OBSERVATIONS AND RESEARCHES

MADE AT

THE HONGKONG OBSERVATORY,

IN THE YEAR

1893,

BY

W. DOBERCK,

DIRECTOR.

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HONGKONG OBSERVATORY,
26th April, 1894.

SIR,—I have the honour to submit my annual report for 1893 to His Excellency the Governor.

2. My ninth volume of observations and researches was published last summer and the tenth volume is now being printed. It contains in addition to this report, the meteorological observations made every hour in 1893, investigations of the typhoons of 1888 and 1889 and a report on the ten years' observations made at this Observatory during the years 1884 to 1893 inclusive (Appendix *B*) the latter arranged in such a form as to render it complete for purposes of harmonic analyses of the various meteorological elements, whereby constants may be calculated, by aid of which, single observations, made at any hour, may be reduced to daily and monthly means.

3. The present appears to be an appropriate time for comparing the Observatory as now finally arranged with the scheme advocated by the late General H. S. PALMER, R.E., in his report of 17th July 1881 which was printed in the *Government Gazette* of the 3rd September of the same year.

4. In the astronomical and meteorological departments his suggestions have all been fully carried out, except in so far as regards the thermograph, in the latter branch. He proposed to erect this instrument in a detached hut whereas it was mounted in the main building. The introduction of the rotating thermometers in 1885 made, however, the observations of temperature and humidity independent of the position of the former apparatus. A King's barograph would be a useful addition to the meteorological recording instruments, as the record would be at once available whereas the photographic curves from the present barograph cannot be utilized until after three days. This necessitates the reading of the barometer hourly by the staff by night as well as day during the typhoon season. An anemograph was erected at Victoria Peak during the course of last summer as recommended by General PALMER.

5. With regard to magnetism his scheme included a complete set of continuously recording instruments which would have made our magnetic as complete as our meteorological returns, but only absolute magnetic observations are made at present. But in view of the fact that an immense material consisting of unreduced magnetic records has accumulated at several other Observatories, it would be, perhaps, of doubtful advantage to multiply such observations—the practical utility of which is probably as yet far distant—before the existing records have been discussed in an exhaustive manner and published by scientific authorities so much more as our time is fully occupied with more valuable work connected with typhoons and storm-warnings.

6. Tidal observations were also included in General PALMER's scheme and these have been carried out during the three years (1887, 1888, 1889) by aid of Sir W. THOMSON's autographic gauge. The instrument—since handed over to the Imperial Maritime Customs of China—has now been erected by them at Whampoa and when thirteen consecutive months' record has been obtained there, data will be available for studying the tides in the Canton or Pearl River after the methods devised and adopted by the late Sir GEORGE BIDDELL AIRY with regard to the Thames.

7. The Observatory building is considerably smaller than that proposed to be erected under General PALMER's scheme and although the staff has been increased, no further office accommodation has been provided. As a consequence the work is hampered and much inconvenience and loss of time results. An extension of the main building is urgently required.

8. The staff of this department is remunerated on a lower scale than that suggested by General PALMER and, moreover, the salaries were not increased in 1890 at the time general increases of about thirty-five per cent. were awarded to officials in other Government Departments. In the event of a vacancy arising, from any cause, amongst the foreign staff, it will be quite impossible to efficiently fill it on the present salary scale.

9. The China Coast Meteorological Register was issued as usual and since October 14th it has been printed daily at the Observatory by aid of a small fount of type and press. More copies are, therefore, now available than was formerly the case, and several spare copies are forwarded to the Harbour Office for the use of shipmasters who require them. Copies are generally affixed to the notice boards and distributed in the city by 11.30 a. Information regarding storms is telegraphed to and exhibited on the notice boards in Hongkong at other hours and as often as such information can be justified by the observations received. Any information issued or observations received too late to be embodied in the China Coast Meteorological Register will be supplied to shipmasters on application to the Observatory, so that they may thus obtain the latest available information before sailing.

10. With reference to para. 4 of my last annual report, I am now able to state that "Precedence Urgency" has recently been granted for meteorological telegrams supplied to this department by the Eastern Extension and Great Northern Telegraph Companies, free of all expense This valuable concession on the part of the Companies cannot be too highly appreciated. The telegrams from some of the most important reporting stations come through the lines of the Chinese Telegraph Administration, and it is a matter for regret that such telegrams continue to be received too late, as a rule, to be of much service. (The Chinese Telegraph Administration granted "Precedence Urgency" a few days ago.) Victoria Peak and Gap Rock are not yet in direct communication with the Observatory, but it is probable that this improvement will be effected shortly. The important messages from these two stations, on which local warnings mainly depend, are often received too late.

11. Telegraphic connection with Victoria was interrupted on the 15th May, 1893, from 10.57 a. to 6.50 p.; from the 16th May at 1 p. to the 17th May at 7.30 a.; on the 20th May, from 2.15 p. to 4.30 p.; on the 16th July, from 1 p. to 4.20 p.; on the 29th September, from noon to 6 p.; from the 2nd October at 7 a. to the 6th October at 1.30 p. Interruptions occurred therefore on 11 days and, of course, also during thunderstorms. Telephonic connection between the look-out on the Peak and the Post Office in Victoria (for transmitting observations every hour to the Observatory) was interrupted from the 11th August at 2 p. to the 13th August at 3 p.; from the 29th September at 6 a. to the 30th September at 6 a.; from the 2nd October at 6 a. to the 14th October at 6 a.; from 11 a. to 6 p. on the 25th October; from 11th November at 9 a. to the 12th November at 6 a., from 24th November at 9 a. to the 26th November at 6 a., and from 27th December at 5 p. to the 28th December at 9 a., *i.e.*, on 26 days as well as during thunderstorms.

12. Telegrams giving information about typhoons were issued on 87 days. The Red Drum was hoisted 7 times, Red Ball 2, Red North Cone 6, Red South Cone 2, Black Drum 2, Black Ball 3, Black North Cone 2, Black South Cone 4, Lanterns (vertically) 1. The Gun was fired one round 4 times, and two rounds 1 time.

13. During 1893, in addition to meteorological registers kept at about 40 stations on shore, 672 ship-logs with entries during typhoons have been received. 284 were forwarded by Captains, 388 were copied on board ship in the harbour. The ship-logs, collected in 1893, were thus distributed: for 1891, 1 log; for 1892, 16 logs; for 1893, 655 logs. The total number of ships, whose log-books have been made use of, was 289. The total number of days' observations was 8174. This number might with advantage be increased. The difficulty is, that we are all so closely engaged in the Observatory, that no more than one of us at a time can be spared for visiting ships in the harbour, and he can devote only half his hours of duty to work afloat. Every vessel entering the harbour ought to be boarded, and every log-book found to be properly kept ought to be copied. That would be useful for storm-warnings.

14. The following is a list of ships from which logs have been obtained in 1893; those to which* is prefixed have been communicated directly by their respective Captains, and the remainder have been copied on board the several vessels. The majority are steam-ships and the others are distinguished as follows:—b, barque; s, ship; sch., schooner; bqt., barquentine.

*Activ, *Aden, Adolph, Aglaia, Airlie, Alfred Hawley (s), *Alwine, Amigo, Amoy, Ancaios, *Ancona, Angers, Argus, Arratoon Apcar, Asagao, Assyria (b), Athole, Avochie, Bangalore (s), Basuto (b), *Bayern, Belgic, *Benalder, Bengloe, Benlarig, Benlawers, Benlomond, Berlin (s), Bittern (bqt.), *Bombay, *Bormida, Borneo, Bua Pan (b), *Canton, Cape Colonna, Cardiganshire, H.M.S. Caroline, Catherine Apcar, Catterthun, Centennial (s), Changsha, Charon Wattana (b), Charters Tower, Cheang Hock Kian, Chelydra, China, Chingping, *Chingtu, *Chi Yuen, *Chow-fa, *Choy-sang, Chusan, Cicero, Cimbria (b), *City of New York, City of Peking, City of Rio de Janeiro, *Clyde, Commerzienrath Rodbertus (b), Continental, Cosmopolit, Creedmoor (s), Cromarty, Crown of Arragon, Daphne, Dardanus, Deuteros, Devawongse, Diamond, Dona Barthola (sch), Donar, Don Juan, *Doris, *H.M.S. Egeria, Elax, Elizabeth Ahrens (b), Else (bqt.), Emilie (b), Emily F. Whitney (s), Empress of China, *Empress of India, Empress of Japan, *Esang, *Esmeralda, Falls of Clyde (s), Fanny Skolfield (b), Feichung, *Fei Lung, Fidelio, *Fokien, Foohng Suey (b), Fooksang, *Formosa, Freeman (b), Frejr, Frigga, Frojner, Fuping, Fushun, Galveston (b), *Ganges, George Stetson (s), Georgietta (b), Gera, Ghazee, Glamorganshire, *Glenartney, Glenavon, Glengarry, Glenshiel, *Glengyle, Glücksburg, Golden Fleece (sch), Guthrie, *Gwalior, Habitant (s), Hailoong, Haiphong, *Haitan, Hangchow, Hankow, Hanoi, Helen Brewer (s), Henry Failing (s), *Hesperia, Hiogo Maru, Holstein, Hongay, *Hongkong, Hsiu Fung, Hupeh, Iceberg (s), *H.M.S. Imperieuse, *Independent, *Irene, Iron Duke (b), Ixion, Jacob Diederichsen, Japan (b), *Japan, *Java, Johann Adolph (b), John R. Kelly (s), Kaisow, Keemun, Kiel, Kingsland, Kintuck, Kitty (b), *Kong Beng, Kungpai, *Kutsang, Kwanglee, Kweilin, Kweiyang, Kwongsang, Lawang, *H.M.S. Leander, Lennox, Libelle, Lightning, Loksang, Loosok, Lothair (b), Lucy A. Nichols (b), *Lyeemoon, *Malacca, *Malwa, *Manila, Martha Bockhahn (b), Mary Blair (b), Mathilde, McMillan (s), *Meefoo, *Memnon, Menmuir, Mogul, Mongkut, *Moray, Moyune, Namoa, *Namyong, *Nanchang, Nanshan, *Nanyang, Nicoya (b), Nierstein, *Nijni Novgorod, Ningchow, *Ningpo, Niobe, *Nizam, *Nürnberg, Océanien, Omega (b), *Oanfa, Oldenburg, Oopack, Orange Grove (b), Orient (b), Orion, *Oxus, Pakling, Pakshan, *Palamed, *Papa (b), Palinurus, Paramita (s), H.M.S. Peacock, Pembrokeshire, *Peninsular, Peru, *Peshawur, *Peiyang, *Phra Chula Chom Klao, Paoting, *Phra Nang, *H.M.S. Pigmy, Pollux, Polyphemus, *Preussen, Principality (s), Prometheus, Propontis, Protos, *Ravenna, *Rohilla, *Rosetta, *Sachem (s), *Saghalien, Saigon, Salatiga, *Salazie (s), *Sea Swallow (sch), Sepia (b), *H.M.S. Severn, Sichan, *Shanghai, Shantung, Sikh, Sin Kolga (b), *Somali (4 m.s.), Soochow, Spinaway (bqt), Stanfield (s), *Sungkiang, *Surat, *Sutty, *Swatow, Tacoma, Taicheong, *Taichiow, *Taisang, Taiwan, Taiyick, Taiyuan, *Taksang, Tamsui, Tantalus, Tarapaca (b), Tetartos, Teheran, Tellus, Thales, Thermopylæ (b), *Thibet, Thisbe, Toonan, *Torridon, Triumph, *Tsinan, Ulysses, Velocity (b), *Verona,

Victoria, Whampoa, Wingsang, Wm. J. Rotch (b), *Wm. Le Lacheur (b), Wolf (German gunboat), Woosung, Wosang, Wuotan, Yarra, *Yiksang, *Yuensang, Yungping, *Zafiro.

15. The entry of observations in degree squares for the area named in my last annual report has been continued and 31260 observations, distributed as shown by the following table, have been so entered during 1893. It is to be regretted that more time cannot be spent on this work. At the present rate of progress, it is not expected that sufficient data for the construction of pilot charts will have been collected and made available until the expiration of another five years. By aid of such charts, when constructed, a shipmaster will know the normal conditions as regards wind, weather and pressure in the latitude and longitude his vessel may at the time happen to be situated in, and this, combined with a knowledge of the "Law of Storms in the Eastern seas", should be of great assistance to him and enable him to so navigate his vessel as to avoid typhoons. They will, in fact, serve to some extent in lieu of stormwarnings at sea, besides being valuable as shewing the most favourable routes at all times.

Table I.

Meteorological Observations entered in 10° Squares in the year 1893.

Square number.	January.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.
19	0	0	0	0	0	0	0	0	0	0	0	0
20	4	2	2	0	0	0	0	0	0	12	9	5
21	1	1	10	0	15	0	0	0	0	4	2	0
22	...	0	12	0	7	0	0	0	0	8	0	0
23	61	85	20	9	4	0	63	48	23	13	8	77
24	88	104	119	87	94	96	239	201	164	106	150	147
25	19	48	9	14	18	27	40	37	21	49	49	38
26	230	180	281	362	578	592	667	761	648	683	467	356
27	0	0	0	0	1	1	0	0	0	1	0	0
55	0	0	5	10	6	0	0	0	4	0	0	0
56	1	0	7	6	10	1	0	0	7	11	0	0
57	5	2	8	11	14	4	0	0	4	1	5	0
58	1	5	22	4	26	11	5	1	4	0	5	0
59	28	20	33	1	27	20	27	12	1	26	16	24
60	49	57	58	27	42	97	151	89	36	33	44	45
61	254	220	322	359	589	647	784	780	795	612	509	387
62	120	134	170	182	386	363	375	361	355	266	157	144
63	0	0	0	1	3	4	1	1	0	2	1	0
91	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	9	0	0
94	3	0	1	1	0	0	0	0	0	8	3	0
95	18	12	23	21	10	13	5	2	2	15	8	18
96	310	271	261	238	398	441	546	554	498	521	292	293
97	85	60	87	86	144	192	183	186	177	153	127	95
98	10	14	13	41	40	32	19	37	33	42	28	11
127	0	0	0	0	0	5	5	0	0	0	2	0
128	0	0	0	0	0	18	0	0	0	0	2	0
129	0	0	0	0	0	21	0	1	0	0	6	0
130	14	14	8	23	20	73	57	55	46	36	28	7
131	97	68	47	64	60	110	87	115	83	96	66	53
132	140	77	101	145	183	198	255	264	287	245	137	106
133	0	0	0	7	7	3	4	10	3	2	5	1
134	0	0	0	0	0	0	0	0	0	0	0	0
163	6	7	4	9	13	29	65	34	35	30	9	11
164	12	12	12	19	16	40	69	43	48	41	12	12
165	15	17	15	22	25	52	68	41	48	36	21	10
166	4	7	5	4	17	9	20	11	9	18	10	7
167	0	0	0	0	1	1	6	22	22	7	0	0
168	0	0	0	0	0	0	0	1	2	1	0	0
169	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0
199	4	5	7	3	10	1	5	2	3	6	5	0
200	1	3	0	0	0	0	0	0	0	1	3	0
318	0	0	0	0	0	0	0	0	0	0	0	0
319	0	0	0	0	0	0	0	0	0	0	0	0
320	0	0	0	0	0	0	0	0	0	0	0	0
321	0	0	0	0	0	0	0	0	0	0	0	0
322	0	1	0	0	6	4	7	5	7	0	0	0
323	38	37	48	47	68	28	61	35	66	56	48	32
324	23	0	22	0	17	0	6	3	3	7	15	1
325	14	24	18	29	45	14	78	52	21	30	26	24
	1655	1487	1750	1832	2900	3147	3898	3770	3455	3187	2275	1904

TOTAL,..... 31260

16. During last summer two lectures on Typhoons have been given before the British Mercantile Marine Officers' Association of Hongkong. These lectures have been very extensively reprinted and quoted in Europe and elsewhere, and a second edition will shortly be issued. Storm warnings cannot of course reach those at sea but by means of these lectures in conjunction with observations made on board according to the "Instructions for making meteorological observations in China" and a comparison of the warnings issued from the Observatory on arrival in port, much experience of navigating during the typhoon season may be gained by mariners.

17. Tri-hourly observations have been made by the keepers at the Gap Rock lighthouse, which is situated about 32 miles to the SSW of Hongkong Observatory, since the end of 1892. The following table exhibits the monthly means of these observations. The first column gives the difference of barometric pressure, Observatory minus lighthouse, reduced to M.S.L., and appears to indicate that the daily variation is less at the lighthouse than at the Observatory. The second column shows the direction of the wind which has a greater annual variation than at the Observatory being more northerly in winter and more southerly in summer. The third column exhibits the wind force to decimals of Beaufort's scale. It is on an average twice as great as at the Observatory, but has a much smaller annual variation than in Hongkong. The fourth exhibits the sea disturbance (0—9). It varies as the wind force.

Table II.

Observations made at Gap Rock in 1893.

Month.	1 a.				4 a.				7 a.			
	Bar.	Wind.		Sea.	Bar.	Wind.		Sea.	Bar.	Wind.		Sea.
January,	+ ·015	E 53° N	4.2	2.8	+ ·007	E 50° N	4.7	3.0	+·019	E 47° N	4.5	2.9
February,	+ ·023	E 45 N	4.7	3.3	+ ·012	E 41 N	4.8	3.3	+·028	E 36 N	5.0	3.3
March,	+ ·013	E 38 N	4.0	2.7	− ·002	E 23 N	4.1	2.8	+·011	E 25 N	4.3	2.8
April,	+ ·011	E 8 S	3.5	2.3	− ·011	E 4 S	3.6	2.4	+·001	E 1 N	3.4	2.2
May,	·000	E 10 S	4.1	2.8	− ·004	E 9 S	4.0	2.9	+·008	E 9 S	4.2	2.8
June,	+ ·007	S 20 E	3.8	2.5	+ ·001	S 16 E	3.9	2.5	+·005	S 10 E	3.7	2.4
July,	+ ·010	S 6 W	3.5	2.3	+ ·003	S 14 W	3.5	2.4	+·005	S 20 W	3.3	2.3
August,	+ ·016	S 21 E	3.5	2.0	+ ·009	S 23 E	3.4	2.0	+·015	S 41 E	3.2	1.9
September,	+ ·008	E 21 N	4.0	2.5	+ ·005	E 27 N	4.0	2.6	+·010	E 34 N	3.9	2.4
October,	+ ·030	E 11 N	4.5	3.0	+ ·019	E 14 N	4.9	3.1	+·027	E 15 N	4.9	3.2
November,	+ ·012	E 15 N	4.0	2.5	+ ·009	E 18 N	4.0	2.5	+·019	E 19 N	4.3	2.6
December,	+ ·016	E 29 N	3.8	2.3	+ ·008	E 28 N	4.0	2.4	+·018	E 31 N	4.0	2.3
Year,	+ ·013	E 3 S	4.0	2.6	+ ·005	E 5 S	4.1	2.7	+·014	E 3 S	4.1	2.6

Month.	10 a.				1 p.				4 p.			
	Bar.	Wind.		Sea.	Bar.	Wind.		Sea.	Bar.	Wind.		Sea.
January,	+·021	E 49° N	4.8	3.1	−·003	E 40° N	4.9	3.1	·000	E 42° N	4.4	2.9
February,	+·029	E 41 N	5.0	3.3	+·008	E 40 N	5.0	3.4	·000	E 41 N	4.2	3.2
March,	+·014	E 25 N	4.3	3.0	−·008	E 23 N	4.1	2.9	−·007	E 23 N	4.0	2.8
April,	+·004	E	3.4	2.2	−·013	E 9 S	3.5	2.3	−·014	E 14 S	3.6	2.4
May,	+·010	E 5° N	4.6	2.9	−·005	E 3 N	4.3	2.9	−·006	E 3 S	4.5	3.0
June,	+·009	S 19 E	3.4	2.4	−·006	S 17 E	3.6	2.3	−·007	S 21 E	3.6	2.4
July,	+·009	S 27 W	3.3	2.3	+·002	S 24 W	3.2	2.2	−·002	S 17 W	3.5	2.3
August,	+·016	S 51 E	3.4	2.0	−·001	S 13 E	3.5	2.1	+·002	S 9 E	3.4	2.1
September,	+·005	E 38 N	4.1	2.5	−·003	E 31 N	4.1	2.6	·000	E 26 N	4.0	2.4
October,	+·023	E 21 N	5.1	3.4	+·009	E 18 N	4.9	3.3	+·004	E 13 N	4.7	3.3
November,	+·013	E 25 N	4.4	2.6	−·010	E 26 N	4.3	2.7	−·015	E 13 N	4.1	2.6
December,	+·009	E 29 N	3.9	2.2	−·007	E 29 N	3.7	2.3	−·011	E 29 N	3.6	2.3
Year,	+·013	E	4.1	2.7	−·003	E 5 S	4.1	2.7	−·005	E 7 S	4.0	2.6

Month.	7 p.				10 p.				Mean.			
	Bar.	Wind.		Sea.	Bar.	Wind.		Sea.	Bar.	Wind.		Sea.
January,	+·010	E 42° N	4.3	2.8	+·020	E 44° N	4.3	2.8	+·011	E 46° N	4.5	2.9
February,	+·007	E 37 N	4.1	3.2	+·023	E 38 N	4.3	3.2	+·016	E 40 N	4.6	3.3
March,	−·003	E 19 N	3.8	2.5	+·010	E 23 N	3.6	2.6	+·004	E 25 N	4.0	2.8
April,	−·004	E 16 S	3.5	2.4	+·012	E 9 S	3.8	2.5	−·002	E 7 S	3.5	2.3
May,	−·005	E 5 S	4.4	2.9	+·011	E 14 S	4.5	2.9	+·001	E 5 S	4.3	2.9
June,	−·003	S 21 E	3.6	2.4	+·018	S 13 E	3.7	2.4	+·003	S 17 E	3.7	2.4
July,	+·002	S 8 W	3.4	2.3	+·020	S 1 E	3.4	2.4	+·006	S 14 W	3.4	2.3
August,	+·011	S 25 E	3.1	2.0	+·022	S 23 E	3.1	1.9	+·011	S 26 E	3.3	2.0
September,	+·005	E 5 N	3.8	2.5	+·014	E 26 N	3.8	2.5	+·006	E 26 N	4.0	2.5
October,	+·011	E 8 N	4.5	3.1	+·026	E 6 N	4.5	3.1	+·019	E 13 N	4.7	3.2
November,	+·007	E 14 N	3.8	2.5	+·016	E 17 N	3.7	2.5	+·006	E 18 N	4.1	2.6
December,	+·008	E 28 N	3.5	2.2	+·013	E 29 N	3.5	2.2	+·007	E 29 N	3.8	2.3
Year,	+·004	E 8 S	3.8	2.6	+·017	E 6 S	3.9	2.6	+·007	E 5 S	4.0	2.6

18. As stated in the "Instructions for making Meteorological Observations, etc.," (Kelly and Walsh, 1892) meteorological instruments forwarded by observers who regularly send their registers to the Observatory, are verified here free of cost. During the past year, 2 barometers, 3 aneroids, 13 thermometers and 1 raingauge were verified. In addition a large number of marine barometers and aneroids on board ship were compared, indirectly, with the Observatory standard.

19. The following table shows the spectroscopic rainband as observed daily at 10 a. The mean value for the year was 2.6 : —

Table III.

Rainband in 1893.

Date.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1, ...	0	2	3−	4+	4	3+	4−	4	3−	3+	2	1
2, ...	0	2	2	3	3	3+	4	3+	3	3+	2−	1+
3, ...	1	2+	2−	3+	3+	3+	4−	3+	3	4−	1+	1
4, ...	1	1+	3	3	3−	4−	4	3	4−	3−	2−	1+
5, ...	1+	2+	3−	3+	4−	3−	5	3+	4−	3−	2−	1−
6, ...	1	1	3−	4	4	3+	4−	4+	3	2+	2−	0
7, ...	2−	1	2−	4	3−	3−	4+	3+	3+	2+	2+	1−
8, ...	2−	1	3−	3	2+	3	3	3+	4	3	2−	0+
9, ...	...	1	2+	2	4	4−	4+	4−	4−	3	1	1−
10, ...	...	1+	1	1	2	3+	3	4−	3	3−	1+	1
11, ...	...	3−	1	1−	2+	3	3+	4−	4−	3−	1	1+
12, ...	2	3−	1+	1+	4	3	3	3+	4	2+	2	1−
13, ...	3−	2	1	3+	3−	3	4−	2	3	2	1+	2−
14, ...	3+	2−	...	3	2	4	3	3+	3	2	1	2−
15, ...	4	2	1+	3	2+	4−	4	4−	4+	2	1	2
16, ...	4	3−	1	3	4	3+	4−	3	3	1+	1	2−
17, ...	3	4−	1+	2	4	3+	3−	3+	2+	2	1+	2
18, ...	2	3+	4+	2+	4+	...	4	4	3	1	2−	2
19, ...	2−	2	1−	3	3+	4	4−	4	3−	2	1+	2+
20, ...	1+	3−	0+	2	4	4−	4	4	2+	2	2−	2
21, ...	1+	2	2	2+	4	3	4	...	2+	2	2−	2
22, ...	2−	3−	3	3	5−	4−	3	3+	2+	2−	2−	1+
23, ...	1+	1+	3−	2	5	4	4−	3+	3	1+	1+	1+
24, ...	2+	3	3	2	5	5	5−	4−	4−	1+	1	1+
25, ...	2−	3+	3+	2	4−	4−	4−	4	4	2−	0	2+
26, ...	2−	2+	3−	2	3	2+	3+	4−	3−	2	1	2+
27, ...	2	3	2+	3	1+	3	4−	4−	3−	1+	1	2−
28, ...	2	2+	3	3	3	3	3+	3+	...	1+	1	2
29, ...	3−	...	2	4	5	3−	4	4	4−	1+	1+	1
30, ...	3	...	3	3+	3	3	4+	3	3	2	1	1
31, ...	3	...	4	...	3	...	4+	3	...	2−	...	1+
Mean,.....	2.0	2.1	2.2	2.6	3.4	3.3	3.8	3.4	3.2	2.1	1.4	1.4

20. The tide tables for the port of Hongkong for 1894 are based on the analysis of the hourly readings of tides in 1887 and 1888. The harmonic analysis of the tides for 1889 has now been completed under the supervision of Professor G. H. Darwin of Cambridge.

21. The number of transits observed in 1893 was 680, the inclination of the axis was determined 261 times, and the Pole Star was observed 39 times for the determination of the azimuth and collimation errors, as well as to ascertain the wire intervals, a new series of wires having being inserted in the diaphragm of the Transit Instrument on July 13. The following miscellaneous observations have been made:—

Moon,.....29 observations.
Sun, ... 9 ,,
Jupiter,..... 4 ,,
Moon Culminating Stars, ...58 ,,

the remainder (528) being for time determination. The azimuth of the meridian mark above Wanchai was determined three times. The rates of the Standard clocks are exhibited in the following tables. They are compared with the rates calculated from the formulæ exhibited at the head of the tables. Neither of the clocks has been cleaned during the year but it was found convenient to accelerate the rate of Dent on April 25 and of Brock on December 21. The existence of waves of rather long period as stated in the report of 1892 is again indicated, but an examination of the daily rates of the Brock clock shows that a variation having a period of seven days only also exists, the clock going faster after winding than before. The same period is indicated but in a less distinct manner in the length of the arc of vibration which increases with the accelerated rate.

Table IV.

Rate of Dent Sidereal Standard Clock in 1893.

Jan. 1—Apr. 25 $r_c = +2^s.01 - 0^s.063\ (t-70^\circ)$ [arc=3° 7′±1′]

Apr. 26—Jan. 5 $r_c = -0^s.10 - 0^s.063\ (t-70^\circ)$ [arc=3° 6′±1′]

Period.			Observed rate r_o	Temp. τ	Calculated rate r_c	$r_o - r_c$
			s.	°	*s.*	*s.*
December,	31—January,	10,.....	+ 2.27	65.9	+ 2.27	0.00
January,	10— „	20,.....	+ 2.55	63.6	+ 2.41	+ 0.14
„	20— „	30,.....	+ 2.51	65.0	+ 2.32	+ 0.19
„	30—February,	9,.....	+ 2.42	65.1	+ 2.31	+ 0.11
February,	9— „	19,.....	+ 2.47	64.7	+ 2.34	+ 0.13
„	19—March,	1,.....	+ 2.49	64.7	+ 2.34	+ 0.15
March,	1— „	11,.....	+ 2.42	64.8	+ 2.34	+ 0.08
„	11— „	21,.....	+ 2.22	65.5	+ 2.29	− 0.07
„	21— „	31,.....	+ 2.13	66.6	+ 2.23	− 0.10
„	31—April,	10,.....	+ 2.03	68.0	+ 2.14	− 0.11
April,	10— „	20,.....	+ 1.77	72.1	+ 1.88	− 0.11
„	20— „	30,.....	.....	74.0	.....	.....
„	30—May,	10,.....	− 0.44	72.8	− 0.27	− 0.17
May,	10— „	20,.....	− 0.53	76.1	− 0.49	− 0.04
„	20— „	30,.....	− 0.72	78.0	− 0.60	− 0.12
„	30—June,	9,.....	− 0.77	81.8	− 0.85	+ 0.08
June,	9— „	19,.....	− 0.83	83.3	− 0.94	+ 0.11
„	19— „	29,.....	− 0.81	81.8	− 0.85	+ 0.04
„	29—July,	9,.....	− 0.81	82.4	− 0.88	+ 0.07
July,	9— „	19,.....	− 0.84	83.6	− 0.96	+ 0.12
„	19— „	29,.....	− 0.84	81.1	− 0.80	− 0.04
„	29—August,	8,.....	− 0.97	82.8	− 0.91	− 0.06
August,	8— „	18,.....	− 1.05	84.5	− 1.01	− 0.04
„	18— „	28,.....	− 1.00	83.2	− 0.93	− 0.07
„	28—September,	7,.....	− 1.03	83.5	− 0.95	− 0.08
September,	7— „	17,.....	− 0.91	80.5	− 0.76	− 0.15
„	17— „	27,.....	− 0.87	81.8	− 0.84	− 0.03
„	27—October,	7,.....	− 0.88	79.8	− 0.72	− 0.16
October,	7— „	17,.....	− 0.74	78.0	− 0.60	− 0.14
„	17— „	27,.....	− 0.48	76.0	− 0.48	0.00
„	27—November,	6,.....	− 0.36	73.7	− 0.33	− 0.03
November,	6— „	16,.....	− 0.16	71.6	− 0.20	+ 0.04
„	16— „	26,.....	+ 0.05	68.2	+ 0.02	+ 0.03
„	26—December,	6,.....	+ 0.30	65.9	+ 0.16	+ 0.14
December,	6— „	16,.....	+ 0.41	63.7	+ 0.30	+ 0.11
„	16— „	26,.....	+ 0.29	66.7	+ 0.11	+ 0.18
„	26—January,	5,.....	+ 0.33	65.0	+ 0.21	+ 0.12

Table V.

Rate of Brock Standard Mean Time Clock in 1893.

$r_c = +3^s.08 - 0^s.112\ (\tau - 75°)\ - 0^s.0027\ (t - \text{January 1})$

Period.	Observed rate r_o	Temp.	Arc. a	Calculated rate r_c	$r_o - r_c$
	s.	°	° ′ ″	s.	s.
December, 31—January, 10, ...	+ 3.52	70.1	3 58 0	+ 3.62	− 0.10
January, 10— „ 20, ...	+ 3.65	68.1	3 58 54	+ 3.81	− 0.16
„ 20— „ 30, ...	+ 3.82	69.2	3 58 24	+ 3.66	+ 0.16
„ 30—February, 9, ...	+ 3.57	68.8	3 58 30	+ 3.68	− 0.11
February, 9— „ 19, ...	+ 3.59	68.9	3 57 54	+ 3.64	− 0.05
„ 19—March, 1, ...	+ 3.67	68.9	3 58 12	+ 3.61	+ 0.06
March, 1— „ 11, ...	+ 3.58	69.6	3 57 54	+ 3.51	+ 0.07
„ 11— „ 21, ...	+ 3.39	70.7	3 56 30	+ 3.36	+ 0.03
„ 21— „ 31, ...	+ 3.27	71.7	3 56 12	+ 3.22	+ 0.05
„ 31—April, 10, ...	+ 3.25	73.1	3 55 6	+ 3.03	+ 0.22
April, 10— „ 20, ...	+ 2.97	75.8	3 55 36	+ 2.71	+ 0.26
„ 20— „ 30, ...	+ 2.93	76.6	5 56 24	+ 2.59	+ 0.34
„ 30—May, 10, ...	+ 2.87	74.8	3 55 36	+ 2.76	+ 0.11
May, 10— „ 20, ...	+ 2.53	78.7	3 55 6	+ 2.39	+ 0.14
„ 20— „ 30, ...	+ 2.36	80.0	3 55 6	+ 2.14	+ 0.23
„ 30—June, 9, ...	+ 1.99	83.3	3 55 48	+ 1.73	+ 0.26
June, 9— „ 19, ...	+ 1.85	84.4	3 55 48	+ 1.59	+ 0.26
„ 19— „ 29, ...	+ 1.74	83.7	3 56 24	+ 1.64	+ 0.10
„ 29—July, 9, ...	+ 1.72	83.3	3 56 42	+ 1.65	+ 0.07
July, 9— „ 19, ...	+ 1.51	84.3	3 57 12	+ 1.51	0.00
„ 19— „ 29, ...	+ 1.51	82.6	3 57 6	+ 1.68	− 0.17
„ 29—August, 8, ...	+ 1.44	84.1	3 57 24	+ 1.48	− 0.04
August, 8— „ 18, ...	+ 1.21	84.8	3 57 18	+ 1.37	− 0.16
„ 18— „ 28, ...	+ 1.33	84.2	3 56 24	+ 1.42	− 0.09
„ 28—September, 7, ...	+ 1.19	84.9	3 56 48	+ 1.31	− 0.12
September, 7— „ 17, ...	+ 1.38	81.5	3 56 36	+ 1.66	− 0.28
„ 17— „ 27, ...	+ 1.36	82.7	3 56 30	+ 1.50	− 0.14
„ 27—October, 7, ...	+ 1.30	81.9	3 56 54	+ 1.57	− 0.27
October, 7— „ 17, ...	+ 1.49	80.5	3 56 20	+ 1.69	− 0.20
„ 17— „ 27, ...	+ 1.64	79.6	3 56 30	+ 1.76	− 0.12
„ 27—November, 6, ...	+ 1.78	78.0	3 56 0	+ 1.92	− 0.14
November, 6— „ 16, ...	+ 2.13	75.5	3 55 42	+ 2.17	− 0.04
„ 16— „ 26, ...	+ 2.40	72.9	3 55 36	+ 2.44	− 0.04
„ 26—December, 6, ...	+ 2.72	70.5	3 56 48	+ 2.68	+ 0.04
December, 6— „ 16, ...	+ 2.91	68.2	3 56 54	+ 2.91	0.00
„ 16— „ 26, ...	.....	71.0	3 57 0	.....	.....
„ 26—January, 5, ...	+ 0.39	70.1	3 56 48	.....	.....

22. During the year 1893 the Time Ball has been dropped daily except on Government holidays. On some other days it was not possible to drop it owing to the following causes. On the 22nd January an assistant was ill. On July 20th and 23rd thunderstorms were raging. On September 10th the line was broken by a falling tree and on the 11th it was under repair. On September 28th, 29th, October 2nd and 8th heavy gales were blowing. On November 27th the ball failed to drop owing to thickened oil around the top of the shaft. The Ball was dropped 343 times and failed once during the year. The following table shows the daily error.

Table VI.

Errors of Time-Ball in 1893.

−means too late. +means too early.

Date.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1,	...	0.1	0.1	0.1	+0.8	+0.5	0.1	0.1	0.1	0.1	0.1	0.1
2,	...	0.1	0.1	...	+1.1	+0.6	0.1	0.1	0.1	. .	0.1	0.1
3,	0.1	0.1	0.1	...	+0.2	+0.7	0.1	0.1	0.1	0.1	0.1	0.1
4,	0.1	0.1	0.1	0.1	0.1	+0.7	0.1	0.1	0.1	+0.2	0.1	0.1
5,	0.1	0.1	0.1	0.1	0.1	+0.8	0.1	+0.2	0.1	+0.3	−0.2	0.1
6,	0.1	0.1	0.1	0.1	0.1	0.1	...	+0.3	0.1	0.1	0.1	0.1
7,	+0.2	+0.2	0.1	0.1	0.1	0.1	0.1	...	0.1	0.1	0.1	+0.2
8,	0.1	0.1	0.1	+0.2	0.1	+0.2	0.1	0.1	+0.2	...	−0.2	0.1
9,	0.1	0.1	+0.2	+0.3	0.1	0.1	0.1	0.1	+0.3	0.1	0.1	0.1
10,	0.1	0.1	+0.3	0.1	0.1	0.1	0.1	0.1	...	0.1	0.1	0.1
11,	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	...	0.1	0.1	−0.2
12,	−0.2	0.1	−0.2	0.1	0.1	0.1	0.1	0.1	−0.3	0.1	−0.3	0.1
13,	−0.2	−0.2	0.1	+0.2	0.1	0.1	0.1	0.1	−0.4	0.1	−0.4	0.1
14,	−0.3	−0.2	0.1	+0.3	0.1	0.1	0.1	0.1	−0.5	−0.2	0.1	0.1
15,	−0.5	−0.3	0.1	0.1	0.1	0.1	0.1	0.1	−0.7	−0.4	0.1	0.1
16,	−0.5	−0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	−0.5	0.1	0.1
17,	−0.5	...	0.1	0.1	0.1	0.1	0.1	0.1	−0.2	0.1	0.1	0.1
18,	0.1	...	+0.2	0.1	0.1	0.1	0.1	0.1	−0.3	0.1	0.1	0.1
19,	−0.2	−0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	−0.3	0.1	0.1
20,	0.1	−0.7	+0.2	−0.2	0.1	0.1	...	0.1	0.1	−0.4	0.1	0.1
21,	0.1	−0.8	0.1	−0.3	0.1	0.1	0.1	−0.2	0.1	−0.4	0.1	0.1
22,	...	−0.9	0.1	−0.3	...	0.1	0.1	−0.2	0.1	0.1	0.1	0.1
23,	+0.3	−0.7	0.1	0.1	+0.2	0.1	...	−0.2	0.1	0.1	−0.3	0.1
24,	0.1	0.1	0.1	0.1	+0.2	0.1	0.1	0.1	0.1	0.1	−0.4	0.1
25,	0.1	0.1	0.1	0.1	+0.2	0.1	0.1	0.1	0.1	0.1	+0.2	...
26,	+0.2	0.1	0.1	+0.2	...	0.1	0.1	0.1	0.1	0.1	0.1	...
27,	+0.2	0.1	0.1	+0.3	0.1	0.1	0.1	0.1	0.1	0.1	...	0.1
28,	0.1	0.1	+0.2	+0.5	0.1	0.1	0.1	0.1	...	0.1	0.1	0.1
29,	0.1	...	+0.2	+0.6	0.1	0.1	0.1	0.1	...	0.1	0.1	0.1
30,	0.1	...	+0.2	+0.6	+0.3	0.1	0.1	0.1	+0.2	0.1	0.1	0.1
31,	0.1	...	0.1	...	+0.4	...	0.1	0.1	...	0.1	...	−0.3

23. Some of the principal duties of the staff are at present distributed as follows, the number of hours during which each official attended during the year being added in parenthesis:—

Mr. J. I. Plummer, Chief Assistant, (1897 hours) makes astronomical and magnetic observations, regulates clocks and enters observations in the degree squares.

Mr. F. G. Figg, First Assistant, (1889 hours) attends to storm-warnings and weather-forecasts and investigates typhoons.

Miss A. Doberck, Assistant Meteorologist, (1757 hours) copies log-books and makes weather maps.

Mr. Ho To Shang, Second Assistant, (1981 hours) hoists and sets the Time Ball and attends to the continuous records and construction of the monthly and annual Weather Reports, in which he is assisted by two native clerks, one (1871 hours), of whom besides attends to electric, and the other (2007 hours), to photographic work. The revision of the above work is undertaken by the foreign staff.

24. Observations of magnetic declination and horizontal force were made with the unifilar magnetometer Elliott Brothers, No. 55, and the dips were observed with dip-circle, Dover No. 71. The observations have been made on two days bi-monthly instead of on one day monthly as in former years.

The methods adopted in making the observations and in determining and applying the corrections are explained in *Appendix G. of Observations and Researches made in 1885:* "On the verification of the unifilar magnetometer Elliott Brothers No. 55." The value of log π^2 K was 3.44910 at 25°. The value of P was + 8.50. The mean value of the magnetic moment of the vibrating needle was 0.45617 in English units and 595.57 in C.G.S. units.

The times of vibration exhibited in the table are each derived from 12 observations of the time occupied by the magnet in making 100 vibrations, corrections having been applied for rate of chronometer and arc of vibration.

The observations of horizontal force are expressed in C.G.S. units (one centimeter, one gramme, one second), but the monthly synopsis exhibits X, the horizontal, as well as Y, the vertical, and total forces, which have been computed by aid of the observed dips, and their value are also given in English units (one foot, one grain, one second) and in Gauss's units (one millimeter, one milligram, one second).

25. The cisterns of the barograph and standard barometers are placed 109 feet above M.S.L. The bulbs of the thermometers are rotated 108 feet above M.S.L., and 4 feet above the grass. The solar radiation thermometer is placed at the same height. The rim of the rain-gauge is 105 feet above M.S.L., and 21 inches above the ground.

26. The monthly Weather Reports are arranged as follows:—

Table I. exhibits the hourly readings of the barometer reduced to freezing point of water, but not to sea level, as measured (at two minutes to the hour named) from the barograms.

Tables II. and III. exhibit the temperature of the air and of evaporation as determined by aid of rotating thermometers. Table II. exhibits also the extreme temperatures reduced to rotating thermometer. Table III. exhibits also the solar radiation (black bulb in vacuo) maximum temperatures reduced to Kew arbitrary standard.

Table IV. exhibits the mean relative humidity in percentage of saturation and mean tension of water vapour present in the air in inches of mercury, for every hour of the day and for every day of the month, calculated by aid of Blanford's tables from the data in Tables II. and III.

Table V. exhibits the duration of sunshine expressed in hours, from half an hour before to half an hour after the hour (true time) named.

Table VI. exhibits the amount of rain (or dew) in inches registered from half an hour before to half an hour after the hour named. It exhibits also the estimated duration of rain.

Table VII. exhibits the velocity of the wind in miles and its direction in points (1—32). The velocity is measured from half an hour before to half an hour after the hour named, but the direction is read off at the hour.

Table VIII. exhibits the amount (0—10), name (Howard's classification) and direction whence coming of the clouds. Where the names of upper and lower clouds are given, but only one direction, this refers to the lower clouds.

Table IX. exhibits for every hour in the day, the mean velocity of the wind reduced to 4 as well as 2 directions, according to strictly accurate formulæ, and also the mean direction of the wind.

Below this is printed a list of the phenomena observed.

27. The following annual Weather Report for 1893 is arranged as follows:—

Table VII. exhibits the mean values for the year (or hourly excess above this) obtained from the monthly reports. The total duration of rain was 908 hours. There fell at least 0.01 inch of rain on 153 days.

Table VIII. exhibits the number of hours during a portion of which at least 0.005 inch of rain (or dew) was registered.

Table IX. exhibits the number of days with wind from eight different points of the compass. The figures are obtained from the mean daily directions in Table VII. of the monthly reports. Days with wind from a point equidistant from two directions given, are counted half to one of these and half to the other, *e.g.*, half of the days when the wind was NNE are counted as N, and the other half as NE.

Table X. exhibits the number of days on which certain meteorological phenomena were registered, and also the total number of thunderstorms noted in the neighbourhood during the past year.

Table XI. shows the frequency of clouds of different classes.

Table XII. is arranged as last year.

Table XIII. exhibits the monthly and annual extremes. The extremes of humidity and vapour tension are only approximate as the hourly values were not calculated.

Table XIV. contains five-day means.

Tables XV., XVI., XVII. contain magnetic observations.

W. Doberck,
Director.

The Honourable G. T. M. OBrien, C.M.G.,
Colonial Secretary, &c., &c., &c.

Table VII.

Mean Values and Hourly Excess above the Mean of Meteorological Elements in 1893.

	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Mean or Total.
Pressure,	+.001	—.007	—.016	—.019	—.014	.000	+.017	+.032	+.043	+.046	+.036	+.016	—.008	—.028	—.040	—.044	—.040	—.031	—.015	+.001	+.014	+.021	+.020	+.014	29.857
Temperature,	— 1.4	— 1.7	— 1.9	— 2.1	— 2.2	— 2.1	— 1.5	— 0.4	+ 0.6	+ 1.5	+ 2.1	+ 2.5	+ 2.7	+ 2.6	+ 2.4	+ 1.9	+ 1.1	+ 0.3	— 0.2	— 0.4	— 0.7	— 0.8	— 1.0	— 1.2	70.5
Diurnal Range,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8.3
Humidity,	+ 5	+ 5	+ 5	+ 5	+ 5	+ 4	+ 3	+ 0	— 3	— 5	— 6	— 8	— 8	— 7	— 7	— 5	— 3	— 1	+ 1	+ 2	+ 3	+ 4	+ 4	+ 5	77
Vapour Tension,	+.008	+.004	+.002	—.002	—.005	—.008	—.004	—.006	—.007	—.008	—.007	—.008	—.006	—.003	—.002	.000	—.001	.000	+.003	+.007	+.010	+.012	+.013	+.010	0.616
Sunshine (Total),	...	...	...	...	...	9.9	100.9	174.8	188.2	199.5	199.8	206.2	207.7	201.6	202.6	181.9	115.2	16.1	...	...	...	...	...	...	2004.4
Rainfall, (Total),	4.205	3.400	3.795	5.670	5.150	5.165	4.820	4.340	4.340	4.565	4.350	6.005	5.910	4.175	3.395	3.880	2.310	2.095	1.205	2.985	5.835	4.010	4.240	4.110	99.955
Hours of Rain (Total),	52	47	47	54	44	49	48	52	48	49	40	46	43	33	33	38	34	29	26	26	28	36	34	37	973
Intensity of Rain,	0.081	0.072	0.081	0.105	0.117	0.105	0.100	0.083	0.090	0.093	0.109	0.131	0.137	0.127	0.103	0.102	0.068	0.072	0.046	0.115	0.208	0.111	0.125	0.111	0.103
Wind-Velocity,	— 1.3	— 1.1	— 1.3	— 1.2	— 1.3	— 1.2	— 1.1	— 0.2	+ 0.7	+ 1.0	+ 2.3	+ 2.5	+ 2.6	+ 2.5	+ 2.2	+ 1.5	+ 0.8	— 0.1	— 0.9	— 1.3	— 1.4	— 1.4	— 1.2	— 1.1	13.0
Wind-Direction,	— 5°	— 5°	— 6°	— 6°	— 7°	— 10°	— 9°	— 11°	— 6°	0°	+ 4°	+ 8°	+ 12°	+ 9°	+ 12°	+ 7°	+ 9°	+ 6°	+ 1°	— 1°	— 3°	— 2°	— 3°	— 5°	E 3° N
Cloudiness,	— 1	...	...	0	...	...	+ 5	...	...	+ 4	...	...	+ 1	...	...	+ 2	...	...	— 5	...	...	— 5	...	...	57
Solar Radiation,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	126.3
Excess of do. do.,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	51.1

Table VIII.

