7	3.98	101.1
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.94	760.5	30.08	764.0	46.3	7.9	92.9	4	5	9	3	4	.....	2	3	1	.....	.....	4	7.59	192.8
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.76	755.9	30.09	764.3	47.8	8.8	83.8	2	5	3	4	6	.....	1	9	1	5420	8722	6	1.02	25.9
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.88	758.9	30.09	764.3	45.7	7.6	81.4	8	2	4	6	5	2	3	.....	1	.....	.....	5	1.10	27.9
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.36	745.7	30.06	763.5	44.2	6.8	89.1	3	4	2	.....	4	5	6	6	1	6757b	9265b	5	2.95	74.9
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	688	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.39	746.5	30.09	764.3	47.8	8.8	98.2	9	6	1	3	4	.....	.....	4	4	4591	7388	5	1.39	35.3
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.43	747.5	30.08	764.0	46.6	8.1	90.8	12	1	5	2	2	3	2	2	2	.....	.....	5	2.17	55.1
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.76	755.9	30.09	764.3	42.3	5.7	87.8	4	6	7	.....	.....	1	5	2	6	.....	.....	4	1.73	43.9
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.61	752.1	30.08	764.0	40.4	4.7	84.8	1	6	3	.....	2	2	4	1	12	.....	.....	4	1.97	50.0
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	30.02	762.5	30.07	763.8	45.8	7.7	83.5	7	6	3	2	1	2	2	3	5	.....	.....	3	4.23	107.4
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.33	745.0	30.05	763.3	46.1	7.8	87.0a	3	2	.....	2	6	6	2	3	7	7618	12240	5	2.30	58.4
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sydney	N. 46 08	W. 60 10	8.07 a.m	37	11	29.97	761.2	30.03	762.7	46.7	8.2	87.3	2	5	3	11	5	.....	2	1	2	7167	11534	5	5.39	136.9
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.71	754.6	30.10	764.5	46.8	8.2	84.8	5	7	5	3	2	.....	4	5	.....	6558	10554	5	1.18	30.0
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	30.02	762.5	30.08	764.0	48.7	9.3	88.5	5	2	5	2	.....	1	9	3	1	5766	9279	4	7.09	180.1
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	30.00	762.0	30.25	768.3	47.3	8.5	91.1	.....	7	4	12	5	1	1	1	.....	.....	.....	5	2.93	74.4
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.01	762.2	30.04	763.0	63.0	17.2	85.0	.....	.....	8	12	1	2	3	4	1	.....	.....	6	3.13	79.5
Cape Town	S. 34 02	E. 18 29	1.22 p.m.	27	8	30.02	762.5	30.06	763.5	70.4	21.3	62.0	.....	4	12	.....	8	5	.....	.....	2	.....	.....	3	3.07	78.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for October, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	N E	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHINESE.	° ′	° ′																								
Sub Series.																										
Tchang kia tchouang	N. 38 17	E. 116 16	7.53 p.m.	98	30	.....	.....	30.08	764.0	57.4	14.1	71	.....	3	.....	2	1	8	6	10	1	.....	.....	4	1.22	31.1
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.07	763.7	30.09	764.3	64.2	17.9	87	7	5	2	.....	.....	2	9	6	.....	.....	.....	5	0.80	20.3
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.97	761.2	30.02	762.4	50.7	10.4	78	.....	.....	3	2	3	8	14	1	.....	.....	.....	7	1.63	41.3
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.91	759.7	29.93	760.2	51.6	10.9	82	.....	1	2	3	5	7	5	8	.....	.....	.....	8	6.13	155.8
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.49	749.1	29.54	750.2	25.9	— 3.4	83	10	2	.....	.....	4	1	1	11	2	.....	.....	7	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.44	747.7	29.46	748.2	30.4	— 0.9	.....	7	2	.....	.....	1	3	.....	1	17	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.48	748.7	29.52	749.8	44.8	7.1	83	.....	.....	.....	1	3	15	6	5	1	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.79	756.6	29.82	757.5	48.7	9.3	87	3	.....	1	4	2	11	4	4	2	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.86	758.4	29.95	760.4	50.2	10.1	85	.....	1	.....	3	4	4	9	10	.....	.....	.....	7	3.29	83.6
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.40	746.8	30.05	763.2	59.2	15.1	79.2	.....	6	4	4	2	9	.....	..	6	.....	.....	.....	3.10	78.6
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.35	745.5	29.90	759.5	55.2	12.9	89.1	2	4	1	5	11	2	2	4	.....	.....	.....	.....	1.93	49.0
Arras	N. 50 18	E. 2 40	0.19 p.m.	239	73	29.60	751.8	29.86	758.4	54.5	12.5	85.3	.....	2	5	6	4	8	.....	6	.....	.....	.....	.....	3.44	87.3
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.88	759.0	29.96	761.0	62.1	16.7	75.4	13	11	3	.....	.....	3	1	.....	.....	.....	.....	6	5.11	129.7
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.37	746.0	29.92	760.0	57.0	13.9	74	.....	1	.....	10	9	7	2	2	.....	.....	.....	8	2.66	67.5
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.63	752.6	29.89	759.1	55.8	13.2	76.8	1	3	3	6	2	10	4	2	.....	.....	.....	7	2.91	73.8
Besançon	N. 47 14	E. 6 02	0.32 p.m.	797	243	29.01	736.9	29.92	759.9	59.0	15.0	76.2	2	.....	.....	9	12	2	1	5	.....	.....	.....	.....	4.00	101.5
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.70	754.4	29.97	761.1	60.3	15.7	65.8	4	1	2	12	6	4	2	.....	.....	.....	.....	8	6.41	162.7
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.37	745.9	29.91	759.8	57.6	14.2	74.6	2	.....	8	6	8	3	4	.....	.....	.....	.....	.....	3.17	80.6
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.66	753.4	29.90	759.5	58.5	14.7	82.6	4	3	5	9	2	2	1	3	2	.....	.....	7	7.35	186.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.77	756.2	29.84	758.0	59.0	15.0	68.5	3	2	.....	5	17	4	.....	.....	.....	.....	.....	6	2.61	66.4
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.56	750.7	29.87	758.8	56.5	13.6	86.0	.....	.....	5	5	5	4	.....	2	10	.....	.....	6	2.62	66.6
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.37	746.0	29.88	758.9	56.5	13.6	74.1	3	2	1	2	4	12	4	3	.....	.....	.....	8	3.84	88.5
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.58	726.0	29.92	760.0	59.9	15.5	63.5	4	3	3	7	4	7	1	2	.....	.....	.....	7	1.79	45.4
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.16	740.6	29.96	760.9	58.1	14.5	71.4	1	3	6	6	3	6	1	5	.....	.....	.....	8	2.34	59.5
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	29.08	738.6	29.95	760.6	55.6	13.1	78.1	1	4	7	2	4	5	6	2	.....	.....	.....	.....	3.44	87.3
Gap	N. 44 33	E. 6 05	0.32 p.m.	2437	743	27.45	697.1	29.96	760.9	56.8	13.8	70.2	8	.....	.....	.....	5	3	4	2	9	.....	.....	.....	7.97	202.4
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.84	732.4	29.94	760.5	62.1	16.7	67.9	.....	.....	.....	.....	1	15	5	10	.....	.....	.....	5	6.31	160.4
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.20	741.6	29.96	761.0	56.7	13.7	77.9	4	12	.....	4	3	5	1	2	.....	.....	.....	.....	6.28	159.6
Gueret *a*	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.36	720.3	29.94	760.4	54.3	12.4	77.2	3	2	7	13	2	.....	1	2	.....	.....	.....	7	3.49	88.7
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.50	749.2	29.77	756.2	57.9	14.4	75.9	1	5	6	4	7	5	1	2	.....	.....	.....	6	4.86	123.5
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.42	747.2	29.98	761.4	62.6	17.0	65.7	2	2	14	6	.....	.....	4	1	2	.....	.....	5	8.91	226.3
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.80	757.0	29.91	759.6	59.9	15.5	79.3	1	5	8	8	2	2	2	2	1	.....	.....	8	5.80	147.4
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.91	734.2	29.97	761.1	50.1	13.4	75.2	.....	8	4	.....	11	6	2	.....	.....	.....	.....	.....	4.81	122.3
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.60	751.8	29.91	759.6	56.5	13.6	76.1	1	6	4	6	6	3	1	4	.....	.....	.....	6	3.11	79.0
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.68	753.9	29.95	760.7	63.7	17.6	68.1	.....	6	11	4	2	5	2	1	.....	.....	.....	.....	4.92	124.9
Mont Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.80	629.9	29.64	752.9	50.7	10.4	67.9	2	3	5	16	1	1	.....	3	.. ..	.....	.....	5	1.36	34.5
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.82	757.3	29.94	760.5	63.3	17.4	74.7	8	.....	.....	.....	1	14	7	1	.....	.....	.....	4	1.55	39.3
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	29.11	739.3	29.89	759.1	55.2	12.9	77.1	2	3	6	8	11	1	.....	.....	.....	.....	.....	.....	2.92	74.1
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.78	756.3	29.91	759.8	61.3	16.3	68.7	1	3	3	8	4	4	1	2	.....	.....	.....	8	4.48	113.7
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.87	758.7	29.98	761.4	64.2	17.9	61.4	3	11	.....	2	1	7	5	1	1	.....	.....	6	1.19	30.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.19	538.3	.....	.....	32.2	0.1	.....	1	3	8	12	2	.....	1	4	.....	.....	.....	4	7.70	195.5
Privas ..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.89	733.8	29.95	760.8	57.9	14.4	72.4	10	2	1	.....	15	1	1	1	.....	.....	.....	6	7.02	178.3
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.07	636.7	.....	.....	41.2	5.1	90.9	2	1	10	10	6	2	.....	.....	.....	.....	.....	8	6.48	164.7
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.91	759.6	29.94	760.4	59.9	15.5	86.5	1	4	.....	12	4	7	.....	.....	3	.....	.....	7	2.657	67.4
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.67	753.5	29.88	758.9	59.5	15.3	80.7	1	4	5	11	2	1	7	.....	.....	.....	.....	5	8.22	208.9
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.83	706.8	29.97	761.1	54.3	12.4	76.9	.....	2	11	11	3	.....	2	1	1	.....	.....	7	3.64	92.4
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.84	758.0	29.89	759.2	57.0	13.9	77.0	2	2	2	9	5	5	3	3	.....	.....	.....	7	3.20	81.4
Saint Lo *c*	N. 49 06	W. 1 05	0.04 p.m.	134	41	.....	.....	.....	.....	55.6	13.1	80.1	2	6	7	3	5	1	3	1	.....	.....	.....	.....	4.55	115.6
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.73	755.2	29.90	759.4	57.2	14.0	75.6	2	3	3	4	7	5	1	3	3	.....	.....	8	2.09	53.0
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.32	744.6	30.04	763.0	60.6	15.9	74.9	.....	3	11	4	2	10	.....	1	.....	.....	.....	5	3.88	98.5
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.72	755.0	29.90	759.5	59.4	15.2	73.4	2	3	4	17	1	3	1	.....	.....	.....	.....	6	2.92	74.3
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.40	746.8	29.89	759.3	56.1	13.4	76.2	5	.....	7	6	7	4	1	1	.....	.....	.....	7	2.25	57.1
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.52	724.3	29.97	761.1	52.7	11.5	79.5	.....	2	4	7	2	3	1	3	9	.....	.....	7	4.09	104.0
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	29.10	739.2	29.94	760.5	54.0	12.2	75.0	1	3	6	1	5	6	1	3	5	.....	.....	7	2.94	74.7
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.79	756.7	29.97	761.3	53.6	12.0	69.5	.....	3	1	6	3	12	4	2	.....	.....	.....	6	1.29	32.8
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.51	749.6	30.04	763.1	53.4	11.9	67.9	1	1	2	2	3	11	8	2	1	.....	.....	7	0.30	7.5
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.51	749.6	29.95	760.7	55.6	13.1	78.3	3	1	.....	11	1	2	4	9	.....	.....	.....	8	3.97	100.8
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.19	741.4	29.90	759.4	54.1	12.3	78.3	2	2	.....	5	14	3	3	2	.....	.....	.....	7	1.30	32.9
Frankfort on M	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.57	751.1	29.94	760.4	55.0	12.8	77.4	4	.....	1	5	7	5	3	6	.....	.....	.....	8	3.37	85.6
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.52	724.5	29.95	760.8	54.7	12.6	80.4	1	.....	5	14	4	2	1	4	.....	.....	.....	7	4.30	109.1
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.87	758.6	29.96	761.0	51.4	10.8	76.2	1	1	1	3	4	7	11	3	.....	.....	.....	7	1.77	44.9
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.93	760.3	29.95	760.7	51.6	10.9	78.0	1	.....	2	3	2	7	13	2	1	.....	.....	7	1.71	43.4
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.56	750.7	29.98	761.4	53.2	11.8	76.3	2	2	1	7	2	6	2	9	.....	.....	.....	8	2.27	57.7
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.77	756.2	29.95	760.7	52.9	11.6	80.6	1	2	2	.....	5	7	7	7	.....	.....	.....	8	1.33	33.7
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	30.16	766.0	30.21	767.2	46.9	8.3	69.2	3	1	1	2	4	10	7	3	.....	.....	.....	7	.. ..	.....
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.14	714.7	30.00	761.9	53.6	12.0	73.3	5	7	.....	3	.... .	3	2	7	4	.....	.....	7	2.38	60.5
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	30.10	764.6	30.12	765.0	48.0	8.9	75.5	2	.....	1	1	3	10	10	4	.....	.....	.....	8	1.18	30.0
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.40	746.8	29.93	760.1	55.0	12.8	81.5	2	.....	9	2	5	1	4	3	5	.....	.....	8	2.32	59.1
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	28.98	736.2	29.87	758.7	55.6	13.1	76.1	10	1	5	5	1	1	5	3	.....	.....	.....	7	2.45	62.3
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	30.00	762.0	30.02	762.6	50.5	10.3	79.5	1	.....	.....	3	5	8	8	6	.....	.....	.....	7	1.59	40.3
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.69	754.2	30.07	763.7	72.9	22.7	.....	8	.....	.....	10	6	.....	.....	7	.....	.....	.....	4	0.56	14.2
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.59	751.6	30.00	761.9	61.2	16.2	73	.....	3	.....	1	2	.....	.....	5	20	.....	.....	7	10.65	270.4
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.15	740.3	29.98	761.5	59.4	15.2	78	.....	3	5	8	1	8	4	2	.....	.....	.....	7	11.52	292.6
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.87	758.6	29.97	761.3	61.3	16.3	72	6	.....	3	2	3	5	5	7	.....	.....	.....	8	5.69	144.6
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.06	738.1	29.97	761.1	57.7	14.3	76	4	4	.....	.....	2	7	10	4	.....	.....	.....	7	8.63	219.3
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.76	755.9	29.95	760.7	64.0	17.8	67	6	.....	.....	4	2	8	3	5	3	.....	.....	7	11.99	304.6
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	28.05	712.5	29.97	761.1	55.0	12.8	71	3	9	15	.....	.....	.....	1	3	.....	.....	.....	5	8.64	219.5
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.91	759.7	29.96	760.9	63.7	17.6	78	7	4	2	1	2	8	5	2	.....	.....	.....	8	4.89	124.1
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.71	754.5	29.96	760.9	66.0	18.9	66	4	4	1	5	1	2	5	9	.....	.....	.....	7	9.13	232.0
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.82	757.4	29.90	759.5	65.1	18.4	73	2	3	6	9	1	2	3	5	.....	.....	.....	7	6.16	156.4
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.80	756.8	29.97	761.1	69.6	20.9	63	5	.....	3	7	12	2	1	1	.....	.....	.....	7	3.66	93.1
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.77	756.2	30.02	762.5	71.6	22.0	62	5	1	3	2	10	8	.....	2	.....	.....	.....	5	2.61	66.2
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.14	740.1	30.02	762.4	70.5	21.4	71	.....	1	3	16	7	4	.. ...	.....	.....	.....	.....	6	4.62	117.3
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.76	756.0	29.95	760.8	71.2	21.8	61	.....	9	4	.....	4	11	....	.. ...	3	.....	.....	5	0.42	10.8
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.77	756.1	30.01	762.3	73.6	23.1	57	1	6	2	5	.....	.....	4	12	1	.....	.....	7	3.45	87.6
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.97	761.1	30.01	762.2	72.5	22.5	71	1	.....	6	5	13	.....	.....	4	2	.....	.....	6	1.65	42.8
Sub-Series.																										
Naples *a*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.50	749.2	29.99	761.8	69.6	20.9	70.2	5	.....	2	11	4	4	2	2	.....	.....	.....	6	7.99	200.4
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	22.13	562.0	.....	.....	35.1	1.7	77.7	.....	1	4	12	4	5	2	3	5	.....	.....	7	4.97	126.2
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	22.15	562.6	.....	.....	35.6	2.0	73.1	6	1	1	.....	.....	3	15	5	1	.....	.....	7	9.33	237.0
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.83	757.8	29.88	759.1	84.3	29.1	67	.....	2	15	14	.....	.....	.....	.....	.....	.....	.....	1	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.33	745.0	29.79	756.8	93.3	34.1	26	3	6	6	8	1	2	.....	4	1	.....	.....	1	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.77	756.2	29.81	757.2	83.0	28.3	73	4	20	4	2	.....	1	.....	.....	.....	.....	.....	3	1.12	28.4
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	27.95	709.9	29.78	756.4	84.0	28.9	39	5	3	9	1	.....	.....	4	8	1	.....	.....	5	1.45	36.8
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.52	749.8	29.80	756.9	84.5	29.2	64	3	6	1	3	1	3	5	4	5	.....	.....	8	4.41	112.0
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.30	718.7	29.75	755.6	84.5	29.2	49	1	2	6	5	1	1	4	11	.....	.....	.....	7	0.02	0.5
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.28	692.8	29.82	757.3	74.2	23.4	65	2	3	8	8	.....	.....	.....	2	8	.....	.....	6	2.27	57.7
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.03	737.3	29.77	756.1	81.5	27.5	53	1	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	0	0	0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	28.86	733.1	29.75	755.7	83.4	28.6	51	.....	.....	5	3	1	.....	.....	.....	22	.....	.....	0	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for October, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN.—Cont'd.	° ′	° ′																								
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.21	742.0	29.77	756.1	91.1	32.8	30	2	10	9	1	.....	.....	.....	.....	9	.....	.....	0	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.73	729.8	29.76	756.0	85.7	29.8	33	4	2	.....	.....	.....	3	5	3	14	.....	.....	3	0.11	2.8
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.45	722.6	29.80	756.9	81.9	27.7	41	5	3	.....	.....	.....	.....	6	5	12	.....	.....	2	0.07	1.8
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.40	746.7	29.77	756.2	82.5	28.1	47	.....	.....	1	.....	.....	.....	.....	.....	30	.....	.....	1	0.07	1.8
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.45	748.1	29.77	756.1	78.3	25.7	69	.....	.....	.....	.....	.....	.....	1	2	28	.....	.....	1	3.45	87.6
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.61	752.0	29.79	756.7	79.6	26.4	72	4	5	3	4	2	2	5	6	.....	.....	.....	3	5.50	139.7
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.76	705.2	29.79	756.6	73.9	23.3	70	8	5	3	2	1	3	.....	4	5	.....	.....	3	4.06	103.1
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.67	753.7	29.76	755.8	81.2	27.3	77	.....	.....	1	2	.....	2	.....	13	13	.....	.....	4	7.51	190.8
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.74	755.4	29.76	755.9	79.7	26.5	82	4	5	2	4	1	4	3	3	5	.....	.....	4	11.08	281.4
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.66	753.5	29.78	756.5	79.3	26.3	86	3	.....	.....	.....	.....	.....	2	10	16	.....	.....	3	15.53	394.4
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.70	754.3	29.79	756.6	80.4	26.9	84	.....	1	2	6	1	5	1	2	13	.....	.....	5	0.09	2.3
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.48	748.8	29.82	757.4	78.2	25.7	85	1	.....	.....	2	.....	2	.....	26	.....	.....	.....	5	10.83	275.1
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.37	720.6	29.79	756.6	89.3	31.8	35	9	17	.....	.....	.....	.....	.....	5	.....	.....	.....	1	0	0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.93	760.1	29.95	760.7	82.6	28.1	63	3	2	4	2	9	5	2	3	.....	.....	.....	6	3.38	85.8
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	30.04	763.1	30.07	763.9	51.3	10.7	85.4	.....	1	1	2	.....	1	3	1	22	.....	.....	3	5.99	152.1
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	30.04	763.1	30.08	763.9	51.0	10.6	83.9	1	.....	6	4	9	5	5	.....	1	4265	6864	3	3.95	100.4
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	30.06	763.5	30.07	763.7	49.7	9.8	85	12	3	3	1	.....	1	4	4	3	6103	9918	4	4.28	108.6
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	29.89	759.3	30.07	763.7	58.7	14.9	85.7	18	4	1	1	.....	3	3	1	.....	2481	3994	5	4.25	107.8
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	29.83	757.8	30.04	762.9	65.0	18.3	77.3	8	2	.....	2	1	3	4	8	3	3858	6209	5	2.84	72.2
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	58	18	30.08	764.1	30.14	765.7	50.2	10.1	83.5	6	3	3	1	5	.....	1	1	11	.....	.....	6	0.45	11.4
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.04	763.1	30.08	763.9	58.4	14.7	79.6	5	.....	4	1	4	8	4	4	1	4566	7348	6	4.59	116.4
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	30.06	763.6	30.08	764.0	54.5	12.5	89.2	19	4	.....	1	3	1	2	1	.....	6811	10961	6	6.62	168.1
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.04	763.4	30.06	763.5	60.9	16.1	82.8	6	1	.....	1	.....	...	3	18	2	3661	5892	5	3.26	82.7
Supporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	47.9	8.8	84	1	3	.....	3	3	9	.....	3	9	5575	8972	6	3.12	79.2
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	30.02	762.5	30.09	764.4	57.8	14.3	86.4	14	3	.....	.....	2	1	6	1	4	4745	7636	6	11.82	300.1
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.00	761.9	30.05	763.4	62.5	16.9	78.5	8	.....	.....	.....	.....	.....	12	4	7	2702	4348	6	5.08	129.1
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.91	759.7	30.10	764.5	76.2	24.6	61.8	.....	.....	2	.....	.....	.....	18	11	.....	.....	.....	4	0.91	23.1
MEXICAN.																										
Guanajuato a	N. 21 01	W. 100 48	5.24 a.m.	6762	2061	23.67	601.0	29.88	759.6	58.3	14.6	84	.....	3	1	4	.....	2	.....	7	13	.....	.....	4	4.58	116.4
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.34	618 4	30.04	763.1	54.9	12.7	90	4	19	.....	.....	.....	2	.....	4	2	.....	.....	5	2.50	63.6
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.66	753.6	29.91	760.0	76.0	24.4	83	4	3	.....	1	.....	2	2	19	.....	.....	.....	3	0.89	22.5
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.10	586.7	30.15	765.8	52.0	11.1	80	1	4	1	.....	.....	.....	.....	.....	25	.....	.....	5	1.27	32.2
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.21	615.0	30.22	767.6	56.8	13.8	64	1	2	2	.....	.....	8	8	10	.....	.....	.....	4	2.00	50.7
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.93	607.8	29.91	759.8	57.1	13.9	75	.....	2	2	2	.....	.....	.....	1	24	.....	.....	4	0.51	13.0
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.39	594.0	30.20?	734.3?	53.5?	11.0?	47	1	3	.....	.....	.....	.....	.....	1	26	.....	.....	6	3.44	80.1
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.87	758.7	29.87	758.7	55.6	13.1	.....	1	1	2	5	5	10	3	4	.....	.....	.....	.....	3.25	82.6
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.85	758.1	29.90	759.5	51.3	10.7	.....	1	2	1	7	5	6	7	2	.....	.....	.....	.....	2.24	57.0
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.87	758.6	29.87	758.6	51.4	10.8	.....	.....	3	2	3	3	4	11	5	.....	.....	.....	.....	2.54	64.4
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.87	758.6	29.87	758.6	54.1	12.3	83.3	1	1	4	4	4	6	6	4	1	.....	.....	.....	1.90	48.2
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.84	758.0	29.89	759.2	54.3	12.4	81.0	.....	2	3	3	4	7	7	5	.....	.....	.....	7	2.97	75.5
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.89	759.2	29.95	760.8	51.1	10.6	63.2	1	6	2	.....	8	11	.....	.....	3	.....	.....	6	3.30	83.7
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	30.00	762.0	30.04	763.0	48.0	8.9	59.9	2	1	1	4	4	9	1	3	6	.....	.....	6	1.47	37.4
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.92	760.0	30.07	763.8	44.2	6.8	83.7	6	.....	1	1	4	5	6	8	.....	.....	.....	9	3.90	99.0
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.98	761.4	30.00	762.0	41.7	5.4	.....	.....	.....	6	4	5	6	4	2	4	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	30.01	762.2	30.06	763.4	45.0	7.2	67.5	2	1	4	3	1	3	1	5	11	.....	.....	4	1.66	42.3
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	.....	.....	.....	.....	67.3	19.6	79.2	4	4	12	4	.....	4	1	2	.....	.....	.....	4	2.01	51.1
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.08	738.6	30.06	763.6	67.5	19.7	53.8	1	1	8	2	10	.....	6	1	2	.....	.....	6	1.34	34.0
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.07	763.7	30.15	765.9	72.3	22.4	64.2	1	.....	3	14	2	9	2	.....	.....	.....	.....	6	0.94	23.9
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.70	756.0	30.12	765.0	64.9	18.2	65.7	4	4	1	8	4	4	.....	6	.....	.....	.....	6	3.19	81.0
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.08	763.9	30.15	765.7	69.8	21.0	71.1	4	5	5	4	3	3	1	1	5	.....	.....	5	5.89	149.6
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.72	754.9	29.92	760.0	75.9	24.4	85.5	.....	3	17	11	.....	.....	.....	.....	.....	.....	.....	7	0.13	3.2
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.30	642.7	30.05	763.3	47.3	8.5	77.6	3	6	6	3	3	8	2	.....	.....	.....	.....	7	25.81	655.0
RUSSIAN.																										
Akmolinski c.	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	28.90	734.0	30.11	764.8	26.8	−2.9	74.3	2	2	8	11	1	.....	.....	2	2	.....	.....	8	0.23	5.8
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	30.17	766.3	30.19	766.8	35.4	1.9	85.6	3	3	6	4	4	4	3	1	3	.....	.....	9	0.44	11.2
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.32	770.0	30.23	767.9	48.7	9.3	54.3	4	2	3	2	4	4	10	2	.....	.....	.....	6	0.46	11.7
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.61	752.0	30.13	765.4	28.2	−2.1	70.4	1	.....	3	18	1	.....	.....	1	7	.....	.....	9	1.74	44.2
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	30.02	762.6	30.27	768.9	41.7	5.4	78.4	1	3	3	2	3	9	7	2	1	.....	.....	7	0.55	14.0
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.09	738.9	30.10	764.6	28.2	−2.1	73.9	4	5	10	3	1	1	1	5	1	.....	.....	9	0.28	7.1
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.93	760.3	30.21	767.4	34.7	1.5	72.3	3	5	6	5	2	2	1	4	3	.....	.....	9	0.57	14.5
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	30.03	762.7	30.05	763.2	53.6	12.0	72.2	1	4	1	.....	.....	.....	5	8	12	.....	.....	6	2.29	58.1
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.52	749.8	30.17	766.3	45.1	7.3	69.6	5	1	3	2	3	3	7	7	.....	.....	.....	7	.....	.....
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.97	761.2	30.17	766.4	49.6	9.8	52.6	.....	3	3	1	3	2	10	9	.....	.....	.....	6	0.40	10.2
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.10	764.4	30.17	766.2	51.6	10.9	73.0	3	3	.....	.....	7	1	5	8	4	.....	.....	6	1.62	41.1
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	29.99	761.8	30.13	765.4	56.5	13.6	74.0	.....	1	.....	4	4	1	.....	.....	21	.....	.....	3	1.08	27.5
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	30.26	768.5	30.27	768.9	39.7	4.3	73.2	3	6	3	3	3	9	2	2	.....	.....	.....	9	0.92	23.3
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.54	750.4	30.23	767.9	32.4	0.2	63.9	2	3	10	2	4	2	1	.....	7	.....	.....	6	0.17	4.4
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.59	726.1	30.17	766.3	54.0	12.2	64.2	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	4	1.39	35.2
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.73	729.7	30.14	765.6	58.8	14.9	63.7	3	6	.....	.....	4	9	3	.....	6	.....	.....	7	2.07	52.6
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	30.02	762.5	30.09	764.2	50.0	10.0	77.2	10	3	1	.....	3	4	2	1	7	.....	.....	4	1.60	40.6
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.67	753.6	30.10	764.6	48.2	9.0	74.5	2	2	1	1	8	9	5	2	1	.....	.....	7	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.80	756.8	30.23	767.8	45.3	7.4	72.8	1	2	1	2	2	12	5	4	2	.....	.....	8	0.46	11.7
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.82	757.4	30.13	765.2	21.9	−5.6	80.3	1	1	14	7	1	2	2	1	2	.....	.....	7	0.85	21.7
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.78	756.4	53.8	12.1	92.5	.....	.....	3	5	9	8	2	3	1	.....	.....	9	4.10	104.1
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.85	758.2	.....	.....	.....	4	.....	3	3	5	10	4	2	.....	.....	.....	9	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.84	758.0	29.92	760.0	66.6	19.2	65	.....	3	4	10	8	4	2	.....	.....	2148	3456	3	2.01	51.0
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.95	760.7	30.01	762.2	65.7	18.7	66	.....	12	3	1	6	6	1	1	1	2440	3926	7	7.56	191.9
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.09	688.1	30.05	763.3	55.8	13.2	65	4	.....	7	15	3	.....	.....	2	.....	5957	9587	6	1.74	44.3
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.84	707.2	30.05	763.3	62.6	17.0	54.8	1	1	4	12	3	.....	1	2	7	5677	9136	5	1.13	28.7
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.88	758.9	30.03	762.8	64.8	18.2	60.2	.....	6	4	11	2	3	3	2	1	1456	2343	4	0.15	3.7
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.23	742.5	30.11	764.8	55.4	13.0	76	.....	2	2	.....	7	10	10	.....	.....	2983	4800	8	2.78	70.7
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.10	739.0	29.99	761.7	59.4	15.2	78.7	.....	4	2	10	3	1	.....	5	6	6639	10685	7	8.04	219.3
Sub-Series.																										
Havana	N. 23 08	W. 82 28	7.39 a.m.	62	19	29.88	759.0	29.95	760.7	75.3	24.1	86.0	1	1	.....	1	7	9	8	1	3	.....	.....	2	1.86	52.4
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.82	757.3	29.87	758.8	79.3	26.3	86.4	9	2	3	4	4	3	3	3	.....	.....	.....	5	12.61	320.3
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.01	762.3	30.11	764.8	70.8	21.6	58	3	9	7	1	3	4	4	.....	.....	.....	.....	5	0.39	9.8
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.88	758.9	29.97	761.2	79.5	26.4	88	.....	.....	.....	.....	1	2	.....	.....	28	.....	.....	4	1.54	39.0
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.77	756.1	29.90	759.5	77.4	25.2	89.0	8	16	.....	1	.....	2	.....	2	2	.....	.....	6	3.29	83.5
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	30.14	765.5	30.18	766.5	40.3	4.6	84	3	3	.....	7	4	2	7	2	3	.....	.....	8	0.65	16.4
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	30.15	765.9	30.21	767.2	46.0	7.8	73	4	3	3	6	6	1	4	.....	4	.....	.....	7	2.28	57.8
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	30.13	765.3	30.18	766.6	46.8	8.2	78	2	3	3	.....	7	3	4	3	6	.....	.....	8	3.90	99.1
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.97	761.2	30.15	765.7	47.1	8.4	79	.....	1	1	2	8	3	11	.....	5	.....	.....	9	1.89	47.9
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	30.06	763.4	30.11	764.9	48.9	9.4	78	3	2	4	1	5	6	9	.....	1	.....	.....	7	1.42	36.1
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	30.04	763.0	30.13	765.2	46.4	8.0	81.5	.....	4	1	7	5	3	7	4	.....	.....	.....	8	1.81	46.0
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.54	725.0	29.96	761.0	56.3	13.5	71.9	13	2	2	6	6	.....	.....	2	.....	.....	.....	8	4.50	114.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for October, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
TURKISH.	° ′	° ′																								
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.10	764.6	64.4	18.0	61	9	3	.....	5	2	3	.....	9	.....	.....	.....	6	2.14	54.5
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.12	765.1	70.9	21.6	.....	.....	3	11	5	7	3	.....	2	.....	.....	.....	4	6.14	156.
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	29.98	761.4	77.7	25.4	55.5	10	6	5	5	2	.....	.....	3	.....	.....	.....	3	3.12	79.2
UNITED STATES.																										
Albany	N. 42 40	W. 73 45	7.13 a.m.	75	23	30.07	763.8	30.15	765.8	51.3	10.7	75.9	9	4	3	3	7	1	.....	.....	4	3520	5665	6	0.27	6.9
Alpena	N. 45 05	W. 83 28	6.34 a.m.	609	185	29.36	745.7	30.04	763.0	46.5	8.1	85.4	2	5	6	6	7	2	3	.....	.....	6997	11260	6	3.12	79.2
Apache, Fort	N. 33 47	W. 109 58	4.49 a.m.	5050	1539	25.03	635.8	29.93	760.2	34.0	1.1	57.0	.....	.....	.....	1	.....	.....	2	27	1	4440	7129	1	inap.	inap.
Assinnaboine, Ft.	N. 48 37	W. 109 43	4.49 a.m.	2710	826	27.01	686.0	29.93	760.2	37.5	3.1	75.7	2	.....	1	23	2	1	.....	2	.....	8617	13868	4	0.87	22.1
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.93	734.8	30.12	765.0	58.9	14.9	86.8	.....	1	6	1	2	1	10	10	.....	6377	8653	5	1.35	34.3
Atlantic City	N. 39 22	W. 74 25	7.11 a.m.	13	4	30.08	764.0	30.09	764.3	58.3	14.6	87.8	6	3	3	.....	5	1	5	8	.....	7657	12322	6	2.28	57.9
Augusta	N. 33 28	W. 81 54	6.41 a.m.	183	56	29.93	760.2	30.12	765.0	60.6	15.9	85.3	1	3	.....	.....	1	.....	1	11	14	2832	4558	4	2.78	70.6
Baltimore	N. 39 18	W. 76 38	7.02 a.m.	45	14	30.09	764.3	30.14	765.5	57.5	14.2	81.7	7	2	1	1	3	.....	4	8	5	3232	5201	5	0.86	21.8
Barnegat	N. 39 48	W. 74 09	7.12 a.m.	20	6	30.07	763.8	30.09	764.3	58.0	14.4	87.7	6	.....	3	6	.....	.....	12	3	1	10518	16937	6	4.16	105.7
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bennett, Fort	N. 44 42	W. 100 38	5.26 a.m.	1510	457	28.32	719.3	29.94	760.5	39.5	4.2	82.8	5	4	1	3	.....	7	.....	2	9	5889	1431	6	0.69	17.5
Benton, Fort	N. 47 51	W. 110 40	4.45 a.m.	2700	823	27.06	687.3	29.97	761.2	37.7	3.2	75.3	.....	4	5	12	.....	.....	1	1	8	7171	11540	6	0.86	21.8
Bismarck *b*	N. 46 48	W. 100 38	5.26 a.m.	1694	516	28.04	712.2	29.92	760.0	39.1	3.9	83.2	3	5	3	4	1	3	7	1	2	7188	11578	5	1.44	36.6
Block Id	N. 41 10	W. 71 37	7.22 a.m.	27	8	30.08	764.0	30.11	764.8	55.9	13.3	82.8	9	1	.....	4	1	3	5	7	1	11353	18270	7	3.87	98.3
Boise City	N. 43 46	W. 116 06	4.24 a.m.	2750	838	27.19	690.6	30.05	763.3	38.4	3.6	86.8	4	7	9	1	.....	2	2	3	3	3358	5404	6	2.94	74.7
Boston	N. 42 21	W. 71 04	7.23 a.m.	142	43	29.97	761.2	30.13	765.3	51.1	10.6	80.7	6	9	5	4	1	2	3	1	.....	6164	9920	5	2.29	58.2
Brownsville	N. 26 00	W. 97 30	5.38 a.m	43	13	29.90	759.4	29.95	760.7	71.8	22.1	88.0	1	.....	1	.....	5	2	1	.....	21	3015	4852	3	3.19	81.0
Buffalo	N. 42 53	W. 78 55	6.52 a.m.	696	212	29.34	745.2	30.10	764.5	50.5	10.3	80.6	.....	2	4	2	7	3	2	11	.....	6050	9736	4	1.10	27.9
Buford, Fort	N. 48 03	W. 103 58	5.12 a.m.	1900	579	27.87	707.9	29.85	758.2	38.7	3.7	83.6	1	2	6	3	7	.....	9	3	.....	6900	11104	5	1.00	25.4
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.82	757.4	30.12	765.0	47.4	8.6	78.5	8	1	.....	.....	16	.....	4	2	.....	5592	8999	6	1.21	30.7
Cairo	N. 37 00	W. 89 12	6.11 a.m.	377	115	29.68	753.9	30.08	764.0	58.8	14.9	87.8	3	1	1	5	7	2	3	4	5	4744	7635	6	2.57	65.3
Campc	N. 32 22	W. 116 08	4.22 a.m.	2500	762	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.06	763.5	30.08	764.0	63.1	17.3	87.1	6	5	1	3	5	.....	.....	9	2	10684	17194	5	7.25	184.2
Cape May *b*	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.07	763.8	30.10	764.5	61.7	16.5	82.2	7	1	1	4	5	1	3	7	.....	9475	15248	5	1.46	37.1
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.46	748.3	29.99	761.7	50.9	10.5	88.2	14	.....	6	.....	4	5	.....	.....	2	7728	10828	5	2.59	65.8
Cedar Keys	N. 29 12	W. 83 02	6.36 a.m.	22	7	29.98	761.5	30.00	762.0	70.0	21.1	85.3	8	1	1	1	1	3	6	10	.....	7603	10626	3	4.77	121.2
Champaign	N. 40 07	W. 88 14	6.15 a.m.	767	234	29.22	742.2	30.05	763.3	51.1	10.6	75.9	4	1	.....	3	7	9	2	5	.....	6533	10514	6	5.53	140.5
Charleston	N. 32 45	W. 79 55	6.49 a.m.	52	16	30.01	762.2	30.07	763.8	65.0	18.3	85.2	9	3	3	5	1	1	.....	9	.....	6343	10208	4	6.56	166.6
Charlotte	N. 35 13	W. 80 51	6.45 a.m.	808	246	29.24	742.7	30.10	764.5	57.2	14.0	86.9	7	3	.....	5	3	.....	.....	11	2	3531	8901	4	6.13	155.7
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.29	744.0	30.12	765.0	57.4	14.1	91.8	6	2	1	5	.....	1	3	6	7	3183	5122	4	2.74	69.6
Cheyenne	N. 41 12	W. 104 42	5.09 a.m.	6089	1856	23.96	608.6	29.98	761.5	36.1	2.3	56.6	2	7	14	3	1	1	.....	2	1	7810	12569	4	0.31	7.9
Chicago	N. 41 52	W. 87 35	6.18 a.m.	661	201	29.32	744.7	30.03	762.7	52.5	11.4	81.2	.....	3	5	5	8	3	6	1	.....	5733	9226	5	3.40	86.4
Chincoteague	N. 37 55	W. 75 20	7.06 a.m.	18	5	30.06	763.5	30.08	764.0	60.7	15.9	89.9	7	2	.....	1	5	3	4	7	2	7672	12347	5	0.71	18.0
Cincinnati *a*	N. 39 06	W. 84 26	5.30 a.m.	620	189	29.44	747.8	30.10	764.5	56.6	13.7	83.9	6	3	1	1	3	6	3	1	6	2961	4765	5	1.59	40.4
Cleveland	N. 41 30	W. 81 47	6.42 a.m.	690	210	29.36	745.7	30.10	764.5	51.0	10.6	79.5	5	.....	1	2	4	12	7	.....	.....	5999	9654	4	1.55	39.4
Coleman City *a*	N. 31 55	W. 99 10	5.32 a.m.	1709	521	28.20	716.3	30.02	762.5	56.4	13.6	89.8	7	2	.....	4	4	7	.....	2	4	4967	7994	4	2.67	67.8
Columbus	N. 39 57	W. 83 03	6.36 a.m.	805	245	29.24	742.7	30.10	764.5	51.5	10.8	85.0	7	5	4	.....	7	3	.....	3	2	3651	5876	5	2.44	62.0
Concho, Fort	N. 31 22	W. 100 20	5.26 a.m.	1900	579	28.06	712.7	30.01	762.2	56.3	13.5	86.7	2	3	1	5	7	4	.....	1	8	5556	8941	5	2.79	70.9
Custer, Fort	N. 45 48	W. 107 38	4.58 a.m.	3040	927	26.71	678.4	29.95	760.7	39.3	4.1	73.4	3	2	2	8	3	3	8	1	1	5897	9490	5	0.29	7.4
Davenport	N. 41 32	W. 90 30	6.06 a.m.	615	187	29.35	745.5	30.01	762.2	52.1	11.2	81.5	2	5	3	3	7	3	6	2	.....	5750	9254	5	3.75	95.2
Davis, Fort	N. 30 30	W. 103 45	5.13 a.m.	4940	1506	25.24	641.1	30.09	764.3	50.1	10.1	73.8	1	9	4	4	1	3	.....	2	7	3200	5150	1	0.12	3.0
Dayton	N. 46 23	W. 117 50	4.16 a.m.	1660	506	28.20	716.3	29.98	761.5	40.0	4.4	81.5	.....	.....	.....	16	9	.....	.....	5	1	5784	9308	5	4.41	112.0
Deadwood	N. 44 22	W. 103 34	5.14 a.m.	4600	1402	25.24	641.1	29.91	759.7	40.5	4.7	65.8	3	2	1	1	4	5	13	1	.....	3998	6434	4	0.88	22.4
Del. Breakwater	N. 38 48	W. 75 05	7.08 a.m.	20	6	30.08	764.0	30.10	764.5	60.2	15.7	89.4	4	4	2	8	2	.....	2	9	.....	11701	17221	5	0.97	24.6
Denison	N. 33 50	W. 96 40	5.41 a.m.	767	234	29.20	741.7	30.00	762.0	60.5	15.8	87.8	7	1	1	3	11	5	3	.....	.....	4952	7969	5	6.33	160.8
Denver	N. 39 45	W. 105 04	5.08 a.m.	5294	1614	24.68	626.9	29.94	760.5	41.7	5.4	56.7	2	2	1	.....	13	6	2	1	4	4547	7318	3	0.75	19.0
Des Moines	N. 41 35	W. 93 40	5.53 a.m.	849	259	29.08	738.9	30.00	762.0	49.3	9.6	82.4	4	5	3	3	5	4	3	.....	4	4387	7060	6	5.94	206.3
Detroit	N. 42 21	W. 83 07	6.36 a.m.	661	201	29.37	746.0	30.08	764.0	53.5	11.9	82.0	4	5	1	3	7	4	1	3	3	6040	9720	5	2.43	61.7
Dodge City	N. 37 39	W. 100 08	5.27 a.m.	2512	766	27.35	694.7	29.98	761.5	46.6	8.1	76.0	5	3	4	1	10	3	1	2	2	9407	15140	4	1.62	41.1
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.29	744.0	30.01	762.2	49.8	9.9	82.9	.....	5	3	.....	6	5	5	2	5	2676	4307	5	5.29	134.4
Duluth	N. 46 48	W. 92 08	6.00 a.m.	644	184	29.19	741.4	29.95	760.7	45.7	7.6	80.4	1	4	5	8	1	1	2	7	2	8326	13399	7	3.56	90.4
Eagle Pass	N. 28 40	W. 100 15	5.26 a.m.	780	238	29.20	741.7	30.01	762.2	64.8	18.2	83.1	.....	4	.....	1	1	13	.....	.....	12	3829	6162	5	0.83	21.1
Eagle Rock	N. 43 30	W. 112 04	4.40 a.m.	4650	1415	25.23	640.8	30.00	762.0	33.7	0.9	86.8	1	3	2	23	.....	.....	.....	.....	2	9864	15874	5	1.50	38.1
Eastport	N. 44 55	W. 66 54	7.40 a.m.	61	18	30.02	762.5	30.09	764.3	47.3	8.5	81.7	11	2	4	4	4	2	1	2	1	6368	10248	4	2.89	73.4
Elliott, Fort	N. 35 31	W. 100 27	5.28 a.m.	2650	808	27.19	690.6	29.98	761.5	47.9	8.8	70.0	2	9	.....	3	3	9	.....	2	3	8123	13072	2	2.32	58.9
El Paso	N. 31 46	W. 106 32	5.02 a.m.	3760	1146	26.27	667.2	30.01	762.2	44.3	6.8	61.4	1	16	1	.....	.....	.....	.....	2	11	3445	5544	0	0	0
Erie	N. 42 07	W. 80 10	6.47 a.m.	681	208	29.36	745.7	30.09	764.3	52.7	11.5	79.5	2	2	.....	2	11	6	2	1	5	5179	8335	5	3.17	80.5
Escanaba	N. 45 46	W. 87 14	6.20 a.m.	612	186	29.31	744.5	29.98	761.5	47.5	8.6	86.3	3	4	4	5	3	4	.....	3	5	6864	11046	7	4.41	112.0
Fredericksburg *c*	N. 30 20	W. 98 40	5.33 a.m.	1700	518	28.26	717.8	30.02	762.5	63.9	17.7	92.4	.....	1	1	8	5	1	2	.....	10	3854	6203	7	2.26	57.4
Galveston	N. 29 18	W. 94 56	5.49 a.m.	48	15	29.94	760.5	29.99	761.7	73.2	22.9	84.3	5	.....	.....	1	12	7	4	2	.....	8934	14378	6	6.79	172.5
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.36	745.7	30.03	762.7	50.1	10.1	83.8	3	.....	5	1	1	8	5	7	1	7451	11991	5	4.82	122.4
Grant, Fort	N. 32 25	W. 109 56	4.49 a.m.	4860	1481	25.24	641.1	29.94	760.5	49.3	9.6	50.3	8	2	.....	.....	1	.....	6	11	3	4345	6992	1	0	0
Hatteras	N. 35 14	W. 75 30	7.06 a.m.	19	6	30.03	762.7	30.05	763.3	65.7	18.7	87.5	2	5	2	4	1	2	1	13	1	12895	20752	6	9.03	229.4
Helena	N. 46 33	W. 112 02	4.40 a.m.	4100	1250	25.66	651.8	29.96	761.0	37.6	3.1	72.4	1	2	3	22	.....	1	.....	.....	2	5035	8103	5	1.10	27.9
Henrietta	N. 33 42	W. 98 00	5.36 a.m.	980	300	28.99	736.3	29.99	761.7	57.7	14.3	88.8	2	3	1	2	9	10	1	2	1	6365	10243	4	1.67	42.4
Huron	N. 44 21	W. 98 17	5.35 a.m.	1305	398	28.51	724.1	29.94	760.5	42.0	5.6	81.0	2	6	2	4	4	11	.....	1	1	7473	12026	6	3.37	85.6
Indianapolis	N. 39 47	W. 86 06	6.24 a.m.	753	229	29.27	743.4	30.07	763.8	52.3	11.3	84.4	6	1	.....	2	5	6	3	4	4	3043	4897	5	2.18	55.4
Indianola	N. 28 32	W. 96 38	5.42 a.m.	26	8	29.94	760.5	29.97	761.2	72.3	22.4	87.6	7	.....	.....	2	9	5	2	3	3	8530	10509	3	1.75	44.4
Jacksboro	N. 33 10	W. 98 00	5.35 a.m.	1120	341	28.82	732.0	29.99	761.7	59.3	15.2	73.6	2	2	.....	1	8	12	.....	.....	6	4916	7911	4	3.48	88.4
Jacksonville	N. 30 24	W. 81 40	6.41 a.m.	43	13	29.98	761.5	30.02	762.5	69.3	20.7	84.5	3	.....	.....	.....	2	2	2	10	12	3758	6048	4	10.30	261.6
Keogh, Fort	N. 46 17	W. 105 55	5.05 a.m.	2372	723	27.35	694.7	29.94	760.5	38.7	3.7	75.3	1	.....	9	8	4	3	4	1	1	6142	9884	6	0.62	15.7
Keokuk *b*	N. 40 23	W. 91 25	6.02 a.m.	618	188	29.34	745.5	30.01	762.2	52.3	11.3	84.8	4	3	1	1	2	7	2	.....	11	3769	6066	4	2.71	68.8
Key West	N. 24 32	W. 81 48	6.41 a.m.	20	6	29.92	760.0	29.94	760.5	78.1	25.6	82.9	2	1	1	.....	4	1	5	12	5	6405	10308	4	4.81	122.2
Kittyhawk	N. 36 00	W. 75 23	7.05 a.m.	22	7	30.06	763.5	30.08	764.0	63.9	17.7	86.6	3	4	1	4	1	2	.....	16	.....	126327	20329?	5	3.07	78.0
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.10	739.1	30.14	765.5	54.9	12.7	94.8	1	.....	.....	3	1	.....	3	14	9	3018	4857	4	2.73	69.3
La Crosse	N. 43 48	W. 91 23	6.03 a.m.	725	221	29.20	741.7	29.99	761.7	49.9	9.9	74.6	1	4	3	2	14	3	3	1	.....	5682	9144	6	3.73	94.7
Leavenworth	N. 39 19	W. 94 57	5.10 a.m.	842	256	29.11	739.4	30.01	762.2	51.3	10.7	85.8	3	3	.....	.....	10	4	.....	2	9	4776	7686	4	2.86	72.6
Lewiston	N. 46 25	W. 116 59	4.20 a.m.	780	238	29.12	739.6	29.97	761.2	43.5	6.4	81.5	.....	.....	4	1	2	6	11	5	2	1997	3214	6	2.83	71.9
Little Rock	N. 34 40	W. 92 12	5.59 a.m.	298	91	29.71	754.6	30.03	762.7	60.9	16.1	94.1	3	6	1	3	4	6	6	1	1	3855	6204	4	6.05	153.7
Los Angeles	N. 34 03	W. 118 16	4.15 a.m.	371	113	29.58	751.3	29.98	761.5	54.0	12.2	71.3	.....	.....	29	.....	.....	1	.....	.....	1	4266	6865	2	0.05	1.3
Louisville	N. 38 18	W. 85 52	6.25 a.m.	530	162	29.48	748.8	30.05	763.3	57.0	13.9	86.8	7	1	3	.....	7	1	1	5	6	4382	7052	5	1.56	39.6
Lynchburg	N. 37 30	W. 79 02	6.52 a.m.	652	199	29.42	747.3	30.11	764.8	56.3	13.5	83.6	3	2	.....	3	1	1	.....	5	16	1546	2488	4	1.75	44.4
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.34	745.2	30.02	762.5	49.6	9.8	78.6	.....	4	2	8	8	4	3	2	.....	8002	12878	7	3.34	84.8
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.05	763.3	30.06	763.5	64.1	17.8	93.7	6	7	2	3	2	3	.....	8	.....	9899	15931	5	6.32	160.5
Madison	N. 43 03	W. 89 30	6.10 a.m.	949	289	28.99	736.3	30.02	762.5	49.5	9.7	85.5	3	4	3	2	7	7	3	2	.....	6456	10390	5	4.14	104.9
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.42	645.7	29.86	758.4	36.7	2.6	66.2	3	16	9	2	.....	.....	.....	1	.....	10656	16199	5	0.79	20.1
McKavett, Fort	N. 30 48	W. 99 58	5.28 a.m.	2240	683	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.0
Marquette	N. 46 33	W. 87 36	6.19 a.m.	673	205	29.23	742.4	29.97	761.2	47.1	8.4	78.3	.....	5	12	5	2	4	.....	2	1	6853	11040	6	5.34	135.6
Memphis	N. 35 07	W. 90 07	6.08 a.m.	321	98	29.72	754.9	30.06	763.5	61.1	16.2	88.7	2	6	.....	1	4	7	4	6	1	4096	6589	5	4.08	103.6
Milwaukee	N. 43 03	W. 87 54	6.17 a.m.	697	212	29.26	743.2	30.02	762.5	51.6	10.9	85.6	2	5	5	3	8	3	2	2	1	7949	12792	6	2.83	71.9
Missoula, Fort	N. 46 50	W. 114 01	4.32 a.m.	3140	957	26.62	676.1	29.99	761.7	37.4	3.0	78.8	4	7	2	3	3	2	1	3	6	2655	4273	7	4.07	103.4
Mobile	N. 30 42	W. 87 59	6.16 a.m.	41	12	30.00	762.0	30.04	763.0	66.1	18.9	86.6	12	4	1	2	1	1	3	7	.....	3714	5977	5	8.29	210.6
Montgomery	N. 32 22	W. 86 23	6.23 a.m.	219	66	29.84	757.9	30.07	763.8	62.9	17.2	85.1	2	2	1	1	1	3	9	5	7	3781	6085	5	2.40	61.0
Moorhead	N. 46 52	W. 96 40	5.41 a.m.	923	281	28.89	733.8	29.91	759.7	40.0	4.4	89.7	4	4	2	5	8	5	.....	1	2	7487	12049	5	4.04	102.6
Morgantown	N. 39 36	W. 79 52	6.48 a.m.	963	293	29.12	739.6	30.15	765.8	52.8	11.6	86.3	2	.....	.....	2	2	.....	.....	1	24	1708	2749	4	1.86	47.2
Mt. Washington	N. 44 16	W. 71 16	7.22 a.m.	6279	1914	23.85	605.8	30.10	766.8	32.6	0.4	78.5	5	18	1	3	1	2	.....	.....	1	23954	38582	4	6.19	157.2
Nashville	N. 36 11	W. 86 53	6.21 a.m.	507	154	29.50	749.3	30.08	764.0	59.5	15.3	86.9	1	2	2	3	4	2	7	3	7	3984	6412	6	1.04	26.4
New Haven	N. 41 17	W. 72 57	7.16 a.m.	107	32	30.01	762.2	30.13	765.3	50.9	10.5	83.9	10	5	1	2	1	.....	3	9	.....	5149	8286	6	3.54	89.9
New London	N. 41 22	W. 72 09	7.19 a.m.	47	14	30.08	764.0	30.13	765.3	54.4	12.4	81.9	15	1	4	1	2	1	2	2	3	4048	6514	7	4.99	126.7
New Orleans	N. 29 58	W. 90 07	6.08 a.m.	52	16	29.96	761.0	30.01	762.2	69.4	20.8	83.5	4	1	.....	1	5	4	6	8	2	5150	8288	4	2.16	54.9
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.07	763.8	30.12	765.0	54.5	12.5	82.6	11	5	.....	5	1	1	2	5	1	5612	9032	6	5.27	133.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for October, 1882.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0 10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																								
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.95	760.7	30.13	765.3	54.5	12.5	86.8	9	2	3	3	1	.....	4	9	.....	5884	9469	5	1.69	42.9
Norfolk	N. 36 51	W. 76 19	7.03 a.m.	30	9	30.06	763.5	30.09	764.3	60.8	16.0	90.8	7	2	1	2	4	.....	4	7	4	5436	8748	4	6.67	169.4
North Platte	N. 41 08	W. 100 53	5.24 a.m.	2841	866	27.01	686.0	29.97	761.2	44.3	6.8	74.9	3	3	4	1	4	5	1	.....	10	7392	11896	5	1.23	31.2
Olympia *a*	N. 47 02	W. 122 56	3.56 a.m.	36	11	29.89	759.2	29.93	760.2	45.8	7.7	88.2	1	.....	.....	2	19	.....	.....	1	7	3677	5918	8	6.96	176.8
Omaha	N. 41 16	W. 96 00	5.45 a.m.	1113	339	28.80	731.5	30.00	762.0	51.2	10.7	76.1	3	4	3	4	11	3	.....	1	2	6801	10945	5	3.09	78.5
Oswego	N. 43 29	W. 76 35	7.01 a.m.	304	93	29.77	756.1	30.10	764.5	50.7	10.4	80.2	3	5	.....	1	14	4	1	2	1	5347	8605	5	0.50	12.7
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.48	748.8	30.04	763.0	62.9	17.2	87.0	6	1	1	2	11	2	2	5	1	5934	9550	5	9.96	253.0
Pensacola	N. 30 25	W. 87 12	6.19 a.m.	30	9	30.00	762.0	30.03	762.7	66.9	19.4	88.6	8	2	.....	.....	2	5	3	10	1	5532	8903	6	5.05	128.3
Philadelphia	N. 39 57	W. 75 10	7.07 a.m.	92	28	30.03	762.7	30.13	765.3	56.4	13.6	82.2	2	6	1	4	.....	1	1	13	3	5362	8629	5	1.32	33.5
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.73	450.3	30.01	762.2	16.4	−8.7	79.6	2	4	10	13	.....	.....	.....	2	.....	20813	33527	3	0.40	10.2
Ploche	N. 37 57	W. 114 26	4.30 a.m.	6110	1862	24.01	609.8	29.93	760.2	38.5	3.6	61.7	1	12	3	5	8	.....	.....	.....	2	5581	9336	1	0.60	15.2
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.29	744.0	30.11	764.8	52.0	11.1	85.3	6	9	.....	1	3	.....	2	9	1	3251	5232	3	1.74	44.2
Poplar River *d*	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.71	703.8	.....	.....	.....	.....	.....	1	11	2	4	.....	6	.....	3	.....	.....	.....	3	2.48	63.0
Port Eads	N. 29 00	W. 89 15	6.11 a.m.	7	2	30.00	762.0	30.01	762.2	72.0	22.2	89.5	6	2	.....	3	1	4	12	3	.....	9382	15098	4	3.68	93.5
Port Huron	N. 42 58	W. 82 29	6.38 a.m.	633	193	29.39	746.5	30.08	764.0	49.2	9.6	87.3	.....	7	1	2	10	3	2	2	4	5413	8711	5	1.76	44.7
Portland, Maine	N. 43 40	W. 70 16	7.27 a.m.	45	14	30.05	763.3	30.10	764.5	50.4	10.2	77.0	8	4	5	4	.....	.....	2	6	2	4731	7614	4	2.90	73.7
Portland, Oregon	N. 45 30	W. 122 28	3.57 a.m.	67	20	29.90	759.4	29.97	761.2	47.2	8.4	91.2	2	1	.....	4	11	.....	.....	.....	13	3625	5834	7	11.63	295.4
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	65.8	18.8	89.7	1	7	1	3	1	3	2	12	1	13477	21689	6	6.89	175.0
Prescott	N. 34 29	W. 112 13	4.38 a.m.	5340	1628	24.76	628.9	29.92	760.0	37.8	3.2	65.9	5	.....	2	4	20	.....	.....	.....	.....	4518	7271	0	0.39	9.9
Provincetown	N. 46 03	W. 70 11	7.27 a.m.	26	8	30.08	764.0	30.11	764.8	54.5	12.5	80.6	6	4	2	4	1	4	4	5	1	6381	10269	6	4.49	114.0
Punta Rassa *a*	N. 26 36	W. 82 10	6.40 a.m.	13	4	29.96	761.0	29.97	761.2	73.0	22.8	84.3	5	3	.....	2	.....	2	1	17	.....	7619	12261	3	3.90	99.1
Red Bluff	N. 40 10	W. 122 16	3.59 a.m.	350	106	29.64	752.8	30.03	762.7	51.3	10.7	80.7	10	9	1	2	4	2	.....	2	1	5021	8080	3	2.80	71.1
Rochester	N. 43 08	W. 77 51	6.58 a.m.	621	189	29.42	747.3	30.09	764.3	48.5	9.2	86.3	1	3	3	14	6	.....	3	.....	1	6805	10951	5	0.62	15.7
Roseburg	N. 43 10	W. 123 16	3.55 a.m.	511	156	29.48	748.8	30.04	763.0	46.2	7.9	86.3	1	2	1	6	4	6	8	2	1	2562	4123	8	5.02	127.5
Sacramento	N. 38 35	W. 121 31	4.02 a.m.	65	20	29.94	760.5	30.02	762.5	52.0	11.1	84.0	1	4	5	1	5	8	3	.....	4	3897	6272	2	2.63	66.8
Saint Louis	N. 38 37	W. 90 15	6.07 a.m.	568	173	29.45	748.0	30.05	763.3	54.5	12.5	94.8	4	3	3	.....	8	9	1	1	2	6474	10419	4	2.44	62.0
Saint Paul	N. 44 53	W. 93 05	5.56 a.m.	811	247	29.05	737.9	29.93	760.2	47.1	8.4	81.7	.....	2	4	4	3	12	2	1	3	7005	11434	7	1.99	50.6
Saint Vincent	N. 48 58	W. 97 03	5.40 a.m.	804	245	28.99	736.3	29.89	759.2	36.2	2.4	89.2	3	7	2	3	7	5	3	1	.....	7254	11674	5	4.60	116.8
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.63	651.0	30.03	762.7	42.9	6.1	57.7	1	3	2	.....	1	1	8	5	10	3895	6268	6	2.89	73.4
San Antonio	N. 29 28	W. 98 22	5.34 a.m.	673	205	29.29	744.0	29.99	761.7	64.7	18.2	87.7	8	.....	.....	.....	1	6	3	2	11	2978	4793	6	2.71	68.8
San Diego	N. 32 32	W. 117 08	4.20 a.m.	67	20	29.88	758.9	29.95	760.7	56.5	13.6	76.3	4	4	1	5	1	2	1	12	1	4183	6732	3	0.41	10.4
Sandusky	N 41 27	W. 82 43	6.37 a.m.	639	195	29.40	746.7	30.09	764.3	53.3	11.8	79.9	.....	1	3	15	4	3	2	3	.....	8470	13631	3	2.96	75.2
Sandy Hook	N. 40 28	W. 74 01	7.12 a.m.	28	8	30.09	764.3	30.12	765.0	56.8	13.8	82.4	5	6	2	3	1	1	2	11	.....	10279	16542	6	2.95	74.9
San Francisco *a*	N. 37 48	W. 122 26	3.58 a.m.	60	18	29.97	761.2	30.04	763.0	55.0	12.8	82.6	.....	7	12	6	2	1	.....	1	1	5465	8795	3	2.66	67.6
Santa Fé	N. 35 41	W. 106 10	5.04 a.m.	7106	2166	23.22	589.8	30.04	763.0	42.0	5.6	42.2	5	.....	1	2	1	5	7	7	3	6467	10408	1	inap.	inap.
Savannah	N. 32 05	W. 81 08	6.44 a.m.	87	26	29.98	761.5	30.07	763.8	64.4	18.0	84.0	8	3	2	2	4	3	.....	9	.....	5579	8978	4	4.63	117.6
Shaw, Fort	N. 47 29	W. 111 46	4.41 a.m.	3550	1082	26.22	666.0	29.92	760.0	36.7	2.6	70.2	1	1	10	14	1	1	.....	1	2	9452	15211	5	0.76	19.3
Shreveport	N. 32 30	W. 93 45	5.54 a.m.	227	69	29.78	756.4	30.02	762.5	62.0	16.7	94.1	5	1	1	2	5	10	2	.....	5	3583	5766	4	6.72	170.7
Sill, Fort	N. 34 40	W. 98 30	5.34 a.m.	1200	366	28.74	730.0	30.00	762.0	54.4	12.4	85.9	11	2	1	1	9	4	1	1	1	7289	11730	4	2.87	72.9
Silver City	N. 32 48	W. 108 15	4.55 a.m.	5890	1795	24.28	616.7	29.94	760.5	39.9	4.4	59.4	3	11	.....	1	2	3	.....	....	11	1775	2856	0	0	0
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.52	749.8	29.59	751.6	43.0	6.1	75.1	.....	1	.....	1	2	3	15	8	1	8198	13193	7	9.64	244.9
Smith, Fort	N. 35 22	W. 94 24	5.51 a.m.	449	137	29.54	750.3	30.02	762.5	58.0	14.4	90.2	2	.....	1	.....	1	1	20	2	4	3402	5475	4	5.02	127.5
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.03	762.7	30.07	763.8	62.0	16.7	89.9	16	7	4	1	.....	.....	2	1	.....	6261	10076	4	9.45	240.0
Spokane Falls	N. 47 39	W. 117 24	4.18 a.m.	1910?	582?	27.88	708.1	29.96	761.0	39.9	4.4	85.3	1	2	.....	13	6	.....	.....	4	5	4132	6450	7	4.81	122.2
Springfield, Ill.	N. 39 48	W. 89 48	6.10 a.m.	644	196	29.36	745.7	30.05	763.3	53.0	11.7	81.8	4	4	1	.....	11	4	3	2	2	5420	8722	4	3.76	95.5
Springfield, Mass.	N. 42 06	W. 72 36	7.18 a.m.	120	37	30.01	762.2	30.14	765.5	49.6	9.8	86.3	15	3	2	1	3	1	.....	2	4	.....	.....	6	1.84	46.7
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.59	726.2	30.04	763.0	54.4	12.4	86.6	1	1	3	3	7	9	4	3	.....	5897	9490	5	7.62	193.6
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.58	751.3	30.06	763.5	62.5	16.9	86.0	5	2	2	4	7	1	6	4	.....	5746	9247	5	3.21	81.5
Stevenson, Fort	N. 47 36	W. 101 23	5.22 a.m.	1750	534	28.00	711.2	29.90	759.4	37.0	2.8	89.5	1	4	3	2	.....	2	9	6	4	5686	9151	6	2.82	71.6
Stockton	N. 30 50	W. 102 50	5.16 a.m.	3010	917	26.97	685.0	30.00	762.0	51.6	10.9	82.9	.....	1	4	10	6	1	.....	.....	9	5753	9258	1	0.87	22.1
Thatcher's Island	N. 42 36	W. 70 34	7.26 a.m.	48	15	30.08	764.0	30.13	765.3	52.5	11.4	82.4	5	4	2	3	3	2	4	5	3	8145	13108	6	2.40	61.0
Thomas, Camp	N. 33 04	W. 110 06	4.49 a.m.	2710	826	27.22	691.4	29.93	760.2	44.2	6.8	55.5	1	.....	2	2	2	4	2	2	16	.....	.....	1	0	0
Toledo	N. 41 40	W. 83 32	6.34 a.m.	651	198	29.37	746.0	30.07	763.8	52.5	11.4	78.5	3	1	2	6	9	1	1	4	4	4873	7842	4	2.01	51.1
Tucson	N. 32 14	W. 110 56	4.44 a.m.	2369	722	27.52	699.0	29.92	760.0	50.4	10.2	51.0	.....	.....	1	.....	21	9	.....	.....	.....	2761	4443	1	0	0
Umatilla	N 45 55	W. 119 21	4.11 a.m.	340	103	29.62	752.3	29.99	761.7	44.4	6.9	81.4	.....	2	4	5	2	9	4	2	3	7428	11954	5	1.79	45.5
Uvalde	N. 29 13	W. 99 40	5.29 a.m.	930	283	29.02	737.1	29.99	761.7	63.8	17.7	91.2	2	1	.....	1	.....	15	2	1	9	2597	4179	7	0.96	24.4
Verde, Fort	N. 34 24	W. 111 53	4.38 a.m.	?	?	.....	.....	.....	.....	43.4	6.3	54.5	10	11	6	1	1	.....	.....	2	.....	.....	.....	1	0.25	6.3
Vicksburg	N. 32 23	W. 90 54	6.04 a.m.	244	74	29.80	756.9	30.06	763.5	62.3	16.8	88.0	7	2	.....	1	2	5	7	1	6	3483	5607	4	3.73	94.7
Visalia	N. 36 20	W. 119 16	4.11 a.m.	348	106	29.64	752.8	30.01	762.2	50.0	10.0	84.8	1	7	3	3	2	8	4	2	1	2215	3565	2	1.31	33.3
Washakie, Fort	N 42 59	W. 108 43	4.50 a.m.	5580	1702	24.37	619.0	29.96	761.0	30.7	−0.1	72.2	5	4	10	6	2	.....	1	.....	3	4263	6860	3	0.85	21.6
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.02	762.5	30.14	765.5	55.8	13.2	88.0	6	3	.....	1	3	.....	1	5	12	2494	4014	6	0.53	13.5
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	25.98	659.9	29.52	760.0	40.3	4.6	67.9	5	8	4	3	1	3	4	3	.....	6429	10346	4	0.25	6.3
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.54	750.3	30.14	765.5	50.6	10.3	86.8	1	5	8	.....	1	1	4	1	10	2036	3277	6	1.48	37.6
Wilmington	N. 34 11	W. 78 10	6.56 a.m.	52	16	30.02	762.5	30.08	764.0	62.4	16.9	88.2	4	5	1	2	.....	3	3	11	2	4428	6901	4	7.57	192.3
Winnemucca	N. 41 00	W. 117 43	4.17 a.m.	4327	1319	25.62	650.7	30.02	762.5	35.5	1.9	74.3	.....	.....	1	15	1	.....	.....	14	.....	6493	10449	4	1.76	44.7
Yankton	N. 42 45	W. 97 30	5.38 a.m.	1228	374	28.62	726.9	29.95	760.7	45.9	7.7	74.6	2	5	4	2	4	2	.....	3	9	5884	9469	4	3.93	99.8
Yuma	N. 32 44	W 114 36	4.30 a.m.	141	43	29.73	755.1	29.88	758.9	60.4	15.8	48.2	7	4	2	2	.....	2	2	8	4	3180	5118	1	0.01	0.3
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.04	559.8	.....	.....	52.4	11.3	73	1	2	.....	3	4	1	2	4	14	2324	3740	6	5.82	147.8
Bridgetown	N. 13 12	W. 59 35	8.10 a.m.	?	?	29.96	761.0	29.98	761.5	82.1	27.8	83	.....	1	1	.....	.....	5	10	14	.....	.....	.....	8?	10.38	263.6
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.86	758.4	29.91	759.7	77.3	25.2	84.2	.....	1	.....	.....	1	3	6	1	19	3500	5632	3	4.41	112.0
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	29.94	760.5	29.95	760.7	76.3	24.6	87	12	2	.....	.....	.....	.....	6	.....	11	2930	4715	5	6.39	162.3
Magua	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	5.71	145.0
Navassa	N. 19 25	W. 75 03	7.43 a.m.	77	23	29.82	757.4	29.90	759.4	80.3	26.8	82	2	.....	.....	.....	.....	.....	16	13	.....	.....	.....	6	6.98	177.3
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.01	762.2	30.01	762.2	79.8	26.6	80.5	.....	.....	.....	.....	1	25	5	.....	.....	.....	.....	7	5.36	136.1
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.39	746.5	29.95	760.7	76.2	24.6	90	2	.....	1	.....	3	.....	1	2	22	.....	.....	10	15.50	393.7
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	74.2	23.4	97.1	1	7	5	3	1	3	.....	11	.....	.....	.....	7	23.38	593.8
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	29.92	760.0	29.95	760.7	77.7	25.4	83.6	7	5	1	.....	.....	.....	.....	2	16	.....	.....	5	4.76	120.9
St. Paul, Alaska	N. 57 47	W. 152 21	1.59 a.m.	54	16	29.47	748.5	29.52	749.8	39.5	4.2	96.5	2	7	.....	2	.....	2	2	5	11	.....	.....	7	17.49	444.2
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	29.89	759.2	30.02	762.5	81.2	27.3	86.2	.....	.....	.....	.....	1	1	11	14	3	1633	2628	4	2.60	66.0
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.87	758.7	29.93	760.2	29.7	−1.3	96.5	1	7	4	2	5	2	6	4	.....	8190	13180	6	2.39	60.7