Number of Hours during portion of which it rained for each Month in the Year 1893.

Month.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Total.
January,	4	3	2	2	3	9	5	5	3	3	2	2	2	2	2	1	2	1	1	...	1	3	3	3	64
February,	5	4	3	3	2	1	2	1	1	2	...	1	1	...	2	1	...	...	4	3	3	4	3	1	47
March,	5	2	2	4	4	3	7	6	3	3	2	3	1	1	1	1	3	2	1	...	1	4	3	...	62
April,	4	6	5	4	3	5	2	2	2	1	2	2	4	4	4	4	6	6	4	5	8	6	5	4	98
May,	8	5	4	7	5	4	5	6	6	8	8	7	6	5	4	5	5	4	5	4	4	5	5	7	132
June,	3	3	5	7	3	4	3	6	4	6	3	4	6	3	3	4	3	1	2	...	...	1	1	2	77
July,	3	5	6	8	9	8	7	9	10	9	9	12	8	7	5	8	5	4	1	2	4	5	3	4	151
August,	6	4	7	6	5	6	5	5	10	7	4	6	4	3	4	5	2	2	1	2	1	1	2	3	101
September,	4	6	5	7	5	4	7	6	6	7	7	6	7	5	5	4	5	6	3	4	2	2	4	3	120
October,	8	8	7	6	5	5	5	5	3	3	3	3	4	3	3	5	3	3	4	6	4	5	5	8	114
November,	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2
December,	1	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5
Total,	52	47	47	54	44	49	48	52	48	49	40	46	43	33	33	38	34	29	26	26	28	36	34	37	973

Table IX.

Number of days with wind from eight different points of the Compass during each month of the year 1893.

Month.	N.	NE.	E.	SE.	S.	SW.	W.	NW.
January,	6	...	21	...	...	...	2	2
February,	4	5	19	...	...	...	...	...
March,	2	...	27	2	...	...	...	...
April,	1	2	20	...	...	2	3	2
May,	2	2	20	2	...	4	1	...
June,	...	...	12	9	2	4	3	...
July,	1	...	12	4	5	5	4	...
August,	...	...	17	3	3	3	5	...
September,	2	2	15	1	...	...	7	3
October,	3	6	16	2	...	...	2	2
November,	3	8	19	...	...	...	...	...
December,	8	3	19	...	...	...	1	...
Sum,	32	28	217	23	10	18	28	9

Table X.

Total Number of Days on which different Meteorological Phenomena were noted and Total Number of Thunderstorms during each month of the year 1893.

Month.	Fog.	Electric Phenomena.	Lightning.	Thunder.	Thunder-storms.	Unusual Visibility.	Dew.	Rainbows.	Lunar Halo.	Lunar Corona.	Solar Halo.	Solar Corona.
January,	9	...	...	...	...	4	9	...	...	1	...	...
February,	2	...	...	...	...	2	4	...	...	1	...	...
March,	7	5	3	3	1	3	6	...	...	1	...	2
April,	7	12	8	9	4	5	8	1	...	1	4	...
May,	1	11	9	6	4	13	2	4	...	8	4	1
June,	...	17	17	5	...	7	11	5	8	11	8	...
July,	...	22	21	16	15	3	18	7	5	9	5	1
August,	10	26	26	16	6	4	20	4	7	12	14	1
September,	6	12	10	6	3	1	18	5	2	8	4	...
October,	2	1	1	...	...	4	9	3	...	1	...	1
November,	1	...	...	...	...	1	8	...	...	6	1	...
December,	6	...	...	...	...	1	7	...	...	2	...	...
Sums,	51	106	95	61	33	48	120	29	22	61	40	6

Table XI.

Total Number of Times that Clouds of different forms were observed in each month of the year 1893.

Month.	c.	c-str.	c-cum.	sm-cum.	cum.	cum-str.	str.	R-cum.	cum-nim.	nim.
January,	...	5	2	21	55	...	11	17	38	33
February,	...	2	...	29	56	...	32	12	57	29
March,	...	...	6	53	59	...	29	33	47	38
April,	1	23	11	39	83	1	26	29	29	42
May,	...	25	20	46	97	2	9	28	34	52
June,	...	56	54	22	162	1	2	13	19	27
July,	...	37	84	45	132	19	13	4	21	40
August,	...	59	90	31	143	16	1	4	12	26
September,	...	32	43	48	114	...	14	5	21	29
October,	1	9	9	58	93	...	7	4	7	35
November,	...	7	10	11	64	...	...	1	...	...
December,	...	6	16	70	37	...	1	5	6	4
Sums,	2	261	345	473	1095	39	145	155	291	355

Table XII.

Month.	Barometric Tide.	Mean Diurnal Variability of Temperature.	Rainfall.		Hourly Intensity of Rain.	Mean direction of Clouds whence coming.			Number of Days with Clouds below.	
			Mean.	1893.		Lower.	Upper.	Cirrus.	2000 ft.	1000 ft.
January,	0.106	2.83	0.98	1.530	0.015	E 8° S	W 45° S	...	18	9
February,	0.111	1.73	1.32	0.460	0.005	E 14 N	W 13 S	...	21	10
March,	0.099	2.76	3.24	3.385	0.041	E 26 S	W 26 S	...	20	14
April,	0.093	2.10	5.27	8.430	0.078	E 29 S	W 10 S	W	20	12
May,	0.078	1.35	12.54	16.130	0.122	E 25 S	W 11 S	...	19	10
June,	0.076	0.92	15.81	7.090	0.151	S 14 E	N 40 E	...	8	0
July,	0.072	1.64	15.98	21.220	0.181	S 6 W	N 41 W	...	11	1
August,	0.074	1.05	14.85	8.730	0.175	S 35 E	E 15 N	N	10	3
September,	0.079	1.79	12.65	15.035	0.175	E 8 S	E 23 N	...	6	1
October,	0.093	1.05	5.36	17.870	0.221	E 14 N	E 22 N	...	6	2
November,	0.107	1.16	1.17	0.030	0.030	E 12 N	W 44 S	...	0	0
December,	0.111	2.06	1.00	0.045	0.004	E 7 S	S 18 W	...	2	0
Mean,	0.092	1.70	90.17	99.955	0.100	E 24° S	W 87° N	...	141	62

Table XIII.

Monthly Extremes of the Principal Meteorological Elements registered during the year 1893.

Month.	Barometer.		Temperature.		Humidity.	Vapour Tension.		Rain.		Wind Velocity.	Radiation.
	Max.	Min.	Max.	Min.	Min.	Max.	Min.	Daily Max.	Hourly Max.	Max.	Sun Max.
January,	30.282	29.784	73.2	32.0	34	0.577	0.069	0.575	0.155	38	129.7
February,	.266	.838	70.6	45.2	52	0.475	0.239	0.140	0.050	37	127.5
March,	.246	.676	79.0	50.0	38	0.783	0.233	1.420	0.600	39	137.2
April,	.130	.576	82.8	56.4	58	0.900	0.353	2.885	1.825	40	140.0
May,	29.944	.548	89.0	65.4	41	0.921	0.381	4.820	1.500	42	145.7
June,	.878	.540	90.2	74.6	58	0.988	0.606	1.245	0.400	32	149.1
July,	.816	.483	89.9	72.1	56	1.012	0.670	4.720	1.800	29	149.7
August,	.851	.500	89.7	74.1	62	1.056	0.739	2.310	0.670	38	154.0
September,	.854	28.976	92.3	69.8	52	1.031	0.564	2.605	1.000	61	150.5
October,	30.157	29.230	86.7	67.4	32	0.913	0.349	6.910	1.650	81	149.7
November,	.174	.930	81.9	54.0	15	0.652	0.091	0.020	0.020	29	140.9
December,	.276	.896	76.2	49.3	9	0.530	0.051	0.025	0.015	42	138.1
Year,	30.282	28.976	92.3	32.0	9	1.056	0.051	6.910	1.825	81	154.0

Table XIV.

Five-Day Means of the Principal Meteorological Elements observed in Hongkong in 1893.

Five-Day Periods.	Barometer.	Temperature.	Humidity.	Vapour Tension.	Wind Velocity.	Nebulosity.	Sunshine.	Rain.
January 1– 5	30.130	59.5	72	0.369	18.3	3.5	6.6	0.000
„ 6–10	29.918	63.1	86	.501	11.6	4.6	5.6	0.006
„ 11–15	.927	54.3	86	.386	19.0	9.6	0.0	0.150
„ 16–20	30.167	41.8	58	.162	9.8	4.5	4.9	0.117
„ 21–25	29.976	57.0	81	.377	16.6	2.2	7.8	0.001
„ 26–30	.887	57.8	91	.439	18.8	9.6	0.4	0.029
„ 31– 4	.988	55.2	75	.328	8.5	8.9	2.0	0.016
February 5– 9	.949	59.9	82	.422	15.0	4.8	6.7	0.000
„ 10–14	30.122	56.4	77	.352	16.2	7.5	1.7	0.000
„ 15–19	.003	52.6	90	.361	12.8	10.0	0.0	0.076
„ 20–24	.051	55.9	85	.380	14.2	9.1	0.6	0.001
„ 25– 1	.115	52.5	78	.314	14.8	9.9	0.0	0.003
March 2– 6	.093	56.3	81	.372	19.9	10.0	0.1	0.020
„ 7–11	.099	60.5	80	.428	22.4	8.3	3.8	0.001
„ 12–16	29.959	63.6	78	.457	12.6	5.6	5.1	0.000
„ 17–21	.823	62.8	73	.420	20.2	4.6	6.5	0.284
„ 22–26	.815	62.3	93	.520	15.9	10.0	0.2	0.219
„ 27–31	.852	67.8	93	.641	16.0	9.3	1.9	0.152
April 1– 5	.913	67.7	92	.626	13.5	9.3	2.9	0.423
„ 6–10	30.002	63.9	85	.515	18.2	8.5	2.5	0.055
„ 11–15	29.783	73.5	86	.716	5.4	5.5	5.6	0.083
„ 16–20	.802	70.4	88	.649	17.8	8.1	3.3	0.033
„ 21–25	.812	71.6	78	.608	6.8	4.8	6.7	0.005
„ 26–30	.709	73.8	90	.754	19.1	9.6	0.8	1.087
May 1– 5	.825	70.3	82	.612	16.6	9.5	0.6	0.214
„ 6–10	.826	73.1	83	.672	13.4	7.4	3.3	0.242
„ 11–15	.805	74.5	76	.648	19.0	5.4	5.7	0.002
„ 16–20	.657	79.6	82	.825	7.1	4.6	7.9	0.543
„ 21–25	.619	75.8	89	.795	8.9	9.3	0.0	1.193
„ 26–30	.736	76.7	77	.709	14.5	5.6	6.9	1.032
„ 31– 4	.675	80.6	83	.862	13.5	7.5	6.0	0.028
June 5– 9	.758	82.0	80	.872	7.9	1.6	11.1	0.007
„ 10–14	.772	82.6	78	.868	9.5	4.8	8.4	0.016
„ 15–19	.759	79.2	85	.840	12.8	7.3	3.2	0.818
„ 20–24	.746	80.8	84	.877	11.1	6.3	4.6	0.454
„ 25–29	.786	81.8	78	.846	10.0	5.2	9.5	0.095
„ 30– 4	.728	79.7	83	.838	5.9	8.3	2.9	0.376
July 5– 9	.757	79.8	86	.872	6.0	6.4	1.0	0.324
„ 10–14	.657	82.9	80	.896	4.7	2.7	10.3	0.022
„ 15–19	.606	79.5	86	.860	11.4	6.8	6.0	0.641
„ 20–24	.585	78.5	90	.874	14.7	9.6	0.0	2.709
„ 25–29	.666	79.9	88	.894	7.8	6.9	7.5	0.139
„ 30– 3	.664	81.1	85	.903	5.2	6.3	5.5	0.255
August 4– 8	.714	81.3	86	.915	7.7	7.1	4.1	0.452
„ 9–13	.601	82.2	83	.917	4.6	3.7	9.7	0.073
„ 14–18	.629	81.5	84	.906	4.2	4.5	7.1	0.002
„ 19–23	.658	80.1	87	.895	7.7	7.0	4.3	0.797
„ 24–28	.708	81.1	84	.891	7.2	5.2	6.9	0.036
„ 29– 2	.619	82.6	81	.895	16.8	4.9	7.4	0.164
September 3– 7	.603	82.1	80	.870	9.0	4.9	6.4	0.568
„ 8–12	.448	77.2	78	.729	16.0	7.6	2.8	0.624
„ 13–17	.793	78.4	87	.838	9.5	7.5	2.5	0.547
„ 18–22	.737	80.2	77	.791	6.7	1.6	9.7	0.022
„ 23–27	.718	79.4	86	.861	11.9	6.5	5.2	0.957
„ 28– 2	.560	80.4	77	.800	38.6	8.5	1.9	1.285
October 3– 7	.666	76.7	78	.722	21.0	7.3	4.6	1.586
„ 8–12	.738	77.4	82	.775	16.2	4.9	6.5	0.704
„ 13–17	.900	76.6	66	.602	12.9	3.4	9.1	0.174
„ 18–22	30.041	74.3	63	.535	12.4	2.3	10.2	0.070
„ 23–27	29.980	73.4	68	.562	10.6	2.6	10.2	0.043
„ 28– 1	30.019	72.2	64	.509	17.3	1.0	10.3	0.000
November 2– 6	.070	72.0	67	.525	14.6	1.3	9.8	0.006
„ 7–11	.030	71.0	54	.413	13.0	0.6	9.7	0.000
„ 12–16	.066	68.6	56	.396	12.8	1.2	9.7	0.000
„ 17–21	.055	67.6	63	.431	19.7	1.6	9.8	0.000
„ 22–26	.078	62.7	46	.278	12.4	0.4	9.8	0.000
„ 27– 1	.094	63.4	52	.306	6.9	0.2	10.0	0.000
December 2– 6	.094	63.4	45	.266	12.1	0.0	9.6	0.000
„ 7–11	.061	59.8	44	.227	8.5	0.1	9.7	0.000
„ 12–16	.158	61.7	49	.274	12.3	4.6	6.0	0.000
„ 17–21	.072	63.4	73	.430	13.9	4.5	6.7	0.000
„ 22–26	29.962	64.7	73	.445	15.6	3.3	6.9	0.001
„ 27–31	30.065	59.9	67	.359	10.4	6.0	4.9	0.008

Table XV.

Observations of Magnetic Declination and Dip.

1893.	H.K.M.T.	Declination East.	Observer.	H.K.M.T.	Dip North.	Needle No.	Observer.
January, ...	18d. 3h. 0m. p.	0° 32′ 42″	J.I.P.	16d. 3h. 50m. p.	31° 59′.06	3	J.I.P.
					58 .80	4	,,
February, ...	14 2 39 p.	0 31 22	,,	14 4 ,, 9 p.	55 .55	3	,,
					56 .40	4	,,
	16 4 29 p.	0 32 50	,,	16 3 ,, 31 p.	59 .16	3	,,
					59 .68	4	,,
April, ...	13 2 29 p.	0 30 40	,,	13 3 ,, 58 p.	55 .99	3	,,
					55 .72	4	,,
	14 4 11 p.	0 32 39	,,	14 3 ,, 16 p.	54 .08	3	,,
					55 .03	4	,,
June, ...	14 2 37 p.	0 31 58	,,	14 4 ,, 1 p.	54 .29	3	,,
					57 .93	4	,,
	15 4 15 p.	0 32 20	F.G.F.	15 3 ,, 6 p.	60 .81	1	F.G.F.
					59 .26	2	,,
				16 3 ,, 31 p.	57 .69	2	J.I.P.
					53 .99	3	,,
August, ...	14 2 42 p.	0 28 50	,,	14 4 ,, 5 p.	58 .52	3	F.G.F.
					59 .34	4	,,
	16 4 41 p.	0 30 13	J.I.P.	17 4 ,, 2 p.	56 .75	3	J.I.P.
				,,	54 .16	3	F.G.F.
				,,	57 .81	4	J.I.P.
				,,	57 .90	4	F.G.F.
October, ...	16 2 44 p.	0 28 15	F.G.F.	16 4 ,, 3 p.	54 .97	3	,,
					58 .25	4	,,
	18 4 22 p.	0 30 16	J.I.P.	18 3 ,, 13 p.	54 .85	3	J.I.P.
					56 .31	4	,,
December, ...	18 4 28 p.	0 30 22	,,	18 3 ,, 13 p.	52 .81	3	,,
					57 .06	4	,,
	20 2 33 p.	0 31 37	,,	20 3 ,, 57 p.	55 .13	3	,,
				,,	54 .91	4	,,

Table XVI.

Observations of Horizontal Magnetic Force.

Date.	H.K.M.T.	Time of one Vibration.	Temperature Cent.	Log m X.	Value of m.	H.K.M.T.	Distance in Centimeters.	Temperature Cent.	Deflection.	Log $\frac{m}{X}$	Value of X.	Observer.
1893.												
January 17,...	2h. 45m. p.	3s. .5906	9°.0	2.33818	597.67	3h. 40m. p.	30	8°.6	7° 1′ 54″	3.21475	0.36451	J.I.P.
							40		2 56 21			
February 13,...	3 16 p.	3 .5963	16 .3	2.33715	596.09	2 43 p.	30	16 .2	7 0 15	3.21348	0.36461	,,
							40		2 55 9			
						3 58 p.	30	16 .4	7 0 34			
							40		2 54 41			
April 12,...	2 59 p.	3 .6091	27 .4	2.33665	595.89	2 29 p.	30	28 .1	6 58 1	3.21366	0.36433	,,
							40		2 54 26			
						3 41 p.	30	28 .5	6 58 4			
							40		2 54 6			
,, 15,...	2 57 p.	3 .6077	27 .7	2.33706	596.06	2 29 p.	30	28 .5	6 57 34	3.21352	0.36456	,,
							40		2 54 21			
						3 33 p.	30	28 .1	6 58 0			
							40		2 54 10			
June 13,...	3 4 p.	3 .6146	31 .05	2.33641	595.66	2 35 p.	30	30 .7	6 56 22	3.21358	0.36426	F.G.F.
							40		2 54 39			
						3 34 p.	30	30 .5	6 56 18			
							40		2 54 30			
August 15,...	3 5 p.	3 .6146	31 .2	2.33618	595.43	2 37 p.	30	31 .2	6 56 5	3.21349	0.36420	J.I.P.
							40		2 54 20			
						3 42 p.	30	31 .0	6 56 30			
							40		2 54 31			
October 17,...	3 4 p.	3 .6152	27 .8	2.33537	594.17	2 37 p.	30	27 .4	6 55 49	3.21244	0.36431	F.G.F.
							40		2 54 22			
						3 39 p.	30	26 .7	6 55 54			
							40		2 54 26			
December 19,...	3 12 p.	3 .6110	21 .7	2.33505	594.03	2 44 p.	30	22 .7	6 56 23	3.21258	0.36411	J.I.P.
							40		2 54 39			
						3 58 p.	30	23 .0	6 56 41			
							40		2 55 5			

Table XVII.

Results of Magnetic Observations in 1893.

Month.	Declination East.	Dip North.	Magnetic Force.								
			English Units.			Metric Units.			C. G. S. Units.		
			X.	Y.	Total.	X.	Y.	Total.	X.	Y.	Total.
1893.											
January, ...	0° 32′ 42″	31° 58′ 56″	7.9055	4.9365	9.3200	3.6451	2.2762	4.2973	0.36451	0.22762	0.42973
February, ...	32 6	57 42	7.9077	4.9340	9.3208	3.6461	2.2750	4.2976	0.36461	0.22750	0.42976
April, ...	31 40	55 12	7.9041	4.9237	9.3123	3.6445	2.2702	4.2938	0.36445	0.22702	0.42938
June, ...	32 9	57 20	7.9000	4.9280	9.3110	3.6426	2.2722	4.2932	0.36426	0.22722	0.42932
August, ...	29 31	57 25	7.8988	4.9276	9.3098	3.6420	2.2720	4.2926	0.36420	0.22720	0.42926
October, ...	29 16	56 6	7.9012	4.9247	9.3102	3.6431	2.2707	4.2928	0.36431	0.22707	0.42928
December, ...	31 0	54 59	7.8968	4.9184	9.3034	3.6411	2.2678	4.2896	0.36411	0.22678	0.42896
Mean, ...	0 31 12	31 56 49	7.9020	4.9276	9.3125	3.6435	2.2720	4.2938	0.36435	0.22720	0.42938

Appendix A.

INFORMATION ISSUED IN 1893 CONCERNING TYPHOONS.

May 11th, 10.30 a: Barometer steady. Gradients increasing for NE winds in China. SW winds in China Sea. Sea rough. Weather cloudy and dry.

May 12th, 11.12 a: Barometer falling. Gradients moderate for E winds in China. Strong N winds in Gulf of Tonkin. SW winds over China Sea. Rough sea. Weather overcast, squally and wet.

May 13th, 10.55 a: Barometer steady. Gradients rather steep for E winds over Southern China. Depression in Gulf of Tonkin. Moderate SW winds and sea over China Sea. Weather cloudy, cool and showery.

May 13th, 7.30 p: on the 13th at 4 p. typhoon E of Luzon.

May 14th, 11.8 a: typhoon approaching E coast of Luzon.

May 14th, 11.10 a: Barometer falling. Gradients increasing for NE winds in China. SW winds over Southern part of China Sea. Moderate Sea. Weather fine, warm and dry.

May 15th, 10.30 a: The typhoon appears to have entered the China Sea South of Luzon.

May 15th, 11 a: Barometer falling. Gradients very slight. Sea slight. Weather warm, clear and dry.

May 15th, 4 p: Dead calm at Bolinao. Very bad weather South of Luzon.

May 16th, 10.53 a: Barometer falling. Gradients very slight for NE winds. Sea smooth. Weather clear, hot and dry.

May 17th, 10.52 a: The small typhoon announced on the 13th is now NW of Bolinao. Barometer falling slowly in South China, rising in Luzon. Gradients slight. Sea slight. Weather warm and cloudy with passing showers.

May 17th, 4.40 p: The centre of the typhoon announced on the 13th is situated near South Cape moving NE ward.

May 18th, 11.20 a: Barometer rising. Gradients very slight. Sea smooth. Weather cloudy, warm and perhaps thundershowers.

May 24th, 10.18 a: Depression in Northern part of the China Sea.

May 24th, 10.56 a: Barometer falling slowly. Gradients gentle for E winds in Southern China. Weather overcast, gloomy and wet. Very squally weather and swell over the China Sea.

May 25th, 11.12 a: Depression approaching coast between Shanghai and Foochow.

May 25th, 11.20 a: Barometer falling slowly. Gradients moderate for SW winds. Weather cloudy and improving.

June 7th, 4 p: Bad weather off coast of Cochin China.

June 9th, 10.17 a: Bad weather continues off Cochin China Coast.

June 15th, 7.30 p: On the 15th at 4 p Typhoon E of Luzon.

June 18th, 10.40 a: Barometer falling to the North but still steady here. Gradients slight for W winds in Southern China. Sea smooth. Weather wet.

June 22nd, 10.42 a: Barometer falling in Southern China. Gradients very gentle. Sea smooth. Weather showery.

June 23rd, 10.29 a: Slight depression in Gulf of Tonkin.

June 23rd, 10.40 a: Barometer falling slightly. Gradients moderate for SE winds. Sea moderate. Weather showery and squally.

June 24th, 10.30 a: Strong S to SE winds in Northern part of China Sea.

June 24th, 11.10 a: Barometer still remains low in Gulf of Tonkin. On South Coast barometer steady. Gradients increasing. Sea rather rough. Weather squally, showery, with perhaps thunder.

June 25th, 10.20 a: Strong S to SE winds continue in Northern part of China Sea.

June 25th, 10.40 a: Barometer steady. Gradients remain steep. Sea rough. Weather squally and showery.

June 26th, 10.42 a: Barometer rising. Gradients decreasing for SE winds. Sea rather rough. Weather improving.

July 10th, 7.50 p: On the 10th at 4 p. typhoon E of Formosa.

July 11th, 10.52 a: Barometer steady on South Coast. Gradients slight for SW winds. Sea smooth. Weather fine.

July 13th, 4 p: The typhoon announced on the 10th is near the coast just South of Shanghai.

July 15th, 11.2 a: On the 15th at 10 a. ill defined depression in China Sea. Barometer unsteady. Gradients moderate for E winds. Sea moderate. Weather showery and squally.

July 16th, 10.20 a: Depression between Hongkong and Hainan and typhoon E of Luzon.

July 16th, 10.25 a: Barometer falling. Strong SE breezes with hard squalls and showers and rough sea.

July 17th, 10.20 a: Typhoon in Luzon NE of Bolinao moving NWward.

July 17th, 10.45 a: Barometer falling. Moderate NE breezes. Sea moderate. Weather showery and squally.

July 17th, 11.30 a: Red Drum hoisted.

July 17th, 4 p: Typhoon North of Bolinao. Depression North of Haiphong.

July 18th, 10.25 a: Typhoon near Southern Formosa.

July 18th, 10.47 a: Barometer falling. Gentle NW breezes and moderate sea. Weather fine.

July 18th, 4.10 p: Typhoon in Formosa Channel apparently moving Northwards.

July 18th, 5.50 p: Red North Cone hoisted.

July 19th, 10.54 a: Barometer falling. Moderate W breezes. Sea moderate. Weather fair but squally perhaps a thunderstorm.

July 20th, 10.45 a: Red North Cone lowered.

July 20th, 10.52 a: Barometer unsteady. Moderate W breezes. Sea moderate. Weather wet with thunder.

July 23rd, 4.7 p: Typhoon E of Bolinao.

July 28th, 10.17 a: Typhoon E of Bolinao.

July 29th, 10.28 a: Typhoon E of Formosa.

July 30th, 10.45 a: Typhoon in North part of Formosa Channel, and Red North Cone hoisted.

July 30th, 11.22 a: Low pressure area South of Hainan. Barometer steady here falling on SE Coast. Moderate W breezes on South Coast. Sea slight. Weather fine at first, less settled later.

July 30th, 10.30 p: North Cone taken down.

July 31st, 10.56 a: Typhoon has entered East Coast. Barometer unsteady. Gradients slight for SW winds. Sea smooth. Weather showery with thunder.

August 3rd, 10.23 a: Depression W of Bolinao.

August 8th, 11.0 a: Depression in Pacific SE of Luzon.

August 8th, 11.4 a: Barometer falling. Gradients slight for N winds. Sea smooth. Weather fine.

August 9th, 10.33 a: Depression is now E of Bashee Channel.

August 9th, 10.42 a: Barometer falling. Gentle NW breezes. Smooth sea. Weather fine.

August 10th, 10.42 a: Depression is E of North Formosa.

August 10th, 11.2 a: Barometer falling. Gradients slight for W winds. Sea smooth. Weather fine on the whole but possibly a thunderstorm.

August 11th, 10.47 a: Barometer steady. Gradients slight for SW winds. Sea smooth. Weather showery with thunder.

August 11th, 12.55 p: On the 11th at 9 a. typhoon E of Shanghai.

August 11th, 5.18 p: On the 11th at 3 p. typhoon approaching Coast S of Shanghai.

August 13th, 10.40 a: Depression probable E of Bashee Channel.

August 19th, 10.27 a: Depression in Northern part of China Sea.

August 19th, 4 p: Depression near Hainan.

August 20th, 10.22 a: The depression has entered the Gulf of Tonkin.

August 20th, 10.42 a: Barometer rising. Moderate SE breezes. Sea rather rough. Weather showery and squally.

August 22nd, 4.12 p: There is probably a depression in the Pacific E of Luzon.

August 23rd, 10.24 a: Depression has entered China Sea and is now W of South Luzon.

August 23rd, 10.37 a: Barometer falling. Gradients slight. Sea smooth. Weather fine.

August 26th, 10.47 a: A low pressure area lies across the China Sea in about 17° latitude. S of the area moderate SW breezes prevail and to the N moderate NE breezes. Barometer rising slightly. Sea smooth. Weather showery to fine.

August 28th, 10.35 a: Barometer falling. Gradients slight round low pressure area in China Sea. Sea smooth. Weather fair, some thundershowers.

August 29th, 10.25 a: Depression in China Sea S of Hongkong has become deeper and the winds circulating round it stronger.

August 29th, 10.35 a: Barometer almost steady. Fresh to strong E breezes veering. Sea rather rough. Weather squally with showers.

August 29th, 4.20 p: Strong E wind along the South Coast of China.

August 30th, 10.30 a: Depression appears to be moving towards South Hainan.

August 30th, 10.52 a: Barometer almost steady. Strong E breezes. Sea rather rough. Weather squally and showery.

August 30th, 4.10 p: Depression continues increasing in intensity in about 18° N, 112° E, moving Wward.

August 31st, 10.52 a: Barometer falling. Strong E breezes. Sea rather rough. Weather fine.

August 31st, 7.30 p: On the 31st at 4 p. typhoon E of Bolinao.

September 1st, 10.30 a: Typhoon is at present moving NWward and probably approaching Bashee Channel.

September 1st, 10.47 a: Barometer falling quickly. Moderate NW breezes. Sea moderate. Weather fine.

September 1st, 12.15 p: Red Drum hoisted.

September 1st, 4.20 p: Small typhoon in Southern Formosa. Fine weather prevails along the south-eastern coast of China.

September 2nd, 10.50 a: Typhoon E of Anping moving Northwards.

September 2nd, 11.2 a: Barometer falling. Gentle NW breezes. Sea moderate. Weather fine.

September 2nd, 4 p: Red North Cone hoisted.

September 3rd, 9.45 a: Red North Cone taken down.

September 3rd, 10.30 a: Typhoon is now raging between Shanghai and Nagasaki and there is an area of diminished pressure NE of Cape St. James.

September 3rd, 10.37 a: Barometer rising. Light NE breezes. Sea smooth. Weather fine, hot and dry.

September 4th, 10.25 a: Typhoon is now felt over Sea of Japan.

September 4th, 10.45 a: Barometer rising. Moderate E breezes. Sea slight. Weather fair to squally and showery.

September 4th, 4.15 p: The area of relatively low pressure is lying across the China Sea in about 17° latitude.

September 5th, 10.47 a: Barometer unsteady. Moderate E breezes. Sea slight. Weather fair to showery.

September 5th, 5.42 p: On the 5th at 4 p. typhoon E of Bashee Channel.

September 6th, 10 a: Red Drum hoisted.

September 6th, 10.13 a: Typhoon is now near Balingtang Channel.

September 6th, 10.43 a: Barometer falling quickly. Light NW winds. Sea slight. Weather fine.

September 7th, 10.33 a: Typhoon SE of Hongkong moving Wward.

September 7th, 10.48 a: Barometer falling. Moderate NE wind, squally. Sea moderate with swell. Weather fair probably some showers.

September 7th, 11.10 a: Black South Cone hoisted.

September 7th, 4.12 p: Strong SW winds in Southern part of China Sea.

September 8th, 10.15 a: Gun fired one round. Strong NE gale expected in Hongkong. Barometer falling. High Sea. Weather squally and wet.

September 8th, 4.15 p: The centre of the typhoon has turned more to Nwards and is approaching a point on the coast near Hongkong.

September 9th, 5.25 a: Black North Cone hoisted.

September 9th, 8 a: The centre of the typhoon has entered the coast and is moving Nwards. Probably strong SE winds along the East coast of China.

September 9th, 9.15 a: Decreasing W gale with rain-squalls expected in Hongkong. Rising barometer.

September 9th, 4.15 p: Red North Cone hoisted.

September 10th, 10 a: Red North Cone taken down.

September 10th, 10.33 a: Barometer steady. Light wind and smooth sea. Weather fine.

September 11th, 10.20 a: Red Drum hoisted. Typhoon near Bashee Channel.

September 11th, 10.42 a: Barometer falling. Moderate N breezes. Sea moderate. Weather fine.

September 11th, 2.55 p: The centre of the typhoon has entered the Southern part of the Formosa Channel and is at present approaching the South-east coast of China.

September 11th, 5.40 p: Black Drum hoisted.

September 12th, 8.45 a: Black North Cone hoisted.

September 12th, 10.5 a: Red North Cone hoisted.

September 12th, 10.10 a: The typhoon entered the mainland close to Amoy early this morning and is moving Nward at present.

September 12th, 10.45 a: Barometer rising. Moderate W breezes backing. Sea moderate. Weather wet and squally.

September 12th, 4 p: Red North Cone taken down. Typhoon appears to be now moving Wward in the interior of China.

September 13th, 10.32 a: Barometer rising. Moderate SE breezes. Sea slight. Weather fair to showery.

September 19th, 10.25 a: There appears to be a depression E of Formosa.

September 19th, 4.15 p : Red Drum hoisted. Typhoon appears to have entered South part of Formosa Channel moving WNWward.

September 20th, 10.5 a : Red North Cone hoisted. Centre of typhoon now situated near Northern entrance to Formosa Channel.

September 20th, 10.35 a : Barometer steady. Light NW winds. Sea slight. Weather fine.

September 20th, 3.50 p : Typhoon has entered the coast near Foochow.

September 20th, 5.40 p : Red North Cone taken down.

September 21st, 10.32 a : Barometer rising slightly. Gradients gentle. Sea smooth. Weather fine.

September 23rd, 10.37 a : There appears to be a slight depression in the China sea to the South of Hongkong. Barometer falling slowly. Moderate E winds. Sea moderate. Weather fair to showery and squally.

September 24th, 10.25 a : Depression has approached Hainan.

September 24th, 10.35 a : Barometer unsteady. Strong SE breezes. Sea rather rough. Weather showery and squally, fine intervals.

September 24th, 6.40 p : Depression entered China near Hoihow moving NWward.

September 25th, 5.10 p : Typhoon E of Luzon.

September 26th, 10.15 a : The typhoon is now E of and approaching Bolinao.

September 26th, 10.49 a : Barometer falling. Light E breezes backing. Sea slight. Weather fine.

September 26th, 5.25 p : Red South Cone hoisted.

September 27th, 10.10 a : Typhoon now in Northern Luzon moving NWward at present.

September 27th, 10.40 a : Barometer falling. Light N breezes. Sea slight. Weather fine.

September 28th, 7.55 a : Black South Cone hoisted.

September 28th, 8.30 a : Gun fired one round.

September 28th, 10.30 a : Typhoon SSE of Hongkong appears to be moving Wward at present. NE gale expected in Hongkong.

September 28th, 4.10 p : Typhoon South of Hongkong moving towards a point on the coast between Macao and Hoihow.

September 29th, 0.45 a : Black Ball hoisted.

September 29th, 10.35 a : Rising barometer. SE gale gradually decreasing with rain-squalls.

September 29th, 11.30 p : Red Ball hoisted.

September 30th, 9.13 a : There is another typhoon approaching Bolinao quickly from E.

September 30th, 9.37 a : Red Ball taken down.

September 30th, 10.20 a : Typhoon has entered Tonkin. Barometer falling again in Hongkong. Fine and dry weather and light N winds expected, and Red South Cone hoisted.

October 1st, 10.18 a : Black South Cone hoisted. Terrific typhoon passed over Bolinao early this morning and it is now moving NWward in the China Sea.

October 1st, 10.40 a : Barometer falling. Strong N wind increasing. Rough sea. Weather becoming bad.

October 1st, 10.50 a : Vessels leaving the port except for the Wward run great risk.

October 1st, 4 p : Gun fired one round.

October 2nd, 6 a : Gun fired two rounds.

October 2nd, 6.15 a : Typhoon expected from NE to SE in Hongkong.

October 3rd, 8.30 a : Black Ball hoisted.

October 4th, 7.20 a : Red Ball hoisted.

October 4th, 11.10 a : Red Ball taken down.

October 5th, 10.45 a : There is a depression in the China Sea with strong NE winds and high sea to the North of it. Barometer rising. Weather fair to showery and squally.

October 6th, 10.45 a : There appears to be a typhoon in the Pacific E of Northern Luzon.

October 6th, 10.50 a : Barometer falling. Moderate N breezes and fine weather.

October 6th, 12.30 p : The centre of the typhoon has approached Northern Formosa.

October 6th, 3.30 p : Red Drum hoisted.

October 6th, 9 p : On the 6th, at 3 p. typhoon in Southern Formosa.

October 7th, 10.10 a : Typhoon appears to be approaching the SE coast of China.

October 7th, 10.27 a : Barometer falling. Fresh N winds and fair weather.

October 7th, 2.5 p : Black Drum hoisted.

October 8th, 0. a : Two Lanterns hoisted vertically.

October 8th, 4.45 a : Gun fired one round.

October 8th, 6.45 a : NE to SE gale expected in Hongkong.

October 8th, 7.55 a : Black South Cone hoisted.

October 8th, 10.50 a : Typhoon S of Hongkong moving WNWward.

October 8th, 2.35 p : Black Ball hoisted.

October 9th, 10 a : Black Ball taken down.

October 11th, 10.50 a : There appears to be a depression to the SE of Bolinao.

October 11th, 4.15 p : Depression E of Bashee Channel.

October 12th, 10.35 a : Barometer falling. Moderate NW breezes. Sea slight. Weather fine.

October 12th, 8.25 p : On the 12th, at 3 p., centre of typhoon near Southern Formosa. Red Drum hoisted.

October 13th, 10.25 a : Typhoon appears to have recurved E of Formosa.

October 13th, 10.40 a : Barometer steady. Moderate NW breezes. Sea slight. Weather fine.

October 13th, 4.15 p : Red Drum taken down.

October 14th, 10.20 a : Barometer rising. Gradients slight for NE winds. Sea smooth. Weather fine.

October 14th, 1 p : Typhoon in South-west Japan.

November 24th, 10.15 a : Heavy NE monsoon in China Sea.

December 6th, 10.17 a : Very heavy monsoon in China Sea.

December 29th, 10.20 a : Heavy monsoon in China Sea.

Appendix B.

THE CLIMATE OF HONGKONG INVESTIGATED FROM TEN YEARS' OBSERVATIONS.

The Colony of Hongkong is situated within the tropics, but the winter is cool, its mean temperature being about 60°, whereas the mean temperature of the summer rises a little above 80°. There is a large and well marked variation of climate, but it is very hot in the sun all the year round. Palm trees, rice and sugar canes grow here. Pumelos, oranges and pine-apples are amongst the most extensively cultivated crops opposite on the mainland, but do not thrive in the Colony on account of unsuitability of soil. About forty species of palms from all parts of the world thrive in the Botanic Gardens, and from temperate regions many coniferous trees thrive side by side with tropical palms. The conifers are from Japan, Queensland, the Cape and India (Himalaya). The Norfolk Island Pine is quite at home here. Banian trees are common and bamboos attain to great size. Vines do not come to perfection as the winter temperature is not low enough to harden the wood.

In spring, between the two monsoons, bronchial catarrh and pneumonia are prevalent. Measles, mumps and simple continued fevers are very common.

In summer, the dampness of the air is excessive. Europeans suffer much from prickly heat and similar diseases, produced in consequence of the heat and dampness. The Chinese are also very subject to diseases of the skin, especially the different varieties of Tinea. Malarial fevers and diarrhœa are the worst hot weather diseases, the former chiefly of an intermittent type in summer. They are worst in August and September, when the Colony is under the influence of the high-pressure areas preceding and lying to the north of typhoons. In these areas the wind is light and the air descending, so that it is stifling, dusty, and probably full of bacteria. Want of sleep during such weather tends to produce anæmia from loss of appetite and thereby lays the foundation for many diseases such as diseases of the brain.

In autumn, the dampness of the air decreases, and the temperature falls often rather suddenly when the NE monsoon sets in This causes affections of the chest and catarrhs, but Europeans enjoy almost an immunity from phthisis while to Eurasians this is an ever present scourge. Malarial fevers assume more frequently the remittent and bilious remittent type. Beri-beri is frequent among the natives, but cholera is never more than a minor evil in Hongkong.

In winter, dysentery—the dreaded scourge of the Pacific—occurs. This is the worst disease of the Chinese coast, and often leads to abscess of the liver. Small-pox is endemic and occasionally epidemic. Typhoid fever is very rare, but typho-malarial fevers are more common during the end of the winter and also in spring along the southern coast of China and Annam.

The most unhealthy places are situated in ravines between the hills, near marshy land or paddy fields. In such places malaria is deadly. Between one and two thousand feet up on the hills the air is pure and fever less common and of a milder type, which is as a rule easily cured by quinine. It is more agreeable to live in the upper regions although the air is frequently saturated with moisture.

Table I. exhibits the mean height of the barometer reduced to the freezing temperature of water, but not to the sea level, together with its annual and daily variations. For the months January-March inclusive, the diurnal variation is obtained from 9 years' observations only (1885-1893 inclusive), but the annual means depend on ten years' observations as the monthly means for January-March 1884 were obtained from readings made at 10 a. and 4 p. The data are of great practical importance as the diurnal variation although lessened in damp weather is not much influenced by storms. During the approach and continuance of a typhoon it is necessary to correct the readings for daily variation in order to know how much the mercury is falling or rising and when the lowest reading has been reached.

Table II. gives the mean temperature for each month of the year. The means for 1884 were obtained from thermometers in a Stevenson's screen, the readings being reduced to true air temperature. The hourly variation of temperature depends upon 9 years' observations only. The highest temperature occurs between 1 p. and 2 p., and the lowest near 6 a. in winter and about 5 a. in summer, that is, just before sunrise. The daily variation is least in March and greatest in December. The temperature of February is very different in different years being high when the amount of sunshine happens to be great and low if the amount of clouds is great. The mean temperature of the last five years was about 4° above the temperature of the first five years.

Tables III. and IV. give the mean humidity and the tension of aqueous vapour respectively, and the daily variations to which they are subject. For the first three months the daily variations depend upon 9 years' observations only. The humidity rises after sunset and remains nearly constant during the night, and is least about 1 p., varying inversely with the temperature, while the actual amount of vapour is greatest a few hours after sunset, and least shortly after sunrise.

Table V. gives the average amount of bright sunshine. It is least in March and steadily increases to a maximum in October, after which it steadily diminishes to its minimum. The daily maximum occurs shortly after noon and there is more sunshine in the afternoon than in the forenoon. There is a slight decrease in the amount of sunshine near noon during the middle of the summer, which is due to a rather marked increase in the amount of clouds about that time. The entries of January and February are the means of 9 years only and the percentages of possible sunshine for these two months given in the last column are also derived from the observations of 9 years—1885-1893 inclusive.

Table VI. exhibits the mean rainfall. The hourly values for January and February are the means of 9 years only. It shows also the hourly intensity, which is greatest about noon, and least during the hours between sunset and midnight; while the rainfall itself is a maximum about 9 a. and a minimum about sunset. As more than two-thirds of the yearly rainfall occur during the months May-August the above remarks apply principally to that season, and a more extended series of observations would be required in order to show whether the same laws hold good for the drier months of the year. Most rain falls in June and least in November. The rainfall in October is very variable. Sometimes there is hardly any rain, while in other years there is heavy rain, usually owing to typhoons.

Table VII. gives the number of hours during a portion of which rain was registered. This was six or seven times larger in July than in November. Rain falls more frequently at and near sunrise than at sunset particularly in summer. The values for the first two months are the means of 9 years only.

Table VIII. shows the mean velocity of the wind. This is greatest in spring when the trade-wind and the easterly monsoon co-operate and least in August when the southerly monsoon is blowing. Inversely the daily variation is greatest in August and least in February. The wind is strongest about 1 p., and least shortly after sunset. In winter, at times when the North-east trade-wind blows strongly, its force is often greatest at night, or during the early morning hours. The diurnal variation for January and February is the mean of 9 years only.

Table IX. gives the mean direction of the wind. This veers from ENE in November to SSE in August, but the changes from month to month are slight so long as the North-East monsoon prevails, becoming more rapid as summer approaches. While the change from NE monsoon to S monsoon is moderately gradual, the change from S to NE is very sudden. The wind veers daily from the hour of minimum till the hour of maximum temperature, the daily variation being greatest in summer when the wind is slight. The diurnal variation for January and February is the mean of nine years' observations only.

Table X. gives the mean components of the wind and the resultant force. For January and February the results depend on nine years' observations only.

Table XI. exhibits the four yearly means (1885-1888 inclusive) of total annual amount, duration and velocity of winds from different quarters. Three quarters of it come from E and NE.

Table XII. gives the number of days for each month of the year that the wind came from eight different points of the compass. The great preponderance of easterly wind exists throughout the year though it is less marked during the summer months. The results depend on four years' observations only, 1890-1893.

Table XIII. shows that fogs are common in March and occur also during typhoons in August and September. Electric phenomena prevail throughout the summer months, particularly in July and August. Unusual visibility of distant objects occurs most frequently when the air is cleared from dust by heavy rain in June, July and August. Dew is common in August when also halos and coronas are most frequent. Rainbows are comparatively rare in hot countries where the rain is so heavy and the sun usually too high in the sky. The annual average number of lunar coronæ noted during the first five years is 14, while during the last five it is 67. This is due to having the sky more closely watched during the night of late years.

Table XIV. shows cumulus to be the common cloud in China. Cirrus is most frequent during typhoons and cumulo-stratus during the hottest part of the year. Small cumulus is most frequently met with during the fine clear weather which characterizes the earlier part of the North-east Monsoon.

Table XV. shows the amount of clouds. March is the most cloudy month and the cloudiness steadily diminishes till October (inversely with the amount of sunshine, see Table V) and then increases. On an average there are more clouds at sunrise than about midnight. But looking at the different seasons, it is seen that in summer the amount is greatest in the afternoon and least about midnight, while in winter the amount is greatest during the early morning hours and least in the afternoon.

Table XVI. exhibits the monthly extremes registered. The extreme temperatures are derived from nine years only (1885-1893). The wind velocity in January and February is derived from the same nine years and so also is the solar radiation. The range of vapour tension will be seen to be enormous. The daily maximum of rain occurred on May 29, 1889 when 27.440 inches of rain fell between 6.30 a of that day and the same hour on the 30th. The minimum temperature occurred during the cold wave in January 1893 when owing to the dryness of the air at the same time, water froze readily at the observatory and down to very nearly the sea level and much tropical vegetation was destroyed.

Table XVII. exhibits various data. The barometric tide is large in winter (when the air is dry) and small in summer (when it is damp). The mean diurnal variability of temperature—the mean of the differences of temperature of each day and the next—is greatest in winter. This has been determined from the means of nine years only (1885-1893). The number of days on which at least 0.01 inch of rain fell at the Observatory was a minimum in November and a maximum in June and July. The hourly intensity of rain is greatest in July and least in February. The directions whence clouds in different levels come, together with the wind directions given in Table IX prove the direction of the wind to veer on ascending in the atmosphere. The height of the lower clouds is least in April and greatest in November. The height which it is necessary to ascend in the atmosphere in order to reduce the temperature of the air by one degree is greatest in March when clouds are most prevalent and least in June. It is likewise small in November when they are a minimum. These results depend on eight years' observations only (1884-1891).

Table XVIII. gives the average results of the solar radiation thermometer, the maximum and minimum thermometers, and the mean daily range of temperature founded on the observations of nine years (1885-1893) and also the weight of aqueous vapour in a cubic foot of air in troy grains which depends upon the observations during the entire period.

Table XIX. exhibits 10 yearly means of five-day means.

Table I.

Ten yearly-means of Barometric Pressure at the Observatory for each month of the Year and Mean Diurnal Variation.

85-93

Month.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Mean.	Mean Barometer reduced to sea-level.	Mean 25 years 1861-1885.
January,	+.006	—.001	—.010	—.014	—.012	.000	+.017	+.038	+.053	+.058	+.042	+.014	—.019	—.041	—.051	—.049	—.039	—.028	—.014	+.001	+.010	+.015	+.015	+.012	30.047	30.165	30.171
February,	+.008	—.002	—.011	—.016	—.012	+.002	+.020	+.037	+.051	+.057	+.046	+.023	—.008	—.033	—.049	—.051	—.044	—.035	—.022	—.005	+.006	+.013	+.014	+.010	30.022	30.141	30.124
March,	+.008	—.005	—.018	—.024	—.018	—.001	+.017	+.036	+.048	+.052	+.044	+.024	—.004	—.027	—.044	—.048	—.044	—.035	—.022	—.005	+.012	+.019	+.020	+.016	29.942	30.059	30.062
April,	+.004	—.011	—.023	—.025	—.017	—.003	+.015	+.033	+.045	+.047	+.040	+.025	+.001	—.020	—.037	—.045	—.045	—.035	—.020	—.004	+.012	+.024	+.023	+.015	29.843	29.958	29.947
May,	+.002	—.010	—.019	—.019	—.014	.000	+.016	+.030	+.038	+.041	+.036	+.024	+.005	—.015	—.029	—.042	—.043	—.034	—.022	—.005	+.008	+.021	+.021	+.011	29.754	29.867	29.843
June,	+.002	—.008	—.014	—.016	—.011	.000	+.013	+.023	+.029	+.031	+.028	+.017	+.003	—.012	—.026	—.037	—.040	—.032	—.019	—.003	+.010	+.024	+.024	+.014	29.658	29.770	29.763
July,	+.005	—.006	—.013	—.016	—.013	—.003	+.008	+.018	+.026	+.029	+.025	+.016	+.003	—.011	—.026	—.035	—.038	—.033	—.018	.000	+.015	+.027	+.026	+.018	29.618	29.730	29.732
August,	+.005	—.008	—.016	—.018	—.014	—.005	+.009	+.020	+.030	+.032	+.028	+.017	.000	—.017	—.030	—.039	—.039	—.032	—.018	.000	+.019	+.029	+.028	+.019	29.650	29.762	29.735
September,	.000	—.011	—.020	—.021	—.014	—.003	+.012	+.029	+.036	+.039	+.031	+.014	—.007	—.026	—.037	—.039	—.037	—.027	—.014	+.004	+.022	+.027	+.024	+.016	29.706	29.818	29.817
October,	—.001	—.011	—.019	—.020	—.013	+.001	+.020	+.034	+.046	+.046	+.032	+.011	—.013	—.034	—.043	—.044	—.037	—.027	—.012	+.008	+.020	+.022	+.020	+.014	29.878	29.991	29.983
November,	+.001	—.008	—.016	—.016	—.011	+.005	+.023	+.039	+.051	+.051	+.033	+.007	—.023	—.044	—.051	—.049	—.039	—.026	—.008	+.008	+.018	+.021	+.020	+.013	30.000	30.115	30.107
December,	+.008	—.001	—.008	—.012	—.009	+.002	+.020	+.039	+.054	+.054	+.039	+.009	—.026	—.045	—.055	—.052	—.040	—.028	—.012	+.004	+.013	+.018	+.016	+.012	30.060	30.177	30.157
Means,	+.004	—.007	—.016	—.018	—.013	.000	+.016	+.031	+.042	+0.45	+.035	+.017	—.007	—.027	—.040	—.044	—.040	—.031	—.017	.000	+.014	+.022	+.021	+.014	29.848	29.963	29.953

Table II.

Ten yearly-means of Temperature at the Observatory for each month of the year and Nine yearly-means of Mean Diurnal Variation.

10/15

Month.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Mean.
January,	−1.1	−1.4	−1.7	−1.8	−2.0	−2.1	−2.1	−1.2	0.0	+1.1	+1.8	+2.4	+2.7	+2.8	+2.6	+2.0	+1.1	+0.1	−0.2	−0.3	−0.4	−0.6	−0.8	−1.1	59.4
February,	−1.1	−1.2	−1.4	−1.6	−1.7	−1.7	−1.7	−1.0	−0.1	+0.7	+1.4	+1.9	+2.3	+2.3	+2.1	+1.6	+1.0	+0.3	0.0	−0.1	−0.2	−0.3	−0.6	−0.7	57.3
March,	−1.0	−1.2	−1.3	−1.5	−1.6	−1.7	−1.4	−0.8	0.0	+0.8	+1.3	+1.6	+2.1	+2.0	+1.9	+1.5	+0.9	+0.1	−0.2	−0.3	−0.3	−0.3	−0.4	−0.6	62.0
April,	−1.5	−1.7	−1.8	−1.8	−1.8	−1.7	−1.2	−0.2	+0.6	+1.3	+2.1	+2.4	+2.6	+2.4	+2.1	+1.7	+0.8	0.0	−0.4	−0.6	−0.7	−0.8	−0.9	−1.0	69.7
May,	−1.3	−1.4	−1.6	−1.6	−1.7	−1.5	−0.9	−0.2	+0.6	+1.2	+1.7	+2.1	+2.4	+2.1	+2.0	+1.6	+0.9	+0.1	−0.4	−0.5	−0.6	−0.7	−0.9	−1.1	76.2
June,	−1.3	−1.4	−1.5	−1.6	−1.7	−1.5	−0.7	+0.1	+0.8	+1.4	+1.9	+2.3	+2.4	+2.3	+2.0	+1.4	+0.8	+0.1	−0.5	−0.8	−0.8	−0.9	−1.1	−1.2	80.5
July,	−1.6	−1.7	−1.9	−1.9	−2.1	−1.8	−1.4	0.0	+0.6	+1.2	+1.9	+2.3	+2.5	+2.5	+2.5	+1.9	+1.4	+0.5	−0.3	−0.6	−0.9	−1.0	−1.3	−1.4	81.5
August,	−1.7	−1.9	−2.0	−2.2	−2.2	−2.2	−1.1	+0.1	+0.9	+1.6	+2.4	+2.8	+2.8	+2.9	+2.7	+2.2	+1.4	+0.4	−0.5	−0.7	−1.0	−1.2	−1.4	−1.6	80.9
September,	−1.6	−1.9	−2.0	−2.1	−2.2	−2.3	−1.5	−0.3	+0.7	+1.7	+2.4	+2.8	+3.1	+2.9	+2.6	+2.1	+1.1	0.0	−0.4	−0.6	−0.9	−1.0	−1.3	−1.5	80.1
October,	−1.5	−1.7	−1.9	−2.1	−2.4	−2.4	−1.7	−0.3	+0.9	+1.8	+2.5	+2.9	+3.0	+2.9	+2.5	+1.8	+0.9	0.0	−0.3	−0.5	−0.7	−1.0	−1.2	−1.4	76.3
November,	−1.4	−1.7	−1.9	−2.3	−2.5	−2.7	−2.3	−0.7	+0.7	+1.8	+2.6	+3.1	+3.3	+3.2	+2.8	+2.0	+0.9	+0.1	−0.2	−0.4	−0.7	−0.9	−1.2	−1.4	69.0
December,	−1.5	−1.8	−2.0	−2.3	−2.5	−2.7	−2.5	−1.1	+0.4	+1.7	+2.6	+3.1	+3.4	+3.3	+2.9	+2.1	+1.0	+0.2	0.0	−0.4	−0.6	−0.8	−1.0	−1.3	62.5
Means,	−1.4	−1.6	−1.8	−1.9	−2.0	−2.0	−1.5	−0.5	+0.5	+1.4	+2.0	+2.5	+2.7	+2.6	+2.4	+1.8	+1.0	+0.2	−0.3	−0.5	−0.6	−0.8	−1.0	−1.2	71.3

Table III.

Ten yearly-means of Humidity at the Observatory for each month of the year and Mean Diurnal Variation.

Month.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Mean.
January,	+4	+4	+4	+4	+4	+4	+4	+2	−1	−4	−6	−6	−7	−7	−7	−5	−2	0	+1	+2	+3	+3	+3	+4	74
February,	+3	+3	+4	+3	+4	+3	+3	+2	−1	−3	−5	−6	−6	−6	−6	−4	−2	0	+1	+1	+2	+2	+3	+3	79
March,	+2	+2	+2	+3	+3	+3	+2	+1	−1	−3	−4	−5	−6	−5	−5	−3	−2	0	+1	+2	+2	+3	+3	+3	85
April,	+4	+5	+5	+4	+4	+4	+2	+1	−2	−4	−5	−7	−7	−7	−6	−4	−2	0	+1	+3	+3	+3	+4	+4	86
May,	+4	+4	+5	+4	+4	+4	+2	0	−2	−4	−5	−6	−7	−6	−6	−5	−3	0	+2	+2	+3	+3	+4	+4	84
June,	+4	+4	+4	+5	+4	+4	+3	0	−2	−4	−5	−6	−7	−6	−6	−5	−3	−1	+1	+2	+3	+3	+3	+4	83
July,	+4	+4	+5	+5	+5	+5	+3	+1	−1	−3	−5	−6	−7	−7	−7	−6	−5	−2	0	+2	+3	+3	+4	+4	83
August,	+5	+5	+6	+6	+6	+6	+4	+1	−2	−4	−6	−8	−8	−8	−7	−7	−4	−2	0	+2	+3	+3	+4	+5	83
September,	+5	+5	+5	+4	+5	+4	+3	0	−3	−6	−7	−7	−8	−7	−6	−5	−2	0	+1	+2	+4	+3	+4	+5	77
October,	+5	+5	+5	+5	+4	+5	+3	−1	−4	−6	−8	−9	−8	−8	−6	−4	−2	0	+2	+3	+5	+5	+4	+5	70
November,	+6	+5	+4	+4	+3	+3	+2	−1	−4	−7	−7	−8	−8	−8	−6	−5	−3	0	+2	+3	+4	+5	+6	+6	65
December,	+6	+6	+5	+5	+4	+4	+3	0	−4	−6	−8	−9	−9	−9	−7	−5	−2	+1	+1	+3	+3	+5	+6	+6	65
Means,	+4	+4	+4	+4	+4	+4	+3	+1	−2	−4	−6	−7	−7	−7	−6	−5	−3	0	+1	+2	+3	+3	+4	+4	78

Table IV.

Ten yearly-means of Tension of Aqueous Vapour at the Observatory for each month of the year and Mean Diurnal Variation

Month.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Mean.
January,	+.006	+.002	.000	−.004	−.007	−.010	−.008	−.005	−.004	−.007	−.004	−.002	−.001	−.001	+.001	+.002	+.003	+.004	+.006	+.008	+.007	+.008	+.007	+.006	0.387
February,	+.003	.000	−.002	−.004	−.006	−.009	−.008	−.007	−.006	−.005	−.002	−.002	+.001	−.001	.000	+.002	+.002	+.004	+.004	+.005	+.006	+.007	+.008	+.007	0.384
March,	−.002	−.006	−.008	−.010	−.011	−.011	−.009	−.005	−.004	−.004	.000	+.001	+.003	+.005	+.004	+.004	+.004	+.002	+.005	+.007	+.009	+.011	+.008	+.007	0.479
April,	−.001	−.002	−.005	−.008	−.010	−.012	−.008	−.006	−.004	−.002	+.001	+.001	+.004	+.002	+.003	+.005	+.003	+.004	+.003	+.005	+.006	+.007	+.007	+.005	0.633
May,	.000	−.003	−.002	−.006	−.008	−.006	−.002	−.004	−.004	−.003	−.001	.000	.000	−.002	.000	−.001	+.002	−.001	+.003	+.006	+.007	+.008	+.008	+.008	0.767
June,	.000	.000	−.002	−.004	−.003	−.003	+.003	+.004	+.004	+.005	+.004	+.004	+.002	+.001	−.002	−.005	−.006	−.005	−.003	−.002	+.002	+.003	+.004	+.003	0.869
July,	+.001	.000	−.002	−.004	−.006	−.001	+.008	+.008	+.005	+.001	+.003	−.001	+.003	+.003	−.002	−.004	−.009	−.004	−.004	−.001	+.001	+.001	+.001	+.003	0.895
August,	−.002	−.004	−.003	−.007	−.007	−.006	+.006	+.006	+.005	+.004	+.003	+.004	+.004	+.003	+.001	−.001	−.004	−.003	−.008	−.001	+.003	+.002	+.001	.000	0.877
September,	+.003	+.004	.000	−.007	−.008	−.014	−.008	−.011	−.015	−.018	−.015	−.006	.000	+.004	+.004	+.004	+.006	+.006	+.007	+.012	+.016	+.013	+.013	+.007	0.791
October,	+.016	+.011	+.005	−.001	−.009	−.014	−.010	−.011	−.017	−.022	−.022	−.018	−.010	−.003	+.001	+.002	+.002	+.008	+.012	+.015	+.018	+.019	+.017	+.013	0.650
November,	+.018	+.012	+.006	.000	−.009	−.016	−.019	−.020	−.022	−.025	−.018	−.017	−.011	−.005	−.001	+.001	+.003	+.007	+.013	+.016	+.021	+.024	+.025	+.020	0.471
December,	+.014	+.007	+.003	−.001	−.007	−.011	−.014	−.014	−.015	−.017	−.011	−.014	−.010	−.007	−.003	+.001	+.003	+.007	+.009	+.010	+.015	+.017	+.017	+.017	0.378
Means,	+.005	+.002	−.001	−.005	−.008	−.009	−.006	−.005	−.006	−.008	−.005	−.004	−.001	.000	+.001	+.001	+.001	+.002	+.004	+.007	+.009	+.010	+.010	+.008	0.632

Table V.

Ten-yearly Means of Total Hourly Duration of Sunshine for each Month of the Year, and Mean Monthly Duration of Sunshine.

Month.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Mean Record.	Total Possible.	Percentage of Possible.
January,	...	2.2	10.0	12.6	14.2	14.8	15.4	16.3	16.2	15.7	14.6	5.0	...	137.3	311	44.1
February,	...	2.4	6.5	6.9	7.6	8.3	8.9	8.9	8.9	8.4	7.7	3.8	...	78.2	296	26.4
March,	...	1.3	4.3	5.8	7.0	8.0	8.6	8.5	8.2	8.3	7.0	2.9	...	69.9	344	20.3
April,	0.1	3.7	7.0	9.2	10.8	11.5	12.4	12.5	12.4	12.0	10.2	6.5	0.5	108.8	353	30.8
May,	1.0	6.9	9.5	11.4	12.8	13.8	14.3	14.6	14.1	13.5	12.0	9.7	2.4	136.0	380	35.8
June,	2.1	9.7	12.9	14.7	15.4	15.8	15.1	15.5	16.0	14.5	12.6	10.1	3.5	157.8	376	42.0
July,	3.2	13.4	15.7	16.4	17.9	18.3	17.4	17.5	17.7	17.2	14.8	13.0	4.3	186.8	384	48.6
August,	2.2	14.5	18.0	18.4	18.7	18.9	17.7	18.3	18.4	17.3	16.2	12.9	3.4	194.9	370	52.7
September,	0.2	11.9	17.3	19.3	20.8	20.8	20.4	20.3	18.9	18.1	17.0	12.3	0.3	197.6	340	58.1
October,	...	10.8	20.6	22.5	24.0	24.1	23.5	24.1	23.6	23.1	21.3	14.0	...	231.6	331	70.0
November,	...	7.1	17.8	20.3	21.4	22.0	22.1	22.6	21.9	21.0	20.0	8.9	...	205.1	306	67.0
December,	...	4.5	17.3	19.4	20.5	21.0	21.7	22.0	21.8	21.1	19.5	6.1	...	194.9	307	63.5
Sums,	8.8	88.4	156.9	176.9	191.1	197.3	197.5	201.1	198.1	190.2	172.9	105.2	14.4	1898.9	4098	46.3

Table VI.

Ten-yearly Means of Total Hourly Rainfall for each Month of the Year, and Mean Monthly Rainfall.

Month.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Mean.	Mean 39 Years 1853-1891.
January,	0.057	0.060	0.029	0.073	0.050	0.066	0.108	0.102	0.096	0.119	0.072	0.056	0.051	0.045	0.075	0.067	0.084	0.082	0.068	0.045	0.060	0.109	0.062	0.107	1.67	0.98
February,	0.110	0.128	0.081	0.065	0.100	0.088	0.091	0.144	0.075	0.040	0.023	0.054	0.042	0.052	0.055	0.044	0.047	0.013	0.043	0.029	0.051	0.055	0.086	0.068	1.76	1.32
March,	0.148	0.111	0.277	0.216	0.185	0.247	0.154	0.163	0.170	0.128	0.200	0.219	0.139	0.119	0.174	0.097	0.204	0.179	0.036	0.207	0.242	0.110	0.183	0.170	4.08	3.24
April,	0.292	0.278	0.424	0.290	0.358	0.269	0.224	0.435	0.486	0.230	0.527	0.370	0.504	0.304	0.263	0.322	0.297	0.199	0.187	0.291	0.282	0.175	0.175	0.401	7.58	5.27
May,	0.714	0.828	0.663	0.756	1.044	0.844	0.638	0.747	0.772	1.074	1.020	0.954	0.841	0.737	0.729	0.499	0.468	0 354	0.200	0.116	0.246	0.296	0.176	0.286	15.00	12.54
June,	0.255	0.580	0.791	0.610	0.951	1.152	1.233	1.306	1.120	1.210	0.787	0.860	0.637	0.434	0.570	0.600	0.359	0.732	0.575	0.608	0.562	0.513	0.328	0.196	16.97	15.81
July,	0.509	0.548	0.574	0.803	0.959	0.668	0.752	1.083	1.645	1.051	0.759	0.814	0.794	0.661	0.667	0.661	0.565	0.296	0.266	0.228	0.410	0.287	0.435	0.541	15.98	15.98
August,	0.626	0.808	0.838	0.841	0.640	0.665	0.799	0.682	0.736	0.688	0.655	0.562	0.923	0.332	0.306	0.438	0.425	0.700	0.416	0.271	0.470	0.400	0.272	0.399	13.89	14.85
September,	0.391	0.414	0.386	0.480	0.405	0.507	0.474	0.416	0.693	0.342	0.388	0.266	0.157	0.317	0.262	0.509	0.333	0.256	0.237	0.252	0.251	0.324	0.306	0.214	8.58	12.65
October,	0.192	0.137	0.136	0.146	0.247	0.325	0.169	0.271	0.249	0.156	0.320	0.187	0.231	0.110	0.186	0.160	0.073	0.110	0.077	0.223	0.387	0.243	0.256	0.188	4.78	5.36
November,	0.052	0.081	0.037	0.059	0.041	0.022	0.026	0.029	0.060	0.033	0.036	0 032	0 031	0.012	0.007	0.015	0.023	0.014	0.021	0.033	0.040	0.044	0.020	0.046	0.81	1.17
December,	0.064	0.026	0.039	0.067	0.028	0.072	0.093	0.049	0.035	0.017	0.013	0.019	0.024	0.063	0.065	0.023	0.051	0.038	0.061	0.035	0.077	0.117	0.058	0.069	1.21	1.00
Means,	0.284	0.333	0.356	0.367	0.417	0.410	0.397	0.452	0.511	0.424	0.400	0.366	0.364	0.266	0.280	0.286	0.244	0.248	0.182	0.195	0.256	0.223	0.196	0.224	92.31	90.17
Intensity,	0.095	0.106	0.107	0.097	0.109	0.106	0.108	0.122	0.139	0.124	0.161	0.136	0.130	0.114	0.105	0.101	0.096	0.106	0.079	0.086	0.103	0.085	0.081	0.083	0.108	...

Table VII.

Ten-yearly Means of the Number of Hours during a portion of which it rained, for each Month of the Year.

Month.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Total.
January,	2	2	1	2	2	3	2	3	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	43
February,	3	3	3	3	3	2	2	2	2	2	1	1	2	2	3	2	1	1	2	2	2	3	2	3	52
March,	4	3	3	4	4	4	4	3	3	4	2	1	1	1	2	3	3	3	2	2	2	3	3	3	67
April,	4	4	4	5	4	4	4	4	4	3	3	3	3	3	4	3	3	3	3	3	3	3	3	4	84
May,	5	4	4	5	4	4	4	5	5	5	4	4	4	3	4	4	4	4	3	2	3	3	3	4	94
June,	4	5	6	6	7	6	7	7	6	7	5	5	5	4	5	5	5	5	4	3	4	4	3	3	121
July,	4	5	6	6	7	6	6	7	8	7	5	6	6	5	4	5	4	3	3	3	4	4	4	4	122
August,	4	4	5	5	6	5	6	6	6	5	4	5	5	4	3	4	3	3	3	3	4	4	4	4	105
September,	3	4	4	4	4	4	4	4	3	3	3	4	3	4	3	2	3	3	2	3	2	3	3	2	77
October,	2	2	2	2	3	3	2	2	2	1	1	2	2	2	1	2	1	1	2	2	2	2	2	2	45
November,	1	1	1	1	2	1	1	1	1	1	...	1	1	1	...	...	...	1	...	1	1	1	1	1	20
December,	2	1	1	2	1	2	2	2	1	1	1	1	1	...	1	1	1	...	1	1	1	1	1	1	27
Total,	38	38	40	45	47	44	44	46	43	41	30	34	34	30	31	32	30	29	27	27	30	33	31	33	857

Table VIII.

Ten-yearly Means of the Hourly Velocity of the Wind for each month of the year, and Mean Diurnal Variation.

Month.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Mean.
January,	+0.1	+0.2	−0.1	−0.3	−0.2	−0.5	−0.9	−0.8	0.0	+0.6	+1.6	+1.4	+1.6	+1.5	+1.5	+1.1	+0.2	−1.1	−1.6	−1.7	−1.3	−1.0	−0.5	0.0	14 8
February,	+0.1	−0.1	−0.4	−0.3	−0.1	+0.2	−0.2	−0.5	+0.2	+0.6	+1.7	+1.1	+1.2	+1.3	+1.1	+0.4	−0.4	−1.0	−1.5	−1.4	−0.9	−0.7	−0.6	−0.2	15.2
March,	−0.5	−0.3	−0.1	+0.2	+0.3	+0.3	+0.7	+0.8	+0.9	+1.0	+1.9	+1.0	+1.0	+0.9	+0.4	−0.2	−0.7	−1.0	−1.1	−1.1	−1.5	−1.4	−1.0	−0.8	16.9
April,	−1.4	−1.5	−1.6	−1.5	−1.5	−1.0	−0.8	−0.4	+0.4	+0.9	+2.0	+1.8	+1.9	+2.3	+1.9	+1.6	+1.2	+0.4	−0.5	−0.5	−0.7	−0.8	−1.1	−1.5	14.8
May,	−1.7	−1.6	−1.3	−1.2	−1.2	−1.1	−0.7	+0.1	+1.1	+1.5	+2.4	+2.3	+2.8	+2.7	+2.0	+1.3	+0.8	−0.1	−1.0	−1.2	−1.1	−1.1	−1.7	−1.8	13.7
June,	−1.6	−1.3	−1.2	−1.6	−1.6	−1.5	−1.0	−0.0	+0.8	+1.8	+2.8	+3.2	+3.5	+3.0	+2.7	+1.6	+0.8	−0.2	−1.2	−2.1	−1.8	−1.7	−1.6	−1.7	12.4
July,	−1.4	−1.2	−1.5	−1.3	−1.4	−1.5	−1.2	−0.4	+0.5	+1.3	+2.4	+2.5	+2.4	+2.6	+2.6	+2.1	+1.5	+0.3	−0.7	−1.1	−1.4	−1.6	−1.8	−1.8	11.1
August,	−1.6	−1.6	−1.5	−1.4	−1.6	−2.2	−1.8	−0.8	+0.6	+1.6	+2.9	+3.1	+3.5	+3.7	+3.3	+2.7	+1.9	+0.6	−1.0	−1.8	−1.9	−2.2	−2.2	−2.1	9.4
September,	−1.6	−1.5	−1.6	−1.3	−1.5	−1.6	−1.7	−0.3	+0.8	+1.5	+2.9	+2.6	+2.9	+3.1	+2.5	+2.1	+1.1	0.0	−1.1	−1.7	−1.7	−1.4	−1.3	−1.0	12.1
October,	−0.9	−1.0	−1.0	−1.0	−1.3	−1.1	−1.0	+0.3	+1.4	+2.1	+3.0	+2.4	+2.5	+2.3	+2.2	+1.1	−0.2	−1.6	−2.0	−2.0	−1.5	−0.9	−0.9	−0.9	14.7
November,	−0.8	−1.0	−1.2	−1.0	−0.8	−0.9	−1.2	−0.5	+0.8	+1.7	+2.4	+2.3	+2.0	+2.1	+2.1	+1.4	+0.1	−1.1	−1.7	−1.5	−1.2	−0.9	−0.5	−0.8	13.6
December,	−0.5	−0.7	−0.8	−0.9	−1.0	−1.2	−1.5	−1.2	0.0	+0.5	+1.7	+1.9	+2.0	+2.2	+2.0	+1.5	+0.4	−0.8	−1.2	−1.0	−0.8	−0.5	−0.3	−0.2	12.9
Means,	−1.0	−1.0	−1.0	−1.0	−1.0	−1.0	−0.9	−0.3	+0.6	+1.3	+2.3	+2.1	+2.3	+2.3	+2.0	+1.4	+0.6	−0.5	−1.2	−1.4	−1.3	−1.2	−1.1	−1.1	13.5

Table IX.

Ten-yearly Means of the Direction of the Wind for each Month of the Year, and Mean Diurnal Variation.

Month.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Mean.
January,	− 2°	− 5°	− 4°	− 5°	− 5°	− 5°	− 5°	− 4°	− 4°	0°	+ 2°	+ 9°	+10°	+11°	+ 9°	+ 7°	+ 5°	+ 2°	0°	+ 1°	− 2°	− 2°	− 4°	− 4°	E 14° N
February,	− 5	− 5	− 4	− 4	− 5	− 4	− 2	− 2	− 2	0	+ 2	+ 5	+ 6	+ 7	+ 6	+ 3	+ 3	+ 2	+ 2	+ 1	0	− 1	− 2	− 3	E 15° N
March,	− 1	0	− 1	− 1	0	− 1	− 1	− 1	− 1	0	+ 1	+ 2	+ 3	+ 3	+ 2	+ 1	+ 1	− 1	− 1	− 3	− 1	0	− 2	0	E 7° N
April,	− 4	− 2	− 4	− 4	− 4	− 4	− 3	− 3	0	0	+ 2	+ 3	+ 5	+ 5	+ 6	+ 7	+ 6	+ 3	+ 1	− 2	− 1	− 1	− 3	− 3	E 1° N
May,	− 4	− 5	− 3	− 4	− 5	− 6	− 6	− 7	− 4	− 3	+ 1	+ 5	+ 8	+ 9	+11	+ 9	+ 9	+ 4	+ 1	− 1	− 3	− 4	− 4	− 1	E 12° S
June,	− 7	0	0	+ 4	+ 8	+ 6	+ 2	+ 4	+ 3	+ 7	+ 9	+13	+13	+ 7	+ 5	+ 5	+ 1	− 4	− 9	−12	−16	−16	−15	−13	E 55° S
July,	− 4	+ 2	+ 5	+ 7	+ 6	− 1	− 3	− 2	− 1	+ 5	+ 6	+ 6	+ 7	+ 5	+ 3	+ 3	+ 5	+ 2	0	− 5	−10	−12	−12	− 8	E 47° S
August,	−13	− 7	− 3	0	+ 5	+10	+21	+10	+11	+20	+21	+16	+12	+ 9	+ 4	+ 3	+ 2	− 4	− 3	−18	−25	−31	−25	−28	E 67° S
September,	− 4	− 2	− 9	−13	−13	−12	−16	−17	−12	− 9	− 2	+ 6	+11	+14	+14	+12	+14	+11	+ 7	+ 6	+ 5	+ 5	+ 2	− 2	E 18° N
October,	− 4	− 9	−11	−15	−16	−19	−16	−14	− 9	− 1	+ 5	+ 9	+14	+15	+16	+15	+12	+11	+ 7	+ 4	+ 3	+ 1	+ 1	− 2	E 17° N
November,	− 4	− 9	−11	−16	−18	−19	−18	−15	− 7	− 2	+ 6	+13	+18	+19	+19	+14	+10	+ 7	+ 3	0	+ 1	− 1	+ 1	− 1	E 27° N
December,	− 4	− 9	−10	−10	−10	−13	−14	−13	− 8	− 2	+ 5	+12	+15	+15	+13	+12	+ 8	+ 5	+ 3	+ 1	+ 2	+ 1	+ 2	0	E 25° N
Means,	− 5	− 4	− 5	− 5	− 5	− 6	− 5	− 5	− 3	+ 1	+ 5	+ 8	+10	+10	+ 9	+ 8	+ 6	+ 3	+ 1	− 2	− 4	− 5	− 5	− 5	E 5° S

Table X.

Ten yearly means of the components of the wind together with the mean Resultant Force for each month of the year.

Month.	N	E	S	W	+N−S	+E−W	Resultant. $\sqrt{(+N-S)^2+(+E-W)^2}$
January, ...	3.48	11.59	0.49	0.63	+2.97	+10.95	11.44
February, ...	3.22	11.89	0.56	0.66	+2.67	+11.21	11.54
March, ...	2.36	14.96	0.56	0.45	+1.80	+14.49	14.64
April, ...	1.65	12.77	1.32	0.59	+0.34	+12.16	12.23
May, ...	1.48	9.78	2.84	1.38	−1.36	+ 8.40	8.73
June, ...	0.77	5.64	5.81	2.33	−5.02	+ 3.33	6.41
July, ...	0.91	5.76	4.16	2.32	−3.27	+ 3.44	5.55
August, ...	0.82	4.64	3.22	2.47	−2.39	+ 2.18	4.09
September, ...	3.21	7.95	1.50	1.56	+1.71	+ 6.39	6.80
October, ...	4.18	10.94	1.13	0.55	+3.06	+10.41	10.95
November, ...	5.19	9.51	0.58	0.25	+4.62	+ 9.26	10.54
December, ...	4.50	9.10	0.57	0.38	+3.93	+ 8.73	9.72
Means, ...	2.65	9.54	1.89	1.13	+0.76	+ 8.41	9.39

Table XI.

Four yearly means of Total Distance traversed by, as well as Total Duration and Average Velocity of Winds from eight different points of the Compass (1885-1888.)

Wind.	Total Distance Miles.	Duration Hours.	Velocity Miles per Hour.
N, ...	9687	856	11.3
NE, ...	11588	884	13.1
E, ...	70609	4106	17.2
SE, ...	5776	524	11.0
S, ...	7387	678	10.9
SW, ...	6761	518	13.1
W, ...	4138	507	8.2
NW, ...	1821	272	6.7
Calm, ...	253	421	0.6
Sums and Mean, ...	118020	8766	13.5

Table XII.

Four yearly means of the Number of Days with wind from eight different points of the Compass for each month of the year (1890–1893.)

Month.	N.	NE.	E.	SE.	S.	SW.	W.	NW.
January,	5	4	19	...	...	...	1	2
February,	4	3	18	1	...	...	1	1
March,	3	4	22	1	1	...	...	...
April,	1	2	22	2	1	...	1	1
May,	1	1	18	2	3	4	1	1
June,	...	1	10	4	6	8	1	...
July,	1	...	12	5	5	5	3	...
August,	...	1	12	4	2	7	5	...
September,	3	3	14	1	1	1	5	2
October,	4	5	19	1	...	...	1	1
November,	6	5	18	...	...	1	...	...
December,	6	6	18	...	...	...	1	...
Sums,	34	35	202	21	19	26	20	8

Table XIII.

Ten yearly Means of Number of Days on which different Meteorological Phenomena were noted and Mean Number of Thunderstorms during each month of the year.

Month.	Fog.	Electric Phenomena.	Lightning.	Thunder.	Thunderstorms.	Unusual Visibility.	Dew.	Rainbow.	Lunar Halo.	Lunar Corona.	Solar Halo.	Solar Corona.
January,	2	0	0	0	0	2	3	0	0	2	0	0
February,	4	0	0	0	0	2	2	0	0	2	0	1
March,	8	5	4	4	3	2	3	0	0	1	1	1
April,	6	10	9	7	3	2	5	0	1	2	2	0
May,	2	13	12	7	4	4	5	1	2	4	2	1
June,	0	15	14	6	2	5	4	3	4	6	4	1
July,	0	19	18	9	5	5	6	4	5	5	6	1
August,	3	19	18	10	3	5	9	4	5	5	7	1
September,	2	12	11	5	2	3	7	2	3	5	3	1
October,	1	4	4	2	0	3	4	1	1	3	1	1
November,	1	0	0	0	0	4	5	0	1	4	1	0
December,	3	0	0	0	0	3	5	0	0	3	0	0
Sums,	32	97	90	50	22	40	58	15	22	42	27	8

Table XIV.

Ten yearly means of the Number of Times that Clouds of different forms were observed in each month of the year.

Month.	c.	c-str.	c-cum.	sm-cum.	cum.	cum-str.	str.	R-cum.	cum-nim.	nim.
January, ...	1	4	7	34	81	0	15	23	35	24
February, ...	1	3	5	23	66	0	30	17	42	35
March, ...	0	5	4	24	81	0	35	24	50	41
April, ...	1	17	13	27	98	1	19	19	38	42
May, ...	3	27	19	33	132	6	11	19	39	39
June, ...	4	58	31	22	147	5	8	12	26	39
July, ...	5	68	37	21	146	9	11	9	25	35
August, ...	6	70	35	29	138	9	10	4	25	35
September, ...	2	46	29	39	123	5	9	10	18	24
October, ...	1	18	15	38	119	1	6	7	15	15
November, ...	0	25	10	48	85	1	12	10	11	10
December, ...	2	10	7	48	69	0	10	8	13	14
Sums.....	26	351	212	386	1285	37	176	162	337	353

Table XV.

Ten-yearly means of Percentage of Clouded Sky and Mean Diurnal Variation in each month of the Year.

Month.	1 a.	4 a.	7 a.	10 a.	1 p.	4 p.	7 p.	10 p.	Mean.
January, ...	+ 6	+ 7	+ 8	− 1	− 4	− 7	− 7	0	64
February, ...	+ 3	+ 3	+ 4	+ 1	− 2	− 1	− 6	− 3	78
March, ...	+ 2	+ 3	+ 4	+ 2	− 2	− 4	− 2	− 2	87
April,.....	+ 3	+ 1	+ 7	+ 2	0	− 2	− 4	− 5	79
May, ...	+ 1	+ 1	+ 7	+ 1	+ 1	− 1	− 3	− 7	77
June, ...	− 5	3	+ 4	+ 2	+ 5	+ 5	+ 1	− 8	75
July, ...	− 6	- 2	+ 3	+ 5	+ 3	+ 4	+ 2	− 9	67
August,.....	− 6	− 1	+ 3	+ 2	+ 3	+ 5	+ 2	− 9	64
September, .	− 1	+ 1	+ 5	− 1	+ 2	+ 4	− 5	− 6	56
October,.....	+ 5	+ 6	+ 2	− 2	0	− 2	− 7	− 2	43
November, .	+ 5	+ 6	+ 6	0	− 5	− 4	− 9	0	45
December,...	+ 4	+ 8	+ 5	0	− 3	− 5	− 6	− 2	45
Mean,....	+ 1	+ 2	+ 5	+ 1	0	− 1	− 4	− 4	65

Table XVI.

Monthly Extremes during ten years of the Principal Meteorological Elements.

Month.	Barometer.		Temperature.		Humidity.	Vapour Tension.		Rain.		Wind Velocity.	Radiation.
	Max.	Min.	Max.	Min.	Min.	Max.	Min.	Daily Max.	Hourly Max.	Max.	Sun Max.
January, ...	30.367	29.686	75.6	32.0	5	0.617	0.035	3.920	0.470	46	142.0
February, ...	30.390	29.568	79.0	40.3	11	0.795	0.036	1.265	0.420	53	139.7
March, ...	30.308	29.552	80.3	46.3	24	0.799	0.173	3.580	1.570	48	142.7
April, ...	30.158	29.576	88.6	55.6	20	0.900	0.174	5.210	2.420	42	150.0
May, ...	30.018	29.478	90.9	64.1	35	1.033	0.314	20.495	3.400	42	156.1
June, ...	29.880	29.284	92.6	69.2	34	1.019	0.372	12.630	2.200	48	159.8
July, ...	29.882	28.909	92.9	72.1	47	1.066	0.664	13.480	3.480	64	159.6
August, ...	29.851	29.200	92.9	71.6	46	1.060	0.595	6.555	2.140	61	163.3
September, ...	29.984	28.876	93.9	65.6	34	1.057	0.359	5.855	1.700	89	158.6
October, ...	30.192	29.230	93.8	60 8	22	0.953	0.177	6.910	1.650	81	164.0
November, ...	30.311	29.595	83.0	52.1	15	0.870	0.078	1.335	0.400	49	145.2
December, ...	30.352	29.757	81.9	44.2	9	0.741	0.044	1.670	0.500	63	143.1
Year, ...	30.390	28.876	93.9	32.0	5	1.066	0.035	20.495	3.480	89	164.0

Table XVII.

Ten yearly means of Barometric Tide, Mean Direction of the Clouds &c. for each month of the year.

Month.	Barometric Tide.	Mean Diurnal Variability of Temperature.	Days with Rain.	Hourly Intensity of Rain.	Mean Direction of clouds whence coming.			Number of Days with clouds below.		Height of 1° Decrease of Temperature.
					Lower.	Upper	Cirrus.	2000 ft.	1000 ft.	
January, ...	0.108	2.07	6	0.022	E 2° S	W 14° S	W	13	4	306
February, ...	0.108	2.47	9	0.019	E 9° S	W 8° S	W	17	8	344
March, ...	0.101	2.69	12	0.050	E 28° S	W 12° S	W	22	12	487
April, ...	0.092	2.16	15	0.081	E 50° S	W 8° S	W 3° S	23	13	451
May, ...	0.085	1.79	17	0.145	S 23° E	W 4° N	W 38° N	23	6	316
June, ...	0.072	1.22	21	0.180	S 3° W	N 22° W	N 3° E	19	3	266
July, ...	0.068	1.12	20	0.200	S 7° E	N 36° E	N 16° E	18	2	272
August, ...	0.073	1.10	17	0.187	S	E 35° N	N 34° E	13	2	294
September, ...	0.079	1.30	14	0.150	E 2° S	E 38° N	N 20° E	7	1	282
October, ...	0.091	1.24	8	0.107	E 9° N	N 33° W	N	5	1	278
November, ...	0.103	1.64	4	0.037	E 13° N	W 38° S	W 22° S	3	0	277
December, ...	0.110	2.07	5	0.031	E 6° N	W 25° S	W 5° S	6	2	285
Means, ...	0.091	1.74	148	0.101	E 33° S	W 36° N	N 46° W	14	4	322

Table XVIII.

Ten yearly means of readings of Solar Radiation Thermometers and of excess over Maximum Thermometers, Maximum and Minimum Temperatures, and Diurnal Range together with mean weight of Aqueous Vapour in Troy Grains in each cubit foot of air for each month of the year.

Month.	Solar Radiation Thermometer.	Solar Radiation Excess over Maximum.	Mean Maximum Temperature.	Mean Minimum Temperature.	Diurnal Range.	Weight of Aqueous Vapour.
January,	114.0	50.5	63.5	55.7	7.8	4.27
February,	104.5	43.1	61.4	54.1	7.3	4.25
March,	112.1	46.1	66.0	58.8	7.1	5.27
April,	123.2	48.9	74.3	66.5	7.8	6.85
May,	133.4	52.7	80.7	73.3	7.4	8.20
June,	138.2	53.1	85.1	77.4	7.7	9.22
July,	139.3	53.3	86.0	77.8	8.2	9.47
August,	141.0	55.2	85.8	77.1	8.7	9.29
September,	140.0	55.1	84.9	76.2	8.7	8.40
October,	137.0	56.1	80.9	72.7	8.2	6.94
November,	129.8	55.9	73.9	65.2	8.7	5.11
December,	121.9	54.3	67.6	58.7	8.9	4.15
Means,	127.9	52.0	75.8	67.8	8.0	6.78

Table XIX.

Ten-Year Means of Five-Day-Means of the Principal Meteorological Elements observed at Hongkong from 1884 to 1893.