OCEAN SQUARE DATA FOR OCTOBER, 1882.

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°	30.01	762.2	81.2	27.3							1	30			1.1
12.5 27.5	30.01	762.2	81.5	27.5	1						2	28			1.3
12.5 32.5	30.00	762.0	81.5	27.5							5	15		11	1.8
12.5 37.5	30.01	762.2	81.7	27.6							8	11		12	1.5
12.5 42.5	30.01	762.2	82.8	28.2						2	6	12		11	1.7
12.5 47.5	30.02	762.5	82.3	27.9	1					5	7	7		11	1.6
12.5 52.5	30.01	762.2	82.0	27.8						4	11	9		7	1.3
17.5 22.5	30.07	763.8	79.8	26.6								31			1.2
17.5 27.5	30.07	763.8	80.3	26.8							1	30			1.3
17.5 32.5	30.04	763.0	79.9	26.6							5	15		11	2.0
17.5 37.5	30.05	763.3	80.4	26.9							7	13		11	2.0
17.5 42.5	30.06	763.5	80.9	27.2					3	1	6	10		11	1.7
17.5 47.5	30.03	762.7	81.1	27.3					1	5	5	9		11	1.6
17.5 52.5	30.02	762.5	81.0	27.2				1		6	7	8		7	1.4
17.5 57.5	29.99	761.7	81.0	27.2						12	12	5		2	1.3
22.5 22.5	30.10	764.5	77.7	25.4		1				2	6	22			2.0
22.5 27.5	30.10	764.5	77.9	25.5	1	1				4	10	15			1.8
22.5 32.5	30.12	765.0	78.1	25.6	1			1		3	11	9		6	1.7
22.5 37.5	30.09	764.3	78.5	25.8	2			1		8	6	7		7	2.0
22.5 42.5	30.07	763.8	78.9	26.1				1	1	7	4	11		7	1.8
22.5 47.5	30.06	763.5	79.7	26.5					1	8	1	12			1.7
22.5 52.5	30.03	762.7	79.8	26.6				1		10	8	8		4	1.4
22.5 57.5	30.00	762.0	80.2	26.8	2				1	14	6	6		2	1.5
22.5 62.5	30.00	762.0	79.8	26.6	1	1		1	1	13	6	8			1.6
22.5 67.5	29.99	761.7	80.5	26.9	2				2	11	10	6			1.4
22.5 72.5	29.96	761.0	80.9	27.2	3					17	6	5			1.6
27.5 22.5	30.14	765.5	74.5	23.6		2		1		5	6	17			2.0
27.5 27.5	30.14	765.5	75.2	24.0		3		1	2	4	11	10			2.2
27.5 32.5	30.13	765.3	75.3	24.1	2			2		8	7	8		4	2.0
27.5 37.5	30.11	764.8	75.6	24.2	2	1		1	2	9	4	8		4	2.6
27.5 42.5	30.10	764.5	75.6	24.2	2	1			4	7	2	11		4	2.1
27.5 47.5	30.09	764.3	76.1	24.5	1	2		1	2	9	1	10		4	2.0
27.5 52.5	30.08	764.0	76.5	24.7		2		2	3	10	6	4		4	1.9
27.5 57.5	30.04	763.0	77.3	25.2	4	2		1	4	14	2	2		2	2.0
27.5 62.5	30.01	762.2	77.5	25.3	4			1	5	13	4	4			1.8
27.5 67.5	29.97	761.2	78.2	25.7	1	3		1	5	12	3	6			2.1
27.5 72.5	30.00	762.0	78.0	25.6	7	2		2	4	2	8	6			2.4
27.5 77.5	30.00	762.0	76.2	24.6	5	3	1		3	3	8	8			2.1
32.5 12.5	30.14	765.5	71.5	21.9	12	1		6	1	2		9			2.3
32.5 17.5	30.15	765.8	71.5	21.9	4	2		8	2	4		1			1.0
32.5 22.5	30.16	766.1	72.4	22.4	2	2		4	2	5	5	11			1.7
32.5 27.5	30.16	766.1	72.8	22.7	2	4		2	5	9	7	2			1.5
32.5 32.5	30.15	765.8	73.0	22.8	3	3	1	3	5	5	7	3		1	2.1
32.5 37.5	30.13	765.3	72.8	22.7	2	3	1	2	6	7	1	8		1	2.6
32.5 42.5	30.12	765.0	72.5	22.5	5	2		3	5	6	1	8		1	2.9
32.5 47.5	30.12	765.0	72.3	22.4	1	4	1	3	6	4	1	10		1	2.5
32.5 52.5	30.10	764.5	72.8	22.7	4	2	1	4	4	6	6	4			2.4
32.5 57.5	30.09	764.3	72.9	22.7	3	3		4	4	9	2	6			2.6
32.5 62.5	30.05	763.3	73.5	23.1	4	1	1	2	4	11	1	7			2.3
32.5 67.5	30.02	762.5	73.2	22.9	4	4		2	6	8	3	4			2.5
32.5 72.5	30.02	762.5	72.4	22.4	6	5		1	2	4	2	11			2.8
32.5 77.5	30.05	763.3	67.5	19.7	4	5	1	4	2	2		13			2.3
37.5 12.5	30.12	765.0	66.7	19.3	2	12	2	5	3	3		4			2.7
37.5 17.5	30.12	765.0	68.1	20.1	2	9	7	4	3	2	3	1			2.4
37.5 22.5	30.13	765.3	68.9	20.5	2	14	2	4	3	5	1				2.2
37.5 27.5	30.13	765.3	69.4	20.8	3	12	3	4	4	5					2.0
37.5 32.5	30.12	765.0	69.2	20.7	5	9	4	6	5	1	1				2.6
37.5 37.5	30.11	764.8	69.3	20.7	4	8	4	5	5	1	1	3			3.1
37.5 42.5	30.11	764.8	67.9	19.9	8	4		5	7	1	1	5			3.6
37.5 47.5	30.12	765.0	67.0	19.4	8	4	1	5	4		2	7			3.4
37.5 52.5	30.11	764.8	66.7	19.3	7	4		6	5	4	2	3			3.6
37.5 57.5	30.09	764.3	67.0	19.4	4	6	1	3	7	3	2	5			3.5
37.5 62.5	30.06	763.5	66.3	19.1	2	8		2	5	7	4	3			3.1
37.5 67.5	30.04	763.0	64.7	18.2	7	3		2	3	8	1	7			3.2
37.5 72.5	30.04	763.0	62.1	16.7	7	3	1	2	2	3	2	11			3.7
42.5 12.5	30.04	763.0	63.4	17.4	1	9	4	7	4	1		4		1	2.9
42.5 17.5	30.03	762.7	64.0	17.8		10	5	9	3	1	2	1			3.2
42.5 22.5	30.02	762.5	64.5	18.1		11	5	7	6	2					3.2
42.5 27.5	30.02	762.5	65.2	18.4		11	7	8	4			1			3.3
42.5 32.5	30.01	762.2	64.9	18.3	1	16	4	8	2						2.9
42.5 37.5	30.00	762.0	63.8	17.7	2	13	7	7	2						3.8
42.5 42.5	30.07	763.8	62.5	16.9	7	9	4	5	5			1			3.7
42.5 47.5	30.07	763.8	60.3	15.7	5	11	1	7	3	1	1	2			3.7
42.5 52.5	30.08	764.0	59.5	15.3	5	7	2	8	3	4	1	1			3.9
42.5 57.5	30.07	763.8	59.3	15.2	4	7	2	3	6	4	3	2			3.9
42.5 62.5	30.06	763.5	56.9	13.8	6	6		7	3	6		3			3.3
42.5 67.5	30.10	764.5	54.8	12.7	12	1	1	6		4	4	3			3.4
47.5 12.5	29.86	758.4	57.8	14.3	1	5	9	7	4	2	2	1			4.2
47.5 17.5	29.85	758.2	58.1	14.1	3	5	8	7	3	5					4.1
47.5 22.5	29.83	757.7	57.9	14.4	1	9	7	8	2	3	1				4.4
47.5 27.5	29.80	756.9	57.3	14.1	1	10	7	6	4	1	1	1			4.5
47.5 32.5	29.80	756.9	54.6	12.6	4	17	2	6	1			1			4.6
47.5 37.5	29.84	757.9	55.6	13.1	1	17	4	8	1						4.6
47.5 42.5	29.87	758.7	52.6	11.4	2	14	4	10	1						4.6
47.5 47.5	29.91	759.7	49.3	9.6	3	9	6	9	3		1				3.6
52.5 12.5	29.76	755.9	58.0	14.4	2	3	6	7	7	3	1	2			4.0
52.5 17.5	29.68	753.9	54.4	12.4	1	6	5	10	2	4	2	1			4.1
52.5 22.5	29.68	753.9	53.6	12.0	1	7	6	9	3	4	1				4.4
52.5 27.5	29.65	753.1	52.4	11.3	2	12	3	7	1	4	1	1			4.8
52.5 32.5	29.63	752.6	50.9	10.5	4	11	4	7	3		1	1			4.4
52.5 37.5	29.69	754.1	49.3	9.6	2	15	2	8	3	1					4.4
52.5 42.5	29.72	754.9	47.1	8.4	2	14	4	7	2	2					4.2
52.5 47.5	29.77	756.1	44.5	6.9	1	15	5	7		2	1				3.5
57.5 12.5	29.66	753.4	51.1	10.6	1		1	6	10	8	2	3			3.8
57.5 17.5	29.58	751.3	49.8	9.9	1	5		5	7	6	3	4			3.6
57.5 22.5	29.51	749.5	47.5	8.6	4	3	1	6	6	9	1	1			3.8
57.5 27.5	29.48	748.8	45.4	7.4	4	6	1	5	5	7	3				3.6
57.5 32.5	29.47	748.5	42.7	5.9	4	9	2	3	5	5	1	2			3.9
57.5 37.5	29.49	749.0	40.4	4.7	5	11	3	3	3	6					3.8
57.5 42.5	29.51	749.5	38.4	3.6	4	13	2	3	5	4					3.5
57.5 47.5	29.56	750.8	35.8	2.1	6	15	1	2	3	1	3				3.1

NOTE.—See General Remarks.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade.*]

The following descriptions refer to chart ii. (formerly iv.) for the months of May, June, July, and August, 1882, (which charts were issued with the SUMMARY for the respective months,) and present a brief summary of the meteorological conditions which prevailed over the northern hemisphere during the above months. Chart ii. continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m. Washington, or 0 h. 8 m. p. m. Greenwich, mean time.

For the description of these charts much valuable information has been obtained from the "Monatliche Uebersicht der Witterung," published by Professor Dr. G. Neumayer, director of the German Marine Observatory at Hamburg, Germany.

For the month of May, 1882, the area of barometric minima occupies Hindostan, the means ranging from 29.54 (750.3) at Lahore, to 29.75 (755.6) at stations on the coasts. In eastern Asia the mean pressure is about 29.77 (756.1), except at stations on the coast of China and in the Japan islands, where it ranges from 29.82 (757.4), to 29.88 (758.9). In Europe, the pressure is least in Russia, Austria, the Iberian peninsula, and the northern part of Scandinavia, and ranges from 29.93 (760.2) in the first mentioned, to 29.98 (761.5), in the other districts. In the north Atlantic ocean the area of least pressures is situated between 48° and 60° north latitude, and extends from W. 55° eastward to W. 20°; within this region the mean atmospheric pressure ranges from 29.83 (757.7) to 29.9 (759.4). In the north American continent the pressure is least in the southwestern part of the United States, (Arizona, New Mexico, and southern Colorado,) where the means range from 29.76 (755.9) to 29.8 (756.9). In the southern part of the lake region, the Ohio valley, and over the country west of the ninetieth meridian, excepting the north Pacific coast region, the pressure ranges from 29.85 (758.2) to 30.0 (762.0). In the country east of the above-mentioned limits and in Canada, the means range from 30.0 (762.0) to 30.05 (763.3). In the north Pacific coast region they range from 30 01 (762.2) to 30.08 (764.0).

The most marked area of barometric maxima occupies the north Atlantic ocean south of N. 40°, and is indicated by the isobar for 30.1 (764.5), which extends from W. 70° eastward to the northwestern coast of Africa; at the centre of this area the mean pressure is 30.25 (768.3).

Compared with the preceding month, (April, 1882,) there has been a slight decrease of pressure throughout the United States, except on the north Pacific coast and in the New England states, where the pressure is slightly above that of April. In Canada there has been a slight increase. Over the north Atlantic ocean the increase of pressure has averaged .1 inch. In Europe there has been decided increase of pressure, the increase being greatest in the British Isles and the countries of western Europe, and least in Russia, Spain, and central Europe. In India the pressure has decreased about .1 inch, and in other parts of Asia the decrease averages .25 inch.

Compared with the corresponding month of previous years, the mean atmospheric pressure for May, 1882, is normal or slightly below the normal in the United States, east of the Mississippi river and south of the forty-third parallel; north of that parallel it is about .05 above the normal. On the Pacific coast it is about normal, and at Rocky mountain stations it is below the normal. In Canada it is above the normal. In Europe the atmospheric pressure was above the normal.

The following table gives the mean pressure and the mean temperature, with corresponding departures, for the month of May, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	May, 1877, 1878, 1879, 1880, 1881.	May, 1882.	Departure.	May, 1877, 1878, 1879, 1880, 1881.	May, 1882.	Departure.
				°	°	°
Algeria	30.03	30.06	+0.03	72.1	72.2	+ 4.1
Austria	29.89	29.97	+0.08	64.9	64.6	− 0.3
British Isles	30.00	30.04	+0.04	55.2	58.2	+ 3.0
Denmark	29.93	30.05	+0.12	53.8	55.2	+ 1.4
France	29.96	30.02	+0.06	62.3	64.6	+ 2.3
Germany	29.95	30.04	+0.08	59.2	61.0	+ 1.8
India*	29.63	29.64	+0.01	91.2	91.5	+ 0.3
Italy	29.92	30.02	+0.10	67.4	69.5	+ 2.1
Norway	29.87	29.98	+0.11	51.6	49.9	− 1.7
Portugal	30.01	29.99	−0.02	68.0	65.4	− 2.6
Russia	29.90	29.93	+0.03	61.5	64.4	+ 2.9
Spain	29.98	29.98	normal	68.6	68.0	− 0.6
Sweden	29.90	30.00	+0.10	49.7	52.8	+ 3.1

* Mean for four years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of May, 1882, as compared with the means of five years:

Stations.	Mean pressure.			Mean temperature.		
	May, 1877, 1878, 1879, 1880, 1881.	May, 1882.	Departure.	May, 1877, 1878, 1879, 1880, 1881.	May, 1882.	Departure.
				°	°	°
Gibraltar	30.03	30.02	− 0.01	69.5	69.8	+ 0.3
Malta, Mediterranean Sea	29.93	30.01	+ 0.08	68.9	72.7	+ 3.8
Sandwick Manse, Orkney Islands	29.92	30.00	+ 0.08	49.0	50.4	+ 1.4
Bridgetown, Barbadoes	30.00	30.00	normal	83.0	83.4	+ 0.4
Cape Town, Cape Good Hope	30.06	30.10	+ 0.04	65.6	65.5	− 0.1
Fort Napier, Natal, South Africa	29.94	29.91	− 0.03	71.8	69.0	− 2.8
Free Town, Sierra Leone	29.92	29.84	− 0.08	86.3	87.0	+ 0.7
Mauritius, Indian Ocean	30.07	30.04	− 0.03	75.2	77.5	+ 2.3
Melbourne, New South Wales	30.04	30.01	− 0.03	53.8	53.7	− 0.1
Nassau, Bahamas	30.01	30.10	+ 0.09	76.9	79.6	+ 2.7
Godthaab, Greenland	29.84	29.97	+ 0.13	35.1	34.2	− 0.9
Stykkisholm, Iceland	29.88	29.95	+ 0.07	42.3	37.0	− 5.3
Thorshavn, Färöe Islands	29.90	29.97	+ 0.07	46.2	47.5	+ 1.3
Zi-Ka-Wei, China	29.91	29.87	− 0.04	63.1	62.6	− 0.5
Athens, Greece	29.93	.....	.....	73.8	74.6	+ 0.8
Cagliari, Sardinia, Italy	29.91	29.96	+ 0.05	69.2	70.7	+ 1.5
Tokei, Japan	29.94	29.86	− 0.08	61.5	60.3	− 1.2
Angra, Azores	30.16	.....	.....	62.9	60.8	− 2.1
Funchal, Madeira Islands	30.11	30.10	− 0.01	68.2	66.6	− 1.6
Ponta Delgado, Azores	30.17	30.14	− 0.03	65.3	63.9	− 1.4
Archangel, Russia	29.89	29.96	+ 0.07	46.4	44.6	− 1.8
Tiflis, Russia	29.87	29.88	+ 0.01	71.2	68.2	− 3.0
Astrakhan, Russia	29.90	29.88	− 0.02	72.4	72.1	− 0.3
Ekaterinburg, Russia	29.87	29.87	normal	58.0	57.7	− 0.5
Tashkend, Toorkistan, Asia	29.80	29.85	− 0.01	78.3	77.0	− 1.3
Barnaul, Siberia, Asia	29.91	29.86	− 0.05	58.0	58.8	+ 0.8
Yeniseisk, Siberia, Asia	29.93	.....	.....	47.2	.....	.....
Pekin, China	29.84	29.78	− 0.06	67.8	71.2	+ 3.4
Nikolaevsk on the Amoor, Asia	.....	.....	.....	35.6	40.5	+ 4.9
San Juan de Puerto Rico, W. I*	30.00	30.07	+ 0.07	80.0	79.5	− 0.5
Beirut, Turkey in Asia	29.93	29.92	− 0.01	76.1	73.2	− 2.9
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I*	30.01	30.04	+ 0.03	78.2	79.4	+ 1.2
Paramaribo, D. Guiana, S. A	30.05	30.04	− 0.01	80.9	78.0	− 2.9
York Factory, B. A*	30.03	30.11	+ 0.08	27.8	29.9	+ 2.1

* Mean for four years only.

The mean temperature of the air averaged about 6° below the May normal in all parts of the United States, except in the north Pacific coast region, where it was about normal. In Canada the temperature was below the normal. In Europe the temperature was normal or slightly above. In British India it was 0°.3 above the mean of four years. The highest mean temperature reported was 102°.5 Fahr. (39°.2 Cent), at Deesa, and the lowest was 75°.5 Fahr. (24°.2 Cent.), at Sibsagar.

The following are some of the extreme monthly mean temperatures reported at isolated stations during the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	87.0	30.6	Ooglaamie, Alaska	19.0	−7.2
Manila, Philippine Islands	83.9	28.8	York Factory, B. A	29.9	−1.2
Bridgetown, Barbadoes	83.4	28.6	Fort Saint Michaels, Alaska	31.0	−0.6
Tuguegarao, Luzon	80.4	26.9	Godthaab, Greenland	34.2	1.2

In the United States, north of the fortieth parallel and east

of the ninetieth meridian, the winds were mostly northerly and northeasterly. On the Pacific coast they were northerly, and in Florida they were easterly; elsewhere the winds were mostly southerly and southwesterly. Over the north Atlantic ocean, from the United States eastward to W. 60° the winds were variable in direction; from W. 60° to 40° and between 20° and 50° north latitude, the winds were southeasterly, southerly, and southwesterly. Between the meridians of forty and twenty and the parallels of thirty and fifty, northwesterly winds prevailed; east of W. 20° they were variable—a southerly direction predominating. In central Europe the winds were mostly northerly and northeasterly; in the southern districts they were southerly, southeasterly and southwesterly. In Scandinavia they were southwesterly and westerly, and in the British Isles they were mostly northeasterly.

The rainfall during May, 1882, was in excess of the average in all districts east of the hundredth meridian, except in Florida and the south Atlantic states, where there was a slight deficiency. West of the hundredth meridian the rainfall was generally below the average; in districts where excesses occurred they were very slight. In the regions of greatest excess (Tennessee, the Ohio valley, and the northern part of the west Gulf states), much damage resulted from severe floods. In Canada the rainfall was above the average. In Europe it was, in general, above the average.

The chart for June, 1882, shows the region of least pressure to be in Asia, where the means range from 29.40–50 (746.7–749.3) in Hindostan, to 29.65 (753.1) in northern and central China. In eastern China and Japan the mean pressure ranges from 29.78 (756.4) to 29.8 (756.9). There are indicated on the chart three regions where the pressure is 29.8 (756.9). These are, first, in the United States between W. 115° and 102° and N. 32° and 45°, where the mean pressure ranges from 29.76 (755.9) to 29.8 (756.9); second, in New Brunswick and northern Maine, and the third occupies Scotland, part of the North Sea, and the western coast of Norway. Over the remaining portions of North America and Europe the mean pressure ranges from 29.8 (756.9) to 30.05 (763.3).

The region of greatest pressure is situated over the Atlantic, its centre, which is indicated by the isobar for 30.3 (769.6), being over the Azores. The isobarometric line for 30.1 (764.5) extends from the West Indies northeastward and eastward to the Iberian peninsula and Africa, its northern limit being on the forty-sixth parallel.

The following table gives the mean pressure and mean temperature, with corresponding departures, for the month of June, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	June, 1877, 1878, 1879, 1880, 1881.	June, 1882.	Departure.	June, 1877, 1878, 1879, 1880, 1881.	June, 1882.	Departure.
				°	°	°
Algeria	30.05	30.08	+0.03	82.2	84.2	+ 2.0
Austria	29.92	29.94	+0.02	71.8	68.3	− 3.5
British Isles	29.90	29.89	−0.01	60.6	59.7	− 0.9
Denmark	29.89	29.83	−0.06	61.2	61.5	+ 0.3
France	29.99	30.03	+0.04	70.4	67.3	− 3.1
Germany	29.96	29.94	−0.02	68.2	65.5	− 2.7
India	29.54	29.54	normal	88.7	87.9	− 0.8
Italy	29.98	29.97	−0.01	76.6	75.6	− 1.0
Norway	29.81	29.82	+0.01	59.5	61.6	+ 2.1
Portugal	30.07	30.08	+0.01	72.5	73.6	+ 1.1
Russia	29.86	29.83	−0.03	70.1	69.2	− 0.9
Spain	30.01	30.05	+0.04	75.5	72.5	− 3.0
Sweden	29.83	29.88	+0.05	59.4	60.8	+ 1.4

Compared with the preceding month (May, 1882), the pressure has decreased in all parts of the United States and in Canada. There has also been a material decrease of pressure in Europe, except in France and the Iberian peninsula, which countries have shared the increase of pressure noticed over the Atlantic. The pressure has decreased near the coast of North America, but elsewhere over the Atlantic ocean it has increased, notably so in the vicinity of the Azores. Throughout Asia the pressure is less than in the preceding month.

Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States is normal, or slightly below the normal. In Europe it was slightly below the normal in the central and northwestern districts; in the Iberian peninsula it was slightly above the normal.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of June, 1882, as compared with the means of five years:

Stations.	Mean pressure.			Mean temperature.		
	June, 1877, 1878, 1879, 1880, 1881.	June, 1882.	Departure.	June, 1877, 1878, 1879, 1880, 1881.	June, 1882.	Departure.
				°	°	°
Gibraltar	30.03	30.07	+0.04	74.2	77.2	+ 3.0
Malta, Mediterranean Sea	29.99	30.02	+0.03	77.4	78.8	+ 1.4
Sandwick Manse, Orkney Islands	29.91	29.81	−0.10	53.8	53.1	− 0.7
Bridgetown, Barbadoes	30.01	30.07	+0.06	82.7	81.5	− 1.2
Cape Town, Cape Good Hope	30.16	30.18	+0.02	60.3	62.0	+ 1.7
Fort Napier, Natal, South Africa	30.04	30.04	normal	68.2	71.0	+ 2.8
Free Town, Sierra Leone	29.93	29.91	−0.02	84.8	84.5	− 0.3
Mauritius, Indian Ocean	30.15	30.14	−0.01	73.1	73.2	+ 0.1
Melbourne, New South Wales	30.12	30.05	−0.07	47.7	47.0	− 0.7
Nassau, Bahamas	30.04	30.14	+0.10	82.7	83.1	+ 0.4
Godthaab, Greenland	29.82	29.82	normal	41.7	37.8	− 3.9
Stykkisholm, Iceland	29.79	29.93	+0.14	48.7	43.9	− 4.8
Thorshavn, Färöe Islands	29.85	29.89	+0.04	50.8	50.4	− 0.4
Zi-Ka-Wei, China	29.80	29.78	−0.02	71.0	70.7	− 0.3
Athens, Greece	29.93	.....	.....	83.7	80.8	− 2.9
Cagliari, Sardinia, Italy	29.98	29.97	−0.01	78.6	77.7	− 0.9
Tokei, Japan	29.87	29.80	−0.07	67.8	67.0	− 0.8
Angra, Azores	30.18	.....	.....	66.9	66.6	− 0.3
Funchal, Madeira Islands	30.18	30.22	+0.04	71.1	69.3	− 1.8
Ponta Delgado, Azores	30.21	30.34	+0.13	69.7	71.4	+ 1.7
Archangel, Russia	29.76	29.86	+0.10	57.2	53.2	− 4.0
Tiflis, Russia	29.84	29.81	−0.03	78.5	80.4	+ 1.9
Astrakhan, Russia	29.85	29.80	−0.05	80.2	80.6	+ 0.4
Ekaterinburg, Russia	29.70	29.72	+0.02	64.1	64.4	+ 0.3
Tashkend, Toorkistan, Asia	29.76	29.67	−0.09	84.2	86.4	+ 2.2
Barnaul, Siberia, Asia	29.70	29.73	+0.03	69.1	66.2	− 2.9
Yeniseisk, Siberia, Asia	.....	.....	.....	.....	.....	.....
Pekin, China	29.69	29.65	−0.04	76.4	80.4	+ 4.0
Nikolaevsk on the Amoor, Asia	.....	.....	.....	50.9	54.9	+ 4.0
San Juan de Puerto Rico, W. I	30.04	30.10	+0.06	82.0	82.4	+ 0.4
Beirut, Turkey in Asia	29.85	29.72	−0.13	83.3	79.0	− 4.3
Mexico, Mexico	30.05	30.14	+0.09	57.8	56.1	− 1.7
Havana, Cuba, W. I	30.04	30.06	+0.02	81.7	82.5	+ 0.8
Paramaribo, D. Guiana, S. A	30.06	30.07	+0.01	80.3	78.1	− 2.2
York Factory, B. A	29.96	30.05	+0.09	47.3	45.0	− 2.3

In the United States the mean temperature of the air was below the average in the country east of the Rocky mountains, except in the districts on the Atlantic coast. In California it was also below the normal. In Europe the temperature was everywhere below the normal, except in the Scandinavian peninsula and in Denmark, where it was normal or above. In this connection may be noted the interesting fact that, while the temperature of the air remained above the normal in Europe during the winter and spring (November, 1881, to April, 1882, May was about normal) it was considerably below the normal during the first month of the summer (June, 1882). In British India the mean temperature of the air was 0°.8 below the four years' mean. The highest mean temperature reported was 104°.8 Fahr. (40°.4 Cent.), at Lahore, and the lowest was 71°.8 Fahr. (22°.1 Cent.), at Belgaum.

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

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Tashkend, Toorkistan	86.4	30.2	Ooglaamie, Alaska	31.6	−0.2
Freetown, Africa	84.5	29.2	Godthaab, Greenland	37.8	3.2
Nassau, W. I	83.1	28.4	Stykkisholm, Iceland	43.9	6.6
Manila, Luzon	82.4	28.0	York Factory, B. A	45.0	7.2

In the United States from the hundredth meridian eastward, the winds were mostly southerly and southwesterly. On the Pacific coast they were northwesterly and southwesterly. In Canada they were southerly, southwesterly, and westerly. Over the north Atlantic ocean the influence of the area of barometric maxima was strikingly exhibited in the prevailing winds. From the coast of the United States north of 25° north

latitude, eastward to the fiftieth meridian, the winds were southerly and southwesterly. From W. 50° to 30°, and between N. 35° and 50°, they were southwesterly; east of W. 30° and north of 40° north latitude, they were northwesterly. South of N. 40° and east of W. 30°, they were northerly and northeasterly. South of N. 25° they were easterly and southeasterly. In Europe the winds were mostly southwesterly and westerly. In China they were easterly and southeasterly, and in Japan they were variable.

The rainfall for June, 1882, was, in the United States, below the average along the Atlantic coast and in the Gulf states, elsewhere it was in excess of the average. In Europe the rainfall was about normal in the southern districts and above the average in the north.

For the month of July, 1882, the areas of least pressure are situated in southwestern Asia and in the region north of the British Isles. The former includes Hindostan, where the mean pressure ranges from 29.43 (747.5) at Lahore, to 29.57 (751.1) in Farther India. In southern India the means range from 29.65 (753.1) to 29.67 (753.6). The centre of the second low area is in the Orkney Islands, where the pressure is 29.56 (750.8). In Scotland the means range from 29.63 (752.6) in the north, to 29.7 (754.4) in the south. At Thorshavn, Färöe islands, and at Stykkisholm, Iceland, to the north and northwest of the centre, the mean pressure is 29.63 (752.6). To the southwestward over the Atlantic ocean the barometric gradient increases rapidly until the isobar for 30.1 (764.5) is reached; this line runs from the coast of the United States eastward along the forty-fourth parallel. To the southeastward of the area of barometric minima the pressure gradually increases, except in Spain, where a small area of relatively low pressures is shown. In England and Ireland, the northern peninsulas, along the eastern shores of the North sea, and in Russia, the mean pressure is below 29.9 (759.4); in other parts of Europe it ranges from 29.9 (759.4), to 30.05 (763.3). In the United States the pressure is least in the southwestern part of the country, the means ranging from 29.8 (756.9) to 29.9 (759.4). In the lake region and in Canada the mean pressure is from 29.95 (760.7) to 30.0 (762.0). Over the remaining country east of W. 97° and south of N. 43°, the mean pressure ranges from 30.0 (762.0) to 30.1 (764.5).

The region of barometric maxima occupies the Atlantic ocean from N. 44° southward to N. 15°, and from the coast of the United States eastward to 10° west longitude. The centre of this extensive area is in the vicinity of the Azores, where the mean pressure is 30.32 (770.1), the isobar for 30.3 (769.6), extending southwestward to about N. 31°, W. 49°. In the United States the atmospheric pressure is greatest on the north Pacific coast, where the means range from 30.05 (763.3) to 30.1 (764.5). In Florida and the south Atlantic states there is an extension westward of the high area of the Atlantic ocean; in those districts the pressure is 30.1 (764.5).

Compared with the preceding month (June, 1882), there has been a general increase of pressure throughout the United States, the increase averaging about .1 inch. Over the Atlantic ocean the pressure has increased south of N. 44°, but it has decreased over the region north of that latitude. In Europe there has been a slight decrease of pressure in all parts of the continent, except in eastern Russia, where the pressure has remained unchanged. In Hindostan the pressure has increased about .1 inch; in all other parts of Asia there has been a slight decrease.

Compared with the corresponding month of previous years, the mean atmospheric pressure is above the normal in all parts of the United States, except in Colorado, New Mexico, and Nevada. In Canada it is above the normal. In Europe the mean atmospheric pressure differed but slightly from the normal values.

The following table gives the mean pressure and mean temperature, with corresponding departures, for the month of July, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	July, 1877, 1878, 1879, 1880, 1881.	July, 1882.	Departure.	July, 1877, 1878, 1879, 1880, 1881.	July, 1882.	Departure.
				°	°	°
Algeria	30.03	30.04	+0.01	89.8	88.4	− 1.4
Austria	29.92	29.86	−0.06	74.3	75.1	+ 0.8
British Isles	29.91	29.82	−0.09	63.5	63.3	− 0.2
Denmark	29.82	29.85	+0.03	63.3	65.7	+ 2.4
France	30.03	29.99	−0.04	74.2	70.4	− 3.8
Germany	29.92	29.93	+0.01	70.1	69.7	− 0.4
India	29.57	29.51	−0.03	84.1	83.4	− 0.7
Italy	29.97	29.91	−0.06	82.0	79.9	− 2.1
Norway	29.75	29.75	normal	62.5	64.4	+ 1.9
Portugal*	30.05	30.04	−0.01	80.5	78.6	− 1.9
Russia	29.78	29.83	+0.05	73.5	79.4	+ 5.9
Spain*	30.02	30.04	+0 02	81.2	75.9	− 5.3
Sweden	29.76	29.82	+0.06	63.9	66.6	+ 2.7

* Mean for four years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of July, 1882, as compared with the means of five years:

Stations.	Mean pressure.			Mean temperature.		
	July, 1877, 1878, 1879, 1880, 1881.	July, 1882.	Departure.	July, 1877, 1878, 1879, 1880, 1881.	July, 1882.	Departure.
				°	°	°
Gibraltar	30.01	30.05	+0.04	78.0	79.3	+ 1.3
Malta, Mediterranean Sea	29.98	29.94	−0.04	84.3	81.3	− 3.0
Sandwick Manse, Orkney Islands	29.81	29.56	−0.25	55.8	58.7	+ 2.9
Bridgetown, Barbadoes	.....	.....	.....	.....	.....	.....
Cape Town, Cape Good Hope	30.18	30.19	+0.01	62.0	62.3	+ 0.3
Fort Napier, Natal, South Africa	30.03	30.04	+0.01	68.0	68.9	+ 0.9
Free Town, Sierra Leone	29.99	29.90	−0.09	82.1	83.8	+ 1.7
Mauritius, Indian Ocean	30.21	30.21	normal	71.6	71.4	− 0.2
Melbourne, New South Wales	30.17	30.03	−0.14	48.0	47.2	− 0.8
Nassau, Bahamas	30.03	30.18	+0.15	84.3	85.1	+ 0.8
Godthaab, Greenland	29.78	.....	.....	44.4	.....	.....
Stykkisholm, Iceland	29.79	29.63	−0.16	52.1	48.0	− 4.1
Thorshavn, Färöe Islands	29.78	29.63	−0.15	53.9	54.9	+ 1.0
Zi-Ka-Wei, China	29.72	29.76	+0.04	77.9	76.1	− 1.8
Athens, Greece	29.89	29.80	−0.09	87.8	89.1	+ 1.3
Cagliari, Sardinia, Italy	29.98	29.93	−0.05	82.4	81.7	− 0.7
Tokei, Japan	29.86	29.88	+0.02	75.5	73.7	− 1.8
Angra, Azores	30.30	.....	.....	72.5	72.0	− 0.5
Funchal, Madeira Islands	30.16	30.18	+0.02	72.1	73.6	+ 1.5
Ponta Delgado, Azores	30.31	30.32	+0.01	75.2	75.0	− 0.2
Archangel, Russia	30.71	29.86	+0.15	65.0	66.0	+ 1.0
Tiflis, Russia	29.76	29.76	normal	87.6	92.1	+ 4.5
Astrakhan, Russia	29.77	29.88	+0.11	84.9	86.5	+ 1.6
Ekaterinburg, Russia	29.66	29.77	+0.11	70.6	68.9	− 1.7
Tashkend, Toorkistan, Asia	29.68	29.63	−0.05	87.7	86.9	− 0.8
Barnaul, Siberia, Asia	29.63	29.70	+0.07	74.5	69.6	− 4.9
Yeniseisk, Siberia, Asia	29.66	29.78	+0.12	70.6	64.6	− 6.0
Pekin, China	29.66	29.68	+0.02	80.3	80.1	− 0.2
Nikolaievsk on the Amoor, Asia	.....	.....	.....	58 6	.....	.....
San Juan de Puerto Rico, W. I.	30.03	30.12	+0.09	82.6	81.1	− 1.5
Beirut, Turkey in Asia	29.76	29.76	normal	88.4	85.5	− 2.9
Mexico, Mexico	30.09	30.21	+0.12	56.0	54.3	− 1.7
Havana, Cuba, W. I.	30.05	.....	.....	81.9	.....	.....
Paramaribo, D. Guiana, S. A	30.03	30.08	+0.05	81.9	78.1	− 3.8
York Factory, B. A.	29.82	30.02	+0.20	53.8	58.7	+ 4.9

In the United States the mean temperature of the air was below the normal in all districts, except New England and the Pacific coast region, where slight excesses occurred. In Canada the temperature was below the normal in the western, and above the normal in the eastern provinces. In Europe the temperature of the air was below the normal in all districts except the northern peninsulas, Russia, and Austria. In British India the temperature was slightly below the four years' mean. The highest mean temperature reported was 92° Fahr. (33°.3 Cent.), at Lahore, and the lowest was 69°.8 Fahr. (21°.0 Cent.), at Belgaum.

The following are some of the extreme mean temperatures reported at isolated stations during the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Tiflis, Caucasia, Russia	92.1	33.4	Ooglaamie, Alaska	39.4	4.1
Athens, Greece	89.1	31.7	Stykkisholm, Iceland	48.0	8.9
Astrakhan, Russia	86.5	30.3	Sitka, Alaska	50.4	10.2
Beirut, Turkey in Asia	85.5	29.7	York Factory, B. A.	58.7	14.8
Nassau, Bahamas, W. I	85.1	29.5			
Freetown, Africa	83.8	28.8			

In the United States east of the Rocky mountains the prevailing winds were mostly southerly, southwesterly, and westerly. On the Pacific coast they were southerly and westerly. In Canada they were mostly southwesterly. Over the north Atlantic ocean the winds were southerly and southwesterly from the seventy-fifth meridian eastward to W. 30°, and from N. 30° to N. 50.° From W. 30° eastward to the European coasts and north of 35° north latitude, they were northwesterly. South of N. 35° they were northeasterly and southeasterly. North of the fiftieth parallel northerly and northwesterly winds prevailed. In Europe the winds were mostly southerly, southwesterly, and westerly. In China and Japan they were southerly.

In the United States the rainfall for July, 1882, was in excess of the average in the south Atlantic and Gulf states, and in the southern slope of the Rocky mountains; elsewhere there was a deficiency. In Canada the rainfall was below the average. In Europe it was in excess of the average.

For the month of August, 1882, there are two areas of barometric minima indicated on the chart. The first occupies that part of British India lying north of the twentieth parallel; in this region the mean pressure ranges from 29.48 (748.8) at Lahore, to 29.6 (751.8) in the eastern provinces. South of the twentieth parallel the means range from 29.7 (754.4) to 29.8 (756.9). The second area of low pressures is situated over the Arctic ocean and in northern Europe. It covers the Scandinavian peninsula and extends northwestward to the Färöe islands; within this area the pressure ranges from 29.64 (752.8) in Norway, to 29.7 (724.4), in Sweden and at the western limits of the area. In Scotland, Denmark, and the greater part of European Russia the pressure is below 29.8 (756.9). In other parts of Europe it ranges from 29.85–90 (758.2–759.4) in the southern part of the British Isles, in Germany, and Austria, to 30.05 (763.3) in France and northern Spain. In the United States the region of least pressure is indicated by the isobar for 29.9 (759.4), which occupies the country west of the hundredth meridian, except the north Pacific coast region, where the mean pressure ranges from 30.0 (762.0) to 30.09 (764.3). In the lake region and in the eastern provinces of Canada the mean pressure is slightly below 30.0 (762.0), but in all other parts of the United States and Canada it ranges from 30.0 (762.0) in the interior, to 30.08 (764.0) on the Atlantic coast. In Siberia the pressure is about 29.8 (756.9); in other parts of Asia, excepting Hindostan, it ranges from 29.7 (754.4) in the west, to 29.9 (759.0) in the east.

The area of barometric maxima occupies the Atlantic ocean between N. 44°, W. 20° southwestward to N. 25°, W. 45°. This region is enclosed by the isobar for 30.2 (767.1), the centre of greatest pressure being in the Azores, where the means are 30.29 (769.4) to 30.3 (769.6). The isobar for 30.1 (764.5) extends eastward from the Bahamas to about W. 65°, thence northeastward to N. 46°, and eastward to the coast of Portugal.

Compared with the preceding month (July, 1882), there has been a slight increase of pressure in the United States north of 40° north latitude and east of 90° west longitude. In the north Pacific coast region, the south Atlantic, and east Gulf states, and in Florida, there has been a slight decrease; elsewhere the pressure has remained unchanged. Over the north Atlantic ocean the pressure has decreased in the region south of N. 45°; north of that parallel there has been a slight increase of pressure. In Europe the pressure has decreased in the northern peninsulas, and in northern Germany and Russia; in the British Isles and other parts of the continent there has been a slight increase. In Asia the pressure has increased slightly.

Compared with the corresponding month of previous years, the mean atmospheric pressure in the United States and Canada was about normal, the departures of excess or deficiency being extremely slight. In Europe it was generally below the normal.

The following table gives the mean pressure and mean temperature for the month of August, 1882, with corresponding departures, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	Aug., 1877, 1878, 1879, 1880, 1881.	Aug., 1882.	Departure.	Aug., 1877, 1878, 1879, 1880, 1881.	Aug., 1882.	Departure.
				°	°	°
Algeria	30.01	30.07	+0.06	89.9	88.0	− 1.9
Austria	29.89	29.89	normal	74.6	69.8	− 4.8
British Isles	29.84	29.90	+0.06	63.0	61.2	− 1.8
Denmark	29.81	29.72	−0.09	64.4	63.8	− 0.6
France	29.95	30.02	+0.07	74.2	70.3	− 3.9
Germany	29.91	29.90	−0.01	69.8	66.0	− 3.8
India	29.61	29.62	+0.01	82.6	83.5	+ 0.9
Italy	29.94	29.93	−0.01	82.0	79.5	− 2.5
Norway	29.78	29.65	−0.13	63.2	64.5	+ 1.3
Portugal	30.01	30.04	+0.03	81.2	81.3	+ 0.1
Russia	29.83	29.80	−0.03	71.4	74.4	+ 3.0
Spain*	29.95	30.03	+0.08	81.5	78.5	− 3.0
Sweden	29.80	29.71	−0.09	63.9	68.0	+ 4.1

* Means for four years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of August, 1882, as compared with the means for five years:

Stations.	Mean pressure.			Mean temperature.		
	Aug., 1877, 1878, 1879, 1880, 1881.	Aug., 1882.	Departure.	Aug., 1877, 1878, 1879, 1880, 1881.	Aug., 1882.	Departure.
				°	°	°
Gibraltar	29.97	30.05	+0.08	80.3	78.9	− 1.4
Malta, Mediterranean Sea*	29.94	29.97	+0.03	84.3	80.8	− 3.5
Sandwick Manse, Orkney Islands	29.81	29.76	−0.05	56.7	57.8	+ 1.1
Bridgetown, Barbadoes	29.99	30 01	+0.02	83.6	83.5	− 0.1
Cape Town, Cape Good Hope	30.18	30.17	−0.01	61.4	65.8	+ 4.4
Fort Napier, Natal, South Africa	29.99	29.98	−0.01	69.7	63.1	− 6.6
Free Town, Sierra Leone	29.98	29.94	−0.04	81.2	80.8	− 0.4
Mauritius, Indian Ocean	30.19	30.15	−0.04	71.6	72.2	+ 0.6
Melbourne, New South Wales	30.09	30.04	−0.05	50.0	49.0	− 1.0
Nassau, Bahamas	30.01	30.13	+0.12	83.9	84.5	+ 0.6
Godthaab, Greenland	29.79	29.85	+0.06	44.7	41.0	− 3.7
Stykkisholm, Iceland	29.82	29.76	−0.06	52.0	45.1	− 6.9
Thorshavn, Färöe Islands	29.82	29.70	−0.12	53.2	54.5	+ 1.3
Zi-Ka-Wei, China	29.78	29.78	normal	76.9	75.6	− 1.3
Athens, Greece	29.88	29.86	−0.02	88.0	86.7	− 1.3
Cagliari, Sardinia, Italy	29.94	29.95	+0.01	84.4	82.0	− 2.4
Tokei, Japan	29.85	29.95	+0.10	76.2	74.7	− 1.5
Angra, Azores	30.15	.....	.....	73.0	73.8	+ 0.8
Funchal, Madeira Islands	30.10	30.16	+0.06	76.1	74.1	− 2.0
Ponta Delgado, Azores	30.16	30.30	+0.14	75.4	75.9	+ 0.5
Archangel, Russia	29.73	29.80	+0.07	61.0	70.0	+ 9.0
Tiflis, Russia	29.79	29.76	−0.03	85.3	91.6	+ 6.3
Astrakhan, Russia	29.86	29.86	normal	81.4	84.7	+ 3.3
Ekaterinburg, Russia	29.74	29.81	+0.07	66.9	66.0	− 0.9
Tashkend, Toorkistan, Asia	29.75	29.67	−0.08	82.3	86.4	+ 4.1
Barnaul, Siberia, Asia	29.74	29.74	normal	67.8	70.0	+ 2.2
Yeniseisk, Siberia, Asia*	29.77	29.90	+0.13	64.2	63.5	− 0.7
Pekin, China	29.76	29.81	+0.05	76.1	76.5	+ 0.4
Nikolaievsk on the Amoor, Asia	.....	.....	.....	.....	.....	.....
San Juan de Puerto Rico, W. I.	30.01	30.06	+0.05	81.8	81.1	− 0.7
Beirut, Turkey in Asia	29.77	29.81	+0.04	89.0	86.4	− 2.6
Mexico, Mexico	30.09	30.16	+0.07	56.6	54.7	− 1.9
Havana, Cuba, W. I.	30.00	30.05	+0.05	81.4	79.2	− 2.2
Paramaribo, D. Guiana, S. A.	30.02	30.06	+0.04	80.7	79.1	− 1.9
York Factory, B. A.	29.89	29.97	+0.08	46.9	47.7	+ 0.8

* Means for four years only.

The following are some of the extreme mean temperatures reported at isolated stations during the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Tiflis, Caucasia, Russia	91.6	33.1	Ooglaamie, Alaska	37.0	2.8
Athens, Greece	86.7	30.4	Godthaab, Greenland	41.0	5.0
Tashkend, Toorkistan	86.4	30.2	Ivigtut, Greenland	43.2	6.2
Beirut, Turkey in Asia	86.4	30.2	Stykkisholm, Iceland	45.1	7.3
			York Factory, B. A	47.7	8.7

In the United States the mean temperature of the air was normal or above the normal in the Atlantic coast districts, and was below the normal over the country between the Rocky mountains and the above-mentioned districts. On the Pacific coast the temperature was slightly above the normal. In Canada it was about normal. In Europe the temperature was below the normal in all districts except the Scandinavian peninsula and Russia, where it was about 3°.0 above the normal. In British India the temperature was about 0°.9 above the four

years' mean. The highest mean temperature reported was 92°.0 Fahr. (33°.3 Cent.) at Lahore, and the lowest was 70°.9 Fahr. (21°.6 Cent.) at Belgaum.

In the United States east of the Rocky mountains the prevailing winds were easterly to southerly and southwesterly, except in the upper lake region and in the northern part of the Mississippi and Missouri valleys, where they were mostly northerly. On the Pacific coast the winds were northerly in the northern, and westerly and southwesterly in the southern districts. Over the north Atlantic ocean the winds were southerly and southwesterly from the American coast eastward to W. 30°, and between 30° and 55° north latitude. East of W. 30° and north of N. 40° they were westerly and northwesterly. East of W. 30° and south of N. 40° they were mostly northeasterly. In Europe the prevailing winds were southwesterly, westerly, and northwesterly. In China and Japan they were southerly and easterly.

The rainfall during August, 1882, was below the average in the New England and south Atlantic states; in all other districts east of the Mississippi river it was above the average. In nearly all the districts west of the Mississippi it was below the average. In Canada it was above the average in the western, but below in the eastern, provinces of the Dominion. In Europe the rainfall was normal or slightly above.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation 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 originals, 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 alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted. Broken lines indicate that the lines so broken are doubtful.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date. Broken or dotted lines are doubtful.

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.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. Tchang-kia-tchouang, the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, velocity in kilometres for past 3 hours 53 minutes, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-

Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Guéret the observations are taken at 12 m., instead of 12.16 p. m., and at Besançon at midday instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made, the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht). —The originals give the barometer in millimetres reduced to sea-level and the temperatures in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiana).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakhan the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature at Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given inhours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

DAILY BULLETIN, October 1, 1882, page 2, Indian, transpose names of stations Jeypore and Zanzibar, so that Zanzibar will read 29.89, 759.2 &c.; Jeypore, 28.22, 716.7, &c.; 3d, page 8, S. Orcalla, latitude S. should read N.

8th, page 1, British, reduced barometer at following stations should read as follows: Falmouth, 30.05, instead of 30.08; Fort Napier, 29.60, instead of 30.09; Freetown, 29.90, instead of 29.07; Glasgow, 30.08, instead of 30.05; Greenwich, 30.09, instead of 29.60; Gurnsey, 30.07, instead of 29.90.

11th, page 5, Washington, D. C., actual barometer 29.92, should read 29.82.

16th, page 1, British, Fort Napier, temperature 30°.0 Cent., should read 30°.8; page 3, Italian, reduced barometer at Pesaro, 756.6 mm., should read 756.3; at Leghorn, 757.6 mm., should read 756.6.

26th, page 3, Spanish, Barcelona, temperature, Cent., 1°.7, should read 17°.

29th, page 1, Canadian, Port Stanley, actual barometer 29.09, should read 29.05; page 5, Portland, Oregon, actual barometer 737.9 mm., should read 757.9.

31th, page 2, German, Magdeburg, actual barometer 29.20, should read 29.70.

MONTHLY SUMMARY, June, 1882, page 1, Austro-Hungarian, Trieste, temperature 85°.6 Fah., 29°.8 Cent., should read 72°.3, 22°.4.

August, 1882, page 1, Austro-Hungarian, Pola, temperature 84°.6 Fah., 29°.2 Cent., should read 77°.7, 25°.4; page 2, French sub, Paris, actual barometer 29.92, 760.0 reduced, 30.21, 767.4, should read actual 29.72, 755.0, reduced 30.02, 762.4.

In preparing annual summary for 1881, the following errors have been discovered in the Monthly Summaries of that year, and data should be corrected accordingly:

British: Chatham, January, wind nw., should read 5, instead of 4, and calm, 12, instead of 5; Silloth Rectory, December, actual barometer 29.62 inches, 752.3 mm., reduced 29.79 inches, 756.7 mm., should read 29.79, 756.7, 29.82, 757.4 respectively; humidity —, should read 86.2.

Danish: Fanöe, January, w., wind ——, should read 8.

French: Agen, January, reduced barometer 30.25, 768.3, should read 29.85, 758.3; Arras, March, letter *g* in wind column should be *f*; Alençon, April, the letter *d*, opposite name of station, denoting four days missing, should be omitted and the same appear at Arras; Besançon, April, humidity ——, should read 71.7; Charleville, April, humidity ——, should read 79.9; Clermont, December, clouds ——, should read 5; Commercy, June, *o*, opposite name of station should be omitted; Mont Louis, April, actual barometer 28.61, 726.7, should read 24.67, 626.7; Privas, the following number of calms should be added to wind column in months named: February, 5; March, 9; April, 10; May, 1; July, 16, and the respective letters there given, denoting so many days missing, should be omitted; Gap, the following calms should be added; March, 3; April, 3; June, 1; July, 8, and letters denoting days missing, omitted; Paris, clouds in May and September ——, should read 6 and 8, respectively; Puy-de-Dome, November and December, clouds ——, should read 5 and 6, respectively, St. Maur, May, actual barometer ——, should read 29.95, 760.8; June, calm——, should read 1.

German: Cassel, July, calm 1, should read ——; Stuttgart, January, se. wind 6, should read ——; Wustrow, April, calms 5, should read ——, and the 5 appear opposite Weissenburg.

Greek: Athens, November, clouds ——, should be 4.

Indian: Poona, actual barometer 29.87, 758.7, should read 27.87, 707.9; Lahore, January, letter *a* opposite station should be omitted; Hazaribagh, August, actual barometer 28.56, 725.4, should read 27.56, 700.0.

Italian: Milan, September, actual barometer 29.82, 757.4, should read 29.47, 748.6; Patna, w, wind ——, should be 3; Florence, October, wind-direction ne., 4, should be 14; Leghorn, October, nw., wind 3, should be 1; Cosenza, actual barometer 29.82, 757.4, should read 29.03, 737.4.

Japanese: Kioto, October, rainfall 26.46 inches, 672.1 mm., should read 2.65 inches, 67.3 mm.

Norwegian: Hellevoetsluis, humidity for January and February ——, should read 91.1, 88.9 respectively.

Portuguese: Campo Major, February, wind-directions should read as follows, instead of those given: n. 2; nw. ——; w. 11; sw. 3; s. 4; se. 1; e. 5; ne. 2.

Russian: Nikolaiev, May, clouds ——, should be 7.

Spanish: Santiago, March, actual barometer 29.09, 738.8, should read 28.95, 735.3; Manilla, October, reduced barometer 29.85, 758.2, should read 29.81, 757.2.

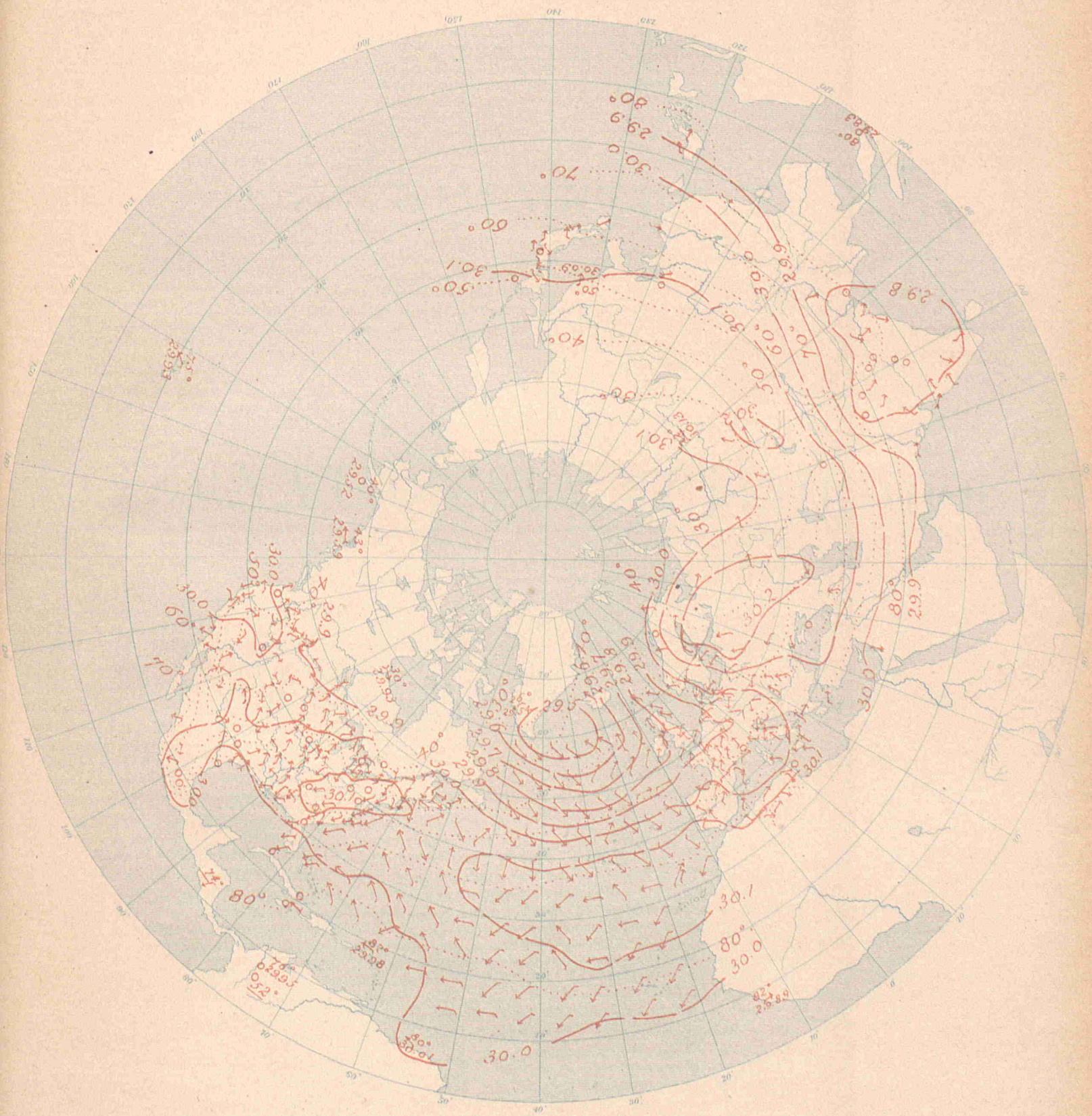
Turkish: Valona, March, rainfall ——, should read 2.32 inches, 59.0 mm.; Beirut, March, actual barometer should be omitted.

Canadian: Kingston, reduced barometer 30.00, 762.0, should read 30.08, 764.0; St. Andrews, May, actual barometer 29.02, 737.1, should read 30.02, 762.5; Toronto, October, actual barometer 29.94, 760.5, should read 29.74, 755.4; Yarmouth, May, actual barometer 29.00, 736.6, should read 30.00, 762.0; Rockliffe, April rainfall ——, should read 1.07 inches, 27.2 mm.

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, 1882. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

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

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

BULLETIN

OF

INTERNATIONAL METEOROLOGY

FOR THE MONTH OF NOVEMBER, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
DECEMBER, 1883.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

NOVEMBER, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for November, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
	° ′	° ′																								
ALGERIAN.																										
Neimours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.18	766.5	64.8	18.2	81.6	7	.....	.....	1	13	4	5	.....	.....	.....	.....	1	0.05	1.2
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	30.13	765.3	65.7	18.7	61.7	2	5	13	6	.....	.....	1	2	1	.....	.....	1	1.61	40.8
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	30.08	764.0	67.5	19.7	75.0	3	0	9	8	1	1	1	1	.....	.....	.....	3	5.56	141.3
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	30.09	764.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.21	767.4	68.5	20.3	50.8	6	7	6	6	2	1	1	1	.....	.....	.....	2	0.18	4.5
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.20	767.0	61.0	16.1	56.5	10	3	13	2	.....	.....	1	1	.....	.....	.....	1	0.19	4.9
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	63.3	17.4	25.0	2	13	6	1	1	2	3	2	.....	.....	.....	3	0.04	1.0
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.24	768.2	64.4	18.0	30.0	3	4	2	4	5	2	4	6	.....	.....	.....	1	0	0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.21	767.4	69.8	21.0	40.7	8	8	1	.....	.....	.....	.....	.....	13	.....	.....	2	inap.	inap.
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	30.00	761.9	30.08	764.1	59.1	15.1	76	3	.....	1	4	9	9	3	.....	1	.....	.....	4	3.81	96.8
AUSTRO-HUNGARIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.34	745.2	29.89	759 3	49.1	9.5	71.5	.....	.....	3	13	1	.....	8	5	.....	.....	.....	6	3.46	88.0
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.05	737.8	29.82	757.3	41.4	5.2	75.7	1	1	13	9	.....	.....	5	1	.....	.....	.....	8	2.63	66.7
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	28.95	735.4	29.82	757.4	38.5	3.6	81.2	5	.....	1	.....	10	.....	.....	.....	14	.....	.....	8	3.60	91.4
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.63	727.1	29.90	759.4	44.8	7.1	77.0	.....	4	6	9	7	1	3	.....	.....	.....	.....	5	2.15	54.5
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.45	722.6	29.89	759.3	46.9	8.3	69	1	17	2	.....	2	7	.....	1	.....	.....	.....	8	1.55	39.4
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.48	723.4	29.84	758.0	42.6	5.9	79.4	.....	2	7	8	.....	1	.....	8	4	.....	.....	8	4.02	102.2
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.83	732.2	29.84	757.8	39.9	4.4	78.2	.....	8	3	9	2	3	1	4	.....	.....	.....	7	3.35	85.1
Pola	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.78	756.5	29.89	759.3	54.9	12.7	71.3	1	.....	7	4	4	1	5	6	2	.....	.....	8	2.67	67.9
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.38	746.2	29.84	757.9	45.7	7.6	72	5	1	6	9	2	7	.....	.....	.....	.....	.....	9	2.48	63.0
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.60	751.8	29.87	758.8	48.4	9.1	70.8	2	4	2	4	11	2	.....	.....	5	.....	.....	6	1.65	26.7
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.81	757.2	29.91	759.8	52.9	11.6	71.3	1	2	1	5	2	.....	5	3	11	.....	.....	6	3.41	86.5
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.14	740.1	29.87	758.6	44.8	7.1	71.5	.....	3	10	1	1	5	3	1	6	.....	.....	6	2.70	68.7
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.44	747.8	29.54	750.3	41.1	5.1	76.8	.....	1	10	5	9	4	1	.....	.....	.....	.....	7	5.22	132.6
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.37	746.0	29.61	752.1	42.8	6.0	87.6	1	1	3	10	9	4	1	1	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.64	752.8	42.9	6.1	83.1	2	2	6	8	3	2	4	3	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.10	739.1	29.64	752.8	44.0	6.7	82.6	2	3	6	7	5	2	1	4	.....	.....	.....	8	.....	.....
Bradford *d*	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.22	742.2	29.61	752.1	44.0	6.7	80.1	.....	5	2	11	.....	2	1	5	.....	.....	.....	7	5.24	133.1
Bridgetown	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.89	759.2	29.92	760.0	81.2	27.3	71.3	.....	.....	.....	.....	.....	6	.....	24	.....	.....	.....	5	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	46.3	7.9	77.7	5	4	9	9	1	.....	1	1	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.58	751.3	29.71	754.6	47.4	8.6	78.3	2	4	4	14	1	.....	1	1	3	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.58	751.3	29.81	757.2	49.1	9.5	76.4*a*	4	4	10	6	2	2	1	1	.....	.....	.....	8	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.61	701.3	29.83	757.7	78.5	25.8	51.7	3	.....	2	.....	2	3	16	4	.....	.....	.....	6	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.63	752.6	29.86	758.4	86.7	30.4	62.9	5	14	4	1	.....	.....	1	4	1	.....	.....	4	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.15	765.8	30.20	767.1	65.0	18.3	87.8	.....	7	11	.....	.....	.....	7	4	1	.....	.....	2	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.34	745.2	29.55	750.6	41.4	5.2	81.4	3	1	8	5	4	3	4	2	.....	.....	.....	9*l*	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.54	750.3	29.72	754.9	46.4	8.0	75.7	2	5	3	14	2	1	1	2	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.53	750.0	29.83	757.7	49.6	9.8	77.9	3	9	9	3	4	.....	1	1	.....	.....	.....	8	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.69	754.1	29.73	755.1	46.4	8.0	71.4*b*	2	7	7	10	2	.....	.....	2	.....	.....	.....	7*b*	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.42	747.3	29.68	753.9	45.6	7.6	75.7	1	6	3	13	1	.....	.....	5	1	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.96	761.0	30.03	762.7	67.4	19.7	95.6	1	11	7	5	.....	2	.....	4	.....	.....	.....	6	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.01	762.2	30.05	763.3	75.0	23.9	71.5	3	2	.....	5	1	3	.....	10	.....	.....	.....	7	.....	.....
Oscott	N. 52 28	W. 1 55	0.00 m.	483	147	29.17*b*	740.9*b*	29.70*b*	754.4*b*	45.1*a*	7.3*a*	75.3	6	1	7	6	5	3	.....	2	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.49	749.0	29.72	754.9	46.2	7.9	80.6	.....	6	6	11	2	2	.....	3	.....	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.72	754.9	29.79	756.7	48.5	9.2	83.3	2	11	4	6	3	1	1	2	.....	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.36	745.7	29.47	748.5	41.3	5.2	86.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Comet'y	N 41 00	E. 29 03	2.04 p.m.	60	18	29.89	759.2	29.96	761.0	60.0	15.6	64.7	3	.....	.....	17	4	.....	1	5	.....	.....	.....	6	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.36	745.7	29.64	752.8	45.5	7.5	82.5	1	4	1	13	5	.....	.....	6	.....	.....	.....	6	3.24	82.3
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.57	751.1	29.60	751.8	44.0	6.7	82.7	4	4	8	6	1	3	1	3	.....	.....	.....	9	4.80	121.9
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	29.63*a*	752.6*a*	29.64*a*	752.8*a*	43.9	6.6	77.0	1	2	6	9	3	4	.....	5	.....	.....	.....	9	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.52	749.8	29.74	755.4	46.8	8.2	76.3	1	9	7	6	3	1	1	1	1	.....	.....	7	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.74*a*	755.4*a*	29.80*a*	756.9*a*	51.5	10.8	78.9	2	9	4	11	.....	1	1	2	.....	.....	.....	8	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.73	755.1	29.76	755.9	48.8	9.3	77.4	1	4	10	8	2	2	2	1	.....	.....	.....	7	.....	.....
CANADIAN.																										
Bathurst	N. 47 39	W. 65 43	7.45 a.m.	80	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.94	760.5	29.98	761.5	34.7	1.5	83.3	6	4	5	6	1	1	1	3	3	6693	10771	8	3.67	93.2
Chatham	N. 47 03	W. 65 29	7.45 a.m.	56	17	29.98	761.5	30.05	763.3	29.1	—1.0	87.8	4	8	2	8	.....	.....	1	4	3	3902	6280	6	2.18	55.4
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dalhousie	N. 48 04	W. 66 21	7.32 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	30.05	763.3	30.07	763.8	27.8	—2.3	87.2	5	7	5	3	3	.....	1	2	4	13390	21549	9	3.00	76.2
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.28	743.7	30.17	766.3	17.8	—7.9	87.5	8	6	5	5	2	3	.....	1	.....	7544	12141	6	0.66	16.8
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.87	758.7	30.03	762.7	33.4	0.8	87.4	9	6	9	4	.....	.....	1	1	.....	.....	.....	6	1.39	35.3
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.81	757.2	30.16	766.1	31.6	—0.2	85.3	5	2	4	6	1	1	.....	10	1	4982	8018	8	2.07	52.6
Little Glace Bay	N. 46 12	W. 59 58	8.08 a.m.	34	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.93	760.2	30.14	765.5	28.5	—1.9	84.9	2	4	10	3	1	2	2	6	.....	.....	.....	6	1.75	44.4
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	635	194	29.42	747.3	30.15	765.8	30.1	—1.1	86.2	10	2	4	.....	.....	4	7	1	2	6589	10704	7	3.19	81.0
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	688	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.45	748.0	30.17	766.3	33.3	0.7	98.6	3	1	5	5	2	1	.....	8	5	5240	8433	7	2.94	74.7
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.48	748.8	30.15	765.8	33.9	1.1	87.3	3	3	9	4	.....	2	5	4	.....	.....	.....	7	2.09	53.1
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.79	756.7	30.12	765.0	26.6	—3.0	83.8	3	4	6	.....	.....	.....	9	2	6	.....	.....	7	2.32	58.9
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.66	753.4	30.16	766.1	25.3	—3.7	84.5	3	7	4	1	1	3	5	1	5	.....	.....	7	2.54	64.5
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.99	761.7	30.05	763.3	32.7	0.4	80.1	2	10	2	2	.....	2	1	10	1	.....	.....	6	1.41	35.8
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.39	746.5	30.13	765.3	34.2	1.2	84.1	2	3	1	4	3	5	8	4	.....	8549	13758	9	2.57	65.3
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.89	759.2	29.96	761.0	36.3	2.4	84.6	1	3	5	8	3	.....	2	6	2	6815	10967	8	5.58	141.7
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.77	756.1	30.17	766.3	33.3	0.7	81.5	9	3	8	2	2	1	1	4	.....	6904	11111	7	2.18	55.4
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.97	761.2	30.04	763.0	35.9	2.2	83.9	6	8	1	1	1	.....	7	4	2	6386	10277	8	1.35	34.3
Sub-Series.																										
St. Johns, N. F.	N. 47 34	W. 52 42	8.37 a.m.	230	70	29.78	756.4	30.03	762.7	36.4	2.4	.....	4	8	5	4	3	3	1	2	.....	.....	.....	7	7.00	177.8
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	30.03	762.7	30.06	763.5	67.8	19.9	78.0	.....	.....	2	12	5	1	8	2	.....	.....	.....	6	1.29	32.8
Cape Town *a*	S. 34 02	E. 18 29	1.22 p.m	27	8	30.01	762.2	30.04	763.0	76.8	24.9	56.8	.....	2	.....	.....	14	13	.....	.....	.....	.....	.....	8	0.44	11.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	N E	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHINESE. (*Sub*).	° ′	° ′																								
Tchang kia tchouang	N. 38 17	E. 116 16	7.53 p.m.	98	30	30.28	769.2	30.35	771.0	38.1	3.4	74.9	1	1	5	7	.....	2	1	7	6	.....	.....	3	0.83	21.0
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	23	7	30.32	770.1	30.35	770.8	49.1	9.5	75.6	10	3	4	1	.....	2	2	7	1	.....	.....	6	4.25	108.0
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.60	751.7	29.64	752.9	39.2	4.0	83.1	...	6	1	5	4	5	3	6	.....	.....	.....	8	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.59	751.6	29.61	752.2	38.7	3.7	89	2	.....	3	5	4	3	4	8	1	.....	.....	7	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.67	753.7	29.72	754.8	21.0	— 6.1	85	5	2	.....	.....	6	4	.....	10	3	.....	.....	8	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.66	753.4	29.68	753.9	24.3	— 4.3	.....	4	2	.....	.....	1	4	.....	1	18	.....	.....	6	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m.	42	13	29.72	755.0	29.77	756.2	12.4	—10.9	.....	.....	.....	.....	3	1	2	19	...	5	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	36	11	29.47	748.4	29.51	749.5	32.4	0.2	87	.....	1	.....	1	2	3	7	15	1	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.43	747.4	29.46	748.3	41.4	5.2	80	2	2	.....	2	6	7	4	4	3	.....	.....	7	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.74	755.4	29.79	756.6	10.8	—11.8	.....	6	.....	1	3	2	1	14	1	3	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.51	749.6	29.61	752.0	37.0	2.8	89	1	.....	2	3	3	3	7	5	6	.....	.....	7	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.46	748.2	30.10	764.4	52.7	11.5	87.6	...	6	7	3	2	1	.....	.....	11	.....	.....	.....	4.54	115.4
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.34	745.1	29.89	759.1	49.8	9.9	91.5	5	4	4	10	5	1	.....	1	.....	.....	.....	.....	4.10	104.2
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.47	748.6	29.73	755.1	45.5	7.5	87.2	7	1	14	4	1	1	.....	2	.....	.....	.....	.....	6.65	168.9
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.91	759.8	29.99	761.8	54.9	12.7	68.7	5	19	.....	.....	1	2	3	.....	.....	.....	.....	.....	0.48	12.3
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.31	744.4	29.87	758.7	47.5	8.6	81	.....	4	6	11	5	3	.....	1	.....	.....	.....	9	5.84	148.4
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.54	750.2	29.81	757.1	48.0	8.9	77.0	2	3	11	9	2	.....	3	.....	.....	.....	.....	8	5.22	132.5
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	28.98	736.2	29.88	759.0	49.3	9.6	84.2	.....	.....	.....	6	19	2	2	1	.....	.....	.....	.....	9.37	238.1
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.76	755.9	30.02	762.6	54.5	12.5	70.1	1	4	8	11	1	5	.....	.....	.....	.....	.....	8	4.84	122.9
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.35	745.6	29.91	759.7	50.5	10.3	78.1	.....	2	6	7	3	1	1	1	9	.....	.....	.....	4.19	106.4
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.69	754.2	29.93	760.3	52.2	11.2	82.0	5	3	12	4	2	1	2	.....	1	.....	.....	8	10.03	254.8
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.73	755.2	29.81	757.1	50.4	10.2	75.9	1	2	11	9	5	2	.....	.....	.....	.....	.....	8	6.08	154.3
Châlons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.48	748.8	29.80	757.0	46.9	8.3	86.4	.....	3	3	13	5	2	.....	1	3	.....	.....	7	6.53	165.8
Charleville	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.25	743.0	29.77	756.2	44.4	6.9	79.5	1	5	8	7	3	2	2	2	.....	.....	.....	8	9.60	243.7
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.59	726.1	29.95	760.6	52.0	11.1	63.0	1	5	5	8	5	2	1	3	.....	.....	.....	7	2.18	55.4
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.10	739.2	29.96	761.0	50.2	10.1	69.7	.....	2	12	10	5	.....	.....	1	.....	.....	.....	7	3.16	80.2
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	28.97	735.7	29.84	757.9	44.8	7.1	83.9	1	1	14	9	1	1	2	1	.....	.....	.....	8	12.67	321.9
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.46	697.4	29.99	761.8	46.9	8.3	63.2	5	2	1	.....	1	.....	.....	1	20	.....	.....	7	3.83	97.3
Gréasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.85	732.9	29.98	761.6	53.4	11.9	63.8	1	.....	.....	.....	3	16	7	3	.....	.....	.....	5	0.66	16.9
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.21	742.0	30.00	761.9	48.2	9.0	75.3	2	5	2	4	1	6	8	2	.....	.....	.....	.....	5.18	131.5
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.35	720.2	29.98	761.4	47.3	8.5	82.8	1	5	9	9	3	1	2	.....	.....	.....	.....	6	6.04	153.3
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.59	751.5	29.86	758.5	50.0	10.0	83.9	.....	7	11	5	3	4	.....	.....	.....	.....	.....	6	5.19	131.9
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.49	749.1	30.06	763.4	56.3	13.5	72.4	.....	1	19	7	.....	2	.....	1	.....	.....	.....	6	10.28	261.2
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.84	758.0	29.95	760.6	54.5	12.5	75.3	2	5	13	6	2	.....	1	1	.....	.....	.....	8	7.33	186.2
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.92	734.6	29.99	761.7	48.9	9.4	71.6	4	3	4	2	9	5	2	1	.....	.....	.....	6	1.08	27.4
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.57	751.0	29.87	758.6	49.6	9.8	84.9	2	4	13	6	1	1	.....	3	.....	.....	.....	.....	6.73	171.0
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.70	754.4	29.97	761.3	57.2	14.0	65.6	.....	12	7	5	1	3	2	.....	.....	.....	.....	.....	0.46	11.8
Mont Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.80	630.0	29.65	753.0	43.5	6.4	62.5	1	2	5	18	....	2	1	1	.....	.....	.....	5	3.20	81.2
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.86	758.5	29.99	761.8	57.4	14.1	72.8	5	.....	.....	.....	2	13	6	3	1	.....	.....	3	0.42	10.8
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	28.98	736.2	29.78	756.4	45.0	7.2	79.4	1	3	2	11	11	1	.....	1	.....	.....	.....	.....	6.22	158.1
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.81	757.1	29.97	761.2	53.6	12.0	73.4	1	5	7	12	3	1	1	.....	.....	.....	.....	9	6.98	177.2
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.92	760.0	30.04	762.9	59.0	15.0	57.7	4	13	3	1	2	3	2	2	.....	.....	.....	7	0.19	4.8
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.17	537.8	.....	.....	27.0	— 2.8	.....	.....	16	7	5	.....	.....	.....	1	1	.....	.....	4	24.72	627.9
Privas..... [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.90	734.0	29.98	761.4	50.4	10.2	70.4	10	5	2	1	10	.....	.....	2	.....	.....	.....	4	0.73	18.5
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	25.00	635.0	.....	.....	33.8	1.0	94.6	.....	3	14	12	1	.....	.....	.....	.....	.....	.....	8	12.19	309.7
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.97	761.1	30.00	761.9	54.0	12.2	87.6	.....	3	6	14	4	1	.....	...	2	.....	.....	8	26.70?	705.0?
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.76	755.9	29.98	761.4	52.5	11.4	82.7	.....	5	7	11	5	2	.....	.....	.....	.....	.....	6	7.38	187.4
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.92	709.1	30.06	763.5	45.1	7.3	87.9	3	13	11	.....	.....	1	2	.....	.....	.....	.....	.....	4.96	126.1
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.75	755.6	29.80	756.8	49.6	9.8	77.2	3	7	7	9	2	1	1	.....	.....	.....	.....	6	6.64	168.6
Saint Lo	N. 49 06	W. 1 05	0.04 p.m.	134	41	.....	.....	.....	.....	50.4	10.2	78.6	3	7	12	6	.....	1	1	.....	.....	.....	.....	.....	9.28	235.8
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.66	753.4	29.83	757.6	49.1	9.5	76.5	2	3	5	14	4	1	1	.....	.....	.....	.....	8	4.15	114.6
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.38	746.3	30.11	764.8	52.7	11.5	78.8	2	1	12	4	.....	7	3	1	.....	.....	.....	7	3.92	99.6
Tours	N. 47 24	E. 0 41	0.11 p.m.	167	51	29.72	754.9	29.90	759.5	52.2	11.2	76.1	.....	3	5	17	4	.....	1	...	.....	.....	.....	7	6.29	159.8
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.33	744.9	29.82	757.4	48.2	9.0	78.4	3	6	14	5	1	1	.....	.....	.....	.....	.....	.....	4.23	107.5
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.35	720.2	29.83	757.7	41.0	5.0	79.4	.....	2	8	12	1	4	.....	.....	3	.....	.....	8	6.09	154.7
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	28.95	735.3	29.78	756.5	43.3	6.3	74.2	.....	1	9	11	1	2	2	.....	4	.....	.....	8	4.78	121.4
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.53	750.0	29.71	754.5	43.0	6.1	77.9	1	2	5	12	1	5	1	3	.....	.....	.....	8	3.43	87.2
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.26	743.3	29.79	756.6	41.4	5.2	75.1	1	2	9	5	6	2	5	.....	.....	.....	.....	8	2.57	65.2
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.38	746.2	29.82	757.4	45.7	7.6	78.5	.....	2	1	24	.....	.....	2	1	.....	.....	.....	8	11.54	293.1
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	28.96	735.5	29.67	753.6	42.6	5.9	80.2	1	3	2	9	10	1	4	.....	.....	.....	.....	8	3.95	100.3
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.43	747.4	29.79	756.7	44.6	7.0	80.1	1	.....	7	11	7	1	2	1	.....	.....	.....	8	5.94	150.9
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.43	722.2	29.89	759.2	45.0	7.2	77.7	1	.....	6	15	6	1	.....	1	.....	.....	.....	8	7.36	187.0
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.59	751.6	29.68	753.8	40.8	4.9	86.5	2	3	1	10	5	2	5	2	.....	.....	.....	8	3.98	101.2
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.62	752.4	29.64	752.8	40.8	4.9	83.3	.....	2	2	8	5	2	6	4	1	.....	.....	8	3.84	97.5
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.33	745.0	29.75	755.7	42.1	5.6	77.9	1	1	6	11	6	.....	2	3	.....	.....	.....	8	2.57	65.2
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.51	749.6	29.71	754.5	42.6	5.9	80.0	.....	1	7	4	9	1	3	3	2	.....	.....	8	1.60	40.7
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.70	754.4	29.75	755.6	33.8	1.0	84.9	2	.....	4	3	1	6	7	7	.....	.....	.....	8	3.06	77.8
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	28.01	711.5	29.87	758.6	43.3	6.3	70.0	3	5	7	7	1	2	4	.....	1	.....	.....	8	3.82	96.9
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.70	754.3	29.71	754.7	38.5	3.6	81.0	.....	3	4	6	3	5	4	4	1	.....	.....	9	3.23	82.1
Neustadt. *d.*	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.25	743.0	29.78	756.3	45.3	7.4	85.3	.....	1	11	5	5	.....	1	1	2	.....	.....	8	8.42	214.0
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	28 86	733.1	29.77	756.1	45.5	7.5	74.2	1	1	19	3	1	1	2	2	.....	.....	.....	8	5.08	129.0
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.66	753.4	29.69	754.0	39.7	4.3	86.3	2	1	1	4	6	9	6	1	.....	.....	.....	9	2.52	64.0
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.62	752.4	30.00	762.1	66.4	19.1	.....	4	1	3	9	6	.....	.....	7	.....	.....	.....	4	0.57	14.5
ITALIAN.																										
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.50	749.4	29.92	760.0	50.2	10.1	66	1	.....	1	.....	.....	2	2	5	19	.....	.....	7	4.74	120.5
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.41	747.1	29.94	760.5	48.0	8.9	73	1	7	5	7	2	3	2	3	.....	.....	.....	5	4.46	37.0
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.80	756.9	29.91	759.8	49.6	9.8	73	9	3	4	2	3	2	1	3	3	.....	.....	7	1.91	48.6
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	29.00	736.7	29.92	760.0	47.8	8.8	67	1	3	3	1	3	3	13	3	.....	.....	.....	5	0.04	1.1
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.71	754.7	29.91	759.6	56.7	13.7	57	3	2	.	3	3	9	2	7	1	.....	.....	6	2.56	64.9
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	27.97	710.5	29.92	759.9	46.0	7.8	58	4	5	18	.....	.....	.....	3	.....	.....	.....	.....	2	0.10	2.6
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.79	756.6	29.84	757.8	54.5	12.5	69	8	8	2	6	3	1	.....	2	.....	.....	.....	7	0.60	15.2
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.67	753.6	29.93	760.2	54.0	12.2	71	.....	3	6	12	3	1	.....	4	1	.....	.....	7	2.09	53.0
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.78	756.4	29.86	758.5	58.5	14.7	68	2	4	4	10	3	1	2	4	.....	.....	.....	7	2.96	75.2
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.78	756.3	29.95	760.8	59.9	15.5	64	9	2	4	8	4	.....	1	2	.....	.....	.....	6	1.45	36.9
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.72	754.9	29.97	761.3	62.1	16.7	66	7	3	2	9	2	1	3	3	.....	.....	.....	5	1.48	37.7
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.09	738.9	30.02	762.5	58.8	14.9	73	.....	1	8	14	3	4	.....	.....	.....	.....	.....	7	6.57	166.9
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.80	756.9	29.99	761.8	62.8	17.1	60	.....	17	2	.....	3	5	.....	.....	3	.....	.....	4	1.22	31.0
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.78	756.5	30.03	762.8	64.9	18.3	51	.....	7	6	6	.....	.....	.....	10	1	.....	.....	6	1.84	46.7
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.97	761.2	30.01	762.3	64.8	18.2	63	2	2	11	6	3	1	1	2	2	.....	.....	6	0.12	3.0
Sub-Series.																										
Naples *a.*	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.45	748.1	29.97	761.1	59.9	15.5	69.6	2	4	9	9	1	3	2	.....	.....	.....	.....	7	2.54	64.4
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	21.96	557.7	.....	.....	22.8	— 5.1	77.7	.....	.....	4	14	1	6	2	3	.....	.....	.....	6	3.83	97.4
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	21.99	558.5	.....	.....	25.7	— 3.5	70.2	9	1	1	.....	1	5	10	3	.....	.....	.....	6	1.62	41.0
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	29.97	761.2	30.02	762.5	81.1	27.3	59	.....	.....	.....	9	12	.....	1	5	3	.....	.....	1	0	0
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.46	748.2	29.93	760.2	83.4	28.6	31	9	5	2	3	4	1	.....	6	.....	.....	.....	1	0	0
Bombay	N. 18 54	E. 72 49	5.00 p.m.	37	11	29.84	758.0	29.88	758.9	79.7	26.5	73	7	22	1	.....	.....	.....	.....	.....	.....	.....	.....	2	0.03	0.8
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564	28.02	711.6	29.86	758.5	82.1	27.8	34	5	4	6	.....	.....	.....	4	11	.....	.....	.....	4	2.00	52.3
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.59	751.6	29.87	758.7	80.4	26.9	76	.....	2	2	.....	1	2	6	11	6	.....	.....	7	11.29	286.8
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28 37	720.5	29.83	757.7	81.2	27.3	54	4	2	4	.....	1	3	7	9	.....	.....	.....	6	0.19	4.8
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.33	694.1	29.86	758.5	76.7	24.8	54	5	.....	1	6	.....	2	3	13	.....	.....	.....	5	0.29	7.4
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.23	742.5	30.00	761.9	68.5	20.3	51	.....	.....	.....	.....	.....	.....	1	.....	29	.....	.....	0	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for November, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
INDIAN.—Cont'd.	° ′	° ′																								
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.05	737.9	29.97	761.3	70.3	21.3	49	.....	....	9	2	.....	.....	.....	1	18	.....	.....	1	0	0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.41	746.9	29.98	761.5	75.9	24.4	30	1	4	6	.....	.....	.....	2	.....	17	.....	.....	1	0	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.87	733.3	29.92	760.0	76.8	24.9	51	1	.....	.....	.....	..	1	8	3	17	.....	.....	4	4.79	121.7
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28.61	726.6	29.98	761.6	73.3	22.9	46	1	.....	.....	.....	.....	.....	8	11	10	.....	.....	3	1.14	29.0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.59	751.6	29.97	761.3	74.8	23.8	47	.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	1	0	0
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	307	94	29.65	753.0	29.97	761.2	67.8	19.9	69	1	.....	.....	.....	.....	.....	.....	1	28	.....	.....	2	0.59	15.0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.80	756.8	29.99	761.6	71.6	22.0	65	10	6	3	.....	1	.....	1	5	4	.....	.....	3	1.21	30.7
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2007	612	27.92	709.2	29.98	761.5	67.0	19.4	67	13	6	1	.....	.....	.....	5	4	1	.....	.....	5	0.62	15.7
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.85	758.3	29.94	760.4	75.7	24.3	76	2	2	1	.....	.....	.....	.....	11	14	.....	.....	3	3.13	79.5
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.92	759.9	29.94	760.4	74.4	23.6	74	19	4	.....	.....	1	1	1	3	1	.....	.....	3	1.61	40.9
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.82	757.5	29.95	760.6	73.1	22.8	76	1	2	.....	.....	.....	.....	3	5	19	.....	.....	1	0.25	6.4
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.84	757.9	29.93	760.2	76.1	24.5	85	.....	10	6	1	.....	.....	1	.....	12	.....	.....	3	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.63	752.6	29.98	761.4	70.2	21.2	84	.....	.....	.....	2	1	1	5	20	1	.....	.....	3	1.29	32.8
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.87	758.8	29.90	759.4	82.8	28.2	70	3	1	.....	2	6	7	7	4	.....	.....	.....	6	7.11	180.8
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.52	724.4	29.98	761.6	75.8	24.3	40	5	7	4	1	1	2	3	7	.....	.....	.....	1	0	0
JAPANESE.																										
Aidta	N. 39 42	E. 140 07	9.28 p.m.	32	10	30.08	764.0	30.11	764.9	40.5	4.7	81.3	.....	7	5	.....	.....	.....	.....	.....	18	.....	.....	8	7.09	180.0
Awômori	N. 40 51	E. 140 45	9.31 p.m.	32	10	30.04	762.9	30.07	763.9	37.6	3.1	80.4	2	.....	13	8	7	.....	.....	.....	.....	7596	12224	8	4.57	116.1
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	30.03	762.8	30.04	763.0	35.8	2.1	77.0	9	5	12	.....	1	...	1	1	2	4986	7864	6	2.17	54.9
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	.....	.....	.....	.....	49.6	9.8	82.0	20	.....	4	1	4	.....	1	.....	.....	4175	6719	4	1.99	50.4
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	30.07	763.8	30.18	766.5	46.7	8.2	84.6	1	1	1	4	4	9	10	.....	.....	458	737	8	15.10	383.2
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	30.00	762.0	30.18	766.6	46.3	7.9	86.8	12	5	6	2	2	.....	.....	1	2	2110	3396	4	2.84	72.2
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.02	762.5	30.23	767.8	52.4	11.3	76.6	8	1	1	.....	1	.....	1	12	6	2835	4563	5	1.86	47.3
Nemuro	N. 43 20	E. 145 35	9.50 p.m.	58	18	29.96	761.0	30.03	762.7	36.8	2.7	86.2	5	9	6	1	4	1	.....	.....	4	.....	.....	3	0.53	13.5
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.10	764.4	30.13	765.4	47.0	8.3	79.4	4	2	7	2	4	8	1	.....	2	8453	13603	8	6.12	155.3
Nobiru	N. 38 43	E. 141 12	9.32 p.m	15	5	30.07	763.9	30.09	764.3	44.1	6.7	82.8	18	7	3	.....	1	1	.....	.....	.....	7315	11773	6	1.02	25.9
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.16	766.0	30.17	766.4	49.0	9.5	80.9	11	1	3	.....	4	1	1	9	.....	5551	8934	4	3.16	80.0
Supporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	32.4	0.2	76.3	.....	5	7	2	9	5	.....	.....	2	2857	4597	6	1.17	29.4
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	30.04	763.1	30.03	762.8	47.1	8.4	83.1	15	2	3	.....	1	.....	4	3	2	3837	6176	5	3.92	99.1
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.12	765.1	30.18	766.6	51.3	10.7	76.6	7	3	.....	.....	1	.....	8	10	1	4068	6547	5	4.02	102.0
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.84	757.9	30.03	762.7	78.3	25.7	61.8	2	1	.....	.....	.....	.....	8	19	.....	.....	.....	6	0.74	18.8
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6759	2060	23.72	602.5	30.08	764.0	51.4	10.8	84	1	3	2	9	.....	6	4	4	1	.....	.....	2	0	0
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.38	619.2	30.21	767.3	47.1	8.4	86	2	11	.....	1	.....	4	1	11	.....	.....	.....	3	0	0
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.73	755.3	30.01	762.0	70.7	21.5	79	1	10	.....	.....	.....	2	4	13	.....	.....	.....	2	inap.	inap.
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.16	588.3	30.31	770.0	45.7	7.6	77	1	3	2	1	.....	.....	.....	.....	23	.....	.....	2	0.02	0.6
Morelia	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.29	617.0	30.23	767.8	50.7	10.4	69	3	.....	1	.....	4	6	5	11	.....	.....	.....	2	0.20	5.2
Pabellon	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.98	609.1	30.07	763.7	49.3	9.6	74	8	3	6	.....	.....	.....	1	.....	12	.....	.....	0	inap.	inap.
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.42	594.9	30.32	770.2	40.7	3.9	71	.....	3	.....	.....	.....	.....	.....	.....	27	.....	.....	1	inap.	inap.
Zacatecas	N. 22 44	W. 102 20	5.18 a.m.	8100	2469	22.62	574.4	30.33	770.4	47.7	8.7	74	1	3	3	10	.....	4	5	4	.....	.....	.....	3	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.69	754.2	29.69	754.2	46.0	7.8	.....	2	1	7	9	5	4	1	1	.....	.....	.....	.....	3.75	95.2
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.59	751.5	29.64	752.9	41.9	5.5	.....	4	1	4	10	5	1	4	1	.....	.....	.....	.....	3.55	90.2
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.63	752.6	29.63	752.6	44.1	6.7	.....	.....	3	6	9	4	1	3	4	.....	.....	.....	.....	4.70	119.3
Hellevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.67	753.6	29.67	753.6	44.6	7.0	80.1	1	1	9	9	1	2	2	4	1	.....	.....	.....	2.48	63.1
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.97	761.2	30.02	762.4	44.6	7.0	80.6	2	2	4	12	3	1	3	2	.....	.....	.....	7	3.63	92.1
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.51	749.6	29.58	751.2	38.7	3.7	64.2	.....	1	.....	3	7	7	8	.....	4	.....	.....	7	3.70	94.0
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.67	753.6	29.71	754.6	31.8	—0.1	63.8	.....	.....	.....	1	.....	9	10	4	6	.....	.....	4	1.27	32.2
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.55	750.6	29.71	754.5	31.6	—0.2	77.5	5	4	3	.....	2	1	5	10	.....	.....	.....	8	1.87	47.5
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.79	756.6	29.81	757.2	27.1	—2.7	.....	1	1	.....	1	5	7	6	3	6	.....	.....	7	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.71	754.7	29.76	755.9	31.5	—0.3	68.2	8	.....	1	3	3	2	4	4	5	.....	.....	5	0.54	13.7
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	30.12	765.0	30.27	768.9	64.4	18.0	80.0	1	2	6	2	3	7	7	.....	2	.....	.....	4	3.22	81.7
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.21	741.8	30.21	767.2	61.3	16.3	58.8	2	.....	4	11	3	1	3	5	1	.....	.....	5	0.65	16.5
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.15	765.7	30.23	767.9	69.4	20.8	56.2	.....	.....	1	8	1	6	10	4	.....	.....	.....	3	0.36	9.2
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.92	759.9	30.28	769.1	59.4	15.2	69.0	14	1	1	3	4	1	.....	6	.....	.....	.....	6	1.22	30.9
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.24	768.2	30.32	770.0	66.7	19.3	68.8	2	.....	2	4	4	4	6	3	5	.....	.....	4	1.26	32.1
St. Paulde Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.71	754.6	29.91	759.7	76.5	24.7	86.1	.....	3	14	11	.....	1	.....	.....	1	.....	.....	6	0.31	7.8
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.40	645.1	30.21	767.2	43.3	6.3	78.8	3	9	8	3	1	5	.....	1	.....	.....	.....	6	24.64	625.8
RUSSIAN.																										
Akmolinski	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.14	740.1	30.28	769.2	25.0	—3.9	83.5	.....	1	3	10	4	5	5	.....	2	.....	.....	6	0.06	1.4
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	29.89	759.2	29.91	759.7	11.3	—11.5	86.8	3	2	1	1	3	3	9	4	4	.....	.....	9	0.96	24.3
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.18	766.5	30.10	764.4	48.4	9.1	69.1	.....	4	4	3	5	12	.....	1	1	.....	.....	7	0.06	1.4
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	29.89	759.1	30.43	773.0	14.5	—9.7	81.8	3	.....	4	11	.....	.....	.....	2	10	.....	.....	6	1.87	47.4
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.54	750.3	29.80	756.8	25.7	—3.5	95.3	3	3	4	4	2	7	3	2	2	.....	.....	9	2.46	62.6
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.07	738.4	30.09	764.3	23.5	—4.7	85.3	.....	1	5	4	5	8	1	1	5	.....	.....	10	1.61	40.9
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.60	751.9	29.89	759.1	28.9	—1.7	85.7	4	1	1	4	9	6	1	2	2	.....	.....	10	4.24	107.7
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.88	758.8	29.89	759.3	53.8	12.1	83.8	.....	3	.....	.....	2	5	1	.....	19	.....	.....	6	0.57	14.4
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.15	740.5	29.81	757.2	35.1	1.7	84.8	4	7	6	2	8	.....	2	1	.....	.....	.....	9	.....	.....
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.69	754.0	29.89	759.3	45.3	7.4	73.7	.....	2	7	10	7	3	1	.....	.....	.....	.....	8	1.29	32.8
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.32	744.7	29.82	757.5	27.3	—2.6	82.7	4	3	.....	3	5	2	2	2	9	.....	.....	9	1.80	48.1
Nikolaiev	N. 46 58	E. 31 58	2.16 p.m.	62	19	29.82	757.5	29.89	759.3	48.0	8.9	83.6	4	2	3	8	6	.....	1	2	4	.....	.....	6	1.65	42.0
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.20	767.0	30.34	770.6	37.8	3.2	61.3	1	5	.....	4	.....	2	.....	.....	18	.....	.....	2	0.72	18.3
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	29.79	756.6	29.80	757.0	23.5	—4.7	84.1	4	3	2	4	4	5	4	4	.....	.....	.....	9	1.28	32.6
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.78	756.5	30.50	774.6	20.1	—6.6	81.8	3	4	3	2	4	3	8	2	1	.....	.....	5	0.18	4.5
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.64	727.4	30.24	768.0	51.1	10.6	51.2	1	.....	.....	.....	.....	.....	.....	.....	29	.....	.....	2	0	0
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.69	728.7	30.11	764.7	58.3	14.6	52.1	4	10	1	.....	1	5	1	.....	8	.....	.....	4	0.01	0.2
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	30.09	764.2	30.15	765.9	27.5	—2.5	72.5	4	10	.....	2	1	1	3	3	5	.....	.....	2	2.44	62.0
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.35	745.5	29.79	756.6	37.8	3.2	82.3	3	2	9	7	4	2	2	.....	1	.....	.....	8	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.36	745.7	29.79	756.7	33.4	0.8	89.2	.....	1	2	9	5	4	4	5	.....	.....	.....	9	2.24	56.8
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	29.15	765.8	30.47	774.0	3.7	—15.7	81.8	1	2	9	3	.....	1	8	1	5	.....	.....	6	0.27	6.9
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.47	748.5	47.0	8.3	91.9	4	5	3	5	8	5	.....	.....	.....	.....	.....	9	6.60	167.6
North Unst	N. 60 51	W. 0 53	0.04 p.m	230	70	.....	.....	29.39	746.5	.....	.....	.....	2	2	4	5	5	5	2	5	.....	.....	.....	7	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.91	759.8	30.02	762.5	60.8	16.0	62.3	.....	4	9	9	2	1	3	2	.....	1723	3273	3	inap.	inap.
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	30.07	763.7	30.13	765.2	59.2	15.1	72	.....	20	1	2	1	6	.....	.....	.....	2735	4401	7	8.27	210.1
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.19	690.6	30.21	767.3	48.4	9.1	76	4	4	7	13	2	.....	.....	.....	.....	5133	8261	6	1.35	34.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.94	709.7	30.19	766.9	54.3	12.4	64.2	.....	4	3	7	2	3	.....	3	8	5097	8213	5	0.34	8.5
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.98	761.5	30.11	764.9	59.5	15.3	60.0	1	9	2	9	4	1	2	2	.....	1389	2236	5	0.09	2.4
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.28	743.6	30.14	765.5	54.3	12.4	82	.....	1	.....	.....	2	10	16	1	.....	3006	5804	10	5.37	136.5
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.26	743.1	30.16	766.1	54.7	12.6	84.0	4	3	5	8	2	2	1	1	4	5812	9352	9	6.47	164.4
Sub-Series.																										
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.85	758.3	29.91	759.7	78.9	26.1	82.1	10	.....	.....	.....	3	2	6	9	.....	.....	.....	6	7.23	183.6
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	30.13	765.2	30.22	767.5	63.6	17.6	59	8	2	7	.....	1	.....	3	3	6	.....	.....	3	0	0
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.88	758.9	29.97	761.2	77.5	25.3	89	4	1	3	2	.....	3	.....	.....	1	16	.....	4	6.63	168.5
Tuguegarao	N. 17 37	E. 121 30	8.15 p.m.	125	38	29.85	758.1	29.98	761.5	75.6	24.2	90.7	12	9	.....	2	1	2	1	.....	3	.....	.....	6	2.73	69.4
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.89	759.3	29.93	760.3	14.5	—9.7	96	12	2	.....	1	2	2	2	6	3	.....	.....	7	0.48	12.3
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.80	757.0	29.85	758.3	21.9	—5.6	89	3	3	.....	1	3	3	2	6	9	.....	.....	8	2.15	54.5
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.74	755.3	29.79	756.7	28.6	—1.9	86	7	1	.....	1	1	2	2	8	8	.....	.....	8	4.26	108.3
Stokholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.53	750.1	29.71	754.6	32.7	0.4	83	7	.....	3	1	3	3	8	4	1	.....	.....	8	2.26	57.3
Wisby	N. 57 39	E. 18 19	1.20 p.m.	52	16	29.03	752.6	29.69	754.1	36.9	2.7	82	1	1	4	3	1	7	6	7	.....	.....	.....	7	3.07	78.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for November, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
Sub-Series.	° ′	° ′																								
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.63	752.5	29.71	754.7	30.6	—0.8	91	5	7	4	1	1	4	4	4	.....	.....	.....	8	1.94	49.2
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.54	724.9	29.98	761.6	48.2	9.0	68.5	4	3	.....	6	14	1	2	.....	.....	.....	.....	7	5.04	128.0
TURKISH.																										
Constantinople	N. 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.01	762.2	58.6	14.8	64	3	2	1	12	3	2	3	4	.....	.....	.....	6	4.68	118.9
Valona	N. 40 27	E. 19 27	1.25 p.m.	105	32	.....	.....	30.02	762.5	61.7	16.5	.....	.....	7	1	4	12	5	1	.....	.....	.....	.....	6	5.16	131.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.01	762.3	71.4	21.9	66.9	8	6	7	4	.....	1	.....	2	2	.....	.....	4	3.10	78.7
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.10	764.5	30.18	766.6	38.0	3.3	67.5	12	4	2	2	5	2	.....	2	1	3597	5889	6	0.97	24.6
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.46	748.3	30.16	766.1	36.3	0.9	80.0	4	4	10	4	1	5	1	1	.....	6563	10562	8	4.27	108.5
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.09	637.3	30.19	766.8	30.4	—0.9	65.5	3	.....	1	.....	1	2	8	15	.....	4098	6595	4	2.34	59.4
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.25	692.1	30.23	767.8	24.7	—4.1	62.8	1	1	1	19	2	1	1	3	1	7550	12150	4	0.16	4.1
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	29.00	736.6	30.22	767.6	44.7	7.1	78.1	7	3	7	2	2	1	1	7	.....	6797	10939	5	4.22	107.2
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.15	765.8	30.16	766.1	38.9	3.8	81.7	12	6	4	4	3	.....	.....	1	.....	7071	11379	6	1.67	42.4
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.03	762.7	30.23	767.8	46.1	7.8	83.2	1	8	1	1	.....	.....	1	7	11	2903	4767	5	3.86	98.0
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.17	766.3	30.22	767.6	40.8	4.9	73.5	6	6	2	.....	1	1	.....	9	4	3542	5700	5	0.65	16.5
Barnegat	N. 39 46	W. 74 06	7.12 a.m.	20	6	30.13	765.3	30.15	765.8	40.9	4.9	83.9	8	7	5	3	.....	.....	3	4	.....	10635	17115	7	2.32	58.9
Behring Id.	N. 55 12	E. 165 55	1.04 a.m.	20	6	29.41	747.0	29.43	747.5	28.8	—1.8	.....	2	8	1	8	1	3	5	2	.....	11049	17781	7	2.23	56.6
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.47	723.1	30.16	766.1	24.9	—3.9	83.2	.....	14	.....	.....	.....	7	.....	2	7	6136	9875	4	0.50	12.7
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.30	693.4	30.26	768.6	24.6	—4.1	68.8	2	.....	.....	9	.....	.....	.....	2	17	4380	7049	4	0.39	9.9
Bismarck	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.29	718.6	30.21	767.3	23.3	—4.8	84.6	2	10	2	2	2	5	4	2	1	6270	10090	6	0.46	11.7
Block Id.	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.09	764.3	30.12	765.0	40.8	4.9	79.5	12	4	2	3	.....	.....	2	6	1	13220	21275	6	2.26	57.4
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.35	694.7	30.29	769.4	27.4	—2.6	89.0	5	10	6	.....	1	1	1	3	3	2601	4186	5	0.08	2.0
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.97	761.2	30.13	765.3	35.1	1.7	75.1	4	13	6	4	1	1	.....	1	.....	7318	11777	6	1.20	30.5
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	43	13	30.06	763.5	30.12	765.0	61.3	16.3	86.6	12	.....	.....	1	6	2	.....	.....	9	5272	8483	4	3.28	83.3
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.39	746.5	30.17	766.3	35.8	2.1	80.8	2	2	6	6	3	2	3	6	.....	6771	10897	7	3.73	94.7
Buford, Fort	N. 48 00	W. 103 56	5.12 a.m.	1900	579	28.06	712.7	30.26	768.6	22.7	—5.2	83.1	2	3	10	3	5	3	3	1	.....	6030	9704	4	0.29	7.4
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.86	758.4	30.17	766.3	33.5	0.8	73.5	9	2	2	1	9	.....	4	3	.....	5958	9588	6	1.47	37.3
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.82	757.4	30.24	768.1	44.9	7.2	84.1	7	3	3	5	4	1	.....	6	1	5882	9466	6	5.96	151.4
Campc	N. 32 22	W. 116 08	4.22 a.m.	2500	762	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.16	766.1	30.18	766.6	47.3	8.5	76.8	12	5	.....	6	5	.....	.....	2	.....	10498	16895	6	2.60	66.0
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.14	765.5	30.17	766.3	44.7	7.1	72.4	14	5	3	3	3	.....	.....	2	.....	12263	19735	5	1.88	47.8
Cape Mendocino *a*	N. 40 26	W. 124 24	3.50 a.m.	637	194	29.26	743.2	29.94	760.5	48.4	9.1	77.9	3	6	.....	.....	.....	18	1	.....	1	.....	.....	5	2.42	61.5
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.12	765.0	30.14	765.5	57.5	14.2	85.8	11	5	.....	.....	.....	1	3	10	.....	7098	11423	3	4.40	111.8
Champaign	N. 40 08	W. 88 14	6.15 a.m.	767	234	29.32	744.7	30.18	766.6	36.7	2.6	70.0	2	10	1	4	5	2	2	4	.....	7709	12406	6	2.37	60.2
Charleston	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.11	764.8	30.17	766.3	50.7	10.4	83.2	9	5	1	1	.....	1	1	9	3	5967	9603	5	3.54	89.9
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.31	744.5	30.19	766.8	42.3	5.7	80.1	6	2	1	7	1	1	1	10	1	3526	5678	5	1.58	40.1
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.38	746.2	30.23	767.8	44.6	7.0	82.4	4	3	4	2	6	.....	1	5	5	3694	5946	5	3.31	84.1
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	24.08	611.6	30.29	769.4	24.2	—4.3	51.8	4	16	6	3	.....	.....	.....	1	.....	6849	11022	2	0.06	1.5
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.42	747.3	30.16	766.1	39.3	4.1	80.2	.....	2	7	4	3	7	2	5	.....	6095	11257	7	1.48	37.6
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.15	765.8	30.17	766.3	43.1	6.2	82.9	9	9	.....	1	5	.....	1	4	1	9715	15634	6	1.30	33.0
Cincinnati	N. 39 06	W. 84 30	5.30 a.m.	620	189	29.52	749.8	30.22	767.6	41.9	5.5	83.1	4	2	4	4	3	3	4	6	.....	3953	6362	7	1.57	39.9
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.42	747.3	30.19	766.8	37.1	2.8	80.9	.....	1	5	2	8	9	2	3	.....	6891	11090	9	2.00	50.8
Coleman City	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.35	720.1	30.24	768.1	44.7	7.1	87.5	12	2	.....	5	6	1	.....	3	1	6484	10435	6	3.76	95.5
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.30	744.2	30.19	766.8	38.2	3.4	78.6	3	3	6	3	5	3	1	6	.....	5205	8376	7	2.05	52.1
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.22	716.8	30.23	767.8	45.7	7.6	82.5	5	2	1	2	5	2	.....	4	9	5543	8920	7	2.77	70.4
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	927	26.95	684.5	30.27	768.8	22.5	—5.3	76.3	2	2	3	2	4	3	10	2	2	3609*c*	5808*a*	4	0.15	3.8
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.49	749.0	30.18	766.6	37.7	3.2	76.0	2	5	5	5	1	3	2	7	.....	5959	9590	6	1.49	37.8
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.28	642.1	30.18	766.6	42.0	5.6	70.2	6	3	.....	3	2	3	.....	2	11	.....	.....	4	0.62	15.7
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.43	722.1	30.21	767.3	32.1	0.1	85.4	4	.....	2	14	3	.....	.....	6	1	3282	5282	5	2.61	66.3
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.39	644.9	30.22	767.6	28.5	—1.9	79.1	2	1	1	2	1	4	5	4	10	2301	3705	3	1.35	34.3
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.16	766.1	30.18	766.6	43.4	6.3	85.0	5	6	3	4	3	.....	.....	9	.....	13583	21859	6	1.18	30.0
Denison	N. 33 48	W. 96 32	5.42 a.m.	767	234	29.38	746.2	30.22	767.6	47.2	8.4	83.3	8	5	1	2	9	.....	1	3	1	5163	8309	6	4.94	125.5
Denver	N. 39 45	W. 105 00	5.08 a.m.	5294	1614	24.81	630.2	30.31	769.9	29.8	—1.2	62.0	3	2	1	.....	18	3	.....	.....	3	3306	5320	2	0.71	18.0
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.25	742.9	30.20	767.1	34.4	1.3	73.7	7	9	1	2	3	3	1	4	.....	4917	7913	5	2.81	71.4
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.44	747.8	30.18	766.6	40.6	4.8	77.7	4	.....	8	5	4	4	3	1	1	7123	11463	7	1.66	42.2
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.54	699.5	30.28	769.1	29.6	—1.3	75.4	10	6	3	3	6	2	.....	.....	.....	6462*b*	10399*b*	2	0.11	2.8
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.42	747.3	30.17	766.3	35.0	1.7	79.4	4	6	4	2	5	2	.....	1	6	3109	5002	6	1.55	39.4
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.37	746.0	30.16	766.1	31.7	—0.2	79.6	2	5	7	6	4	.....	3	3	.....	6680	10750	7	1.66	42.2
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	29.37	746.0	30.20	767.1	54.3	12.4	78.8	1	11	.....	.....	1	7	1	1	8	3762	6054	6	0.71	18.0
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4650	1415	25.41	645.4	30.27	768.8	11.0	—11.7	76.8	22	.....	2	4	.....	.....	.....	.....	2	4702	7567	1	0.49	12.4
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.99	761.7	30.06	763.5	34.2	1.2	78.0	9	4	6	3	.....	2	2	4	.....	9238	14867	7	1.47	37.3
Elliott, Fort *a*	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.36	694.9	30.29	769.4	34.2	1.2	64.2	6	6	2	2	1	4	.....	2	6	6111*b*	9834*b*	4	0.90	24.4
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3760	1146	26.36	669.5	30.20	767.1	40.8	4.9	80.2	.....	2	12	2	.....	1	4	3	6	2873	4624	2	1.46	37.1
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.42	747.3	30.18	766.6	38.8	3.8	74.5	4	2	1	5	11	4	3	.....	.....	6248	10055	8	3.42	86.9
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.45	748.0	30.15	765.8	33.0	0.6	84.3	1	8	4	2	2	1	1	3	8	4495	7234	8	2.16	54.9
Fredericksburg	N. 30 17	W. 98 52	5.32 a.m.	1700	518	28.40	721.3	30.22	767.6	52.9	11.6	85.5	8	3	3	7	3	.....	1	2	3	5220	8410	6	2.40	61.0
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	30.09	764.3	30.14	765.5	62.0	16.7	82.9	7	1	1	1	11	2	3	4	.....	10753	17305	6	2.20	55.9
Grand Haven	N. 43 05	W. 86 18	6.25 a.m.	620	189	29.44	747.8	30.14	765.5	37.6	3.1	79.7	2	1	4	2	3	4	7	7	.....	7043	12300	7	2.49	63.2
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	25.29	642.4	30.13	765.3	43.2	6.2	58.2	5	2	.....	.....	1	3	6	11	2	4360	7017	4	0.79	20.1
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.14	765.5	30.16	766.1	50.7	10.4	83.5	8	3	4	3	.....	.....	.....	15	.....	12406	19965	5	4.29	109.0
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.88	657.3	30.26	768.6	26.1	—3.3	74.9	2	.....	1	10	.....	.....	.....	.....	17	3143	5058	3	0.15	3.8
Henrietta	N. 33 46	W. 98 12	5.35 a.m.	980	300	29.17	740.9	30.21	767.3	43.4	6.3	85.3	10	4	.....	.....	6	4	1	3	2	6067	9764	6	1.79	45.5
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.72	729.5	30.20	767.1	26.4	—3.1	74.4	2	17	2	.....	.....	7	2	.....	.....	7606	12240	5	0.61	15.5
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.34	745.2	30.18	766.6	39.4	4.1	79.8	1	3	4	5	3	5	1	7	1	3623	5830	6	2.50	63.5
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.10	764.5	30.14	765.5	61.1	16.2	82.6	7	4	1	1	5	5	3	2	2	10087	16233	5	3.98	101.1
Jacksboro *a*	N. 33 12	W. 98 10	5.35 a.m.	1120	341	28.99	736.3	30.21	767.3	46.6	8.1	69.6	10	3	1	2	4	3	.....	3	3	4329	6967	4	2.66	67.6
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.10	764.5	30.16	766.1	55.3	12.9	85.4	4	9	2	1	.....	.....	.....	4	9	3250	5230	4	5.70	144.8
Keogh, Fort	N. 46 22	W. 105 56	5.04 a.m.	2372	723	27.60	701.0	30.27	768.8	25.4	—3.7	76.8	2	5	8	7	1	2	1	4	.....	5032	8098	5	0.19	4.8
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.48	748.8	30.17	766.3	38.4	3.6	81.1	4	4	6	3	2	2	1	3	5	2898	4664	6	2.25	57.1
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.03	762.7	30.05	763.3	71.7	22.1	80.6	5	6	1	5	1	.....	1	11	.....	8976	14445	4	2.94	74.7
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.16	766.1	30.18	766.6	48.2	9.0	79.7	8	1	1	.....	2	1	1	16	.....	12991	20907	5	4.94	125.5
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.16	740.7	30.23	767.8	42.0	5.6	86.6	4	2	3	2	1	.....	3	11	4	3566	5740	4	3.06	77.7
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.33	745.0	30.15	765.8	34.0	1.1	76.8	7	6	4	1	8	3	.....	.....	1	5338	8590	7	2.08	52.8
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.28	743.7	30.22	767.6	38.4	3.6	82.2	6	6	3	.....	7	1	1	2	4	4765	7668	5	1.87	47.5
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.38	746.2	30.25	768.3	33.6	0.9	81.4	.....	2	.....	4	2	1	14	5	2	2177	3504	6	1.27	32.3
Little Rock	N. 34 45	W. 92 00	6.00 a.m.	298	91	29.87	758.7	30.20	767.1	48.3	9.1	86.8	2	7	2	2	5	.....	1	4	7	3979	6404	5	6.17	156.7
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.69	754.1	30.09	764.3	49.2	9.6	71.6	4	.....	5	.....	.....	2	3	16	.....	3922	6312	4	1.82	46.2
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.58	751.3	30.18	766.6	43.6	6.4	78.5	6	3	5	4	8	1	.....	3	.....	5605	9020	5	2.67	67.8
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.49	749.0	30.21	767.3	40.7	4.8	72.1	1	4	2	3	2	.....	1	7	10	2111	3397	5	0.81	20.6
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.46	748.3	30.15	765.8	35.4	1.9	81.8	.....	8	1	6	5	4	3	2	1	8415	13542	8	3.98	101.1
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.14	765.5	30.16	766.1	48.7	9.3	89.0	10	8	1	2	.....	.....	2	7	.....	9694	15601	5	4.95	125.7
Madison	N. 43 05	W. 89 24	6.10 a.m.	949	289	29.09	738.9	30.16	766.1	35.4	1.9	86.8	3	6	4	3	6	5	1	2	.....	6894	11095	7	2.02	66.5
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.60	650.2	30.11	764.8	27.9	—2.3	59.0	2	11	12	.....	.....	1	.....	4	.....	9608	15462	4	0.40	10.2
McKavett, Fort *a*	N. 30 48	W. 100 07	5.28 a.m.	2240	683	27.87	707.9	30.25	768.3	49.5	9.7	82.6	4	3	.....	4	9	1	.....	4	.....	5442	8758	5	3.55	90.2
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.37	746.0	30.14	765.5	33.0	0.6	79.5	.....	5	9	2	4	3	.....	4	3	5898	9492	8	1.61	40.9
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.86	758.4	30.21	767.3	47.6	8.7	87.7	5	2	2	2	4	6	1	3	5	3460	5568	6	6.65	168.9
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.36	745.7	30.15	765.8	37.5	3.1	82.1	4	3	8	3	6	2	.....	2	2	8058	12968	8	2.05	52.1
Missoula, Fort	N. 46 50	W. 114 07	4.32 a.m.	3140	957	26.87	682.5	30.28	769.1	24.1	—4.4	61.7	3	4	3	3	.....	1	.....	4	12	1885	3034	4	0.64	16.3
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.13	765.3	30.17	766.3	53.0	11.7	85.5	12	5	2	1	.....	3	1	6	.....	3863	6217	5	2.67	67.8
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.96	761.0	30.20	767.1	48.1	8.9	86.8	2	5	2	1	.....	1	5	7	7	3286	5288	4	1.91	48.5
Moorhead	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.10	739.1	30.16	766.1	21.4	—5.9	84.3	7	2	4	1	6	5	2	2	1	7786	12530	6	2.54	64.5
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	29.16	740.7	30.22	767.6	39.9	4.4	80.4	.....	1	3	4	.....	1	2	4	15	3496	5626	5	2.28	57.9
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.63	600.2	30.19	766.8	16.4	—8.7	78.8	2	18	2	3	.....	1	.....	4	.....	21708	34935	4	3.25	82.5
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.60	751.8	30.20	767.1	44.6	7.0	83.8	7	2	4	1	6	5	2	2	1	4501	7243	7	3.57	90.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for November, 1882.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. S.—Continued.	° ′	° ′																								
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	30.04	763.0	30.16	766.1	34.0	1.1	79.2	11	7	2	5	.....	.....	.....	4	1	5382	8661	5	1.31	33.3
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.11	764.8	30.16	766.1	37.1	2.8	76.5	7	6	1	2	1	.....	.....	3	10	4482	7213	5	1.76	44.7
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.10	764.5	30.16	766.1	59.0	15.0	79.0	8	1	1	.....	1	7	6	5	1	5790	9318	5	1.98	50.3
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.08	764.0	30.13	765.3	38.6	3.7	80.1	12	6	5	6	.....	.....	.....	1	.....	7149	11505	6	1.58	40.1
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	30.00	762.0	30.18	766.6	38.9	3.8	81.7	5	3	8	5	3	.....	1	5	.....	5688	9154	6	1.80	45.7
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.16	766.1	30.19	766.8	45.9	7.7	80.6	9	4	2	3	4	.....	1	5	2	5466	8797	5	1.88	47.8
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.20	690.9	30.28	769.1	25.6	−3.6	72.6	3	4	7	.....	2	1	.....	1	12	6207	9989	2	0.01	0.3
Olympia *a*	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.06	763.5	30.10	764.5	38.5	3.6	84.8	4	1	2	1	8	.....	3	3	7	2289	3700	7	5.77	146.6
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.99	736.3	30.23	767.8	34.0	1.1	75.2	9	4	5	3	4	3	.....	1	1	6570	10583	2	2.05	52.1
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.83	757.7	30.17	766.3	37.5	3.1	70.5	2	3	.....	3	8	7	4	3	.....	6420	10316	7	2.40	61.0
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.63	752.6	30.20	767.1	51.9	11.1	83.8	5	6	.....	6	6	.....	2	5	.....	6339	10185	6	8.63	219.2
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.14	765.5	30.17	766.3	53.8	12.1	83.0	6	6	.....	1	2	3	1	11	.....	5346	8603	5	4.16	105.7
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.10	764.5	30.20	767.1	40.9	4.9	73.0	4	7	2	6	.....	.....	.....	7	4	4984	8021	5	0.99	25.1
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.75	450.8	30.41	772.4	10.9	−11.7	77.6	2	3	14	4	.....	.....	.....	5	2	15302	24626	2	0.22	5.6
Pioche	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	24.08	611.6	30.22	767.6	30.0	−1.1	61.6	4	12	1	2	9	1	.....	.....	1	4914	7890	2	0.71	18.0
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.35	745.5	30.20	767.1	39.0	3.9	75.2	3	6	4	4	4	1	4	4	.....	4207	6770	7	2.07	52.6
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.92	709.2	30.23	767.8	.....	.....	.....	.....	20	4	5	.....	.....	.....	1	.....	.....	.....	3	0.48	12.2
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	30.14	765.5	30.15	765.8	62.8	17.1	83.6	6	3	.....	.....	1	8	5	7	.....	10062	16193	4	2.05	52.1
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.46	748.3	30.18	766.6	34.7	1.5	90.3	.....	3	3	5	5	2	5	3	4	5804	9240	8	2.23	56.6
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	30.05	763.3	30.10	764.5	36.8	2.7	72.0	11	7	5	1	1	.....	.....	5	.....	6878	11069	5	0.93	23.6
Portland, Oregon	N. 45 32	W. 122 43	3.57 a.m.	67	20	30.06	763.5	30.13	765.3	40.0	4.4	84.0	1	7	2	.....	7	3	4	.....	6	3086	4966	6	7.11	180.6
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	51.4	10.8	84.8	5	2	1	3	1	.....	.....	16	2	13299*a*	21402*a*	5	4.13	104.9
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.81	630.2	30.15	765.8	31.6	−0.2	78.6	1	1	3	10	10	.....	1	3	1	3555	5721	3	1.55	39.4
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.07	763.8	30.10	764.5	41.1	5.1	77.4	10	6	3	2	3	.....	.....	4	2	8087	13015	6	3.69	93.7
Punta Rassa	N. 26 29	W. 82 01	6.40 a.m.	13	4	30.07	763.8	30.08	764.0	63.1	17.3	82.1	13	2	.....	.....	2	2	.....	11	.....	6978	11210	3	1.04	26.4
Red Bluff	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.70	754.4	30.11	764.8	45.0	7.2	87.5	5	5	1	.....	.....	2	1	.....	1	2043	3288	4	5.07	128.8
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.49	749.0	30.19	766.8	34.0	1.1	81.1	4	1	5	9	7	1	1	1	1	7307	11759	9	2.01	51.1
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.56	750.8	30.12	765.0	38.2	3.4	85.9	4	4	.....	2	3	3	5	3	6	1568	2523	7	1.15	29.2
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	30.04	763.0	30.12	765.0	44.2	6.8	85.8	3	6	3	2	1	10	1	.....	4	3411	5473	3	3.22	81.8
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.59	751.6	30.22	767.6	40.5	4.7	94.7	3	8	5	.....	8	2	.....	4	.....	7281	11717	6	3.24	82.3
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.22	742.2	30.14	765.5	30.8	−0.7	83.0	4	7	4	3	2	5	2	2	1	6189	9960	6	1.61	40.9
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.24	742.7	30.17	766.3	20.0	−6.7	87.9	7	9	1	2	2	7	.....	2	.....	6827	10971	5	1.02	25.9
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.76	654.3	30.33	770.4	30.4	−0.9	53.0	1	.....	1	.....	.....	6	4	3	15	2613	4189	3	0.54	13.7
San Antonio	N. 29 25	W. 98 25	5.34 a.m.	673	205	29.45	748.0	30.17	766.3	55.0	12.8	80.3	9	5	.....	.....	.....	3	5	2	6	3878	6241	7	1.12	28.4
San Diego	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.99	761.7	30.06	763.5	51.5	10.8	74.5	2	3	3	.....	1	.....	5	13	3	3875	6236	4	0.39	9.9
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.46	748.3	30.18	766.6	39.4	4.1	78.0	.....	3	7	8	4	2	1	5	.....	9836	15813	7	2.92	74.2
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.15	765.8	30.18	766.6	40.8	4.9	79.1	5	4	4	4	3	1	.....	9	.....	10944	17612	7	1.51	38.4
San Francisco *a*	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.05	763.3	30.12	765.0	50.0	10.0	84.0	3	1	8	4	3	6	2	2	.....	4362	7020	5	4.18	106.2
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	23.28	591.3	30.32	770.1	33.2	0.7	55.4	4	2	.....	2	1	2	6	10	3	5443	8759	3	0.90	22.9
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.09	764.3	30.18	766.6	50.4	10.2	75.1	13	6	2	3	.....	2	1	3	.....	5326	8555	4	1.63	41.4
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.44	671.6	30.26	768.6	26.8	−2.9	68.9	1	.....	11	12	.....	1	.....	4	1	8098	13032	4	0.30	7.6
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.93	760.2	30.18	766.6	50.9	10.5	89.2	7	5	.....	1	4	3	1	7	2	4210	6759	7	8.62	218.9
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.93	734.8	30.24	768.1	42.0	5.6	73.6	11	7	.....	1	6	3	.....	2	.....	6622	10641	5	2.01	51.1
Silver City	N. 32 46	W. 108 14	4.55 a.m.	5890	1795	24.34	618.2	30.16	766.6	35.9	2.2	73.3	1	6	2	4	1	4	.....	1	11	1941	3124	4	1.37	34.8
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.74	755.4	29.80	756.9	39.0	3.9	72.8	1	1	.....	1	.....	4	15	8	.....	8790	14146	8	11.47	291.3
Smith, Fort	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.72	754.9	30.20	767.1	45.7	7.6	82.4	1	3	5	1	2	.....	12	3	3	3637	5853	6	2.21	56.1
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.12	765.0	30.16	766.1	46.2	7.9	83.7	17	4	1	2	.....	.....	2	4	.....	6401	10301	4	2.50	63.5
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.13	714.5	30.21	767.3	29.7	−1.3	82.7	2	4	2	5	3	.....	1	11	2	2660	4281	7	2.44	62.0
Springfield, Ill.	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.48	748.8	30.20	767.1	40.0	4.4	77.5	2	7	4	2	8	1	2	4	.....	5926	9537	6	2.60	66.0
Springfield, Mass.	N. 42 05	W. 72 35	7.18 a.m.	120	37	30.03	762.7	30.17	766.3	34.4	1.3	71.6	13	1	5	1	2	1	.....	.....	7	.....	.....	5	1.26	32.0
Springfield, Mo.	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.72	729.5	30.23	767.8	40.9	4.9	83.6	4	8	.....	1	9	4	1	3	.....	6331	10172	6	6.30	160.0
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.71	754.6	30.21	767.3	48.8	9.3	84.6	6	8	1	.....	5	6	2	2	.....	5903	9500	5	7.43	188.7
Stevenson, Fort	N. 47 35	W. 101 28	5.22 a.m.	1750	534	28.24	717.3	30.21	767.3	22.3	−5.4	87.1	3	10	2	1	.....	1	9	4	.....	6519	10470	5	0.74	18.8
Stockton	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.11	688.6	30.23	767.8	42.5	5.8	80.5	.....	6	1	10	6	1	2	3	1	4283	6893	4	1.31	33.3
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	30.07	763.8	30.12	765.0	38.9	3.8	77.5	6	9	3	4	.....	1	.....	6	1	11744	18900	5	2.46	62.5
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.32	693.9	30.16	766.1	41.0	5.0	74.8	1	4	1	2	3	3	6	2	8	.....	.....	5	0.77	19.6
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.44	747.8	30.17	766.3	38.6	3.7	74.9	6	1	3	9	5	3	2	.....	1	6582	10496	7	2.72	69.1
Tucson	N. 32 14	W. 110 53	4.45 a.m.	2369	722	27.61	701.3	30.07	763.8	47.3	8.5	65.9	.....	.....	.....	.....	10	10	1	.....	9	2461	3960	3	1.12	28.4
Umatilla	N. 45 55	W. 119 20	4.11 a.m.	340	103	29.87	758.7	30.25	768.3	32.9	0.5	85.9	2	1	2	6	2	9	5	1	2	3460	5568	6	0.81	20.6
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	36.9	2.7	67.9	10	9	3	2	1	3	.....	2	.....	.....	.....	4	1.73	43.9
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.93	760.2	30.20	767.1	51.1	10.6	87.6	4	5	1	.....	2	9	2	4	3	4483	7213	6	4.37	111.0
Visalia	N. 36 20	W. 119 17	4.11 a.m.	348	106	29.74	755.4	30.12	765.0	40.1	4.5	90.2	1	3	3	1	.....	10	5	1	6	1530	2462	2	0.83	21.1
Washakie, Fort	N. 42 59	W. 108 43	4.53 a.m.	5580	1702	24.54	623.3	30.28	769.1	12.2	−11.0	76.6	1	5	11	4	.....	2	1	.....	6	2753	4430	3	0.69	17.5
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.11	764.8	30.23	767.8	38.7	3.7	80.1	8	5	1	1	2	.....	1	4	8	2857	4598	5	1.33	33.8
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.15	664.2	30.27	768.8	19.7	−6.8	70.6	1	14	8	1	1	.....	2	3	.....	5006	8056	3	0.01	0.3
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.58	751.3	30.21	767.3	36.4	2.4	78.7	2	5	5	.....	.....	2	2	5	9	2645	4257	7	1.31	33.3
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.12	765.0	30.18	766.6	46.9	8.3	81.6	10	3	.....	2	1	1	1	9	3	4564	7345	5	2.78	70.6
Winnemucca	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	25.71	653.0	30.24	768.1	26.1	−3.3	74.8	.....	.....	.....	4	.....	.....	4	20	2	4955	7990	3	0.50	12.7
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.82	732.0	30.20	767.1	29.5	−1.4	72.5	3	7	5	2	1	2	2	1	7	4763	7665	3	0.31	7.9
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.88	758.9	30.03	762.7	51.6	10.9	57.8	7	1	3	2	.....	1	3	10	3	3576	6044	4	0.09	2.3
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.01	559.0	.....	.....	55.0	12.8	77	2	2	6	2	2	2	2	2	10	2040	3283	6	5.58	141.7
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.95	760.7	30.02	762.5	69.6	20.9	83.2	5	1	1	.....	2	8	11	1	1	5071	8161	5	1.70	43.2
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	29.97	761.2	29.98	761.5	73.0	22.8	83.3	19	1	.....	.....	.....	.....	.....	.....	10	2012	3222	4	1.29	32.8
Navassa	N. 19 25	W. 75 03	7.43 a.m.	77	23	29.85	758.2	29.93	760.2	78.5	25.8	95	.....	.....	.....	.....	.....	.....	2	28	.....	.....	.....	7	8.36	212.3
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	29.98	761.5	29.98	761.5	79.3	26.3	84.2	.....	.....	.....	.....	1	14	15	.....	.....	.....	.....	7	3.26	82.8
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.37	746.0	29.93	760.2	77.4	25.2	89	3	.....	.....	1	.....	.....	.....	.....	26	.....	.....	9	6.28	159.5
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	75.1	23.9	95.0	.....	2	.....	1	1	.....	2	24	.....	.....	.....	4	4.20	106.7
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	29.97	761.2	29.99	761.7	74.9	23.8	79.1	16	2	.....	.....	.....	.....	.....	2	10	.....	.....	4	2.24	56.9
St. Paul, Alaska *c*	N. 57 47	W. 152 21	1.59 a.m.	54	16	29.52	749.8	29.58	751.3	32.4	0.2	84.1	8	1	1	2	2	9	.....	.....	4	.....	.....	7	8.53	216.7
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	29.88	758.9	30.00	762.0	78.7	25.9	79.7	7	1	.....	2	.....	4	14	2	.....	1497	2409	5	3.92	99.6
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	29.98	761.5	30.04	763.0	11.2	−11.6	89.3	5	7	1	8	3	.....	1	5	.....	11440	18410	5	2.33	59.2