Five-Day Periods.	Barometer.	Temperature.	Humidity.	Vapour Tension.	Wind Velocity.	Nebulosity.	Sunshine.	Rain.
January 1– 5	30.102	60.2	67	0.361	14.4	5.0	6.4	0.006
„ 6–10	.082	60.2	68	0.362	13.9	4.3	6.3	0.001
„ 11–15	.006	60.7	76	0.414	16.8	6.9	4.2	0.029
„ 16–20	.063	57.7	75	0.375	13.5	6.8	3.9	0.044
„ 21–25	.026	59.9	79	0.417	16.2	6.9	4.3	0.065
„ 26–30	.004	58.4	80	0.402	14.7	8.6	1.5	0.180
„ 31– 4	.029	56.0	76	0.351	14.8	7.6	3.4	0.107
February 5– 9	.021	55.4	77	0.349	13.8	7.6	2.8	0.058
„ 10–14	.067	56.6	75	0.355	15.3	6.9	4.3	0.044
„ 15–19	.032	57.4	82	0.398	16.5	7.8	2.8	0.042
„ 20–24	29.994	59.0	83	0.425	14.9	8.6	1.7	0.077
„ 25– 1	.984	59.4	81	0.423	16.0	8.3	1.6	0.058
March 2– 6	.972	61.1	85	0.469	17.0	8.6	2.4	0.048
„ 7–11	.986	61.0	82	0.447	19.2	9.1	1.7	0.057
„ 12–16	.963	60.2	85	0.453	16.2	8.7	1.8	0.164
„ 17–21	.937	62.2	84	0.478	15.3	7.9	3.1	0.111
„ 22–26	.905	63.5	85	0.506	15.2	8.6	2.8	0.207
„ 27–31	.884	64.5	87	0.532	17.3	8.9	2.0	0.205
April 1– 5	.891	65.6	83	0.529	16.5	8.1	3.2	0.176
„ 6–10	.883	67.7	85	0.590	14.5	7.4	3.7	0.147
„ 11–15	.813	70.3	89	0.669	14.4	8.4	3.1	0.209
„ 16–20	.826	69.7	88	0.647	15.3	8.4	2.6	0.240
„ 21–25	.831	71.4	85	0.662	13.3	7.4	4.6	0.358
„ 26–30	.811	72.9	86	0.703	15.0	7.6	4.6	0.385
May 1– 5	.823	72.9	85	0.697	15.8	7.6	4.2	0.274
„ 6–10	.784	75.4	84	0.749	12.2	6.8	5.2	0.190
„ 11–15	.763	75.3	82	0.728	14.8	8.2	3.9	0.348
„ 16–20	.731	77.3	84	0.794	11.9	7.4	5.4	0.519
„ 21–25	.723	77.3	85	0.804	13.7	8.6	3.1	0.611
„ 26–30	.713	78.2	84	0.814	13.7	7.9	4.2	1.027
„ 31– 4	.692	80.2	81	0.845	12.1	7.0	5.9	0.266
June 5– 9	.666	79.3	85	0.853	12.5	7.6	4.9	0.579
„ 10–14	.629	80.3	83	0.860	13.6	8.0	4.4	0.643
„ 15–19	.630	80.5	83	0.864	13.4	7.9	3.9	0.871
„ 20–24	.677	81.2	84	0.891	12.0	7.8	5.1	0.558
„ 25–29	.669	81.9	81	0.890	11.1	6.4	7.3	0.371
„ 30– 4	.670	81.4	84	0.903	10.6	7.6	4.5	0.569
July 5– 9	.674	81.3	83	0.893	12.2	7.3	5.4	0.475
„ 10–14	.633	82.2	81	0.897	11.2	6.0	7.8	0.225
„ 15–19	.563	81.3	83	0.883	12.7	6.7	6.1	0.941
„ 20–24	.570	81.2	84	0.895	11.3	7.4	5.0	0.692
„ 25–29	.607	81.1	84	0.894	8.8	6.1	6.5	0.357
„ 30– 3	.585	81.7	83	0.892	12.1	6.4	6.2	0.384
August 4– 8	.659	81.7	82	0.887	9.5	6.0	7.1	0.320
„ 9–13	.629	80.9	83	0.877	8.6	6.2	6.7	0.434
„ 14–18	.639	80.5	84	0.875	12.0	7.2	5.5	0.537
„ 19–23	.672	80.8	84	0.877	7.9	5.4	7.5	0.348
„ 24–28	.666	80.4	83	0.864	8.3	6.8	5.3	0.606
„ 29– 2	.682	80.8	83	0.876	7.4	5.8	6.5	0.294
September 3– 7	.658	81.5	79	0.848	8.6	5.3	7.7	0.272
„ 8–12	.593	79.5	77	0.779	13.1	6.9	4.9	0.563
„ 13–17	.741	80.0	76	0.778	12.8	5.8	6.7	0.257
„ 18–22	.747	80.1	76	0.788	12.4	5.0	7.0	0.281
„ 23–27	.762	79.3	74	0.746	14.0	5.4	6.5	0.184
„ 28– 2	.797	78.8	75	0.744	16.9	5.9	5.8	0.256
October..... 3– 7	.816	78.4	73	0.716	14.5	4.9	7.1	0.207
„ 8–12	.820	78.1	72	0.703	13.3	4.0	7.9	0.258
„ 13–17	.873	77.1	72	0.679	16.2	5.1	7.1	0.118
„ 18–22	.912	76.0	69	0.628	13.7	3.9	7.6	0.080
„ 23–27	.938	73.8	66	0.564	15.1	3.1	8.2	0.113
„ 28– 1	.954	72.9	67	0.554	12.3	3.4	8.1	0.015
November 2– 6	.956	72.4	69	0.556	14.4	4.0	7.7	0.038
„ 7–11	.949	71.4	68	0.532	14.8	5.3	6.2	0.061
„ 12–16	30.039	68.3	62	0.435	13.3	5.0	6.4	0.008
„ 17–21	29.974	68.9	66	0.472	14.7	4.8	6.9	0.004
„ 22–26	30.039	66.3	61	0.411	13.3	3.8	7.1	0.029
„ 27– 1	.065	65.0	63	0.401	12.1	4.8	6.3	0.016
December 2– 6	.067	64.2	65	0.401	14.7	5.1	5.9	0.031
„ 7–11	.034	63.8	64	0.394	12.5	4.7	6.0	0.032
„ 12–16	.092	61.5	59	0.337	12.6	4.5	6.4	0.006
„ 17–21	.072	62.1	67	0.383	13.1	5.0	5.6	0.071
„ 22–26	.041	62.1	69	0.392	12.0	4.0	6.9	0.051
„ 27–31	.048	61.0	64	0.355	12.3	3.4	7.0	0.040

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF JANUARY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means
Jan. 1,...	30.117	30.113	30.111	30.112	30.131	30.151	30.174	30.200	30.219	30.219	30.197	30.172	30.145	30.131	30.124	30.135	30.139	30.142	30.152	30.165	30.193	30.202	30.204	30.204	30.160
„ 2,...	.196	.188	.186	.186	.178	.195	.194	.213	.222	.200	.189	.167	.129	.107	.101	.093	.090	.083	.084	.094	.108	.107	.112	.119	.148
„ 3,...	.106	.095	.082	.080	.076	.093	.113	.127	.140	.129	.096	.063	.044	.032	.035	.048	.059	.061	.065	.072	.088	.100	.099	.100	.083
„ 4,...	.098	.094	.090	.094	.113	.124	.154	.177	.197	.199	.168	.144	.130	.117	.119	.135	.144	.149	.150	.155	.160	.163	.173	.170	.142
„ 5,...	.162	.152	.138	.140	.146	.158	.176	.195	.208	.201	.168	.131	.102	.080	.072	.080	.089	.081	.075	.080	.066	.053	.055	.047	.119
„ 6,...	.043	.020	.005	.002	29.996	.007	.027	.050	.066	.057	.026	29.984	29.947	29.918	29.918	29.930	29.939	29.941	29.964	29.966	29.972	29.966	29.963	29.947	29.986
„ 7,...	29.944	29.931	29.920	29.924	.942	29.948	29.963	29.982	.006	.004	29.972	.950	.915	.904	.896	.900	.906	.924	.938	.940	.931	.927	.918	.922	.938
„ 8,...	.914	.905	.897	.898	.906	.920	.936	.964	29.976	29.978	.954	.920	.893	.876	.866	.866	.880	.890	.902	.906	.906	.904	.904	.904	.911
„ 9,...	.896	.886	.872	.873	.874	.888	.914	.934	.942	.945	.928	.896	.862	.836	.822	.820	.830	.836	.860	.872	.888	.900	.891	.888	.881
„ 10,...	.884	.873	.865	.873	.878	.888	.892	.920	.937	.944	.913	.884	.844	.823	.816	.827	.825	.832	.851	.870	.880	.879	.877	.873	.873
„ 11,...	.873	.871	.874	.869	.873	.889	.902	.923	.932	.940	.925	.886	.853	.842	.831	.841	.855	.878	.884	.899	.919	.908	.889	.889	.885
„ 12,...	.887	.879	.866	* .859	* .859	* .869	.883	.906	.921	.934	.911	.879	.846	.820	.812	.809	.827	.853	.873	.884	.890	.886	.875	.871	.871
„ 13,...	.859	.853	.837	.836	.834	.855	.863	.885	.893	.901	.888	.854	.819	.800	.800	.816	.818	.822	.832	.845	.852	.880	.874	.872	.850
„ 14,...	.876	.890	.885	.889	.888	.912	.938	.957	.967	30.010	30.006	.977	.933	.917	.916	.917	.930	.947	.981	30.004	30.019	30.042	30.054	30.058	.955
„ 15,...	30.026	30.062	30.029	30.020	30.010	30.020	30.048	30.092	30.122	.145	.112	30.097	30.074	30.047	30.039	30.057	30.063	30.063	30.070	.085	.093	.102	.113	.134	30.072
„ 16,...	.125	.107	.113	.113	.119	.150	.143	.173	.183	.206	.182	.155	.134	.123	.129	.125	.140	.148	.146	.169	.170	.179	.192	.203	.151
„ 17,...	.217	.223	.220	.200	.201	.217	.235	.264	.282	.277	.244	.216	.189	.172	.160	.156	.155	.165	.183	.206	.215	.236	.237	.225	.212
„ 18,...	.215	.220	.220	.203	.207	.224	.234	.249	.263	.280	.261	.229	.207	.187	.178	.178	.189	.202	.213	.224	.238	.239	.233	.217	.221
„ 19,...	.210	.198	.195	.182	.175	.198	.197	.207	.221	.233	.208	.179	.142	.120	.116	.116	.121	.121	.140	.150	.155	.163	.159	.156	.169
„ 20,...	.152	.140	.128	.122	.110	.125	.135	.148	.152	.144	.122	.093	.055	.025	.011	.011	.018	.021	.026	.035	.034	.050	.042	.054	.081
„ 21,...	.072	.063	.061	.052	.055	.064	.077	.087	.102	.099	.089	.069	.035	.009	29.993	29.994	29.998	.005	.010	.018	.019	.019	.011	.015	.042
„ 22,...	.022	.020	.021	.022	.031	.035	.055	.077	.089	.098	.083	.050	.009	29.987	.969	.963	.959	29.963	29.971	29.983	29.987	29.985	29.973	29.965	.013
„ 23,...	29.965	29.964	29.957	29.950	29.955	29.975	29.984	29.997	.014	.018	.001	29.985	29.946	.923	.920	.916	.931	.935	.944	.961	.959	.960	.959	.945	29.961
„ 24,...	.929	.913	.906	.905	.909	.927	.948	.965	29.995	.000	29.983	.954	.911	.889	.885	.883	.893	.895	.903	.921	.921	.924	.912	.912	.924
„ 25,...	.910	.906	.897	.897	.902	.922	.936	.958	.978	29.996	.992	.972	.943	.924	.916	.912	.933	* .943	.956	.957	.963	.958	.957	.936	.940
„ 26,...	.931	.917	.912	.915	.914	.919	.926	.940	.953	.955	.943	.919	.886	.873	.855	.857	.865	.879	.893	.899	.911	.915	.909	.902	.908
„ 27,...	.887	.875	.867	.849	.848	.855	.878	.901	.897	.894	.878	.862	.816	.802	.784	.795	.803	.807	.831	.848	.855	.865	.860	.860	.851
„ 28,...	.849	.842	.823	.810	.807	.822	.845	.856	.868	.869	.877	.849	.827	.810	.818	.827	.841	.854	.880	.906	.913	.936	.947	.946	.860
„ 29,...	.937	.920	.906	.906	.906	.915	.928	.956	.983	.994	.988	.948	.905	.896	.885	.873	.867	.870	.888	.910	.913	.913	.932	.943	.920
„ 30,...	.921	.904	.896	.896	.888	.912	.917	.932	.940	.947	.925	.900	.872	.851	.841	.840	.837	.861	.859	.880	.897	.910	.907	.912	.894
„ 31,...	.908	.888	.900	.900	.906	.925	.933	.941	.962	.975	.968	.946	.922	.903	.898	.894	.903	.908	.928	.939	.948	.964	.967	.975	.929
Means,.....	30.004	29.997	29.990	29.986	29.988	30.003	30.018	30.038	30.053	30.058	30.039	30.011	29.979	29.959	29.952	29.955	29.963	29.971	29.982	29.995	30.002	30.008	30.006	30.005	29.998

* Interpolated.

TABLE II.

TEMPERATURE FOR THE MONTH OF JANUARY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
Jan. 1,.....	61.4	61.4	60.9	59.8	59.3	58.9	58.0	58.6	59.6	59.2	60.9	61.8	61.0	60.8	60.8	59.8	59.5	58.7	58.6	58.2	58.0	58.4	57.9	57.5	59.5	62.0	57.2
„ 2,.....	57.5	57.1	56.7	56.7	56.3	56.1	56.8	56.9	57.8	59.6	60.0	61.0	62.1	61.3	60.2	59.9	58.8	58.0	57.8	58.7	58.8	58.9	59.2	59.2	58.6	63.2	55.4
„ 3,.....	59.0	59.1	59.0	59.6	59.1	59.1	59.2	60.9	62.6	64.4	64.8	63.8	64.3	63.8	64.6	63.3	62.8	61.0	60.7	59.9	59.5	60.0	59.8	58.3	61.2	66.2	57.9
„ 4,.....	58.4	58.2	57.3	57.2	57.1	57.6	58.9	60.8	63.8	66.1	64.3	62.0	63.0	63.2	62.7	61.7	60.8	60.2	59.8	59.9	59.8	59.2	59.0	58.3	60.4	67.2	57.1
, 5,.....	57.8	57.8	57.4	57.1	56.9	56.5	56.5	56.8	56.9	56.8	56.8	57.6	57.0	57.6	57.5	57.8	57.7	57.6	58.2	58.5	59.0	58.7	59.1	59.1	57.6	59.3	56.3
„ 6,.....	59.1	59.4	59.4	59.2	59.2	59.2	59.2	59.4	60.1	60.8	61.5	62.4	62.0	60.7	59.8	60.0	59.9	59.5	59.7	60.0	60.1	60.2	60.7	60.8	60.1	62.9	58.5
„ 7,.....	61.2	61.4	61.6	61.6	61.7	61.6	61.9	61.9	62.1	64.0	64.0	64.8	65.0	65.3	65.3	64.0	63.6	63.0	63.2	62.8	62.9	62.9	62.4	62.3	62.9	66.0	60.8
„ 8,.....	62.0	61.9	62.0	61.8	61.5	61.4	61.9	63.8	65.8	67.1	68.2	69.8	70.5	71.8	69.7	66.8	65.3	64.0	63.6	62.6	61.8	61.6	60.7	60.2	64.4	72.6	60.2
„ 9,.....	60.2	59.5	59.7	60.2	60.0	59.9	59.5	59.7	61.3	65.1	67.8	69.9	70.3	68.8	69.8	68.8	68.0	66.1	63.8	62.6	62.7	61.8	61.3	60.8	63.7	71.8	59.1
„ 10,.....	60.9	61.1	60.4	60.4	60.0	60.6	60.5	62.7	65.8	67.0	69.8	72.9	69.8	70.0	68.5	66.1	65.8	64.3	63.0	62.8	62.7	62.5	61.9	61.8	64.2	73.2	59.4
„ 11,.....	61.5	61.8	61.3	60.9	60.6	60.5	60.0	60.0	60.1	60.6	60.5	60.9	61.8	60.8	60.7	60.9	60.8	61.0	60.7	61.0	61.1	61.1	61.1	61.0	60.9	63.1	59.8
„ 12,.....	61.0	61.2	61.4	61.7	61.9	61.8	61.5	61.5	61.7	61.5	61.8	62.0	62.7	62.5	62.0	62.8	61.9	62 0	61.8	61.4	61.0	61.0	61.0	61.1	61.7	63.0	61.0
„ 13,.....	61.0	60.8	60.8	60.8	60.8	60.8	60.8	61.0	61.6	62.2	61.2	60.6	60.6	60.7	60.7	60.8	60.8	60.7	60.7	60.9	60.6	60.2	59.1	59.2	60.7	62.4	59.1
„ 14,.....	55.9	53.5	53.9	52.6	51.5	50.6	49.7	49.8	51.7	50.3	50.7	48.9	51.3	52.7	52.4	50.6	49.8	47.8	46.9	46.1	44.1	43.6	42.8	40.5	49.5	59.2	40.4
„ 15,.....	40.4	40.6	40.9	40.8	41.2	40.8	40.3	40.3	40.4	38.2	38.8	38.7	37.8	37.7	37.8	37.8	37.5	37.4	36.9	35.9	36.5	36.7	36.8	36.6	38.6	41.2	36.0
„ 16,.....	36.0	35.5	35.2	34.7	34.2	33.8	33.7	33.5	34.7	34.5	34.8	35.3	35.8	37.8	35.9	35.3	35.2	35.0	35.7	35.6	35.9	35.6	35.5	34.7	35.2	37.8	33.5
„ 17,.....	33.5	33.2	33.1	33.3	33.6	33.6	33.6	33.9	34.8	35.8	38.0	39.6	37.9	38.8	38.8	39.8	39.0	37.8	36.8	37.2	37.6	37.0	35 9	35.6	36.2	39.8	32.5
„ 18,.....	35.4	34.6	34.1	33.7	33.5	33.3	32.8	34.0	36.8	38.8	40.8	43.8	42.9	43.9	43.7	43.1	42.3	41.5	40.3	40.0	39.7	39.7	40.0	39.9	38.7	45.9	32.0
„ 19,.....	39.6	39.4	38.8	38.5	38.5	38.5	38.8	43.4	43.6	48.8	48.9	49.7	49.6	50.8	52.8	52.8	51.7	49.1	48.6	48.7	48.0	48.1	47.2	47.8	45.9	52.8	37.5
„ 20,.....	49.1	49.2	48.9	48.8	48.2	49.5	49.8	49.8	51.8	55.2	56.3	57.3	57.9	57.8	58.6	58.0	55.8	53.8	53.8	53.7	51.9	52.6	52.2	52.6	53.0	59.3	47.7
„ 21,.....	51.4	51.8	52.6	52.9	52.5	52.1	52.4	54.0	57.6	57.8	57.6	56.8	57.6	57.4	57.8	57.8	57.0	55.0	54.1	54.0	54.1	54.3	54.4	54.5	54.9	59.6	51.4
„ 22,.....	54.6	54.4	53.7	53.7	53.7	53.8	53.8	54.8	56.7	56.7	56.7	58.0	59.9	59.7	59.3	57.7	55.9	54.9	54.8	54.8	54.8	54.9	54.8	55.4	55.7	60.5	53.2
„ 23,.....	55.4	55.3	55.3	54.9	54.5	54.4	54.8	55.5	57.0	58.8	59.6	59.2	58.8	58.8	58.8	58.8	57.9	57.3	57.1	57.0	56.9	56.8	56.8	56.6	56.9	59.7	54.4
„ 24,.....	57.1	57.0	56.8	57.1	57.4	57.8	58.8	58.9	60.4	60.7	61.8	63.0	61.8	62.0	62.9	61.9	61.3	59.8	59.0	58.8	58.4	57.7	57.8	57.9	59.4	63.5	56.6
„ 25,.....	57.8	57.8	57.0	56.9	57.0	56.9	57.5	59.8	62.4	65.4	64.8	61.8	59.4	58.5	57.7	57.0	56.5	56.5	56.1	56.2	56.4	56.1	55.8	56.0	58.2	67.0	55.8
„ 26,.....	55.9	56.1	56.3	56.5	56.8	57.0	56.7	56.8	57.8	58.7	58.2	58.0	57.9	58.5	59.0	58.9	58.8	59.1	59.0	58.8	59.3	59.9	60.2	60.2	58.1	60.2	55.6
„ 27,.....	60.2	60.0	59.9	60.0	60.1	60.6	60.8	61.4	63.3	63.8	63.9	65.8	64.9	64.0	62.9	63.5	63.0	62.7	62.1	62.1	62.7	63.6	62.9	63.5	62.4	67.3	59.4
„ 28,.....	61.2	60.5	59.9	60.1	61.0	58.7	57.9	58.0	57.6	56.9	57.2	57.7	56.8	56.9	56.8	57.0	55.3	53.7	52.3	51.5	53.6	52.8	53.5	53.1	56.7	63.7	51.3
29,.....	53.6	53.5	53.8	53.8	54.0	54.0	54.0	55.0	54.7	54.5	54.9	56.9	57.3	57.3	56.8	56.6	56.2	56.3	56.6	57.4	57.2	56.8	56.3	55.5	55.5	57.8	53.1
30,.....	55.2	55.1	55.1	55.0	54.9	54.9	54.7	54.9	55.6	56.0	56.3	57.4	59.0	58.0	57.7	57.2	56.8	57.3	57.4	58.0	58.2	58.0	57.7	56.3	56.5	59.0	54.7
31,.....	56.6	56.6	54.9	55.9	56.0	55.4	55.8	56.3	56.7	55.8	56.3	57.8	57.7	57.8	57.5	56.9	56.8	56.5	56.2	55.4	55.0	54.1	54.2	53.9	56.1	58.6	53.9
Means,.....	54.5	54.3	54.1	54.1	54.0	53.9	53.9	54.6	55.9	56.8	57.3	57.9	57.9	57.9	57.7	57.2	56.5	55.7	55.3	55.2	55.1	55.0	54.8	54.5	55.6	60.2	52.3

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF JANUARY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
Jan. 1,..	57.3	55.1	54.9	54.9	54.7	54.7	55.0	55.1	56.1	55.4	56.8	56.6	56.8	55.8	56.7	55.6	55.2	54.9	55.2	55.0	54.7	55.2	54.8	54.6	55.5	115.9
„ 2,...	54 4	54.0	53.9	54.0	53.7	53.5	54.0	53.9	54.0	54.8	55.7	55.8	56.4	56.3	56.3	54.8	54.0	54.0	54.9	54.6	54.5	54.8	54.5	54.2	54.6	116.0
„ 3,...	54.1	54.1	54.5	54.5	54.5	54.5	55.3	57.2	58.7	60.8	60.8	59.3	59.8	59.8	59.6	58.0	57.8	55.8	55.9	55.8	53.4	53.5	53.9	53.0	56.4	118.3
„ 4,...	52 9	53.1	53.8	53.1	53.1	52.7	52.8	53.8	56.3	55.1	56.7	57.1	57.3	56.3	54.9	55.4	55.0	55.1	55.7	56.0	55.7	55.3	54.7	54.5	54.8	115.3
„ 5,...	54.0	53.8	53.6	53.0	52.9	52.6	52.7	52.6	52.3	52.8	52.6	51.0	49.9	50.0	49.9	51.4	51.5	51.6	52.8	53.0	53.8	54.5	54.8	54.7	52.6	82.5
„ 6,...	54.2	53.8	53.8	54.3	54.4	54.6	54.8	54.7	55.5	57.0	57.2	58.5	58.7	57.8	58.0	58.4	58.5	58.5	58.4	58.8	59.0	59.0	59.1	59.9	57.0	108.5
„ 7,...	59.9	60.1	60.4	60.7	60.7	60.7	60.8	60.9	61.2	62.2	61.6	62.7	61.8	61.9	62.7	62.5	62.4	62.2	62.3	62.2	62.0	61.8	61.6	61.4	61.5	122.4
„ 8,...	61.2	61.2	61.4	61.2	60.7	60.6	60.9	61.8	62.8	63.3	63.3	63.9	63.7	64.7	63.9	62.6	62.5	61.9	61.8	60.9	60.3	60.5	60.2	59.8	61.9	126.5
„ 9,...	59.8	58.9	59.2	59.9	59.7	59.9	59.5	59.7	61.1	62.8	62.8	63.8	63.9	63.8	63.8	63.8	63.1	61.8	62.0	61.3	61.1	61.1	60.3	60.0	61.4	123.7
„ 10,...	60.1	60.2	59.6	59.6	59.4	59.6	59.9	61.5	62.9	62.8	63.8	65.5	64.3	64.9	64.0	62.8	62.3	61.2	61.5	61.4	60.9	60.9	60.2	60.1	61.6	125 6
„ 11,...	60.1	59.9	60.6	60.0	59.4	58.8	58.2	58.2	58.2	57.9	57.8	57.8	58.6	58.1	57.9	58.0	57.9	58.5	58.6	59.1	59.1	58.8	58.9	58.9	58.7	93.7
„ 12,...	59.2	59.3	59.1	59.3	59.5	59.6	59.7	60.1	60.3	60.3	60.4	60.1	60.5	60.6	60.3	60.3	60.2	60.3	60.5	60.3	60.5	60.7	60.6	60.4	60.1	89.2
„ 13,...	60.4	60.1	59.8	59.8	59.8	59.7	59.8	59.5	59.6	59.9	59.6	59.7	59.8	60.0	60.5	60.3	60.5	60.6	59.8	59.6	60.0	59.7	58.7	58.4	59.8	83.1
„ 14,...	54.3	52.3	52.4	50.7	49.8	48.3	46.8	46.9	47.5	45.9	45.8	44.8	46.8	47.8	47.6	46.6	46.0	43.8	43.1	42.9	41.0	39.8	40.4	39.2	46.3	87.2
„ 15,...	39.0	38.7	39.2	38.6	38.6	38.4	38.2	38.1	37.5	36.5	35.9	36.2	35.8	35.7	35.8	35.6	35.4	34.9	34.0	33.5	33.2	33.7	34.7	34.7	36.3	48.5
„ 16,...	34.1	33.9	33.7	32.7	32.5	32.4	31.7	31.8	32.8	31.7	32.8	32.8	33.9	35.8	32.7	31.8	32.9	32.8	33.3	33.0	33.1	31.9	32.2	31.7	32.8	60.7
„ 17,...	31.5	31.5	30.7	30.7	30.5	29.7	29.8	29.8	29.9	30.6	32.9	32.8	31.7	31.9	32.8	33.4	31.4	30.7	30.7	31.0	30.1	30.0	29.5	28.7	30.9	80.7
„ 18,...	28.4	27.7	27.7	28.7	29.7	29.7	27.8	29.6	30.7	31.9	33.8	35.8	35.3	36.9	36.0	35.8	35.3	34.0	33.2	33.3	33.0	33.0	33.0	33.1	32.2	101.9
„ 19,...	33.8	33.9	32.7	32.7	32.7	32.7	34.7	38.4	38.5	42.8	42.5	42.8	42.8	43.9	45.8	45.8	44.8	43.1	42.9	43.1	43.9	44.6	44.4	44.1	40.3	110.6
„ 20,...	44.2	43.7	44.4	43.5	44.1	44.1	44.8	45.7	45.9	48.6	48.7	48.8	50.8	51.2	53.0	51.1	51.0	48.8	48.7	49.3	49.0	49.7	49.1	49.2	47.8	114.1
„ 21,...	48.7	48.9	49.7	49.6	49.0	48.4	49.6	50.0	52.3	52.3	53.2	52.7	51.8	52.8	50.8	50.8	50.7	51.7	52.2	52.5	52.1	52.2	51.9	52.2	51.1	115.1
„ 22,...	52.3	51.8	51.4	51.3	51.4	51.3	51.4	51.8	52.7	52.2	53.4	53.4	53.7	54.2	54.6	53.6	52.9	52.3	52.9	52.8	52.9	52.8	52.8	53.0	52.6	117.2
„ 23,...	53.1	53.0	53.0	52.8	52.4	52.3	52.3	52.7	53.7	53.8	53.7	54.8	54.6	54.7	54.7	55.0	55.0	54.8	54.8	54.9	54.8	54.9	55.0	55.0	54.0	108.1
„ 24,...	55.2	55.0	55.0	55.1	55.2	55.6	56.0	55.8	56.0	55.8	56.8	57.6	56.8	56.7	56.9	56.8	56.8	55.9	56.1	56.3	56.2	55.8	55.6	55.8	56.0	116.1
„ 25,...	55.6	55.4	55 6	55.4	55.6	55.4	55.7	57.8	58.8	60.8	59.8	57.6	56.3	55.7	55.0	54.9	54.6	55.0	54.1	54.2	54.2	53.9	53.8	53.7	55.8	123.4
„ 26,...	53.6	53.4	53.5	53.6	53.5	53.5	53.7	53.7	54.5	55.4	54.7	54.9	55.0	55.4	56.3	56.5	56.4	56.7	56.8	56.7	57.0	57.7	57.9	58.0	55.4	94.7
„ 27,...	58.4	58.8	58.9	59.4	59.5	59.8	60.0	60.7	62.5	61.8	62.6	63.7	63.5	63.3	62.6	62.6	62.5	62.1	61.9	62.0	62.2	63.2	62.6	63.2	61.6	129.7
„ 28,..	60.7	59.6	59.4	59.5	61.0	58.4	57.8	57.8	57.5	56.7	56.9	57.2	56.4	56.5	56.6	56.8	55.0	53.1	51.5	50.6	52 9	51.5	51.7	52.3	56.1	80.7
„ 29,...	52.5	52.3	52.7	52.3	52.5	52.4	52.1	52.5	52.8	51.9	52.7	53.7	53.9	53.7	52.9	52.9	53.1	53.8	53.8	53.8	53.8	54.0	53.8	53.8	53.1	107.2
„ 30,...	53.8	54.0	54.0	54.1	54.3	54.4	54.0	54.0	54.5	54.7	54.8	55.9	56.8	56.0	56.1	55.9	55.9	56.1	56.8	57.3	57.6	57.8	57.5	56.2	55.5	127.2
„ 31,...	55.9	55.8	54.4	54.6	54.5	54.1	53.7	53.7	53.5	52.6	54.4	53.7	53.5	53.7	53.2	52.8	52.1	52.3	51.7	50.8	50.5	50.0	50 6	50.7	53.0	84.5
Means, ...	52.0	51.7	51.7	51.6	51.6	51.4	51.4	51.9	52.6	52.9	53.4	53.6	53.6	53.7	53.6	53.3	53.0	52.5	52.5	52.5	52.3	52.3	52.2	52.1	52.5	104.2

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF JANUARY, 1893.

Hour.	Hourly Means.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	83	0.373	Jan. 1,.....	76	0.389
2 „	82	.368	„ 2,.....	76	.375
3 „	84	.370	„ 3,.....	72	.392
4 „	83	.367	„ 4,.....	67	.357
5 „	84	.368	„ 5,.....	70	.332
6 „	82	.365	„ 6,.....	81	.426
7 „	82	.365	„ 7,.....	92	.529
8 „	81	.369	„ 8,.....	86	.522
9 „	78	.371	„ 9,.....	87	.515
10 „	75	.368	„ 10,.....	85	.515
11 „	75	.375	„ 11,.....	87	.468
Noon.	73	.373	„ 12,.....	91	.500
1 p.	73	.373	„ 13,.....	95	.503
2 „	74	.375	„ 14,.....	77	.274
3 „	74	.376	„ 15,.....	78	.185
4 „	75	.374	„ 16,.....	74	.156
5 „	77	.374	„ 17,.....	52	.110
6 „	78	.371	„ 18,.....	41	.098
7 „	81	.377	„ 19,.....	56	.178
8 „	81	.377	„ 20,.....	66	.266
9 „	81	.374	„ 21,.....	75	.326
10 „	81	.374	„ 22,.....	80	.357
11 „	82	.375	„ 23,.....	82	.380
Midt.	84	.376	„ 24,.....	80	.405
			„ 25,.....	86	.415
			„ 26,.....	83	.406
			„ 27,.....	95	.539
			„ 28,.....	96	.445
			„ 29,.....	85	.374
			„ 30,.....	94	.429
			„ 31,.....	80	.363
Means,.....	79	0.372	Means.	79	0.372

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
Jan. 1,.....	...	...	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	...	...	8.2
„ 2,.....	...	...	...	0.7	1.0	1.0	1.0	1.0	1.0	0.9	0.3	...	...	6.9
„ 3,.....	...	...	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	...	...	8.8
„ 4,.....	...	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	...	9.1
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 7,.....	...	...	...	...	...	...	...	0.3	0.5	0.5	...	...	...	1.3
„ 8,.....	...	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.5
„ 9,.....	...	...	...	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	7.9
„ 10,.....	...	...	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.3	...	9.2
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 15,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 16,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 17,.....	...	...	...	...	...	...	...	0.1	...	...	...	...	...	0.1
„ 18,.....	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	10.2
„ 19,.....	...	...	0.4	0.1	0.6	0.1	0.3	0.8	1.0	1.0	1.0	0.4	...	5.7
„ 20,.....	...	...	0.1	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	8.3
„ 21,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	10.1
„ 22,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.8
„ 23,.....	...	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.4
„ 24,.....	...	...	...	...	...	...	...	0.8	1.0	1.0	1.0	0.3	...	4.1
„ 25,.....	...	0.2	1.0	1.0	1.0	1.0	0.9	0.5	...	...	...	...	...	5.6
„ 26,.....	...	...	...	0.1	...	...	...	...	...	...	...	...	...	0.1
„ 27,.....	...	...	...	...	0.6	0.5	0.2	...	...	...	...	...	...	1.3
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 29,.....	...	...	...	...	...	0.1	0.1	...	...	...	...	...	...	0.2
„ 30,.....	...	...	...	...	...	...	...	0.3	0.1	...	...	...	...	0.4
„ 31,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums,.....	...	1.8	9.4	11.8	14.2	13.7	13.5	14.8	14.6	14.4	13.3	4.7	...	126.2

TABLE VI.

RAINFALL FOR THE MONTH OF JANUARY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
Jan. 1,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 2,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 3,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 4,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...	...	0.005	4
„ 7,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
„ 8,.....	...	...	...	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...
„ 9,.....	...	...	...	...	...	...	0.005	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	...
„ 10,.....	...	...	...	...	...	0.005	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	...
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	...	...	...	...	0.005	0.005	0.005	0.005	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.025	11
„ 13,.....	...	...	...	...	...	0.005	...	...	...	...	...	...	...	0.005	0.005	...	...	...	...	...	...	0.120	0.005	...	0.140	19
„ 14,.....	0.010	0.015	...	...	0.005	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	0.055	0.095	6
„ 15,.....	...	...	...	...	...	0.030	0.105	0.020	0.015	0.080	0.010	0.005	0.070	0.040	0.060	0.020	0.005	...	...	...	...	...	...	0.030	0.490	13
„ 16,.....	0.005	0.090	0.035	0.010	0.010	0.010	...	...	0.090	0.155	0.130	0.010	0.005	...	...	...	0.005	0.020	...	...	...	...	...	...	0.575	15
„ 17,.....	0.005	...	...	...	...	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	...
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 20,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	...	...	...	...	...	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...
„ 26,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 28,.....	...	...	...	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	0.020	...	...	...	0.015	0.055	0.095	12
„ 29,.....	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	3
„ 30,.....	...	0.005	...	0.005	0.010	0.010	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	0.005	...	...	0.045	14
„ 31,.....	...	...	0.015	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.015	6
Sums, ...	0.025	0.110	0.050	0.015	0.025	0.080	0.125	0.040	0.110	0.240	0.140	0.015	0.075	0.045	0.065	0.020	0.010	0.020	0.020	...	0.005	0.130	0.025	0.140	1.530	105

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF JANUARY, 1893.

Date.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a.		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		Vel.		Dir.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
Jan. 1,	7	24	7	24	7	30	7	34	7	35	7	30	7	33	7	32	7	31	7	27	10	24	9	25	10	24	10	24	10	23	9	19	7	19	7	21	7	22	7	20	7	17	7	17	6	16	7	15	586	24.4	8
„ 2,	8	18	8	15	7	13	6	12	6	10	6	11	7	12	7	17	7	18	7	18	7	17	8	15	10	17	7	21	8	22	7	17	8	20	8	21	8	20	7	19	6	14	6	17	6	6	6	3	373	15.5	7
„ 3,	8	2	8	2	...	1	8	2	...	1	8	4	7	4	8	11	9	9	9	5	9	10	9	18	8	17	8	18	8	15	8	8	8	14	8	12	8	10	8	9	9	8	9	6	9	5	200	8.3	8
„ 4,	9	5	9	3	8	2	...	1	...	1	...	0	...	1	8	2	8	6	8	7	9	23	8	24	9	22	8	22	7	20	7	21	7	26	7	22	7	21	6	26	7	25	6	27	7	30	7	31	368	15.3	7
„ 5,	7	33	7	35	7	32	7	32	7	28	7	30	7	28	7	26	7	25	7	27	7	33	7	29	7	28	7	29	7	20	7	23	8	25	7	22	7	25	7	23	8	30	7	31	7	30	7	31	675	28.1	7
„ 6,	7	28	6	30	6	30	6	29	7	31	7	32	7	29	7	27	7	25	7	24	7	28	8	26	8	25	7	31	7	28	7	27	7	24	7	22	6	17	7	19	7	16	7	21	7	18	7	23	610	25.4	7
„ 7,	8	19	8	22	8	25	7	19	7	12	8	20	8	23	8	20	8	23	8	18	9	23	9	20	8	21	8	20	8	17	8	13	8	10	8	13	8	10	8	10	8	10	10	11	9	10	9	10	399	16.6	8
„ 8,	9	14	9	10	9	12	9	13	9	13	9	14	9	12	9	9	9	9	9	13	9	14	10	12	10	10	10	10	9	8	9	9	1	5	1	2	1	5	1	2	...	1	...	1	...	0	...	1	199	8.3	9
„ 9,	...	0	...	1	...	1	...	1	...	1	...	1	...	0	1	3	...	1	1	4	25	10	25	12	25	11	25	8	26	7	26	4	26	2	...	0	26	4	26	7	26	6	26	4	...	1	...	0	89	3.7	26
„ 10,	...	0	...	0	...	1	...	0	...	1	26	3	...	1	...	0	25	2	25	4	25	8	25	8	27	10	27	9	27	11	29	11	29	9	29	6	29	3	29	2	29	3	29	2	...	1	24	2	97	4.0	27
„ 11,	24	3	1	12	7	27	7	29	7	32	6	29	6	30	6	29	7	32	7	31	7	34	7	32	7	29	8	25	7	27	7	25	7	28	7	23	8	32	8	25	7	21	8	23	8	25	8	25	628	26.2	7
„ 12,	8	23	8	23	8	25	7	23	8	25	8	24	7	26	8	23	7	23	8	21	8	22	8	23	8	25	7	21	8	24	7	25	7	26	6	22	7	23	8	22	8	25	8	23	7	23	7	22	562	23.4	8
„ 13,	7	26	8	25	7	28	8	25	8	27	7	26	7	28	7	29	7	28	7	26	7	26	7	29	8	25	8	27	8	20	8	20	8	24	8	21	8	26	8	28	8	28	4	8	28	3	30	8	562	23.4	7
„ 14,	31	11	31	8	31	9	32	2	32	10	32	5	32	8	32	9	1	11	1	8	32	12	2	8	30	6	32	9	32	9	32	8	32	9	1	13	32	10	32	15	32	17	32	17	1	19	32	19	252	10.5	32
„ 15,	32	21	31	15	32	14	32	10	1	11	32	16	32	10	32	7	32	7	32	9	32	9	32	16	1	17	1	16	32	12	32	10	32	5	1	8	1	18	1	15	2	11	32	5	32	7	32	5	274	11.4	32
„ 16,	1	13	32	15	32	12	32	13	32	17	32	15	2	13	32	15	32	13	32	10	32	8	2	7	3	5	31	9	31	9	31	8	32	5	32	7	32	7	2	14	2	9	1	12	1	16	32	17	269	11.2	32
„ 17,	32	17	32	18	32	19	32	18	32	17	32	19	32	15	32	14	32	11	32	10	32	12	2	10	32	14	1	14	32	8	32	13	1	14	1	14	31	8	3	8	1	15	1	6	1	10	32	19	323	13.5	32
„ 18,	32	23	32	23	32	20	32	24	32	17	32	22	1	16	32	14	32	14	32	14	32	9	32	7	32	6	32	9	1	11	1	10	2	9	2	9	1	9	1	8	1	6	1	8	1	13	1	6	307	12.8	32
„ 19,	2	2	3	3	2	3	2	4	2	5	2	5	2	5	2	4	32	6	32	6	32	4	31	7	1	4	2	3	23	5	23	4	23	5	3	7	3	6	3	2	3	3	3	3	7	5	10	5	106	4.4	1
„ 20,	10	5	3	3	3	5	2	3	2	3	30	6	...	0	30	2	28	5	23	8	22	10	24	16	23	18	21	20	23	14	24	12	24	13	24	13	24	6	23	4	...	1	23	2	23	4	24	2	175	7.3	24
„ 21,	24	3	24	4	24	4	24	12	11	11	11	8	10	10	10	10	11	12	9	17	9	22	8	22	8	20	8	22	8	22	9	22	9	19	9	17	8	16	8	14	8	16	8	15	8	17	8	16	351	14.6	9
„ 22,	7	16	6	17	7	14	7	16	7	18	7	20	7	18	6	16	8	21	8	26	9	25	9	20	9	21	9	20	9	19	9	20	9	21	9	19	8	13	9	16	9	16	8	14	8	12	7	14	432	18.0	8
„ 23,	7	15	7	16	7	19	7	20	8	19	7	23	7	24	7	28	7	26	8	28	8	29	7	28	8	29	9	27	9	27	9	23	8	21	8	16	7	11	8	12	8	13	8	14	9	11	9	10	489	20.4	8
„ 24,	9	17	8	20	9	19	9	22	9	18	9	18	9	18	9	16	9	15	9	14	9	15	8	13	8	16	8	12	8	6	8	8	8	8	8	6	8	5	8	3	8	4	8	2	8	2	8	2	279	11.6	9
„ 25,	...	0	...	0	8	2	...	1	...	1	...	0	...	0	...	0	8	2	8	6	8	31	7	33	6	34	7	30	7	29	7	31	7	29	7	31	7	30	7	28	7	31	7	27	7	29	8	31	436	18.2	7
„ 26,	7	27	7	31	7	28	7	29	7	30	8	25	7	24	7	27	7	27	7	25	7	28	7	26	7	26	7	25	8	25	7	25	8	24	8	23	8	26	8	25	8	22	8	20	8	15	9	17	609	25.0	7
„ 27,	8	16	9	12	8	18	8	18	8	16	8	14	8	16	9	14	9	18	8	17	8	18	8	16	8	20	8	21	8	22	8	18	8	17	8	16	8	16	8	12	8	13	8	8	8	10	8	4	370	15.4	8
„ 28,	8	6	8	4	8	2	...	0	8	21	8	22	8	23	8	26	8	30	8	26	8	23	9	23	8	24	9	18	9	10	1	5	27	12	27	16	27	17	27	17	...	1	29	6	32	5	10	4	341	14.2	7
„ 29,	10	4	20	4	21	2	28	4	...	0	...	1	28	2	28	3	27	6	24	5	24	6	9	15	8	16	8	17	7	21	7	27	7	30	7	26	7	32	7	29	7	32	7	34	7	37	7	34	387	16.1	7
„ 30,	7	38	7	36	7	34	7	31	7	32	7	28	7	30	8	27	7	26	8	24	7	28	8	26	8	28	8	23	8	25	8	25	8	22	8	17	9	20	9	13	9	5	9	4	8	9	28	11	562	23.4	7
„ 31,	25	9	24	16	28	12	27	13	25	12	26	8	26	3	28	3	24	9	24	15	24	12	22	12	23	16	24	18	26	16	24	9	25	11	24	5	26	4	30	4	31	5	32	8	32	6	32	2	228	9.5	25
Sums,	...	438	...	447	...	463	...	461	...	475	...	479	...	462	...	463	...	491	...	493	...	573	...	578	...	584	...	578	...	532	...	500	...	506	...	470	...	472	...	451	...	425	...	398	...	396	...	394	11529	480.4	..
Means,	...	14.1	...	14.4	...	14.9	...	14.9	...	15.3	...	15.5	...	14.9	...	14.9	..	15.8	...	15.9	...	18.5	...	18.6	...	18.8	...	18.6	...	17.2	...	16.1	...	16.3	...	15.2	...	15.2	...	14.5	...	13.7	...	12.8	...	12.8	...	12.7	371.9	15.5	..

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
Jan. 1, ...	0	...	...	0	...	...	4	cum.	ENE	2	cum.	ENE
„ 2, ...	8	cum.	E	10	cum.	E	2	cum.	ENE	1	sm-cum.	...
„ 3, ...	7	sm-cum.	SW	10	sm-cum.	SW	1	cum.	...	0	...	...
„ 4, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 5, ...	7	cum.	E	9	cum.	E	8	cum.	S	10	str-cum.	SE
„ 6, ...	10	cum.	E	10	cum.	E	9	cum.	E	10	cum-nim.	E
„ 7, ...	10	cum-nim.	SE	10	cum.	SE	10	nim.	...	10	cum-nim.	E
„ 8, ...	6	cum.	E	9	cum.	E	8	cum.	E	1	cum.	SE
„ 9, ...	0	...	...	10	cum.	...	10	fog.	...	0	...	...
„ 10, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 11, ...	0	...	...	10	cum.	...	10	cum-nim.	...	10	cum-nim.	ENE
„ 12, ...	10	cum-nim.	E	10	cum.	E	10	cum-nim.	E	10	cum-nim.	E
„ 13, ...	10	nim.	...	10	nim.	...	10	cum-nim.	...	10	cum-nim.	...
„ 14, ...	10	cum-nim.	...	10	cum-nim.	...	10	str-cum.	...	10	cum-nim.	...
„ 15, ...	10	cum-nim.	...	10	cum-nim.	...	10	nim.	...	10	nim.	ENE
„ 16, ...	10	cum-nim.	...	10	cum-nim.	...	10	nim.	...	10	nim.	N
„ 17, ...	10	nim.	...	10	cum-nim.	...	10	str-cum.	...	10	str.	W
„ 18, ...	5	c-str.	...	3	c-str.	...	0	...	...	0	...	...
„ 19, ...	0	...	...	0	...	...	3	cum.	S	8	sm-cum.	SSW
„ 20, ...	0	...	...	0	...	...	10	sm-cum.	...	0	...	...
„ 21, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 22, ...	0	...	...	0	...	...	1	cum.	E	1	c-cum. / cum.	WSW / ..
„ 23, ...	6	cum.	SE	4	cum.	...	4	sm-cum. / cum.	S / ..	1	c-str. / sm-cum.	...
„ 24, ...	0	...	...	0	...	...	10	sm-cum.	W	10	sm-cum.	...
„ 25, ...	0	...	...	0	...	...	10	fog.	...	1	sm-cum.	...
„ 26, ...	10	cum-nim.	...	10	cum-nim.	...	9	cum. / R-cum.	E	10	sm-cum. / cum-nim.	E
„ 27, ...	10	cum-nim.	...	10	cum-nim.	...	10	fog.	...	7	sm-cum. / cum. / fog.	S / SE / E
„ 28, ...	10	cum.	S	10	cum-nim.	...	10	nim. / fog.	E	10	nim.	...
„ 29, ...	10	nim.	...	10	cum-nim.	...	10	str-cum.	...	10	cum-nim.	ENE
„ 30, ...	10	nim.	E	10	nim.	...	10	nim.	E	10	fog.	E
„ 31, ...	10	nim.	...	10	nim.	...	10	cum-nim.	NW	10	str-cum.	WSW
Means,...	5.8	...	...	6.6	...	...	7.1	...	...	5.9	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
Jan. 1,...	2	cum.	E	1	cum.	E	1	cum.	E	10	cum.	E	2.5
,, 2,...	6	...	...	3	sm-cum.	SW	3	sm-cum.	SW	9	sm-cum.	WSW	4.5
,, 3,...	0	...	...	0	...	...	0	...	...	0	...	...	2.2
,, 4,...	0	...	...	0	...	...	0	...	...	1	cum.	E	0.1
,, 5,...	9	str-cum.	E	10	c-cum. / str-cum.	SE	3	R-cum.	...	10	R-cum.	ESE	8.3
,, 6,...	9	cum-nim.	ESE	10	nim.	ESE	10	cum-nim.	...	10	nim.	E	9.7
,, 7,...	7	cum. / cum.	ESE / SSE	9	cum.	E	1	cum.	...	0	...	...	7.1
,, 8,...	1	cum.	...	2	c-str. / cum.	...	0	...	...	0	...	...	3.4
,, 9,...	0	...	...	0	...	...	0	...	...	0	...	...	2.5
,, 10,...	0	...	...	1	str.	...	0	...	...	0	...	...	0.1
,, 11,...	10	cum-nim.	E	10	cum-nim.	E	5	cum.	E	10	str-cum.	E	8.1
,, 12,...	10	cum-nim.	E	10	R-cum.	E	10	nim.	E	10	nim.	E	10.0
,, 13,...	10	nim.	E	10	nim.	E	10	nim.	E	10	nim.	E	10.0
,, 14,...	10	str-cum.	...	10	str-cum.	...	10	str-cum.	...	10	R-cum.	...	10.0
,, 15,...	10	nim.	...	10	nim.	...	10	cum-nim.	...	10	cum-nim.	...	10.0
,, 16,...	10	nim.	NNE	10	str.	...	10	nim.	...	10	str-cum.	...	10.0
,, 17,...	9	R-cum.	WSW	10	R-cum.	W	10	str-cum.	W	1	cum.	...	8.8
,, 18,...	0	...	...	0	...	...	0	...	...	0	...	...	1.0
,, 19,...	2	sm-cum.	SSW	0	...	...	0	...	...	0	...	...	1.6
,, 20,...	0	...	...	0	...	...	0	...	...	0	...	...	1.2
,, 21,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
,, 22,...	2	c-str. / cum.	...	0	...	...	0	...	...	0	...	...	0.5
,, 23,...	0	...	...	0	...	...	0	...	...	0	...	...	1.9
,, 24,...	1	sm-cum.	...	0	...	...	0	...	...	0	...	...	2.6
,, 25,...	8	cum.	ESE	10	R-cum.	E	10	R-cum.	E	10	cum-nim.	E	6.1
,, 26,...	10	R-cum.	E	10	R-cum.	E	10	R-cum.	E	10	R-cum.	E	9.9
,, 27,...	9	sm-cum. / cum. / fog.	... / SSE / E	8	sm-cum. / cum.	SSE	10	fog.	E	5	cum.	SSE	8.6
,, 28,...	10	nim.	...	10	nim.	...	10	nim.	...	10	R-cum.	...	10.0
,, 29,...	10	R-cum.	E	10	R-cum.	E	9	sm-cum. / cum-nim.	W / E	10	cum-nim.	E	9.9
,, 30,...	9	cum. / fog.	SSW / E	10	sm-cum. / cum-nim.	E	9	nim.	E	10	nim.	E	9.7
,, 31,...	10	str-cum.	...	10	str-cum.	WSW	10	R-cum.	...	10	str-cum.	W	10.0
Means,...	5.4	...	...	5.6	...	...	4.9	...	...	5.4	...	...	5.8

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND, FOR THE MONTH OF JANUARY, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	4.13	10.77	0.32	0.55	+3.81	+10.22	E 20° N
2 „	4.55	10.48	0.26	0.90	4.29	9.58	E 24° N
3 „	4.65	11.48	0.23	0.52	4.42	10.96	E 22° N
4 „	4.71	11.29	0.19	0.84	4.52	10.45	E 23° N
5 „	4.16	12.06	0.39	0.39	3.77	11.67	E 18° N
6 „	4.58	12.00	0.35	0.39	4.23	11.61	E 20° N
7 „	4.16	12.58	0.29	0.13	3.87	12.45	E 17° N
8 „	4.00	12.32	0.39	0.16	3.61	12.16	E 17° N
9 „	3.90	12.87	0.58	0.65	3.32	12.22	E 15° N
10 „	3.10	12.84	0.35	1.03	2.75	11.81	E 13° N
11 „	3.13	14.97	1.23	1.45	1.90	13.52	E 8° N
Noon.	2.94	15.42	1.10	1.55	1.84	13.87	E 8° N
1 p.	2.87	15.29	1.10	1.77	1.77	13.52	E 7° N
2 „	3.16	14.94	0.84	1.77	2.32	13.17	E 10° N
3 „	2.97	13.74	0.84	1.65	2.13	12.09	E 10° N
4 „	3.45	13.06	0.61	1.19	2.84	11.87	E 13° N
5 „	3.23	13.19	0.29	1.48	2.94	11.71	E 14° N
6 „	3.61	12.29	0.23	1.10	3.38	11.19	E 17° N
7 „	3.71	12.26	0.13	1.03	3.58	11.23	E 18° N
8 „	3.84	11.74	0.23	0.87	3.61	10.87	E 18° N
9 „	3.26	11.48	0.13	0.29	3.13	11.19	E 16° N
10 „	3.68	10.39	0.23	0.32	3.45	10.07	E 19° N
11 „	3.87	10.26	0.19	0.19	3.68	10.07	E 20° N
Midt.	3.81	9.68	0.35	0.48	+3.46	+ 9.20	E 21° N
Means, ...	3.73	12.39	0.45	0.86	+3.28	+11.53	E 16° N

PHENOMENA :—

Lunar corona :—on the 2nd.