OCEAN SQUARE DATA FOR NOVEMBER, 1882.

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	30.01	762.2	81.6	27.6							5	25			1.2
12.5 27.5	30.01	762.2	81.3	27.4						1	7	21		1	1.2
12.5 32.5	30.00	762.0	81.2	27.3						6	8	11		5	1.2
12.5 37.5	29.99	761.7	80.9	27.2						9	10	4		7	1.6
12.5 42.5	29.98	761.5	80.8	27.1					1	8	9	1		11	1.9
12.5 52.5	29.97	761.2	80.6	27.0						12	7	4		7	2.3
17.5 22.5	30.07	763.8	80.0	26.7							5	25			1.2
17.5 27.5	30.07	763.8	79.9	26.6							10	20			1.4
17.5 32.5	30.05	763.3	79.2	26.2						7	13	6		4	1.4
17.5 37.5	30.07	763.8	79.2	26.2						10	11	4		5	1.5
17.5 42.5	30.02	762.5	79.5	26.4				1	2	12	5	2		8	1.8
17.5 47.5	29.99	761.7	79.7	26.5					4	11	6	1		8	1.8
17.5 52.5	30.01	762.2	79.5	26.4			1	1	5	11	8	2		2	1.6
17.5 57.5	29.97	761.2	80.1	26.7	1	1	10		2	12	1	2		1	1.8
22.5 22.5	30.12	765.0	77.2	25.1				1	1	1	10	17			2.0
22.5 27.5	30.12	765.0	77.2	25.1			14	2		8		6			2.1
22.5 32.5	30.13	765.3	77.1	25.1				2		15	10	1		2	2.3
22.5 37.5	30.07	763.8	76.9	24.9		1	1	1	1	19	3			4	1.8
22.5 42.5	30.05	763.3	77.2	25.1	1	1			6	15	1	1		5	1.8
22.5 47.5	30.02	762.5	77.0	25.0				3	8	11	3			5	1.9
22.5 52.5	30.01	762.2	77.2	25.1				5	6	9	5	3		2	1.6
22.5 57.5	30.00	762.0	77.7	25.4		3	1	1	4	5	5	9		2	1.4
22.5 62.5	29.99	761.7	78.2	25.7	5	3		3	1	7	3	8			2.0
22.5 67.5	30.00	762.0	77.0	25.0	6	3		3	1	2	3	12			2.1
22.5 72.5	30.02	762.5	76.0	24.4	7	1		3	1	3		15			2.7
27.5 22.5	30.18	766.6	73.3	22.9				1	1	3	11	14			2.2
27.5 27.5	30.17	766.3	73.6	23.1	1		10	1	3	8		7			2.3
27.5 32.5	30.15	765.8	73.7	23.2			1	2	2	14	8	1		2	2.6
27.5 37.5	30.11	764.8	74.1	23.4		1	1	2	6	15	3			2	2.4
27.5 42.5	30.07	763.8	73.9	23.3		3		2	11	8	2			4	2.1
27.5 47.5	30.02	762.5	73.4	23.0	1	3		5	9	7				5	2.2
27.5 52.5	30.00	762.0	73.4	23.0		1		7	8	6	3	3		2	1.6
27.5 57.5	29.99	761.7	73.2	22.9	1	4	1	1	7	4	2	8		2	1.6
27.5 62.5	30.00	762.0	73.3	22.9	8	6		4	2	1	2	7			2.3
27.5 67.5	30 01	762.2	72.7	22.6	11	4		3	2	1	2	7			2.5
27.5 72.5	30.05	763.3	71.5	21.9	7	4		2	1		2	14			2.9
27.5 77.5	30.09	764.3	68.8	20.4	9	5			1		1	14			2.9
32.5 12.5	30.23	767.8	68.6	20.3	2	1		1	1	2	2	21			1.7
32.5 17.5	30.24	768.1	69.5	20.8	1	1		1	2	2	6	17			1.5
32.5 22.5	30.24	768.1	70.4	21.3	1			2	2	2	9	14			2.5
32.5 27.5	30.23	767.8	70.8	21.6				3	2	12	8	5			2.2
32.5 32.5	30.19	766.8	71.1	21.7			1	2	6	11	7	2		1	3.0
32.5 37.5	30.12	765.0	71.1	21.7		3		1	15	7	3			1	2.7
32.5 42.5	30.07	763.8	70.9	21.6	1	2		2	15	6	2			2	2.5
32.5 47.5	30.00	762.0	70.2	21.2	3			8	8	7	1	2		1	2.1
32.5 52.5	29.99	761.7	69.8	21.0	3		1	9	6	5	1	5			2.6
32.5 57.5	29.97	761.2	69.3	20.7	2	8		5	3	3	1	8			2.7
32.5 62.5	29.97	761.2	68.9	20.4	9	7		4	3	3	1	3			2.3
32.5 67.5	30.00	762.0	67.7	19.8	10	8			2	2	2	6			3.3
32.5 72.5	30.06	763.5	64.7	18.2	16	3	1	1	1	1	1	6			3.3
32.5 77.5	30.14	765.5	56.3	13.5	9	3		1	1		1	15			2.9
37.5 12.5	30.26	768.6	62.8	17.1	7	5	2	4	2			10			2.7
37.5 17.5	30.28	769.1	64.6	18.1	6	3	4	6	1			10			2.9
37.5 22.5	30.30	769.6	65.7	18.7	3	5	1	5	4	2	3	7			2.3
37.5 27.5	30.27	768.8	65.9	18.8	2	4	2	6	5	6	4	1			1.9
37.5 32.5	30.21	767.3	66.2	19.0	1	3		8	13	4		1			2.8
37.5 37.5	30.13	765.3	65.9	18.8	4	2	1	4	16	1	2				2.9
37.5 42.5	30.05	763.3	64.5	18.1	4	2		10	10	3		1			2.9
37.5 47.5	30.00	762.0	63.3	17.4	2	1		9	10	2		6			3.1
37.5 52.5	29.95	760.7	62.2	16.8	2	1	1	7	6	3	2	8			3.4
37.5 57.5	29.95	760.7	60.6	15.9	6	6		5	2	3		8			4.1
37.5 62.5	29.98	761.5	58.7	14.8	7	7	1	2	2	1	1	9			3.7
37.5 67.5	30.03	762.7	55.6	13.1	10	7		1	3	1		8			3.9
37.5 72.5	30.12	765.0	49.5	9.7	14	3		3	1			9			3.6
42.5 12.5	30.18	766.6	59.4	15.2	3	13	6	5	1			2			3.5
42.5 17.5	30.19	766.8	60.2	15.7	2	11	9	3	1		1	3			3.5
42.5 22.5	30.22	767.6	61.0	16.1	2	9	8	6	3			2			2.9
42.5 27.5	30.20	767.1	61.5	16.4	1	6	4	10	7	1		1			3.2
42.5 32.5	30.13	765.3	61.3	16.3	1	5	3	9	9	2		1			3.5
42.5 37.5	30.09	764.3	61.7	16.5	3	3	4	6	10	2		2			3.4
42.5 42.5	30.05	763.3	59.0	15.0	2	4	1	10	6	4		3			3.4
42.5 47.5	30.00	762.0	56.0	13.3	3	2	3	6	6	3	1	6			3.5
42.5 52.5	29.93	760.2	53.7	12.1	3	3	1	8	4	1	2	8			3.8
42.5 57.5	29.94	760.5	51.3	10.7	3	8		3	3	2	2	9			3.9
42.5 62.5	29.99	761.7	48.1	8.9	4	9	1	5		2	1	8			3.1
42.5 67.5	30.06	763.5	44.5	6.9	10	8		2	2			8			3.1
47.5 12.5	29.97	761.2	53.6	12.0	2	13	9	4		1		1			4.5
47.5 17.5	30.01	762.2	54.0	12.2	4	9	14	1			1	1			4.1
47.5 22.5	30.05	763.3	54.4	12.4	1	8	11		1	6	2	1			4.1
47.5 27.5	30.05	763.3	54.0	12.2	2	9	7	2	6	1	2	1			4.2
47.5 32.5	30.02	762.5	54.0	12.2	2	5	3	12	3	1	1	3			4.1
47.5 37.5	30.00	760.2	52.3	11.3	2	7	2	9	5	3		2			4.0
47.5 42.5	29.98	761.5	48.9	9.4	3	7	2	6	6	3		3			3.7
47.5 47.5	29.93	760.2	44.2	6.8	5	6	1	4	7	5		2			3.5
52.5 12.5	29.79	756.7	50.0	10.0	3	14	8	5							4.3
52.5 17.5	29.84	757.9	50.2	10.1	1	15	9	3				2			4.4
52.5 22.5	29.91	759.7	50.1	10.1	2	16	5	6				1			4.0
52.5 27.5	29.92	760.0	49.2	9.6	2	12	6	7	1			2			3.9
52.5 32.5	29.91	759.7	47.7	8.7	2	9	3	7	4	1		4			3.8
52.5 37.5	29.88	758.9	46.1	7.8	3	10	3	6	3	4		1			3.3
52.5 42.5	29.87	758.7	42.5	5.8	3	13	5	3	6						3.3
52.5 47.5	29.86	758.4	38.2	3.4	3	11	3	1	1	8	2	1			3.1
57.5 12.5	29.54	750.3	43.7	6.5	7	10	1	7	2		1	2			4.2
57.5 17.5	29.59	751.6	42.3	5.7	7	11	2	2	2		4	2			4.2
57.5 22.5	29.66	753.4	40.8	4.9	4	15	4	4	1	1		1			3.6
57.5 27.5	29.66	753.4	39.3	4.1	3	14	3	5	1		1	3			3.2
57.5 32.5	29.70	754.4	37.3	2.9	6	10	2	5	3	3		1			3.3
57.5 37.5	29.73	755.1	35.5	1.9	6	8	2	7	2	4		1			3.0
57.5 42.5	29.72	754.9	32.9	0.5	6	8		6	1	7	1	1			2.9
57.5 47.5	29.74	755.4	29.5	− 1.4	8	7	2	1	2	4	3	3			2.6

NOTE.—See General Remarks.

BEHRING ISLAND, BEHRING SEA.

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. Metrs pr sec.	Wind. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1882.																		
October 1	29.23	742.4	29.25	742.9	45.1	7.3		n.	17	7.6		0	8 n.		n.	0.01	0.3	cloudy.
2	29.53	750.0	29.55	750.6	42.5	5.8		nw.	16	7.2			10 n.		nw.	0.12	3.0	cloudy.
3	29.28	743.7	29.30	744.2	41.2	5.1		n.	11	4.9			10 n.		n.	0.09	2.3	cloudy.
4	29.08	738.6	29.10	739.1	45.0	7.2		n.	22	9.8			10 n.			0.27	6.9	cloudy.
5	29.23	742.4	29.25	742.9	43.5	6.4		ne.	6	2.7		0	3 k.			0.15	3.8	clear.
6	29.57	751.1	29.59	751.6	44.0	6.7		ne.	14	6.3		0	4 k.			0.15	3.8	fair.
7	29.70	754.4	29.72	754.9	42.2	5.7		ne.	4	1.8			10 n.			0.09	2.3	cloudy.
8	29.71	754.6	29.73	755.1	39.2	4.0		n.	14	6.3			10 n.			0.02	0.5	cloudy.
9	29.71	754.6	29.73	755.1	39.0	3.9		n.	20	8.9			10 n.			0	0	cloudy.
10	29.72	754.9	29.74	755.4	39.2	4.0		nw.	10	4.5		0	1 s.			0.02	0.5	clear.
11	29.21	741.9	29.23	742.4	46.2	7.9		e.	20	8.9			10 n.			0.28	7.1	cloudy.
12	28.77	730.7	28.79	731.3	38.0	3.3		ne.	6	2.7		0	2 k.			0.37	6.9	clear.
13	29.27	743.4	29.29	744.0	39.9	4.4		nw.	18	8.0			10 n.			0.20	5.1	cloudy.
14	29.40	746.7	29.42	747.3	38.2	3.4		calm	0	0		0	4 k.			0.16	4.1	fair.
15	29.64	752.8	29.66	753.4	39.3	4.1		n.	20	8.9			10 n.		n.	0.05	1.3	cloudy.
16	29.75	755.6	29.77	756.1	37.7	3.2		e.	7	3.1			10 n.			0.02	0.5	cloudy.
17	29.64	752.8	29.66	753.4	43.3	6.3		w.	25	11.2		0	9 n.		w.	0.14	3.6	cloudy.
18	29.74	755.4	29.76	755.9	33.6	0.9		e.	7	3.1			10 n.			0.01	0.3	cloudy.
19	29.74	755.4	29.76	755.9	37.9	3.3		n.	26	11.6			10 n.		n.	0.29	7.4	cloudy.
20	30.03	762.7	30.05	763.3	33.8	1.0		calm	0	0			10 n.			0	0	cloudy.
21	30.14	765.5	30.16	766.1	37.8	3.2		sw.	15	6.7		0	4 s.			inap.	inap.	fair.
22	29.74	755.4	29.76	755.9	41.1	5.1		w.	15	6.7		0	1 s.			0.03	0.8	clear.
23	30.03	762.7	30.05	763.3	36.6	2.6		w.	10	4.5		0	0			0	0	clear.
24	29.89	759.2	29.91	759.7	32.0	0.0		n.	17	7.0		0	7 n.		n.	0	0	fair.
25	29.57	751.1	29.59	751.6	32.4	0.2		ne.	15	6.7			10 n.			0.02	0.5	cloudy.
26	29.78	756.4	29.80	756.9	29.7	— 1.3		n.	20	8.9			10 n.		n.	0.17	4.3	cloudy.
27	29.98	761.5	30.00	762.0	35.4	1.9		sw.	12	5.4		1 k.	9 n.		sw.	inap.	inap.	cloudy.
28	30.12	765.0	30.14	765.5	19.2	— 7.1		e.	3	1.3		0	0			0	0	clear.
29	29.86	758.4	29.88	758.9	42.8	6.0		sw.	40	17.9			10 n.		sw.	0	0	cloudy.
30	29.87	758.7	29.89	759.2	43.7	6.5		sw.	27	12.1			10 n.			0.20	5.1	cloudy.
31	30.23	767.8	30.25	768.3	28.5	— 1.9		n.	27	22.1			10 n.			0.53	13.5	cloudy.
Mean	29.65	753.1	29.67	753.6	38.3	3.5							8			3.29	83.6	
November 1	30.55	776.0	30.57	776.5	27.8	— 2.3		e.	10	4.5			10 n.			0	0	cloudy.
2	30.52	775.2	30.54	775.7	34.1	1.2		e.	4	1.8			10 n.			0	0	cloudy.
3	29.98	761.5	30.00	762.0	37.0	2.8		e.	5	2.2			10 n.			0.21	5.3	cloudy.
4	30.13	765.3	30.15	765.8	35.1	1.7		n.	7	3.1		0	2 k.		n.	0.14	3.6	clear.
5	29.34	745.2	29.36	745.7	40.1	4.5		sw.	25	11.2		0	3 k.		sw.	0.08	2.0	clear.
6	29.18	741.2	29.20	741.7	38.5	3.6		w.	26	11.6		0	1 s.			0.06	1.5	clear.
7	29.13	739.9	29.15	740.4	40.3	4.6		sw.	26	11.6			10 n.			0.19	4.8	cloudy.
8	29.09	738.9	29.11	739.4	31.1	— 0.5		sw.	12	5.4		0	9 n.		sw.	0.07	1.5	cloudy.
9	29.13	739.9	29.15	740.4	32.8	0.4		sw.	17	7.6		0	9 n.		sw.	inap.	inap.	cloudy.
10	29.10	739.1	29.12	739.6	22.3	— 5.4		e.	6	2.7		0	1 s.			0.03	0.8	clear.
11	29.44	747.8	29.46	748.3	29.7	— 1.3		nw.	20	8.9		0	2 s.			0.01	0.3	clear.
12	29.45	748.0	29.47	748.5	18.3	— 7.6		nw.	17	7.6			10 n.			inap.	inap.	cloudy.
13	29.39	746.5	29.41	747.0	26.8	— 2.9		ne.	14	6.3		0	4 k.		ne.	0.01	0.3	fair.
14	29.58	751.3	29.60	751.8	22.1	— 5.5		n.	7	3.1			10 n.			inap.	inap.	cloudy.
15	29.41	747.0	29.43	747.5	13.5	—10.3		se.	2	0.9		0	2 s.			0.05	1.3	clear.
16	29.34	745.2	29.36	745.7	26.7	— 2.9		nw.	23	10.3		0	4 k.		nw.	0	0	fair.
17	29.34	745.2	29.36	745.7	26.4	— 3.1		sw.	10	4.5		0	8 n.		sw.	0	0	cloudy.
18	29.50	749.3	29.52	749.8	22.1	— 5.5		nw.	14	6.3		0	8 n.		nw.	0.04	1.0	cloudy.
19	29.51	749.5	29.53	750.0	16.4	— 8.7		sw.	5	2.2		0	4 k.		sw.	0.01	0.3	fair.
20	28.94	735.1	28.96	735.6	30.4	— 0.9		ne.	22	9.8			10 n.			0.04	1.0	cloudy.
21	28.94	735.1	28.96	735.6	27.1	— 2.7		nw.	39	17.4			10 n.			0.04	1.0	cloudy.
22	29.02	752.3	29.64	752.8	27.1	— 2.7		nw.	26	11.6			10 n.		nw.	0	0	cloudy.
23	29.86	758.4	29.88	758.9	21.0	— 6.1		e.	11	4.9		0	1 s.			0	0	clear.
24	28.72	729.5	28.74	730.0	37.1	2.8		s.	30	13.4		0	9 n.		s.	0.73	18.5	cloudy.
25	29.35	745.5	29.37	746.0	33.8	1.0		sw.	18	8.0			10 n.		sw.	0.10	2.5	cloudy.
26	28.34	719.8	28.36	720.3	34.0	1.1		nw.	15	6.7			10 n.		nw.	0.03	0.8	cloudy.
27	29.31	744.5	29.33	745.0	24.0	— 4.4		se.	2	0.9		0	1 s.			0.06	1.5	clear.
28	29.04	737.6	29.06	738.1	25.9	— 3.4		nw.	38	17.0			10 n.			0.04	1.0	cloudy.
29	29.74	755.4	29.76	755.9	27.9	— 2.3		sw.	15	6.7		0	7 n.			0	0	fair.
30	29.35	745.5	29.37	746.0	35.2	1.8		se.	15	6.7			10 n.			0.04	1.0	cloudy.
Mean	29.41	747.0	29.43	747.5	28.8	— 1.8							7			1.97	50.0	
December 1	29.02	737.1	29.04	737.6	35.1	1.7		se.	14	6.3			10 n.			0.14	3.6	cloudy.
2	29.72	754.9	29.74	755.4	29.5	— 1.4		nw.	20	8.9		0	1 k.		nw.	0.01	0.3	clear.
3	29.88	758.9	29.90	759.4	34.2	1.2		s.	20	8.9			10 n.			0	0	cloudy.
4	29.40	746.7	29.42	747.3	32.9	0.5		sw.	19	8.5			10 n.			0.15	3.8	cloudy.
5	29.40	746.7	29.42	747.3	31.2	— 0.4		sw.	12	5.4		0	9 n.			0.03	0.8	cloudy.
6	29.40	746.7	29.42	747.3	27.5	— 2.5		sw.	22	9.8		0	4 k.			0.02	0.5	fair.
7	29.81	757.2	29.83	757.7	26.2	— 3.2		w.	9	4.0		0	0			0.01	0.3	clear.
8	29.92	760.0	29.94	760.5	26.2	— 3.2		s.	7	3.1			10 n.			0.03	0.8	cloudy.
9	28.72	729.5	28.74	730.0	32.7	0.4		ne.	54	24.2			10 n.			0.03	0.8	cloudy.
10	28.96	735.6	28.98	736.1	29.5	— 1.4		s.	29	13.0		0	4 n.			0.20	5.1	fair.
11	29.25	742.9	29.27	743.4	31.3	— 0.4		se.	5	2.2		0	8 n.			0.08	2.0	cloudy.
12	29.35	745.5	29.37	746.0	33.7	0.9		e.	21	9.4			10 n.			0.04	1.0	cloudy.
13	29.63	752.6	29.65	753.1	36.1	2.3		e.	16	7.2			10 n.			0.38	9.7	cloudy.
14	29.89	759.2	29.91	759.7	33.8	1.0		e.	7	3.1			10 n.			0.01	0.3	cloudy.

NOTE.—The above observations, taken at 7 a. m., Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full from date of last published report (September 30, 1882). For continuation of this station, see United States series, DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY.

[*Pressure expressed in inches and millimetres; temperature in degrees. Fahrenheit and Centigrade.*]

The following descriptions refer to chart ii. for the months of September and October, 1882, which chart was issued with the SUMMARY for those months. The chart for November, 1882, issued with the present SUMMARY, is also described herein. These charts continue the series of international charts begun in January, 1877, and exhibit the mean pressure, mean temperature, and prevailing direction of the wind over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 a. m. Washington, or 0 h. 8 m. Greenwich, mean time.

For the description of these charts much valuable information has been obtained from the "Monatliche Uebersicht der Witterung," published by Professor Dr. G. Neumayer, director of the German Marine Observatory, at Hamburg, Germany.

For the month of September, 1882, the areas of barometric minima are found over the Atlantic ocean north of 60° north latitude, and in British India, respectively. In the former region, which comprises Iceland and southern Greenland, the mean atmospheric pressure ranges from 29.6 (751.8) at Stykkisholm, to 29.65 (753.1) at Godthaab and 29.69 (754.1) at Ivigtut. In the latter region (British India), the means range from 29.65 (753.1) in the Punjab to 29.69 (754.1) at stations on the western shore of the Bay of Bengal. In southern India, and at stations on the shores of the Arabian sea, the mean pressure ranges from 29.75 (755.6) to 29.8 (756.9). In the British Isles, Norway, and that part of Europe lying between 3° and 15° east longitude, the mean pressure ranges from 29.8 (756.9) to 29.9 (759.4). In the western part of France and in the southern peninsulas, it ranges from 29.92 (760.0) to 30.09 (764.3). From E. 15° to the Ural mountains the barometric means range from 29.95 (760.9) to 30.1 (764.9), the pressure being greatest in the vicinity of Moscow, Russia. In the United States, the area of barometric minima is situated in the southwestern part of the country between N. 30° and 40°, and W. 109° and 116°, and is indicated by the isobar for 29.9 (759.4).

The most marked area of high pressures is that which occupies the Atlantic ocean, its centre being over the Azores, where the mean pressure is 30.29 (769.4). The isobar for 30.2 (767.1) extends from W. 18° to W. 40°, and from N. 30° to N. 44°. Other areas of high pressures, indicated by the isobar for 30.1 (764.5), are situated as follows: one in Russia, with its centre near Moscow, where the mean pressure is 30.12 (765.0); two in the United States east of the ninety-fifth meridian; and one in western Canada and the northern part of the lake region.

Compared with the preceding month (August, 1882), there has been a slight but general increase of pressure throughout the United States, except in Florida, where there has been a decrease of about .04 inch. In western and central Europe there has been a slight decrease of pressure, but in the Scandinavian and Danish peninsulas and in Russia there has been a decided change, the increase of pressure averaging .2 inch. Throughout the continent of Asia there has been an increase of pressure. Over the Atlantic ocean the distribution of pressure differs but slightly from that of the preceding month.

Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States was generally above the normal, except on the north Pacific coast and in Florida; in these districts there were slight deficiencies.

In Europe the mean pressure was normal, or below the normal, except in Russia and in the Scandinavian peninsula, where it was above normal.

The following table gives the mean pressure and the mean temperature, with corresponding departures, for the month of September, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	Sept., 1877, 1878, 1879, 1880, 1881.	Sept., 1882.	Departure.	Sept., 1877, 1878, 1879, 1880, 1881.	Sept., 1882.	Departure.
				°	°	°
Algeria	30.02	30.02	normal	82.1	79.6	— 2.5
Austria	29.97	29.90	—0.07	65.9	66.4	+ 0.5
British Isles	29.98	29.85	—0.13	57.7	58.6	+ 0.9
Denmark	29.92	29.87	—0.05	58.7	61.1	+ 2.4
France	30.02	29.92	—0.10	67.9	63.4	— 4.5
Germany	30.00	29.89	—0.11	63.5	62.5	— 1.0
India	29.70	29.70	normal	82.8	83.6	+ 0.8
Italy	29.98	29.91	—0.07	74.5	71.3	— 3.2
Norway	29.84	29.86	+0.02	56.3	59.0	+ 2.7
Portugal	30.03	30.05	+0.02	75.1	70.7	— 4.4
Russia	29.97	30.04	+0.07	61.8	66.2	+ 4.4
Spain*	30.03	29.99	—0.04	75.2	67.0	— 8.2
Sweden	29.90	29.97	+0.07	55.8	58.4	+ 2.6

* Mean for four years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of September, 1882, as compared with the means of five years:

Stations.	Mean pressure.			Mean temperature.		
	Sept., 1877, 1878, 1879, 1880, 1881.	Sept., 1882.	Departure.	Sept., 1877, 1878, 1879, 1880, 1881.	Sept., 1882.	Departure.
				°	°	°
Gibraltar*	30.02	30.05	+ 0.03	76.2	72.8	— 3.4
Malta, Mediterranean Sea	29.96	29.95	— 0.01	81.9	80.2	— 1.7
Sandwick Manse, Orkney Islands	29.94	29.80	— 0.04	54.1	53.9	— 0.2
Bridgetown, Barbadoes*	29.94	29.98	+ 0.04	82.6	84.0	+ 1.4
Cape Town, Cape Good Hope	30.13	30.13	normal	65.4	67.5	+ 2.1
Fort Napier, Natal, South Africa*	29.95	29.90	— 0.05	73.2	74.8	+ 1.6
Free Town, Sierra Leone	29.90	29.90	normal	82.5	80.4	— 2.1
Mauritius, Indian Ocean	30.16	30.14	— 0.02	72.9	72.7	— 0.2
Melbourne, New South Wales	30.03	29.94	— 0.09	52.5	53.2	+ 0.7
Nassau, Bahamas	29.98	30.07	+ 0.09	83.1	83.2	+ 0.1
Godthaab, Greenland	29.72	29.65	— 0.07	37.7	37.0	— 0.7
Stykkisholm, Iceland	29.65	29.60	— 0.05	46.1	44.1	— 2.0
Thorshavn, Färöe Islands	29.78	29.77	— 0.01	51.3	50.5	— 0.8
Zi-Ka-Wei, China	29.94	29.96	+ 0.02	70.8	72.0	+ 1.2
Athens, Greece	29.96	29.95	— 0.01	82.5	84.4	+ 1.9
Cagliari, Sardinia, Italy	29.95	29.91	— 0.04	78.8	75.7	— 3.1
Tokei, Japan	29.95	29.98	+ 0.03	70.6	68.3	— 2.3
Angra, Azores	30.15	.....	.....	70.3	71.8	+ 1.5
Funchal, Madeira Islands	30.11	30.19	+ 0.08	75.7	73.2	— 2.5
Ponta Delgado, Azores	30.17	30.29	+ 0.12	73.6	73.8	+ 0.2
Archangel, Russia	29.91	30.00	+ 0.09	50.0	52.9	+ 2.9
Tiflis, Russia	29.94	29.96	+ 0.02	76.1	74.7	— 1.4
Astrakhan, Russia	30.03	30.03	normal	69.1	73.4	+ 4.3
Ekaterinburg, Russia	29.92	29.92	normal	52.0	53.2	+ 1.2
Tashkend, Toorkistan, Asia	29.97	29.89	— 0.08	69.6	72.5	+ 2.9
Barnaul, Siberia, Asia	29.90	29.94	+ 0.04	55.5	55.8	+ 0.3
Yeniseisk, Siberia, Asia	29.93	30.07	+ 0.14	47.2	47.3	+ 0.1
Pekin, China	29.97	29.99	+ 0.02	67.7	67.3	— 0.4
Nikolaevsk on the Amoor, Asia	.....	.....	.....	.....	.....	.....
San Juan de Puerto Rico, W. I.	29.97	29.99	+ 0.02	81.5	80.2	— 1.3
Beirut, Turkey in Asia	29.86	29.91	+ 0.05	85.0	85.8	+ 0.8
Mexico, Mexico	.....	.....	.....	.....	.....	.....
Havana, Cuba, W. I.	29.97	29.96	— 0.01	81.0	79.2	— 1.8
Paramaribo, D. Guiana, S. A	30.04	30.01	— 0.03	81.9	80.6	— 1.3
York Factory, B. A	29.96	30.01	+ 0.05	36.4	39.2	+ 2.8

* Mean for four years only.

In the United States the mean temperature of the air was normal, or below the normal, over the country south of the thirty-eighth parallel; north of that parallel the means were slightly in excess of the normal. In that portion of Europe lying south of 50° north latitude, the mean temperature of the air was below the normal. North of the above latitude it was above the average. In British India the temperature was 0°.8 above the five years' mean. The highest mean temperature reported was 90°.6 Fahr. (32°.6 Cent.) at Agra, and the lowest was 70°.7 Fahr. (21°.5 Cent.) at Belgaum.

The following are some of the extreme mean temperatures reported at isolated stations during the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Beirut, Syria	85.2	29.9	Godthaab, Greenland	37.0	2.8
Athens, Greece	84.4	29.1	York Factory, B. A	39.2	4.0
Bridgetown, Barbadoes	84.0	28.9	Ivigtut, Greenland	40.5	4.7
Nassau, Bahamas	83.2	28.4	Stykkisholm, Iceland	44.1	6.7
Saint Thomas, W. I	82.0	27.8	Yeniseisk, Siberia	47.3	8.5

In the United States east of the hundredth meridian and south of N. 38°, the prevailing winds were northerly and north-

easterly. North of N. 38° they were westerly and southwesterly. West of the hundredth meridian they were southerly and westerly. In Canada the winds were mostly northerly and northeasterly. Over the Atlantic ocean the winds were as follows: from the coast of the United States eastward to W. 60°, northeasterly; from W. 60° to W. 25°, and between N. 20° and 45°, southerly and southeasterly; from W. 25° to the European coasts, northerly and northwesterly. North of 45° north latitude the winds were mostly westerly and northwesterly. In Europe the prevailing winds were southerly, southwesterly, and westerly, over the countries west of 10° east longitude, and easterly and southeasterly over the districts east of that meridian. In British India the winds were from southwest to northwest. In China they were easterly, and in Japan they were mostly northerly.

The rainfall during the month of September, 1882, was less than the average in that portion of the United States lying between N. 36° and 48° and W. 80° and 100°. It was also below the average in the south Atlantic and east Gulf states and in Florida. In New England, the middle Atlantic, and west Gulf states, it was in excess of the average. In southern Europe the rainfall was considerably in excess of the average, and caused disastrous floods in northern Italy and the Tyrol, the damage to property being estimated at two millions of florins. In northern Europe the rainfall was below the average.

For the month of October, 1882, the region of least pressure is indicated by the isobar for 29.5 (749.3), which encloses southern Greenland and the Atlantic ocean southward to N. 56° and eastward to W. 25°. The barometric gradient gradually increases to the southward and eastward until the isobar for 30.0 (762.0) is reached; that isobar extends from the Gulf of Saint Lawrence eastward along the forty-third parallel to the southern peninsulas of Europe and thence northward through Austro-Hungary, Germany, and Denmark. In the North American continent the pressure is least in the extreme northwestern part of the United States and in British America, the means ranging from 29.85 (758.2) to 29.9 (759.4). In British India the means range from 29.75 (755.6) in the northern districts to 29.8 (756.9) in the south. In China and Japan the mean pressure ranges from 29.9 (759.4) in the south to 30.1 (764.5) in the north.

The areas of barometric maxima appear in eastern Europe, Asia, and in the United States of North America, respectively. The first of these covers European Russia, and extends from the Gulf of Bothnia southeastward to the Caspian sea. In this region the mean pressure ranges from 30.23 (767.8) in the southern part of the area, to 30.27 (768.8) in the northwestern districts. In Asia the region of greatest pressures is in southwestern Siberia, the mean pressure at Semipalatinsk, being 30.23 (767.8). In other parts of Siberia the mean pressure is above 30.1 (764.5). The third area of high pressures, that of the United States, is indicated by the isobar for 30.1 (764.5), and extends from southwest to northeast over that part of the country lying between W. 88° and the Atlantic. The southwestern limit of this area is in Tennessee, and its northeastern limit is in Maine. The high area of the Atlantic ocean is indicated by the isobar for 30.1 (764.5), its northern limit being a little north of the Azores.

Compared with the preceding month (September, 1882), there has been no material change in the position of the areas of absolute minima, but the atmospheric pressure has decreased about .2 inch in the depression over Greenland, while it has increased in that situated in British India. The decrease of pressure above referred to has extended southward over the Atlantic to the Azores, where it is about .15 inch, and from W. 50° eastward to the European coast. In the United States there has been a slight decrease of pressure over the country west of the eighty-fifth meridian, except in California, Arizona, and New Mexico, where the pressure has slightly increased. In eastern Canada and in the Atlantic coast states there has been no material change in pressure. In Europe there has been an increase of pressure in all parts of the continent, except in France and in the British Isles, the increase being greatest in Russia and in the Scandinavian peninsula. In Asia there has been a general increase of pressure.

Compared with the corresponding month of previous years, the mean atmospheric pressure in the United States was everywhere below the normal, except in northern New England, the departures being greatest in the northwestern sections of the country. In Canada the mean pressure was above the normal. In Europe the mean atmospheric pressure was above the normal in the northern and eastern parts of the continent; it was normal in the southern districts, and below the normal in France and in the British Isles.

The following table gives the mean pressure and mean temperature, with corresponding departures, for the month of October, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	Oct., 1877, 1878, 1879, 1880, 1881.	Oct., 1882.	Departure.	Oct., 1877, 1878, 1879, 1880, 1881.	Oct., 1882.	Departure.
				°	°	°
Algeria*	30.07	30.09	+0.02	71.8	75.6	+ 3.8
Austria	29.99	30.00	+0.01	56.8	56.0	− 0.8
British Isles	29.93	29.82	−0.11	52.3	53.9	+ 1.6
Denmark	29.88	29.97	+0.09	48.8	50.8	+ 2.0
France	29.99	29.90	−0.09	62.5	58.3	− 4.2
Germany	29.97	29.98	+0.01	50.7	52.9	+ 2.2
India	29.83	29.79	−0.04	81.0	82.4	+ 1.4
Italy	29.98	29.98	normal	64.9	65.4	+ 0.5
Norway	29.78	30.02	+0.24	45.0	47.8	+ 2.8
Portugal	30.04	30.09	+0.05	67.2	66.2	− 1.0
Russia	29.98	30.18	+0.20	49.2	45.5	− 3.7
Spain*	29.98	30.03	+0.05	66.8	62.6	− 4.2
Sweden	29.81	30.16	+0.35	41.8	45.9	+ 4.1

* Mean for four years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of October, 1882, as compared with the means for five years:

Stations.	Mean pressure.			Mean temperature.		
	Oct., 1877, 1878, 1879, 1880, 1881.	Oct., 1882.	Departure.	Oct., 1877, 1878, 1879, 1880, 1881.	Oct., 1882.	Departure.
				°	°	°
Gibraltar	30.03	30.09	+0.06	70.2	69.3	− 0.9
Malta, Mediterranean Sea	29.98	30.03	+0.05	73.7	75.6	+ 1.9
Sandwick Manse, Orkney Islands	29.86	29.83	−0.03	47.9	50.8	+ 2.9
Bridgetown, Barbadoes*	29.93	29.95	−0.02	82.3	82.7	+ 0.4
Cape Town, Cape Good Hope	30.05	30.06	+0.01	70.7	70.4	− 0.3
Fort Napier, Natal, South Africa	29.87	29.86	−0.01	73.0	74.0	+ 1.0
Free Town, Sierra Leone	29.91	29.89	−0.02	84.3	81.9	− 2.4
Mauritius, Indian Ocean	30.11	30.10	−0.01	74.9	76.2	+ 1.3
Melbourne, New South Wales	29.99	29.96	−0.03	54.6	54.8	+ 0.2
Nassau, Bahamas	30.00	29.98	−0.02	79.7	80.5	+ 0.8
Godthaab, Greenland	29.73	29.54	−0.19	31.0	25.9	− 5.1
Stykkisholm, Iceland	29.78	29.52	−0.26	38.8	44.8	+ 6.0
Thorshavn, Faröe Islands	29.76	29.82	+0.06	45.2	48.7	+ 3.5
Zi-Ka-Wei, China	30.16	30.09	−0.07	60.2	64.2	+ 4.0
Athens, Greece	30.01	30.07	+0.06	72.2	72.9	+ 0.7
Cagliari, Sardinia, Italy	29.95	29.95	normal	70.9	71.2	+ 0.3
Tokei, Japan	30.06	30.09	+0.03	57.8	57.8	normal
Angra, Azores	30.08	.....	.....	66.5	67.3	+ 0.8
Funchal, Madeira Islands	30.10	30.15	+0.05	73.2	72.3	− 0.9
Ponta Delgado, Azores	30.07	30.15	+0.08	69.5	69.8	+ 0.3
Archangel, Russia	29.77	30.19	+0.42	38.5	35.4	− 3.1
Tiflis, Russia	30.09	30.14	+0.05	66.5	58.8	− 7.7
Astrakhan, Russia	30.13	30.23	+0.10	57.6	48.7	− 8.9
Ekaterinburg, Russia	30.01	30.10	+0.09	38.7	28.2	−10.5
Tashkend, Toorkistan, Asia	30.22	30.17	−0.05	55.0	54.0	− 1.0
Barnaul, Siberia, Asia	30.17	30.13	−0.04	39.4	28.2	−11.2
Yenisiesk, Siberia, Asia	30.10	30.13	+0.03	30.6	21.0	− 8.7
Pekin, China	30.16	30.13	−0.03	53.0	56.5	+ 3.5
Nikolaievsk on the Amour, Asia	.....	.....	.....	.....	.....	.....
San Juan de Puerto Rico, W. I.	29.95	29.97	+0.02	81.1	79.5	− 1.6
Beirut, Turkey in Asia	29.94	29.98	+0.04	79.4	77.7	− 1.7
Mexico, Mexico	30.22	30.15	−0.07	53.8	52.0	− 1.8
Havana, Cuba, W. I.	29.98	29.91	−0.07	78.7	77.3	− 1.4
Paramaribo, D. Guiana, S. A.	29.99	30.01	+0.02	81.0	79.8	− 1.2
York Factory, B. A.	29.96	29.93	−0.03	22.0	29.7	+ 7.7

* Means for four years only.

In the United States the mean temperature of the air averaged about 3° above the normal in the country east of the hundredth meridian. West of that meridian the temperature was about 2°.5 below the normal. In Canada it was above

the normal. In Europe the mean temperature of the air was above the normal in the northern parts of the continent, but was below the normal in the southwestern sections and in Russia. In Siberia the temperature was much below the normal. In British India it was 1°.4 above the five-year mean. The highest mean temperature reported was 93°.3 Fahr. (34°.1 Cent.) at Deesa, and the lowest was 74°.2 Fahr. (23°.4 Cent.) at Belgaum.

The following are some of the extreme mean temperatures reported at isolated stations during the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Bridgetown, Barbadoes	82.7	28.2	Yeniseisk, Siberia	21.9	—5.6
Freetown, Africa	81.9	27.7	Godthaab, Greenland	25.9	—3.4
Saint Thomas, W. I	81.2	27.3	Akmolinski, Siberia	26.8	—2.9
Nassau, Bahamas, W. I	89.5	26.9	Barnaul, Siberia	28.2	—2.1
			York Factory, B. A	29.7	—1.3

In the United States the prevailing winds were northerly and northeasterly in New England, and the country east of the Ohio and Mississippi rivers. West of this limit the winds were mostly southerly and westerly. In Canada they were southwesterly, westerly, and northwesterly. Over the north Atlantic ocean the winds were northeasterly, from the coast of the United States eastward to W. 70°; from W. 70° to W. 50° and between 20° and 40° north latitude, they were easterly and southeasterly; from W. 50° to W. 20°, and between N. 20° and 35°, they were northeasterly. North of 35° north latitude, and from W. 50° to the European coasts, the winds were mostly northwesterly, except off the British coasts, where they were southerly and southwesterly. South of N. 20°, northeasterly winds prevailed. In northern, eastern, and central Europe, the winds were easterly, southeasterly, and southerly; in western Europe they were southwesterly. In China and Japan the winds were from north to east.

The rainfall during the month of October, 1882, was below the average in New England, the middle Atlantic and east Gulf states. There were also deficiencies in Tennessee, the Ohio valley, and the lower lake region. Elsewhere the rainfall was in excess of the average, particularly so in California, where the excess amounted to 6.0 inches. In northeastern Europe the rainfall was below the average, but in all other sections it was above the average, especially in the southern districts, causing a continuation of the disastrous floods which began in September in upper Italy and the Tyrol. Severe floods also occurred in southern France and in England during the last decade of the month.

The following description refers to chart ii. for November, 1882, issued herewith:

The region of barometric minima, which is enclosed by the isobar for 29.5 (749.3), comprises eastern Iceland, northern Scotland, and the Färöe and Shetland islands, the lowest mean pressure reported being 29.39 (746.5) at North Unst, Shetlands. In the British Isles and that part of Europe lying north of 50° north latitude, and west of 30° east longitude, the mean pressure ranges from 29.6 (751.8) to 29.8 (756.9). In eastern Russia and the rest of Europe, excepting the Iberian peninsula, the means range from 29.8 (759.9) to 30.0 (762.0).

Three areas of barometric maxima are shown on the chart, situated, respectively, in the United States of North America, over the Atlantic ocean, and in Asia. The first occupies the Rocky mountain regions of the United States, and is inclosed by the isobar for 30.3 (769,6). From the extreme northwest southeastward to Texas and the country south of N. 40° and east of W. 90° the means range from 30.2 (767.1) to 30.28 (769.1). In the lake region and on the Pacific and Atlantic coasts the mean pressure ranges from 30.1 (764.5) to 30.18 (766.6). In New England and in Canada it ranges from 29.95 (760.7) to 30.05 (763.3). The second area of high pressures, above referred to, occupies the Azores, where the mean atmospheric pressure is 30.3 (769.6). The isobar for 30.2 (767.1) extends from W. 34° eastward to Portugal and western Spain, while that for 30.1 (764.5) stretches from W. 38° eastward along the forty-fifth parallel, covering the southern part of the Bay of Biscay, eastern Spain, and the southwestern part of the Mediterranean. The third area, that of Asia, is indicated by the isobar for 30.4 (772.1), and occupies that part of Siberia lying between N. 60° and 45° and E. 80° and 100°. In the eastern and northeastern parts of China the pressure ranges from 30.2 (767.1) to 30.35 (770.9). In British India it ranges from 29.85 (758.2) to 30.0 (762.0), and in Japan from 30.05 (763.3), at eastern stations, to 30.2 (767.1) in the west.

Compared with the preceding month, (October, 1882,) the area of least pressure has moved eastward, causing a decrease of pressure averaging .23 inch over the whole of Europe, except France and the Iberian peninsula, where there has been an increase of about .15 inch. In the United States there has been an increase of pressure throughout the entire country, except New England, where there was a slight decrease. There has also been a slight decrease in the Maritime Provinces of Canada, but the pressure has increased in the western provinces of the Dominion. Over the Atlantic ocean, south of N. 55°, the atmospheric pressure is greater than that of the preceding month; north of the above-mentioned parallel no material change has taken place. In all parts of Asia there has been a decided increase of pressure.

Compared with the corresponding month of previous years, the mean atmospheric pressure in November, 1882, was, in the United States, above the normal in the lake region and from the Mississippi river westward to the Rocky mountains. On the Pacific coast, and from New England southwestward to the Mississippi river, it was normal or slightly below the normal. In Europe the pressure was considerably below the normal in all districts except the Scandinavian and Iberian peninsulas.

The accompanying table shows the deviations in pressure and temperature at isolated stations during November, 1882, as compared with the means of five years:

Stations.	Mean pressure.			Mean temperature.		
	Nov., 1877, 1878, 1879, 1880, 1881.	Nov., 1882.	Departure.	Nov., 1877, 1878, 1879, 1880, 1881.	Nov., 1882.	Departure.
				°	°	°
Gibraltar	30.08	30.20	+0.12	*65.1	65.0	— 0.1
Malta, Mediterranean Sea	30.03	30.03	normal	68.1	67.4	— 0.7
Sandwick Manse, Orkney Islands	29.70	29.47	—0.23	43.3	41.3	— 2.0
Bridgetown, Barbadoes	.....	.....	.....	.....	.....	.....
Cape Town, Cape Good Hope	30.01	30.04	+0.03	73.2	76.8	+ 3.6
Fort Napier, Natal, South Africa	29.80	29.83	+0.03	75.2	78.5	+ 3.3
Free Town, Sierra Leone	29.91	29.86	—0.05	85.1	86.7	+ 1.6
Mauritius, Indian Ocean	30.03	30.03	normal	77.5	78.3	+ 0.8
Melbourne, New South Wales	29.91	30.08	+0.17	59.5	59.1	+ 2.6
Nassau, Bahamas	30.09	30.05	—0.01	76.2	75.0	— 1.2
Godthaab, Greenland	29.61	29.72	+0.11	26.5	21.0	— 5.5
Stykkisholm, Iceland	29.61	29.51	—0.10	32.3	32.4	+ 0.1
Thorshavn, Färöe Islands	29.63	29.46	—0.17	40.8	41.4	+ 0.6
Zi-Ka-Wei, China	30.28	30.35	+0.07	53.2	49.1	— 4.1
Athens, Greece	30.08	30.00	—0.08	62.8	66.4	+ 3.6
Cagliari, Sardinia, Italy	30.01	29.99	—0.02	64.3	62.8	— 1.5
Tokei, Japan	30.07	30.03	—0.04	47.8	47.1	— 0.7
Angra, Azores	30.10	30.27	+0.17	62.3	64.4	+ 2.1
Funchal, Madeira Islands	30.11	30.23	+0.12	69.7	69.4	— 0.3
Ponta Delgado, Azores	30.13	30.32	+0.19	64.7	66.7	+ 2.0
Archangel, Russia	29.68	29.91	+0.23	24.0	11.3	—13.3
Tiflis, Russia	30.25	30.11	—0.14	54.7	58.3	+ 3.6
Astrakhan, Russia	30.23	30.10	—0.13	41.7	48.4	+ 6.7
Ekaterinburg, Russia	30.02	30.09	+0.07	23.8	23.5	— 0.3
Tashkend, Toorkistan, Asia	30.35	30.24	—0.11	43.0	51.1	+ 8.1
Barnaul, Siberia, Asia	30.27	30.43	+0.16	21.3	14.5	— 6.8
Yeniseisk, Siberia, Asia	30.26	30.47	+0.21	12.2	3.7	— 8.5
Pekin, China	30.29	30.34	+0.05	37.2	37.8	+ 0.6
Nikolaievsk on the Amoor, Asia	.....	.....	.....	13.1	.....	.....
San Juan de Puerto Rico, W. I	29.97	29.97	normal	78.8	77.5	— 1.3
Beirut, Turkey in Asia	30.03	30.01	—0.02	72.3	71.4	— 0.9
Mexico, Mexico	30.31	30.31	normal	49.6	45.7	— 3.9
Havana, Cuba, W. I	30.02	30.02	normal	74.2	69.6	— 4.6
Paramaribo, D. Guiana, S. A	29.96	29.98	+0.02	82.0	79.3	— 2.7
York Factory, B. A	30.00	30.04	+0.04	0.8	11.2	+10.4

* Mean for four years only.

The following table gives the mean pressure and mean temperature, with corresponding departures, for the month of November, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	Nov., 1877, 1878, 1879, 1880, 1881.	Nov., 1882.	Departure.	Nov., 1877, 1878, 1879, 1880, 1881.	Nov., 1882.	Departure.
				°	°	°
Algeria	30.11	30.18	+0.07	63.5	66.0	+ 2.5
Austria	30.05	29.86	—0.19	43.7	45.8	+ 2.1
British Isles	29.88	29.69	—0.19	46.0	45.8	— 0.2
Denmark	29.80	29.62	—0.18	41.7	38.0	— 3.7
France	30.01	29.93	—0.08	48.2	50.6	+ 2.4
Germany	29.95	29.76	—0.19	42.3	42.2	— 0.1
India	29.94	29.94	normal	74.6	75.3	+ 0.7
Italy	30.04	29.94	—0.10	55.8	55.6	— 0.2
Norway	29.71	29.71	normal	41.6	32.1	— 9.5
Portugal	30.09	30.24	+0.15	58.2	60.3	+ 2.1
Russia	29.98	29.84	—0.14	37.7	35.9	— 1.8
Spain*	30.07	30.15	+0.08	58.1	56.8	— 1.3
Sweden	29.72	29.78	+0.06	32.8	27.5	— 5.3

* Mean for four years only.

The mean temperature of the air in the United States was below the normal in the Atlantic coast states and in the states west of the Rocky mountains. In the country situated between these limits the temperature was from 1° to 5° above the normal. In Canada it was about normal. In Europe the mean temperature was below the normal in the northern districts, the greatest departure occurring in the Scandinavian peninsula. In the districts south of 48° north latitude, the temperature was normal or slightly above. In British India it was 0.7 above the five-year average. The highest mean temperature reported was 83°.4 Fahr. (28°.6 Cent.) at Deesa, and the lowest was 67°.0 Fahr. (19°.4 Cent.) at Hazaribagh.

The following are some of the extreme mean temperatures reported at isolated stations during the month:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Africa	86.7	30.4	Yeniseisk, Siberia	3.7	—15.7
Zanzibar, Africa	82.8	28.2	Upernavik, Greenland	10.8	—11.8
Bridgetown, Barbadoes	81.2	27.3	York Factory, B. A	11.2	—11.6
Paramaribo, S. A	79.3	26.3	Archangel, Russia	11.3	—11.5
Manila, Philippine Islands	78.9	26.1	Jacobshavn, Greenland	12.4	—10.9
			Barnaul, Siberia	14.5	—9.7

The prevailing winds in the United States and Canada were southwesterly, westerly, northwesterly, and northerly. Over the north Atlantic the winds were northerly and northeasterly from the United States eastward to W. 50°; from W. 50° to W. 25° and between N. 20° and 50° they were southerly and southeasterly; from W. 25° to the coasts of Portugal and Africa they were northeasterly. In the Bay of Biscay and over the ocean north of N. 60° they were westerly and northwesterly. In Europe the winds were mostly westerly and southwesterly, except in the Scandinavian peninsula and in Russia, where they were from south to east.

In the United States the rainfall for November, 1882, was below the average in all districts east of the Rocky mountains, except in Florida and the west Gulf states; the districts of greatest deficiency were the New England and middle Atlantic states. West of the Rocky mountains the rainfall was in excess of the average, except in the north Pacific region, where there was a deficiency of 2.38 inches. In Canada the rainfall was below the average. In Europe the rainfall was largely in excess of the average, especially in the southern districts, where four times the average amount of rain fell. Heavy floods occurred in Germany, France, and Hungary, the most disastrous being the overflow of the Rhine. The floods were also severe in France; much property was destroyed, and many persons were rendered destitute.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *, instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation 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 originals, 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 alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

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

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.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth

Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. Tchang-kia-tchouang, the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, velocity in kilometres for past 3 hours 53 minutes, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Besançon the observations are taken at at midday instead instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made, the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperatures in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiana).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakhan the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level

and the temperature in Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given inhours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the. Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

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 number of days for which observations are at hand within the respective squares, and the total number of simultaneous observations reported on those days, (3) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at 7 a. m., Washington 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.

ERRATA.

MONTHLY SUMMARY, July, 1882, in the table showing the deviation in pressure and temperature at isolated stations during November, 1881, page 9, the following corrections should be made, viz.: Tashkend, mean temperature (1st column), for 13°.8 read 42°.8; Barnaul, for 42°.8 read 22°.0; Yeniseisk, for 22.0 read 13°.8.

MONTHLY SUMMARY, October, 1882, page 2, French, Lamballe, reduced barometer 29.77 inches, 756.2 mm., should read 29.84 inches, 758.0 mm.; page 13, 2d column, 27th line, for Norwegian, read Netherlands.

DAILY BULLETIN, November 7, 1882, page 1, British, Aberdeen, rainfall 0.270 inches, should read 0.200; page 2, French, Lorient, actual barometer 29.99 inches, should read 29.89.

10th, page 3, Italian sub-series, Naples, actual barometer 29.38 inches, should read 29.28; Japanese, Akita, actual barometer 30.28 inches, should read 30.38.

16th, page 3, Swedish, Haparanda and Umea, actual barometer 30.60 and 30.39 inches, should read 30.39 and 30.30 inches, respectively.

20th, page 5, Springfield, Mass., reduced barometer 765.2 mm., should read 762.0 mm.

22d, page 7, s.s. Nessmore, longitude W. 33° 58′, should read W. 34° 58′.

26th, page 2, French, Gréasque, reduced barometer 30.61 inches, 777.6 mm., should read 29.83 inches, 757. 6 mm.; page 5, Port Eads, reduced barometer 764.8 mm., should read 764.0 mm.

29th, page 8, bk. Joseph A. Ropes, latitude S., should read N.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

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

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

BULLETIN

OF

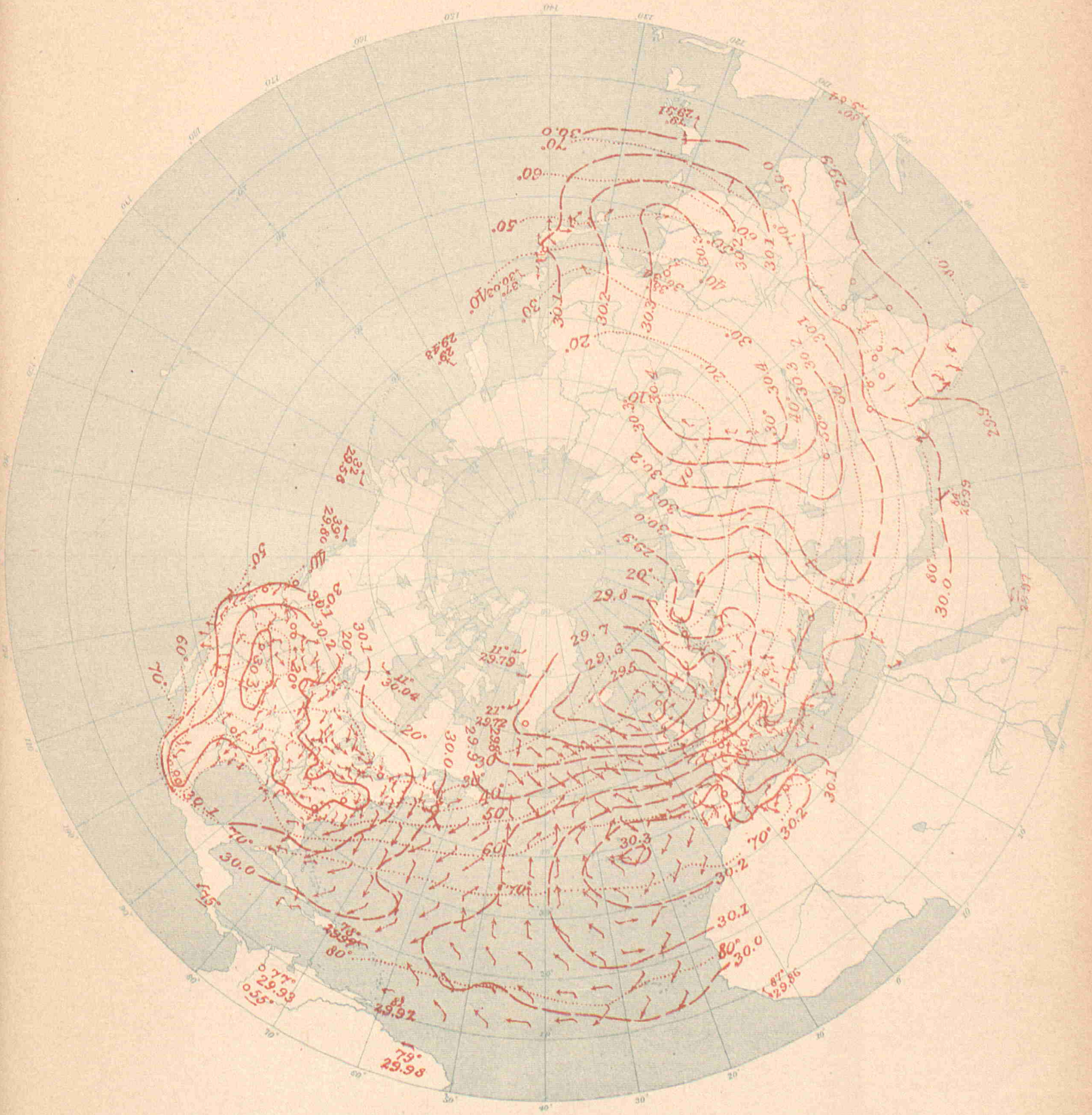
INTERNATIONAL METEOROLOGY

FOR THE MONTH OF NOVEMBER, 1882.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.:
DECEMBER, 1883.

International Chart II. November, 1882. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

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

WAR DEPARTMENT,
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WASHINGTON, D. C.:
JANUARY, 1884.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