Thick fog :—on the 9th.

Fog :—on the 25th, 27th and 28th.

Slight fog :—on the 3rd, 4th, 7th, 10th and 24th.

Haze :—on the 1st, 2nd, 8th, 20th, 21st, 22nd and 24th.

Unusual visibility :—on the 14th, 15th, 29th and 31st.

Dew :—on the 4th, 7th, 8th, 9th, 10th, 19th, 20th, 21st and 25th.

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF FEBRUARY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
Feb. 1,...	29.981	29.983	29.978	29.958	29.935	29.984	29.996	30.013	30.032	30.037	30.008	30 003	29.956	29.945	29.924	29.940	29.935	29.950	29.961	29.984	29.999	29.998	30.026	30.024	29.982
„ 2,...	30.029	30.019	30.015	30.013	30.023	30.035	30.051	.075	.089	.091	.074	.059	30.028	.989	.982	.986	.998	30.007	30.031	30.034	30.037	30.042	.045	.049	30.033
„ 3,...	.053	.045	.040	.034	.042	.063	.073	.086	.097	.097	.084	.067	.015	.979	.969	.970	.955	29.968	29.972	29.975	29.985	29.992	.003	.009	.024
„ 4,...	.001	29.989	29.981	29.989	29.985	29.989	.002	.016	.025	.034	.038	.003	29.956	.945	.931	.922	.928	.931	.938	.935	.928	.941	29.945	29.939	29.970
„ 5,...	29.943	.943	.921	.907	.915	.911	29.927	29.942	29.948	29.958	29.941	29.913	.877	.855	.841	.838	.839	.848	.868	.879	.891	.902	.910	.912	.901
„ 6,...	.917	.913	.909	.913	.925	.951	.964	.983	.995	30.009	30.001	.968	.939	.916	.893	.891	.899	.902	.914	.928	.941	.957	.961	.963	.940
„ 7,...	.971	.968	.948	.947	.949	.966	.988	.987	.994	.004	29.979	.952	.917	.881	.869	.872	.881	.889	.898	.914	.921	.927	.936	.933	.937
„ 8,...	.933	.931	.924	.924	.930	.943	.974	.991	30.007	.018	30.000	.970	.930	.910	.888	.880	.874	.886	.908	.925	.950	.964	.972	.982	.942
„ 9,...	.982	.973	.969	.969	.980	30.006	30.040	30.049	.071	.091	.086	30.062	30.031	30.002	.989	.994	.990	30.009	30.016	30.036	30.052	30.062	30.075	30.080	30.026
„ 10,...	30.082	30.076	30.067	30.056	30.066	.088	.108	.134	.146	.165	.152	.126	.102	.078	30.058	30.052	30.054	.061	.072	.088	.097	.103	.124	.128	.095
„ 11,...	.126	.132	.124	.132	.142	.157	.181	.200	.222	.240	.229	.209	.169	.150	.136	.138	.146	.159	.176	.185	.195	.203	.201	.189	.173
„ 12,...	.189	.184	.184	.182	.187	.202	.213	.231	.238	.247	.230	.205	.161	.136	.110	.103	.100	.104	.115	.127	.138	.133	.140	.120	.166
„ 13,...	.110	.082	.058	.037	.044	.057	.074	.111	.127	.128	.104	.082	.031	.010	.010	.002	.010	.026	.041	.060	.072	.084	.093	.094	.064
„ 14,...	.098	.095	.091	.090	.103	.113	.126	.144	.161	.179	.151	.130	.107	.073	.062	.069	.087	.094	.096	.103	.120	.126	.142	.144	.113
„ 15,...	.138	.120	.110	.092	.090	.080	.114	.123	.120	.117	.108	.095	.062	.017	29.991	29.998	29.998	.000	.006	.026	.038	.026	.034	.033	.064
„ 16,...	.032	.030	.022	.012	.035	.044	.061	.077	.077	.099	.100	.093	.056	.034	30.016	30.015	30.000	.001	.014	.022	.034	.028	.023	.016	.039
„ 17,...	.017	29.994	.000	29.990	29.990	.010	.017	.026	.043	.053	.033	29.993	29.954	29.926	29.913	29.920	29.898	29.909	29.920	29.932	29.943	29.954	29.933	29.926	29.971
„ 18,...	29.910	.902	29.908	.902	.890	29.898	29.904	29.926	29.952	29.968	29.960	.936	.912	.892	.884	.877	.896	.908	.935	.950	.972	.992	.988	.994	.927
„ 19,...	.985	.989	.986	.986	.992	30.016	30.029	30.048	30.046	30.059	30.033	30.015	.978	.963	.944	.955	.978	.994	30.003	30.030	30.054	30.061	30.082	30.070	30.012
„ 20,...	30.062	30.046	30.038	30.044	30.048	.068	.071	.090	.106	.108	.088	.068	30.042	30.013	30.010	30.004	30.011	30.023	.045	.055	.075	.074	.066	.053	.054
„ 21,...	.041	.035	.039	.039	.027	.039	.054	.075	.099	.110	.094	.050	.007	29.993	29.983	29.982	29.979	29.995	.017	.045	.057	.055	.061	.055	.039
„ 22,...	.044	.025	.012	29.998	.006	.023	.052	.060	.071	.083	.084	.079	.046	30.029	30.006	30.002	30.010	30.032	.045	.074	.090	.101	.100	.094	.049
„ 23,...	.093	.079	.068	30.057	.062	.084	.105	.134	.151	.154	.149	.117	.068	.048	.039	.033	.036	.046	.071	.078	.088	.090	.094	.084	.085
„ 24,...	.079	.055	.051	.042	.038	.069	.079	.079	.089	.101	.076	.049	.026	29.990	29.964	29.969	29.954	29.950	29.969	29.984	.002	.012	.011	.027	.028
„ 25,...	.033	.026	.012	.003	.011	.033	.061	.093	.104	.120	.104	.074	.055	30.042	30.028	30.039	30.037	30.050	30.074	30.088	.098	.110	.099	.083	.062
„ 26,...	.088	.050	.053	.025	.046	.057	.085	.103	.124	.120	.101	.081	.042	.020	.006	.001	.000	.008	.026	.050	.054	.063	.062	.060	.055
„ 27,...	.049	.037	.028	.023	.031	.050	.075	.098	.119	.140	.135	.113	.094	.072	.074	.087	.101	.105	.127	.153	.167	.169	.175	.189	.100
„ 28, ..	.175	.175	.163	.168	.168	.193	.207	.257	.262	.266	.262	.244	.201	.181	.173	.180	.174	.175	.179	.195	.204	.206	.206	.205	.201
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means,.....	30.041	30.032	30.025	30.019	30.025	30.040	30.058	30.077	30.090	30.100	30.086	30.063	30.027	30.003	29.989	29.990	29.992	30.001	30.016	30.031	30.043	30.049	30.054	30.052	30.038

TABLE II.

TEMPERATURE FOR THE MONTH OF FEBRUARY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
Feb. 1,.....	53.1	52.3	51.3	51.2	51.1	51.2	51.8	51.8	52.8	53.7	55.7	56.6	55.9	56.8	55.8	55.5	54.7	54.7	54.2	53.8	52.9	51.9	51.8	51.6	53.4	58.0	50.5
„ 2,.....	51.4	51.1	51.2	51.7	51.0	51.0	51.0	52.4	53.9	55.0	56.0	56.2	57.6	58.8	58.8	58.8	57.4	56.8	56.3	56.0	56.0	55.6	55.3	55.4	54.8	59.1	51.0
„ 3.....	54.9	53.8	53.3	53.1	52.6	52.6	52.3	52.3	52.7	54.1	54.8	56.4	57.5	58.7	58.7	57.0	56.8	55.9	54.9	54.1	53.9	54.5	53.1	54.0	54.7	59.3	51.9
„ 4,.....	54.0	54 6	55.2	55.5	55.0	54.8	54 7	55.4	56.4	56.7	56.5	57.6	58.3	58.6	58.9	58.2	57.7	58.5	57.8	57.7	57.8	58.5	58.5	58.6	56.9	59.2	54.0
„ 5,.....	59.1	59.1	59.1	59.0	59.2	59.3	58.7	59.0	60.9	65.1	65.8	67.8	69.5	69.7	69.0	65.5	63.3	60.7	60.0	59.8	59.1	59.2	59 4	59.4	61.9	70.6	58.6
„ 6,.....	59.4	58.5	58.7	58.6	59.5	57.8	56.8	58.3	59.6	59.9	60.7	60.3	61.0	60.8	59.8	60.0	59.5	58.9	59 2	58.8	59.5	59.5	59.1	58.8	59.3	61.6	56.7
„ 7,.....	57.7	56.6	56.1	56.0	56.0	56.1	56.4	57.1	57.8	60.0	60.0	61.2	62.1	62.5	62.0	60.9	60.6	59.8	59.5	58.9	59.1	58.9	58.9	58.8	58.9	63.3	55.6
„ 8,.....	59.0	58.8	58.3	58.1	58.3	58.6	58.7	60.7	62.1	63.5	64.0	62.8	63.7	63.7	62.9	64.9	63.7	61.8	60.9	60.7	60 5	59.8	59.2	58.9	61.0	66.3	57.8
„ 9,.....	58.2	57.6	57.4	57.0	57.0	57.0	57.0	57.5	58.1	58.7	58.7	59.8	60.0	60.1	60.7	60.1	59.6	58.7	58.8	58.7	57.9	57.6	57.6	57.6	58.4	61 2	56.8
„ 10,.....	57.8	57.9	57.9	57.9	57.7	57.5	57.5	57.6	59.6	59.5	59.9	59.9	60.0	59.9	59.9	60.3	58.9	58.0	57.8	57.4	57.5	57.2	57.0	56.8	58.4	60.4	56.5
„ 11,.....	57.0	56.8	56.5	56.6	56.7	56.1	56.8	57.7	57.5	58.0	59.6	61.3	63.1	68.0	64.8	64.3	60.6	60.5	59.7	59.0	58.0	57.0	56.4	56.2	59.1	68.0	55.7
„ 12,.....	55.6	55.4	53.9	53.2	52.6	52.8	52.4	52.6	53.1	53.3	54.0	54.7	56.5	57.8	57.4	56.3	55.4	54.5	54.7	54.5	54.7	54.6	54.2	53.8	54.5	58.4	52.1
„ 13,.....	53.7	53.6	53.5	53.3	53.3	53.2	53.2	53.4	53.8	55.3	54.3	54.7	55.7	55.7	55.8	55.6	54.8	54.6	54.8	54.8	55.1	55.0	55.7	55.2	54.5	55.8	53.2
„ 14,.....	55.0	54.8	54.8	54.8	54.7	54 6	54.8	54.8	54.9	55.8	57.1	58.4	57.5	57.2	56.9	57.3	55.6	55.4	55.6	55.5	54.8	54.7	54.1	53.8	55.5	58.7	53.8
„ 15,.....	53.1	52.6	52.6	52.6	53.3	53.3	53.5	53.9	54.6	54.7	54.6	54.3	54.3	54.5	54.4	54.0	53.4	53.4	53.7	54.2	54.6	54.7	54.6	53.8	53.9	55.1	52.6
„ 16,.....	53.9	54.1	54.4	54.7	54.8	54.8	54.3	53.9	54.7	53.8	53.4	51.8	52.9	53.4	53.1	53.0	51.8	51.7	51.6	51.3	51.0	51.1	51.4	51.4	53.0	54.8	51.0
„ 17,.....	50.9	50.6	50.1	50.0	49.2	49.2	49.7	50.7	51.5	50.8	51.0	51.6	52.0	52.2	52.1	52.5	52.4	52.6	52.9	53.0	54.1	54.0	54 0	53.9	51.7	54.2	49.0
„ 18,.....	54.3	54.2	54.0	53.7	53.9	54.0	54.0	54.1	53.7	54.1	54.0	54.6	54.0	53.6	53.1	53.2	52.5	52.0	52.2	51.7	51.6	51.7	51.6	51.5	53.2	54.9	51.5
„ 19,.....	51.2	50.6	50.2	50.0	49.8	50.1	49.9	50.4	51.2	50.3	51.9	53.0	54.1	54.4	54.3	53.2	51.8	51.2	51 0	50.4	50.8	50.7	50.4	50.3	51.3	55.0	49.3
„ 20,.....	50.7	51.3	51.0	50.4	50.4	50.4	51.0	52.1	52.4	53.1	53.9	53.3	53.2	54.4	53.3	53.2	53.0	52 9	53.4	53.5	53.9	54.1	53.8	53.8	52.6	54.6	50.0
„ 21,.....	53.8	54.0	54.2	53.8	53.6	53.6	54.2	54.6	55.7	55.9	56.1	57.0	57.8	57.9	57.7	57.8	57.4	56.8	55.4	55.5	56.2	56.6	56.6	56 0	55.8	58.1	52.8
„ 22,.....	55.7	55.0	54.9	54.8	54.6	54.5	54.6	55.2	55.5	56.4	55.7	57.1	57.9	58.1	58.9	58.4	58.9	57.7	57.6	57 6	57.5	57.6	57.3	56.6	56.6	59.3	54.5
„ 23,.....	56.6	56.1	55.6	55.1	54.8	54.9	55.1	55.4	55.7	56.6	57.9	58.3	60.0	60.0	58.1	57.7	56.9	56.7	57.7	57.5	57.6	57.5	57.4	56.8	56.9	60.6	54.8
„ 24,.....	56.6	56.4	56.0	55.6	55.4	55.7	56.0	55.7	57.2	58.9	59.9	59.8	59.5	59.5	59.5	58.8	57.8	57.0	57.4	57.9	58.7	58.4	58.8	59.0	57.7	59.9	55.2
„ 25,.....	59.3	57.7	57.1	56.8	56.5	56.1	55.4	55.4	55.2	54.1	54.1	54.1	53.3	53.5	53.8	53.8	53.9	54.0	54.0	53.9	53.6	53.3	53.1	53.2	54.8	59.3	53.1
„ 26,.....	52.9	52.6	52.6	52.6	52.8	52.7	53.2	53.0	53.7	54.2	55.4	56.1	56.9	57.9	57.7	57.7	57.5	57.4	56.6	56.3	56.2	55.8	55.6	55.4	55.1	58.2	52.1
„ 27,.....	55.2	55.0	55.0	54.6	54.3	53.6	52.9	52.9	52.9	52.1	52.9	52.8	52.9	52.5	52.1	51.6	50.9	50.2	50.1	49.1	48.9	49.1	49.4	49.7	52.1	55.4	48.9
„ 28,.....	48.5	48.1	46.7	46.1	45.7	46.0	46.0	46.0	47.5	49.8	51.5	51.9	52.4	53.2	51.9	50.4	50.3	49.6	48.3	48.1	48.6	49.1	49.8	50.0	49.0	54.2	45.2
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means, ...	54.9	54.6	54.3	54.2	54.1	54.0	54.0	54.4	55.2	55.8	56.4	56.9	57.5	58.0	57.6	57.2	56.3	55.8	55.6	55.4	55.4	55.3	55.1	55.0	55.5	59.1	53.0

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF FEBRUARY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
Feb. 1, .	50.7	50.4	49.4	49.3	49.2	49.1	49.6	49.6	49.8	50.7	51.6	52.1	51.6	52.0	51.9	51.7	51.8	50.5	50.2	49.8	49.5	49.5	50.3	49.7	50.4	110.4
„ 2,...	50.0	49.3	48.6	49.2	47.6	47.1	46.8	48.0	48.8	49.2	49.8	49.7	50.0	51.6	51.7	52.1	50.7	49.9	49.8	49.7	49.7	50.7	52.2	52.2	49.8	107.3
„ 3,...	51.8	51.3	50.4	49.5	48.6	48.0	47.7	47.7	47.6	48.5	48.6	50.4	50.3	51.2	51.6	50.9	50.4	50.7	50.2	49.9	50.4	49.7	49.3	50.0	49.8	114.9
„ 4,...	50.8	50.4	51.8	52.9	52.5	52.1	52.0	52.1	52.6	52.7	52.7	53.5	54.2	54.3	54.7	54.4	54.1	55.0	54.6	54.5	54.2	55.0	55.6	55.9	53.4	124.5
„ 5,...	56.7	56.3	57.1	57.2	57.4	57.5	56.7	56.7	57.5	59.8	60.6	61.7	62.5	62.6	62.6	60.5	59.4	57.9	57.8	57.8	57.4	57.3	57.5	57.4	58.6	127.5
„ 6,...	57.2	56.8	56.8	57.0	56.6	55.6	54.8	55.7	56.3	56.7	56.6	56.8	56.9	56.8	56.4	56.5	55.8	55.5	55.6	55.0	55.5	55.5	55.7	55.3	56.1	120.4
„ 7,...	54.8	54.1	53.7	53.5	53.7	53.8	54.0	54.6	54.7	55.6	55.7	55.8	57.1	58.2	58.5	57.9	58.2	57.8	57.7	57.5	57.6	57.4	57.4	57.3	56.1	119.9
„ 8,...	57.3	56.0	55.6	55.7	55.8	55.7	56.0	56.7	57.5	58.6	58.7	57.8	58.5	58.4	58.7	59.2	58.9	58.5	57.8	58.3	58.4	57.8	57.4	57.2	57.5	121.1
„ 9,...	57.1	56.4	56.0	55.7	55.6	55.2	54.9	55.1	55.1	56.0	55.7	55.7	55.7	56.0	55.8	55.8	55.7	54.7	55.4	55.2	54.9	55.4	55.2	55.1	55.6	108.4
„ 10,...	55.3	55.4	55.5	55.3	55.2	55.2	55.5	55.5	56.4	56.3	56.7	55.8	55.2	55.7	55.7	55.6	54.8	54.5	54.7	53.9	53.8	54.1	54.6	53.8	55.2	112 9
„ 11,...	53.8	54.1	53.8	53.8	53.6	53.4	54.3	54.6	54.7	53.8	54.0	54.6	55.7	58.2	57.2	57.0	55.5	54.1	53.0	51.5	52.8	53.1	53.7	53.5	54.3	119.2
„ 12,...	51.3	51.6	50.8	50.8	50.8	50.8	50.7	50.7	50.7	50.6	50.0	49.7	50.7	51.7	51.5	50.8	50.6	49.7	50.4	50.9	50.7	51.4	50.8	50.8	50.8	119.9
„ 13,...	50.6	50.6	50.5	50.2	50.3	50.2	50.2	50.0	50.5	51.6	49.4	49.7	50.5	50.7	50.4	51.6	51.8	51.5	51.6	51.9	51.9	51.8	52.4	52.4	50.9	87.1
„ 14,...	52.1	52.5	52.6	52.5	52.5	52.5	52.4	52.4	52.4	52.8	53.3	54.4	53.2	53.1	53.7	53.4	52.6	52.0	52.5	52.4	52.2	51.7	51.2	50.8	52.5	114.1
„ 15,...	50.8	50.4	50.6	50.7	51.0	51.1	51.3	51.5	51.6	51.1	51.0	50.9	50.8	51.1	51.8	52.4	52.7	52.7	53.3	53.8	53.9	54.0	54.1	53.5	51.9	92.1
„ 16,...	53.2	53.4	53.6	53.8	54.2	54.2	53.1	52.8	52.8	51.7	52.1	51.0	51.9	51.7	52.0	50.8	50.8	50.0	50.5	50.4	50.4	50.3	50.5	50.5	51.9	69.7
„ 17,...	50.1	49.7	49.4	49.0	48.6	47.9	48.4	49.0	49.2	49.1	49.4	49.5	49.8	50.0	49.9	50.4	50.4	50.5	50.7	51.1	52.2	52.6	52.6	52.6	50.1	66.0
„ 18,...	52.8	52.7	53.0	53.3	53.2	53.4	53.6	53.9	53.2	53.6	53.5	54.2	53.7	53.2	52.6	52.6	51.6	51.4	51.7	50.8	50.7	51.3	51.0	50 9	52.6	65.6
„ 19,...	50.2	49.7	49.7	49.7	48.7	47.7	47.8	48.2	49.4	48.3	49.6	50.6	51.1	51.1	51.1	50.6	50.0	50.4	49.9	49.5	49.9	49.9	50.0	49.4	49.7	75.9
„ 20,...	49.8	50.0	49.6	49.1	48.8	48.6	48.9	50.7	50.4	50.5	50.7	50.6	50.7	51.6	50.9	50.8	51.0	50.9	50.9	51.0	51.2	51.3	51.4	51.6	50.5	69.9
„ 21,...	52.0	51.7	52.1	51.7	51.8	51.7	52.0	51.8	52.7	53.0	53.7	54.0	54.8	54.4	54.5	54.9	54.7	54.6	53.7	53.6	53.8	54.0	54.2	54.0	53.3	82.6
„ 22,...	54.0	53.8	53.8	53.8	53.8	53.8	54.3	54.5	54.7	55.1	55.1	55.7	56.4	56.0	56.6	56.1	56.2	56.0	55.9	56.0	56.0	55.2	54.8	54.3	55.1	80.0
„ 23,...	54.6	54.0	53.6	53.4	53.5	53.4	53.7	53.9	54.3	54.7	55.7	55.3	55.8	56.2	55.4	54.2	53.8	53.0	53.4	54.0	54.8	54.6	54.4	53.8	54.3	122.1
„ 24,...	53.7	52.9	52.9	53.0	53.1	53.4	53.7	53.7	54.2	55.1	55.7	55.0	54.7	54.8	54.9	54.9	54.4	54.5	54.7	54.9	55.3	55.0	55.4	56.0	54.4	91.6
„ 25,...	55.9	55.6	55.0	54.7	54.6	54.1	53.7	53.8	53.8	53.5	53.4	52.7	52.5	52.0	51.8	51.7	51.5	51.6	51.4	51.2	50.7	50.3	50.8	50.9	52.8	67.5
„ 26,...	50.1	50.1	50.0	50.0	50.3	50.3	50.5	50.5	51.1	51.7	52.3	52.7	52.7	53.6	53.5	53.7	53.2	53.6	53.6	53.5	52.8	52.8	52.9	52.8	52.0	89.1
„ 27,...	52.5	52.5	52.4	52.2	52.0	51.7	50.8	50.7	50.9	50.7	51.8	51.3	50.4	49.8	49.2	48.8	48.0	48.1	47.4	46.8	46.7	45.9	45.6	46.0	49.7	63.2
„ 28,...	45.3	44.8	44.7	44.0	43.5	43.4	43.0	43.5	43.9	45.7	46.5	46.8	47.2	47.8	46.8	45.6	45.9	45.7	44.6	44.7	44.9	44.9	45.2	45.7	45.2	91.3
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means, ...	52.7	52.4	52.2	52.2	52.0	51.8	51.8	52.1	52.4	52.7	53.0	53.1	53.4	53.7	53.6	53.4	53.0	52.7	52.6	52.5	52.6	52.6	52.7	52.6	52.7	97.6

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF FEBRUARY, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	86	0.372	Feb. 1,.....	80	0.328
2 „	86	.368	„ 2,.....	68	.293
3 „	87	.367	„ 3,.....	68	.294
4 „	87	.368	„ 4,.....	78	.363
5 „	86	.364	„ 5,.....	82	.451
6 „	86	.359	„ 6,.....	81	.409
7 „	86	.359	„ 7,.....	83	.415
8 „	85	.362	„ 8,.....	79	.428
9 „	81	.361	„ 9,.....	83	.407
10 „	81	.361	„ 10,.....	80	.394
11 „	78	.360	„ 11,.....	71	.361
Noon.	76	.357	„ 12,.....	76	.323
1 p.	75	.358	„ 13,.....	77	.327
2 „	74	.359	„ 14,.....	80	.357
3 „	75	.362	„ 15,.....	87	.362
4 „	76	.362	„ 16,.....	91	.373
5 „	80	.362	„ 17,.....	89	.342
6 „	80	.361	„ 18,.....	96	.390
7 „	81	.360	„ 19,.....	89	.337
8 „	80	.360	„ 20,.....	86	.341
9 „	82	.363	„ 21,.....	84	.375
10 „	83	.365	„ 22,.....	91	.416
11 „	84	.370	„ 23,.....	84	.389
Midt.	85	.369	„ 24,.....	79	.381
			„ 25,.....	87	.374
			„ 26,.....	80	.349
			„ 27,.....	83	.327
			„ 28,.....	72	.253
			.....	...	...
			.....	...	...
			.....	...	...
Means,.....	82	0.363	Means.	82	0.363

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
Feb. 1,.....	...	...	...	...	...	0.2	...	...	...	...	...	...	...	0.2
„ 2,.....	...	...	...	...	...	0.2	...	0.1	0.2	...	...	...	...	0.5
„ 3,.....	...	...	...	...	...	...	...	0.5	0.5	...	...	...	...	1.0
„ 4,.....	...	...	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	...	8.2
„ 5,.....	...	0.2	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.3
„ 6, ...	...	0.2	1.0	1.0	1.0	1.0	1.0	0.4	...	...	...	...	...	5.6
„ 7,.....	...	...	0.6	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	8.6
„ 8,.....	...	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.7
„ 9,.....	...	...	...	...	...	...	...	...	...	0.5	...	...	...	0.5
„ 10,.....	...	...	...	0.7	...	...	...	...	...	...	0.7	...	...	1.4
„ 11,.....	...	...	...	...	...	...	0.6	1.0	1.0	1.0	1.0	0.3	...	4.9
„ 12,.....	...	...	...	...	...	...	...	0.5	...	...	...	...	...	0.5
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14,.....	...	...	...	...	...	0.1	...	...	0.2	1.0	0.6	...	...	1.9
„ 15,.....	...	...	0.1	...	...	...	...	...	...	...	..	...	...	0.1
„ 16,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 17,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 20,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	0.7	1.0	1.0	0.3	...	...	...	...	3.0
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 26,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums,.....	...	0.7	4.1	5.2	5.0	6.2	6.6	7.5	6.2	6.5	5.7	1.7	...	55.4

TABLE VI.

RAINFALL FOR THE MONTH OF FEBRUARY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
Feb. 1,.....	0.005	0.020	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	0.025	...	0.060	5
„ 2,.....	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...
„ 3,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 4,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 7,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
„ 8,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 10,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
„ 15,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	0.005	...	...	...	0.010	9
„ 16,.....	0.005	0.005	0.005	0.005	0.015	0.020	0.010	0.005	...	...	...	0.035	...	...	...	0.010	...	...	0.015	...	0.005	0.005	...	...	0.140	15
„ 17,.....	0.005	0.005	0.010	...	0.005	...	...	...	...	0.020	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.045	9
„ 18,.....	...	...	...	...	...	...	...	...	...	0.005	...	...	0.005	...	0.005	...	...	...	0.010	0.005	0.010	0.020	0.005	0.050	0.115	15
„ 19,.....	0.010	0.005	0.005	0.015	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	0.005	0.010	...	0.005	0.010	...	0.070	16
„ 20,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...	...	...	...	...	...	...	...	...	0.005	2
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
„ 23,.....	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
„ 26,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 27,.....	...	...	...	...	...	...	...	...	0.005	...	...	...	...	...	...	...	...	...	0.005	...	...	...	...	...	0.010	6
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	0.030	0.035	0.020	0.025	0.020	0.020	0.015	0.005	0.005	0.025	...	0.035	0.005	...	0.010	0.010	...	...	0.035	0.020	0.020	0.035	0.040	0.050	0.460	89

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF FEBRUARY, 1893.

DATE.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a.		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		VEL.		DIR.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
Feb. 1,	32	2	32	2	1	7	1	7	1	5	1	2	1	3	32	3	...	1	32	2	2	5	6	7	18	4	19	4	23	8	23	5	23	3	31	7	31	8	32	5	32	6	31	6	...	1	32	7	110	4.6	31
" 2,	32	7	2	5	2	6	32	2	32	8	32	10	32	6	31	4	31	2	...	1	30	4	24	8	24	6	23	4	11	6	17	2	11	7	5	6	...	1	5	3	6	11	6	11	6	16	4	16	152	6.3	3
" 3,	5	16	5	14	4	5	2	4	1	5	1	8	1	5	1	5	1	7	32	5	1	3	6	4	7	5	10	10	11	8	25	9	25	3	7	8	8	10	9	8	9	5	9	4	9	3	...	0	154	6.4	5
" 4,	...	0	12	6	8	15	8	18	7	22	6	21	7	22	7	26	7	28	6	27	7	26	7	25	6	23	7	17	8	18	7	18	6	13	6	10	5	8	8	11	10	7	8	7	10	3	10	2	373	15.5	7
" 5,	9	5	32	2	6	4	7	5	7	5	10	16	8	14	8	17	9	12	9	5	9	5	9	5	24	8	25	9	28	8	28	7	28	8	29	6	29	5	29	5	29	2	...	0	29	2	...	1	156	6.5	5
" 6,	29	2	...	0	...	0	20	5	8	27	8	28	7	31	7	33	7	31	7	31	7	29	7	28	6	26	6	22	7	21	6	22	6	24	7	25	7	23	7	28	7	24	6	22	6	21	7	17	520	21.7	7
" 7,	8	16	7	19	7	25	7	19	8	20	9	19	10	19	9	24	8	22	9	21	9	23	8	26	8	24	8	24	8	25	8	25	8	20	8	18	9	21	8	17	8	21	9	19	10	16	10	16	499	20.8	8
" 8,	9	14	9	17	9	13	10	12	10	10	9	12	9	10	10	12	9	12	10	11	9	15	8	19	8	17	8	15	8	7	25	8	25	8	25	5	25	5	26	3	26	2	24	3	23	7	7	11	248	10.3	9
" 9,	8	19	8	11	8	15	7	19	7	18	8	17	8	17	7	15	7	14	8	18	8	20	8	21	8	23	8	21	9	17	9	16	9	17	8	16	8	15	7	11	7	8	9	13	9	9	9	9	382	15.9	8
" 10,	9	8	8	8	9	10	7	5	8	11	8	7	8	10	10	11	10	12	10	12	9	14	8	12	8	11	10	11	9	10	8	11	8	13	8	6	8	6	8	5	8	5	8	9	8	14	5	15	236	9.8	8
" 11,	6	15	6	18	6	13	6	21	7	22	7	17	6	12	7	9	7	9	1	8	32	14	32	9	19	7	22	6	24	13	22	7	10	6	5	7	5	8	7	10	9	10	7	11	7	14	7	16	292	12.2	6
" 12,	3	10	5	16	6	13	6	11	1	6	4	7	5	11	6	13	7	20	7	20	7	25	7	17	4	12	10	8	7	10	10	11	10	13	9	16	7	10	6	14	7	17	7	23	7	24	7	27	354	14.7	7
" 13,	6	26	7	25	7	24	8	27	7	23	7	22	7	21	7	18	7	17	8	21	6	28	7	25	7	28	7	21	8	22	9	17	9	17	10	19	8	15	8	16	8	16	8	16	7	17	8	20	501	20.9	7
" 14,	7	18	7	20	7	21	7	21	7	21	7	22	7	25	7	25	7	26	7	22	7	24	8	19	10	22	10	24	8	24	8	22	7	22	7	25	7	28	6	33	6	29	5	25	6	21	5	23	562	23.4	7
" 15,	6	28	6	24	7	24	7	25	7	26	7	29	7	27	7	31	6	33	7	37	7	31	7	31	7	32	7	32	7	31	7	28	7	25	8	23	8	25	8	22	8	29	8	30	7	27	8	31	681	28.4	7
" 16,	7	20	8	17	9	9	9	6	...	1	9	2	1	6	1	6	31	3	1	5	1	10	1	2	5	2	25	3	31	7	30	4	1	6	1	3	2	3	...	0	29	2	...	1	28	4	26	2	124	5.2	3
" 17,	...	1	30	2	5	5	29	7	32	6	32	5	1	4	6	3	5	7	8	11	8	9	7	16	7	14	7	15	7	16	7	16	7	21	7	25	7	24	7	23	7	26	7	27	8	34	7	30	347	14.5	7
" 18,	8	30	8	30	7	20	7	15	7	24	8	23	8	27	8	21	8	16	9	12	8	6	8	4	9	8	26	9	28	4	31	4	1	4	1	2	26	2	...	1	30	3	28	2	29	2	26	5	274	11.4	7
" 19,	2	6	1	5	32	6	1	6	32	8	32	8	30	8	31	5	1	6	32	5	25	3	25	4	3	3	25	7	21	4	32	6	31	3	27	2	...	1	...	1	...	0	...	1	25	3	1	4	105	4.4	31
" 20,	6	2	6	2	1	3	1	5	2	4	30	3	2	3	6	3	30	3	32	4	7	11	5	11	5	9	...	1	1	5	1	4	31	2	...	1	9	6	9	12	8	13	7	14	7	19	7	20	160	6.7	6
" 21,	6	22	7	23	7	15	6	14	7	20	7	17	8	18	7	17	8	14	7	14	8	17	8	15	8	18	8	19	9	15	9	11	9	13	9	13	9	16	8	15	8	15	9	16	8	16	9	19	392	16.3	8
" 22,	8	16	8	19	8	16	8	18	7	14	9	16	9	9	10	7	7	7	...	1	6	3	32	5	25	4	23	6	22	5	21	3	21	2	21	4	21	3	...	1	21	3	9	11	9	16	7	17	206	8.6	8
" 23,	8	17	7	14	7	22	8	21	8	17	9	13	9	14	8	13	9	16	9	13	10	14	9	16	8	22	8	23	7	21	7	22	7	23	7	18	6	20	6	20	7	18	7	17	7	20	6	24	438	18.3	8
" 24,	7	23	7	28	7	27	7	26	8	23	7	21	10	17	9	16	8	15	8	17	8	21	8	26	8	23	8	24	8	20	7	17	9	23	8	22	10	21	10	16	10	17	9	22	8	22	8	23	510	21.2	8
" 25,	7	22	8	27	7	27	7	29	6	31	7	30	7	26	7	23	7	24	7	21	7	27	6	26	7	25	7	25	7	25	7	22	6	21	5	21	7	24	7	32	6	30	6	29	6	37	6	35	639	26.6	7
" 26,	7	32	7	31	5	25	7	27	6	23	7	21	7	16	7	17	5	12	7	13	7	14	8	13	9	11	9	6	9	3	9	2	9	2	...	0	1	5	2	2	2	2	1	2	...	1	31	2	286	11.9	7
" 27,	...	1	...	0	25	2	28	3	31	2	31	5	32	5	32	2	32	5	...	1	2	2	32	7	32	6	32	10	31	8	32	6	32	10	32	6	32	5	32	11	1	12	1	11	2	6	29	7	133	5.5	32
" 28,	2	8	32	10	1	10	1	18	1	18	1	20	1	17	1	16	1	12	2	10	32	12	32	11	32	11	32	11	31	9	32	10	32	8	2	12	1	6	32	6	2	6	6	8	4	13	6	14	276	11.5	1
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums,	...	386	...	401	...	393	...	396	...	420	...	421	...	403	...	395	...	386	...	368	...	415	...	412	...	404	...	387	...	370	...	335	...	337	...	326	...	324	...	331	...	339	...	360	...	388	...	413	9110	379.6	...
Means,	...	13.8	...	14.3	...	14.0	...	14.1	...	15.0	...	15.0	...	14.4	...	14.1	...	13.8	...	13.1	...	14.8	...	14.7	...	14.4	...	13.8	...	13.2	...	12.0	...	12.0	...	11.6	...	11.6	...	11.8	...	12.1	...	12.9	...	13.9	...	14.7	325.4	13.6	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
Feb. 1, ...	10	nim.	...	10	cum-nim.	...	10	cum-nim.	ENE	10	cum-nim. / str-cum.	SE / NE
„ 2, ...	10	cum-nim.	...	10	str-cum.	W	10	str-cum.	W	10	cum-nim.	WSW
„ 3, ...	10	cum-nim.	...	10	str-cum.	...	10	cum-nim.	...	10	cum-nim.	WSW
„ 4, ...	10	sm-cum.	W	10	sm-cum.	W	6	sm-cum. / cum.	SE / E	2	cum.	...
„ 5, ...	10	cum.	...	10	cum.	...	3	sm-cum.	WNW	1	sm-cum.	...
„ 6, ...	0	...	...	0	...	...	2	cum.	E	5	cum.	E
„ 7, ...	10	cum-nim.	ESE	10	cum-nim.	ESE	10	R-cum.	ESE	3	sm-cum.	S
„ 8, ...	10	cum.	E	6	cum.	E	4	sm-cum.	...	0	...	...
„ 9, ...	10	cum-nim.	...	10	cum-nim.	...	10	cum-nim.	ENE	10	cum-nim.	E
„ 10, ...	10	cum-nim.	E	10	cum-nim.	...	10	cum-nim.	NE	10	cum-nim.	ENE
„ 11, ...	0	...	...	10	cum.	E	9	sm-cum. / cum.	ENE	10	cum-nim.	NNE
„ 12, ...	10	str-cum.	E	10	cum-nim.	...	10	cum-nim.	ENE	10	nim.	ENE
„ 13, ...	10	str-cum.	E	10	cum.	E	10	str. / cum.	E	10	sm-cum. / cum-nim.	SW / ENE
„ 14, ...	10	cum.	...	10	str-cum.	...	10	cum-nim.	E	10	sm-cum. / cum-nim.	ENE
„ 15, ...	10	nim.	...	10	cum-nim.	...	9	sm-cum. / cum.	ENE	10	sm-cum. / cum-nim.	E
„ 16, ...	10	nim.	...	10	nim.	...	10	cum-nim.	...	10	nim.	NE
„ 17, ...	10	nim.	...	10	nim.	...	10	cum-nim.	ENE	10	nim.	ENE
„ 18, ...	10	cum-nim.	...	10	nim.	...	10	cum-nim.	...	10	nim.	...
„ 19, ...	10	nim.	...	10	nim.	...	10	cum-nim.	...	10	cum-nim.	NNW
„ 20, ...	10	cum-nim.	...	10	cum-nim.	...	10	str-cum.	ENE	10	cum-nim.	ENE
„ 21, ...	10	cum-nim.	E	10	str-cum.	E	10	sm-cum. / cum.	E	10	cum-nim.	E
„ 22, ...	10	str-cum.	...	10	cum-nim.	...	10	fog.	...	10	str.	...
„ 23, ...	10	str-cum.	...	10	cum.	...	10	str-cum.	ENE	10	str.	ENE
„ 24, ...	1	cum.	E	2	cum.	E	10	cum-nim.	...	10	str-cum.	SSE
„ 25, ...	10	sm-cum.	SW	10	cum.	...	10	str-cum.	ENE	10	nim.	E
„ 26, ...	10	str-cum.	...	10	cum.	...	10	str-cum.	E	10	cum-nim.	ENE
„ 27, ...	10	str.	...	10	str.	...	10	cum-nim.	N	10	nim.	WSW
„ 28, ...	10	str-cum.	...	10	cum.	...	10	str-cum.	...	10	cum-nim.	ENE
.....	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	9.0	...	...	9.2	...	...	9.0	...	...	8.6	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
Feb. 1,...	10	R-cum.	ENE	10	R-cum.	ENE	10	str.	...	10	cum-nim.	ENE	10.0
„ 2,...	10	str-cum.	WSW	10	str-cum.	WSW	10	cum-nim.	...	10	cum-nim.	...	10.0
„ 3,...	9	sm-cum.	WNW	10	sm-cum.	W	0	...	...	4	sm-cum. / str.	W / ..	7.9
„ 4,...	1	cum.	...	9	R-cum.	E	7	cum.	E	9	cum.	E	6.7
„ 5,...	1	sm-cum.	...	0	...	...	0	...	...	0	...	...	3.1
„ 6,...	7	cum.	E	10	R-cum.	E	5	cum.	E	10	cum-nim.	E	4.9
„ 7,...	0	...	...	0	...	...	0	...	...	0	...	...	4.1
„ 8,...	0	...	...	0	...	...	0	...	...	0	...	...	2.5
„ 9,...	9	cum.	E	7	sm-cum. / cum.	W / ..	10	str.	...	10	cum-nim.	...	9.5
„ 10,...	10	R-cum.	NE	2	sm-cum.	N	0	...	...	0	...	...	6.5
„ 11,...	0	...	...	1	sm-cum.	...	0	...	...	0	...	...	3.8
„ 12,...	7	cum.	E	9	sm-cum. / cum.	E	3	sm-cum.	...	9	cum-nim.	E	8.5
„ 13,...	9	sm-cum.	SW	10	sm-cum.	WNW	10	str.	...	9	sm-cum.	WSW	9.7
„ 14,...	9	sm-cum. / cum.	WSW / ENE	2	cum.	ENE	10	cum-nim.	ENE	10	cum-nim.	...	8.9
„ 15,...	10	cum-nim.	E	10	nim.	E	10	nim.	...	9	cum-nim.	E	9.8
„ 16,...	10	nim.	N	10	nim.	...	10	nim.	...	10	nim.	...	10.0
„ 17,...	10	str-cum.	ENE	10	str-cum.	ENE	10	str-cum.	...	10	cum-nim.	...	10.0
„ 18,...	10	nim.	...	10	nim.	...	10	nim.	...	10	nim.	...	10.0
„ 19,...	10	str-cum.	N	10	nim.	NNE	10	nim.	...	10	nim.	...	10.0
„ 20,...	10	R-cum.	ENE	10	str-cum.	ENE	10	str-cum.	ENE	10	str-cum.	...	10.0
„ 21,...	9	R-cum.	E	10	str-cum.	E	10	R-cum.	E	10	str-cum.	...	9.9
„ 22,...	10	nim.	...	10	str-cum.	...	10	str-cum.	...	10	str-cum.	...	10.0
„ 23,...	3	c-str. / cum.	...	10	R-cum.	E	7	cum.	E	4	c-str. / cum.	W / E	8.0
„ 24,...	10	str-cum.	S	10	str-cum.	SSE	9	sm-cum.	WSW	9	sm-cum.	WSW	7.6
„ 25,...	10	cum-nim.	E	10	cum-nim.	E	10	cum-nim.	ENE	10	cum.	ENE	10.0
„ 26,...	10	str-cum.	...	10	str.	...	10	str-cum.	...	10	str.	...	10.0
„ 27,...	10	cum-nim.	NNW	10	str-cum.	N	10	R-cum.	NNE	10	R-cum.	...	10.0
„ 28,...	10	str-cum.	ENE	10	str-cum.	ENE	10	str-cum.	...	10	str-cum.	...	10.0
.....	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	7.6	...	...	7.9	...	...	7.2	...	...	7.6	...	...	8.3

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND, FOR THE MONTH OF FEBRUARY, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	3.54	12.46	0.21	0.04	+3.33	+12.42	E 15° N
2 „	3.32	13.04	0.25	0.04	3.07	13.00	E 13° N
3 „	3.82	12.57	0.21	0.07	3.61	12.50	E 16° N
4 „	3.75	12.11	0.36	0.36	3.39	11.75	E 16° N
5 „	4.36	12.86	0.14	0.00	4.22	12.86	E 18° N
6 „	3.86	12.82	0.61	0.07	3.25	12.75	E 14° N
7 „	3.54	12.39	0.75	0.11	2.79	12.28	E 13° N
8 „	3.18	12.57	0.71	0.07	2.47	12.50	E 11° N
9 „	3.46	12.21	0.43	0.07	3.03	12.14	E 14° N
10 „	2.79	11.68	0.64	0.00	2.15	11.68	E 10° N
11 „	3.57	12.89	0.61	0.18	2.96	12.71	E 13° N
Noon.	3.00	12.75	0.14	0.43	2.86	12.32	E 13° N
1 p.	2.64	12.25	0.79	0.86	1.85	11.39	E 9° N
2 „	2.04	11.04	1.00	1.61	1.04	9.43	E 6° N
3 „	2.21	10.57	0.79	1.54	1.42	9.03	E 9° N
4 „	2.64	9.18	0.71	1.36	1.93	7.82	E 14° N
5 „	2.89	9.79	0.93	0.82	1.96	8.97	E 12° N
6 „	2.86	9.79	0.54	0.50	2.32	9.29	E 14° N
7 „	2.54	9.82	0.64	0.54	1.90	9.28	E 12° N
8 „	2.79	10.29	0.36	0.21	2.43	10.08	E 14° N
9 „	2.82	10.68	0.50	0.29	2.32	10.39	E 12° N
10 „	2.75	11.61	0.61	0.18	2.14	11.43	E 11° N
11 „	2.93	12.50	0.50	0.54	2.43	11.96	E 11° N
Midt.	3.82	13.04	0.46	0.39	+3.36	+12.65	E 15° N
Means, ...	3.13	11.70	0.54	0.43	+2.59	+11.28	E 13° N

PHENOMENA :—

Lunar corona :—on the 23rd.

Slight fog :—on the 22nd and 23rd.

Haze :—on the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th and 10th.

Unusual visibility :—on the 17th and 23rd.

Dew :—on the 5th, 6th, 7th and 8th.

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF MARCH, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
March 1,...	30.208	30.195	30.184	30.187	30.178	30.194	30.197	30.204	30.228	30.199	30.198	30 182	30.155	30.126	30.100	30.098	30.098	30.093	30.102	30.118	30.117	30.132	30.131	30.130	30.156
" 2,...	.115	.094	.074	.074	.079	.086	.111	.123	.133	.117	.114	.073	.060	.027	.018	.012	.014	.026	.032	.052	.066	.068	.070	.071	.071
" 3,...	.068	.054	.050	.012	.023	.041	.061	.081	.096	.077	.068	.047	.004	29.977	29.974	29.966	29.968	29.978	.005	.026	.035	.038	.043	.037	.030
" 4,...	.027	.015	.012	.006	.010	.022	.036	.049	.066	.085	.070	.051	.010	.981	.977	30.010	30.017	30 041	.056	.079	.098	.107	.105	.113	.043
" 5,...	.101	.092	.092	.097	.108	.133	.144	.161	.183	.192	.180	.168	.152	30.145	30.133	.115	.121	.129	.140	.168	.186	.181	.182	.186	.145
" 6,...	.190	.183	.171	.168	.178	.187	.211	.222	.236	.246	.231	.208	.184	.153	.132	.140	.135	.138	.146	.154	.161	.152	.158	.154	.177
" 7,...	.152	.116	.106	.101	.112	.142	.154	.176	.179	.187	.162	.135	.095	.080	.061	.058	.048	.057	.069	.078	.097	.092	.110	.102	.111
" 8,...	.080	.075	.061	.062	.081	.100	.113	.127	.140	.138	.137	.113	.077	.049	.024	.026	.026	.029	.036	.057	.070	.070	.079	.079	.077
" 9,...	.067	.055	.044	.042	.047	.069	.103	.111	.123	.130	.112	.107	.090	.065	.053	.041	.049	.057	.073	.087	.098	.109	.118	.111	.082
" 10,...	.106	.094	.083	.075	.087	.118	.136	.159	.184	.197	.186	.164	.131	.103	.091	.087	.078	.092	.112	.139	.143	.142	.140	.114	.123
" 11,...	.108	.092	.082	.069	.061	.079	.096	.128	.151	.172	.166	.136	.108	.084	.072	.064	.067	.077	.092	.101	.117	.128	.116	.115	.103
" 12,...	.106	.098	.088	.090	.091	.101	.113	.128	.141	.139	.131	.102	.065	.026	.005	29.994	29.987	29.991	29.992	.002	.008	29.998	.011	.022	.060
" 13,...	.025	.014	.003	.005	.005	.016	.036	.057	.077	.080	.065	.035	29.990	29.961	29.931	.920	.906	.915	.922	29.943	29.961	.946	29.945	29.930	29.987
" 14,...	29.931	29.924	29.919	29.907	29.915	29.927	29.951	29.976	29.985	29.988	29.965	29.941	.912	.880	.863	.857	.861	.857	.863	.869	.893	.901	.891	.881	.911
" 15,...	.872	.869	.862	.854	.859	.889	.909	.924	.933	.941	.936	.905	.882	.871	.864	.868	.889	.901	.915	.928	.945	.945	.947	.951	.902
" 16,...	.946	.933	.923	.911	.920	.938	.960	.980	.993	.999	.990	.973	.947	.931	.906	.899	.898	.890	.906	.913	.935	.943	.935	.923	.937
" 17,...	.893	.886	.882	.851	.849	.868	.887	.891	.884	.897	.883	.853	.829	.809	.790	.783	.774	.787	.816	.830	.847	.843	.815	.797	.844
" 18,...	.764	.741	.718	.703	.688	.694	.702	.716	.720	.760	.746	.732	.712	.694	.690	.676	.689	.714	.729	.753	.769	.782	.782	.768	.727
" 19,...	.760	.743	.732	.728	.759	.752	.787	.812	.820	.826	.820	.805	.775	.749	.741	.729	.744	.762	.795	.812	.831	.831	.845	.853	.783
" 20,...	.839	.836	.823	.844	.870	.886	.922	.924	.929	.933	.933	.923	.888	.849	.828	.847	.831	.829	.840	.859	.884	.893	.903	.891	.875
" 21,...	.893	.879	.882	.877	.876	.914	.917	.950	.953	.948	.947	.923	.901	.871	.843	.839	.842	.847	.853	.853	.871	.873	.865	.849	.886
" 22,...	.843	.819	.777	.785	.779	.787	.792	.807	.871	.855	.857	.843	.821	.793	.780	.774	.787	.787	.793	.810	.834	.845	.849	.833	.813
" 23,...	.838	.815	.798	.783	.795	.814	.833	.852	.877	.866	.853	.830	.814	.795	.781	.779	.773	.782	.805	.814	.823	.824	.807	.814	.815
" 24....	.807	.786	.775	.763	.769	.781	.796	.825	.831	.841	.843	.826	.802	.775	.750	.770	.779	.783	.788	.809	.829	.826	.814	.808	.799
" 25,..	.800	.790	.768	.758	.744	.747	.769	.799	.808	.829	.832	.800	.759	.741	.729	.727	.737	.747	.773	.796	.823	.840	.832	.826	.782
" 26,...	.837	.828	.827	.818	.815	.843	.885	.833	.904	.921	.915	.898	.878	.860	.837	.846	.855	.846	.873	.882	.899	.912	.904	.910	.868
" 27,...	.894	.887	.871	.874	.885	.907	.925	.939	.946	.929	.915	.899	.887	.861	.850	.834	.831	.861	.871	.886	.910	.915	.910	.906	.891
" 28,..	.881	.858	.845	.841	.851	.850	.850	.878	.885	.891	.883	.855	.824	.811	.796	.788	.791	.800	.809	.824	.840	.844	.828	.817	.839
" 29,...	.804	.781	.778	.786	.796	.813	.834	.861	.874	.874	.860	.841	.814	.785	.761	.761	.764	.758	.765	.770	.785	.791	.799	.800	.802
" 30,...	.792	.786	.770	.770	.783	.794	.824	.864	.883	.885	.897	.893	.862	.845	.831	.833	.834	.852	.879	.880	.905	.924	.923	.922	.851
" 31,...	.901	.829	.831	.836	.854	.843	.875	.906	.923	.925	.927	.912	.884	.862	.847	.845	.850	.860	.874	.861	.882	.893	.881	.901	.875
Means,.....	29.956	29.941	29.930	29.925	29.931	29.946	29.965	29.983	29.999	30.002	29.994	29.973	29.946	29.921	29.905	29.903	29.905	29.912	29.927	29.940	29.957	29.961	29.959	29.955	29.947

TABLE II.

TEMPERATURE FOR THE MONTH OF MARCH, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
Mar. 1,.....	51.0	50.6	50.8	50.6	50.5	50.4	51.1	51.7	51.7	52.0	51.8	51.9	51.8	51.8	51.4	51.8	51.8	51.8	51.8	51.9	52.5	52.6	52.8	52.9	51.6	52.9	50.0
„ 2,.....	53.5	53.6	53.4	53.3	52.7	52.7	53.1	53.4	54.4	55.1	55.4	55.4	55.5	55.8	56.8	55.9	54.8	54.8	54.9	54.9	55.2	55.5	55.3	55.4	54.6	56.8	52.7
„ 3,.....	55.6	56.0	56.2	56.0	55.9	56.0	56.5	56.6	56.9	58.9	59.8	59.7	60.1	60.7	61.0	62.3	62.1	59.9	58.5	58.4	58.4	57.9	58.6	58.5	58.4	62.4	55.6
„ 4,.....	58.6	58.0	58.1	58.0	57.8	57.6	57.8	59.6	61.1	60.5	64.5	64.9	67.4	65.7	64.7	59.2	57.7	57.9	57.4	57.1	57.3	57.0	56.4	56.0	59.6	69.0	56.0
„ 5,.....	55.8	55.7	55.3	55.0	55.0	55.2	55.4	55.7	56.7	57.5	57.7	57.5	57.3	57.4	56.7	56.7	55.8	53.7	54.1	53.8	54.5	53.9	53.8	53.8	55.6	57.7	53.8
„ 6,.....	53.5	53.3	53.4	52.1	51.5	51.4	51.4	51.5	51.4	51.3	52.3	53.9	53.4	53.7	54.3	54.1	54.7	54.8	54.8	55.2	55.6	55.8	55.8	55.8	53.5	55.8	51.3
„ 7,.....	55.7	56.0	55.6	56.0	56.1	56.1	56.0	57.8	57.8	57.7	57.9	58.4	59.9	59.4	59.5	59.2	59.8	58.8	58.5	58.8	58.9	58.7	58.5	58.8	57.9	60.2	55.7
„ 8,.....	59.6	60.7	61.0	61.2	61.6	61.9	62.1	62.7	63.2	65.0	66.1	66.8	67.9	66.9	66.5	66.7	65.6	64.9	63.8	64.5	64.8	65.4	65.1	65.6	64.1	68.8	58.8
„ 9,.....	65.4	65.0	64.7	64.7	64.9	65.1	64.7	65.3	68.9	72.6	69.9	68.5	62.3	61.5	61.5	61.0	59.8	59.7	59.2	59.4	58.8	57.7	57.4	57.6	63.2	73.3	57.4
„ 10,.....	57.8	58.1	57.6	57.2	57.0	57.7	57.1	57.3	58.0	58.9	59.6	59.6	62.1	60.9	60.9	60.2	60.5	58.9	58.6	59.9	60.1	60.4	60.1	58.9	59.1	62.2	56.4
„ 11,.....	57.8	57.4	56.8	56.4	56.1	56.0	56.8	57.7	58.5	59.5	59.8	58.7	60.6	58.5	58.6	58.7	58.4	57.7	57.6	57.7	58.1	58.4	58.2	58.2	58.0	60.6	56.0
„ 12,.....	57.6	57.7	57.5	57.2	57.1	57.0	57.2	57.9	58.0	60.6	61.8	63.7	65.7	67.7	65.4	66.0	63.9	60 3	60.2	59.9	58.8	58.8	58.8	59.3	60.3	67.7	56.9
„ 13,.....	59.8	60.7	61.7	61.2	61.0	61.0	61.7	61.4	60.9	63.1	62.3	64.0	66.6	66.2	64.2	63.7	63.3	62.5	62.5	63.0	60.8	61.6	61.7	60.7	62.3	67.7	59.3
„ 14,.....	59.7	60.1	60.7	61.4	62.1	61.9	62.2	62.5	64.5	66.1	66.4	66.0	68.7	66.7	65.9	67.0	69.0	65.8	65.0	64.8	63.8	62.9	62.5	62.7	64.1	69.0	59.2
„ 15,.....	61.5	61.3	61.9	62.4	63.2	63.4	64.3	67.0	71.0	72.7	73.4	77.2	74.9	72.1	72.0	70.2	69.3	66.5	65.1	65.2	63.8	63.6	64.3	64.4	67.1	78.1	61.3
„ 16,.....	64.2	64.6	64.6	63.6	62.5	62.1	62.1	62.8	66.0	68.2	66.2	66.4	67.0	65.7	64.8	64.8	64.1	63.9	63.5	62.6	62.5	61.6	61.1	61.2	64.0	69.3	61.1
„ 17,.....	60.8	60.4	60.2	60.0	60.0	60.1	60.7	61.9	62.9	64.9	62.9	64.7	64.1	64.0	62.8	62.5	61.8	62.1	62.8	63.1	62.3	62.0	61.5	60.9	62.1	65.4	60.0
„ 18,.....	60.5	60.6	60.0	59.6	58.8	58.5	58.7	59.4	60.1	62.0	62.5	62.9	62.9	63.0	62.9	62.1	62.2	62.0	62.2	62.1	61.8	62.0	61.8	61.8	61.3	63.0	58.1
„ 19,.....	61.1	60.9	61.0	60.8	61.4	61.0	61.8	65.3	66.9	69.1	69.4	73.4	74.1	74.7	75.1	74.9	74.1	72.6	68.1	68.9	68.3	69.1	68.0	66.3	67.8	75.9	60.2
„ 20,.....	66.2	64.9	64.0	63.6	63.3	62.0	63.0	63.1	63.6	63.2	63.5	63.9	63.2	64.0	63.9	64.1	62.9	63.0	62.9	62.5	61.5	60.7	60.0	59.6	63.0	66.3	59.6
„ 21,.....	59.4	59.0	58.7	57.5	57.1	57.1	57.6	58.6	59.8	61.1	60.8	60.5	62.3	60.6	61.1	60.5	60.3	60.3	60.6	60.3	60.2	60.4	60.6	60.6	59.8	62.4	56.4
„ 22,.....	60.6	60.4	60.1	59.7	59.4	59.2	59.1	59.5	60.0	61.0	60.5	60.2	60.7	60.7	60.7	60.7	60.3	60.2	60.7	61.7	61.4	61.6	61.5	61.6	60.5	61.7	58.8
„ 23,.....	61.6	61.8	61.7	61.8	61.8	61.7	61.9	61.9	61.6	62.1	61.7	61.1	60.9	61.0	61.1	61.1	61.4	61.6	62.0	62.1	62.4	62.0	61.7	61.6	61.6	62.5	60.9
„ 24,.....	61.9	62.1	62.0	62.1	61.4	62.0	62.0	62.3	62.7	62.1	62.4	62.2	63.5	63.9	64.7	64.1	62.6	61.9	62.4	62.4	62.8	63.8	64.0	62.4	62.7	65.3	61.1
„ 25,.....	61.8	62.0	62.0	62.2	62.4	61.6	62.7	63.4	64.4	64.8	62.2	64.3	64.7	65.1	65.3	65.2	63.6	63.1	62.6	62.5	63.0	62.8	62.6	63.2	63.2	66.0	61.6
„ 26,.....	62.0	61.4	61.8	61.8	61.7	61.4	60.4	60.3	63.1	65.3	65.3	64.9	65.8	65.2	64.4	63.8	63.6	63.7	62.8	63.4	63.7	64.0	64.5	64.1	63.3	66.0	60.3
„ 27,.....	64.6	63.6	62.8	62.4	62.1	61.8	61.9	61.7	62.0	63.4	63.4	63.2	63.2	62.9	62.8	62.5	62.3	64.0	63.7	64.3	63.4	63.8	64.1	64.4	63.1	64.9	61.4
„ 28,.....	64.5	64.1	64.8	66.2	66.7	66.8	67.1	69.0	73.9	75.2	75.5	75.5	76.9	77.6	78.0	77.2	75.8	75.2	75.1	74.6	74.5	73.1	72.2	71.9	72.1	79.0	63.8
„ 29,.....	73.0	72.1	71.8	71.2	70.7	70.8	71.2	72.8	72.9	74.2	74.9	77.6	76.7	77.8	74.8	75.2	72.6	70.6	73.0	72.1	72.6	71.3	72.0	71.4	73.1	78.4	70.2
„ 30,.....	71.8	71.0	70.8	70.2	70.1	69.9	70.3	71.9	71.2	67.0	65.7	65.8	65.7	64.8	64.6	64.6	64.0	63.9	63 4	64.1	63.6	62.8	62.8	63.0	66.8	72.1	62.8
„ 31,.....	62.5	62.2	63.2	62.6	62.4	62.1	62.1	62.7	62.9	63.3	63.7	64.4	64.7	65.9	66.0	65.0	65.0	65.2	65.5	65.3	65.4	65.3	66.1	66.0	64.1	66.7	62.0
Means, ...	60.6	60.5	60.5	60.3	60.1	60.0	60.3	61.1	62.2	63.2	63.2	63.8	64.2	63.9	63.6	63.3	62.7	62.0	61.7	61.8	61.6	61.5	61.4	61.2	61.9	66.0	58.7

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF MARCH, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
Mar. 1,...	45.7	45.6	45.9	46.1	45.8	45.8	46.5	47.6	47.4	48.4	47.1	47.2	47.2	45.9	46.0	46.9	46.9	47.4	48.0	48.1	48.8	48.8	48.8	49.1	47.1	74.2
„ 2,...	48.8	48.6	49.0	49.3	49.4	49.4	49.7	49.7	50.5	51.3	51.4	50.9	52.2	51.8	52.7	52.3	52.5	52.6	52.8	52.8	53.0	53.3	53.1	53.1	51.3	87.0
„ 3,...	53.1	53.4	53.6	53.8	53.8	54.6	54.5	54.7	55.6	57.3	57.6	57.6	58.4	57.8	58.7	60.1	60.0	58.2	57.5	57.5	57.6	57.0	57.4	57.2	56.5	117.3
„ 4,...	57.6	57.1	56.8	57.2	57.0	56.9	57.2	58.1	59.5	58.7	60.7	60.7	61.8	61.6	60.7	57.2	55.8	56.0	55.8	55.0	54.3	53.0	52.6	52.2	57.2	129.8
„ 5,...	51.8	51.6	50.8	50.4	50.8	51.1	51.7	52.1	53.0	53.7	54.3	54.3	54.6	54.9	54.8	54.5	53.7	51.8	51.8	51.0	50.7	49.7	49.4	48.8	52.1	75.7
„ 6,...	48.6	48.9	49.2	48.8	49.0	49.3	50.1	50.4	50.3	50.4	50.5	50.7	50.8	50.8	50.6	50.5	48.7	48.7	48.8	50.0	50.4	50.8	51.2	51.3	49.9	89.0
„ 7,...	51.4	51.2	51.0	51.3	51.4	51.6	51.9	52.7	52.7	53.1	53.5	53.6	54.5	54.7	55.1	55.5	55.3	55.3	55.3	56.4	56.0	55.7	55.7	56.0	53.8	118.4
„ 8,...	56.6	57.2	58.0	58.2	59.3	59.6	60.0	60.2	60.6	62.7	62.6	63.1	63.3	63.2	62.9	63.0	62.8	62.6	61.7	61.9	62.5	62.7	62.8	62.9	61.3	128.9
„ 9,...	62.9	62.8	63.1	63.2	63.8	64.1	63.5	64.1	66.5	67.7	66.5	65.6	60.7	59.8	58.8	58.8	58.6	58.7	58.8	58.8	58.6	57.6	56.8	56.6	61.5	131.8
„ 10,...	56.0	55.8	55.4	55.0	54.8	54.5	54.9	54.6	54.7	55.8	55.7	55.7	56.5	55.7	55.7	55.9	55.8	56.3	56.6	56.7	57.5	57.4	56.8	55.7	55.8	121.6
„ 11,...	53.1	52.3	52.6	52.4	51.8	51.8	52.2	51.8	53.6	53.5	53.8	53.3	54.6	53.5	52.9	54.0	53.9	53.6	53.7	54.1	53.9	54.1	54.2	53.8	53.3	118.3
„ 12,...	54.0	54.0	54.1	54.1	54.6	54.9	55.5	55.7	56.4	57.3	57.7	58.9	60.5	61.6	60.7	60.4	57.6	57.3	57.8	57.5	57.2	57.5	57.1	57.4	57.1	122.6
„ 13,...	58.0	58.6	59.5	59.0	58.9	58.9	59.8	59.7	58.7	59.8	60.0	60.6	60.6	61.0	60.4	60.0	59.8	59.6	59.7	60.4	59.4	59.6	59.2	59.3	59.6	121.4
„ 14,...	58.7	59.0	59.4	60.2	60.8	60.6	60.6	60.5	60.3	61.3	61.1	61.4	62.7	62.8	62.7	63.4	64.6	62.9	62.7	62.8	61.9	61.9	61.6	61.8	61.5	120.5
„ 15,...	60.8	60.8	61.2	61.6	62.0	62.1	62.8	64.5	65.8	66.7	67.2	69.1	67.9	66.7	66.5	64.6	64.3	62.8	63.2	62.4	61.5	61.2	61.9	61.0	63.7	132.8
„ 16,...	59.9	55.7	53.4	53.0	52.7	52.7	54.4	55.7	56.9	57.1	55.0	54.7	55.0	54.7	54.7	55.1	55.2	55.4	55.6	56.0	56.2	56.7	56.4	56.4	55.4	121.4
„ 17,...	55.7	53.0	52.6	53.0	52.0	52.6	53.0	53.8	55.9	57.8	56.8	57.5	57.9	57.5	58.4	58.7	58.6	58.5	58.3	58.5	58.4	58.5	58.5	57.6	56.4	127.2
„ 18,...	57.4	57.6	57.8	57.8	58.1	58.2	58.5	59.0	59.5	61.7	61.7	62.6	62.7	62.7	62.6	61.0	61.8	61.7	61.5	61.4	60.9	61.0	60.7	60.8	60.4	77.6
„ 19,...	60.4	60.5	60.3	59.8	60.3	60.0	60.4	61.7	61.7	62.5	63.2	64.0	63.7	64.0	64.1	60.4	59.9	59.7	58.7	57.9	57.2	56.8	56.0	55.8	60.4	134.7
„ 20,...	55.3	55.1	54.7	53.8	54.0	53.9	54.8	57.8	58.1	56.4	55.7	56.7	58.2	59.0	59.7	58.8	58.6	58.5	58.5	58.2	57.8	56.2	56.0	56.0	56.7	126.3
„ 21,...	55.8	56.0	55.1	54.1	53.0	52.5	53.1	54.0	54.7	56.3	55.7	55.9	57.3	57.6	56.8	56.0	56.3	56.9	57.6	57.9	58.0	58.0	58.0	57.0	56.0	121.4
„ 22,...	56.7	57.1	57.4	57.4	57.1	57.4	58.0	58.4	59.4	59.9	59.5	59.4	59.7	59.7	59.7	59.8	59.4	59.6	60.0	60.4	60.6	61.1	61.2	61.0	59.2	75.3
„ 23,...	61.0	61.1	61.2	61.3	61.4	61.3	61.7	61.7	61.3	61.3	60.7	60.5	60.3	60.4	60.6	60.8	61.0	61.2	61.2	61.0	61.3	61.3	60.9	60.8	61.1	81.3
„ 24,...	61.4	61.6	61.6	61.8	61.2	61.8	61.7	61.7	61.7	61.7	61.7	61.7	62.2	62.8	62.9	62.8	61.9	61.4	61.8	62.0	62.1	62.5	62.5	61.3	61.9	117.9
„ 25,...	61.1	61.1	61.3	61.3	61.4	61.2	61.5	61.7	62.4	62.7	61.1	61.9	62.4	62.7	62.9	62.6	61.6	61.3	61.0	60.9	61.2	61.0	61.0	61.1	61.6	96.1
„ 26,...	60.5	59.8	60.4	60.6	60.3	60.3	59.0	59.3	61.7	62.7	62.2	62.0	62.7	61.8	61.0	60.8	60.5	60.4	60.4	60.8	61.7	61.9	62.1	62.2	61.0	109.7
„ 27,...	62.4	62.2	62.0	61.4	61.2	60.9	60.7	60.6	60.6	61.4	61.4	61.5	61.5	61.7	61.7	61.8	62.0	63.7	63.6	63.7	62.7	63.4	63.8	64.1	62.1	104.2
„ 28,...	64.2	64.0	64.7	66.2	66.7	66.8	66.8	68.4	70.8	72.2	72.0	72.0	72.5	72.4	73.0	72.7	72.2	71.8	71.9	72.0	71.8	71.8	71.1	70.8	70.0	137.2
„ 29,...	71.0	70.3	70.2	70.0	69.9	70.0	70.8	71.2	71.8	72.0	72.0	72.8	72.2	73.0	71.7	72.5	71.8	70.5	72.0	71.1	71.7	70.5	71.4	71.3	71.3	132.8
„ 30,...	71.3	70.5	70.5	69.9	70.0	69.6	70.1	71.9	70.5	66.2	65.4	64.9	64.8	64.3	63.7	63.5	63.6	63.5	62.9	63.4	63.1	62.6	62.6	62.3	66.3	121.4
„ 31,...	61.6	61.5	62.1	62.3	61.9	61.5	61.6	62.3	62.2	62.3	62.7	62.9	63.6	64.0	64.0	63.6	63.7	63.6	64.1	64.3	64.8	65.0	65.7	65.8	63.2	125.8
Means,.....	57.8	57.5	57.6	57.6	57.6	57.6	58.0	58.6	59.2	59.7	59.6	59.8	60.1	60.0	59.9	59.6	59.3	59.1	59.1	59.2	59.1	59.0	58.9	58.7	58.9	112.9

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF MARCH, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	83	0.452	Mar. 1,.....	69	0.265
2 „	82	.443	„ 2,.....	78	.335
3 „	82	.445	„ 3,.....	88	.432
4 „	84	.449	„ 4,.....	86	.437
5 „	85	.451	„ 5,.....	78	.344
6 „	85	.453	„ 6,.....	76	.314
7 „	86	.461	„ 7,.....	75	.362
8 „	85	.469	„ 8,.....	85	.507
9 „	83	.473	„ 9,.....	91	.524
10 „	80	.476	„ 10,.....	80	.404
11 „	80	.473	„ 11,.....	71	.345
Noon.	78	.470	„ 12,.....	81	.426
1 p.	78	.474	„ 13,.....	85	.476
2 „	78	.475	„ 14,.....	86	.513
3 „	79	.476	„ 15,.....	82	.545
4 „	79	.471	„ 16,.....	55	.327
5 „	80	.470	„ 17,.....	68	.381
6 „	83	.472	„ 18,.....	94	.515
7 „	85	.476	„ 19,.....	62	.428
8 „	85	.479	„ 20,.....	66	.378
9 „	85	.478	„ 21,.....	77	.399
10 „	85	.476	„ 22,.....	92	.488
11 „	85	.474	„ 23,.....	97	.533
Midt.	85	.471	„ 24,.....	95	.545
			„ 25,.....	92	.527
			„ 26,.....	87	.508
			„ 27,.....	94	.546
			„ 28,.....	90	.707
			„ 29,.....	91	.744
			„ 30,.....	97	.641
			„ 31,.....	95	.569
Means,.....	83	0.467	Means.	83	0.467

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
Mar. 1,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 2,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 3.....	...	...	...	...	0.2	...	...	...	...	...	...	...	...	0.2
„ 4,.....	...	...	...	...	...	...	0.1	0.2	...	...	...	...	...	0.3
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 7,.....	...	...	0.3	...	...	...	0.1	0.1	...	0.7	0.9	0.4	...	2.5
„ 8,.....	...	...	...	...	...	...	0.1	1.0	1.0	1.0	1.0	0.5	...	4.6
„ 9,.....	...	...	...	0.6	0.5	0.8	0.3	...	...	...	...	...	...	2.2
„ 10,.....	...	...	...	...	...	...	1.0	1.0	1.0	1.0	1.0	0.7	...	5.7
„ 11,.....	...	0.2	0.6	1.0	0.9	0.9	0.1	0.1	...	...	0.1	...	...	3.9
„ 12,.....	...	...	0.2	0.5	0.4	...	...	...	0.3	0.9	1.0	0.5	...	3.8
„ 13,.....	...	...	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	8.9
„ 14,.....	...	...	...	...	...	0.8	1.0	1.0	1.0	1.0	1.0	0.6	...	6.4
„ 15,.....	...	...	0.4	1.0	0.3	0.5	0.9	0.2	...	...	...	...	...	3.3
„ 16,.....	...	0.4	0.8	1.0	0.9	...	...	...	...	...	...	...	...	3.1
„ 17,.....	...	0.1	0.8	0.9	1.0	0.9	0.8	0.2	0.3	...	...	...	...	5.0
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	11.0
„ 20,.....	...	0.9	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	...	10.8
„ 21,.....	...	0.5	0.8	1.0	0.6	0.2	0.9	0.8	0.1	0.9	...	...	...	5.8
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 24,.....	...	...	...	...	...	...	...	...	0.3	0.1	...	...	...	0.4
„ 25,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 26,.....	...	...	0.3	0.5	...	...	...	...	...	...	...	...	...	0.8
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 28,.....	...	...	...	0.3	0.6	0.2	0.4	0.8	0.6	0.9	0.2	...	...	4.0
„ 29,.....	...	0.5	0.6	0.4	1.0	0.6	0.9	0.5	...	...	...	...	...	4.5
„ 30,.....	...	...	0.6	0.2	...	...	...	...	...	...	...	...	...	0.8
„ 31,.....	...	...	...	...	...	...	...	0.1	0.2	0.1	...	...	...	0.4
Sums,.....	...	3.6	7.7	10.4	9.3	7.9	9.6	8.9	7.8	9.6	8.2	5.3	0.1	88.4

TABLE VI.

RAINFALL FOR THE MONTH OF MARCH, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
Mar. 1	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	1
„ 2	...	...	...	0.005	0.010	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.020	1
„ 3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
„ 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6	...	...	...	...	...	...	0.025	0.045	...	0.005	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	0.080	5
„ 7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...	...	0.005	4
„ 10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 18	...	...	...	...	0.005	0.010	0.020	0.055	0.085	0.440	0.130	0.400	0.150	0.050	0.075	...	...	...	...	...	...	...	...	...	...	...
„ 19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.420	12
„ 20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22	...	...	...	...	...	...	0.080	0.010	0.170	0.030	...	0.030	...	...	...	...	...	...	...	...	0.005	0.145	0.020	...	0.490	9
„ 23	...	0.060	0.005	0.005	0.015	0.015	0.050	0.005	0.005	...	...	...	...	...	...	0.015	0.010	0.015	...	...	...	0.005	...	...	0.205	18
„ 24	0.015	0.005	...	...	...	...	...	...	..	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	0.025	6
„ 25	0.020	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.030	1
„ 26	...	...	...	...	...	...	0.080	0.265	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.345	1
„ 27	0.005	...	...	0.005	...	...	0.005	0.010	...	...	...	...	...	...	...	...	0.005	0.600	0.050	...	...	...	0.005	...	0.685	7
„ 28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
„ 29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.020	...	...	...	...	...	...	...	0.020	1
„ 30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	0.020	...	0.025	5
„ 31	0.005	...	0.005	...	0.010	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.030	9
Sums,	0.050	0.065	0.010	0.025	0.040	0.030	0.270	0.390	0.260	0.475	0.135	0.435	0.150	0.050	0.075	0.015	0.035	0.615	0.050	...	0.005	0.160	0.045	...	3.385	82

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF MARCH, 1893.

DATE.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a.		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		VEL.		DIR.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
Mar. 1,	4	14	6	16	6	16	7	18	6	18	4	15	6	16	7	18	7	18	8	19	7	17	7	18	7	19	7	16	7	17	8	16	7	16	8	18	7	18	7	19	7	23	7	27	6	27	6	30	449	18.7	7
„ 2,	7	29	7	34	7	28	6	26	7	24	6	31	7	29	6	27	7	29	6	32	7	30	7	27	7	22	7	25	8	23	8	21	9	25	8	22	8	25	8	21	7	24	8	24	7	23	7	24	625	26.0	7
„ 3,	7	24	7	25	8	22	9	31	8	26	8	25	8	25	9	19	9	18	9	26	8	23	8	21	8	20	9	17	9	16	10	9	10	7	26	7	24	6	24	6	22	2	24	3	24	4	24	2	384	16.0	8
„ 4,	...	1	24	6	23	6	22	9	25	7	24	7	21	6	...	0	25	3	23	4	12	3	24	4	7	9	9	14	8	10	9	23	7	22	7	21	8	22	8	22	7	23	7	29	7	32	6	30	313	13.0	7
„ 5,	7	31	7	30	7	29	7	28	7	23	8	19	8	19	8	18	4	16	7	14	8	17	7	12	7	9	32	7	3	6	4	5	6	15	8	20	7	23	7	24	7	29	7	30	7	34	6	33	491	20.5	7
„ 6,	7	29	7	27	6	29	7	22	7	18	7	20	7	17	7	18	8	24	8	21	8	13	8	19	8	18	8	17	9	19	7	19	7	21	7	26	7	24	7	32	7	34	7	34	6	35	7	34	580	24.2	7
„ 7,	7	33	7	39	7	36	7	36	7	35	7	34	7	36	7	37	7	34	7	30	7	34	7	34	7	32	8	29	8	29	8	23	8	22	9	22	9	22	8	22	8	21	8	30	9	23	9	19	712	29.7	7
„ 8,	8	20	9	18	9	14	9	16	9	17	10	16	8	18	9	19	9	19	9	18	9	20	10	20	9	23	8	23	9	24	8	23	8	21	8	19	9	21	8	16	9	16	9	12	9	7	10	9	429	17.9	9
„ 9,	11	8	11	8	11	5	11	2	11	4	12	5	9	5	9	5	10	3	10	8	9	19	9	23	7	24	8	27	7	24	7	18	8	14	10	17	9	18	9	21	7	25	7	25	8	26	7	27	361	15.0	8
„ 10,	7	28	7	27	7	23	7	22	7	23	9	21	7	19	8	20	7	21	7	20	8	24	8	28	7	26	7	26	7	21	9	18	8	18	8	17	7	17	7	14	6	16	6	21	7	25	6	33	528	22.0	7
„ 11,	6	31	7	35	8	32	8	29	7	29	7	28	7	27	7	33	7	36	7	31	7	29	8	26	8	28	8	25	8	21	8	23	8	25	9	21	9	23	8	24	7	26	7	25	7	24	7	23	654	27.2	7
„ 12,	7	21	8	20	9	15	9	15	9	14	8	9	8	12	8	15	8	20	8	14	8	11	8	10	8	6	9	6	9	6	5	5	7	11	8	9	11	8	12	3	12	4	12	2	...	1	12	3	240	10.0	8
„ 13,	...	0	14	2	...	1	...	1	8	3	7	12	8	18	8	20	8	21	8	23	8	23	8	20	8	17	7	18	8	23	8	20	7	19	8	16	7	12	7	7	7	3	7	6	7	6	7	7	298	12.4	8
„ 14,	12	5	...	0	13	5	9	12	9	11	9	18	9	12	9	15	8	16	8	14	8	16	7	15	9	8	8	7	7	7	7	5	27	4	29	8	29	4	29	7	25	5	25	2	...	0	...	1	197	8.2	8
„ 15,	25	4	25	3	...	1	25	2	...	1	24	2	...	1	...	0	17	3	25	5	24	5	23	9	24	12	22	16	22	17	24	13	22	11	9	11	9	18	8	18	9	15	8	14	7	19	7	15	215	9.0	13
„ 16,	6	12	5	18	7	27	6	31	7	25	8	26	8	20	8	20	8	20	8	25	8	29	8	24	8	24	8	23	7	22	7	21	7	21	7	21	6	21	6	24	6	24	6	25	6	29	6	27	559	23.3	7
„ 17,	7	30	7	35	7	32	6	31	7	36	7	32	6	27	7	30	7	29	7	27	7	34	7	34	8	30	7	30	7	27	7	24	7	27	6	24	7	24	7	24	7	20	7	28	7	31	7	31	697	29.0	7
„ 18,	7	36	7	33	7	32	7	32	7	27	7	29	8	30	8	27	7	21	30	11	20	5	18	4	15	2	8	4	10	4	7	5	22	8	25	9	21	8	21	3	21	4	23	10	23	6	23	10	360	15.0	7
„ 19,	23	7	24	7	23	9	27	8	22	8	7	5	26	4	28	3	2	11	29	8	15	7	32	8	31	13	30	11	28	12	1	14	32	10	2	7	31	4	32	9	32	10	32	20	32	17	2	10	222	9.3	31
„ 20,	2	11	4	13	4	6	1	13	4	10	6	5	4	14	7	31	7	35	6	36	7	30	7	24	8	24	9	26	9	27	9	23	9	24	7	21	6	19	6	22	6	24	6	26	6	29	6	30	523	21.8	7
„ 21,	6	31	5	27	5	25	6	22	6	24	6	25	7	26	7	24	7	30	7	30	7	31	7	28	8	27	7	30	7	29	7	27	7	24	7	23	6	22	7	25	7	18	7	24	7	25	7	25	622	25.9	7
„ 22,	7	24	8	21	8	23	7	26	7	24	6	21	7	29	6	23	11	15	9	23	9	27	8	23	8	18	8	19	8	20	8	25	8	24	8	27	8	21	8	23	9	20	9	20	9	21	9	24	541	22.5	8
„ 23,	8	20	9	18	9	24	8	24	8	23	8	22	9	21	9	19	9	21	9	20	8	17	8	25	9	26	8	24	8	25	9	23	9	18	9	21	9	23	9	22	8	21	9	22	9	28	9	18	525	21.9	9
„ 24,	9	11	9	5	9	5	9	13	8	13	10	18	9	20	7	18	8	19	8	17	8	14	9	12	9	12	9	18	8	17	27	8	26	11	24	3	...	0	24	5	3	3	3	5	9	18	8	22	287	12.0	8
„ 25,	8	17	9	12	9	10	9	14	10	20	8	25	8	16	9	14	9	9	8	10	27	13	24	8	20	6	16	2	16	2	15	2	23	7	23	3	23	5	22	5	...	0	...	1	14	2	3	2	205	8.5	9
„ 26,	27	10	22	6	...	1	...	1	6	7	28	4	27	14	7	22	16	5	23	2	9	14	8	15	9	12	9	16	8	23	7	19	8	17	8	23	9	19	7	25	7	25	7	21	7	24	7	23	348	14.5	7
„ 27,	7	21	8	18	8	25	8	25	8	25	7	22	8	29	8	36	7	26	7	27	7	27	8	21	8	22	8	23	9	23	8	26	7	25	6	18	7	27	7	24	7	28	8	20	8	21	9	18	577	24.0	8
„ 28,	6	24	7	16	6	15	7	14	7	13	6	17	6	15	6	10	15	9	15	10	15	13	16	10	17	10	18	11	18	11	18	11	17	6	16	7	18	6	17	7	19	3	19	3	14	2	9	3	246	10.2	11
„ 29,	18	3	...	1	29	4	27	4	...	1	...	0	...	0	...	0	21	4	8	5	8	3	26	7	23	5	18	4	27	4	27	4	27	3	1	2	7	4	6	5	7	3	9	4	6	3	9	3	76	3.2	31
„ 30,	5	3	12	3	32	2	12	3	7	5	5	8	6	9	6	7	7	18	8	25	8	25	8	24	8	26	8	26	8	24	8	26	8	25	8	26	7	24	7	25	7	25	8	20	8	29	8	30	438	18.3	8
„ 31,	7	30	8	38	4	25	7	20	7	24	7	29	8	27	8	32	8	23	8	21	7	20	8	24	7	24	8	26	8	23	8	26	8	28	8	26	8	25	8	24	8	18	9	17	9	18	7	16	584	24.3	8
Sums,	...	568	...	561	...	527	...	550	...	538	...	550	...	561	...	580	...	576	...	576	...	603	...	577	...	554	...	566	...	556	...	525	...	529	...	515	...	513	...	528	...	512	...	550	...	589	...	582	13286	553.6	...
Means,	...	18.3	...	18.1	...	17.0	...	17.7	...	17.4	...	17.7	...	18.1	...	18.7	...	18.6	...	18.6	...	19.5	...	18.6	...	17.9	...	18.3	...	17.9	...	16.9	...	17.1	...	16.6	...	16.5	...	17.0	...	16.5	...	17.7	...	19.0	...	18.8	428.6	17.9	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
Mar. 1, ...	10	str-cum.	...	10	str-cum.	...	9	sm-cum. / cum.	W / ENE	10	c-cum. / sm-cum. / cum-nim.	.. / W / ..
„ 2, ...	9	sm-cum.	W	10	cum.	...	10	sm-cum. / cum-nim.	ESE	10	cum-nim.	SE
„ 3, ...	10	str-cum.	SE	10	cum.	SE	10	str-cum.	E	10	sm-cum. / cum-nim.	W / SSE
„ 4, ...	10	str-cum.	...	10	str-cum.	...	10	fog.	...	10	cum-nim.	WSW
„ 5, ...	10	R-cum.	E	10	cum.	E	10	R-cum.	E	10	cum-nim.	ESE
„ 6, ...	10	cum.	ENE	10	cum.	ENE	10	nim.	ENE	10	nim.	E
„ 7, ...	10	str-cum.	...	10	cum.	...	10	sm-cum. / R-cum.	ESE	10	sm-cum. / cum-nim.	ESE
„ 8, ...	10	str-cum.	SE	10	str-cum.	SE	10	sm-cum. / cum-nim.	SSE	10	sm-cum. / cum-nim.	S / E
„ 9, ...	10	str-cum.	...	10	str-cum.	...	10	str-cum.	...	6	sm-cum.	ENE
„ 10, ...	10	str-cum.	...	10	str-cum.	E	10	str-cum.	ENE	10	cum-nim.	ESE
„ 11, ...	10	str-cum.	...	10	str-cum.	...	6	sm-cum.	S	7	sm-cum. / str-cum.	S / S
„ 12, ...	10	str-cum.	...	10	str-cum.	...	10	sm-cum.	S	6	sm-cum. / str-cum.	E / ..
„ 13, ...	10	str-cum.	...	10	cum.	...	9	cum.	SE	7	cum. / str. / str.	.. / SE / ESE
„ 14, ...	0	...	...	10	str-cum.	...	10	cum-nim.	...	9	sm-cum.	W
„ 15, ...	0	...	...	10	str-cum.	...	9	sm-cum.	N	6	c-cum.	SW
„ 16, ...	10	str-cum.	...	8	cum.	...	2	sm-cum.	...	5	sm-cum.	W
„ 17, ...	6	cum.	SE	10	cum.	...	8	sm-cum. / cum.	S / SSE	2	c-cum. / cum. / cum.	.. / SSE / ESE
„ 18, ...	10	R-cum.	E	7	nim.	E	10	nim.	E	10	nim.	SW
„ 19, ...	0	...	...	0	...	...	2	cum.	NNW	5	cum.	NNW
„ 20, ...	0	...	...	0	...	...	0	...	...	1	sm-cum. / cum.	S / ..
„ 21, ...	2	cum.	ESE	1	cum.	ESE	1	cum.	ESE	6	c-cum. / sm-cum. / R-cum.	WNW / .. / ESE
„ 22, ...	10	cum-nim.	E	10	cum-nim.	...	10	sm-cum. / nim.	WNW / ESE	10	nim. / nim.	SSE / E
„ 23, ...	10	nim.	...	10	nim.	...	10	nim.	...	10	nim.	SE
„ 24, ...	10	nim.	...	10	cum-nim.	...	10	cum-nim.	E	10	nim.	...
„ 25, ...	10	nim.	...	10	cum-nim.	...	10	str-cum.	E	10	str.	SE
„ 26, ...	10	cum-nim.	...	10	str-cum.	...	10	nim.	...	10	R-cum.	E
„ 27, ...	10	nim.	...	10	nim.	...	10	cum-nim.	E	10	str.	E
„ 28, ...	10	nim.	...	10	cum-nim.	...	10	cum-nim.	S	9	sm-cum. / R-cum.	WSW / S
„ 29, ...	9	cum.	SW	7	cum.	SW	2	sm-cum. / cum.	WSW / WSW	7	c-cum. / R-cum.	WSW / SW
„ 30, ...	8	cum.	SW	10	cum.	SW	10	fog.	...	10	nim.	...
„ 31, ...	10	nim.	E	10	nim.	E	10	nim.	E	10	str.	...
Means,...	8.2	...	...	8.8	...	...	8.3	...	...	8.3	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

DATE.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
Mar. 1,...	10	sm-cum.	W	10	str-cum.	...	10	R-cum.	ESE	9	sm-cum. / R-cum.	W / SE	9.7
„ 2,...	10	str-cum.	ESE	10	R-cum.	E	10	cum-nim.	ESE	10	cum.	ESE	9.9
„ 3,...	10	str-cum.	...	10	str-cum.	SE	10	nim.	...	10	cum-nim.	...	10.0
„ 4,...	9	str. / cum.	E	10	nim.	E	10	cum-nim.	E	10	R-cum.	E	9.9
„ 5,...	10	str. / cum.	E	10	cum-nim.	ENE	10	cum-nim.	...	10	cum-nim.	ENE	10.0
„ 6,...	10	str-cum.	E	10	str-cum.	E	10	R-cum.	...	10	cum-nim.	E	10.0
„ 7,...	10	sm-cum. / R-cum.	ESE	9	sm-cum. / R-cum.	SE	9	cum-nim.	SE	10	cum-nim.	...	9.8
„ 8,...	2	sm-cum. / cum.	E	2	c-cum. / R-cum.	WSW / E	1	R-cum.	...	10	str.	...	6.9
„ 9,...	10	cum-nim.	E	10	R-cum.	E	10	nim.	...	10	nim.	...	9.5
„ 10,...	2	cum.	ESE	0	...	...	0	...	...	10	cum-nim.	...	6.5
„ 11,...	9	sm-cum. / str-cum.	S / S	9	sm-cum.	S	10	str-cum.	...	10	str-cum.	...	8.9
„ 12,...	10	sm-cum.	...	0	...	...	0	...	...	0	...	...	5.7
„ 13,...	1	cum.	...	1	sm-cum.	...	0	...	...	0	...	...	4.8
„ 14,...	0	...	...	0	...	...	1	sm-cum.	...	0	...	...	3.7
„ 15,...	8	sm-cum.	WSW	9	sm-cum. / cum.	WSW / W	10	sm-cum. / cum-nim.	...	1	cum.	...	6.6
„ 16,...	9	sm-cum.	SW	10	sm-cum.	W	10	sm-cum.	W	5	sm-cum.	W	7.4
„ 17,...	8	sm-cum. / cum.	W / SE	9	sm-cum. / R-cum.	SE	10	R-cum.	ESE	10	R-cum.	...	7.9
„ 18,...	10	nim.	ENE	10	cum-nim.	...	5	sm-cum.	SW	0	...	...	7.8
„ 19,...	2	R-cum.	N	0	...	...	0	...	...	0	...	...	1.1
„ 20,...	2	sm-cum.	S	0	...	...	0	...	...	0	...	...	0.4
„ 21,...	6	sm-cum. / R-cum. / str.	WNW / SSE / E	9	sm-cum. / R-cum.	WNW / E	10	R-cum.	E	10	cum-nim.	...	5.6
„ 22,...	10	nim.	ESE	10	nim.	E	10	cum-nim.	E	10	nim.	...	10.0
„ 23,...	10	nim.	E	10	nim.	E	10	cum-nim.	E	10	nim.	E	10.0
„ 24,...	10	cum-nim.	...	10	cum-nim.	...	10	cum-nim.	...	10	cum-nim.	...	10.0
„ 25,...	10	cum-nim.	...	10	R-cum.	W	10	R-cum.	...	10	R-cum.	...	10.0
„ 26,...	10	sm-cum. / R-cum.	ESE	10	cum-nim.	ESE	9	cum.	SE	10	cum.	ESE	9.9
„ 27,...	10	cum-nim.	E	10	nim.	E	10	nim.	E	10	cum-nim.	E	10.0
„ 28,...	10	cum.	SSW	9	sm-cum. / cum. / R-cum.	WSW / SW / SW	8	sm-cum. / R-cum.	WSW / SW	8	cum.	SW	9.2
„ 29,...	8	sm-cum. / R-cum.	WSW / SW	10	sm-cum. / R-cum.	WSW / SW	8	cum.	SW	8	cum-nim.	SW	7.4
„ 30,...	10	cum-nim.	...	10	str.	...	10	nim.	...	10	nim.	...	9.8
„ 31,...	10	str.	...	10	sm-cum. / cum-nim.	E	10	str.	E	10	nim.	...	10.0
Means,...	7.9	...	...	7.6	...	...	7.5	...	...	7.5	...	...	8.0

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND, FOR THE MONTH OF MARCH, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	4.29	16.61	0.45	0.65	+3.84	+15.96	E 14° N
2 „	3.23	16.58	0.61	0.71	2.62	15.87	E 9° N
3 „	3.32	15.39	0.77	0.55	2.55	14.84	E 10° N
4 „	3.32	16.19	0.84	0.65	2.48	15.54	E 9° N
5 „	2.84	16.32	0.68	0.45	2.16	15.87	E 8° N
6 „	3.16	16.68	0.81	0.39	2.35	16.29	E 8° N
7 „	2.61	16.90	0.45	0.68	2.16	16.22	E 8° N
8 „	2.35	18.29	0.61	0.06	1.74	18.23	E 5° N
9 „	2.61	17.23	1.35	0.23	1.26	17.00	E 4° N
10 „	2.55	17.00	0.97	0.61	1.58	16.39	E 5° N
11 „	2.00	17.90	1.19	0.65	0.81	17.25	E 3° N
Noon.	1.58	16.77	1.00	0.94	0.58	15.83	E 2° N
1 p.	1.48	16.23	1.06	0.81	0.42	15.42	E 2° N
2 „	1.48	16.52	1.32	0.81	0.16	15.71	E 1° N
3 „	1.39	16.26	1.35	1.00	0.04	15.26	E
4 „	1.74	15.19	1.03	0.87	0.71	14.32	E 3° N
5 „	1.94	14.94	1.00	1.32	0.94	13.62	E 4° N
6 „	1.84	15.06	0.90	0.81	0.94	14.25	E 4° N
7 „	2.06	15.16	1.39	0.74	0.67	14.42	E 3° N
8 „	2.52	15.39	0.68	0.74	1.84	14.65	E 7° N
9 „	3.23	15.32	0.61	0.39	2.62	14.93	E 10° N
10 „	3.26	16.03	0.61	0.55	2.65	15.48	E 10° N
11 „	3.58	17.52	0.90	0.32	2.68	17.20	E 9° N
Midt.	3.97	17.48	0.77	0.39	+3.20	+17.09	E 11° N
Means, ...	2.60	16.37	0.89	0.64	+1.71	+15.73	E 6° N

PHENOMENA :—

Solar corona :—on the 28th and 29th.