DECEMBER, 1882.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for December, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
ALGERIAN.	° ′	° ′																								
Nemours	N. 35 06	W. 1 50	0.00 m.	13	4	.....	.....	30.07	763.7	59.9	15.5	80.5	14	.....	.....	.....	3	.....	6	8	.....	.....	.....	2	2.52	64.1
Algiers	N. 36 47	E. 3 05	0.20 p.m.	72	22	.....	.....	29.98	761.5	59.7	15.4	71.1	1	1	11	13	3	.....	1	.....	1	.....	.....	4	11.40	289.5
La Calle	N. 36 54	E. 8 26	0.42 p.m.	36	11	.....	.....	29.95	760.6	61.3	16.3	69.1	1	7	11	8	1	2	1	.....	.....	.....	.....	4	4.28	108.8
Tunis	N. 36 42	E. 10 13	0.49 p.m.	46	14	.....	.....	29.96	760.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saida	N. 34 51	E. 0 10	0.09 p.m.	2844	867	.....	.....	30.08	764.0	57.4	14.1	77.3	3	3	8	8	2	4	2	1	.....	.....	.....	3	3.06	77.6
Tebessa	N. 35 24	E. 8 06	0.40 p.m.	2890	881	.....	.....	30.06	763.5	53.1	11.7	67.5	4	5	10	6	4	1	.....	1	.....	.....	.....	1	0.67	17.0
Geriville	N. 33 45	E. 1 10	0.13 p.m.	4285	1306	.....	.....	.....	.....	50.0	10.0	50.3	.....	11	8	6	2	.....	1	3	.....	.....	.....	3	2.16	54.8
Laghouat	N. 33 48	E. 2 53	0.20 p.m.	2559	780	.....	.....	30.10	764.6	55.6	13.1	42.2	3	13	.....	6	4	1	.....	4	.....	.....	.....	2	0.12	3.0
Biskra	N. 34 51	E. 5 41	0.31 p.m.	410	125	.....	.....	30.08	763.9	62.2	16.8	38.7	.....	23	.....	.....	1	5	.....	.....	2	.....	.....	4	0.82	20.9
AUSTRALIAN.																										
Melbourne	S. 37 50	E. 144 58	9.47 p.m.	91	28	29.79	756.7	29.89	759 1	60.7	16.0	75	1	1	3	6	11	9	.....	.....	.....	.....	.....	5	3.12	79.2
AUSTRO-HUNGARIAN.																										
Agram	N. 45 48	E. 15 53	1.12 p.m.	536	163	29.34	745.2	29.90	759.5	41.5	5.3	84.8	.....	2	3	8	2	2	5	9	.....	.....	.....	8	3.17	80.6
Cracow	N. 50 04	E. 20 00	1.28 p.m.	722	220	29.10	739.0	29.89	759.2	33.4	0.8	86.2	1	4	8	3	3	.....	7	5	.....	.....	.....	8	1.12	28.5
Eperies	N. 48 58	E. 21 15	1.33 p.m.	820	250	29.00	736.7	29.91	759.6	33.8	1.0	90.0	6	.....	1	.....	10	.....	.....	.....	14	.....	.....	9	1.70	43.1
Gratz	N. 47 04	E. 15 28	1.10 p.m.	1171	357	28.62	727.0	29.91	759.7	36.9	2.7	82.4	3	7	4	4	6	3	3	.....	1	.....	.....	8	2.55	64.8
Hermannstadt	N. 45 47	E. 24 13	1.45 p.m.	1352	412	28.47	723.1	29.94	760.4	40.5	4.7	79	1	7	1	2	6	13	1	.....	.....	.....	.....	6	0.56	14.2
Kremsmünster	N. 48 03	E. 14 08	1.04 p.m.	1260	384	28.47	723.2	29.86	758.5	33.1	0.6	90.4	.....	2	4	6	.....	1	1	6	11	.....	.....	9	9.08	230.6
Lemberg	N. 49 50	E. 24 00	1.44 p.m.	978	298	28.89	733.9	29.93	760.1	31.8	—0.1	81.0	1	3	1	1	11	10	3	1	.....	.....	.....	7	1.49	37.9
Polt	N. 44 52	E. 13 51	1.04 p.m.	105	32	29.76	755 9	29.87	758.8	50.2	10.1	76.8	2	1	5	4	3	5	6	3	2	.....	.....	7	3.63	92.1
Szathmar	N. 47 46	E. 22 53	1.39 p.m.	430	131	29.43	747.5	29.97	761.3	39.2	4.0	81	.....	2	4	1	2	10	8	4	.....	.....	.....	7	3.45	87.6
Szegedin	N. 46 15	E. 20 10	1.29 p.m.	256	78	29.62	752.3	29.91	759.6	40.5	4.7	82.9	.....	1	3	1	9	5	.....	1	11	.....	.....	7	2.27	57.6
Trieste	N. 45 39	E. 13 46	1.04 p.m.	85	26	29.80	757.0	29.91	759.6	47.7	8.7	77.9	.....	.....	2	.....	.....	5	5	3	16	.....	.....	7	3.07	77.9
Vienna	N. 48 12	E. 16 22	1.14 p.m.	663	202	29.16	740.7	29.90	759.5	36.3	2.4	85.7	.....	4	6	.....	2	7	3	.....	9	.....	.....	8	3.37	85.7
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	0.00 m.	89	27	29.53	750.0	29.63	752.6	35.9	2.2	84.3	1	1	11	3	6	4	1	4	.....	.....	.....	7	6.88	174.8
Armagh	N. 54 21	W. 6 39	11.42 a.m.	207	63	29.39	746.5	29.64	752.8	37.1	2.8	88.8	4	1	2	10	9	.....	3	2	.....	.....	.....	6	.....	.....
Bidston	N. 53 24	W. 3 04	11.56 a.m.	197	60	.....	.....	29.63	752.6	39.6	4.2	85.5	4	2	2	7	1	4	9	2	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.58 a.m.	500	152	29.09	738.9	29.63	752.6	38.7	3.7	87.8	6	4	.....	5	5	4	3	4	.....	.....	.....	9	.....	.....
Bradford	N. 53 48	W. 1 47	0.01 p.m.	366	111	29.27g	743.4g	29.62g	752.3g	38.3g	3.5g	86.7g	g	1	1	7	.....	4	.....	11	.....	.....	.....	9g	4.51	114.6
Bridgetown e	N. 13 04	W. 59 37	8.10 a.m.	28	9	29.95	760.7	29.98	761.5	81.3	27.4	71.9	.....	.....	.....	.....	.....	1	2	23	.....	.....	.....	3	.....	.....
Cardington	N. 52 08	W. 0 27	0.06 p.m.	109	33	.....	.....	.....	.....	40.8	4.9	87.9	4	5	6	5	5	2	2	2	.....	.....	.....	8	.....	.....
Chatham	N. 51 25	E. 0 33	0.10 p.m.	120	37	29.54	750.3	29.67	753.6	41.9	5.5	89.2	1	1	5	6	4	1	.....	2	11	.....	.....	5	.....	.....
Falmouth	N. 50 09	W. 5 04	11.48 a.m.	211	64	29.46	748.3	29.69	754.1	46.3	7.9	84.2	2	7	5	5	3	6	2	1	.....	.....	.....	8	.....	.....
Fort Napier	S. 30 00	E. 31 00	2.12 p.m.	2200	671	27.01	701.3	29.82	757.4	76.4	24.7	54.5	4	2	.....	.....	4	7	9	5	.....	.....	.....	7	.....	.....
Free Town	N. 8 30	W. 13 14	11.15 a.m.	224	68	29.66	753.4	29.89	759.2	84.1	28.9	80.0	9	9	3	.....	.....	.....	.....	9	1	.....	.....	3	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.47 a.m.	50	15	30.05	763.3	30.10	764.5	59.2	15.1	93.2	.....	6	9	10	.....	3	1	2	.....	.....	.....	4	.....	.....
Glasgow	N. 55 53	W. 4 17	11.51 a.m.	184	56	29.40	746.7	29.61	752.1	36.6	2.6	83.5	5	2	3	4	4	2	2	9	.....	.....	.....	9	.....	.....
Greenwich	N. 51 29	0 00	0.08 p.m.	159	48	29.49	749.0	29.67	753.6	41.5	5.3	88.2	3	2	5	7	4	5	1	1	3	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.58 a.m.	275	84	29.41	747.0	29.71	754.6	45.6	7.6	87.8	.....	7	3	5	11	3	.....	1	1	.....	.....	9	.....	.....
Kew	N. 51 28	W. 0 19	0.07 p.m.	34	10	29.64	752.8	29.68	753.9	41.7	5.4	86.5	7b	1	5	7	3	2	2	2	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	0.04 p.m.	245	75	29.38	746.2	29.64	752.8	40.4	4.7	91.2	3	3	2	9	.....	6	.....	6	2	.....	.....	9	.....	.....
Malta	N. 36 00	E. 14 30	1.06 p.m.	70	21	29.83	757.7	29.90	759.4	62.5	16.9	93.4	2	4	7	8	.....	6	2	2	.....	.....	.....	7	.....	.....
Nassau	N. 25 04	W. 77 22	6.58 a.m.	44	13	30.07	763.8	30.12	765.0	72.0	22.2	80.3e	5	.....	.....	5	3	2	1	15	.....	.....	.....	6	.....	.....
Oscotb	N. 52 28	W. 1 55	0.00 m.	483	147	29.11	739.4	29.64	752.8	38.3	3.5	91.3	5	1	5	3	6	1	2	6	.....	.....	.....	8	.....	.....
Oxford	N. 51 46	W. 1 17	0.03 p.m.	210	64	29.43	747.5	29.66	753.4	41.1	5.1	88.7	4	4	4	6	2	7	1	2	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.51 a.m.	69	21	29.60	751.8	29.68	753.9	45.3	7.4	88.7	2	5	3	5	4	4	2	3	3	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.54 a.m.	94	29	29.59	749.3	29.61	752.1	36.0	2.2	93.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	.....	.....
Scutari Comet'y	N. 41 00	E. 29 03	2.04 p.m.	60	18	29.91	759.7	29.98	761.5	52.3	11.3	76.3	3	.....	.....	10	4	2	1	10	1	.....	.....	7	.....	.....
Sheffield	N. 53 23	W. 1 28	0.02 p.m.	260	79	29.35	745.5	29.64	752.8	39.7	4.3	91.6	3	.....	1	8	3	.....	1	5	10	.....	.....	9	4.82	122.4
Silloth Rectory	N. 54 52	W. 3 22	11.54 a.m.	28	9	29.58	751.3	29.61	752.1	38.5	3.6	86.5	4	1	5	3	3	2	7	3	3	.....	.....	8	3.05	77.5
Stonyhurst	N. 53 51	W. 2 28	11.58 a.m.	361	110	.....	.....	29.64	752.8	38.3	3.5	85.9	6	.....	5	6	4	.....	3	7	.....	.....	.....	9	.....	.....
Stratfield Turgiss	N. 51 17	W. 0 53	0.04 p.m.	197	60	29.47	748.5	29.70	754.4	41.9	5.5	90.0	2	3	8	5	3	5	.....	1	4	.....	.....	8	.....	.....
Truro	N. 50 16	W. 5 04	11.53 a.m.	43	13	29.63	752.6	29.67	753.6	48.4	9.1	82.6	4	4	.....	10	3	5	2	3	.....	.....	.....	8	.....	.....
Valencia	N. 51 55	W. 10 18	11.27 a.m.	23	7	29.62	752.3	29.64	752.8	45.4	7.4	83.6	4	1	4	5	5	6	1	4	1	.....	.....	7	.....	.....
CANADIAN.																										
Bathurst f	N. 47 39	W. 65 43	7.45 a.m.	9	3	.....	.....	.....	.....	12.6	-10.8	.....	.....	2	.....	4	.....	.....	1	.....	18	.....	.....	5	1.20	30.5
Charlottetown	N. 46 14	W. 63 10	7.55 a.m.	38	12	29.87	758.7	29.91	759.7	23.9	—4.5	85.4	7	5	8	4	2	1	1	2	1	7153	11511	8	3.13	79.5
Chatham	N. 47 03	W. 65 29	7.45 a.m.	50	17	29.90	759.4	29.97	761.2	11.7	-11.3	91.7	4	2	5	8	2	2	1	2	5	2907	4678	4	2.15	54.6
Cornwall	N. 45 01	W. 74 43	7.09 a.m.	175	53	29.79	756.7	29.99	761.7	17.7	—7.9	91.5	3	9	11	.....	.....	.....	7	1	.....	.....	.....	9	2.33	59.2
Dalhousie a	N. 48 04	W. 66 21	7.32 a.m.	45	14	29.91	759.7	29.96	761.0	16.1	—8.8	.....	.....	5	18	1	.....	1	3	.....	2	.....	.....	6	0.60	15.2
Father Point	N. 48 31	W. 68 28	7.34 a.m.	20	6	29.95	760.7	29.97	761.2	15.3	—9.3	87.0e	3	6	7	3	2	1	.....	5	4	10930	17590	9	1.30	33.0
Fort Garry	N. 49 51	W. 97 07	5.39 a.m.	754	230	29.25	742.9	30.15	765.8	—0.4	-18.0	82.1	6	3	1	0	7	1	2	5	.....	7434	11903	6	2.10	53.3
Fredericton	N. 45 57	W. 66 39	7.41 a.m.	59	18	29.93	760.2	30.01	762.2	11.7	-11.3	90.5	2	8	7	1	1	.....	3	1	8	.....	.....	6	2.41	61.2
Granton	N. 43 12	W. 81 21	6.43 a.m.	1015	309	28.91	734.3	30.08	764.0	21.7	—5.7	96.2g	1	4	6	7	2	3	3	.....	5	.....	.....	10	2.11	53.6
Halifax	N. 44 39	W. 63 36	7.53 a.m.	122	37	29.82	757 4	29.96	761.0	24.8	—4.0	90.0e	1	8	14	3	.....	1	2	1	1	.....	.....	5	3.40	86.4
Hamilton	N. 43 16	W. 79 53	6.49 a.m.	338	103	29.62	752.3	30.04	763.0	22.9	—5.1	85.6	.....	1	3	23	.....	2	2	.....	.....	.....	.....	8	3.82	97.0
Kingston	N. 44 14	W. 76 30	7.02 a.m.	307	94	29.69	754.1	30.05	763.3	20.4	—6.4	88.1	1	6	8	4	2	.....	2	8	.....	5873	9452	8	2.88	73.2
Little Glace Bay a	N. 46 12	W. 59 58	8.08 a.m.	34	10	29.83	757.7	29.87	758.7	30.0	—1.1	83.9	4	2	5	5	4	2	.....	7	1	.....	.....	7	2.85	72.4
Montreal	N. 45 31	W. 73 33	7.13 a.m.	187	57	29.79	756.7	30.01	762.2	16.2	—8.8	90.0	5	.....	10	5	3	2	1	1	4	.....	.....	9	3.96	100.6
Ottawa	N. 45 26	W. 75 45	7.05 a.m.	250	76	29.70	755.9	30.02	762.5	16.6	—8.6	91.6g	5.0	4	3	1	.....	3	1	.....	13	.....	.....	9	2.78	70.6
Parry Sound	N. 45 19	W. 80 01	6.48 a.m.	625	191	29.29	744.0	30.04	763.0	17.2	—8.2	80.5	5	.....	12	1	1	4	6	.....	2	7220	11619	8	4.13	104.9
Peterboro	N. 44 17	W. 78 20	6.54 a.m.	688	210	29.27	743.4	30.05	763.5	19.5	—6.9	84.6	.....	2	7	3	.....	4	2	1	12	.....	.....	7	2.00	50.8
Port Dover	N. 42 47	W. 80 13	6.47 a.m.	635	194	29.35	745.5	30.08	764 0	24.1	—4.4	98.1	.....	1	11	5	3	1	1	2	7	6450	10380	9	2.99	75.9
Port Stanley	N. 42 40	W. 81 13	6.43 a.m.	592	180	29.40	746.7	30.09	764.3	24.2	—4.3	87.3e	2	.....	18	2	2	2	4	1	.....	.....	.....	7	2.24	56.9
Quebec	N. 46 48	W. 71 12	7.23 a.m.	293	89	29.66	753.4	30.01	762.2	13.4	-10.3	91.8	3	9	5	.....	.....	.....	8	4	2	.....	.....	9	6.17	156.7
Rockliffe	N. 46 10	W. 77 48	6.57 a.m.	418	127	29.46	748.3	30.02	762.5	14.0	—9.7	85.4e	1	8	4	.....	.....	2	5	1	10	.....	.....	8	3.13	79.5
Saint Andrews	N. 43 04	W. 81 06	6.34 a.m.	47	14	29.91	759.7	29.96	761.0	20.6	—6.3	85.9	4	12	4	3	1	1	1	5	.....	.....	.....	6	2.13	53.8
Saint John, N. B.	N. 45 17	W. 66 03	7.44 a.m.	150	46	29.79	756.7	29.97	761.2	19.3	—7.1	91.0g	7	7	2	1	.....	3	2	9	.....	.....	.....	6	2.99	75.9
Saint Pierre	N. 46 47	W. 56 08	8.24 a.m.	?	?	.....	.....	29.75	755.6	31.2	—0.4	.....	7	10	6	4	1	.....	.....	3	.....	.....	.....	.....	4.22	107.2
Saugeen	N. 44 30	W. 81 21	6.42 a.m.	656	200	29.26	743.2	30.02	762.5	25.1	—3.8	91.9	5	2	7	5	2	7	.....	2	1	10595	17051	9	4.01	101.8
Stratford	N. 43 23	W. 81 00	6.44 a.m.	1182	360	28.71	729 2	30.05	763.3	20.7	—6.3	93.1g	.....	4	12	1	2	5	2	.....	5	.....	.....	9	4.34	110.2
Sydney	N. 46 08	W. 60 10	8.07 a.m.	37	11	29.81	757.2	29.87	758.7	27.5	—2.5	86.7	4	6	6	7	.....	2	1	1	4	9509	15303	8	2.41	61.2
Toronto	N. 43 39	W. 79 23	6.50 a.m.	350	107	29.67	753.6	30.07	763.8	24.2	—4.3	86.8	4	6	13	1	1	1	4	1	.....	7915	12738	8	1.93	49.0
Windsor	N. 44 59	W. 63 58	7.53 a.m.	87	26	29.83	757.7	29.92	760.0	23.4	—4.8	86.6	8	2	6	6	3	1	1	.....	4	.....	.....	7	.....	.....
Woodstock	N. 43 08	W. 80 47	6.48 a.m.	980	299	28.96	735.6	30.06	763.5	21.7	—5.7	91.7	2	.....	5	11	3	4	2	2	2	.....	.....	.....	4.54	115.3
Yarmouth	N. 43 50	W. 66 02	7.44 a.m.	61	19	29.90	759.4	29.97	761.2	29.1	—1.6	82.0	8	6	5	.....	2	1	3	4	2	7371	11862	7	3.12	79.2
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.47 p.m.	25	7	29.95	760.7	29.98	761.5	69.7	20.9	84.8	.....	.....	4	11	2	1	11	2	.....	.....	.....	5	1.47	37.3
Cape Town	S. 34 02	E. 18 29	1.22 p.m	27	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for December, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
CHINESE. (*Sub*).	° ′	° ′																								
Sung-shu-chwang	N. 36 07	E. 103 56	7.04 p.m.	4987	1520	24.75	628.7	.....	.....	13.5	—10.3	.....	2	4	6	.....	.....	.....	.....	7	12	.....	.....	1	.....	.....
Tchang kia tchouang	N. 38 17	E. 116 16	7.53 p.m.	98	30	30.32	770.1	30.43	772.9	24.4	— 4.2	70	1	2	.....	5	1	2	.....	6	14	.....	.....	2	0.14	3.5
Zi-Ka-Wei	N. 31 12	E. 121 26	8.14 p.m.	22	7	30.35	771.0	30.38	771.6	39.6	4.2	82	5	8	6	1	1	3	4	3	.....	.....	.....	6	0.99	25.1
DANISH.																										
Copenhagen	N. 55 41	E. 12 36	0.58 p.m.	43	13	29.75	755.6	29.80	756.9	32.2	0.1	86	1	1	4	2	3	8	9	3	.....	.....	.....	9	.....	.....
Fanöe	N. 55 27	E. 8 24	0.42 p.m.	20	6	29.72	755.0	29.74	755.5	31.6	— 0.2	94	.....	.....	4	5	1	8	5	7	1	.....	.....	9	.....	.....
Godthaab	N. 64 11	W. 51 46	8.41 a.m.	36	11	29.76	755.9	29.80	757.0	18.0	— 7.8	81	13	1	.....	1	3	2	.....	7	4	.....	.....	6	.....	.....
Ivigtut	N. 61 12	W. 48 00	8.56 a.m.	16	5	29.73	755.1	29.75	755.6	23.7	— 4.6	.....	1	1	.....	.....	1	4	.....	.....	25	.....	.....	8	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.44 a.m	42	13	29.85	758.3	29.90	759.5	8.8	—12.9	.....	2	.....	.....	.....	1	5	13	.....	10	.....	.....	4	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.37 a.m.	30	11	29.69	754.2	29.74	755.3	28.4	— 2.0	89	.....	.....	.....	.....	.....	5	6	10	10	.....	.....	5	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.41 a.m.	29	9	29.58	751.4	29.63	752.5	36.9	2.7	83	6	.....	.....	2	4	5	3	7	4	.....	.....	6	.....	.....
Upernavik	N. 72 47	W. 56 00	8.24 a.m.	39	12	29.93	760.3	29.98	761.5	0.7	—17.4	.....	1	.....	.....	2	1	.....	17	1	9	.....	.....	3	.....	.....
Vestervig	N. 56 47	E. 8 20	0.41 p.m.	82	25	29.66	753.4	29.75	755.7	29.7	— 1.3	95	.....	1	.....	2	3	3	7	11	4	.....	.....	8	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.11 p.m.	604	184	29.30	744.3	29.97	761.1	47.1	8.4	91.2	.....	3	4	3	2	4	.....	.....	15	.....	.....	.....	3.98	101.1
Alençon	N. 48 26	E. 0 05	0.09 p.m.	476	145	29.26	743.2	29.81	757.2	42.1	5.6	94.1	1	1	2	9	12	4	.....	2	.....	.....	.....	.....	2.61	66.2
Arras	N. 50 18	E. 2 46	0.19 p.m.	239	73	29.48	748.7	29.74	755.4	39.0	3.9	89.7c	.....	8	1	7	3	9	3	.....	.....	.....	.....	.....	0.46	11.8
Avignon	N. 43 57	E. 4 48	0.27 p.m.	65	20	29.83	757.6	29.91	759.6	48.0	8.9	73.1	16	8	.....	2	.....	2	2	1	.....	.....	.....	5	2.78	70.7
Bar-sur-Seine	N. 48 07	E. 4 22	0.25 p.m.	518	158	29.27	743.5	29.84	758.0	41.9	5.5	85	.....	3	1	3	15	3	1	5	.....	.....	.....	9	3.94	100.0
Beauvais	N. 49 26	E. 2 05	0.16 p.m.	246	75	29.51	749.5	29.78	756.4	41.7	5.4	87.7	1	.....	8	4	6	5	7	.....	.....	.....	.....	9	2.90	73.7
Besançon	N. 47 14	E. 6 02	0.32 p.m.	846	258	28.93	734.8	29.84	757.8	42.1	5.6	85.9	6	.....	.....	2	14	1	.....	8	.....	.....	.....	.....	5.58	141.6
Bordeaux	N. 44 50	E. 0 32	0.06 p.m.	243	74	29.62	752.4	29.89	759.1	47.8	8.8	75.0	.....	1	4	4	4	14	1	3	.....	.....	.....	7	5.44	138.2
Bourges	N. 47 10	E. 2 26	0.17 p.m.	510	156	29.30	744.2	29.86	758.5	45.3	7.4	81.3	.....	2	4	7	10	1	5	2	.....	.....	.....	.....	5.46	138.6
Brest	N. 48 24	W. 4 30	11.50 a.m.	210	64	29.54	750.3	29.78	756.5	47.7	8.7	89.9	2	3	5	9	2	3	2	3	2	.....	.....	8	20.50?	520.8?
Caen	N. 49 11	W. 0 21	0.07 p.m.	69	21	29.64	752.9	29.72	754.8	43.9	6.6	77.2	.....	2	3	13	.....	8	.....	.....	5	.....	.....	8	3.96	100.5
Chalons-sur-Marne	N. 48 57	E. 4 21	0.25 p.m.	294	90	29.44	747.8	29.76	756.0	39.2	4.0	80.1	2	3	.....	7	2	4	1	1	2	.....	.....	7	3.32a	84.2a
Charleville *a*	N. 49 46	E. 4 49	0.27 p.m.	476	145	29.25	743.0	29.78	756.4	38.7	3.7	81.7	1	3	2	3	7	3	7	4	.....	.....	.....	8	3.96	100.6
Clermont-Fd	N. 45 46	E. 3 05	0.20 p.m.	1273	388	28.50	724.0	29.87	758.8	46.9	8.3	67.8	1	1	5	3	4	7	5	5	.....	.....	.....	7	2.41	61.2
Cluny	N. 46 26	E. 4 39	0.27 p.m.	787	240	29.03	737.3	29.89	759.3	42.4	5.8	80.1	1	2	4	14	4	.....	.....	4	2	.....	.....	7	4.39	111.5
Commercy	N. 48 46	E. 5 35	0.30 p.m.	797	243	28.97	735.7	29.85	758.2	37.4	3.0	92.2	.....	3	9	6	3	2	7	1	.....	.....	.....	.....	8.24	209.4
Gap	N. 44 33	E. 6 05	0.32 p.m.	2424	739	27.34	694.5	29.93	760.3	39.7	4.4	73.9d	6	2	2	1	2	.....	3	8	7	.....	.....	5	5.50	139.7
Greasque	N. 43 25	E. 5 37	0.31 p.m.	1056	322	28.75	730.2	29.89	759.1	48.6	9.2	70.7	1	.....	.....	.....	8	10	6	6	.....	.....	.....	6	5.77	146.6
Grenoble	N. 45 12	E. 5 43	0.31 p.m.	715	218	29.15	740.3	29.95	760.6	38.8	3.8	87.1	.....	3	1	4	1	7	13	2	.....	.....	.....	.....	5.85	148.7
Gueret	N. 46 10	E. 1 52	0.16 p.m.	1486	453	28.26	717.9	29.87	758.8	43.7	6.5	81.6	1	2	3	17	4	.....	.....	4	.....	.....	.....	.....	6.13	155.6
Lamballe	N. 48 28	W. 2 31	11.58 a.m.	252	77	29.48	748.8	29.76	756.0	45.9	7.7	89.2	.....	4	8	5	2	12	.....	.....	.....	.....	.....	7	2.55	64.8
Lescar	N. 43 20	W. 0 26	0.06 p.m.	525	160	29.34	745.1	29.91	759.6	50.5	10.3	73.1	1	1	11	6	.....	1	8	3	.....	.....	.....	5	7.93	201.5
Lorient	N. 47 45	W. 3 21	11.55 a.m.	86	26	29.70	754.3	29.80	756.9	48.6	9.2	81.8	2	1	6	8	2	4	5	.....	3	.....	.....	8	5.73	145.5
Lyon	N. 45 41	E. 2 30	0.25 p.m.	981	299	28.84	732.5	29.92	760.0	41.9	5.5	83.5	3	4	2	.....	2	11	3	6	.....	.....	.....	8	1.53	38.9
Mans	N. 48 01	E. 0 12	0.09 p.m.	285	87	29.51	749.6	29.83	757.7	42.6	5.9	91.6	2	2	6	9	7	2	2	1	.....	.....	.....	8	4.44	112.8
Marseille	N. 43 18	E. 5 23	0.29 p.m.	246	75	29.60	751.9	29.87	758.8	51.8	11.0	68.3	1	7	11	1	.....	1	6	4	.....	.....	.....	7	4.50	114.2
Mont Louis	N. 42 30	E. 2 07	0.16 p.m.	5203	1586	24.67	626.7	29.52	749.7	37.4	3.0	72.1	1	3	9	13	1	2	1	1	.....	.....	.....	5	2.61	66.4
Montpellier	N. 43 37	E. 3 53	0.24 p.m.	118	36	29.76	755.9	29.94	760.4	51.1	10.6	77.5	6	.....	.....	.....	4	10	4	3	4	.....	.....	4	2.48	63.1
Nancy	N. 48 42	E. 6 11	0.33 p.m.	725	221	28.97	735.7	29.77	756.1	39.2	4.0	83.8	.....	8	5	7	9	1	.....	1	.....	.....	.....	.....	4.89	124.2
Nantes	N. 47 13	W. 1 33	0.02 p.m.	134	41	29.69	754.0	29.85	758.1	48.0	8.9	83.3	1	.....	4	8	6	8	3	1	.....	.....	.....	8	6.34	160.9
Perpignan	N. 42 42	E. 2 53	0.19 p.m.	105	32	29.81	757.2	29.93	760.1	52.0	11.1	69.7	8	10	.....	2	5	2	1	2	1	.....	.....	7	2.60	66.1
Pic du Midi (Sum-	N. 42 56	W. 0 08	0.08 p.m.	9380	2859	21.02	533.9	.....	.....	22.5	— 5.3	.....	.....	9	11	9	.....	.....	.....	2	.....	.....	.....	.....	8.41	213.6
Privas [mit.)	N. 44 45	E. 4 36	0.26 p.m.	997	304	28.84	732.6	29.93	760.3	43.9	6.6	79.4	11	.....	.....	.....	15	1	3	1	.....	.....	.....	6	2.00	50.8
Puy de Dome	N. 45 46	E. 2 58	0.20 p.m.	4813	1467	24.91	632.7	.....	.....	30.9	— 0.6	93.8	2	1	5	11	4	5	1	2	.....	.....	.....	6	8.74	222.0
Rochefort	N. 45 56	W. 0 58	0.04 p.m.	29	9	29.84	757.8	29.87	758.6	47.1	8.4	90.4	.....	.....	2	8	7	9	.....	3	2	.....	.....	8	2.79	70.8
Roche-sur-Yon	N. 46 40	W. 1 26	0.02 p.m.	198	60	29.60	751.7	29.81	757.2	45.9	7.7	91.1	1	1	3	9	4	10	3	.....	.....	.....	.....	7	5.25	133.4
Rodez	N. 44 21	E. 2 34	0.18 p.m.	2050	625	27.76	705.2	29.96	761.0	41.0	5.0	79.7	.....	4	2	4	4	7	5	2	3	.....	.....	7	2.68	68.0
Rouen	N. 49 26	E. 1 05	0.12 p.m.	39	12	29.72	754.8	29.76	756.0	43.0	6.1	88.5	1	1	2	11	2	12	2	.....	.....	.....	.....	8	4.37	110.9
Saint Lo	N. 49 06	W. 1 05	0.04 p.m.	134	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saint Maur	N. 48 48	E. 2 21	0.17 p.m.	162	49	29.63	752.5	29.79	756.7	42.3	5.7	87.9	2	1	4	4	12	4	2	1	1	.....	.....	9	2.42	61.5
Toulouse	N. 43 37	E. 1 27	0.14 p.m.	636	194	29.25	742.9	29.97	761.2	47.7	8.7	79.9	3	2	7	3	1	12	2	1	.....	.....	.....	7	2.85	72.3
Tours	N. 47 24	E. 0 41	0.11 p.m.	107	51	29.67	753.6	29.83	757.7	46.0	7.8	82.8	2	.....	2	7	10	2	2	6	.....	.....	.....	8	3.65	92.8
Versailles	N. 48 48	E. 2 07	0.16 p.m.	445	136	29.29	743.9	29.78	756.4	41.4	5.2	90.5	3	2	6	10	6	3	.....	.....	1	.....	.....	.....	2.73	69.3
Sub-Series.																										
St. Martin du Hinx	N. 43 35	W. 1 16	0.03 p.m.	131	40	29.79	756.7	29.94	760.5	50.7	10.4	77.5	1	1	12	4	3	.....	7	3	.....	.....	.....	7	10.25	260.4
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.50 p.m.	1358	414	28.36	720 3	29.86	758.4	35.1	1.7	83.2	1	.....	4	7	.....	8	2	.....	9	.....	.....	7	4.09	103.8
Bamberg	N. 49 54	E. 10 54	0.51 p.m.	787	240	28.96	735.6	29.80	756.8	36.3	2.4	80.3	1	2	4	2	3	4	.....	1	14	.....	.....	7	2.93	74.4
Berlin	N. 52 30	E. 13 23	1.02 p.m.	164	50	29.60	751.7	29.78	756.4	35.4	1.9	84.5	.....	2	2	12	.....	8	5	2	.....	.....	.....	8	1.62	41.1
Breslau	N. 51 07	E. 17 02	1.17 p.m.	482	147	29.33	745.0	29.86	758.4	34.2	1.2	82.4	.....	1	7	4	2	8	3	2	4	.....	.....	8	1.68	42.7
Carlsruhe	N. 49 01	E. 8 25	0.42 p.m.	404	123	29.39	746.5	29.84	757.9	39.6	4.2	79.1	2	2	.....	16	2	2	2	5	.....	.....	.....	8	5.84	148.3
Cassel	N. 51 19	E. 9 28	0.46 p.m.	669	204	29.01	736.8	29.72	754.9	35.2	1.8	86.7	5	3	.....	4	13	4	.....	2	.....	.....	.....	8	3.30	83.8
Frankfort on M.	N. 50 08	E. 8 41	0.43 p.m.	338	103	29.44	747.8	29.82	757.3	38.1	3.4	80.5	6	.....	2	3	11	4	3	2	.....	.....	.....	8	2.84	72.1
Friedrichshafen	N. 47 39	E. 9 29	0.46 p.m.	1355	413	28.52	721.8	29.89	759.3	37.4	3.0	85.7	2	3	7	5	5	3	3	3	.....	.....	.....	8	5.04	128.0
Hamburg	N. 53 33	E. 9 58	0.48 p.m.	85	26	29.69	754.0	29.77	756.2	32.5	0.3	92.7	2	.	1	8	.....	4	14	1	1	.....	.....	9	1.64	41.7
Kiel	N. 54 19	E. 10 04	0.48 p.m.	13	4	29.75	755.6	29.76	756.0	34.2	1.2	86.6	.....	.....	2	7	2	5	10	2	3	.....	.....	9	1.75	44.5
Leipsic	N. 51 20	E. 12 24	0.58 p.m.	390	119	29.39	746.4	29.82	757.5	34.7	1.5	83.0	3	.....	3	5	6	7	5	1	1	.....	.....	8	2.44	62.1
Magdeburg	N. 52 09	E. 11 37	0.54 p.m.	177	54	29.60	751.7	29.79	756.6	34.5	1.4	83.7	1	1	3	2	4	7	8	4	1	.....	.....	8	1.31	33.3
Memel	N. 55 43	E. 21 07	1.32 p.m.	39	12	29.89	759.3	29.94	760.4	26.6	— 3.0	85.8	2	4	1	1	4	8	8	2	1	.....	.....	8	1.37	34.7
Munich	N. 48 09	E. 11 34	0.54 p.m.	1732	528	27.99	710.9	29.84	757.9	34.3	1.3	81.3	3	8	5	1	1	1	5	1	6	.....	.....	8	3.05	77.4
Neufahrwasser	N. 54 24	E. 18 40	1.25 p.m.	16	5	29.90	759.4	29.91	759.8	30.2	— 1.0	86.1	.....	2	2	5	3	14	3	2	.....	.....	.....	9	1.92	48.9
Neustadt	N. 49 21	E. 8 08	0.41 p.m.	479	146	29.28	743.6	29.80	756.8	39.2	4.0	88.8a	1	.....	7	5	.....	.....	3	1	14	.....	.....	9	3.14	79.7
Stuttgart	N. 48 47	E. 9 11	0.45 p.m.	833	254	28.87	733.2	29.78	756.5	38.5	3.6	79.2	10	3	7	9	2	.....	.....	.....	.....	.....	.....	7	2.66	67.5
Wustrow	N. 54 21	E. 12 24	0.58 p.m.	23	7	29.80	756.8	29.82	757.5	32.0	0.0	92.1	.....	.....	3	5	2	9	6	6	.....	.....	.....	9	0.93	23.7
GREEK.																										
Athens	N. 37 58	E. 23 44	1.43 p.m.	361	110	29.60	751.7	29.98	761.6	57.9	14.4	.....	13	3	4	6	5	.....	.....	.....	.....	.....	.....	5	2.54	64.5
INDIAN.																										
Kurachee	N. 24 47	E. 67 04	4.36 p.m.	49	15	30.01	762.2	30.06	763.5	77.0	25.0	67	.....	1	9	15	1	1	3	1	.....	.....	.....	4	0.20	5.1
Deesa	N. 24 16	E. 72 14	4.57 p.m.	466	142	29.49	749.1	29.96	760.9	81.9	27.7	32	5	11	6	6	1	1	.....	.....	1	.....	.....	1	0	0
Bombay	N 18 54	E. 72 49	5.00 p.m.	37	11	29.90	759.5	29.94	760.5	79.7	26.5	68	4	18	9	.....	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	5.05 p.m.	1849	564.	28.08	713.2	29.92	760.0	82.8	28.2	23	.....	1	2	2	1	4	17	4	.....	.....	.....	2	0.25	6.4
Trichinopoly	N. 10 50	E. 78 44	5.23 p.m.	275	84	29.67	753.6	29.95	760.8	79.7	26.5	65	2	2	.....	.....	.....	.....	5	19	3	.....	.....	6	1.90	48.3
Belgaum	N. 15 52	E. 74 42	5.07 p.m.	2550	777	27.38	695.6	29.92	759.9	78.0	25.6	34	1	.....	1	1	.....	1	15	12	.....	.....	.....	2	0.13	3.3
Lahore	N. 31 34	E. 74 20	5.05 p.m.	732	223	29.25	743.0	30.03	762.6	62.4	16.9	54	.....	1	.....	1	.....	.....	.....	.....	29	.....	.....	3	0	0
Roorkee	N. 29 52	E. 77 56	5.20 p.m.	887	270	29.06	738.1	29.99	761.7	65.5	18.6	53	.....	1	7	2	1	.....	.....	.....	20	.....	.....	4	0	0
Agra	N. 27 10	E. 78 05	5.20 p.m.	555	169	29.43	747.6	30.01	762.3	72.1	22.3	39	.....	11	8	.....	.....	.....	2	.....	10	.....	.....	1	0.	0
Nagpur	N. 21 09	E. 79 11	5.24 p.m.	1025	312	28.93	734.7	29.98	761.5	76.5	24.7	39	.....	.....	.....	1	.....	1	4	1	24	.....	.....	1	0	0
Jubulpore	N. 23 09	E. 79 59	5.28 p.m.	1341	409	28 04	727.4	30.02	762.5	71.8	22.1	53	.....	.....	.....	..	.....	1	3	27	.....	.....	.....	1	0	0
Lucknow	N. 26 50	E. 81 00	5.32 p.m.	369	113	29.61	752.0	30.00	761.9	69.1	20.6	48	1	1	.....	1	.....	.....	.....	.....	28	.....	.....	0	0	0
Alahabad	N. 25 26	E. 81 52	5.35 p.m.	397	94	29.67	753.6	29.99	761.8	63.0	17.2	71	.....	.....	.....	1	.....	1	.....	1	28	.....	.....	0	0	0
Patna	N. 25 37	E. 85 08	5.49 p.m.	183	56	29.81	757.2	30.01	762.1	67.2	19.6	62	2	6	21	.....	.....	1	.....	1	.....	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.50 p.m.	2067	612	27.93	709.5	30.01	762.2	63.5	17.5	54	6	22	3	.....	.....	.....	.....	.....	.....	.....	.....	1	0	0
Cuttack	N. 20 29	E. 85 54	5.52 p.m.	80	24	29.90	759.4	29.98	761.5	72.4	22.4	68	.....	.....	2	.....	.....	.....	.....	2	27	.....	.....	1	0	0
Calcutta	N. 22 33	E. 88 21	6.01 p.m.	21	6	29.95	760.8	29.98	761.4	68.8	20.4	73	11	11	3	.....	.....	.....	.....	1	5	.....	.....	1	0	0
Dhubri	N. 26 07	E. 89 50	6.08 p.m.	115	35	29.85	758.1	29.97	761.2	69.6	20.9	75	.....	1	.....	.....	.....	.....	2	2	26	.....	.....	1	0	0
Chittagong	N. 22 21	E. 91 50	6.15 p.m.	87	26	29.88	758.9	29.97	761.2	70.4	21.3	77	.....	3	9	4	.....	.....	1	1	13	.....	.....	3	0	0
Sibsagar	N. 26 59	E. 94 40	6.27 p.m.	333	102	29.66	753.2	30.00	762.1	64.3	17.9	88	1	1	.....	1	.....	1	1	26	.....	.....	.....	4	0.67	17.0
Jeypore	N. 26 55	E. 75 50	5.05 p.m.	1431	436	28.54	725.0	30.02	762.4	72.7	22.6	51	1	16	3	4	.....	2	.....	4	1	.....	.....	3	0	0
Zanzibar	S. 6 10	E. 39 11	2.45 p.m.	23	7	29.85	758.2	.....	.....	84.2	29.0	68	5	2	1	3	6	1	3	9	1	.....	.....	5	2.42	61.5
Bellary	N. 15 09	E. 76 57	5.16 p.m.	1455	444	28.44	722.4	.....	.....	79.7	26.5	41	8	1	.....	.....	.....	3	16	3	.....	.....	.....	3	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for December, 1882. Mean Barometer. Actual. Inch.	Mill.	Reduced. Inch.	Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
ITALIAN.	° ′	° ′																								
Udine	N. 46 04	E. 13 13	1.01 p.m.	381	116	29.49	749.1	29.91	759.7	44.6	7.0	78	2	2	1	.....	.....	4	3	6	13	.....	.....	7	4.63	117.5
Milan	N. 45 28	E. 9 11	0.45 p.m.	482	147	29.40	746.7	29.93	760.3	40.3	4.6	81	2	3	7	8	1	3	1	6	.....	.....	.....	7	6.20	157.6
Padua	N. 45 24	E. 11 53	0.56 p.m.	102	31	29.79	756.7	29.91	759.6	42.8	6.0	80	12	3	2	1	3	.....	2	5	3	.....	.....	7	1.91	48.6
Moncalieri	N. 45 00	E. 7 41	0.39 p.m.	846	258	28.99	736.4	29.93	760.3	39.4	4.1	86	3	10	2	.....	1	1	6	8	.....	.....	.....	7	4.09	103.8
Genoa	N. 44 24	E. 8 55	0.44 p.m.	157	48	29.68	753.8	29.87	758.8	48.9	9.4	64	7	.....	.....	.....	1	3	5	12	3	.....	.....	7	6.78	172.3
Mondovi	N. 44 23	E. 7 48	0.39 p.m.	1824	556	27.96	710.2	29.94	760.4	39.2	4.0	73	1	1	18	5	1	3	1	1	.....	.....	.....	5	4.30	109.3
Pesaro	N. 43 55	E. 12 53	1.00 p.m.	46	14	29.82	757.5	29.87	758.8	45.9	7.7	84	12	5	6	3	1	1	.....	3	.....	.....	.....	9	1.68	42.6
Florence	N. 43 46	E. 11 15	0.53 p.m.	240	73	29.63	752.6	29.89	759.2	49.6	9.8	73	.....	.....	3	13	1	2	3	9	.....	.....	.....	8	4.32	109.6
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.73	755.1	29.82	757.3	52.3	11.3	72	1	1	5	3	6	.....	5	10	.....	.....	.....	8	5.19	131.9
Rome	N. 41 54	E. 12 29	0.58 p.m.	164	50	29.71	754.7	29.89	759.2	53.8	12.1	69	16	.....	1	3	3	1	2	5	.....	.....	.....	7	4.26	108.3
Lecce	N. 40 22	E. 18 12	1.21 p.m.	236	72	29.71	754.5	29.96	761.0	55.9	13.3	74	3	4	4	3	5	8	2	2	.....	.....	.....	6	3.36	85.3
Cosenza	N. 39 19	E. 16 17	1.13 p.m.	840	256	29.07	738.3	29.97	761.3	53.4	11.9	76	1	.....	7	18	4	.....	.....	1	.....	.....	.....	7	10.42	264.6
Cagliari	N. 39 30	E. 9 00	0.45 p.m.	180	55	29.60	751.8	29.80	756.8	57.9	14.4	68	.....	15	1	3	1	8	.....	.....	3	.....	.....	6	4.58	116.2
Palermo	N. 38 07	E. 13 21	1.02 p.m.	236	72	29.69	754.2	29.95	760.7	60.4	15.8	54	.....	5	6	6	1	2	2	7	2	.....	.....	6	2.77	70.3
Syracuse	N. 37 03	E. 15 15	1.09 p.m.	72	22	29.89	759.3	29.94	760.4	59.5	15.3	69	.....	2	7	5	6	4	.....	7	.....	.....	.....	7	2.55	64.7
Sub-Series.																										
Naples	N. 40 52	E. 14 15	1.05 p.m.	489	149	29.39	746.6	29.92	760.0	55.2	12.9	72.1	1	3	5	4	3	2	2	11	.....	.....	.....	7	4.66	118.5
Stelvio	N. 46 32	E. 10 25	0.50 p.m.	8343	2543	21.92	556.7	.....	.....	20.1	−6.6	81.2	.....	.....	1	13	2	6	2	7	.....	.....	.....	7	5.92	150.3
Valdobbia	N. 45 47	E. 7 51	0.40 p.m.	8360	2548	21.93	557.1	.....	.....	22.5	−5.3	67.2	5	.....	.....	1	.....	2	14	9	.....	.....	.....	7	11.30	287.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.28 p.m.	32	10	30.02	762.5	30.05	763.3	33.2	0.7	82.5	1	14	2	.....	1	.....	.....	.....	13	.....	.....	9	8.86	225.1
Awomori	N. 40 51	E. 140 45	9.31 p.m.	32	10	29.97	761.2	30.01	762.1	28.1	−2.2	83.6	1	2	17	3	6	.....	1	.....	1	10195	16407	8	5.62	142.6
Hakodate	N. 41 47	E. 140 44	9.31 p.m.	10	3	29.96	760.9	29.97	761.2	26.9	−2.9	84.3	9	6	12	.....	.....	.....	2	1	1	11264	18127	8	2.65	67.2
Hamamatsu	N. 34 43	E. 137 43	9.19 p.m.	26	8	30.10	764.4	30.13	765.2	40.5	4.7	73.5	.....	5	7	.....	.....	.....	1	.....	18	.....	.....	1	0.27	6.8
Hiroshima	N. 34 20	E. 132 27	8.58 p.m.	14	4	.....	.....	.....	.....	39.9	4.4	79.8	25	.....	3	1	.....	.....	.....	2	.....	4008	6450	4	0.40	10.1
Kanazawa	N. 36 33	E. 136 40	9.14 p.m.	95	29	30.05	763.4	30.16	766.1	38.5	3.6	81.2	2	2	4	6	5	5	5	.....	2	6513	10482	8	11.56	293.7
Kioto	N. 35 01	E. 135 46	9.11 p.m.	162	49	30.00	762.1	30.19	766.7	35.3	2.1	84.3	3	10	12	.....	4	.....	.....	.....	2	2134	3435	4	0.47	11.9
Nagasaki	N. 32 44	E. 129 52	8.47 p.m.	189	58	30.06	763.4	30.27	768.8	42.7	5.9	74.9	8	3	1	1	2	1	1	6	8	3209	5200	5	3.12	79.4
Niigata	N. 37 55	E. 139 03	9.24 p.m.	32	10	30.06	763.4	30.09	764.4	36.7	2.6	84.4	4	1	12	4	1	8	1	.....	.....	5813	9355	8	8.98	227.5
Nobiru	N. 38 23	E. 141 12	9.32 p.m.	15	5	30.00	762.1	30.02	762.5	35.3	1.8	83.1	14	12	5	.....	.....	.....	.....	.....	.....	8451	13601	5	0.17	4.3
Numazu	N. 35 06	E. 138 51	9.23 p.m.	32	10	30.02	762.4	30.05	763.3	44.1	6.7	71.4	4	1	6	.....	6	.....	10	1	3	.....	.....	3	0.46	11.8
Osaka	N. 34 42	E. 135 30	9.10 p.m.	13	4	30.18	766.6	30.20	767.0	38.3	3.5	80.4	10	5	8	.....	2	.....	3	3	.....	5515	8875	4	0.66	16.6
Supporo	N. 43 04	E. 141 23	9.33 p.m.	60	18	.....	.....	.....	.....	21.6	−5.7	75.7	.....	4	6	3	7	5	3	1	2	5804	9340	5	1.45	36.8
Tokei	N. 35 41	E. 139 46	9.27 p.m.	69	21	29.97	761.2	30.05	763.3	39.3	4.0	73	20	5	3	3	.....	.....	.....	.....	.....	219	352	3	0.40	10.1
Wakayama	N. 34 14	E. 135 09	9.09 p.m.	48	15	30.13	765.4	30.19	766.9	42.1	5.6	72.2	6	10	.....	.....	1	.....	7	5	2	4928	7930	5	0.55	14.1
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.58 p.m.	181	55	29.93	760.3	30.00	762.0	80.4	26.9	68.0	4	3	3	1	.....	3	13	4	.....	.....	.....	6	4.83	122.6
MEXICAN.																										
Guanajuato	N. 21 01	W. 100 48	5.24 a.m.	6759	2060	23.70	601.7	29.92	759.8	48.6	9.2	83	1	.....	1	6	2	2	.....	4	15	.....	.....	4	1.20	30.6
Leon	N. 21 07	W. 101 35	5.22 a.m.	5901	1799	24.36	618.7	30.23	767.8	43.8	6.6	86	3	20	1	.....	.....	1	1	3	2	.....	.....	4	1.52	38.5
Mazatlan	N. 23 11	W. 106 17	5.03 a.m.	249	76	29.74	755.5	29.99	761.8	67.1	19.5	73	1	6	.....	1	.....	1	11	11	.....	.....	.....	3	0.54	13.7
Mexico	N. 19 26	W. 99 00	5.32 a.m.	7490	2283	23.13	587.3	30.30	769.5	43.9	6.6	77	1	6	2	.....	.....	.....	.....	.....	22	.....	.....	4	0.58	14.7
Morella	N. 19 42	W. 101 06	5.22 a.m.	6247	1940	24.23	615.3	30.08	764.1	43.0	6.1	69	2	.....	.....	.....	6	15	4	4	.....	.....	.....	2	1.45	36.8
Pabellon, *e*	N. 22 04	W. 102 04	5.20 a.m.	6312	1924	23.98	609.0	30.11	764.8	44.4	6.9	75	3	4	2	3	.....	.....	.....	1	13	.....	.....	2	0.59	15.0
Puebla	N. 19 02	W. 98 03	5.36 a.m.	7113	2168	23.42	594.7	30.28?	766.5?	54.9?	10.9?	51	.....	1	.....	.....	1	1	.....	1	27	.....	.....	3	0.68?	13.1?
Zacatecas	N. 22 44	W. 102 20	5.18 a.m.	8100	2469	22.51	571.9	30.26	768.7	42.6	5.7	75	1	4	.....	12	1	3	1	9	.....	.....	.....	3	0.82	20.9
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.22 p.m.	0	0	29.70	754.4	29.70	754.4	39.6	4.2	.....	.....	1	2	6	10	5	7	.....	.....	.....	.....	.....	3.00	76.3
Groningen	N. 53 12	E. 6 34	0.34 p.m.	?	?	29.67	753.5	29.72	754.9	36.3	2.4	.....	1	.....	4	4	11	3	7	1	.....	.....	.....	.....	1.26	32.0
Helder	N. 52 58	E. 4 45	0.27 p.m.	0	0	29.69	754.0	29.69	754.0	37.6	3.1	.....	1	1	3	3	6	9	8	.....	.....	.....	.....	.....	2.38	60.5
Helloevoetsluis	N. 51 49	E. 4 08	0.25 p.m.	0	0	29.79	754.4	29.70	754.4	38.3	3.5	90.8	1	2	1	7	4	5	6	3	2	.....	.....	.....	3.99	101.3
Utrecht	N. 52 05	E. 5 07	0.29 p.m.	43	13	29.68	753.8	29.72	755.0	38.1	3.4	89.9	.....	1	.....	5	9	8	7	1	.....	.....	.....	7	3.45	87.7
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.29 p.m.	56	17	29.67	753.6	29.73	755.2	31.5	−0.3	69.5	1	.....	.....	2	7	14	5	.....	2	.....	.....	6	1.73	43.9
Brono	N. 65 28	E. 12 14	0.57 p.m.	34	10	29.77	756.2	29.81	757.2	28.4	−2.0	67.0	1	1	1	3	1	10	4	4	6	.....	.....	6	1.42	36.2
Christiania	N. 59 55	E. 10 45	0.51 p.m.	134	41	29.72	754.8	29.88	758.8	24.1	−4.4	87.9	5	1	.....	2	1	2	12	8	.....	.....	.....	8	1.38	35.1
Gjæsvær	N. 71 07	E. 25 22	1.49 p.m.	23	7	29.81	757.1	29.83	757.7	24.1	−4.4	.....	.....	3	.....	2	3	12	3	5	3	.....	.....	6	.....	.....
Lodingen	N. 68 24	E. 16 01	1.12 p.m.	43	13	29.79	756.7	29.84	757.9	25.9	−3.4	70.7	7	.....	.....	2	1	3	0	4	8	.....	.....	4	2.20	55.8
PORTUGUESE.																										
Angra	N. 38 39	W. 27 14	10.19 a.m.	144	44	29.97	761.2	30.13	765.2	61.9	16.6	82.5	5	6	7	5	6	2	.....	.....	.....			5	7.56	192.1
Campo Major	N. 39 02	W. 6 59	11.40 a.m.	945	288	29.03	737.4	30.06	763.4	59.4	10.2	80.3	4	1	6	4	3	2	5	5	1	.....	.....	7	2.45	62.2
Funchal	N. 32 38	W. 16 55	11.00 a.m.	82	25	30.11	764.9	30.20	767.1	66.0	18.9	61.1	1	1	2	13	.....	4	3	1	6	.....	.....	4	1.25	31.8
Lisbon	N. 38 42	W. 9 08	11.31 a.m.	335	102	29.72	755.0	30.09	764.3	52.9	11.6	80.0	7	1	5	4	4	.....	3	6	1	.....	.....	7	5.70	144.9
Ponta Delgada	N. 37 45	W. 25 41	10.25 a.m.	66	20	30.10	764.6	30.17	766.4	63.9	17.7	75.3	4	6	7	2	6	1	1	.....	4	.....	.....	4	3.84	97.6
St. Paul de Loanda	S. 8 49	E. 13 07	1.00 p.m.	193	59	29.07	753.5	29.87	758.6	79.0	26.1	83.3	2	8	9	11	.....	.....	1	.....	.....	.....	.....	6	0.39	9.8
Serra da Estrella	N. 40 25	W. 7 35	11.37 a.m.	4728	1441	25.19	639.9	30.03	762.7	37.4	3.0	83.0	1	12	5	3	2	6	.....	2	.....	.....	.....	7	17.82	452.6
RUSSIAN.																										
Akmolinski *b*	N. 51 12	E. 71 23	4.54 p.m.	843?	306?	29.20	741.6	30.41	772.3	3.0	−16.1	83.6	2	.....	4	7	5	2	6	.....	3	.....	.....	5	0.11	2.7
Archangel	N. 64 33	E. 40 32	2.50 p.m.	16	5	30.13	765.4	30.15	765.9	5.7	−14.6	88.0	.....	1	1	.....	11	2	13	2	1	.....	.....	9	0.41	10.5
Astrakhan	N. 46 21	E. 48 02	3.20 p.m.	68	21	30.20	768.6	30.18	766.7	30.0	−1.1	80.3	1	.....	6	3	.....	1	14	1	5	.....	.....	8	0.44	11.1
Barnaul	N. 53 20	E. 83 47	5.43 p.m.	459?	140?	30.02	762.5	30.60	777.1	−7.1	−21.7	78.0	.....	1	.....	11	1	.....	2	6	10	.....	.....	4	1.39	35.2
Bielosersk	N. 60 02	E. 37 47	2.39 p.m.	430?	131?	29.68	753.9	30.19	766.9	10.6	−11.9	94.0	1	2	.....	1	10	3	8	1	5	.....	.....	8	1.15	29.2
Dorpat	N. 58 23	E. 26 43	1.55 p.m.	223	68	29.76	755.8	30.02	762.4	18.1	−7.7	97.3	.....	1	4	2	3	7	9	.....	5	.....	.....	8	1.90	48.2
Ekaterinburg	N. 56 49	E. 60 38	4.10 p.m.	894?	272?	29.36	745.7	30.44	773.1	0.5	−17.5	83.7	8	.....	7	.....	3	4	1	1	7	.....	.....	8	0.08	17.2
Elissawetgrad *b*	N. 48 31	E. 32 17	2.17 p.m.	417?	127?	29.63	752.6	30.10	764.4	26.2	−3.2	85.0	6	.....	3	.....	3	2	7	.....	8	.....	.....	8	0.39	9.9
Irkutsk	N. 52 16	E. 104 16	7.05 p.m.	1536	468	28.86	732.9	30.79	782.0	−17.9	−27.7	85.5	4	4	.....	.....	.....	.....	1	.....	22	.....	.....	4	0.11	2.7
Kasan	N. 55 47	E. 49 08	3.24 p.m.	249	76	29.98	761.5	30.28	769.0	10.0	−12.2	73.1	5	.....	1	1	8	4	7	3	2	.....	.....	9	0.47	12.0
Kem	N. 64 57	E. 34 39	2.26 p.m.	43	13	30.01	762.2	30.06	763.5	12.2	−11.0	91.8	2	2	1	6	5	3	3	3	6	.....	.....	8	0.53	13.5
Kertch	N. 45 21	E. 36 29	2.34 p.m.	18?	6?	29.99	761.7	30.01	762.2	36.0	2.2	89.1	1	0	.....	.....	.....	.....	10	2	12	.....	.....	8	1.43	36.3
Kieff	N. 50 27	E. 30 30	2.10 p.m.	600	183	29.34	745.1	30.01	762.3	24.3	−4.3	87.8	3	5	3	2	3	12	1	2	.....	.....	.....	8	1.40	35.5
Libau	N. 56 31	E. 21 01	1.32 p.m.	20	6	29.89	759.2	29.91	759.8	26.4	−3.1	79.3	.....	1	2	2	2	5	11	.....	8	.....	.....	7	0.91	23.1
Lugan	N. 48 35	E. 39 20	2.45 p.m.	188?	57?	29.86	758.4	30.08	764.0	22.8	−5.1	80.9	1	2	5	3	4	.....	13	1	2	.....	.....	8	0.83	21.1
Moscow	N. 55 46	E. 37 40	2.39 p.m.	448	136	29.62	752.4	30.15	765.8	12.4	−10.9	85.8	4	3	1	1	6	5	4	1	6	.....	.....	7	1.41	35.9
Nikolaiev *a*	N. 46 58	E. 31 58	2.16 p.m.	62	19	30.02	762.6	30.10	764.4	30.0	−0.8	89.2	6	.....	.....	2	6	2	7	2	5	.....	.....	7	0.70	17.8
Nikolaievsk *a*	N. 53 08	E. 140 45	9.31 p.m.	75?	23?	29.74	755.5	29.83	757.7	−7.1	−21.7	72.5	.....	4	12	.....	.....	.....	.....	.....	14	.....	.....	7	0.90	22.8
Pekin	N. 39 57	E. 116 28	7.54 p.m.	123?	38?	30.28	769.2	30.42	772.8	22.8	−5.1	46.5	.....	13	.....	1	.....	2	.....	.....	15	.....	.....	2	0.02	0.5
Petrozavodsk	N. 61 47	E. 34 23	2.26 p.m.	180?	55?	29.86	758.5	30.08	764.0	12.7	−10.7	87.0	5	3	1	4	7	4	3	.....	4	.....	.....	8	2.14	54.4
St. Petersburg	N. 59 56	E. 30 16	2.09 p.m.	15	5	30.04	762.9	30.05	763.3	12.6	−10.8	89.6	.....	2	3	4	9	6	6	1	.....	.....	.....	*8	0.89	22.7
Semipalatinsk	N. 50 24	E. 80 13	5.29 p.m.	607?	185?	29.88	758.9	30.63	778.0	−1.8	−18.8	79.1	2	.....	3	1	.....	3	19	.....	3	.....	.....	5	0.13	3.4
Staroi Bykhov	N. 53 31	E. 30 16	2.09 p.m.	423?	129?	29.60	751.8	30.09	764.3	21.4	−5.9	81.9	.....	1	2	2	1	10	12	2	1	.....	.....	10	1.40	35.5
Tashkend	N. 41 19	E. 69 16	4.45 p.m.	1493?	455?	28.59	726.1	30.21	767.4	41.9	5.5	68.2	2	1	.....	.....	.....	.....	1	.....	1	26	.....	5	1.38	35.1
Tiflis	N. 41 43	E. 44 47	3.07 p.m.	1343	409	28.67	728.3	30.11	764.9	48.4	9.1	58.0	9	5	1	.....	2	4	2	.....	8	.....	.....	5	0.03	0.8
Tomsk *b*	N. 56 30	E. 84 58	5.48 p.m.	256?	78?	30.25	768.4	30.58	776.6	−13.2	−25.1	81.6	.....	2	.....	.....	10	1	3	1	12	.....	.....	5	.....	.....
Vladivostock	N. 43 09	E. 132 00	8.56 p.m.	59?	18?	30.10	764.5	30.17	766.2	10.4	−12.0	71.4?	11	4	.....	.....	.....	.....	2	1	7	6	.....	3	0.03	0.8
Warsaw	N. 52 13	E. 21 02	1.32 p.m.	392	119	29.46	748.4	29.91	759.6	29.7	−1.3	85.4	1	2	4	3	9	7	4	1	.....	.....	.....	9	.....	.....
Wilna	N. 54 41	E. 25 18	1.49 p.m.	388	118	29.55	750.6	30.00	761.9	25.3	−3.7	80.2	1	1	1	1	9	9	9	.....	.....	.....	.....	9	0.81	20.6
Yeniseisk	N. 58 27	E. 92 06	6.16 p.m.	262?	80?	30.38	771.6	30.72	780.3	−23.4	−30.8	83.7	.....	1	3	.....	.....	3	4	.....	20	.....	.....	3	0.62	15.7
SCOTTISH.																										
Monach Light H.	N. 57 31	W. 7 42	11.37 a.m.	150	46	.....	.....	29.56	750.8	42.1	5.6	90.4	1	2	4	2	5	5	8	4	.....	.....	.....	8	6.60	167.6
North Unst	N. 60 51	W. 0 53	0.04 p.m.	230	70	.....	.....	29.62	752.3	.....	.....	.....	3	4	1	.....	9	6	5	3	.....	.....	.....	8	.....	.....
SPANISH.																										
Barcelona	N. 41 23	E. 2 11	0.16 p.m.	98	30	29.80	757.0	29.91	759.7	54.7	12.6	67	1	5	10	5	1	1	7	1	.....	2175	3500	4	1.05	26.6
Bilbao	N. 43 15	W. 2 59	11.56 a.m.	52	16	29.91	759.7	29.97	761.2	53.4	11.9	75	.....	10	1	1	3	14	.....	.....	2	2633	4237	7	6.84	173.8
Burgos	N. 42 20	W. 3 46	11.53 a.m.	2821	860	27.01	686.0	30.07	763.8	39.9	4.4	84	5	1	10	3	12	.....	.....	.....	.....	5282	8500	8	3.04	77.2
Madrid	N. 40 25	W. 3 42	11.53 a.m.	2152	656	27.78	705.5	30.07	763.8	42.6	5.9	81.0	2	3	2	1	1	3	2	9	8	4920	7918	4	3.35	85.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea. Feet.	Met'rs	Result of Simultaneous Observations for December, 1882. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Kil.	Average Cloudiness. 0-10	Total Precipitation. Inch.	Mill.
SPANISH.—Con.	° ′	° ′																								
Murcia	N. 37 59	W. 1 10	0.03 p.m.	141	43	29.82	757.5	29.97	761.2	51.4	10.8	75.0	1	6	7	7	6	.....	2	2	1	1725	2776	6	2.91	73.8
Oviedo	N. 43 23	W. 5 49	11.45 a.m.	800	244	29.08	738.5	29.95	760.8	47	8.4	72	2	1	.....	.....	7	8	13	.....	.....	3833	6168	8	3.22	81.8
Santiago	N. 42 53	W. 8 28	11.34 a.m.	863	263	29.03	737.3	29.93	760.3	49.8	9.9	85.8	2	3	2	10	3	2	1	1	6	6851	11026	8	9.36	237.7
Sub-Series.																										
Manilla	N. 14 35	E. 120 56	8.12 p.m.	54	16	29.86	758.5	29.92	760.0	77.6	25.3	83.0	18	1	1	.....	1	.....	4	6	.....	.....	.....	5	4.03	102.4
San Fernando	N. 36 28	W. 6 13	11.43 a.m.	95	29	29.99	761.8	30.09	764.4	55.8	13.2	78.2	.....	9	6	.....	1	1	2	5	7	.....	.....	7	6.51	165.4
San Juan de Porto Rico	N. 18 30	W. 66 10	7.44 a.m.	82	25	29.95	760.7	30.04	763.0	76.8	24.9	86	.....	.....	.....	.....	.....	3	5	6	17	.....	.....	3	2.00	50.8
Tuguegarao	N. 17 37	E. 121 30	8.14 p.m.	125	38	29.87	758.8	30.00	762.1	72.7	22.6	91.9	15	11	1	.....	.....	1	1	.....	2	.....	.....	8	3.55	90.2
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.44 p.m.	29	9	29.98	761.6	30.02	762.6	9.0	-12.8	98	5	1	.....	2	5	4	3	8	3	.....	.....	8	0.41	10.3
Umea	N. 63 50	E. 20 17	1.29 p.m.	39	12	29.93	760.1	29.98	761.4	15.3	-9.3	92	3	6	1	3	2	3	1	8	4	.....	.....	8	2.11	53.7
Hernosand	N. 62 32	E. 17 57	1.20 p.m.	46	14	29.90	759.5	29.95	760.8	21.0	-6.1	88	1	.....	.....	3	1	2	3	6	15	.....	.....	8	1.99	50.5
Stockholm	N. 59 20	E. 18 04	1.20 p.m.	144	44	29.72	754.8	29.89	759.5	26.2	-3.2	87	3	5	3	1	4	7	3	2	3	.....	.....	9	1.50	38.1
Wisby	N. 57 39	E. 18 19	1.21 p.m.	52	16	29.79	756.7	29.85	758.2	30.2	-1.0	87	1	4	.....	1	6	10	8	1	.....	.....	.....	8	1.90	48.2
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.19 p.m.	79	24	29.80	757.0	29.89	759.2	23.4	-4.8	95.1	2	7	2	.....	3	7	5	5	.....	.....	.....	9	1.27	32.2
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.33 p.m.	1338	408	28.48	723.4	29.05	760.7	39.0	3.9	80.0	2	.....	3	8	9	4	3	2	.....	.....	.....	8	5.14	130.5
TURKISH.																										
Constantinople	N 41 00	E. 28 59	2.04 p.m.	230	70	.....	.....	30.02	762.6	51.6	10.9	71	8	1	3	9	1	1	2	6	.....	.....	.....	7	2.56	65.1
Valona	N. 40 27	E. 19 27	1.26 p.m.	105	32	.....	.....	29.98	761.6	56.7	13.7	.....	1	5	3	3	8	7	.....	4	.....	.....	.....	5	0.38	9.6
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.30 p.m.	111	34	.....	.....	30.03	762.8	65.5	18.6	66	6	3	5	8	.....	1	1	5	2	.....	.....	5	6.36	161.5
UNITED STATES.																										
Albany	N. 42 39	W. 73 45	7.13 a.m.	75	23	30.01	762.2	30.10	764.5	29.7	-1.3	69.5	7	11	4	2	6	.....	.....	1	.....	4055	6526	9	2.24	56.9
Alpena	N. 45 05	W. 83 30	6.34 a.m.	609	185	29.34	745.2	30.05	763.3	22.9	-5.1	85.1	2	6	13	3	4	2	1	.....	.....	7307	11759	9	2.44	62.0
Apache, Fort	N. 33 48	W. 109 57	4.48 a.m.	5050	1539	25.09	637.3	30.17	766.3	23.9	-4.5	62.4	.....	.....	.....	1	.....	.....	1	29	.....	4027	6481	1	0.23	5.8
Assinnaboine, Ft.	N. 48 32	W. 109 42	4.49 a.m.	2710	826	27.18	690.4	30.21	767.3	18.7	-7.4	63.5	.....	1	4	22	.....	.....	.....	4	.....	8011	12870	4	1.30	34.5
Atlanta	N. 33 45	W. 84 23	6.31 a.m.	1131	345	28.99	736.3	30.22	767.6	35.0	1.7	78.0	.....	10	8	1	1	.....	9	2	.....	6714	10805	5	4.37	111.0
Atlantic City	N. 39 22	W. 74 25	7.10 a.m.	13	4	30.12	765.0	30.13	765.3	30.5	-0.8	74.6	6	8	8	3	3	1	.....	2	.....	6354	10225	5	3.37	85.6
Augusta	N. 33 28	W. 81 54	6.40 a.m.	183	56	30.03	762.7	30.23	767.8	38.6	3.7	80.9	2	7	2	1	1	.....	2	5	11	2144	3450	5	4.45	113.0
Baltimore	N. 39 18	W. 76 37	7.02 a.m.	45	14	30.14	765.5	30.19	766.8	33.2	0.7	70.7	4	13	6	2	2	1	1	1	1	4439	7144	5	1.70	43.2
Barnegat	N. 39 46	W. 74 06	7.12 a.m.	20	6	30.10	764.5	30.12	765.0	31.5	-0.3	80.1	7	7	11	4	1	.....	1	.....	.....	10573	17015	5	3.36	85.3
Behring Id	N. 55 12	E. 165 55	11.12 p.m.	20	6	29.52	749.8	29.54	750.3	27.3	-2.6	.....	5	2	1	3	4	4	7	3	2	10584	17033	8	2.21	56.1
Bennett, Fort	N. 44 43	W. 100 39	5.26 a.m.	1510	457	28.50	723.9	30.26	768.6	13.3	-10.4	80.3	.....	11	.....	.....	.....	4	.....	1	15	3237	5209	5	0.05	1.3
Benton, Fort	N. 47 50	W. 110 40	4.45 a.m.	2700	823	27.22	691.4	30.22	767.6	20.9	-6.2	66.4	.....	1	.....	13	.....	.....	2	3	12	4662	7503	4	1.00	25.4
Bismarck *a*	N. 46 47	W. 100 38	5.26 a.m.	1694	516	28.23	717.0	30.24	768.1	8.1	-13.3	80.9	2	12	2	.....	2	2	5	.....	5	5681	9142	3	0.43	10.9
Block Id	N. 41 10	W. 71 36	7.22 a.m.	27	8	30.05	763.3	30.08	764.0	32.8	0.4	80.0	10	8	4	1	2	.....	1	2	3	10407	16748	5	3.57	90.7
Boise City	N. 43 37	W. 116 08	4.24 a.m.	2750	838	27.33	694.2	30.31	769.9	23.2	-4.9	90.0	5	7	8	.....	1	2	1	3	4	2276	3663	7	2.20	55.9
Boston	N. 42 21	W. 71 04	7.24 a.m.	142	43	29.89	759.2	30.05	763.3	28.3	-2.1	75.1	1	10	12	3	1	2	.....	2	.....	7826	12598	5	2.65	67.3
Brownsville	N. 25 53	W. 97 26	5.38 a.m.	43	13	30.05	763.3	30.10	764.5	55.4	13.0	85.8	12	.....	.....	.....	6	2	.....	4	7	6128	9862	4	2.38	60.5
Buffalo	N. 42 53	W. 78 53	6.52 a.m.	696	212	29.29	744.0	30.09	764.3	26.3	-3.2	83.7	.....	2	4	14	2	5	1	3	.....	9948	11610	9	3.39	86.1
Buford, Fort *a*	N. 48 00	W. 103 56	5.12 a.m.	1900	579	28.00	711.2	30.24	768.1	.....	.....	.....	.....	4	5	4	8	2	4	1	2	5452	8774	4	0.51	13.0
Burlington	N. 44 29	W. 73 13	7.15 a.m.	268	82	29.74	755.4	30.05	763.3	22.6	-5.2	79.7	5	1	3	2	12	2	2	4	.....	6084	9789	9	1.00	40.6
Cairo	N. 37 00	W. 89 10	6.11 a.m.	377	115	29.79	756.7	30.21	767.3	33.9	1.1	81.0	10	.....	2	5	6	3	.....	3	2	6276	10100	6	2.65	67.3
Campo	N. 32 37	W. 116 25	4.22 a.m.	2500	762	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Henry	N. 36 56	W. 76 00	7.04 a.m.	16	5	30.16	766.1	30.18	766.6	37.2	2.9	75.8	6	9	2	6	4	.....	1	3	.....	9455	15216	6	5.67	144.0
Cape May	N. 38 56	W. 74 58	7.08 a.m.	27	8	30.12	765.0	30.15	765.8	35.7	2.1	76.3	3	13	6	2	3	1	1	2	.....	12901	20762	5	3.88	98.6
Cape Mendocino	N. 40 26	W. 124 24	3.50 a.m.	637	194	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cedar Keys	N. 29 08	W. 83 02	6.36 a.m.	22	7	30.15	765.8	30.17	766.3	50.8	10.4	81.7	7	6	3	.....	.....	5	3	7	.....	6561	10559	6	3.23	82.0
Champaign	N. 40 08	W. 88 14	6.15 a.m.	767	234	29.28	743.7	30.14	765.5	24.2	-4.3	68.2	.....	10	4	10	1	6	.....	.....	.....	9096	14638	8	2.21	56.1
Charleston *a*	N. 32 47	W. 79 56	6.48 a.m.	52	16	30.12	765.0	30.18	766.6	44.1	6.7	84.0	8	5	3	8	.....	.....	1	5	.....	5735	9229	4	3.99	101.3
Charlotte	N. 35 13	W. 80 51	6.44 a.m.	808	246	29.29	744.0	30.18	766.6	32.6	0.3	80.5	6	4	2	4	2	1	4	6	2	3332	5362	4	4.91	124.7
Chattanooga	N. 35 04	W. 85 15	6.27 a.m.	783	239	29.37	746.0	30.23	767.8	33.3	0.7	76.9	2	9	1	2	3	3	1	5	5	4071	7517	5	2.61	66.3
Cheyenne	N. 41 08	W. 104 48	5.09 a.m.	6089	1856	23.97	608.8	30.25	768.3	24.9	-3.9	56.1	5	14	5	4	.....	.....	.....	2	1	7529	12100	4	0.10	2.5
Chicago	N. 41 52	W. 87 38	6.18 a.m.	661	201	29.36	745.7	30.12	765.0	23.5	-4.7	77.3	.....	5	10	9	2	5	.....	.....	.....	6377	10262	6	1.99	50.5
Chincoteague	N. 37 55	W. 75 23	7.06 a.m.	18	5	30.14	765.5	30.16	766.1	34.3	1.3	79.9	4	11	5	2	3	2	.....	4	.....	7993	12863	6	4.81	122.2
Cincinnati	N. 39 06	W. 84 30	6.30 a.m.	620	189	29.50	749.3	30.20	767.1	31.6	-0.2	76.2	2	8	2	5	2	2	3	4	3	4220	6791	6	2.39	60.7
Cleveland	N. 41 30	W. 81 42	6.41 a.m.	690	210	29.36	745.7	30.15	765.8	25.3	-3.7	86.1	.....	2	8	6	8	6	.....	1	.....	8167	13143	9	2.41	61.2
Coleman City	N. 31 53	W. 99 18	5.31 a.m.	1709	521	28.31	719.1	30.21	767.3	35.0	1.7	84.8	9	5	1	5	3	3	1	1	3	7183	11560	4	0.02	15.7
Columbus	N. 39 58	W. 83 00	6.36 a.m.	805	245	29.25	742.9	30.16	766.1	28.7	-1.8	74.1	1	1	10	4	9	1	4	1	.....	6501	10462	9	2.28	57.9
Concho, Fort	N. 31 25	W. 100 24	5.26 a.m.	1900	579	28.18	715.8	30.20	767.1	34.9	1.6	77.2	6	2	6	5	5	1	.....	.....	6	7455	11997	3	0.55	14.0
Custer, Fort	N. 45 42	W. 107 34	4.58 a.m.	3040	927	26.86	682.2	30.26	768.6	20.9	-6.2	71.7	4	4	4	4	.....	1	13	1	.....	5322	8564	5	1.19	30.2
Davenport	N. 41 30	W. 90 38	6.06 a.m.	615	187	29.44	747.8	30.15	765.8	25.2	-3.8	71.2	5	6	5	3	3	5	1	2	1	6349	10218	8	1.78	45.2
Davis, Fort	N. 30 38	W. 103 56	5.12 a.m.	4940	1506	25.24	641.1	30.18	766.6	33.1	0.6	73.4	1	4	.....	2	1	.....	.....	1	22	4041	6503	2	0.02	0.5
Dayton	N. 46 19	W. 117 56	4.16 a.m.	1660	506	28.35	720.1	30.18	766.6	35.9	2.2	86.4	2	.....	1	16	7	1	.....	4	.....	5076	8169	6	7.12	180.8
Deadwood	N. 44 23	W. 103 43	5.13 a.m.	4600	1402	25.32	643.1	30.30	769.6	23.5	-4.7	83.0	.....	1	1	.....	2	1	7	10	9	2226	3582	5	2.57	65.3
Del. Breakwater	N. 38 48	W. 75 10	7.07 a.m.	20	6	30.14	765.5	30.16	766.1	33.4	0.8	79.5	4	11	4	6	1	1	1	3	.....	11809	19004	5	3.12	79.2
Denison	N. 33 48	W. 96 32	5.42 a.m.	767	234	29.33	745.0	30.18	766.6	37.4	3.0	78.1	8	4	2	5	6	1	.....	3	2	5806	9344	4	1.99	50.5
Denver	N. 39 45	W. 105 06	5.08 a.m.	5294	1614	24.71	627.6	30.23	767.8	29.3	-1.5	63.2	2	3	5	1	11	4	2	.....	3	4261	6857	2	0.73	18.5
Des Moines	N. 41 35	W. 93 37	5.54 a.m.	849	259	29.19	741.4	30.17	766.3	21.5	-5.8	72.2	9	7	3	4	1	3	2	2	.....	4855	7813	7	2.50	63.5
Detroit	N. 42 20	W. 83 03	6.36 a.m.	661	201	29.36	745.7	30.12	765.0	29.6	-1.3	83.1	2	3	8	6	6	3	2	1	.....	7772	12508	8	1.50	38.1
Dodge City	N. 37 45	W. 100 00	5.28 a.m.	2512	766	27.45	697.2	30.25	768.3	22.2	-5.4	73.6	13	2	7	1	4	.....	.....	.....	4	6766	10889	3	0.11	2.8
Dubuque	N. 42 30	W. 90 44	6.05 a.m.	665	203	29.37	746.0	30.14	765.5	21.1	-6.1	69.6	1	7	7	1	3	4	2	.....	6.	2917	4694	7	1.79	45.5
Duluth	N. 46 48	W. 92 06	6.00 a.m.	644	184	29.33	745.0	30.14	765.5	13.6	-10.2	79.0	3	9	6	6	5	1	1	.....	.....	6042	9724	7	1.11	28.2
Eagle Pass	N. 28 44	W. 100 29	5.26 a.m.	780	238	29.36	745.7	30.20	767.1	40.9	4.9	73.6	1	11	.....	.....	.....	2	3	1	13	3747	6030	3	0.09	2.3
Eagle Rock	N. 43 32	W. 111 55	4.40 a.m.	4650	1415	25.35	643.9	30.27	768.8	19.2	-7.1	81.3	10	.....	.....	16	.....	.....	2	.....	3	7463	12010	4	1.24	31.5
Eastport	N. 44 54	W. 66 59	7.40 a.m.	61	18	29.91	759.7	29.98	761.5	22.3	-5.4	79.1	6	8	6	4	3	1	.....	3	.....	8545	13751	7	2.80	71.1
Elliott, Fort	N. 35 30	W. 100 21	5.27 a.m.	2650	808	27.27	692.6	30.24	768.1	25.4	-3.7	64.7	12	5	1	2	2	1	.....	4	4	7511	12088	2	0.40	10.2
El Paso	N. 31 47	W. 106 30	5.02 a.m.	3760	1146	26.33	668.8	30.19	766.8	33.1	0.6	71.2	.....	9	6	1	.....	1	.....	2	12	3443	5541	1	0	0
Erie	N. 42 07	W. 80 05	6.48 a.m.	681	208	29.33	745.0	30.10	764.5	27.9	-2.3	80.4	1	4	4	12	8	1	.....	1	.....	9749	15689	9	3.23	82.0
Escanaba	N. 45 48	W. 87 05	6.20 a.m.	612	186	29.34	745.2	30.06	763.5	21.4	-5.9	83.1	5	4	8	2	3	3	1	.....	5	6068	9765	8	1.54	39.1
Fredericksburg	N. 30 17	W. 98 52	5.32 a.m.	1700	518	28.37	720.6	30.19	766.8	42.1	5.6	85.9	8	1	7	6	1	1	1	2	4	5278	8494	4	0.90	22.9
Galveston	N. 29 18	W. 94 47	5.49 a.m.	48	15	30.09	764.3	30.14	765.5	55.0	12.8	81.5	3	2	1	3	2	8	3	9	.....	9842	15839	4	3.78	96.0
Grand Haven	N. 43 05	W. 86 18	6.23 a.m.	620	189	29.36	745.7	30.07	763.8	27.0	-2.8	82.1	1	1	9	4	4	3	2	5	2	8757	14093	10	2.70	70.1
Grant, Fort	N. 32 39	W. 109 57	4.48 a.m.	4860	1481	25.28	642.1	30.16	766.1	35.3	1.8	69.5	5	2	1	.....	.....	.....	6	15	2	4142	6666	1	0.17	4.3
Hatteras	N. 35 15	W. 75 40	7.05 a.m.	19	6	30.15	765.8	30.17	766.3	42.8	6.0	82.9	6	5	3	1	3	1	1	11	.....	12279	19761	6	6.86	174.2
Helena	N. 46 34	W. 112 04	4.40 a.m.	4100	1250	25.81	655.6	30.19	766.8	24.2	-4.3	77.7	.....	6	.....	12	.....	.....	.....	.....	13	4410	7097	6	0.48	12.2
Henrietta	N. 33 46	W. 98 12	5.35 a.m.	980	300	29.13	739.9	30.21	767.3	33.5	0.8	82.1	9	4	.....	2	5	3	.....	1	7	5105	8216	4	0.06	1.5
Huron	N. 44 21	W. 98 09	5.35 a.m.	1305	398	28.69	728.7	30.23	767.8	11.9	-11.2	63.2	4	16	1	.....	.....	9	1	.....	.....	6340	10304	6	0.23	5.8
Indianapolis	N. 39 46	W. 86 10	6.23 a.m.	753	229	29.30	744.2	30.15	765.8	27.4	-2.6	77.7	.....	9	5	7	1	7	1	1	.....	4830	7773	7	2.53	64.3
Indianola	N. 28 32	W. 96 31	5.42 a.m.	26	8	30.10	764.5	30.13	765.3	54.2	12.3	82.7	7	1	2	3	3	3	3	7	2	10260	16512	4	2.20	57.4
Jacksboro *a*	N. 33 12	W. 98 10	5.35 a.m.	1120	341	28.98	736.1	30.22	767.6	35.7	2.1	65.6	14	1	.....	5	4	3	.....	2	1	4914	7908	3	0.16	4.1
Jacksonville	N. 30 20	W. 81 39	6.42 a.m.	43	13	30.14	765.5	30.19	766.8	49.7	9.8	83.7	5	6	3	1	1	2	1	1	11	2444	3933	5	4.34	110.2
Keogh, Fort	N. 46 22	W. 105 56	5.04 a.m.	2372	723	27.52	699.0	30.22	767.6	16.6	-8.6	75.6	3	4	4	4	.....	.....	3	2	11	4127	6642	4	0.37	9.4
Keokuk	N. 40 22	W. 91 26	6.02 a.m.	618	188	29.45	748.0	30.16	766.1	24.6	-4.1	79.1	1	7	8	2	4	3	3	2	1	5237	8428	6	1.75	44.4
Key West	N. 24 34	W. 81 49	6.41 a.m.	20	6	30.07	763.8	30.09	764.3	67.7	19.8	86.6	6	2	.....	.....	.....	4	3	14	2	7990	12858	4	1.92	48.8
Kittyhawk	N. 36 00	W. 75 42	7.05 a.m.	22	7	30.17	766.3	30.19	766.8	39.6	4.2	78.2	2	7	1	5	1	1	2	12	.....	11719	18800	5	4.72	119.9
Knoxville	N. 35 56	W. 83 58	6.32 a.m.	980	299	29.16	740.7	30.24	768.1	29.3	-1.5	84.8	7	2	2	.....	.....	1	3	13	3	3830	6164	5	2.47	62.7
La Crosse	N. 43 49	W. 91 15	6.03 a.m.	725	221	29.28	743.7	30.13	765.3	17.0	-8.3	75.0	7	4	7	3	3	4	2	.....	1	5391	8676	7	1.13	28.7
Leavenworth	N. 39 19	W. 94 57	5.48 a.m.	842	256	29.24	742.7	30.20	767.1	27.4	-2.6	81.2	6	10	.....	1	7	.....	3	.....	4	5211	8386	6	1.13	28.7
Lewiston	N. 46 28	W. 117 05	4.20 a.m.	780	238	29.32	744.7	30.20	767.1	34.7	1.5	82.7	2	.....	2	.....	6	1	17	3	.....	2395	3854	6	4.88	123.9
Little Rock *a*	N. 34 45	W. 92 00	6.00 a.m.	298	91	29.85	758.2	30.18	766.6	38.5	3.6	76.0	6	4	1	2	2	1	1	2	11	3892	6203	5	1.33	33.8
Los Angeles	N. 34 03	W. 118 15	4.15 a.m.	371	113	29.70	754.4	30.10	764.5	48.1	8.9	61.5	3	.....	2	.....	.....	.....	2	24	.....	4384	7055	2	0.08	2.0
Louisville	N. 38 15	W. 85 45	6.25 a.m.	530	162	29.56	750.8	30.16	766.1	34.2	1.2	69.8	3	7	8	5	4	2	2	.....	.....	6167	9925	7	1.99	50.5
Lynchburg	N. 37 25	W. 79 09	6.52 a.m.	652	199	29.46	748.3	30.19	766.8	31.2	-0.4	69.5	1	6	3	2	2	.....	1	2	14	2284	3676	5	3.04	77.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for December, 1882.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Met'rs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.	° ′	° ′																									
Mackinaw City	N. 45 47	W. 84 39	6.30 a.m.	605	184	29.35	745.5	30.05	763.3	25.0	−3.9	81.5	2	13	1	1	4	3	2	3	2	9397	15123	9	3.94	100.1
Macon, Fort	N. 34 42	W. 76 40	7.01 a.m.	11	3	30.16	766.1	30.17	766.3	40.5	4.7	81.7	8	10	3	2	1	1	.....	0	.....	8225	13237	6	4.09	119.1
Madison	N. 43 05	W. 89 24	6.10 a.m.	949	289	29.03	737.3	30.13	765.3	19.3	−7.1	78.5	3	9	6	3	1	6	2	1	.....	6853	11029	7	2.03	51.6
Maginnis Fort	N. 47 12	W. 109 10	4.51 a.m.	4340	1324	25.50	647.7	30.04	763.0	25.2	−3.8	54.9	1	11	15	3	.....	...	.....	1	.....	10983	17627	5	1.03	26.2
McKavett, Fort *f*	N. 30 48	W. 100 07	5.28 a.m.	2240	683	27.88	708.1	30.26	768.6	34.4	1.3	80.0	6	2	2	5	6	.....	.....	2	2	4235	6815	4	0.28	7.1
Marquette	N. 46 34	W. 87 24	6.18 a.m.	673	205	29.25	742.9	30.03	762.7	22.6	−5.2	73.0	.....	12	9	3	1	3	3	.....	.....	7500	12070	8	2.55	64.8
Memphis	N. 35 09	W. 90 03	6.08 a.m.	321	98	29.85	758.2	30.21	767.3	37.3	2.9	79.6	.....	7	3	1	3	7	.....	2	8	3385	5448	6	1.78	45.2
Milwaukee	N. 43 02	W. 87 54	6.16 a.m.	697	212	29.29	744.0	30.10	764.5	22.8	−5.1	78.5	.....	6	12	7	2	2	1	.....	1	8946	14397	7	1.07	42.4
Missoula, Fort	N. 46 50	W. 114 07	4.32 a.m.	3140	957	26.79	680.5	30.25	768.3	24.3	−4.3	73.4	6	8	3	2	.....	2	1	2	7	2255	3629	6	0.95	24.1
Mobile	N. 30 41	W. 88 02	6.16 a.m.	41	12	30.14	765.5	30.18	766.6	43.4	6.3	83.0	13	5	1	2	1	1	1	5	2	4458	7174	4	5.84	148.3
Montgomery	N. 32 23	W. 86 18	6.23 a.m.	219	66	29.96	761.0	30.20	767.1	38.3	3.5	84.2	.....	8	1	1	.....	1	3	5	12	3315	5335	4	3.88	98.6
Moorhead *a*	N. 46 52	W. 96 44	5.41 a.m.	923	281	29.09	738.9	30.20	767.1	1.3	−17.1	84.4	11	4	2	.....	5	6	.....	1	1	8398	13515	5	1.37	34.8
Morgantown	N. 39 40	W. 79 50	6.49 a.m.	963	293	29.13	739.9	30.20	767.1	31.0	−0.6	78.3	1	3	2	15	2	3	1	2	2	5518	8880	6	1.92	48.8
Mt. Washington	N. 44 16	W. 71 18	7.23 a.m.	6279	1914	23.44	595.4	30.07	763.8	9.3	−12.6	86.0	2	19	3	1	3	.....	1	1	1	23411	37676	4	2.64	67.1
Nashville	N. 36 10	W. 86 47	6.21 a.m.	507	154	29.58	751.3	30.19	766.8	33.7	0.9	84.2	7	3	3	5	1	5	4	1	2	5252	8452	6	1.46	37.1
New Haven	N. 41 18	W. 72 56	7.16 a.m.	107	32	29.97	761.2	30.09	764.3	25.6	−3.6	79.8	8	7	6	3	1	.....	.....	4	2	5798	9331	6	2.99	75.9
New London	N. 41 21	W. 72 05	7.20 a.m.	47	14	30.06	763.5	30.11	764.8	28.2	−2.1	75.9	5	7	5	3	1	.....	1	2	7	4984	8021	5	1.50	38.1
New Orleans	N. 29 58	W. 90 04	6.08 a.m.	52	16	30.11	764.8	30.17	766.3	50.2	10.1	75.0	8	1	1	4	2	4	4	6	1	5915	9519	6	4.27	108.5
Newport	N. 41 29	W. 71 19	7.23 a.m.	44	13	30.01	762.2	30.06	763.5	30.9	−0.6	79.5	5	8	8	5	2	.....	.....	3	.....	8108	13048	6	3.91	99.3
New York	N. 40 43	W. 74 00	7.12 a.m.	164	50	29.94	760.5	30.13	765.3	29.8	−1.2	82.1	.....	1	12	9	2	.....	1	4	2	5954	9582	6	2.22	56.4
Norfolk	N. 36 51	W. 76 17	7.03 a.m.	30	9	30.15	765.8	30.18	766.6	39.3	4.1	74.1	12	3	3	3	2	1	1	2	4	4572	7358	5	6.09	154.7
North Platte	N. 41 08	W. 100 45	5.25 a.m.	2841	866	27.10	688.3	30.26	768.6	20.3	−5.5	73.4	1	11	5	1	1	.....	.....	.....	12	5738	9234	3	0.71	18.0
Olympia	N. 47 03	W. 122 53	3.57 a.m.	36	11	30.03	762.7	30.07	763.8	41.1	5.1	88.2	3	1	.....	.....	18	.....	.....	3	6	3532	5684	8	10.32	262.1
Omaha	N. 41 16	W. 95 56	5.44 a.m.	1113	339	28.93	734.8	30.22	767.6	20.5	−6.4	74.9	13	5	2	1	9	.....	.....	.....	1	7054	11352	5	0.92	23.4
Ooglaamie	N. 71 17	W. 156 40	1.41 a.m.	17	5	30.09	764.3	30.11	764.8	-20.6	-29.2	.....	4	4	.....	1	3	5	6	6	2	.....	.....	2	0.24	6.1
Oswego	N. 43 29	W. 76 35	7.02 a.m.	304	93	29.70	754.4	30.05	763.3	28.9	−1.7	74.3	4	6	7	4	1	6	2	1	.....	8732	14053	9	4.90	124.5
Palestine	N. 31 45	W. 95 40	5.45 a.m.	523	162	29.62	752.3	30.20	767.1	44.1	6.7	75.0	11	.....	4	2	8	1	1	4	.....	7128	11471	5	1.61	40.9
Pensacola	N. 30 25	W. 87 13	6.19 a.m.	30	9	30.16	766.1	30.18	766.6	45.7	7.6	79.6	10	5	2	1	.....	1	.....	9	3	5397	8686	5	6.12	155.4
Philadelphia	N. 39 57	W. 75 09	7.07 a.m.	92	28	30.05	763.3	30.16	766.1	33.1	0.6	71.7	.....	14	5	5	.....	3	.....	3	1	5831	9384	5	1.97	50.0
Pike's Peak	N. 38 50	W. 105 02	5.08 a.m.	14134	4308	17.61	447.3	30.27	768.8	5.3	−14.8	78.2	1	13	6	2	.....	.....	.....	8	1	125484	201946	3	0.44	11.2
Pioche	N. 37 56	W. 114 26	4.30 a.m.	6110	1862	24.08	611.6	30.26	768.6	29.8	−1.2	61.0	5	14	6	1	5	.....	.....	.....	.....	4437	7141	2	0.08	2.0
Pittsburg	N. 40 32	W. 80 02	6.48 a.m.	762	232	29.31	744.5	30.17	765.3	28.5	−1.9	79.5	3	2	6	5	6	4	1	3	1	4573	7359	8	1.42	36.1
Poplar River	N. 48 08	W. 105 10	5.07 a.m.	2030	619	27.82	706.6	30.18	766.6	.....	.....	.....	.....	23	4	1	.....	.....	.....	3	.....	.....	.....	2	0.48	12.2
Port Eads	N. 29 09	W. 89 15	6.11 a.m.	7	2	30.15	765.8	30.16	766.1	54.9	12.7	81.9	11	3	1	3	1	2	2	8	.....	10081	16223	4	2.70	70.1
Port Huron	N. 43 00	W. 82 26	6.38 a.m.	633	193	29.36	745.7	30.08	764.0	23.9	−4.5	89.3	1	4	9	7	3	3	3	.....	1	6650	10702	9	2.95	74.9
Portland, Maine	N. 43 39	W. 70 15	7.27 a.m.	45	14	29.97	761.2	30.02	762.5	25.6	−3.6	74.3	7	9	10	3	.....	.....	.....	2	.....	6070	9768	5	2.61	66.3
Portland, Oregon	N. 45 32	W. 122 43	3.57 a.m.	67	20	30.03	762.7	30.10	764.5	43.9	6.6	89.4	.....	2	2	4	10	2	3	2	6	4406	7091	7	20.14	511.6
Portsmouth	N. 35 02	W. 76 04	7.04 a.m.	40	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	0	0
Prescott	N. 34 33	W. 112 28	4.38 a.m.	5340	1628	24.80	629.9	30.18	766.6	27.3	−2.6	76.6	.....	1	11	11	5	...	2	1	.....	3717	5982	2	0	0
Provincetown	N. 42 03	W. 70 11	7.27 a.m.	26	8	30.00	762.0	30.03	762.7	32.1	0.1	78.8	3	7	8	5	1	2	2	3	.....	8349	13436	7	5.57	141.5
Punta Rassa	N. 26 29	W. 82 01	6.40 a.m.	13	4	30.11	764.8	30.12	765.0	58.0	14.4	83.2	6	1	.....	2	3	1	4	14	.....	7949	12792	5	1.10	27.9
Red Bluff *b*	N. 40 10	W. 122 15	3.59 a.m.	350	106	29.79	756.7	30.20	767.1	42.8	6.0	85.3	15	7	.....	.....	1	1	1	2	2	3499	5631	3	1.44	36.6
Rochester	N. 43 08	W. 77 42	6.57 a.m.	621	189	29.36	745.7	30.08	764.0	25.3	−3.7	87.4	.....	4	15	3	3	4	2	.....	.....	10087	16233	9	2.10	53.3
Roseburg	N. 43 13	W. 123 20	3.55 a.m.	511	156	29.59	751.6	30.16	766.1	42.2	5.7	87.7	1	3	.....	4	7	3	7	4	2	2147	3455	6	6.54	166.1
Sacramento	N. 38 35	W. 121 30	4.02 a.m.	65	20	30.11	764.8	30.19	766.8	43.7	6.5	89.2	3	6	.....	3	2	13	3	.....	1	3544	5703	2	1.13	28.7
Saint Louis	N. 38 38	W. 90 12	6.07 a.m.	568	173	29.54	750.3	30.19	766.8	29.1	−1.6	89.4	3	8	3	6	7	2	1	1	...	7830	12601	7	1.81	46.0
Saint Michael, Ft	N. 63 48	W. 162 00	1.20 a.m.	30	9	29.82	757.4	29.86	758.4	-6.5	-21.4	100	7	.....	.....	.....	.....	1	4	8	11	.....	.....	2	0.12	3.0
Saint Paul	N. 44 58	W. 93 03	5.56 a.m.	811	247	29.19	741.4	30.15	765.8	12.9	−10.6	81.0	2	6	5	7	.....	7	1	.....	3	5856	9424	7	0.98	24.9
Saint Vincent	N. 48 56	W. 97 14	5.39 a.m.	804	245	29.20	741.7	30.19	766.8	3.0	−16.1	90.2	4	9	1	1	5	6	.....	1	4	6246	10052	5	0.72	18.3
Salt Lake City	N. 40 46	W. 111 54	4.40 a.m.	4348	1325	25.73	653.5	30.27	768.8	31.4	−0.3	61.4	1	3	1	.....	.....	5	2	2	17	2726	4387	5	0.92	23.4
San Antonio	N. 29 25	W. 98 25	5.34 a.m.	673	205	29.43	747.5	30.15	765.8	43.3	6.3	78.7	9	2	1	1	.....	1	3	4	10	3822	6151	3	0.70	17.8
San Diego *a*	N. 32 43	W. 117 10	4.19 a.m.	67	20	29.99	761.7	30.06	763.5	49.1	9.5	71.3	8	1	1	.....	1	1	3	14	1	3706	5964	2	0.13	3.3
Sandusky	N. 41 25	W. 82 40	6.37 a.m.	639	195	29.40	746.7	30.13	765.3	27.7	−2.4	78.6	1	2	14	8	2	4	.....	.....	1	9474	15247	9	1.61	40.9
Sandy Hook	N. 40 28	W. 74 00	7.12 a.m.	28	8	30.10	764.5	30.13	765.3	31.0	−0.6	78.5	4	7	10	5	2	1	.....	2	.....	9558	15382	6	2.58	65.5
San Francisco	N. 37 48	W. 122 26	3.58 a.m.	60	18	30.12	765.0	30.18	766.6	49.5	9.7	85.6	6	5	6	3	3	5	1	1	1	4011	7420	4	2.01	51.1
Santa Fé	N. 35 41	W. 105 57	5.04 a.m.	7106	2166	23.20	589.3	30.19	766.8	25.4	−3.7	60.6	9	1	.....	.....	2	2	2	11	4	6116	9843	2	0.55	14.0
Savannah	N. 32 05	W. 81 05	6.44 a.m.	87	26	30.10	764.5	30.20	767.1	45.7	7.6	71.7	6	11	3	5	1	.....	2	3	.....	5369	8640	3	5.55	141.0
Shaw, Fort	N. 47 31	W. 111 48	4.41 a.m.	3550	1082	26.36	669.5	30.19	766.8	26.0	−3.3	66.6	1	.....	7	12	1	1	2	6	1	9459	15222	5	0.47	11.9
Shreveport	N. 32 30	W. 93 40	5.53 a.m.	227	69	29.92	760.0	30.17	766.3	41.3	5.2	81.9	5	2	1	3	4	4	4	3	5	4188	6740	4	1.68	42.7
Sill, Fort	N. 34 40	W. 98 23	5.34 a.m.	1200	366	28.88	733.5	29.20	767.1	31.2	−0.4	79.6	16	4	.....	3	5	1	.....	.....	2	7396	11758	3	0.33	8.4
Silver City	N. 32 46	W. 108 14	4.55 a.m.	5890	1795	24.32	617.7	30.16	766.1	28.0	−2.2	75.9	6	11	1	2	.....	1	.....	.....	10	2156	3470	1	0.58	14.7
Sitka	N. 57 03	W. 135 19	3.07 a.m.	63	19	29.49	749.0	29.56	750.8	36.9	2.7	74.4	.....	.....	.....	.....	3	9	11	8	.....	11774	17982	8	13.58	344.9
Smith, Fort	N. 35 22	W. 94 24	5.50 a.m.	449	137	29.68	753.9	30.18	766.6	33.3	0.7	80.5	3	3	2	2	1	.....	12	.....	8	4111	6616	4	1.74	44.2
Smithville	N. 33 55	W. 78 01	6.56 a.m.	34	10	30.14	765.5	30.18	766.6	40.7	4.8	83.7	13	3	4	1	3	1	.....	6	.....	6265	10082	5	3.32	84.3
Spokane Falls	N. 47 40	W. 117 25	4.18 a.m.	1910?	582?	28.06	712.7	30.19	766.8	31.6	−0.2	87.4	3	4	.....	8	3	1	2	6	4	3548	5710	8	3.54	89.9
Springfield, Ill	N. 39 48	W. 89 39	6.10 a.m.	644	196	29.43	747.5	30.16	766.1	28.0	−2.2	75.1	1	9	2	4	5	3	3	2	2	6659	10716	6	3.15	80.0
Springfield, Mass.	N. 42 05	W. 72 35	7.18 a.m.	120	37	29.96	761.0	30.10	764.5	24.3	−4.3	83.0	6	6	4	3	2	1	.....	1	8	.....	.....	5	2.76	70.1
Springfield, Mo	N. 37 12	W. 93 18	5.55 a.m.	1351	412	28.65	727.7	30.16	766.6	31.3	−0.4	82.5	6	6	3	4	6	4	2	.....	.....	6999	11264	5	2.30	58.4
Starkville	N. 33 35	W. 88 49	6.13 a.m.	455	123	29.71	754.6	30.21	767.3	38.0	3.3	82.7	8	4	1	3	7	4	1	1	2	6777	10906	4	3.31	84.1
Stevenson, Fort *b*	N. 47 35	W. 101 28	5.22 a.m.	1750	534	28.20	716.3	30.26	768.6	4.8	−15.1	78.0	1	13	3	1	.....	2	7	1	1	6141	9883	4	0.70	17.8
Stockton	N. 30 53	W. 102 53	5.16 a.m.	3010	917	27.06	687.3	30.20	767.1	34.6	1.4	76.7	3	4	.....	24	.....	.....	.....	.....	.....	4640*f*	7467*f*	2	0.22	5.6
Thatcher's Island	N. 42 38	W. 70 34	7.26 a.m.	48	15	29.99	761.7	30.05	763.3	30.0	−1.1	75.6	3	13	3	5	1	1	.....	5	.....	12282	19764	6	3.34	84.8
Thomas, Camp	N. 33 04	W. 110 02	4.48 a.m.	2710	826	27.32	693.9	30.14	765.5	32.9	0.5	80.6	.....	2	.....	7	1	6	5	.....	10	.....	.....	2	0.40	11.7
Toledo	N. 41 40	W. 83 34	6.34 a.m.	651	198	29.37	746.0	30.11	764.8	28.4	−2.0	74.1	2	3	4	10	9	.....	1	2	.....	6534	10513	8	1.30	33.0
Tucson	N. 32 14	W. 110 53	4.45 a.m.	2369	722	27.61	701.3	30.11	764.8	40.5	4.7	67.7	.....	.....	1	.....	12	12	1	.....	5	2447	3938	2	0.04	1.0
Umatilla	N. 45 55	W. 119 20	4.11 a.m.	340	103	29.80	756.9	30.19	766.8	37.3	2.9	85.9	1	2	5	3	5	10	4	.....	1	4299	6918	6	1.96	49.8
Verde, Fort	N. 34 33	W. 111 52	4.40 a.m.	?	?	.....	.....	.....	.....	30.6	−0.8	69.0	14	12	3	1	.....	1	.....	.....	.....	.....	.....	2	0.07	1.8
Vicksburg	N. 32 22	W. 90 53	6.04 a.m.	244	74	29.93	760.2	30.20	767.1	42.0	5.6	80.8	6	.....	.....	1	5	11	.....	6	2	4588	7384	3	4.85	123.2
Visalia	N. 36 20	W. 119 17	4.11 a.m.	348	106	29.80	756.9	30.18	766.6	39.8	4.3	90.0	2	1	3	1	5	7	3	2	7	1772	2852	2	0.15	3.8
Washakie, Fort	N. 42 59	W. 108 43	4.53 a.m.	5580	1702	24.44	620.8	30.20	767.1	16.4	−8.7	80.1	1	7	12	2	2	1	1	1	4	3997	6432	3	0.52	13.2
Washington, D. C.	N. 38 54	W. 77 02	7.00 a.m.	106	32	30.07	763.8	30.19	766.8	30.0	1.1	78.4	.....	9	1	1	3	.....	.....	1	16	3147	5064	4	2.38	60.5
W. Las Animas	N. 38 04	W. 103 07	5.16 a.m.	3905	1190	26.06	661.9	30.22	767.6	16.7	−8.5	69.4	2	8	12	2	1	.....	.....	6	.....	5019	8125	3	0.08	2.0
Williamsport	N. 41 15	W. 77 03	7.00 a.m.	561	171	29.50	749.3	30.13	765.3	29.3	−1.5	74.8	.....	7	13	.....	1	.....	4	1	5	5025	8087	8	1.11	28.2
Wilmington	N. 34 14	W. 77 57	6.56 a.m.	52	16	30.13	765.3	30.19	766.8	41.4	5.2	79.9	9	3	1	4	2	1	.....	11	.....	4772	7680	6	4.02	102.1
Winnemucca	N. 40 59	W. 117 43	4.17 a.m.	4327	1319	25.73	653.5	30.26	768.6	27.3	−2.6	73.5	.....	.....	2	11	2	.....	2	13	1	6582	10592	4	0.51	13.0
Yankton	N. 42 54	W. 97 28	5.38 a.m.	1228	374	28.79	731.3	30.22	767.6	13.3	−10.4	69.7	7	11	.....	1	1	2	1	2	6	3841	6181	4	0.79	20.1
Yuma	N. 32 45	W. 114 36	4.30 a.m.	141	43	29.88	758.9	30.03	762.7	50.0	10.0	47.3	6	1	1	1	.....	1	5	15	1	3748	6032	1	0	0
Sub-Series.																											
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.04	559.8	.....	.....	51.2	10.7	76	1	3	1	3	3	2	3	4	11	1800	2897	4	1.94	49.3
Havana	N. 23 09	W. 82 22	6.39 a.m.	50	15	29.98	761.5	30.04	763.0	66.8	19.3	86.5	2	.....	.....	.....	2	8	5	4	10	4640	7467	5	5.61	142.5
Kingston	N. 18 58	W. 76 48	7.01 a.m.	10	3	30.01	762.2	30.02	762.5	72.5	22.5	83.2	19	.....	.....	.....	.....	.....	2	.....	10	2632	4236	5	0.35	8.9
Navassa	N. 19 25	W. 75 03	7.43 a.m.	77	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paramaribo	N. 5 50	W. 55 13	8.27 a.m.	6	2	30.02	762.5	30.02	762.5	77.8	25.4	87.4	.....	.....	.....	.....	.....	16	14	1	.....	.....	.....	9	12.26	311.4
Puerto Berrio	N. 6 22	W. 74 28	7.10 a.m.	542	165	29.35	745.5	29.91	759.7	78.0	25.6	89	4	.....	.....	.....	1	.....	.....	.....	26	.....	.....	7	3.97	100.8
Rivas	N. 11 26	W. 85 47	6.25 a.m.	150	46	.....	.....	.....	.....	75.0	23.9	92.8	.....	.....	.....	.....	.....	.....	1	30	.....	.....	.....	3	1.61	40.9
Santiago de Cuba	N. 19 55	W. 75 50	7.04 a.m.	21	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Paul, Alaska *c*	N. 57 47	W. 152 21	1.59 a.m.	54	16	29.30	744.2	29.36	745.7	29.8	−1.2	81.0	2	5	.....	1	.....	.....	2	11	7	.....	.....	7	9.41	239.0
St. Thomas	N. 18 20	W. 64 56	7.48 a.m.	131	40	29.96	761.0	30.08	764.0	77.7	25.4	74.6	1	.....	.....	.....	.....	3	21	6	.....	3602	5797	4	2.21	56.1
York Factory	N. 57 02	W. 92 26	5.58 a.m.	55	17	30.09	764.3	30.16	766.1	-14.8	-26.0	83.1	1	13	9	5	3	.....	.....	.....	.....	8780	14130	5	1.53	38.9

OCEAN SQUARE DATA FOR DECEMBER, 1882.

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°	30.01	762.2	78.9	26.1							1	28		2	2.5
12.5 27.5	30.04	763.0	77.4	25.2						3	4	22		2	2.2
12.5 32.5	30.05	763.3	78.0	25.6					1	1	8	7		14	2.3
12.5 37.5	30.06	763.5	79.0	26.1						1	13	3		14	2.2
12.5 42.5	30.04	763.0	79.0	26.1						1	10	5		15	2.2
12.5 47.5	30.03	762.7	78.3	25.7						1	10	6		14	2.1
12.5 52.5	30.04	763.0	77.8	25.4						4	11	10		6	1.9
17.5 22.5	30.07	763.8	76.1	24.5						2	3	24		2	1.5
17.5 27.5	30.08	764.0	76.0	24.4						4	7	18		2	2.3
17.5 32.5	30.10	764.5	77.3	25.2						2	9	7		13	2.4
17.5 37.5	30.10	764.5	77.3	25.2						2	13	3		13	2.3
17.5 42.5	30.09	764.3	76.9	24.9						2	11	4		14	2.4
17.5 47.5	30.07	763.8	76.4	24.7						4	10	4		13	2.2
17.5 52.5	30.07	763.8	76.4	24.7	1	1				6	9	10		4	2.3
17.5 57.5	30.04	763.0	77.9	25.5	1					2	12	15		1	2.2
22.5 22.5	30.14	765.5	76.4	24.7	1					4	5	21			2.4
22.5 27.5	30.14	765.5	73.7	23.2				2	2	3	4	19		1	2.1
22.5 32.5	30.14	765.5	74.4	23.6		2		1	1	4	13	6		4	2.4
22.5 37.5	30.16	766.1	74.7	23.7		2		2	1	7	9	4		6	2.6
22.5 42.5	30.17	766.3	74.6	23.7		2		1	1	13	5	2		7	2.6
22.5 47.5	30.13	765.3	75.0	23.9		1	2	1	5	7	5	3			2.7
22.5 52.5	30.10	764.5	74.7	23.7		3		1	2	8	4	10		3	2.0
22.5 57.5	30.11	764.8	74.6	23.7	2	3				7	4	13	1	1	2.3
22.5 62.5	30.09	764.3	74.5	23.6	2	1		1		4	9	14			2.4
22.5 67.5	30.08	764.0	74.4	23.6	2		1		1	5	9	13			2.1
22.5 72.5	30.08	764.0	74.2	23.4	4					6	7	14			2.5
27.5 22.5	30.20	767.1	69.6	20.9	6	1		3	2	4	1	13		1	2.1
27.5 27.5	30.24	768.1	71.3	21.8	3		2	3	2	3	4	13		1	2.3
27.5 32.5	30.21	767.3	72.2	22.3	2	2		3	2	7	8	4		3	2.5
27.5 37.5	30.18	766.6	72.6	22.6	2	2		4	6	7	7	1		2	2.5
27.5 42.5	30.16	766.1	72.1	22.3		3	2	6	7	5	3	2		3	2.6
27.5 47.5	30.13	765.3	71.7	22.1	1	4	3	5	7	5	2	1		3	2.5
27.5 52.5	30.10	764.5	71.1	21.7		9	3	4	6	5	1	3			2.7
27.5 57.5	30.10	764.5	70.3	21.3	4	8	3	3	4	6		3			2.6
27.5 62.5	30.10	764.5	69.7	20.9	7	5		6	2	4	2	5			2.4
27.5 67.5	30.11	764.8	69.5	20.8	9	3	1	4	1	1	3	9			2.6
27.5 72.5	30.12	765.0	69.5	20.8	6	4		1	5	3	3	9			2.9
27.5 77.5	30.14	765.5	65.5	18.6	6	5			2	4	1	13			2.7
32.5 12.5	30.16	766.1	63.8	17.7	6	9	1	4	1	2	1	7			2.1
32.5 17.5	30.19	766.8	65.9	18.8	5	6	3	5	1	5	1	5			1.9
32.5 22.5	30.22	767.6	66.9	19.4	6	8		4	4	2	1	6			2.7
32.5 27.5	30.22	767.6	68.2	20.1	5	5	2	4	3	4	1	7			2.4
32.5 32.5	30.21	767.3	69.3	20.7	3	3	2	8	5	2	5	2		1	2.8
32.5 37.5	30.15	765.8	69.5	20.8		4	1	12	7	3	2	2			3.0
32.5 42.5	30.10	764.5	68.4	20.2	1	5		12	8	2	2	1			3.2
32.5 47.5	30.06	763.5	67.3	19.6	1	6	3	10	7	2	2				3.4
32.5 52.5	30.04	763.0	66.2	19.0	1	11	1	9	5	2	2				3.2
32.5 57.5	30.05	763.3	64.6	18.1	4	12		8	3	2		2			3.3
32.5 62.5	30.06	763.5	63.2	17.3	6	8	3	5	3		1	5			2.1
32.5 67.5	30.10	764.5	62.5	16.9	9	8		5	2	4		3			2.9
32.5 72.5	30.15	765.8	61.5	16.4	9	5		6	2	5		4			3.6
32.5 77.5	30.18	766.6	51.4	10.8	11	6		2	3	1	1	7			2.3
37.5 12.5	30 07	763.8	58.4	14.7	7	7	6	7	2		1	1			2.5
37.5 17.5	30.09	764.3	61.1	16.2	6	10	4	7	2		1	1			2.8
37.5 22.5	30.15	765.8	62.4	16.9	5	11	2	6	4	1	1	1			2.7
37.5 27.5	30.14	765.5	63.4	17.4	6	7	7	4	6		1				2.4
37.5 32.5	30.08	764.0	64.4	18.0	3	5	5	11	5	2					3.1
37.5 37.5	30.01	762.2	64.3	17.9	1	6	3	14	6			1			3.5
37.5 42.5	29.96	761.0	62.0	16.7		6	1	18	2	2	1	1			3.3
37.5 47.5	29.93	760.2	60.2	15.7	1	11	3	9	3	2	2				3.3
37.5 52.5	29.93	760.2	58.4	14.7	2	13	1	10	2	2	1				3.5
37.5 57.5	29.94	760.5	55.5	13.1	7	12	2	4	2	2		2			3.8
37.5 62.5	29.98	761.5	53.2	11.8	8	8	3	2	4	2		4			3.6
37.5 67.5	30.05	763.3	49.1	9.5	9	9	1	4	4	1		3			3.9
37.5 72.5	30.12	765.0	42.2	5.7	13	8	1	2	2	3		2			3.6
42.5 12.5	29.96	761.0	55.3	12.9	6	7	5	11	1			1			3.2
42.5 17.5	29.97	761.2	57.2	14.0	6	9	7	8	1						3.6
42.5 22.5	30.01	762.2	58.0	14.4	5	10	5	9	2						3.1
42.5 27.5	30.00	762.0	59.2	15.1	3	4	9	12	3						3.3
42.5 32.5	29.93	760.2	59.3	15.2	3	5	4	13	6						3.5
42.5 37.5	29.89	759.2	58.6	14.8	1	6	4	12	5	2		1			3.9
42.5 42.5	29.85	758.2	55.8	13.2	2	8	1	12	7	1					4.0
42.5 47.5	29.81	757.2	51.7	10.9		13	1	8	5	2		2			4.0
42.5 52.5	29.83	757.7	48.1	8.9	4	12	1	6	1	3		4			4.0
42.5 57.5	29.87	758.7	44.5	6.9	9	11	2	2	3	1		3			4.0
42.5 62.5	29.95	760.7	41.4	5.2	11	10	3	2	2	3					4.0
42.5 67.5	30.01	762.2	35.4	1.9	10	9	3	3	2	1	1	2			3.4
47.5 12.5	29.74	755.4	51.3	10.7	5	3	5	11	2	1	1	3			4.0
47.5 17.5	29.76	755.9	52.1	11.2	4	4	9	8	2		1	3			3.4
47.5 22.5	29.77	756.1	52.7	11.5	4	5	9	9	1			2	1		3.8
47.5 27.5	29.76	755.9	51.9	11.1	7	5	4	14	1						4.0
47.5 32.5	29.73	755.1	51.4	10.8	6	6	2	12	2	2			1		4.2
47.5 37.5	29.73	755.1	49.1	9.5	3	6	4	7	7	1		3			4.2
47.5 42.5	29.69	754.1	45.3	7.4	3	4	6	6	3	6		2	1		4.3
47.5 47.5	29.67	753.6	39.2	4.0	4	9	6	4	1	3	1	3			3.7
52.5 12.5	29.65	753.1	47.4	8.6	4	6	1	6	5	2	2	5			3.8
52.5 17.5	29.65	753.1	48.6	9.2	3	6	4	8	2	2	2	4			3.8
52.5 22.5	29.63	752.6	48.5	9.2	2	3	8	9	2	3	1	3			3.3
52.5 27.5	29.63	752.6	46.3	7.9	4	6	2	8	4	3		4			3.6
52.5 32.5	29.66	753.4	45.2	7.3	4	5	4	6	3	5		4			4.0
52.5 37.5	29.65	753.1	43.0	6.1	3	7	3	7	3	5		3			3.2
52.5 42.5	29.63	752.6	39.7	4.3	2	2	4	6	3	8		5		1	3.5
52.5 47.5	29.66	753.4	34.2	1.2	6	5	5	2	2	3	3	5			3.4
57.5 12.5	29.58	751.3	41.4	5.2	3	3		2	3	7	3	10			3.0
57.5 17.5	29.53	750.0	40.5	4.7	6	5		3	1	7	1	8			3.3
57.5 22.5	29.61	752.1	39.3	4.1	2	5	1	2	3	8	4	6			3.0
57.5 27.5	29.61	752.1	38.0	3.3	1	7	1	4	1	6	4	7			2.7
57.5 32.5	29.65	753.1	36.0	2.2	2	6		5	1	5	5	7			3.2
57.5 37.5	29.67	753.6	36.6	2.6	4	3	1	2	4	4	3	9		1	3.1
57.5 42.5	29.65	753.1	30.4	— 0.9	4	5		3	2	4	4	7		2	2.9
57.5 47.5	29.58	751.3	26.7	— 2.9	5	3	2	2	1	2	2	11		3	2.8

NOTE.—See General Remarks.

OOGLAAMIE, POINT BARROW, ALASKA.

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. Metrs pr sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Up'er From	Clouds. Direction. Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1882.																		
August 28	30.14	765.5	30.16	766.1	27.5	— 2.5	94	ene.	5	2.2	.....	.....	10 n.	.....	e.	inap.	inap.	light snow.
29	30.02	762.5	30.03	762.7	28.0	— 2.2	100	ene.	6	2.7	.....	.....	10 s.	.....	e.	inap.	inap.	cloudy.
30	30.00	762.0	30.01	762.2	29.8	— 1.2	95	ne.	8	3.6	.....	.....	10 s.	.....	ne.	inap.	inap.	cloudy.
31	30.25	768.3	30.27	768.8	32.5	0.3	94	nne.	8	3.6	.....	.....	10 s.	.....	.....	0.01	0.3	cloudy.
September 1	30.32	770.1	30.34	770.6	30.8	— 0.7	95	nnw.	23	10.3	.....	.....	10 s.	.....	.....	0	0	cloudy.
2	30.44	773.2	30.46	773.7	30.0	— 1.1	100	sw.	5	2.2	.....	.....	10s; fg	.....	.....	0.01	0.3	cloudy.
3	30.16	766.1	30.18	766.6	33.2	0.7	100	sse.	16	7.2	.....	0	3 s.	.....	calm	inap.	inap.	clear.
4	30.04	763.0	30.06	763.5	32.0	0.0	100	se.	7	3.1	.....	2 c.	2 s.	se.	.....	0	0	fair.
5	29.89	759.2	29.90	759.4	33.5	0.8	100	se.	10	4.5	.....	0	2 s.	.....	.....	0	0	clear.
6	29.61	752.1	29.63	752.6	29.2	— 1.6	.....	e.	6	2.7	.....	0	1 s.	.....	.....	0	0	clear
7	29.64	752.8	29.66	753.4	32.0	0.0	91	ene.	13	5.8	.....	.....	10 s.	.....	ene.	0.01	0.3	cloudy.
8	29.84	757.9	29.86	758.4	30.0	— 1.1	95	ne.	9	4.0	.....	.....	10 s.	.....	.....	0	0	cloudy.
9	29.91	759.7	29.93	760.2	25.8	— 3.4	100	ene.	14	6.3	.....	.....	10 s.	.....	e.	0.01	0.3	cloudy.
10	29.75	755.9	29.78	756.4	28.2	— 2.1	100	e.	20	8.9	.....	.....	10 n.	.....	.....	0.01	0.3	light snow.
11	29.54	750.3	29.56	750.8	29.0	— 1.7	.....	ese.	11	4.9	.....	0	9 n.	.....	.....	0.05	1.3	light snow.
12	29.64	752.8	29.66	753.4	30.8	— 0.7	100	nw.	14	6.3	.....	.....	10 n.	.....	calm	0.05	1.3	light snow.
13	29.71	754.6	29.73	755.1	32.0	0.0	100	n.	12	5.4	.....	.....	10 n.	.....	.....	0.02	0.5	light snow.
14	29.72	754.9	29.73	755.1	31.8	— 0.1	100	ene.	5	2.2	.....	.....	10 n.	.....	.....	0.05	1.3	heavy snow.
15	29.83	757.7	29.85	758.2	26.0	— 3.3	.....	e.	8	3.6	.....	hz.	0	.....	.....	0.11	2.8	clear.
16	29.01	752.1	29.62	752.3	28.8	— 1.8	.....	e.	17	7.6	.....	.....	10 s.	.....	.....	0	0	cloudy.
17	29.12	739.6	29.14	740.1	29.2	— 1.6	100	ne.	15	6.7	.....	.....	10 n.	.....	.....	0.01	0.3	light snow.
18	29.20	741.7	29.22	742.2	31.5	— 0.3	100	wsw.	14	6.3	.....	.....	10 s.	.....	.....	inap.	inap.	cloudy.
19	29.40	746.7	29.42	747.3	31.1	— 0.5	97	wnw.	5	2.2	.....	.....	10 n.	.....	.....	inap.	inap.	light snow.
20	29.96	761.0	29.97	761.2	26.8	— 2.9	100	nnw.	13	5.8	.....	.....	10 s.	.....	.....	inap.	inap.	cloudy.
21	30.01	762.2	30.03	762.7	29.6	— 1.3	100	e.	7	3.1	.....	.....	10 n.	.....	.....	inap.	inap.	light snow.
22	29.94	760.5	29.96	761.0	27.7	— 2.4	100	ene.	16	7.2	.....	.....	10 s.	.....	.....	0.02	0.5	cloudy.
23	29.92	760.0	29.93	760.2	24.5	— 4.2	.....	e.	16	7.2	.....	.....	10 n.	.....	.....	inap.	inap.	light snow.
24	29.56	750.8	29.58	751.3	24.6	— 4.1	100	ne.	16	7.2	.....	.....	10 s.	.....	.....	inap.	inap.	cloudy.
25	29.79	756.7	29.81	757.2	26.2	— 3.2	100	n.	23	10.3	.....	.....	10 s.	.....	n.	0	0	cloudy.
26	29.94	760.5	29.96	761.0	22.2	— 5.4	.....	ssw.	11	4.9	.....	2 k.	3 s.	w.	w.	0.08	2.0	fair.
27	29.95	760.7	29.97	761.2	30.0	— 1.1	100	ssw.	10	4.5	.....	.....	10 s.	.....	w.	0.02	0.5	cloudy.
28	29.78	756.4	29.80	756.9	34.0	1.1	100	sw.	18	8.0	.....	hz.	7k; ks	.....	sw.	0.11	2.8	fair.
29	29.98	761.5	30.00	762.0	32.5	0.3	.....	ssw.	7	3.1	.....	.....	10 n.	.....	.....	0.07	1.8	heavy snow.
30	30.01	762.2	30.02	762.5	32.5	0.3	.....	ene.	13	5.8	.....	1 c.	2 s.	.....	.....	0.19	4.8	clear.
Mean	29.81	757.2	29.83	757.7	29.6	— 1.3	99.0 h	.....	12.8	5.7	.....	.....	8.1	.....	.....	0.82	20.8	
October 1	29.56	750.8	29.58	751.3	33.3	0.7	.....	se.	8	3.6	.....	.....	10 n.	.....	.....	0.69	17.5	light rain.
2	29.74	755.4	29.75	755.6	38.1	3.4	.....	ssw.	14	6.3	.....	.....	10 n.	.....	.....	0.16	4.1	light rain.
3	29.99	761.7	30.01	762.2	28.8	— 1.8	.....	ne.	17	7.6	.....	.....	10 n.	.....	.....	0.09	2.3	light snow.
4	30.00	762.0	30.01	762.2	24.2	— 4.3	.....	ene.	26	11.6	.....	.....	10 n.	.....	.....	0.18	4.6	light snow.
5	29.83	757.7	29.85	758.2	18.8	— 7.3	.....	ene.	35	15.6	.....	.....	10 s.	.....	ene.	0.04	1.0	cloudy.
6	29.70	754.4	29.72	754.9	18.9	— 7.3	.....	ne.	24	10.7	.....	.....	10 s.	.....	.....	0.01	0.3	cloudy.
7	29.97	761.2	29.99	761.7	18.5	— 7.5	.....	ne.	23	10.3	.....	.....	10 s.	.....	.....	0.01	0.3	cloudy.
8	29.98	761.5	30.00	762.0	16.0	— 8.9	.....	ene.	28	12.5	.....	0	3 s.	.....	.....	0	0	clear.
9	29.99	761.7	30.01	762.2	14.3	— 9.8	.....	ene.	22	9.8	.....	.....	10 s.	.....	.....	0	0	cloudy.
10	29.98	761.5	30.00	762.0	11.1	—11.6	.....	ene.	12	5.4	.....	hz.	8 n.	.....	.....	0.02	0.5	light snow.
11	30.03	762.7	30.05	763.3	4.8	—15.1	.....	ene.	5	2.2	.....	.....	10 n.	.....	.....	0.03	0.8	light snow.
12	30.19	766.8	30.20	767.1	8.0	—13.3	.....	n.	3	1.3	.....	0	hz.	.....	.....	0.04	1.0	clear.
13	30.10	764.5	30.12	765.0	3.8	—15.7	.....	ese.	9	4.0	.....	hz.	hz.	.....	.....	0	0	dense haze.
14	29.81	757.2	29.83	757.7	0.0	—17.8	100	ene.	11	4.9	.....	0	0	.....	.....	0	0	clear.
15	29.82	757.4	29.84	757.9	0.2	—17.7	.....	ene.	16	7.2	.....	0	0	.....	.....	0	0	clear.
16	30.00	762.0	30.02	762.5	5.5	—14.7	100	e.	13	5.8	.....	.....	10 s.	.....	.....	0	0	cloudy.
17	29.92	760.0	29.94	760.5	2.0	—16.7	100	e.	17	7.6	.....	0	2 s.	.....	.....	0	0	clear.
18	29.74	755.4	29.76	755.9	4.1	—15.5	100	ese.	10	4.5	.....	.....	10 s.	.....	.....	inap.	inap.	cloudy.
19	29.78	756.4	29.80	756.9	4.1	—15.5	98	ene.	10	4.5	.....	.....	10 s.	.....	.....	0	0	cloudy.
20	29.72	754.9	29.74	755.4	2.0	—16.7	100	e.	3	1.3	.....	.....	10 s.	.....	.....	0	0	cloudy.
21	29.78	756.4	29.80	756.9	— 3.2	—19.6	100	nw.	4	1.8	.....	hz.	3 s.	.....	.....	0.01	0.3	clear.
22	29.74	755.4	29.76	755.9	5.0	—15.0	.....	s.	8	3.6	.....	.....	10 n.	.....	.....	0.01	0.3	light snow.
23	29.68	753.9	29.70	754.4	— 7.4	—21.9	97	ene.	8	2.6	.....	0	3 s.	.....	e.	inap.	inap.	clear.
24	29.73	755.1	29.75	755.6	— 1.2	—18.4	.....	ene.	5	2.2	.....	.....	10 s.	.....	.....	inap.	inap.	cloudy.
25	29.80	756.9	29.82	757.4	0.5	—17.5	100	ene.	6	2.7	.....	.....	10 s.	.....	.....	inap.	inap.	cloudy.
26	29.88	758.9	29.90	759.4	— 3.8	—19.9	100	nnw.	11	4.9	.....	3 k.	3 s.	nnw.	nnw.	inap.	inap.	fair.
27	29.86	758.4	29.88	758.9	—10.6	—23.7	100	nnw.	7	3.1	.....	6 k.	2 s.	.....	.....	0	0	cloudy.
28	29.90	759.4	29.92	760.0	— 6.5	—21.4	100	s.	2	0.9	.....	.....	10 n.	.....	.....	inap.	inap.	light snow.
29	30.06	763.5	30.08	764.0	—18.5	—28.1	.....	se.	3	1.3	.....	0	1 s.	.....	.....	0	0	clear.
30	30.09	764.3	30.11	764.8	7.5	—13.6	100	sse.	18	8.0	.....	.....	10 s.	.....	sse.	0.01	0.3	cloudy.
31	29.79	756.7	29.81	757.2	16.6	— 8.6	.....	ssw.	30	13.4	.....	.....	10 s.	.....	.....	0.06	1.5	cloudy.
Mean	29.88	758.9	29.90	759.4	7.6	—13.6	99.6 r	.....	13.2	5.9	.....	.....	7.2	.....	.....	1.36	34.5	
November 1	29.56	750.8	29.58	751.3	6.8	—14.0	.....	ssw.	6	2.7	.....	.....	10 n.	.....	.....	0.02	0.5	light snow.
2	29.50	749.3	29.52	749.8	6.5	—14.2	100	w.	21	9.4	.....	hz.	0 s.	.....	.....	0	0	fair.
3	30.09	764.3	30.11	764.8	— 3.2	—19.6	100	nw.	22	9.8	.....	0	3 s.	.....	.....	0.01	0.3	clear.
4	30.12	765.0	30.14	765.5	— 4.5	—20.3	100	ese.	14	6.3	.....	.....	10 s.	.....	.....	0	0	cloudy.
5	29.94	760.5	29.96	761.0	— 7.8	—22.1	100	ene.	24	10.7	.....	hz.	5 s.	.....	.....	inap.	inap.	fair.
6	29.94	760.5	29.96	761.0	—10.8	—23.8	95	ene.	24	10.7	.....	hz.	hz.	.....	.....	0	0	dense haze.
7	30.12	765.0	30.14	765.5	— 6.1	—21.2	97	e.	26	11.6	.....	.....	10 s.	.....	.....	inap.	inap.	cloudy.
8	29.70	754.4	29.72	754.9	— 3.8	—19.9	100	ene.	25	11.2	.....	.....	10 s.	.....	.....	0	0	cloudy.
9	29.70	754.4	29.71	754.6	2.6	—16.3	100	e.	20	8.9	.....	0	2 s.	.....	.....	0	0	clear.
10	29.33	745.0	29.35	745.5	26.1	— 3.3	.....	wsw.	31	13.9	.....	.....	10 s.	.....	.....	0.22	5.6	cloudy.
11	29.43	747.5	29.45	748.0	5.0	—15.0	.....	e.	26	11.6	.....	.....	10 s.	.....	.....	0.04	1.0	cloudy.
12	29.78	756.4	29.80	756.9	—24.0	—31.1	100	nne.	31	13.9	.....	0	2 s.	.....	.....	0.01	0.3	clear.
13	29.81	757.2	29.83	757.7	—29.5	—34.2	.....	e.	10	4.5	.....	0	2 s.	.....	.....	0	0	clear.
14	29.86	758.4	29.88	758.9	—31.5	—35.3	.....	e.	8	3.6	.....	0	2 s.	.....	.....	0	0	clear.
15	29.84	757.9	29.86	758.4	—33.3	—36.3	.....	ene.	9	4.0	.....	0	0	.....	.....	0	0	clear.
16	29.57	751.1	29.59	751.6	—22.4	—30.2	100	ne.	10	4.5	.....	0	2 s.	.....	.....	0	0	clear.
17	29.53	750.0	29.55	750.6	—12.3	—24.6	100	ne.	27	12.1	.....	hz.	5 s.	.....	.....	0	0	dense haze.
18	29.40	746.7	29.42	747.3	—10.5	—23.6	100	ene.	25	11.2	.....	0	5 s.	.....	.....	inap.	inap.	fair.
19	29.58	751.3	29.60	751.8	—12.6	—24.8	.....	ene.	19	8.5	.....	.....	10 s.	.....	.....	0	0	cloudy.
20	29.75	755.6	29.77	756.1	—11.4	—24.1	.....	ese.	23	10.3	.....	0	3 s.	.....	.....	0	0	clear.
21	29.59	751.6	29.61	752.1	— 6.0	—21.1	100	ene.	22	9.8	.....	hz.	hz.	.....	.....	0	0	dense haze.
22	29.34	745.2	29.36	745.7	11.2	—11.6	.....	nw.	18	8.0	.....	.....	10 n.	.....	.....	0.05	1.3	light snow.
23	29.82	757.4	29.84	757.9	— 2.4	—19.1	97	w.	19	8.5	.....	.....	10 s.	.....	w.	inap.	inap.	cloudy.
24	30.19	766.8	30.21	767.3	— 5.2	—20.7	.....	sse.	11	4.9	.....	.....	10 s.	.....	.....	0	0	cloudy.
25	30.45	773.4	30.47	773.9	—15.2	—25.2	100	nw.	17	7.6	.....	0	2 s.	.....	.....	0	0	clear.

OOGLAAMIE, POINT BARROW, ALASKA—CONTINUED.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Mill.	Reduced to sea-level Inch.	Mill.	Temperature of the air. Fah.	Cent.	Relative Humidity Per cent.	Wind. Direction. From.	Velocity. Miles perhour	Metrs prsec.	Force 0-10	Clouds. Amount. Upper. 0-10	Lower. 0-10	Direction. Up'er From	Lo'er From	Rainfall or melted snow in past 24 hours. Inch.	Mill.	WEATHER.
1882.																		
November 26	30.38	771.6	30.40	772.1	—23.0	—30.6	.....	se.	7	3.1	.....	3 c.	2 s.	.....	.....	0	0	fair.
27	29.96	761.0	29.98	761.5	—10.3	—23.5	.....	sse.	5	2.2	.....	1 c.	2 s.	.....	.....	0	0	clear.
28	29.82	757.4	29.84	757.9	—13.5	—25.3	95	ese.	25	11.2	.....	2 c.	2 s.	.....	.....	0	0	fair.
29	30.21	767.3	30.23	767.8	—13.4	—25.2	.....	ese.	22	9.8	.....	0	0	.....	.....	0	0	clear.
30	30.06	763.5	30.08	764.0	— 9.5	—23.1	100	ese.	27	12.1	.....	0	3 s.	.....	.....	0	0	clear.
Mean	29.81	757.2	29.83	757.7	— 8.8	—22.7	99.1 *m*	.....	19.1	8.5	.....	.....	5.0	.....	.....	0.35	8.9	
December 1	29.85	758.2	29.87	758.7	— 6.3	—21.3	.....	ene.	18	8.0	.....	hz.	hz.	.....	.....	0	0	clear.
2	29.99	761.7	30.01	762.2	—14.5	—25.8	.....	ese.	11	4.9	.....	0	2 s.	.....	.....	0	0	clear.
3	30.03	762.7	30.05	763.3	— 8.8	—22.7	.....	ene.	4	1.8	.....	hz.	1 s.	.....	.....	0	0	clear.
4	30.17	766.3	30.19	766.8	—15.5	—26.4	100	se.	1	0.4	.....	0	2 s.	.....	.....	0	0	clear.
5	30.21	767.3	30.23	767.8	—15.8	—26.6	100	e.	9	4.0	.....	0	1 s.	.....	.....	0	0	clear.
6	29.90	759.4	29.92	760.0	—12.2	—24.6	.....	calm	0	0	.....	0	1 s.	.....	.....	0	0	clear.
7	29.98	761.5	30.00	762.0	—12.4	—24.7	.....	nne.	8	3.6	.....	0	0	.....	.....	0	0	clear.
8	30.31	769.9	30.33	770.4	—23.4	—30.8	100	nne.	2	0.9	.....	0	0	.....	.....	0	0	clear.
9	30.35	770.9	30.37	771.4	—25.5	—31.9	.....	nnw.	8	3.6	.....	0	0	.....	.....	0	0	clear.
10	30.76	781.3	30.78	781.8	—23.7	—30.9	100	n.	6	2.7	.....	0	0	.....	.....	0	0	clear.
11	30.92	785.4	30.94	785.9	— 9.5	—23.1	.....	nw.	7	3.1	.....	.....	10 s.	.....	.....	0	0	cloudy.
12	30.88	784.3	30.90	784.8	—24.8	—31.6	.....	ese.	8	3.6	.....	0	0	.....	.....	0	0	clear.
13	30.57	776.5	30.60	777.2	—18.8	—28.2	100	se.	8	3.6	.....	hz.	2 s.	.....	.....	0	0	clear.
14	30.20	767.1	30.22	767.6	—23.3	—30.7	.....	ese.	7	3.1	.....	0	1 s.	.....	.....	0	0	clear.
15	30.13	765.3	30.15	765.8	—17.2	—27.3	.....	nne.	14	6.3	.....	hz.	6 s.	.....	.....	0	0	fair.
16	29.92	760.0	29.94	760.5	—29.0	—33.9	90	ene.	9	4.0	.....	0	1 s.	.....	.....	0	0	clear.
17	29.74	755.4	29.76	755.9	—23.4	—30.8	100	ne.	12	5.4	.....	0	1 s.	.....	.....	0	0	clear.
18	29.75	755.6	29.77	756.1	—26.3	—32.4	91	ene.	8	3.6	.....	0	hz.	.....	.....	0	0	clear.
19	29.61	752.1	29.63	752.6	—27.5	—33.1	79	e.	3	1.3	.....	2 cs.	hz.	.....	.....	0	0	clear.
20	29.44	747.8	29.45	748.0	—21.0	—29.4	.....	s.	6	2.7	.....	0	5 k.	.....	wnw.	0	0	fair.
21	29.50	749.3	29.52	749.8	—17.0	—27.2	.....	s.	8	3.6	.....	hz.	3 k.	.....	w.	0.01	0.3	clear.
22	29.62	752.3	29.64	752.8	—26.2	—32.3	.....	se.	1	0.4	.....	hz.	2 s.	.....	.....	inap.	inap.	clear.
23	29.85	758.2	29.87	758.7	—32.0	—35.6	87	nnw.	7	3.1	.....	0	2 s.	.....	.....	0	0	clear.
24	29.93	760.2	29.95	760.7	—33.2	—36.2	.....	calm	0	0	.....	0	0	.....	.....	0	0	clear.
25	30.01	762.2	30.03	762.7	—28.8	—33.8	89	se.	1	0.4	.....	.....	10 s.	.....	.....	inap.	inap.	cloudy.
26	29.64	752.8	29.66	753.4	—19.0	—28.3	100	ne.	2	0.9	.....	.....	10 ns	.....	.....	0.03	0.8	light snow.
27	29.79	756.7	29.81	757.2	—20.5	—29.2	.....	wsw.	10	4.5	.....	0	0	.....	.....	0.03	0.8	clear.
28	30.30	769.6	30.32	770.1	—21.3	—29.6	.....	ssw.	16	7.2	.....	0	0	.....	.....	0	0	clear.
29	30.15	765.8	30.17	766.3	— 9.5	—23.1	.....	nnw.	42	18.8	.....	hz.	5 s.	.....	.....	0.07	1.8	fair.
30	30.80	782.3	30.83	783.1	—39.8	—39.9	.....	ese.	12	5.4	.....	0	0	.....	.....	0	0	clear.
31	30.64	778.2	30.66	778.7	—23.2	—30.7	100	se.	21	9.4	.....	hz.	3 s.	.....	.....	0	0	clear.
Mean	30.09	764.3	30.11	764.8	—20.9	—29.4	95.1 *r*	.....	8.7	3.9	.....	.....	2.3	.....	.....	0.14	3.7	
1883.																		
January 1	30.27	768.8	30.29	769.4	—16.2	—26.8	100	e.	20	8.9	.....	0	2 s.	.....	.....	0	0	clear.
2	29.57	751.1	29.59	751.6	— 4.2	—20.1	100	ese.	32	14.3	.....	hz.	8 s.	.....	.....	0	0	cloudy.
3	29.42	747.3	29.44	747.8	— 6.9	—21.6	.....	se.	5	2.2	.....	hz.	5 s.	.....	.....	0	0	fair.
4	29.25	742.9	29.27	743.4	— 5.5	—20.8	.....	e.	10	4.5	.....	0	2 s.	.....	.....	0	0	clear.
5	29.04	737.6	29.06	738.1	—13.4	—25.2	100	ne.	11	4.9	.....	hz.	7 n	.....	.....	0.01	0.3	light snow.
6	29.08	738.6	29.10	739.1	—13.1	—25.1	.....	nne.	7	3.1	.....	.....	10 n.	.....	.....	0.03	0.8	light snow.
7	29.27	743.4	29.29	744.0	—20.2	—29.0	100	nnw.	1	0.4	.....	.....	10 s.	.....	.....	inap.	inap.	cloudy.

NOTE.—The above observations, taken at 7 *a. m.*, Washington time, were received too late for publication in the DAILY BULLETIN, and are given here in full from date of last published report (August 27, 1882). For continuation of this station, see United States series, DAILY BULLETIN.

REVIEW.

INTERNATIONAL METEOROLOGY.

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

With this REVIEW is issued international chart iii. for the month of September, 1881. This chart continues the series of international charts begun in November, 1877, and shows the paths of the principal atmospheric depressions that have appeared in the northern hemisphere during the above-mentioned month.

The data are charted for each day of the month on the maps accompanying each issue of the "International Bulletin," and from these charts and additional data are traced the movements of the centres of barometric minima.

The paths of seventeen depressions which appeared during September, 1881, have thus been traced; in addition, are also shown the paths of five typhoons which occurred in the China sea during the month. The tracings of these are copied from Mr. Marc Dechevrens' "Typhoons of 1881."

The depressions traced on the chart are distributed as follows: Seven are charted in or near the United States; of these, five moved in an east-northeasterly path north of the forty-fifth parallel; one, number iv., pursued an abnormal track, having moved from southern Texas eastward to Mississippi, thence northward and westward to Dakota and finally disappeared in the northwest territories of British America. Number iii. was a tropical hurricane which originated south of N. 25° and moved first to the northwestward, touching the coast of the United States near Cape Hatteras, where it recurved to the northeastward and was soon afterwards dissipated. Two depressions are shown over the Atlantic ocean between N. 40° and 50°; one of these reached the British coasts, but the other apparently filled up on approaching the coast. Four disturbances appear to have developed in Greenland and over the ocean north of the fiftieth parallel; one of these passed southeastward over the British Isles and central Europe. Four depressions are traced in Europe; all of these have moved in a northeasterly direction from the southern districts. Two storm-tracks appear in western Siberia, but they are apparently the paths of depressions which developed in Europe. None of the disturbances charted have displayed unusual storm energy.

The following are brief descriptions of the storms that occurred in the United States and Canada:

I.—This disturbance appeared in Dakota on the 4th, the region of least pressure being enclosed by the isobar for 29.6 (751.8). During the day the depression moved eastward, and on the 5th the centre was over Lake Superior, giving showery weather and warm southerly winds at stations along the Saint Lawrence. By the 6th the disturbance was near the mouth of the Saint Lawrence; moving thence northeastward it passed over Labrador, and on the 7th it was apparently central near the entrance to Davis' Strait.

II.—This disturbance moved slowly from the northwest during the 8th and 9th, and by the 10th the centre was over Lake Superior, causing cloudy weather and rain at stations in the upper lake region. On the 11th the depression passed eastward over northern Canada and dissipated before reaching the ocean. Strong westerly breezes to moderate gales occurred at the lake stations after the passage of this disturbance.

III.—The earliest information relative to this hurricane was the report of the brig "Belle Prescott"; that vessel in N. 24° 38′, W. 68° 48′, on the 7th encountered a hurricane from ene. to sw. lasting twelve hours, and during which she scudded under bare poles and lost and split several sails. The storm-centre was then apparently moving towards the northwest. On the 8th and 9th it was near the coast of the Carolinas, but owing to the absence of detailed reports the position of the centre cannot be determined; the following reports, however, serve to indicate the severity of the disturbance at sea. On the 8th the schooner "Wm. Whitehead," two hundred miles from Cape Hatteras, reported a severe hurricane, and the bark "Saint Lawrence" was abandoned on the 9th in N. 33° 30′, W. 75° 23′, having encountered a terrific hurricane on the afternoon of the 8th, in which the vessel was totally dismantled by furious winds and seas. On the 9th the schooner "M. W. Drew" experienced a heavy gale, during which she stove stern, lost sails and spars, and was abandoned on the 10th in N. 33° 35′, W. 77° 20′. On the same date the schooner "Lizzie Florence," off the Frying Pan shoals (coast of North Carolina), had a heavy ese. gale, lasting two hours, then veering suddenly to sw., from which quarter it blew with great force for eighteen hours; vessel split sails and lost mainboom. The schooner "City of Chelsea," in N. 32° 54′, W. 77° 30′, reported a heavy gale, in which she lost all spars and sails; and the schooner "S. L. Russell," off Cape Lookout, lost deck-load during the gale. In the above reports no barometric observations were given; the depth of the atmospheric depression at sea cannot, therefore, be determined, but the disturbance was apparently of small diameter, since vessels on the seventy-second meridian on the 9th and 10th reported pressures above 30.0 (762.0), and the reports from stations on the North Carolina coast show that the violence of the storm was felt only at outlying coast stations between Wilmington and Hatteras. The storm-centre passed over Smithville and Wilmington, North Carolina, between 7 and 11 a. m. of the 9th. At 7 a. m. of that date the barometer at Charleston, South Carolina, read 29.08 (761.5), wind nw., 12 miles an hour. At coast stations in North Carolina it read as follows: Smithville, 29.85 (758.2), wind n., 18; Wilmington, 29.91 (759.7), wind ne., 13; Fort Macon, 29.98 (761.5), wind e., 24; Portsmouth, wind ne, 24; Hatteras, 30.05 (763.3), wind e., 22. At 11 a. m. the barometer at Charleston, South Carolina, read 30.01 (762.2), wind nw, 8 miles per hour, but at Smithville, North Carolina, it had fallen to 29.23 (742.4), wind e, 48 miles; and at Wilmington to 29.3 (744.2), wind e., 30 miles, while at Fort Macon it read 29.91 (759.7), wind se., 38. At Portsmouth and at Hatteras the wind blew from the southeast with a velocity of forty-four and thirty miles an hour, respectively. At 3 p. m. the pressure at Smithville was 29.83 (757.7), wind w., 24, and at Wilmington it was 29.69 (754.1), wind w., 26, the wind having, during the interval between 11 a. m. and 3 p. m., attained a velocity of sixty miles an hour from the northeast at the former, and sixty-four miles west at the latter, station. At Smithville trees, fences, etc., were blown down, telegraph lines prostrated, and the instrument-shelter and wind vane at the signal office were blown away; several wharves were destroyed; the pilot boats in the harbor were sunk, and loaded vessels were driven ashore. At Wilmington several houses were unroofed and vessels were capsized or driven ashore; about eight hundred trees, together with fences, walls, etc., were blown down, and all telegraph lines were prostrated; the damage was estimated at $100,000. At Fort Macon several bath-houses were washed away, and much damage was done to the telegraph line. On the 10th the disturbance moved northward, the pressure having increased to 29.9 (759.4) near the centre; the wind changed to s., 42 miles, at Fort Macon at 7 p. m. of the 9th, and to s., 40 miles, at Kitty Hawk at the midnight observation of the same date. On the 10th the wind reached a velocity of 36 miles, sw., at Portsmouth, and 42 miles, sw., at Hatteras, while it decreased to strong breezes at stations south of those points. On the 11th the disturbance passed off the coast into the Atlantic, causing moderate north and northeast gales at Barnegat and Sandy Hook. The depression appears to have filled up on reaching the ocean. An area of high-pressure occupied the Maritime Provinces, and during the 12th and 13th vessels between W. 65° and 50° reported pressures of 30.1 (764.5) and above.

IV.—This disturbance, which is noteworthy on account of the unusual path of the centre, developed in Texas on the 14th; it moved in an easterly direction towards Mississippi, and by the morning of the 15th the depression extended from the Gulf of Mexico to the lake region, the lowest barometric readings being in Mississippi. The eastward movement of the disturbance was checked by an area of high-pressure, 30.2 (767.1) to 30.4 (772.1), which occupied New England and the Maritime Provinces on the 15th. By the 16th the depression,

having moved to the westward, was central in Minnesota, where the pressure was 29.4 (746.7). Strong southeast to southwest gales occured on the lakes, and caused some damage to lake shipping. On the 17th the disturbance passed into Manitoba, attended by increasing pressure and diminishing energy, and on the 18th it disappeared in the northwest territories of British America.

V.—This was a slight depression which moved from the northwest into Dakota on the 23d. On the 24th the area of least pressure was shown over the Lake Superior region, the pressure having decreased to 29.35 (745.5). Rainy weather and higher temperature, with moderate s. and sw. gales, prevailed at stations in the upper lake region and in western Canada. On the 25th the depression passed to the north of Lake Superior, and, continuing its eastward movement over northern Canada, was central over the Gulf of Saint Lawrence on the 26th. On the 27th it moved northeastward over the ocean and became merged in an extensive depression which occupied Greenland and Iceland.

VI.—During the 25th there was a decrease of pressure in Nebraska and Dakota, and on the 26th the isobar for 29.8 (756.9) enclosed the region named, and also Iowa and Wisconsin. Cloudy weather and occasional rain occurred at stations to the eastward, but the winds remained moderate in force. On the 27th the disturbance was central in Michigan; the atmospheric pressure remained unchanged, but the cloud and rain-area had extended to Ontario. On the 28th the disturbance was near the Gulf of Saint Lawrence, attended by moderate winds and showery weather. By the 29th it had passed into the Atlantic and was probably central near N. 52°, W. 40°, the s. s. "Strassburg," in 50° 24′, W. 36° 21′, reporting barometer 29.73 (755.1), wind sse., force 7, rainy, while vessels to the westward had n. and nw. winds of force 5 to 7. On the 30th the disturbance was central as a storm of slight energy near N. 55°, W. 25°.

VII.—This depression appeared in Dakota and Minnesota on the 29th, the centre being enclosed by the isobar 29.5 (749.3). The disturbance moved northeastward, attended by moderate gales and rainy weather in the eastern quadrants, and on the 30th it was central over Lake Superior, with the pressure ranging from 29.5 (749.3) to 29.6 (751.8).

On the 29th a furious hurricane occurred at Mazatlan, western Mexico, causing great damage and loss of life. The following notes, referring to this hurricane, are taken from the report of Mr. F. Quijano, the co-operating observer at that station: 28th, at 8.10 a. m., light rain at intervals with variable winds from ese. to ssw.; at 7 p. m., wind nw., force 7, until 8.15 when a calm followed the rain. At 10 p. m. the wind came back in a fresh breeze, of force 5, from the same point, and continued throughout the night, accompanied by heavy rain until the early morning of the 29th. At 5 a. m. of the 29th wind and rain decreased, the wind becoming light and variable from the first quadrant, with a marked barometric fall, 29.38 (746.2); these conditions prevailed until 10 a. m., when the wind came from ese. and blew with a velocity of 15 miles an hour with increasing sea-swell from that quarter. At 11.30 a. m. the barometer read 29.39 (746.4), wind ese. 70 miles an hour, the heavy seas reaching the outskirts of the town. The wind increased to a hurricane of 80 miles an hour at 2 p. m., at which time the steamer "Sonora" weighed anchor and made for shelter at the island of Venados; at the same time the anchors of the German bark "Carolina" and the American schooner "Teresa" began to drag, and those vessels were driven ashore. At 2.30 p. m. the hurricane increased to 100 miles an hour; from 5 to 6 p. m. the wind was variable from ese. to s. continuing to blow a hurricane; many houses were destroyed, the anemoscope was blown down, and the windows of the observatory facing south were destroyed. At 6.30 p. m. the hurricane began to decrease in force, and continued to gradually diminish throughout the night; at 4 a. m. of the 30th it had moderated to a gale from n.; at 7.30 a. m. the rain ceased and the wind fell to light, the sea becoming less rough. Many lives were lost in the neighboring towns from freshets and three hundred houses were destroyed. Several vessels were driven ashore and wrecked.