Lunar corona :—on the 1st.

Thick fog :—on the 28th, 29th and 30th.

Fog :—on the 4th.

Slight fog :—on the 3rd, 9th and 25th.

Haze :—on the 12th, 13th, 14th and 15th.

Unusual visibility :—on the 19th, 20th and 26th.

Dew :—on the 4th, 12th, 13th, 14th, 15th and 19th.

Lightning without thunder :—on the 25th and 29th.

Thunder without lightning :—on the 22nd and 26th.

Thunderstorms :—on the 27th, 5.30 p.—7.15 p. SW–NW nearest at 6.16 p. (9^s).

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF APRIL, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midn.	Means.
April 1,...	29.877	29.862	29.835	29.853	29.861	29.876	29.909	29.955	29.961	29.989	29.969	29.957	29.911	29.880	29.868	29.865	29.864	29.874	29.885	29.899	29.918	29.917	29.912	29.910	29.900
„ 2,...	.902	.889	.855	.859	.872	.883	.910	.938	*.950	.949	*.935	*.913	.878	.867	.856	.838	.844	.853	.858	.882	.886	.880	.871	.863	.885
„ 3,...	.851	.841	.830	.837	.845	.867	.867	.891	.905	.922	.911	.893	.875	.849	.819	.832	.830	.853	.863	.897	.933	.937	.936	.939	.877
„ 4,...	.968	.939	.898	.890	.895	.905	.918	.936	.946	.959	.948	.935	.924	.909	.887	.890	.903	.913	.916	.937	.967	.960	.962	.957	.928
„ 5,...	.941	.920	.921	.928	.940	.959	.971	.988	.995	.998	.991	.980	.951	.935	.930	.946	.966	.951	.982	.994	30.029	30.050	30.053	30.054	.974
„ 6,...	30.042	30.022	30.018	30.019	30.026	30.041	30.065	30.093	30.114	30.130	30.118	30.106	30.088	30.060	30.044	30.048	30.050	30.058	30.071	30.094	.104	.097	.098	.094	30.071
„ 7,...	.077	.053	.035	.022	.015	.020	.043	.084	.074	.082	.079	.043	.015	.009	29.991	29.978	29.987	29.995	.005	.017	.037	.029	.027	.024	.031
„ 8,...	.011	29.995	29.974	29.976	29.983	29.991	.011	.035	.047	.042	.044	.009	29.980	29.961	.946	.957	.930	.931	29.956	29.969	29.991	29.997	.003	29.994	29.988
„ 9,...	29.985	.974	.954	.952	.952	.980	29.996	.012	.020	.016	.014	29.996	.961	.940	.932	.931	.933	.942	.948	.956	.972	.972	29.985	.979	.971
„ 10,...	.972	.965	.939	.936	.956	.969	.990	.006	.017	.007	29.994	.976	.945	.922	.897	.890	.885	.894	.915	.923	.939	.945	.937	.921	.947
„ 11,...	.902	.889	.881	.876	.879	.891	.909	29.926	29.929	29.934	.933	.910	.872	.856	.822	.807	.811	.821	.837	.853	.867	.853	.851	.837	.873
„ 12,...	.830	.814	.790	.788	.805	.807	.819	.824	.837	.824	.807	.778	.743	.722	.700	.696	.696	.706	.724	.736	.754	.774	.777	.781	.772
„ 13,...	.761	.686	.716	.726	.731	.746	.755	.772	.790	.788	.792	.770	.717	.698	.692	.687	.704	.727	.706	.734	.734	.768	.754	.732	.737
„ 14,...	.713	.710	.707	.705	.709	.730	.752	.772	.784	.774	.773	.753	.721	.710	.711	.707	.706	.721	.753	.762	.771	.778	.779	.776	.741
„ 15,...	.771	.761	.736	.738	.747	.773	.794	.816	.822	.841	.846	.839	.794	.777	.765	.755	.762	.767	.777	.797	.821	.851	.852	.841	.793
„ 16,...	.836	.832	.828	.820	.819	.853	.865	.879	.921	.918	.903	.889	.857	.842	.822	.805	.789	.807	.809	.814	.839	.861	.859	.855	.847
„ 17,...	.841	.820	.805	.803	.804	.817	.825	.844	.857	.858	.851	.833	.792	.786	.763	.746	.741	.740	.750	.758	.762	.788	.779	.776	.797
„ 18,...	.759	.735	.723	.729	.745	.751	.763	.793	.801	.795	.809	.793	.774	.754	.747	.748	.745	.761	.776	.798	.817	.824	.829	.827	.775
„ 19,...	.823	.807	.791	.801	.807	.820	.836	.853	.868	.866	.869	.855	.833	.809	.796	.789	.786	.804	.818	.821	.835	.834	.820	.821	.823
„ 20,...	.813	.799	.777	.775	.781	.782	.786	.804	.816	.806	.797	.777	.740	.720	.714	.714	.729	.738	.739	.739	.769	.791	.789	.772	.769
„ 21,...	.749	.734	.735	.737	.747	.767	.777	.795	.807	.823	.834	.802	.788	.772	.759	.758	.770	.766	.776	.789	.803	.823	.820	.807	.781
„ 22,...	.792	.784	.782	.791	.800	.818	.845	.842	.855	.851	.839	.825	.800	.780	.770	.767	.769	.772	.786	.811	.823	.837	.835	.818	.808
„ 23,...	.804	.791	.788	.788	.802	.821	.853	.869	.885	.875	.885	.866	.847	.830	.809	.805	.806	.803	.817	.823	.826	.846	.840	.838	.830
„ 24,...	.842	.834	.818	.814	.827	.838	.859	.864	.877	.873	.862	.851	.828	.800	.787	.771	.777	.789	.805	.817	.826	.844	.837	.828	.828
„ 25,..	.817	.801	.793	.793	.802	.816	.834	.842	.862	.868	.860	.838	.811	.790	.775	.763	.768	.780	.799	.815	.824	.829	.826	.806	.813
„ 26,...	.794	.773	.758	.743	.755	.764	.783	.790	.794	.799	.790	.764	.736	.714	.686	.678	.671	.679	.687	.693	.718	.732	.726	.699	.739
„ 27,...	.677	.644	.631	.629	.636	.648	.658	.668	.690	.695	.690	.673	.640	.607	.580	.576	.580	.597	.609	.624	.654	.659	.666	.667	.642
„ 28, ..	.666	.647	.635	.649	.660	.672	.692	.717	.721	.727	.726	.708	.689	.683	.668	.657	.663	.690	.691	.717	.756	.767	.770	.759	.697
„ 29,...	.754	.737	.722	.710	.723	.726	.736	.761	.778	.782	.784	.768	.747	.732	.716	.707	.710	.728	.737	.759	.767	.776	.761	.754	.745
„ 30,...	.745	.730	.703	.705	.715	.726	.723	.734	.773	.759	.766	.757	.741	.706	.678	.665	.664	.679	.694	.702	.722	.747	.744	.751	.722
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Means,.....	29.844	29.826	29.813	29.813	29.821	29.835	29.851	29.870	29.883	29.885	29.881	29.862	29.833	29.814	29.799	29.792	29.795	29.805	29.816	29.831	29.849	29.859	29.857	29.849	29.837

* Interpolated.

TABLE II.

TEMPERATURE FOR THE MONTH OF APRIL, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
April 1,.....	66.3	66.1	65.9	66.0	66.8	66.4	66.8	66.7	67.7	67.2	69.8	70.3	68.5	68.4	68.9	68.5	68.1	67.9	67.6	67.6	67.5	67.8	67.8	68.7	67.6	71.0	65.7
„ 2,.....	68.2	67.6	67.8	67.4	67.8	67.1	68.4	69.7	70.0	71.1	71.0	72.3	71.4	70.2	70.8	70.2	69.1	68.2	67.2	68.3	68.3	68.2	68.6	69.9	69.1	73.0	66.4
„ 3,.....	70.0	69.4	69.2	69.2	69.6	70.3	71.1	71.1	72.3	73.1	76.1	77.9	71.7	71.7	70.7	71.6	71.2	70.1	70.8	70.8	65.1	64.5	64.9	65.1	70.3	78.9	63.9
„ 4,.....	65.1	64.6	64.8	64.8	64.9	65.1	65.8	66.9	68.3	71.1	72.9	73.4	72.0	70.9	71.1	69.8	68.5	67.9	67.7	67.2	67.2	67.0	66.6	66.5	67.9	74.0	64.6
„ 5,.....	66.5	66.0	65.4	64.7	64.4	63.8	64.0	64.5	64.5	65.2	65.6	65.1	64.6	63.7	62.9	62.8	62.1	61.5	62.1	62.9	61.8	61.4	61.2	60.2	63.6	66.5	60.2
„ 6,.....	60.0	60.9	60.4	60.4	60.4	59.0	60.3	60.7	60.4	60.6	59.6	61.0	61.0	61.6	60.6	60.3	59.6	59.4	59.1	58.8	58.9	58.9	59.2	58.8	60.0	62.5	58.1
„ 7,.....	60.0	58.8	58.3	57.5	57.0	56.5	56.4	56.4	58.1	59.2	59.0	59.6	59.7	59.8	60.0	60.3	60.5	60.6	60.7	60.7	59.7	60.0	59.6	59.6	59 1	60.8	56.4
„ 8,.....	59.6	60.1	59.8	60.0	60.1	60.2	60.9	61.7	62.4	63.7	64.4	65.6	65.8	65.7	65.9	65.8	65.4	64.9	65.2	65.0	65.0	64.9	65.0	65.2	63.4	66.4	59.6
„ 9,.....	65.2	65.6	66.0	66.2	66.4	66.5	66.7	67.2	68.0	68.6	68.6	69.2	69.8	69.8	69.9	69.9	68.9	67.8	67.3	67.7	67.2	67.2	67.6	67.7	67.7	71.4	64.5
„ 10,.....	67.4	67.8	67.6	67.6	67.6	68.1	67.8	67.8	69.3	70.6	71.0	70.5	71.2	71.5	73.2	72.3	71.0	70.2	69.2	69.0	68.9	68.9	68.8	69.1	69.4	73.5	67.0
„ 11,.....	68.7	68.5	68.5	68.0	68.0	68.0	68.2	69.6	72.3	73.1	74.5	76.2	77.4	77.1	78.9	77.8	75.8	73.1	71.3	71.2	71.1	70.3	69.9	70.0	72.0	79.7	67.4
„ 12,.....	69.6	70.0	69.6	69.2	69.8	69.9	70.7	72.7	73.2	75.4	75.9	78.8	80.9	80.5	81.1	81.4	79.5	74 5	73.1	72.4	72.0	72.4	72.1	72.4	74.0	82.1	69.0
„ 13,.....	72.8	72.0	72.1	72.1	73.1	71.9	73.0	74.2	73.4	74.3	76.0	77.2	79.0	78.7	77.1	76.6	75.2	73.5	71.5	70.1	69.4	69.6	69.3	69.4	73.4	80.1	68.1
„ 14,.....	70.0	70.8	70.8	70.9	71.0	71.8	72.9	72.9	73.8	75.9	76.6	78.1	82.0	77.8	75.4	77.6	76.7	75.2	74.1	73.3	72.6	73.2	73.1	73.3	74.2	82.8	69.1
„ 15,.....	72.6	72.4	71.4	70.2	70.6	69.5	70.7	72.3	74.0	76.1	78.6	78.2	80.2	80.1	80.0	78.2	76.0	75.2	73.1	72.5	72.0	72.0	71.8	71.5	74.1	80.4	69.4
„ 16,.....	72.0	71.7	71.2	71.0	70.1	70.0	69.5	69.4	68.5	68.9	71.7	71.1	71.0	71.7	71.6	70.6	70.4	69.9	70.1	69.9	70.0	70.0	69.8	69.5	70.4	72.9	68.2
„ 17,.....	69.1	68.7	68.5	68.1	68.0	67.9	68.0	69.1	69.3	70.2	71.9	72.5	72.9	72.9	72.9	72.4	70.8	70.1	70.0	70.1	70.1	70.1	70.6	70.4	70.2	74.1	67.5
„ 18,.....	70.0	70.0	70.2	69.9	69.8	70.0	71.0	71.7	72.9	74.3	75.7	74.8	73.9	74.4	74.1	73.3	72.2	71.9	72.1	71.8	71.7	71.3	71.0	70.7	72.0	76.0	69.2
„ 19,.....	71.0	70.8	71.3	71.1	71.4	71.7	71.9	71.0	69.7	70.3	70.1	70.1	70.1	70.2	70.2	69.8	69.1	68.5	68.4	68.0	68.1	67.6	67.6	67.8	69.8	72.0	67.5
„ 20,.....	67.8	67.9	68.0	68.2	68.3	68.4	68.9	68.8	69.6	70.1	70.7	71.3	70.7	70.8	70.8	70.1	70.0	69.5	69.3	69.6	69.9	70.4	70.1	70.1	69.6	72.7	67.4
„ 21,.....	69.9	69.6	69.6	69.1	69.0	69.4	69.4	69.0	69.0	69.9	70.7	71.9	70.7	71.9	69.5	68.9	67.9	67.5	67.3	67.2	67.4	67.9	67.8	68.1	69.1	73.6	67.1
„ 22,.....	67.8	67.6	67.6	67.6	67.6	67.6	67.7	69.0	69.7	72.1	72.8	72.3	72.2	71.4	70.5	71.2	70.5	69.9	69.5	68 8	67.9	68.4	67.8	68.0	69.4	73 2	67.0
„ 23,.....	68.3	68.1	68.2	68.1	67.9	68.0	70.0	71.1	73.3	74.4	75.8	75.0	76.8	75.0	75.9	75.6	74.2	73.3	71.4	70.9	70.3	69.8	69.9	69.3	71.7	76.8	67.2
„ 24,.....	68.7	68.4	68.4	68.3	68.4	68.6	70.0	72.9	74.9	77.0	78.9	80.1	81.0	79.1	80.4	81.6	79.0	75.9	74.7	73.1	72.5	72.4	71.8	72.0	74.1	82.1	67.7
„ 25,.....	71.2	70.9	70.5	70.2	69.4	70.2	71.8	74.1	75.2	76.2	76.6	75.9	76.8	76.5	76.8	76.2	75.1	74.2	73.4	73.2	73.1	73.2	72.9	72.8	73.6	77.4	69.4
„ 26,.....	72.8	72.9	72.8	72.8	72.6	72.3	71.6	72.6	74.5	74.0	72.8	71.1	72.1	71.6	73.0	73.4	72.1	71.7	71.7	71.4	71.7	72.0	71.8	72.0	72.4	75.9	70.9
„ 27,.....	72.4	73.3	74.8	75.6	75.8	76.6	77.8	78.3	79.8	79.3	79.4	79.9	78.5	79.6	78.8	79.0	78.6	78.4	77.8	78.1	78.0	77.8	77.3	77.5	77.6	81.1	71.7
„ 28,.....	77.8	78.1	77.3	77.5	77.4	77.8	78.0	78.8	79.6	80.2	81.5	81.3	81.0	80.2	80.2	80.4	77.9	77.2	75.8	73.2	72.5	72.4	72.2	72.6	77.5	82.1	72.0
„ 29,.....	72.6	72.4	72.3	72.0	72.0	72.0	72.9	72.8	73.8	75.1	75.2	73.8	73.3	73.8	74.0	73.5	73.4	72.1	71.4	71.1	70.5	70.5	70.4	69.6	72.5	75.3	69.6
„ 30,.....	69.8	68.9	68.4	68.8	68.9	67.5	68.6	68.8	68.8	69.3	68.6	68.8	68.7	68.6	68.7	68.9	69.0	69.6	69 1	69.1	69.3	69.1	69.0	68.8	68.9	70.8	67.3
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means, ...	68.8	68.7	68.6	68.4	68.5	68.4	69.0	69.7	70.5	71.6	72.4	72.8	72.8	72.5	72.5	72.3	71.3	70.3	69.7	69.4	69.0	6.90	68.8	68.9	70.2	74.6	66.6

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF APRIL, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
April 1, .	66.0	65.8	65.6	65.8	66.1	66.0	66.0	66.5	66.9	66.7	67.6	67.6	66.9	66.8	67.5	67.0	67.0	67.5	67.3	67.5	67.3	67.5	67.4	67.8	66.8	115.7
„ 2,...	67.6	67.0	67.3	67.2	67.7	67.0	68.0	68.8	68.7	69.3	69.0	69.9	69.3	69.0	69.5	69.1	68.1	67.9	67.1	68.1	68.0	67.8	68.3	69.1	68.3	131.3
„ 3,...	68.6	68.6	68.3	68.2	68.4	69.0	70.0	70.0	71.0	71.0	72.8	73.0	70.0	70.0	69.7	70.2	69.9	69.8	70.6	70.0	64.0	63.8	63.9	64.2	69.0	136.6
„ 4,...	64 0	64.1	63.0	63.9	63.8	63.7	64.6	65.0	65.9	66.4	67.9	65.5	66.0	64.9	66.4	66.6	65.8	65.7	65.4	65.1	65.0	65.0	64.8	64.7	65.1	130.5
„ 5,...	64.6	64.3	63.6	63.1	62 6	61.8	61.6	61.6	61.6	62.1	61.9	61.3	61.1	61.6	61.8	61.0	60.6	60.2	60.2	61.1	60.5	59.8	59.5	58.3	61.5	111.6
„ 6,...	57.9	58.3	58.1	58.1	58.0	56.4	56.8	57.6	57.7	58.0	57.4	57.4	56.5	56.0	56.7	56.6	56.1	56.8	56.6	56.8	56.6	56.3	56.1	55.5	57.0	99.6
„ 7,...	55.3	55.0	54.6	54.7	54.8	53.8	53.5	52.8	54.5	55.1	55.0	55.3	56.1	56.9	56.3	56.0	56.4	56.3	56.5	56.0	55.9	55.9	56.0	56.0	55.4	80.3
„ 8,...	55.8	56.1	56.0	56.2	56.8	57.0	58.0	58.4	59.0	60.2	61.0	61.8	62.1	62.1	62.4	62.8	62.6	62.6	63.0	63.1	63.3	63.4	63.6	63.8	60.5	112.4
„ 9,...	63.8	64.1	64.1	64.6	64.6	64.8	65.0	65.0	65.1	65.8	66.3	66.3	66.9	66.4	66.6	66.2	66.3	65.8	66.0	66.4	66.2	66.9	67.1	66.9	65.7	126.0
„ 10,...	66.8	66.9	66.8	66.6	66.8	66.8	67.0	67.3	68.2	68.4	68.6	68.0	68.3	69.0	69.1	68.8	68.1	67.8	67.8	68.0	67.8	67.7	67.7	68.0	67.8	128.2
„ 11,...	67.8	67.4	67.4	67.2	67.1	67.1	67.5	68.0	69.7	69.3	70.1	71.0	70.9	71.1	71.0	70.8	70.8	69.2	69.1	69.1	69.0	68.9	68.8	68.6	69.0	140.0
„ 12,...	68.6	69.0	68.7	68.6	68.8	68.9	69.8	70.2	71.0	71.1	72.0	72.0	73.2	72.9	73.0	73.5	72.1	71.6	69.9	70.0	70.4	70.3	70.2	70.6	70.7	135.9
„ 13,...	69.0	69.4	69.4	69.9	70.9	70.2	70.9	71.3	71.0	71.6	71.9	72.1	73.0	73.7	73.6	73.0	72.1	72.4	66.7	67.9	67.0	67.0	67.7	67.9	70.4	124.7
„ 14,...	68.2	68.6	69.0	69.6	70.0	70.4	71.0	71.5	72.8	72.8	73.0	73.3	75.5	73.8	72.6	73.7	72.3	72.1	72.0	71.9	71.7	72.1	72.1	72.2	71.8	138.1
„ 15,...	71.6	71.5	70.7	69.8	70.1	69.2	70.4	72.1	72.1	72.2	73.1	72.7	73.7	73.1	73.8	73.1	72.7	72.3	71.3	71.0	70.8	70.9	70.9	70.6	71.7	135.9
„ 16,...	70.6	70.5	70.4	70.4	69.9	69.8	68.4	67.7	66.7	66.7	67.8	67.0	67.0	67.0	67.0	67.0	66.8	66.6	66.4	66.7	67.0	67.1	67.8	66.6	67.9	131.8
„ 17,...	66.4	66.0	65.6	65.2	65.2	64.8	64.4	64.6	64.7	65.0	66.9	67.0	67.2	67.3	67.7	68.0	67.5	67.0	66.5	66.9	67.1	67.7	67.6	67.6	66.4	125.6
„ 18,...	67.6	67.6	67.6	67.6	67.4	67.4	67.2	67.7	68.9	69.0	69.5	69.6	68.8	69.3	69.7	69.6	69.1	68.9	69.1	69.1	69.2	69.1	68.8	68.6	68.6	131.9
„ 19,...	68.9	68.9	68.6	68.2	68.3	68.4	68.8	69.0	68.7	68.7	68.4	68.0	67.8	68.0	68.0	67.6	67.5	67.3	67.4	67.5	67.2	67.1	66.8	67.0	68.0	102.0
„ 20,...	67.0	67.0	67.0	67.3	67.3	67.4	68.0	67.9	68.4	68.8	69.0	69.5	69.1	69.2	69.3	68.8	68.5	68.7	68.7	68.9	68.8	69.5	69.4	69.2	68.4	131.9
„ 21,...	69.0	68.6	68.1	67.8	67.3	67.0	65.5	63.8	65.0	65.4	66.0	66.0	65.8	66.9	65.6	65.2	64.1	63.8	64.8	64.9	64.1	63.5	63.4	62.3	65.6	124.4
„ 22,...	62.7	62.7	62.9	63.4	63.9	63.4	63.7	64.4	64.7	66.7	67.0	67.0	67.1	66.4	65.8	66.2	65.8	65.5	65.5	65.0	65.3	65.0	64.8	64.6	65.0	130.0
„ 23,...	64.6	64.7	64.8	64.3	64.7	65.0	66.0	66.8	66.3	66.2	66.7	66.7	67.5	66.0	66.8	67.6	67.3	66.7	67.5	67.6	67.0	66.7	66.6	66.5	66.3	132.3
„ 24,...	66.4	66.5	66.4	65.8	65.8	66.6	67.1	69.0	68.0	69.0	69.9	70.0	72.3	72.0	72.8	73.0	70.9	70.7	69.9	70.2	69.7	69.5	69.0	69.4	68.7	135.4
„ 25,...	68.6	68.6	68 4	68.2	68.0	69.0	69.8	70.6	71.0	70.6	70.9	71.3	72.0	72.0	72.0	71.1	70.2	69.0	69.9	69.8	70.1	70.7	70.6	70.6	70.1	129.9
„ 26,...	70.6	70.8	70.6	70.6	70.5	70.0	69.6	69.9	71.0	71.0	70.5	69.8	70.0	69.6	70.5	70.2	70.0	69.9	69.7	70.1	70.4	70.7	70.4	70.8	70.3	134.2
„ 27,...	71.2	72.0	72.5	72.2	71.9	72.2	72.8	73.3	75.3	74.4	75.0	74.7	75.0	75.3	75.7	75.0	75.1	74.3	74.5	74.6	74.7	74.7	75.1	75.2	74.0	133.9
„ 28,...	75.2	75.2	75.6	75.6	75.4	75.5	75.9	76.7	76.5	77.3	77.4	77.2	77.2	77.1	76.2	76.2	76.0	75.9	73.9	73.1	72.3	71.2	71.2	71.6	75.2	117.1
„ 29,...	71.6	71.2	71.2	71.0	70.9	70.9	71.7	72.2	72.1	72.8	72.6	72.6	72.7	73.2	73.5	73.2	73.2	71.5	70.5	69.9	69.5	69.4	69.2	68.9	71.5	99.6
„ 30,...	68.7	68.2	67.6	67.5	67.3	66.7	66.8	67.2	67.1	67.4	67.5	68.0	67.8	67.8	67.7	67.6	67.9	68.0	67.7	68.0	67.8	67.8	67.9	67.5	67.6	88.0
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means,.....	66.8	66.8	66.7	66.6	66.7	66.5	66.9	67.2	67.7	68.0	68.4	68.4	68.6	68.5	68.6	68.5	68.0	67.7	67.4	67.5	67.1	67.1	67.1	67.0	67.5	123.2

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF APRIL, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	90	0.638	April 1,.....	96	0.648
2 „	90	.639	„ 2,.....	96	.683
3 „	90	.636	„ 3,.....	93	.693
4 „	91	.636	„ 4,.....	86	.584
5 „	91	.638	„ 5,.....	88	.520
6 „	90	.632	„ 6,.....	82	.427
7 „	89	.639	„ 7,.....	78	.392
8 „	87	.641	„ 8,.....	84	.490
9 „	86	.648	„ 9,.....	90	.607
10 „	83	.644	„ 10,.....	92	.660
11 „	81	.648	„ 11,.....	85	.670
Noon.	78	.643	„ 12,.....	84	.709
1 p.	80	.650	„ 13,.....	86	.705
2 „	81	.650	„ 14,.....	88	.749
3 „	81	.654	„ 15,.....	88	.745
4 „	82	.653	„ 16,.....	88	.651
5 „	84	.648	„ 17,.....	81	.599
6 „	88	.651	„ 18,.....	84	.654
7 „	88	.648	„ 19,.....	91	.663
8 „	90	.655	„ 20,.....	94	.680
9 „	90	.645	„ 21,.....	82	.585
10 „	90	.645	„ 22,.....	78	.560
11 „	91	.648	„ 23,.....	74	.575
Midt.	90	.643	„ 24,.....	74	.630
			„ 25,.....	83	.690
			„ 26,.....	90	.714
			„ 27,.....	84	.793
			„ 28,.....	90	.845
			„ 29,.....	95	.760
			„ 30,.....	93	.660
			.....	...	.....
Means,.....	87	0.645	Means.	87	0.645

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
April 1,.....	...	...	...	...	0.2	0.2	...	...	...	...	...	...	...	0.4
„ 2,.....	...	...	...	0.4	1.0	0.8	0.8	0.7	0.3	0.9	0.3	0.1	...	5.3
„ 3,.....	...	...	...	0.4	0.6	0.7	0.8	0.2	0.4	0.2	0.4	...	...	3.7
„ 4,.....	...	...	0.4	1.0	1.0	1.0	0.5	0.6	0.5	0.3	...	...	...	5.3
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 7,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 8,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9,.....	...	...	0.2	...	...	...	0.7	1.0	1.0	0.9	0.8	0.3	...	4.9
„ 10,.....	...	...	...	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	...	7.6
„ 11,.....	...	...	0.7	0.9	0.6	0.5	0.9	0.7	1.0	1.0	1.0	0.4	...	7.7
„ 12,.....	...	0.3	1.0	1.0	0.9	1.0	1.0	0.9	0.9	1.0	1.0	0.6	...	9.6
„ 13,.....	...	...	...	...	...	...	...	0.3	0.2	...	...	...	...	0.5
„ 14,.....	...	...	...	...	0.2	1.0	1.0	0.8	0.1	0.1	0.6	...	...	3.8
„ 15,.....	...	...	0.1	1.0	1.0	0.7	0.8	1.0	1.0	0.6	..	...	...	6.2
„ 16,.....	...	...	...	...	...	0.9	1.0	1.0	1.0	1.0	0.8	0.4	...	6.1
„ 17,.....	...	0.2	0.6	0.1	0.1	0.5	0.1	...	0.5	0.5	0.1	0.1	...	2.8
„ 18,.....	...	0.2	0.2	0.8	1.0	1.0	1.0	1.0	1.0	0.8	...	...	...	7.0
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 20,.....	...	...	...	...	...	0.1	0.3	...	...	...	...	...	...	0.4
„ 21,.....	...	...	...	...	...	...	0.1	...	...	...	...	...	...	0.1
„ 22,.....	...	...	...	...	0.5	0.1	...	...	...	0.1	0.9	0.2	...	1.8
„ 23,.....	...	0.8	1.0	1.0	0.4	1.0	1.0	0.7	1.0	1.0	1.0	1.0	...	9.9
„ 24,.....	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	0.7	0.2	10.8
„ 25,.....	...	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.2	10.8
„ 26,.....	...	...	0.1	0.8	0.1	...	...	...	0.2	0.3	...	...	...	1.5
„ 27,.....	...	...	0.2	0.8	0.7	0.1	...	...	0.2	0.6	...	...	...	2.6
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 29,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 30,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums,.....	...	3.2	6.4	10.2	10.9	12.6	13.0	11.9	12.2	12.3	9.9	5.8	0.4	108.8

TABLE VI.

RAINFALL FOR THE MONTH OF APRIL, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
April 1,.....	...	...	...	...	...	...	...	...	...	0.070	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.070	3
„ 2,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 3,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.610	0.120	0.130	0.195	1.055	3
„ 4,.....	0.280	0.140	0.025	0.010	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.465	4
„ 5,.....	...	...	0.040	...	...	...	...	...	...	...	...	...	...	...	...	0.270	0.150	0.060	0.005	...	...	...	...	...	0.525	7
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	...	...	0.005	0.005	...	...	...	0.020	7
„ 7,.....	...	0.020	0.015	0.045	0.050	0.060	0.050	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	0.005	...	...	0.250	9
„ 8,.....	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	1
„ 9,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 10,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.170	...	0.005	0.005	0.005	...	...	0.185	5
„ 14,.....	...	...	...	...	...	...	...	0.015	0.160	...	...	...	...	0.025	0.030	...	...	...	...	...	...	...	...	...	0.230	2
„ 15,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 16,.....	...	...	...	...	...	0.015	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.020	1
„ 17,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...	0.005	0.005	0.015	7
„ 20,.....	0.005	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	0.040	0.025	0.010	0.035	...	...	...	0.130	8
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	0.010	0.005	...	...	...	...	...	...	0.025	3
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 26,.....	...	...	...	...	...	...	...	...	...	...	...	...	0.015	0.005	...	...	...	...	...	...	...	...	...	...	0.020	1
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...	0.005	...	...	...	...	...	...	...	...	...	0.010	3
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	0.005	0.110	1.825	0.525	0.275	0.110	0.025	2.885	7
„ 29,.....	0.085	0.030	0.045	0.045	0.080	0.030	...	...	...	...	0.015	0.135	0.095	0.050	0.095	0.305	0.240	0.090	0.090	0.025	0.010	0.005	0.045	0.035	1.550	19
„ 30,.....	0.170	0.235	0.090	0.040	0.005	0.115	...	0.005	0.070	...	0.025	0.035	0.025	0.030	0.080	0.005	...	...	...	...	...	0.005	0.035	...	0.970	18
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	0.540	0.435	0.215	0.140	0.135	0.230	0.055	0.020	0.230	0.070	0.040	0.170	0.140	0.110	0.210	0.590	0.430	0.370	0.230	1.870	1.200	0.415	0.325	0.260	8.430	108

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF APRIL, 1893.

Date.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a.		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		Vel.		Dir.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
April 1,	8	18	8	20	9	21	8	18	8	23	8	21	8	18	8	17	7	15	13	5	8	8	7	6	7	15	8	20	7	18	7	17	7	20	8	17	8	18	9	16	8	15	8	14	8	14	10	11	385	16.0	8
" 2,	9	9	7	8	7	10	8	12	8	9	12	4	...	1	...	0	7	5	9	8	8	5	8	6	8	7	8	11	8	10	7	12	7	16	7	14	7	11	7	9	7	8	7	12	7	7	5	4	198	8.2	8
" 3,	20	3	19	2	19	2	8	6	8	9	7	4	7	4	11	3	9	4	8	4	31	5	29	3	7	8	7	18	8	17	6	11	9	11	9	9	7	14	9	12	32	12	8	14	7	16	11	8	199	8.3	7
" 4,	15	9	7	13	10	14	10	15	10	6	15	3	24	4	30	2	7	4	29	4	26	5	8	15	10	20	10	23	7	22	7	22	7	21	7	22	6	28	6	27	7	19	6	22	6	20	6	21	361	15.0	7
" 5,	6	22	7	23	7	20	8	19	7	21	7	26	7	26	7	30	7	27	8	29	8	28	7	27	7	27	7	26	7	19	2	13	7	7	9	18	4	16	6	13	5	11	6	11	4	10	1	5	474	19.8	7
" 6,	2	7	5	13	6	15	5	12	5	14	1	11	4	17	4	15	5	12	5	11	3	19	4	18	5	17	5	20	4	19	5	13	4	15	5	14	3	8	2	9	6	15	6	22	7	27	6	26	369	15.4	5
" 7,	7	28	7	29	6	34	6	29	6	33	7	40	6	28	6	23	5	27	6	27	6	27	7	27	6	28	6	24	7	24	7	30	6	22	6	25	6	25	7	27	6	21	6	25	6	22	5	15	640	26.7	6
" 8,	7	18	5	17	7	21	6	23	7	23	7	22	7	18	7	18	7	19	7	17	7	16	7	19	7	23	7	20	7	22	7	21	7	23	7	20	7	17	8	16	8	18	7	18	8	19	7	13	461	19.2	7
" 9,	8	18	8	17	9	17	8	17	8	18	9	16	9	19	8	22	8	16	6	17	8	20	8	19	8	20	8	20	9	21	9	23	8	20	10	14	8	13	7	11	7	13	7	11	7	6	7	8	399	16.6	8
" 10,	7	11	7	9	8	9	9	8	9	7	9	6	9	13	8	11	8	10	8	14	9	16	8	19	8	23	9	18	8	20	9	16	8	20	8	17	9	15	8	12	9	10	9	10	8	10	8	11	315	13.1	8
" 11,	8	12	9	9	9	7	9	9	9	10	9	10	9	12	9	9	8	10	8	9	8	7	24	5	26	5	7	5	16	5	25	3	26	4	26	3	27	2	27	4	27	2	27	3	27	2	27	5	152	6.3	8
" 12,	27	3	27	5	27	5	27	5	27	3	24	3	24	3	25	7	25	9	24	9	25	10	23	8	25	8	26	6	27	7	25	6	24	5	27	2	29	5	29	3	30	3	4	3	3	4	28	11	133	5.5	26
" 13,	23	7	8	10	26	5	25	7	21	9	28	5	28	5	28	4	27	8	26	6	22	9	22	4	27	7	29	8	21	7	21	5	21	5	27	10	12	8	30	8	30	6	22	4	27	3	28	3	153	6.4	25
" 14,	21	2	28	3	28	2	28	4	28	5	28	4	28	4	28	4	28	4	28	7	23	8	27	8	25	10	23	9	15	10	29	4	18	6	16	5	28	4	28	4	28	5	28	5	28	3	...	1	121	5.0	26
" 15,	28	2	28	2	22	2	22	3	...	1	26	3	...	1	...	0	27	4	27	4	18	5	24	9	25	8	24	8	25	5	19	4	24	3	3	4	29	7	29	2	29	3	20	2	...	1	20	4	87	3.6	25
" 16,	20	6	8	8	9	8	8	11	9	12	8	16	7	21	6	21	6	27	7	25	7	27	7	32	7	32	7	31	7	25	9	29	8	27	8	25	7	21	8	24	9	20	9	18	8	17	7	18	501	20.9	8
" 17,	7	18	7	18	6	18	7	20	7	19	7	18	7	20	7	20	8	18	8	19	8	20	9	15	9	19	9	16	9	17	10	17	10	21	8	16	8	18	9	14	8	15	9	15	6	13	6	14	418	17.4	8
" 18,	6	14	7	12	5	11	7	13	8	10	8	15	8	15	8	14	8	19	7	21	7	25	8	22	8	26	8	26	8	20	8	16	7	17	6	16	7	13	7	13	5	15	6	17	6	15	6	13	398	16.6	7
" 19,	6	10	8	13	4	15	8	12	7	14	8	12	8	14	7	16	7	19	6	20	6	24	7	22	7	24	7	22	7	21	7	19	7	23	7	22	7	21	7	23	7	22	7	26	7	24	8	23	461	19.2	7
" 20,	7	18	7	19	7	18	7	17	7	17	8	19	7	17	8	15	8	16	8	19	8	19	8	22	8	21	8	17	7	19	8	15	7	12	7	11	7	9	7	5	...	1	24	6	24	8	358	14.9	7
" 21,	25	5	26	4	29	3	26	3	...	0	3	8	3	8	1	7	28	4	27	10	28	4	1	7	24	4	2	2	23	6	2	7	...	0	2	3	...	0	...	0	...	0	7	2	...	1	7	5	93	3.9	31
" 22,	7	7	9	5	7	2	7	2	7	6	8	5	7	6	8	9	8	10	10	9	9	11	9	13	9	12	8	16	9	14	9	13	8	13	8	11	8	10	8	5	...	1	8	3	8	2	8	7	192	8.0	8
" 23,	8	12	9	8	10	8	7	9	9	6	10	7	10	7	11	4	11	3	10	6	9	9	8	8	7	5	9	6	8	6	8	6	8	4	13	2	13	3	31	5	31	2	...	1	8	6	...	0	133	5.5	9
" 24,	...	1	...	0	...	0	...	1	...	0	...	1	...	0	...	0	9	3	24	7	25	6	25	6	25	7	26	8	25	9	27	7	27	7	27	5	28	4	26	4	25	2	...	0	...	0	...	0	78	3.2	26
" 25,	...	0	...	0	...	0	...	0	...	0	...	0	...	0	25	6	8	14	9	18	8	17	7	18	7	18	8	21	8	22	9	21	9	21	9	20	8	19	8	20	10	20	9	20	9	21	9	21	317	13.2	8
" 26,	9	18	9	19	9	17	9	19	8	17	9	16	7	15	9	20	8	19	9	17	8	20	8	20	8	20	7	18	7	19	8	20	8	19	8	21	7	17	8	20	8	19	9	18	8	17	7	12	437	18.2	8
" 27,	7	9	7	10	12	4	17	5	18	7	17	10	19	15	19	15	21	19	20	21	19	25	18	28	19	28	19	27	18	28	19	25	19	26	19	24	19	24	19	22	20	21	21	18	21	17	20	19	447	18.6	19
" 28,	21	19	19	14	21	17	21	20	21	14	21	14	21	11	28	2	22	5	23	7	23	9	21	3	23	5	23	9	18	3	22	3	...	1	32	4	8	12	30	11	10	6	12	6	12	3	9	12	210	8.8	21
" 29,	9	11	9	10	7	10	8	11	8	14	9	22	8	26	8	23	8	22	7	20	7	19	7	17	8	18	8	20	8	14	9	19	8	18	8	22	7	26	7	29	7	32	7	33	7	30	7	31	497	20.7	8
" 30,	7	27	7	27	7	32	7	33	7	31	7	34	7	35	7	37	7	34	6	35	6	32	6	32	6	27	6	29	7	23	7	28	7	22	7	25	7	24	7	29	6	25	7	25	6	24	6	25	695	29.0	7
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	...	344	...	347	...	347	...	363	...	358	...	375	...	384	...	376	...	405	...	422	...	455	...	455	...	493	...	508	...	470	...	449	...	432	...	422	...	414	...	404	...	366	...	379	...	360	...	354	9682	403.4	...
Means, ...	...	11.5	...	11.6	...	11.6	...	12.1	...	11.9	...	12.5	...	12.8	...	12.5	...	13.5	...	14.1	...	15.2	...	15.2	...	16.4	...	16.9	...	15.7	...	15.0	...	14.4	...	14.1	...	13.8	...	13.5	...	12.2	...	12.6	...	12.0	...	11.8	322.7	13.4	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
April 1, ...	10	nim.	...	10	nim.	...	10	fog.	...	10	c-cum. / cum. / nim.	W / .. / WNW
„ 2, ...	10	cum.	S	10	cum-nim.	S	10	fog.	...	9	c-cum. / str.	SW / ..
„ 3, ...	10	cum-nim.	SW	10	cum.	W	10	cum. / cum-nim. / fog.	WSW / SSW / ..	9	sm-cum. / R-cum.	WSW / SW
„ 4, ...	10	nim.	...	10	nim.	...	8	sm-cum.	...	1	c-cum. / cum.	WNW / WNW
„ 5, ...	10	cum.	...	10	cum-nim.	...	10	str-cum.	E	10	cum-nim.	W
„ 6, ...	10	cum-nim.	...	10	cum.	...	10	R-cum.	E	10	cum-nim.	E
„ 7, ...	10	cum-nim.	...	10	nim.	...	10	nim.	E	10	R-cum.	E
„ 8, ...	10	cum-nim.	E	10	cum.	E	10	R-cum.	E	10	sm-cum. / cum.	E
„ 9, ...	10	cum-nim.	E	10	cum-nim.	E	10	sm-cum. / cum.	...	10	str.	E
„ 10, ...	6	cum.	E	8	cum.	E	7	cum.	E	8	R-cum.	E
„ 11, ...	7	c-str.	...	9	str-cum.	SE	10	cum.	SE	6	sm-cum. / cum.	W / E
„ 12, ...	6	c-str.	W	6	c-str.	W	4	c-str.	W	8	c-str.	W
„ 13, ...	10	str-cum.	...	10	cum.	...	9	sm-cum. / str-cum.	WSW	10	str-cum.	W
„ 14, ...	10	nim.	SSW	6	sm-cum.	SW	10	cum.	SW	8	c-str. / cum.	W / WSW
„ 15, ...	0	...	...	0	...	...	10	fog.	...	4	c-cum. / cum.	S / W
„ 16, ...	0	...	...	6	sm-cum.	...	10	cum-nim.	E	10	str-cum.	E
„ 17, ...	10	cum-nim.	...	10	str-cum.	...	6	sm-cum. / cum.	E	9	sm-cum.	S
„ 18, ...	10	str-cum.	E	10	cum.	E	8	c-cum. / cum.	E	2	cum.	E
„ 19, ...	10	str-cum.	E	10	str-cum.	E	9	cum-nim.	...	10	str.	E
„ 20, ...	10	nim.	...	10	cum-nim.	...	10	cum-nim.	E	10	str.	E
„ 21, ...	7	cum.	...	8	cum.	...	10	sm-cum.	WSW	10	str. / cum.	E
„ 22, ...	7	cum.	NE	10	R-cum.	E	10	str-cum. / R-cum.	E	7	sm-cum. / cum.	WSW / E
„ 23, ...	0	...	...	1	cum.	...	1	cum.	...	8	sm-cum.	W
„ 24, ...	0	...	...	0	...	...	0	...	...	1	c-cum.	W
„ 25, ...	4	sm-cum.	...	0	...	...	4	c-str.	WSW	9	c-str. / cum.	WSW / ..
„ 26, ...	8	sm-cum. / cum.	NW / ESE	5	cum.	ESE	9	c-str. / cum.	ESE	10	cum. / str.	SSE / E
„ 27, ...	9	str-cum.	SE	10	cum.	SE	10	sm-cum. / cum.	WSW / SSW	9	c-cum. / R-cum.	WSW / SW
„ 28, ...	9	c-str. / sm-cum. / R-cum.	.. / W / SW	8	cum.	SW	10	sm-cum. / cum.	WSW	10	sm-cum. / R-cum.	WSW
„ 29, ...	10	nim.	SW	10	nim.	...	10	cum. / cum-nim.	E	10	cum-nim. / nim.	SW / ESE
„ 30, ...	10	nim.	E	10	nim.	E	10	nim.	E	10	nim.	E
.....	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	7.8	...	...	7.9	...	...	8.5	...	...	8.3	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
April 1,...	10	cum-nim.	SW	10	R-cum.	SW	10	str.	...	9	cum.	SSW	9.9
,, 2,...	9	c-cum. / str-cum.	SW / SSW	7	c-str. cum. / fog.	SW / WSW / E	10	fog.	...	7	c-cum. / fog.	SW / E	9.0
,, 3,...	9	sm-cum. / cum.	W / SW	7	sm-cum. / cum.	W / S	10	cum-nim.	...	10	nim.	...	9.4
,, 4,...	9	sm-cum. / cum.	W	10	sm-cum. / R-cum.	W / E	7	cum.	E	9	sm-cum. / cum.	W / E	8.0
,, 5,...	10	R-cum.	E	10	nim.	...	10	nim.	ENE	10	nim.	...	10.0
,, 6,...	10	nim.	E	10	cum-nim.	ENE	10	nim.	ENE	10	nim.	...	10.0
,, 7,...	10	R-cum.	E	10	cum-nim.	E	10	cum-nim.	E	10	nim.	...	10.0
,, 8,...	10	R-cum.	E	10	R-cum.	E	10	R-cum.	E	10	cum-nim.	...	10.0
,, 9,...	4	sm-cum. / str. / R-cum.	E	3	sm-cum. / R-cum.	E	5	R-cum.	E	9	cum-nim.	...	7.6
,, 10,...	1	cum.	...	2	c-str.	W	1	cum.	...	7	c-str.	W	5.0
,, 11,...	1	cum.	E	2	sm-cum.	W	0	...	...	3	c-str.	...	4.8
,, 12,...	8	c-str. / cum.	W / W	2	sm-cum.	W	0	...	...	0	...	...	4.2
,, 13,...	8	sm-cum. / cum.	WSW / ..	10	str-cum.	W	10	nim.	W	10	nim.	...	9.6
,, 14,...	4	cum.	SW	5	c-str. / cum.	W / SSW	3	cum.	SW	1	cum.	...	5.9
,, 15,...	1	cum.	...	8	c-str. / c-cum.	W	2	c-str.	...	0	...	...	3.1
,, 16,...	3	cum.	E	3	c-str. / cum.	E	10	R-cum.	E	9	cum.	E	6.4
,, 17,...	9	R-cum.	SSE	9	sm-cum. / cum.	S / SSE	5	sm-cum. / cum.	SE	3	cum.	...	7.6
,, 18,...	1	sm-cum. / cum-str.	E / S	8	R-cum.	E	10	R-cum.	ESE	4	R-cum.	...	6.6
,, 19,...	10	str.	E	10	str.	E	10	nim.	...	10	nim.	...	9.9
,, 20,...	10	str-cum.	...	9	sm-cum. / cum.	E	10	nim.	...	10	cum-nim.	...	9.9
,, 21,...	10	str-cum.	...	10	str. / nim.	NE	10	cum-nim.	W	10	cum-nim.	...	9.4
,, 22,...	10	str-cum. / R-cum.	W / ..	7	sm-cum. / cum.	N / ..	5	sm-cum.	WSW	0	...	...	7.0
,, 23,...	4	cum.	N	1	c-str.	...	0	...	...	0	...	...	1.9
,, 24,...	7	c-str. / cum.	W / ..	2	c-str.	W	2	c-cum.	W	0	...	...	1.5
,, 25,...	3	c. / cum.	W / SSE	4	c-str. / cum.	WNW / E	2	cum.	E	8	sm-cum. / cum.	WNW / ESE	4.3
,, 26,...	10	cum. / str.	SW / E	9	sm-cum. / cum.	W / SSE	9	sm-cum. / str.	W / E	10	str.	E	8.7
,, 27,...	10	cum-nim. / nim.	WSW / SW	10	str. / cum.	SW	10	str. / R-cum.	SW	10	sm-cum. / nim.	W / SW	9.8
,, 28,...	10	str. / R-cum.	WSW	10	str. / R-cum.	WSW	10	nim.	WSW	10	nim.	...	9.6
,, 29,...	10	nim.	ESE	10	nim.	ESE	10	nim.	E	10	nim.	E	10.0
,, 30,...	10	nim.	E	10	nim.	E	10	nim.	E	10	nim.	E	10.0
.....	...	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	7.4	...	...	7.3	...	...	7.0	...	...	7.0	...	...	7.6

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND, FOR THE MONTH OF APRIL, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	1.80	9.30	1.20	1.33	+0.60	+ 7.97	E 4° N
2 „	1.87	10.33	0.83	0.67	1.04	9.66	E 6° N
3 „	2.43	9.87	1.20	0.97	1.23	8.90	E 8° N
4 „	1.77	10.23	1.03	1.27	0.74	8.96	E 5° N
5 „	1.73	10.43	0.90	0.97	0.83	9.46	E 5° N
6 „	1.83	10.53	1.33	0.90	0.50	9.63	E 3° N
7 „	2.27	10.93	1.00	1.00	1.27	9.93	E 7° N
8 „	2.43	10.63	0.73	0.97	1.70	9.66	E 10° N
9 „	2.37	11.33	0.57	1.53	1.80	9.80	E 10° N
10 „	2.57	11.13	1.10	2.03	1.47	9.10	E 9° N
11 „	2.57	11.77	1.33	2.20	1.24	9.57	E 7° N
Noon.	2.40	12.20	1.23	1.83	1.17	10.37	E 6° N
1 p.	2.43	13.33	1.27	2.30	1.16	11.03	E 6° N
2 „	2.43	14.07	1.40	1.93	+1.03	12.14	E 5° N
3 „	1.93	12.80	1.97	1.47	−0.04	11.33	E
4 „	2.37	12.43	1.97	1.33	+0.40	11.10	E 2° N
5 „	1.73	12.23	1.50	1.27	0.23	10.96	E 1° N
6 „	2.23	11.90	1.37	1.00	0.86	10.90	E 5° N
7 „	3.00	11.73	1.07	0.93	1.93	10.80	E 10° N
8 „	2.90	10.97	0.87	1.10	2.03	9.87	E 12° N
9 „	2.90	9.87	1.03	0.93	1.87	8.94	E 12° N
10 „	2.27	11.10	1.13	0.87	1.14	10.23	E 6° N
11 „	2.40	10.37	0.50	0.87	1.90	9.50	E 11° N
Midt.	2.80	9.47	1.00	1.27	+1.80	+ 8.20	E 12° N
Means, ...	2.31	11.21	1.15	1.29	+1.16	+ 9.92	E 7° N

PHENOMENA :—

Solar halo :—on the 12th, 17th, 24th and 25th.