The following concerns the storms traced over the Atlantic and in Europe:

VIII.—On the 1st the atmospheric pressure near Newfoundland was 29.5 (749.3), and by the 2d the area of least pressure was transferred to about N. 45°, W. 35°; the brig "Isabella," in N. 54° and about two hundred miles east of Saint John's, on the 1st had a heavy gale, in which she lost spars, sails, and boats; the s. s. "Rhynland," in N. 45° 09′, W. 39° 03′, reported barometer 29.53 (750.0), wind ne., 7, cloudy; the s. s. "Pennsylvania," in N. 43° 48′, W. 40° 01′, on the 2d, reported barometer 29.63 (752.6), wind ne., force 6, cloudy; and the s. s. "Illinois," in N. 44° 37′, W. 39° 16′, on the same date, reported barometer 29.64 (752.9), wind nne., force 7, fair; the s. s. "Nederland," to the eastward of the centre, had se. wind of force 3, barometer 29.8 (756.9). During the day the disturbance moved northeastward, and on the 3d it was central near N. 49°, W. 21°, where the pressure was 29.7 (754.4), with northerly winds to the westward of the twenty-second meridian and southerly and southeasterly winds eastward to the Irish coast. On the 4th the storm-centre was between W. 15° and 20° and near the fiftieth parallel; the bark "Commewyne," in N. 49° 21′, W. 18° 22′, reported barometer 29.67 (753.6), wind wnw., force 6, cloudy; and the s. s. "Celtic," in N. 51° 10′, W. 13° 20′, barometer 29.62 (752.8), wind se., force 6, cloudy. On the 5th the depression occupied the Bay of Biscay and the English channel, the barometric readings being 29.4 (746.7) over the last mentioned. Moderate north and northeast gales were reported by vessels west of 15°, west longitude, and strong easterly to southerly winds and showery weather occurred at stations on the coast of France and in the southern part of England. During the 5th the decrease of pressure spread over the whole of the British Isles, which on the 6th were enclosed by the isobar for 29.6 (751.8). Within the limits enclosed by that isobar were two districts where the pressure was below 29.5; one of these was over the North sea and to the eastward of northern Scotland, while the other was over the Channel. During the 6th the disturbance moved northward, and on the 7th the centre was near the Hebrides, causing rain and moderate southerly winds in Scotland. On the 8th the region of least pressure was near the Norwegian coast, but the depression appeared to be filling up, and by the 9th the pressure in that region had increased to 29.9 (759.4).

IX.—On the 1st a small area of low-pressures, enclosed by the isobar for 29.6 (751.8), was shown near the Gulf of Genoa; it was attended by strong northwesterly winds and cloudy weather at stations on the shores of the Gulf of Lyons. On the 2d the pressure was least in northern Italy and in southwestern Austria, the barometer readings ranging from 29.6 (751.8) to 29.65 (753.1). On the 3d the storm-centre was in Hungary, the decrease of pressure extending over central and northern Europe. During the 4th and 5th the disturbance moved slowly eastward with gradually increasing pressure, and disappeared in southern Russia on the last-mentioned date.

X.—After the passage of low area viii., a small disturbance appeared in western France, causing moderate to strong westerly gales at stations on the shores of the Bay of Biscay. On the 9th the disturbance, having moved northeastward, was central in northern Germany, accompanied by general rain along its track. The pressure increased somewhat rapidly in rear of the depression, and by the 10th it had apparently filled up.

XI.—During the 7th and 8th there was a gradual decrease of pressure in Greenland, and by the 9th it had fallen below 29.0 (736.5), the barometer at Godthaab reading 28.96 (735.6), wind ne., force 2. Steep gradients were formed between Greenland and Iceland, and on the 10th the wind attained the force of 8 (strong gale) from the southeast. On the 10th the disturbance disappeared, the pressure increasing to 29.9 (749.4) over the region above referred to.

XII.—This depression was probably a secondary development of low area x. On the 11th a small area of low-pressures, 29.65 (753.1) to 29.8 (756.9), was situated in northern Austria; during the day the disturbance moved northward and on the 12th it was central over the western part of the Baltic, where it was attended by moderate to strong winds and rainy weather. By the 13th the storm-centre was near Stockholm, the pressure having decreased to 29.55 (750.6); the winds increased somewhat in force in the southern quadrants of the depression, and cloudy or rainy weather continued at stations near the centre of disturbance. During the 14th the storm-centre remained nearly stationary over the Baltic, and on the 15th it moved slowly southward, causing a slight decrease of pressure over northern Germany. By the morning of the 16th the area of disturbance covered northern Scandinavia and the greater part of Russia, the pressure being least near Moscow, where the barometer read 29.63 (752.6), wind sw., force 2. On the 17th the area of low-pressures still occupied European Russia and had extended to western Siberia, while an increase of pressure had set in over Scandinavia. By the 18th the pressure had decreased to 29.4 (746.7), in the Ural region, and during the 19th and 20th the disturbance moved slowly eastward into Siberia, and disappeared on the last-mentioned date.

XIII.—During the 10th the pressure began to decrease over the Azores and on the morning of the 11th the barometer read 29.75 (755.6), being a fall of about .3 inch since the preceding twenty-four hours. By the morning of the 12th the disturbance had moved northeastward to about N. 46°, W. 22°, the winds shifting to northwest in the vicinity of the Azores, while southeasterly breezes prevailed over the region near N. 48°, and from W. 21° to W. 15°. During the 12th the disturbance moved slowly eastward with increasing pressure, causing on the 13th strong southeasterly winds over the Bay of Biscay. This depression dissipated before reaching the European continent.

XIV.—On the 17th an area of low-pressures, indicated by the isobar for 29.6 (751.8), lay over Iceland. Under the influence of this depression, a brisk decrease of pressure occured over the British Isles and western Scandinavia, and showery weather prevailed in those districts. On the 18th the disturbance was apparently central north of the Färöe islands, and during the day it probably became merged in an extensive depression which was moving southward from Greenland.

XV.—On the 18th an extensive depression occupied southern Greenland and Iceland, the isobar for 29.6 (751.8) extending southward to the fiftieth parallel. The region of least pressure was to the southwestward of Iceland, where the barometer read 29.39 (746·5), wind e., force 8, raining; moderate westerly and northwesterly gales were reported by vessels on the fiftieth parallel, while those to the northward of that latitude and east of 20° west longitude, had moderate southwesterly breezes. On the 19th the region of least pressure was transferred to about N. 53°, W. 20°, in which region the barometric readings were below 29.42 (741.7). The easterly gale continued at Stykkisholm, Iceland; southerly and southwesterly gales occurred from W. 20° eastward to the Irish coast and the English channel, while southeasterly and easterly winds prevailed over Scotland. On the 20th the storm-centre was in N. 52°, W. 18°; on that date the s. s. "Rhynland" in N. 49° 26′, W. 17° 44′, reported barometer 29.21 (741.8), wind sw., force 5, fair; the s. s. "Köln" in N. 49° 53′, W. 24° 06′, barometer 29.25 (742.9), wind nw., force 6, raining; stations on the Irish coast had southerly and southeasterly winds of moderate force and cloudy or rainy weather. On the 21st the disturbance was central in Ireland, where the barometric readings ranged from 29.23 (742.4) to 29.28 (743.7), easterly and southeasterly winds prevailed in Scotland, over the North sea, and at stations in Denmark, northwestern Germany and the Netherlands, while southwesterly breezes were reported at stations in western France. During the 22d and 23d the disturbance was forced to the southeastward by an area of high-pressures which occupied the Scandinavian peninsula, and which gradually spread over the British Isles and northern Europe. On the last-mentioned date the depression was in Austro-Hungary where the pressure ranged from 29.6 to 29.7, increasing to 30.0 (762.0) on the following day.

XVI.—This disturbance appeared over the Atlantic north of the fiftieth parallel and between the meridians of 40° and 30° west longitude on the 22d. On that date the s. s. "Köln," in N. 49° 07′, W. 32° 49′, reported barometer 29.32 (744.7), wind sw., force 5, cloudy, and the s. s. "Germanic," in N. 43° 56′, W. 38° 52′, barometer 29.50 (749.3), wind wnw., force 3; vessels to the westward of W. 40° had strong northerly and northwesterly winds. On the 23d the disturbance moved slowly north-northeastward, causing a decrease of pressure over the western portion of the British Isles and moderate to strong westerly and northwesterly gales over the ocean south of the fiftieth parallel. On the 24th the region of least pressure was between Iceland and Greenland; during the period from the 24th to the 30th the disturbance remained in the vicinity of Iceland, with irregular movements to the southward and eastward, which caused a decrease of pressure with showery weather and moderate to strong southwesterly winds over the northwestern districts of the British Isles.

XVII.—This disturbance appeared in southeastern Russia on the 21st and was enclosed by the isobar for 29.6 (751.8). It moved northeastward and on the 22d the centre was shown near Kasan, where the barometer read 29.26 (743.2) wind sw., cloudy. From the 23d to the 26th the disturbance occupied the Ural region, the pressure ranging from 29.45 (748.0) to 29.6 (751.8). On the latter date it moved southeastward and disappeared in southwestern Siberia.

The following notes, descriptive of the typhoons that occurred in the China sea during September, 1881, are taken from Mr. Marc Dechevrens' "Typhoons of the Chinese sea in the year 1881."

I.—This typhoon appears to have moved from the region south-southwest of Japan, by a north-northeasterly course to about the latitude of Tokei, when it turned to the northeastward and disappeared in the Pacific. At only one station on shore, that of Inu-bo-ye-saki in N. 35° 43′, E. 140° 53′, did the wind reach the force of a gale, but the typhoon appears to have been quite severe at sea. The barometric minimum occurred at Tokei on the 2d, the barometer reading 29.72 (754.9), wind nw., 6 miles. On the same date the pressure at Inu-bo-ye-saki lighthouse was 29.65 (753.1), wind nw. gale. The German bark "Carl," in N. 34° 34′, E. 138° 57′, had a heavy n. gale on the 1st, and during the 2d it blew a hurricane, with tremendous sea running; at 6 p. m. the weather moderated and fell calm, which continued for three days. The "Carl" passed several fishing boats that had been blown out to sea. The ship "North American" probably encountered the same typhoon on the 3d; that vessel, in N. 37° 30′, E. 143° 30′, had a typhoon from ne. backing to nw., blowing very hard for eight hours, during which she lost maintopsail.

II.—This typhoon appeared northeast of Luzon on the fore noon of the 6th and moved towards the northwest with a velocity of about twelve miles an hour. On reaching the island of Formosa the typhoon appears to have split into two segments, one of which passed over Formosa and moved westward to the Chinese coast, while the other passed south of the island and reached the Chinese coast by a northwesterly course. The barometric minimum, 29.06 (738.1), occurred at Tai-wan-foo, Formosa, on the afternoon of the 7th, the wind blowing a fresh gale from nnw., at 8 a. m., to se., at 4 p. m. At Tamsui, in northern Formosa, the lowest barometric reading was 29.41 (747.0) at 2 p. m. of the 7th, wind e. to ese., strong gale. The western segment of the typhoon, having no obstacle to impede its movement, traveled quickly northwestward, and by the 8th it had already entered the continent. It passed between Amoy and Swatow on the evening of the 7th, the barometric readings at the time of the passage of the centre being 29.30 (744.2), wind n. by e., force 7, and 29.35 (745.5), wind nnw., force 6, respectively. The second, or east-

ern depression, cleared Formosa during the afternoon of the 7th, and, moving rapidly by a w. by n. course, it reached the continent on the morning of the 8th, passing at about the same place as its predecessor. The barometric readings at Amoy and Swatow during the passage of the second centre of depression were 29.39 (746.5), wind e. by s., force 6, and 29.32 (744.7), wind nw., 6, respectively. The velocity of translation of the first storm-centre averaged fourteen miles an hour, that of the second centre was considerably diminished when in Formosa, but after reaching the straits it averaged 14.6 miles an hour. The eastern segment, on reaching the continent, moved westward and disappeared to the northward of Hong-Kong on the 9th. The western depression, however, continued its northwesterly movement towards Lake Toong-ting, where it recurved on the 10th and moved northwestward along the valley of the Yang-tsi-kiang, entering the Yellow sea on the 13th. The barometric minimum, 29.69 (754.1), occurred at Hankow, at 7.45 p. m. of the 11th, and at Wuhu, (N. 31° 20′, E. 118° 22′) where the lowest barometric reading was 29.82 (757.4) on the morning of the 15th. When last observed, at Shaweishan light-house (N. 31° 25′, E. 122° 14′), the atmospheric pressure was 29.62 (752.3), wind shifting from s. to nw., in a fresh to strong breeze. The typhoon did not cause much damage to property on shore during its passage, but it was probably severe at sea. On the 7th the ship "Hindostan," in N. 21°, E. 117°, encountered a severe gale in which the vessel was much damaged.

III.—This typhoon passing through the most populous part of Japan consequently caused great damage to property in that country, as well as numerous shipwrecks on the coasts. The typhoon appears to have originated to the northwestward of the Liu-kiu or Loo-choo islands on the 10th, and to have moved in a northeasterly direction on the 12th, touching the southern point of Kiu-siu island, about noon of the 13th. The ship "Highlander," in N. 27° 33′, E. 131° 06′, reported strong ne. to ene. gales with terrific squalls from the 10th to the 13th, on which date the vessel encountered a typhoon in which she lay for twelve hours on her beam-ends and lost several sails. The s. s. "Tientsin," in about N. 31° 00′, E. 126° 30′, from 6 p. m. of the 12th to 4 a. m. of the 13th, reported lowest barometric readings from 29.62 (752.3) to 29.64 (752.8), light wind shifting from e. by n., clear. to nw., fresh breeze; weather squally with rain. The French steamer "Volga," crossed the region of central calm, as shown by the following: "Left Yokohama on September 11th, wind ne. raining, barometer 30.08 (764.0); until the 13th had variable winds from ne. to se.; sea from e., and frequent squalls from se., barometer falling; 13th, 9 a. m., violent squall from se., heavy sea, wind freshening and barometer falling rapidly; 10 a. m. (about N. 32° 30′ E. 133° 0′), barometer 29.55 (750.6), strong se. wind, sea rising from the same quarter; 11 a. m., barometer 29.53 (750.0); noon, barometer 29.17 (740.9), wind blowing a hurricane from se.; 0.30 p. m., barometer 28.94 (735.1); 1 p. m., 28.74 (730.0); 1.30 p. m., 28.5 (723.9); 2 p. m., 28.31 (719.1), falling as low as 28.00 (711.2) during the squalls; sea frightfully high. At 2.30 p. m. barometer still at 28.31 (719.1), when a sudden calm occurred, lasting fifteen minutes, sun shining, patch of blue sky at the zenith, wind se., very light and veering to n. through e.; 2.45 p. m., wind again blowing furiously from n., sea very high, a boat carried away; 3 p. m., barometer 28.5 (723.9), wind n. blowing with hurricane force; 4 p. m., barometer 29.09 (738.9), wind abating; 5 p. m., 29.27 (743.4); 6 p. m., 29.61 (752.1); shipped an enormous sea on the starboard side, water in the cabins and in the engine-room; starboard gun torn from its fastenings and lost; 6.30 p. m., weather improving; land (Kiu-siu) seen on the starboard side." The position of the "Volga," when in the calm-centre of the typhoon, was about N. 31° 50′, E. 132° 01′; the centre moved directly northeastward and entered Niphon during the 13th. At Hiroshima the barometric minimum occurred at 5.30 p. m. of the 13th, the pressure being 29.40 (746.7), wind nne., 14 miles an hour, light rain. At Wakayama the barometer fell to 28.78 (731.0) at 10 p. m. of the 13th, wind nne., strong gale; the anemometer having broken at 9.30 p. m., when the wind had reached a velocity of 43 miles an hour; heavy rain continued during the passage of the disturbance. At Kobe observatory the wind varied from ne. to n. and nw.; lowest barometer 29.09 (738.9) at 11 p. m. of the 13th; from this time the wind, which had been blowing in violent squalls with heavy rain, decreased in violence. At Kioto the barometric minimum, 28.91 (734.3), was registered about midnight of the 13–14th, wind n., 19 miles, increasing at 1 a. m. of the 14th to nw. 35 miles. At Tokei the lowest barometric reading was 29.17 (740.9) at 6.15 a. m. on the 14th, wind s. 41 miles, with heavy rain and vivid lightning; at 1.40 a. m. the wind veered from n., 2 miles, to sse., 30 miles, and increased in force, hauling to ssw. at 6.30 a. m. and decreasing. The typhoon continued its northeasterly movement and passed between the stations Niigata and Nobira; at the former, on the western coast of Niphon, the lowest barometric reading was 29.15 (740.4) at 8 a. m. on the 14th, wind nne., 19 miles, raining; and at the latter station, on the eastern coast, it was 29.03 (737.3) at 11 a. m., wind se., heavy gale; at 0.30 p. m. the wind became nearly calm, after which it came out from wsw. to w. and nw. The typhoon passed into the Pacific during the 14th, after which date observations are missing.

This typhoon caused much damage to barges and merchandize at Yokohama, and twelve lives were lost; at Tokei thirty-six houses were blown down and fourteen were damaged, four fishing boats were wrecked off Shinagawa. Many fishing vessels and two barges were driven ashore on the coast of Niphon and were attended in some cases by loss of life. The velocity of translation of the typhoon varied considerably; on the 13th from midnight to noon, it was about 16 miles an hour; from noon to next midnight, 27 miles; on the 14th, from midnight to noon, 26 miles; and from noon to midnight of the 15th, about 22 or 23 miles.

IV.—This typhoon originated near the Pratas reef, in the northern part of the China sea, during the 12th and 13th, and moved northward to the Straits of Formosa, where it was central on the 14th, the least recorded pressure being 29.44 (747.8), wind ne., force 5, at Lamock light-house (N. 23.° 15′, E. 117° 17′), at 3 a. m. of the 14th. It made towards the Chinese coast, and then suddenly swerved to the northeastward and moved towards the Pescadores islands; and on the 15th it again moved northward and entered the continent. During its passage through the Straits of Formosa it was attended by northeasterly to southeasterly and south-southwesterly winds, of force 6 to 8, the lowest barometric reading being 29.4 (746.7). During the 15th the typhoon entered China between Amoy and Ockseu island, the barometer at the latter station reading 29.4 (746.7), wind e., force 8, to sw., force 7. On land the disturbance does not appear to have exhibited much storm-energy, but at sea near the coasts, it was very severe, the winds attaining a force of 10 (Beaufort scale). After moving northward until the 16th the course changed to the northeastward and the typhoon reached the sea on the 17th, having caused but light winds at land stations. It moved northeastward over the Sea of Japan, and disappeared in the Pacific on the 19th, without displaying any further violence and attended by gradually increasing pressure. Prior to the 15th the velocity of translation of the typhoon was variable on account of the uncertainty of its course. On entering China its mean velocity may be estimated at 8.75 miles an hour; during its passage over the Eastern sea the velocity was about 15.5 miles, and in the Sea of Japan it increased to about 27.5 miles an hour.

V.—This typhoon was first noticed on the 24th, on which date it lay to the eastward of Luzon, Philippine islands. It moved north-northeastward at a considerable distance from land, and caused much damage to shipping and loss of life. The atmospheric depression when in the China sea does not appear to have been very deep, but its central region was of great extent. The cause of its moving at so great a distance from the coast, while the other typhoons which originated in

the same latitude have mostly made for the continent, was due chiefly to the fact that the northeast monsoons had set in in China about the 19th, and also that the atmospheric pressure was high in central and eastern China. The typhoon moved northwestward to near the Bashee channel, and turning to the north-northeastward on the 25th, skirted the eastern coast of Formosa. On the 26th the centre was to the southwestward of the island of Kiu-siu, Japan; passing into the Japan sea, through the Straits of Corea, the typhoon moved along the coast of Tartary, and during the 27th it passed into the Pacific, between Yesso and Saghalien. During its passage northward near Formosa, the barometer at Tai-wan-foo ranged from 29.61 (752.1) to 29.76 (755.9), with strong north wind and fine weather throughout the 24th, 25th, and 26th. At Tamsiu, northern Formosa, the lowest barometer read 29.71 (754.6), from 7 a. m. to 1 p. m., of the 25th, wind nne., force 6–7. During its progress very violent winds occurred near the centre, as shown by the following vessel reports: ship "Faugh Ballaugh," between N. 27° 28′, E. 123° 19′, and N. 26° 35′, E. 122° 42′, from noon of the 24th to noon of the 25th, reported barometer ranging from 29.73 (755.1) to 29.44 (747.8), wind nne., force 10, to nnw., force 12 (Beaufort scale), with terrific squalls. S. S. "Tientsin" anchored in Barren bay for shelter (N. 28° 44′, E. 121° 49′), reported, 25th, from noon to 8 p. m., barometer remained at 29.6 (751.8), wind nw., force 10, clear weather; the the bark "Lydia," at noon on the 25th, reported barometer 29.72 (754.9), wind nne., furious typhoon, heavy rain; 4.30 p. m., barometer 29.66 (753.4), wind n., typhoon increasing, a furious squall blew away the fore lower topsail; 10 p. m., barometer 29.58 (751.3), wind nw., typhoon raging furiously, rain and high sea, main lower topsail blown to pieces. Midnight to 3 a. m. of the 26th (N. 29° 35′, E. 124° 50′), barometer 29.54 (750.3), typhoon raging, with heavy rain; noon, barometer rising, wind moderating. Previous to the passage of the typhoon the barometer at Zi-Ka-Wei had been sinking slowly but steadily; it stood at its maximum, 30.12 (765.0), on the 21st and fell gradually to 29.76 (755.9) at 3 a. m. on the 26th; the ne. monsoon continued to blow steadily until the 25th, when the wind changed to nw. and w. and blew at the rate of about sixteen miles an hour at the time of the passage of the centre. On reaching Japan the typhoon maintained its violence and caused much damage, as indicated by the following: the brig "Minatitlan," in N. 31° 17′, E. 126° 40′ on the 25th, lost boats, had decks torn up, and vessel thrown on her beam ends, and was obliged to cut away both masts. The bark "Presto," off Cape Gotto, entrance to the channel of Corea, at 8 a. m. of the 25th reported barometer gradually falling, wind e., heavy ne. sea running; 6 p. m., heavy gale and sea; on the 26th, 10 a. m., typhoon raging, torrents of rain, barometer 28.9 (734.0), vessel thrown on her beam ends, sails blown away, and vessel otherwise damaged. The wind increased from e. to wnw.; when off Quelpaert island, the barometer began to rise and the weather moderated. At noon of the 26th the barometer read 29.42 (747.3) on board the bark "Kanagawa-maru," near the Kosiki islands (N. 32° 12′, E. 120° 35′); several sails were blown away and the ship sustained other damage; at noon it was blowing a typhoon with wind hauling to sw. At Nagasaki the typhoon was very heavy; six coal-laden junks sank at their anchors; a large number of sampans were sunk or stove in; many lives were lost, and several steamers and sailing vessels dragged anchor in the harbor; buildings were blown down, and trees, roofs, etc., were scattered in all directions. At Nagasaki the barometric minimum occurred about noon of the 26th, when the barometer read 29.38 (746.2), wind ssw., about 40 miles an hour, heavy rain. At this time the centre of the typhoon was passing north-northeastward, in the Straits of Corea, at a distance of about one hundred miles. The s. s. "Chitose-Maru," in the Straits of Corea, reported at noon of the 26th, barometer 28.8 (731.5), wind se.; 2 p. m., barometer 28.59 (726.2), wind s. The s. s. "Annei Maru," at Fusan, Corea, reported at noon 26th, barometer 29.66 (753.4), wind nne., force 7, heavy rain; 4 p. m., barometer 28.92 (734.6), wind e., force 11; 5 p. m., barometer 28.6 (726.4), wind nw., force 12, heavy rain; 6 p. m., barometer 28.6 (726.4), wind w., force 12; after this the barometer began to rise and the weather cleared. After passing through the Strait of Corea the typhoon moved northeastward, keeping in the middle of the Sea of Japan. The bark "Siberien," from Vladivostok to Cheefoo, reported that on the morning of the 27th, in N. 39°, E. 130°, she passed through a typhoon of extraordinary violence, in which the barometer fell to 28.21? (716.5?) at 1 a. m. of the 27th. The storm began with the wind from ne. shifting from nnw. and wsw.; the vessel lost spars and had deck swept. The s. s. "Europe," in about N. 38° 48′, E. 130° 51′, reported lowest barometer 28.76 (730.5) at 3 a. m. of the 27th, the wind having shifted from e. in a terrific hurricane to n. and nw., and continued to blow with unabated fury until 7 a. m., when the barometer read 29.34 (745.2). The steamer "Ash" and the bark "Nouveau Mondelli" were lost with all hands during this typhoon. On the 28th the typhoon passed into the Pacific beyond the range of observation.

The following description relates to chart ii. for the month of December, 1882, (issued herewith) and presents a brief summary of the meteorological conditions which prevailed over the northern hemisphere during that month. Chart ii. continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-direction over the northern hemisphere, as determined from one observation taken simultaneously each day at 7 h. a. m., Washington, or 0 h. 8 m. p. m., Greenwich, mean time.

For the month of December, 1882, two areas of barometric minima are exhibited on the chart. The first of these occupies the north Pacific ocean between the fiftieth and sixtieth parallels, and from Kamchatka eastward to Alaska; within this region the lowest reported mean pressure is 29.36 (745.7), at Saint Paul, Kadiak island, Alaska. North of the sixtieth parallel the pressure rapidly increases, the mean for the month at Ooglaamie, (N. 71° 17′, W. 156° 40′) being 30.11 (764.8). The second area of low-pressures is situated between the parallels of 50° and 62° north latitude, and from W. 50° eastward to about the meridian of 5° east longitude. This region is enclosed by the isobar for 29.7 (754.4), and embraces two small areas where the mean pressure is less than 29.6 (751.8). To the southward the barometric gradient gradually increases, the isobar for 30.0 (762.0) extending from the Canadian Maritime Provinces southward to N. 35°, W. 60°, thence northeastward to the forty-second parallel and over the Iberian peninsula. In that part of the continent of Europe lying between E. 5° and E. 25°, excepting the Iberian peninsula, the mean pressure ranges from 29.7 (754.4) to 30.0 (762.0). In the North American continent the mean pressure is least in Canada, the barometric means ranging from 29.9 (759.4) in the Maritime Provinces to 30.05 (763.3) in the western districts of the Dominion.

Four areas of barometric maxima appear on the chart; the most marked of these occupies that part of Siberia lying between N. 50° and 60°, and E. 90° and 107°. Within this region the mean pressures are 30.79 (782.1) and 30.72 (780.3), at Yeniseisk and Irkutsk, respectively. From the region of the greatest pressure above indicated, the barometric means decrease, the isobar for 30.0 (762.0) occupying western Russia to the westward, and northeastern Asia and Niphon to the eastward. The second area of high-pressures is situated west of the Maderia islands and south of the Azores, in about N. 25° to 35° and W. 20° to 35°; within this area the means range from 30.2 (767.1) to 30.24 (768.1.) The remaining areas are shown in the United States of North America and are both indicated by the isobar for 30.2 (767.1). One occupies the country between N. 30° and 50° and the meridians of 95° and 120° west longitude, except southern California and southwestern Arizona. The other area of high-pressures covers Tennessee, the east Gulf, and the south Atlantic States. In the country between these areas the mean pressure ranges from 30.15 (765.8) to 30.19 (766.8)

Compared with the chart for the preceding month (November, 1882), there has been a decrease of pressure in New England, in the lake region, and in Canada; elsewhere in the North American continent there has been no material change. There has been a general decrease of pressure over the north Atlantic ocean, except over the region south of N. 25°, where the pressure is slightly greater than that of November. In Europe there has been an increase of pressure in Germany, Austria, Russia, and in the Danish and Scandinavian peninsulas; in the three last-named districts the increase averages .15 inch. In all other parts of Europe there has been a decrease of pressure, the departures being least in the British Isles and greatest in the Iberian peninsula. In British India and in other parts of Asia the pressure is much above that of the preceding month. In Japan, however, the pressure has decreased, especially in the eastern part of Niphon.

Compared with the corresponding month of previous years, the mean pressure for December, 1882, over the United States, was normal, or slightly above, in all districts excepting New England and the lake region, where it was slightly below. In Canada the pressure was generally above the normal. In Europe the mean atmospheric pressure was below the normal in the central and southern districts, and above the normal in Russia and the Scandinavian peninsula. In British India the pressure was about normal; in Siberia it was above the normal.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of December, 1882, as compared with the means for five years:

Stations.	Mean pressure.			Mean temperature.		
	Dec., 1877, 1878, 1879, 1880, 1881.	Dec., 1882.	Departure.	Dec., 1877, 1878, 1879, 1880, 1881.	Dec., 1882.	Departure.
				°	°	°
Gibraltar*	30.17	30.10	— 0.07	59.3	59.2	— 0.1
Malta, Mediterranean Sea	30.02	29.90	— 0.12	61.9	62.5	+ 0.6
Sandwick Manse, Orkney Islands	29.72	29.61	— 0.11	38.9	36.0	— 2.9
Bridgetown, Barbadoes	.....	29.98	.....	.....	81.3	.....
Cape Town, Cape Good Hope*	30.00	.....	.....	77.5	.....	.....
Fort Napier, Natal, South Africa	29.78	29.82	+ 0.04	76.5	76.4	— 0.1
Freetown, Sierra Leone	29.89	29.89	normal	86.1	84.1	— 2.0
Mauritius, Indian Ocean	29.96	30.00	+ 0.04	79.8	80.4	+ 0.6
Melbourne, New South Wales	29.91	29.89	— 0.02	59.4	60.7	+ 1.3
Nassau, Bahamas	30.12	30.12	normal	71.7	72.0	+ 0.3
Godthaab, Greenland	29.57	29.80	+ 0.23	19.6	18.0	— 1.6
Stykkisholm, Iceland	29.55	29.74	+ 0.19	26.9	28.4	+ 1.5
Thorshavn, Färöe Islands	29.70	29.63	— 0.07	39.5	36.9	— 2.6
Zi-Ka-Wei, China	30.35	30.38	+ 0.03	39.3	39.6	+ 0.3
Athens, Greece	30.05	29.98	— 0.07	54.8	57.9	+ 3.1
Cagliari, Sardinia, Italy	30.00	29.80	— 0.20	55.6	57.9	+ 2.3
Tokei, Japan	30.01	30.05	+ 0.04	39.7	39.3	— 0.4
Angra, Azores	30.09	30.13	+ 0.04	60.2	61.9	+ 1.7
Funchal, Madeira Islands	30.17	30.20	+ 0.03	66.3	66.0	— 0.3
Ponta Delgado, Azores	30.14	30.17	+ 0.03	62.9	63.9	+ 1.0
Archangel, Russia	29.82	30.15	+ 0.23	16.9	5.7	—11.2
Tiflis, Russia	30.22	30.11	— 0.11	41.5	48.4	+ 6.9
Astrakhan, Russia	30.24	30.18	— 0.06	28.2	30.0	+ 1.8
Ekaterinburg, Russia	30.22	30.44	+ 0.22	9.5	0.5	— 9.0
Tashkend, Toorkistan, Asia	30.41	30.21	— 0.20	32.3	41.9	+ 9.6
Barnaul, Siberia, Asia	30.43	30.60	+ 0.17	0.8	— 7.1	— 7.9
Yeniseisk, Siberia, Asia	30.49	30.72	+ 0.23	— 7.9	—23.4	—15.5
Pekin, China	30.40	30.42	+ 0.02	25.0	22.8	— 2.2
Nikolaevsk on the Amoor, Asia	.....	.....	.....	— 6.5	— 7.1	— 0.6
San Juan de Puerto Rico, W. I.	30.03	30.04	+ 0.01	75.7	76.8	+ 1.1
Beirut, Turkey in Asia	30.02	30.03	+ 0.01	64.6	65.5	+ 0.9
Mexico, Mexico	30.33	30.30	— 0.03	45.7	43.9	— 1.8
Havana, Cuba, W. I.	30.10	30.04	— 0.06	71.5	66.8	— 4.7
Paramaribo, D. Guiana, S. A	29.99	30.02	+ 0.03	79.8	77.8	— 2.0
York Factory, B. A	30.01	30.16	+ 0.15	—15.1	—14.8	+ 0.3

* Mean for four years only.

In the United States the mean temperature of the air was below the normal in the country east of the ninety-fifth meridian; to the westward of that meridian the temperature was above the normal. In Canada it was below the normal in the western sections, but was above the normal in the eastern provinces of the Dominion. In Europe the mean temperature of the air was above the normal, except in the Scandinavian and Iberian peninsulas and in Russia, where it was about 4°.0 below the normal. At stations in Siberia the temperature was much below the normal; in British India it was 3°.6 above the five years' mean. The highest mean temperature reported was 82°.8 Fahr. (28°.2 Cent.), at Poona, and the lowest was 62°.4 Fahr. (16°.9 Cent.) at Lahore.

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

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°			°	
Zanzibar, Africa	84.2	29.0	Yeniseisk, Siberia	—23.4	—30.8
Freetown, Africa	84.1	28.9	Ooglaamie, Alaska	—20.6	—29.2
Bridgetown, Barbadoes	81.3	27.4	Irkutsk, Siberia	—17.9	—27.9
Mauritius, Indian Ocean	80.4	26.9	York Factory, B. A	—14.8	—26.0
			Tomsk, Siberia	—13.2	—25.1

The following table gives the mean pressure and the mean temperature, with corresponding departures, for the month of December, 1882, in the several countries of the eastern hemisphere, compared with the means as determined from observations taken during the years 1877, 1878, 1879, 1880, and 1881:

Countries.	Mean pressure.			Mean temperature.		
	Dec., 1877, 1878, 1879, 1880, 1881.	Dec., 1882.	Departure.	Dec., 1877, 1878, 1879, 1880, 1881.	Dec., 1882.	Departure.
				°	°	°
Algeria	30.14	30.05	— 0.09	57.3	57.4	+ 0.1
Austria	30.09	29.91	— 0.18	32.8	38.7	+ 5.9
British Isles	29.94	29.65	— 0.29	39.4	41.0	+ 1.6
Denmark	29.87	29.76	— 0.11	35.1	31.2	— 3.9
France	30.11	29.85	— 0.26	41.6	44.9	+ 3.3
Germany	30.01	29.82	— 0.19	33.7	34.9	+ 1.2
India	30.00	29.99	— 0.01	68.7	72.3	+ 3.6
Italy	30.05	29.91	— 0.14	48.1	49.4	+ 1.3
Norway	29.73	29.81	+ 0.08	31.5	28.0	— 3.5
Portugal	30.22	30.07	— 0.15	57.3	51.6	— 5.7
Russia	30.04	30.06	+ 0.02	27.1	22.2	— 4.9
Spain*	30.15	30.00	— 0.15	51.1	49.4	— 1.7
Sweden	29.79	29.93	+ 0.14	25.9	20.8	— 5.1

* Mean for four years only.

In the United States the prevailing winds were northerly and northwesterly over the country lying south of the fortieth parallel and east of the Rocky mountains; north of the above-mentioned parallel, and from the Rocky mountains eastward, they were mostly westerly and northwesterly. In Canada they were northerly and westerly. Over the north Atlantic ocean the prevailing winds were northerly and northwesterly from the coast of the United States eastward to 50° west longitude and between 25° and 50° north latitude. From W. 50° to W. 25° the winds were mostly southwesterly; from W. 25° eastward to the European coasts they were westerly and northwesterly. South of 25° north latitude easterly and northeasterly winds prevailed. In Europe the winds were southeasterly, southerly and southwesterly. In eastern China and in Japan they were northerly and westerly.

The rainfall in the United States during the month of December, 1882, was much less than the average, except in the south Atlantic states, Florida, and in the lake region, where it was slightly above the average. In the north Pacific coast region it was considerably above the average, the excess in that region being 6.86 inches (174.2 millimeters). This excessive rainfall caused destructive floods in Oregon, Washington Territory, and Idaho. In Canada the rainfall was much below the average. In Europe it was about normal in the northern districts, but it was greatly in excess of the average in the southern sections, causing heavy floods in Germany and France.

GENERAL REMARKS.

All data which appear in the DAILY BULLETIN OF SIMULTANEOUS METEOROLOGICAL OBSERVATIONS are copied from the regular exchanges of this office. The barometer readings for land stations, in the first and second columns, are reduced to freezing and their respective standards; those in the third and fourth columns to sea-level. When necessary, corrections for instrumental error, temperature, and reduction to sea-level are always applied, while those for instrumental error, only when such corrections can be ascertained with close approximation, as by comparison when vessels are at or near land stations. Relative humidity generally requires computation from the hygrometrical observations. When rain has fallen, but neither the amount nor duration is recorded, the word "blank" is published in the rainfall column. The weather is generally published as given. The following symbols and abbreviations are common to all series, viz: †, aneroid; *,

instrumental error not known; c, cirrus; k, cumulus; s, stratus; n, nimbus; d, scud; f, fracto; p, pallio; hz, haze; fg, fog; sk, smoke; inap, inappreciable; d. clouds, detached clouds. The movement of the air is published as given on the originals, when indicated by velocity in miles per hour, in meters per second, or by force, all variations of the latter being reduced to the common scale of 0 to 10. Those stations reporting the movement in pounds pressure per square foot are reduced to force on the common scale, and those in kilometers per hour, to meters per second and miles per hour. The distinction between upper and lower clouds is carefully made in the United States and a portion of the Canadian series, and the various formations are indicated by the letters above given and their combinations. In the MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS the position of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevation 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 alphabet of the letter so used.

INTERNATIONAL CHARTS ACCOMPANYING DAILY BULLETIN AND MONTHLY SUMMARY.

International chart i. shows isobars and isotherms charted from data as appearing in the INTERNATIONAL BULLETIN of same date, as reported by the several observers. Isobars, in continuous lines, exhibit atmospheric pressure at sea-level in English inches; isotherms, in dotted lines, exhibit temperature of the air in degrees, Fahrenheit, similarly charted.

International chart ii. (monthly mean chart), showing mean pressure at sea-level in English inches, mean temperature in degrees, Fahrenheit, mean force and prevailing direction of wind at 7 a. m., Washington mean time.

International chart iii. shows tracks of centres of low barometer. The Arabic numerals show location of the centres of low barometer at 7 a. m., Washington mean time, of that date.

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

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.

The following remarks relate to the individual peculiarities in the *methods* of recording and the *times* of taking the international simultaneous meteorological observations, under the auspices of the various meteorological bureaus:

ALGERIAN SERIES (furnished by co-operation of General Maritz, Commandant Supérieur du Génie in Algeria).—The originals give the barometer in millimetres reduced to sea-level; temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The rainfall is measured at 7 a. m., local time, and the amount indicated in millimetres.

AUSTRALIAN SERIES (furnished by co-operation of R. L. J. Ellery, Director of the Observatory at Melbourne, N. S. W.).—At Melbourne the conversions are published as given in the originals. The movement of the air is indicated by velocity in miles per hour.

AUSTRO-HUNGARIAN SERIES (furnished by co-operation of Prof. Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At the following stations rainfall is measured at local time: Lemburg, 7 p. m.; Vienna, 2 p. m.; Trieste, 7 a. m. The weather is given by the Vienna symbols or in general terms.

BRITISH SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary, and respective observers).—In general the originals do not give rainfall or distinction between upper and lower clouds. Relative humidity, except for Bradford and Silloth Rectory, is not given on the originals, but is computed from hygrometrical observations. At Cardington, Oxford, and Sandwick Manse the barometers are given as read off. At Greenwich the movement of the air is indicated by pounds pressure per square foot. At the following stations rainfall is measured at local time: Bradford, 9 a. m., and Aberdeen, 10 a. m. The wind direction is given to 32 points and weather by the Beaufort notation.

CANADIAN SERIES (furnished by co-operation of Charles Carpmael, A. M., F. R. A. S., Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and respective observers).—The originals give the barometer reduced to sea-level in English inches and the temperature in Fahrenheit. Meteorological reports from stations marked with a * are telegraphed daily to the office of the Chief Signal Officer of the Army.

CAPE COLONY SERIES (furnished by co-operation of the Meteorological Commission of Cape Colony, Cape Town, and respective observers).—At Cape Town the barometer is given on the original as corrected for temperature only. Upper and lower clouds are given on a scale of 0 to 10, and the kind occasionally indicated by abbreviating Poëy's classification.

CHINESE SERIES (furnished by co-operation of Marc Dechevrens, S. J., Director of the Meteorological Observatory at Zi-Ka-Wei).—At Zi-Ka-Wei the originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is given in metres per second and the direction to 16 points. The kind of clouds is occasionally given, and the degree of cloudiness on the scale of 0 to 10; distinction between upper and lower clouds is sometimes made. The weather is given in general (French) terms. The rainfall is given in millimetres and measured at the moment of simultaneous observation. Tchang-kia-tchouang, the original gives barometer in millimetres reduced to sea-level, temperature in Centigrade, velocity in kilometres for past 3 hours 53 minutes, clouds on scale of 0–10, no distinction between upper and lower.

DANISH SERIES (furnished by co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen).—The originals give the barometer in millimeters reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6. The weather is occasionally given by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observations, except at Copenhagen. No distinction is made between upper and lower clouds, and the direction of movement, together with the rainfall, is entirely omitted. At Jacobshavn and Upernavik, the observations are taken at 8 a. m., instead of 8.44 and 8.24 a. m., respectively.

FRENCH SERIES (furnished by co-operation of the Central Meteorological Office of France, Professor E. Mascart, Director, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Mont Louis and Perpignan. In general the rainfall is measured at 9 a. m., local time. The direction of upper and lower clouds is given, but no distinction is made as to kind. The degree of cloudiness is given on a scale of 0 to 4 at Clermont-Ferrand and Puy de Dome, while at other stations the scale of 0 to 10 is employed, or general weather terms, from which the amount of cloudiness is inferred. The weather is given in general terms, except occasionally by the Vienna symbols at Mont Louis and Perpignan. At Besançon the observations are taken at at midday instead instead of 0.32 p. m.

GERMAN SERIES (furnished by co-operation of Prof. Dr. G. Neumeyer, Director of the German Marine Observatory at Hamburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The kind of clouds is occasionally given, but no distinction is made between upper and lower; the amount is given on a scale of 0 to 10, but the kind is rarely given. The weather is given in Vienna symbols or in general terms. At Berlin observations are taken at 2 p. m., instead of 1.02 p. m.

GREEK SERIES (furnished by co-operation of Prof. Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens).—The originals give the barometer corrected for temperature only and the thermometer in Centigrade. Hygrometrical observations are not given. The kind of clouds is occasionally given, and the amount is inferred from the general weather terms. The movement of the air is indicated by force on a scale of 0 to 10.

INDIAN SERIES (furnished by co-operation of H. F. Blanford, Meteorological Reporter to the Government of India at Calcutta).—The barometric observations refer to the Calcutta standard, which requires a correction of —0.011 inch, or 0.28 mm., as compared with the Kew standard. The wind-velocity given is the average rate of wind since the observation of the preceding day. All conversions are published as given in the originals where the data are recorded to an additional decimal. The weather is given by the Beaufort notation, Vienna symbols, or special symbols.

ITALIAN SERIES (by authority of the Minister of Agriculture, Industry, and Commerce—furnished by co-operation of Professor P. Tacchini, Director of the Central Meteorological Office at Rome, and respective observers).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour, or by force on a scale of 0 to 4, as at Mondovi, Florence, and Cagliari. No distinction is made between upper and lower clouds, and the amount is given on a scale of 0 to 10.

JAPANESE SERIES (furnished by co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei).—The rainfall is measured at 9.30 a. m., local time, and the conversions are all published as given in the originals. Distinction is generally made between upper and lower clouds, and the amount is given on a scale of 0 to 10. The weather is given in general terms.

MAURITIUS SERIES (furnished by co-operation of C. Meldrum, Secretary of

the Meteorological Society of Mauritius).—All conversions are published as given in the originals. The direction of the wind is given to 64 points, and the rainfall is measured at 9.30 a. m., local time.

MEXICAN SERIES (by authority of the Secretary of Public Works—furnished by co-operation of Señor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico, and respective observers).—All conversions are published as given in the originals, but when an evident mistake has been made, the data is queried at this office. The kind of clouds is given, and also the direction and amount of both upper and lower. The degree of cloudiness is indicated on a scale of 0 to 10. Rainfall is generally measured at 6 a. m., local time.

NETHERLANDS SERIES (furnished by co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht).—The originals give the barometer in millimetres reduced to sea-level and the temperatures in Centigrade. The movement of the air is indicated by pressure in kilograms per square metre, except at Hellevoetsluis, which gives force on a scale of 0 to 12. The humidity is not given on the originals, but for two stations it is computed from the hygrometrical observations. The weather is only given for Utrecht, from which the amount of cloudiness at that station is inferred.

NORWEGIAN SERIES (furnished by co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiana).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade The movement of the air is indicated by velocity in metres per second or by force on a scale of 0 to 6. The weather is occasionally given by Vienna symbols. At Bergen observations upon the weather and degree of cloudiness are made at 2 p. m., local time. At Brono the observations are taken at 2 p. m., instead of 12.57 p. m.

PORTUGUESE SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—In the originals the barometer is given in millimetres and the temperature in Centigrade. The movement of the air is indicated by velocity in kilometres per hour. The weather is occasionally given by the Vienna symbols. The rainfall is measured at noon each day.

RUSSIAN SERIES (furnished by co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. At Astrakhan the barometer-cistern is below sea-level. The movement of the air is indicated by velocity in meters per second. No distinction is made between upper and lower clouds; the amount is given on a scale of 0 to 10, and the kind occasionally. The weather is occasionally given by the Vienna symbols.

SCOTTISH SERIES (furnished by co-operation of Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society at Edinburg, and respective observers).—The originals give the barometer as read off and the movement of the air is indicated by force on a scale of 0 to 6. Distinction is made between upper and lower clouds as to degree, and the amount of cloudiness is given on a scale of 0 to 10. The direction of upper clouds is given separately. The rainfall, temperature, and humidity are not given at North Unst. The wind direction is given to 32 points.

SPANISH SERIES (furnished by co-operation of the Royal Observatory at Madrid, and respective observers).—The movement of the air, except for sub-series, is given in kilometres per hour. The kind of clouds is occasionally given, and the degree of cloudiness on a scale of 0 to 10. The rainfall at San Juan is measured at 4 p. m., local time, and at San Fernando at midnight. The weather is given in general (Spanish) terms.

SWEDISH SERIES (furnished by co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, and of Professor H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University).—The originals give the barometer in millimetres reduced to sea-level and the temperature in Centigrade. The movement of the air is indicated by force on a scale of 0 to 6, except in metres per second for Upsala. The kind of clouds is not given, but the degree of cloudiness is indicated on a scale of 0 to 10. The rainfall is measured at 8 a. m., local time, and the weather is occasionally given by the Vienna symbols.

SWISS SERIES (furnished by co-operation of Professor E. Plantamour, Director of the Observatory at Geneva).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10.

TURKISH SERIES (furnished by co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. van Dyck, Superintendent of the Lee Observatory at Beirut).—The originals give the barometer in millimetres reduced to sea-level. The temperature is given in Centigrade. The movement of the air is indicated by force on a scale of 0 to 7 for Valona, and on a scale of 0 to 12 for Beirut. At Constantinople the velocity is given in meters per second. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10, except at Valona, at which station it is inferred from the general weather terms.

UNITED STATES SERIES (by authority of the Secretary of War—furnished by co-operation of W. B. Hazen, Brigadier and Brevet Major General, Chief Signal Officer, U. S. Army).

UNITED STATES SUB-SERIES (furnished by co-operation of the respective observers).—The originals generally give the barometer reduced to sea-level and the temperature in Fahrenheit. At Bogota and Navassa the barometer is corrected for temperature only; at Puerto Berrio, is given as read off, and at Rivas is omitted. The movement of the air is generally indicated by velocity in miles per hour, except on a scale of 0 to 10 for Bogota, Paramaribo, and Rivas, and 0 to 12 for Puerto Berrio. The wind direction is generally given to 16 points, except 8 points for Bogota and 32 points for Rivas. At Rivas the humidity is obtained by readings from Saussure's hygrometer.

BRITISH NAVAL SERIES (furnished by co-operation of the Meteorological Council, London, Robert H. Scott, Esq., F. R. S., Secretary).—The originals give the barometer as read off. The wind direction is given to 32 points. The movement of the air is indicated by force on a scale of 0 to 12. The distinction between upper and lower clouds is made as to direction, but not as to amount. The height of the sea-disturbance is given on a scale of 0 to 9, and the weather by the Beaufort notation. The direction of movement of wind, clouds, and sea is compass direction, corrected only for deviation caused by the iron in the ship, while the correction for magnetic variation is applied at this office. The humidity is not given, but is computed from the hygrometrical observations.

PORTUGUESE NAVAL SERIES (furnished by co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon).—The originals give the barometer in millimetres, corrected for temperature only, and the thermometer in Centigrade. The movement of the air is indicated by force on a scale of 0 to 10. The humidity is not given, but is computed from the hygrometrical observations. The kind of clouds is not given, but the amount is indicated on a scale of 0 to 10; the direction of movement is given without distinction between the upper and lower. The height of sea disturbance is given on a scale of 0 to 9 and the weather by the Beaufort notation. The rainfall is not measured, but the duration is generally given inhours and minutes.

SWEDISH NAVAL SERIES (furnished by co-operation of E. Malmburg, Director of the Nautical Meteorological Bureau at Stockholm).—The originals give the barometer as read off. The movement of the air is indicated by force on a scale of 0 to 12, and the direction is corrected for magnetic variation at this office. The humidity is not given, but is computed from the hygrometrical observations. The rainfall is omitted. The height of the sea-swell is given on a scale of 0 to 9 and the weather by the Beaufort notation.

UNITED STATES NAVAL SERIES (by authority of the Secretary of the Navy—furnished by co-operation of the Navy Department, through Commodore John G. Walker, U. S. N., Chief of Bureau of Navigation).—The originals give the barometer as read off. The humidity is not given, but is computed from the hygrometrical observations. The sea-swell and weather are given in general terms. The direction of the wind is compass direction, corrected for variation.

MERCHANT-MARINE SERIES (furnished by co-operation of the owners, agents, &c., of the respective lines and vessels).—Same as U. S. Naval.

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 7 a. m., Washington 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.

ERRATA.

SUMMARY for July, 1882, International Meteorology, table of mean temperature for December, 1881, page 10, Portugal, mean temperature 30°.5, should read 50°.5.

DAILY BULLETIN, December 2d, 1882, page 5, Toledo, Ohio, reduced barometer 858.7 mm., should read 758.7; page 8, sch. "Minnie A. Bonsall," St. John's, Porto Rico, W. I., should read St. John's, Florida; same correction on 3d.

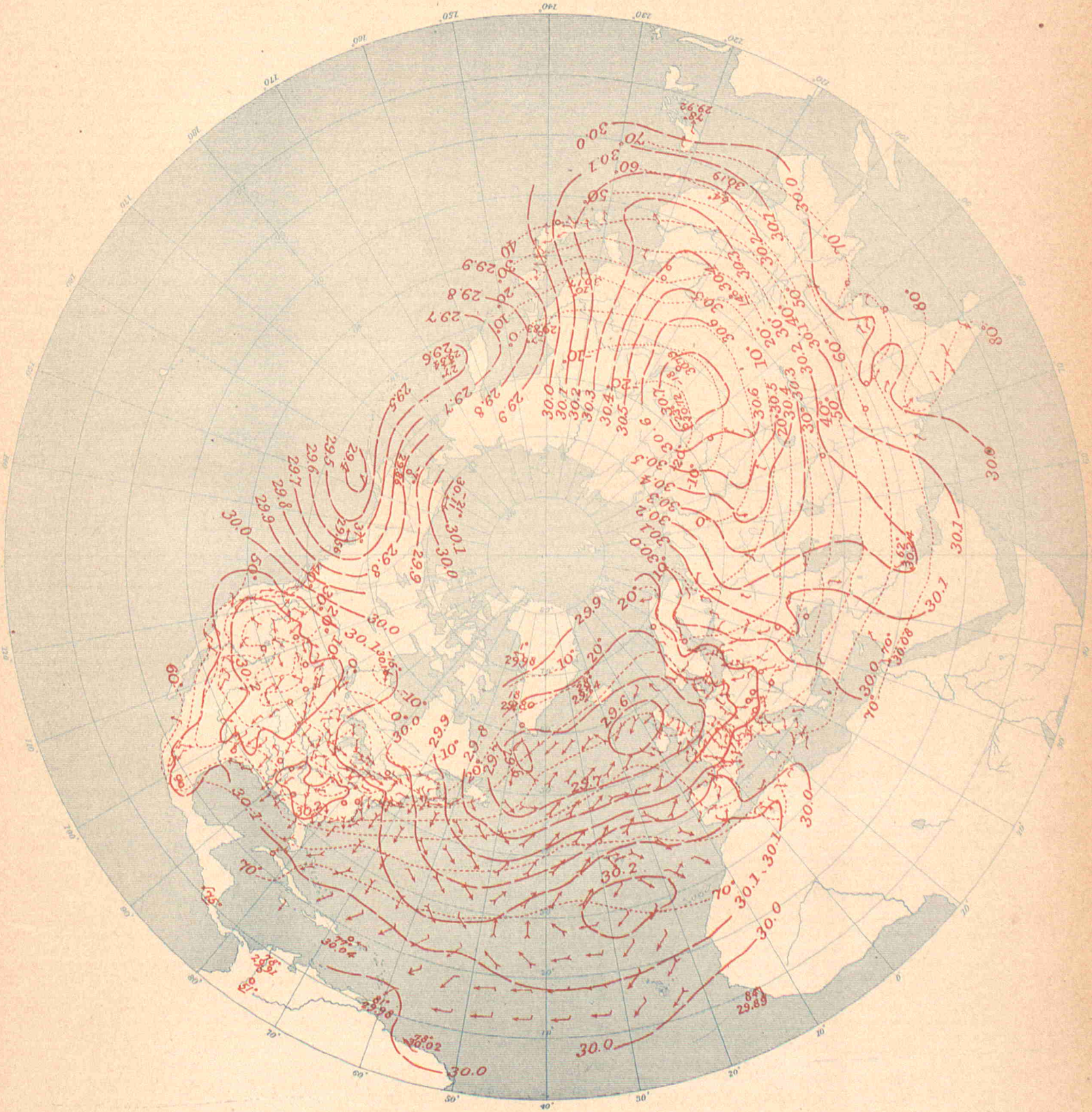
7th, page 8, s. s. "Malabar," barometer 29.24 inches, should read 29.22; sch. "Minnie A. Bonsall," barometer 30.22 inches, should read 30.24; bk. "Joseph A. Ropes," E. 52° 32′, should read E. 52° 34′.

26th, page 1, British, Cardington, humidity 81, should read 91; Canadian, Rockliffe, weather "heavy snow," should read "light snow;" page 3, Russian, Akmolinski, actual barometer 753.0 mm., should read 735.0.

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. December, 1882. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

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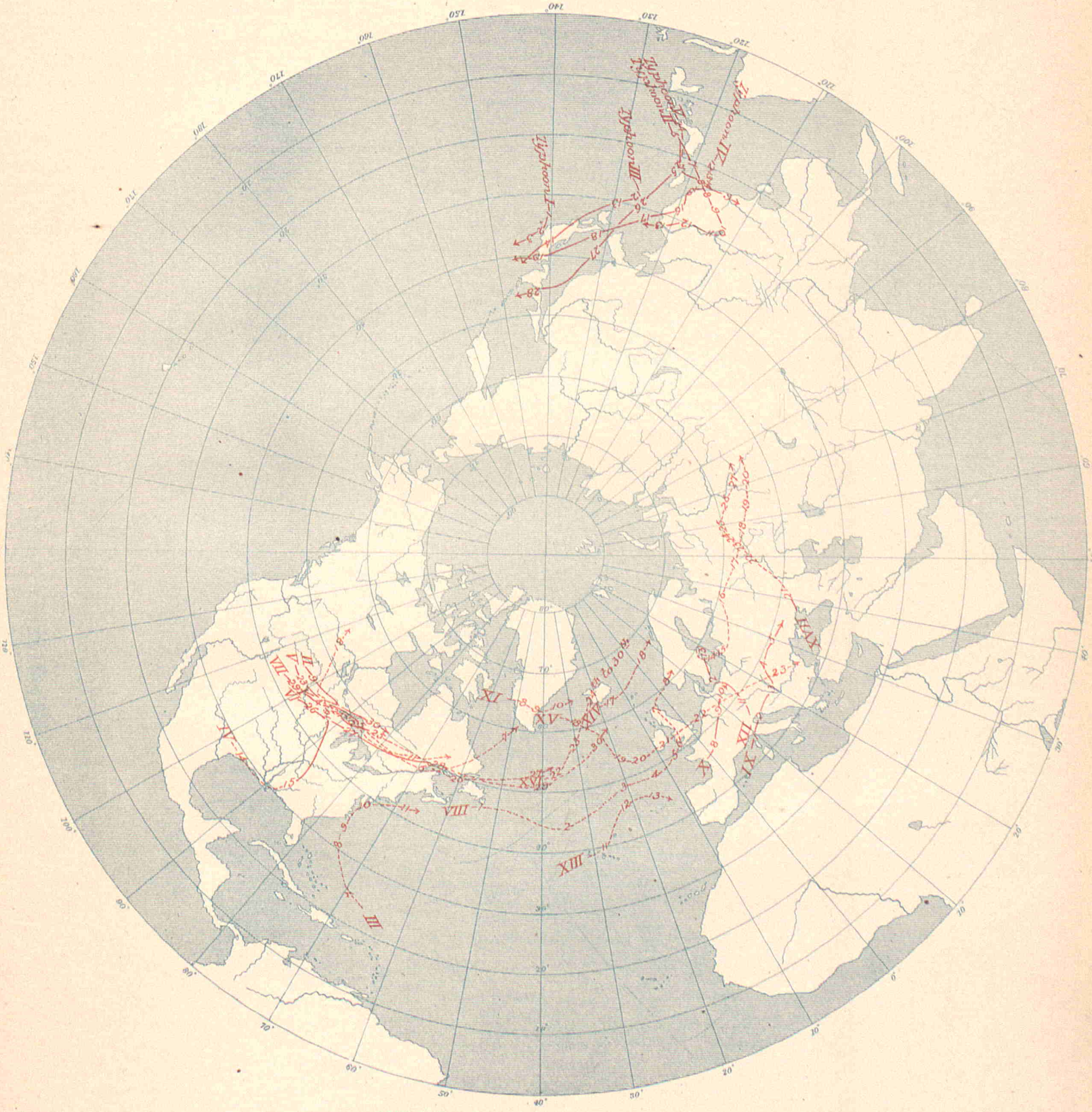
International Chart III. September, 1881. Storm-Tracks.



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