Lunar corona :—on the 26th.

Thick fog :—on the 1st, 2nd, 15th and 16th.

Fog :—on the 3rd and 25th.

Slight fog :—on the 11th.

Haze :—on the 4th, 9th, 12th, 14th, 24th and 26th.

Unusual visibility :—on the 11th, 14th, 21st, 22nd and 23rd.

Dew :—on the 9th, 10th, 11th, 12th, 14th, 15th, 23rd and 24th.

Rainbow :—on the 14th.

Lightning without thunder :—on the 12th, 15th and 16th.

Thunder without lightning :—on the 1st, 14th, 19th and 30th.

Thunderstorms :—on the 3rd, 7.20 p.—4th, 2 a., NW–S, nearest at 8.57 p. (3^s). On the 5th, 4.15 p.—4 50 p. in N, nearest at 4.18 p. (6^s). On the 13th, 5.30 p.—7p, NW–SSW, nearest at 6.35 p. (7^s). On the 28th, 7 p.—9.30 p. in N, nearest at 8.5 p. (3^s).

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF MAY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
May 1,...	29.739	29.716	29.702	29.681	29.678	29.696	29.717	29.732	29.736	29.756	29.748	29.748	29.723	29.701	29.684	29.675	29.672	29.691	29.709	29.715	29.723	29.736	29.748	29.741	29.715
„ 2,...	.730	.713	.699	.702	.702	.720	.750	.764	.781	.791	.795	.775	.764	.751	.759	.742	.750	.771	.787	.808	.833	.840	.839	.834	.766
„ 3,...	.824	.812	.805	.805	.812	.826	.855	.875	.882	.885	.880	.872	.872	.854	.850	.854	.857	.871	.875	.890	.908	.916	.916	.913	.863
„ 4,...	.901	.880	.867	.871	.885	.902	.916	.943	.936	.944	.928	.909	.898	.878	.861	.862	.865	.870	.879	.901	.916	.927	.928	.926	.900
„ 5,...	.914	.906	.892	.889	.882	.897	.907	.919	.925	.931	.911	.905	.874	.855	.844	.823	.833	.842	.854	.870	.868	.879	.873	.856	.881
„ 6,...	.837	.820	.799	.787	.781	.786	.787	.810	.824	.835	.824	.807	.796	.783	.773	.765	.762	.778	.770	.796	.805	.813	.826	.824	.799
„ 7,...	.818	.803	.792	.800	.804	.818	.840	.847	.857	.862	.859	.854	.836	.822	.821	.819	.803	.808	.823	.833	.843	.857	.869	.872	.832
„ 8,...	.871	.862	.855	.842	.842	.856	.868	.873	.875	.872	.862	.849	.819	.798	.782	.768	.767	.776	.778	.796	.810	.822	.830	.808	.828
„ 9,...	.802	.784	.776	.775	.777	.779	.799	.822	.830	.837	.830	.826	.799	.788	.778	.774	.788	.792	.794	.829	.838	.839	.858	.850	.807
„ 10,...	.843	.842	.834	.831	.840	.857	.870	.887	.906	.912	.898	.897	.880	.853	.842	.832	.831	.840	.848	.863	.879	.898	.890	.868	.864
„ 11,...	.864	.848	.846	.856	.860	.870	.878	.880	.895	.895	.888	.884	.857	.823	.805	.805	.803	.803	.812	.836	.863	.873	.860	.842	.852
„ 12,...	.802	.756	.778	.791	.810	.803	.823	.846	.862	.875	.868	.847	.844	.827	.827	.814	.820	.829	.840	.852	.878	.885	.886	.870	.835
„ 13,...	.851	.829	.808	.796	.807	.828	.840	.856	.860	.864	.868	.864	.844	.820	.801	.781	.783	.804	.820	.833	.853	.862	.863	.854	.833
„ 14,...	.830	.827	.805	.778	.780	.800	.827	.830	.837	.828	.827	.823	.802	.782	.764	.742	.726	.729	.742	.752	.767	.785	.775	.758	.788
„ 15,...	.745	.751	.730	.738	.725	.727	.748	.763	.769	.768	.759	.737	.708	.691	.678	.656	.649	.657	.663	.683	.708	.727	.722	.709	.717
„ 16,...	.687	.664	.661	.655	.661	.668	.683	.681	.688	.690	.677	.665	.642	.613	.608	.601	.604	.607	.635	.648	.668	.713	.715	.716	.660
„ 17,...	.702	.681	.670	.657	.665	.679	.691	.702	.701	.696	.672	.660	.642	.628	.619	.616	.624	.625	.645	.661	.686	.696	.694	.681	.666
„ 18,...	.658	.648	.644	.653	.672	.684	.716	.718	.724	.726	.702	.685	.663	.645	.632	.619	.616	.627	.648	.669	.685	.697	.697	.689	.672
„ 19,...	.682	.679	.671	.669	.664	.670	.692	.693	.708	.699	.689	.669	.646	.624	.609	.600	.600	.606	.630	.651	.656	.657	.655	.643	.657
„ 20,...	.627	.615	.606	.607	.611	.632	.647	.652	.655	.657	.646	.627	.608	.589	.579	.578	.593	.613	.635	.638	.669	.698	.683	.670	.631
„ 21,...	.639	.631	.625	.624	.636	.652	.663	.663	.684	.683	.681	.658	.661	.652	.656	.672	.627	.631	.652	.658	.666	.682	.670	.655	.655
„ 22,...	.633	.630	.618	.622	.630	.647	.665	.668	.669	.671	.653	.639	.626	.609	.596	.582	.588	.597	.607	.639	.651	.671	.672	.658	.635
„ 23,...	.633	.623	.609	.608	.617	.636	.648	.657	.668	.661	.646	.630	.604	.584	.573	.563	.571	.579	.590	.610	.617	.620	.618	.602	.615
„ 24,...	.587	.577	.569	.578	.581	.596	.608	.621	.628	.624	.628	.612	.598	.575	.554	.564	.549	.567	.590	.602	.600	.624	.613	.611	.594
„ 25,..	.586	.571	.560	.548	.559	.568	.562	.606	.627	.617	.602	.598	.596	.574	.571	.557	.570	.586	.619	.633	.649	.657	.658	.656	.597
„ 26,...	.664	.655	.648	.652	.657	.681	.708	.729	.735	.738	.714	.682	.678	.665	.656	.655	.654	.670	.690	.710	.722	.735	.753	.746	.692
„ 27,...	.738	.732	.735	.738	.746	.759	.778	.784	.791	.794	.785	.781	.760	.738	.719	.714	.712	.723	.742	.765	.782	.791	.787	.780	.757
„ 28,...	.758	.747	.743	.747	.749	.756	.768	.756	.782	.801	.809	.804	.793	.774	.757	.732	.753	.753	.758	.763	.764	.776	.774	.758	.766
„ 29,...	.732	.710	.684	.668	.678	.693	.723	.731	.740	.747	.748	.735	.728	.701	.689	.688	.678	.685	.704	.725	.739	.762	.768	.766	.718
„ 30,...	.757	.749	.748	.753	.754	.766	.779	.795	.799	.798	.788	.777	.761	.727	.714	.695	.692	.693	.696	.705	.716	.736	.745	.738	.745
„ 31,...	.723	.708	.706	.706	.712	.717	.727	.725	.727	.728	.725	.705	.682	.652	.629	.612	.612	.606	.622	.630	.637	.657	.650	.631	.676
Means,.....	29.748	29.734	29.725	29.723	29.728	29.741	29.758	29.769	29.777	29.780	29.771	29.759	29.742	29.722	29.710	29.702	29.702	29.711	29.724	29.741	29.755	29.769	29.769	29.759	29.742

TABLE II.

TEMPERATURE FOR THE MONTH OF MAY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
May 1,.....	69.2	68.9	69.3	69.4	69.5	69.2	69.8	69.9	69.9	70.8	71.3	71.6	71.8	72.3	71.5	71.3	71.2	71.0	71.0	71.8	71.9	72.6	73.6	75.2	71.0	75.4	68.4
„ 2,.....	74.8	72.5	72.5	72.3	72.0	71.9	72.0	72.3	72.5	73.7	70.4	71.5	70.0	70.5	70.4	69.8	69.8	69.6	69.7	68.5	67.0	66.7	67.0	67.5	70.6	75.2	66.7
„ 3,.....	67.9	67.3	66.8	66.0	66.0	65.9	66.9	67.8	69.7	71.2	72.1	74.3	74.1	72.5	71.8	71.8	70.4	69.5	69.2	69.2	69.0	69.2	69.3	69.2	69.5	74.9	65.4
„ 4,.....	69.1	68.8	68.8	69.1	69.3	69.4	69.2	70.8	71.8	71.8	72.1	72.4	72.8	72.8	73.0	72.6	71.7	71.0	71.2	71.2	71.3	71.1	71.1	71.1	71.0	73.6	68.8
„ 5,.....	69.8	69.7	69.5	68.2	67.8	67.8	67.9	68.0	67.8	67.9	68.7	69.0	69.7	70.4	70.8	71.0	70.8	70.9	71.0	70.7	70.3	69.6	69.5	69.8	69.4	71.6	67.4
„ 6,.....	69.8	69.8	70.0	69.9	70.4	70.3	71.1	71.6	72.1	72.4	77.4	78.8	76.9	78.3	75.6	74.4	72.8	72.3	71.8	71.7	71.6	71.8	71.5	71.8	72.7	78.8	69.3
„ 7,.....	71.0	71.9	71.9	71.8	71.5	71.9	72.4	73.8	73.8	74.2	73.6	73.3	72.4	71.6	71.8	71.0	71.0	71.2	71.3	71.3	71.2	71.9	71.8	71.8	72.1	74.8	70.3
„ 8,.....	71.4	70.2	70.9	71.1	71.1	71.4	71.6	72.7	73.8	73.8	73.4	75.4	75.3	75.3	75.1	75.2	73.7	72.9	73.1	73.1	73.1	73.2	72.8	72.8	73.0	76.9	70.1
„ 9,.....	72.8	73.0	72.9	72.9	73.3	73.6	73.3	73.1	71.9	70.9	71.6	73.3	74.0	73.5	75.0	75.7	74.3	75.8	75.5	75.7	76.3	76.3	74.9	74.6	73.9	76.9	70.7
„ 10,.....	73.1	71.7	70.9	70.7	71.8	71.8	73.0	75.1	75.4	75.7	76.2	75.2	75.9	75.2	74.8	75.7	75.1	74.3	72.8	72.5	72.5	72.4	72.1	71.9	73.6	77.3	70.2
„ 11,.....	71.8	71.4	70.9	70.8	70.6	71.5	72.2	73.8	74.3	73.4	72.8	73.8	73.9	73.6	73.8	74.6	74.4	73.4	72.9	73.0	73.8	73.8	73.6	72.9	73.0	74.6	70.6
„ 12,.....	72.5	71.8	71.5	71.5	71.4	71.5	71.7	71.9	72.1	72.1	71.8	72.4	73.0	73.3	73.4	73.8	73.9	73.5	70.4	73.0	73.5	73.2	72.8	73.1	72.5	74.1	70.4
„ 13,.....	73.6	74.4	73.9	73.5	73.0	72.7	73.6	73.8	74.6	75.3	75.3	76.6	78.9	78.3	77.5	77.2	75.9	75.2	74.5	73.9	73.7	72.9	72.3	72.4	74.7	78.9	72.2
„ 14,.....	72.1	72.0	71.8	71.8	71.8	73.6	73.9	75.8	76.7	77.9	77.8	78.9	77.8	76.7	76.8	77.2	76.8	75.2	74.3	74.1	73.8	73.5	73.0	73.0	74.8	79.5	71.3
„ 15,.....	72.9	72.9	72.9	73.0	73.0	73.1	73.8	76.8	77.4	78.6	81.8	82.2	84.9	83.1	82.9	82.4	81.7	78.7	76.6	76.0	74.9	75.3	74.9	74.8	77.3	84.9	72.7
„ 16,.....	75.1	75.5	75.8	75.2	75.9	76.0	78.2	80.0	81.2	84.4	86.9	87.7	86.2	84.4	85.1	87.0	85.2	82.0	80.7	79.6	80.1	76.9	72.5	73.5	80.2	89.0	72.5
„ 17,.....	73.8	74.8	74.8	74.7	74.8	74.8	75.9	76.3	78.3	81.0	81.4	82.2	83.4	83.9	84.4	84.2	81.2	81.1	79.2	78.5	78.3	77.4	77.8	78.1	78.8	85.0	73.4
„ 18,.....	77.7	76.8	76.1	75.8	75.9	76.7	78.2	78.4	79.0	80.2	81.2	81.4	81.7	81.8	81.1	81.6	82.3	81.5	78.6	78.0	77.7	77.6	78.3	77.7	79.0	84.3	75.8
„ 19,.....	78.0	78.8	78.3	78.1	77.9	78.1	79.2	81.6	82.8	83.8	83.8	85.3	85.5	85.2	84.6	83.8	81.9	81.0	80.3	80.0	79.3	79.2	78.9	78.9	81.0	86.1	77.4
„ 20,.....	77.5	78.0	77.9	77.8	77.7	78.3	80.2	80.6	77.8	81.5	80.1	83.9	83.3	83.3	81.2	81.1	80.3	79.7	79.6	78.3	76.8	72.7	75.1	74.2	79.0	84.5	73.3
„ 21,.....	74.1	74.1	74.9	75.8	75.9	76.6	77.5	77.9	77.6	77.5	75.7	75.9	77.3	76.4	74.3	74.0	74.1	74.5	74.8	74.8	74.6	75.0	75.8	74.2	75.6	78.0	73.6
„ 22,.....	74.8	73.8	74.1	74.9	73.8	73.8	75.2	75.8	77.1	77.6	75.8	77.3	77.7	77.4	77.5	76.2	75.8	75.9	76.8	76.8	76.8	75.9	75.7	74.9	75.9	77.7	73.6
„ 23,.....	75.1	74.5	74.6	74.5	74.5	74.9	74.8	75.3	75.8	78.0	76.6	77.5	79.1	78.1	76.8	76.2	76.8	77.1	76.4	76.3	76.6	76.7	76.1	75.2	76.1	79.9	74.1
„ 24,.....	75.0	74.8	74.8	74.9	74.9	75.2	74.8	75.2	75.0	74.5	74.2	74.5	74.5	74.4	74.8	74.8	74.6	74.6	74.4	74.4	74.7	74.4	74.3	74.5	74.7	75.6	74.1
„ 25,.....	74.5	74.0	73.8	73.6	73.7	74.4	75.3	76.6	76.4	77.4	77.8	80.0	80.6	80.2	81.0	80.7	80.5	79.5	77.6	75.2	75.6	74.7	73.2	72.8	76.6	81.7	72.8
„ 26,.....	75.4	73.7	70.8	74.8	74.3	73.8	75.6	76.9	78.1	79.0	80.9	81.1	80.0	78.8	78.2	77.2	76.9	75.3	74.8	74.5	73.9	73.8	73.6	72.9	76.0	81.4	70.1
„ 27,.....	73.9	73.6	73.8	73.9	73.8	73.9	75.0	75.8	76.5	76.9	77.5	77.6	77.7	77.0	76.4	76.1	75.8	75.8	74.7	74.3	74.6	75.2	74.9	75.5	75.4	78.2	72.9
„ 28,.....	75.2	75.1	74.7	74.4	74.4	75.5	76.6	78.5	80.0	78.0	76.8	72.8	72.6	73.6	74.0	74.9	74.9	74.5	74.0	74.5	74.5	74.5	74.2	74.5	75.1	81.5	72.2
„ 29,.....	73.9	74.5	74.9	74.8	74.8	75.3	74.9	74.9	77.1	77.5	77.1	77.6	78.5	78.3	78.6	78.8	79.3	78.8	78.5	77.8	77.7	76.5	76.7	77.0	76.8	79.9	73.9
„ 30,.....	77.0	77.4	77.2	77.2	77.3	77.5	78.5	79.2	79.7	81.4	82.7	83.4	83.8	83.4	83.5	83.0	82.6	81.3	80.5	80.5	80.5	80.7	80.8	80.1	80.4	84.1	76.5
„ 31,.....	80.4	80.0	79.6	79.6	79.6	79.7	79.8	80.8	81.7	82.0	82.0	82.6	84.2	82.8	82.6	82.8	82.5	81.5	81.1	79.8	80.7	80.6	80.9	81.7	81.2	85.0	79.5
Means, ...	73.7	73.4	72.9	73.3	73.3	73.6	74.3	75.2	75.7	76.5	76.7	77.4	77.7	77.3	77.1	77.0	76.4	75.8	75.1	74.8	74.7	74.4	74.2	74.1	75.2	79.3	71.9

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION, FOR THE MONTH OF MAY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
May 1, .	67.8	67.7	67.9	68.1	68.6	68.3	68.8	68.9	68.8	69.1	69.4	69.8	69.7	70.2	69.5	69.6	69.8	70.1	70.6	70.9	71.2	71.7	72.7	72.4	69.6	103.9
„ 2,...	72.2	71.6	71.8	71.8	71.8	71.1	71.4	71.2	71.3	71.0	69.5	70.5	69.8	69.8	69.5	69.1	69.2	68.8	68.4	66.6	65.4	64.1	63.4	63.0	69.3	108.6
„ 3,...	62.8	62.6	62.7	61.6	61.7	61.9	62.7	62.5	63.8	65.4	65.1	67.0	66.2	65.8	66.0	66.0	66.0	65.8	66.0	66.0	66.1	66.3	66.7	66.5	64.7	131.8
„ 4,...	66.7	66.3	66.2	66.3	66.1	65.3	64.9	63.5	65.1	61.8	62.1	61.3	61.4	61.3	61.7	62.8	64.6	63.8	62.7	63.1	63.1	62.8	63.4	63.5	63.7	133.8
„ 5,...	63.7	63.6	64.6	65.9	66.8	66.7	66.1	66.3	65.7	65.9	66.0	66.0	65.7	66.4	66.4	66.6	66.7	67.0	67.8	68.5	68.5	67.9	68.4	68.8	66.5	102.4
„ 6,...	69.0	69.4	69.5	69.5	69.8	69.8	70.3	71.5	71.5	71.7	74.2	73.8	71.7	72.7	71.2	71.2	70.8	70.4	70.0	70.0	69.5	69.8	69.8	69.8	70.7	140.6
„ 7,...	69.9	69.9	69.9	69.8	69.4	69.9	69.8	70.4	70.5	71.2	70.4	70.1	70.2	70.1	69.8	69.9	70.0	70.2	70.0	69.9	69.8	69.9	69.8	69.4	70.0	130.0
„ 8, ..	69.2	69.4	69.4	69.1	69.3	69.5	68.9	69.8	69.8	70.1	69.8	70.8	71.3	72.2	72.0	72.2	71.3	71.1	71.6	71.6	71.8	72.0	71.7	71.8	70.7	133.2
„ 9,...	71.9	72.2	72.3	72.2	72.3	72.5	72.3	71.9	71.6	70.4	70.9	70.4	71.3	69.2	69.1	69.2	68.6	64.7	64.0	64.4	64.2	63.9	64.1	63.8	69.1	106.2
„ 10,...	64.8	65.5	64.6	63.6	66 9	67.3	67.5	65.4	67.0	69.8	69.6	69.7	68.6	68.7	68.8	64.8	64.8	64.6	65.4	65.8	65.8	66.2	66.7	66.0	66.6	132 7
„ 11,...	65.8	65.6	65.8	65.6	64.9	64.0	63.1	61.9	62.8	63.8	64.5	66.3	66.1	66.2	66.0	65.3	62.7	62.8	63.9	64.9	64.9	65.8	66.0	66.5	64.8	144.6
„ 12,...	67.2	67.1	67.1	67.8	68.5	67.5	68.8	68.8	69.2	69.3	68.7	68.7	67.9	68.7	68.8	68.3	68.4	68.6	68.4	68.7	69.2	68.8	68.8	69.6	68.5	102.7
„ 13,...	69.8	69.2	69.8	70.2	70.2	70.5	70.6	70.8	71.4	71.4	70.0	70.2	70.8	70.5	69.6	69.5	69.5	68.3	68.4	69.6	69.9	70.0	69.8	69.8	70.0	145.7
„ 14,...	69.9	69.8	69.8	68.9	70.0	70.5	69.2	69.1	69.5	69.5	69.9	70.7	70.3	70.7	69.4	69.0	69.5	69.9	70.4	69.8	70.3	71.4	71.0	70.9	70.0	135.4
„ 15,...	70.9	70.9	70.9	70.9	70.8	71.1	71.1	72.7	72.8	73.2	73.6	74.9	75.7	75.0	74.7	75.4	75.2	72.8	72.4	72.7	72 7	72.1	72.8	72.6	72.8	142.3
„ 16,...	72.2	71.8	71.3	71.3	71.2	72.1	73.1	74.0	74.0	75.0	75.4	75.7	74.3	73.3	74.2	75.7	74.3	73.6	73.5	73.1	72.7	73.5	71.8	71.8	73.3	142.4
„ 17,...	71.9	73.1	73.5	73.2	73.3	73.6	74.3	74.3	75.2	76.3	76.3	76.3	77.0	77.5	77.8	76.5	75.6	75.3	76.0	75.8	75.8	75.4	75.8	75.4	75.2	138.9
„ 18,...	75.6	75.4	75.3	75.2	75.4	75.4	76.0	76.2	76.2	76.9	77.5	76.8	76.2	75.8	76.2	76.0	76.6	75.2	76.0	75.5	74.8	75.1	75.9	75.9	75.9	139.1
„ 19,...	76.6	76.7	76.8	76.0	75.2	75.8	76.3	77.2	75.6	75 3	76.5	78.5	76.3	76.9	75.9	76.1	76.2	77.0	76.0	76.5	77.0	76.4	76.9	75.9	76.4	140.8
„ 20,...	75.9	75.7	75.2	75.1	74.8	75.8	77.2	77.9	75.5	77.5	77.6	78.7	78.3	78.4	78.0	77.3	77.8	77.4	77.2	77.1	73.5	71.6	73.1	72.4	76.2	145.0
„ 21,...	71.4	71.4	72.8	74.1	74.1	75.0	75.0	75.6	75.7	75.3	74.6	74.7	76.5	75.5	73.6	73.6	73.4	73.1	73.4	73.5	73.1	72.8	72.8	73.5	73.9	99.2
„ 22,...	74.1	73.5	73.4	73.7	73 3	73.4	74.1	73.9	73.7	74.3	74.9	74.8	74.8	75.1	75.3	75.3	74.0	73.9	74.3	74.8	74.3	75.0	71.8	72.3	74.2	96.4
„ 23,...	74.5	74.5	74.3	74.0	74.0	73.9	74.0	74.7	74.9	74.3	75.2	76.4	76.8	76.2	76.1	75.6	75.8	76.0	75.3	75.3	75.7	75.6	75.5	75.0	75.1	125.3
„ 24,...	74.8	74.2	74.1	74.1	74.1	74.4	73.7	73.5	73.1	72.6	72.6	72.8	72.8	72.7	72.9	72.9	72.8	72.2	72.1	72.4	72.3	72.3	72.3	72.3	73.1	99.1
„ 25,...	72.0	72.0	72.2	72.5	72.1	70.5	70.0	70.3	70.3	69.5	70.8	69.1	70.7	71.1	72.2	72.6	71.1	70.6	70.7	71.3	70.8	70.8	71.2	70.1	71.0	124.0
„ 26,...	63.9	62.8	62.3	62.6	62.4	62.5	62.5	62.7	64.0	65.2	66.0	66.4	67.4	67.8	67.5	67.3	66.5	67.0	67.1	67.1	67.9	67.8	67.9	68.9	65.6	134.7
„ 27,...	69.1	68.5	68.0	67.0	67.6	67.9	69.2	69.6	69.2	69.6	70.1	70.0	70.9	70.2	69.5	69.2	68.4	69.4	70.0	70.2	70.5	70.2	70.0	71.2	69.4	135.6
„ 28,...	71.4	71.1	70.7	70.6	70.5	70.2	70.8	71.1	71.8	70.3	70.8	71.1	70.8	71.5	71.7	71.7	72.0	72.0	72.4	72.5	72.1	72.6	72.6	73.0	71.5	144.5
„ 29,...	73.6	73.6	74 8	74.8	74.8	74.6	74.3	74.7	75.7	76.2	76.0	77.0	76.2	76.3	76.6	75.9	76.1	75.8	75.8	75.2	74.6	74.5	74.2	73.8	75.2	105.9
„ 30,...	73.8	73.8	74.3	74.8	74.8	74.8	75.2	75.4	75.2	75.4	77.6	77.5	77.0	76.5	75.5	77.1	76.3	76.6	76.0	76.0	76.4	76.5	76.4	76.0	75.8	141.5
„ 31,...	75.9	76.3	76.5	75.9	75.9	76.3	76.7	76.6	76.6	76.6	76.8	77.6	78.2	77.8	77.2	77.5	77.1	76.8	76.0	76.0	75.9	76.5	75.9	75.7	76.6	144.2
Means,.....	70.6	70.5	70.6	70.5	70.7	70.7	70.9	71.0	71.2	71.4	71.7	72.1	72.0	71.9	71.7	71.6	71.3	71.0	71.0	71.1	71.0	71.0	71.0	70.9	71.1	127.4

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF MAY, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	86	0.714	May 1,.....	93	0.706
2 „	86	.714	„ 2,.....	93	.700
3 „	88	.725	„ 3,.....	76	.549
4 „	87	.715	„ 4,.....	65	.494
5 „	88	.723	„ 5,.....	85	.612
6 „	86	.719	„ 6,.....	90	.725
7 „	84	.717	„ 7,.....	90	.707
8 „	80	.709	„ 8,.....	89	.722
9 „	79	.710	„ 9,.....	77	.648
10 „	77	.707	„ 10,.....	68	.560
11 „	77	.716	„ 11,.....	62	.504
Noon.	76	.722	„ 12,.....	81	.645
1 p.	75	.714	„ 13,.....	78	.671
2 „	75	.716	„ 14,.....	78	.670
3 „	75	.711	„ 15,.....	80	.748
4 „	75	.708	„ 16,.....	70	.729
5 „	77	.704	„ 17,.....	84	.827
6 „	78	.701	„ 18,.....	87	.854
7 „	81	.710	„ 19,.....	80	.849
8 „	83	.718	„ 20,.....	88	.867
9 „	83	.719	„ 21,.....	92	.815
10 „	84	.719	„ 22,.....	92	.824
11 „	85	.722	„ 23,.....	95	.859
Midt.	85	.719	„ 24,.....	93	.794
			„ 25,.....	75	.685
			„ 26,.....	55	.493
			„ 27,.....	72	.640
			„ 28,.....	84	.725
			„ 29,.....	93	.854
			„ 30,.....	80	.831
			„ 31,.....	81	.855
Means,.....	81	0.715	Means.	81	0.715

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
May 1,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 2,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 3,.....	...	...	...	...	...	0.3	...	...	...	...	...	...	...	0.3
„ 4,.....	...	...	...	...	...	...	0.3	0.8	0.6	0.7	0.4	...	...	2.8
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6, ...	...	...	...	...	...	...	0.7	...	...	...	0.1	...	...	0.8
„ 7,.....	...	...	...	0.1	0.1	...	...	...	...	...	...	...	...	0.2
„ 8,.....	...	...	0.4	0.3	...	...	0.1	0.8	0.2	1.0	0.8	0.6	0.1	4.3
„ 9,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 10,.....	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	11.2
„ 11,.....	...	0.4	1.0	1.0	0.9	0.1	0.7	0.6	0.7	1.0	1.0	0.4	...	7.8
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	...	0.2	0.7	0.7	0.2	1.0	1.0	0.2	4.0
„ 14,.....	...	...	0.7	1.0	1.0	1.0	0.9	0.6	...	0.6	1.0	0.6	...	7.4
„ 15,.....	...	...	0.7	0.4	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	9.4
„ 16,.....	0.2	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	11.1
„ 17,.....	...	0.1	0.6	0.2	0.8	0.6	0.9	1.0	1.0	1.0	1.0	0.8	0.5	8.5
„ 18,.....	...	0.1	0.2	0.2	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	0.3	7.3
„ 19,.....	0.1	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	...	9.3
„ 20,.....	...	0.1	0.3	...	0.3	0.1	0.1	1.0	0.8	0.5	0.1	...	...	3.3
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	...	...	...	...	...	...	...	...	...	...	0.1	0.1	...	0.2
„ 26,.....	...	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	11.4
„ 27,.....	0.1	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	11.4
„ 28,.....	...	0.1	0.7	0.8	...	...	...	...	...	...	...	...	...	1.6
„ 29,.....	...	...	...	...	...	...	...	...	...	...	...	0.1	...	0.1
„ 30,.....	0.1	0.7	0.9	1.0	1.0	1.0	0.8	1.0	1.0	1.0	1.0	0.6	0.1	10.2
„ 31,.....	...	...	0.2	0.1	...	0.4	0.9	0.8	0.5	0.7	0.7	0.9	...	5.2
Sums,.....	0.6	5.6	10.7	10.1	10.0	10.0	12.6	14.3	12.5	13.7	13.8	11.1	2.8	127.8

TABLE VI.

RAINFALL FOR THE MONTH OF MAY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
May 1,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.095	0.025	0.010	0.005	...	...	0.135	4
„ 2,.....	0.005	...	...	0.080	...	...	...	...	...	0.005	0.070	0.130	0.180	0.120	0.050	0.025	0.040	0.010	0.020	0.060	0.040	0.010	...	...	0.845	11
„ 3,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 4,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
„ 5,.....	...	...	...	0.015	0.020	...	...	0.025	...	...	0.005	0.005	0.010	...	...	...	...	...	...	...	...	...	0.005	0.005	0.090	10
„ 6,.....	0.010	0.005	...	0.005	0.030	...	0.020	0.925	0.045	0.020	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.060	9
„ 7,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...	...	...	...	...	...	...	...	0.005	7
„ 8,.....	0.005	0.035	...	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.045	3
„ 9,.....	...	...	...	...	...	...	...	0.010	0.025	0.025	0.040	...	...	...	...	...	...	...	...	...	...	...	...	...	0.100	5
„ 10,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...	...	0.005	...	...	0.010	2
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
„ 14,.....	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 15,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 16,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.105	0.495	0.065	0.665	3
„ 17,.....	0.020	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.020	...
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	...	...	0.100	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.100	1
„ 20,.....	...	...	...	...	...	...	...	0.005	0.005	...	...	...	...	...	...	...	...	...	...	0.015	1.295	0.450	0.115	0.045	1.930	4
„ 21,.....	...	...	...	...	...	...	0.265	...	..	0.300	0.170	0.070	0.020	0.420	0.385	0.380	0.010	...	0.005	0.105	0.010	...	...	0.045	2.185	14
„ 22,.....	0.265	0.370	0.010	0.340	0.050	0.050	0.030	...	...	0.030	0.035	0.050	0.065	0.020	0.070	0.350	0.220	0.035	...	...	...	...	0.060	0.005	2.055	14
„ 23,.....	0.070	0.170	0.100	0.170	0.310	0.080	0.080	0.040	0.040	0.060	0.020	...	0.015	0.055	0.040	0.055	0.005	0.010	...	...	...	...	...	0.100	1.420	16
„ 24,.....	0.140	...	...	...	...	...	...	...	0.075	0.005	0.035	0.010	...	0.030	...	...	...	...	...	...	...	...	...	...	0.295	7
„ 25,.....	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	2
„ 26,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	0.040	0.160	...	...	...	0.005	0.010	0.005	...	...	...	0.055	0.065	0.340	6
„ 29,.....	0.165	0.135	0.430	0.630	1.500	0.650	0.350	0.100	0.080	0.150	0.330	0.300	...	...	...	...	...	...	...	...	...	...	...	...	4.820	12
„ 30,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 31,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	0.680	0.715	0.550	1.340	1.910	0.785	0.745	1.105	0.270	0.595	0.705	0.605	0.450	0.645	0.545	0.815	0.280	0.065	0.130	0.205	1.355	0.575	0.730	0.330	16.130	132

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF MAY, 1893.

Date.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a.		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		Vel.		Dir.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
May 1	7	24	7	27	7	23	7	27	7	23	8	26	7	20	7	25	7	24	7	23	7	22	7	23	8	22	8	27	8	25	7	23	8	22	9	22	9	21	8	18	8	14	6	12	7	8	15	6	507	21.1	8
„ 2	15	2	15	3	15	3	26	6	25	5	26	10	26	9	24	7	23	11	23	12	26	15	29	8	24	10	26	12	25	13	24	13	26	11	28	7	28	4	3	6	1	9	32	9	1	9	31	5	199	8.3	26
„ 3	2	4	3	2	8	3	30	2	2	3	32	8	30	7	1	13	1	10	32	7	5	5	5	2	8	5	8	12	10	11	8	7	8	8	9	12	8	13	8	13	8	14	7	14	5	12	5	12	199	8.3	6
„ 4	4	10	6	12	5	16	6	14	6	17	5	21	4	19	6	21	7	29	7	33	7	32	7	33	7	32	7	30	7	29	7	21	7	19	7	22	7	23	6	24	7	25	7	26	7	26	7	25	559	23.3	7
„ 5	5	21	6	18	6	19	5	14	6	18	7	18	7	19	6	27	6	23	7	21	7	26	7	27	•7	26	7	27	7	26	6	26	7	24	7	22	7	22	6	18	6	23	6	20	7	21	6	20	526	21.9	6
„ 6	7	17	7	17	6	17	7	14	7	13	6	10	6	13	27	13	24	8	23	3	4	8	2	9	2	10	32	8	7	6	8	17	8	25	7	18	7	18	8	19	8	24	8	21	8	13	7	12	333	13.9	7
„ 7	9	11	7	11	7	7	6	8	8	11	9	11	10	8	9	11	10	18	8	19	6	20	7	20	7	20	7	21	7	20	7	18	7	18	7	20	7	17	6	21	7	21	8	20	6	16	7	15	382	15.9	7
„ 8	7	12	8	12	6	15	6	15	7	16	8	20	7	21	6	20	6	22	6	20	7	18	7	13	7	12	7	14	8	13	7	13	8	13	9	13	8	14	9	11	9	10	7	9	7	8	7	7	341	14.2	7
„ 9	4	4	4	3	4	3	6	6	8	7	8	8	8	9	20	9	24	12	25	18	25	10	32	7	32	10	31	10	2	3	32	7	1	5	7	10	5	12	4	9	3	9	2	7	...	1	3	5	184	7.7	2
„ 10	8	4	10	2	10	3	2	8	6	11	6	9	6	9	7	14	7	14	8	17	8	21	9	19	8	19	10	24	10	24	7	21	6	20	7	18	6	20	7	17	7	18	6	15	7	19	7	24	370	15.4	7
„ 11	7	23	6	22	6	20	5	24	5	22	6	27	6	32	5	34	7	34	7	38	7	42	7	38	7	42	7	36	7	34	8	28	7	28	7	30	7	27	7	26	9	28	8	33	7	31	7	30	729	30.4	7
„ 12	6	31	6	32	7	31	7	27	6	27	6	30	7	31	6	26	6	25	6	26	6	30	7	25	7	29	7	25	7	23	7	24	7	23	7	20	6	21	7	16	8	16	6	16	5	16	8	18	588	24.5	7
„ 13	9	15	10	20	10	22	7	18	6	17	7	15	6	20	6	14	7	18	7	19	7	23	7	25	7	26	7	22	8	24	7	25	8	25	7	21	9	19	8	18	8	10	9	6	7	5	7	7	434	18.1	8
„ 14	8	6	8	6	9	9	7	13	8	11	7	10	7	14	7	18	7	20	7	19	8	20	7	16	7	18	8	22	7	19	8	15	9	15	8	11	7	8	8	8	8	12	7	8	7	6	9	12	316	13.2	8
„ 15	7	10	8	11	7	12	7	11	6	13	7	14	5	12	8	14	10	10	9	10	9	6	25	6	27	5	26	7	26	6	27	6	27	3	4	4	31	4	31	3	7	5	8	13	9	14	9	10	209	8.7	7
„ 16	9	11	9	10	9	10	8	8	8	4	8	2	...	0	8	3	8	4	19	4	13	6	11	10	8	10	8	6	10	3	23	6	21	6	23	5	30	5	30	4	30	6	8	23	7	16	17	7	169	7.0	9
„ 17	8	8	9	12	7	8	8	8	9	8	9	2	9	3	27	7	24	5	21	8	22	11	22	13	21	15	23	13	24	12	23	12	23	10	22	7	15	10	14	6	17	3	11	5	15	2	...	1	189	7.9	20
„ 18	15	3	24	4	24	6	...	1	...	1	...	0	24	2	28	3	18	5	27	5	29	3	8	7	8	12	10	13	8	11	10	5	15	5	16	6	30	5	30	4	30	3	30	3	29	2	29	3	112	4.7	8
„ 19	29	2	...	1	29	3	21	9	19	8	21	8	21	5	24	6	23	11	21	14	21	13	21	11	20	14	19	13	19	14	19	11	17	9	17	3	18	5	19	3	28	4	32	3	7	2	...	1	173	7.2	21
„ 20	7	2	...	1	17	2	...	1	17	2	...	0	17	3	27	4	27	9	29	3	25	6	26	5	28	9	28	7	8	11	8	13	8	14	8	15	8	16	9	19	30	18	14	10	7	21	10	14	205	8.5	7
„ 21	8	23	6	12	7	7	7	11	10	11	10	10	6	16	8	25	9	22	8	24	13	9	...	1	5	5	3	8	28	9	27	7	9	6	10	8	8	10	9	10	7	12	10	11	9	14	10	13	284	11.8	8
„ 22	10	12	4	11	9	6	19	2	16	3	7	5	7	11	12	7	13	12	11	13	8	13	13	18	14	17	14	12	14	12	16	10	16	11	16	6	20	3	22	3	19	4	23	3	23	2	2	3	199	8.3	12
„ 23	...	0	...	1	3	3	1	3	32	3	16	3	6	5	5	5	5	3	14	6	13	4	28	6	...	1	27	2	29	7	1	3	3	4	8	8	6	6	8	7	8	7	8	6	8	3	9	6	102	4.2	6
„ 24	8	2	...	1	9	2	8	3	8	3	...	1	8	14	7	19	7	22	7	25	7	22	7	22	7	22	7	22	5	21	6	14	7	21	6	21	6	19	7	17	6	20	5	16	5	12	5	8	349	14.5	7
„ 25	7	5	1	3	1	2	1	3	1	8	32	15	32	14	3	9	2	8	32	7	29	7	32	11	32	6	32	7	32	6	31	6	32	8	31	6	31	3	31	3	31	2	...	0	...	1	27	2	142	5.9	32
„ 26	1	7	2	11	32	9	4	8	5	6	7	8	5	9	2	14	1	20	1	13	6	15	10	15	10	16	8	20	8	19	8	17	9	18	11	15	11	10	6	8	8	9	7	8	7	7	9	7	287	12.0	6
„ 27	8	12	11	11	9	16	7	16	6	14	6	15	6	17	6	20	7	19	7	21	7	20	7	20	9	19	10	20	9	21	9	21	10	21	11	19	11	15	10	18	9	15	7	17	7	14	7	14	415	17.3	8
„ 28	6	13	5	13	5	14	6	12	7	10	7	10	9	12	7	16	7	17	6	18	5	22	7	17	7	20	7	19	8	20	7	23	7	21	8	23	7	26	7	27	7	30	7	26	5	28	6	26	463	19.3	7
„ 29	7	23	6	27	8	29	7	28	9	19	16	12	15	8	9	4	16	7	14	2	23	4	20	7	18	13	18	10	21	16	19	16	19	12	19	10	19	8	16	5	18	4	4	3	...	1	20	6	274	11.4	13
„ 30	19	3	19	7	21	15	20	13	21	11	20	13	21	17	21	16	20	14	22	14	21	15	21	19	21	14	20	18	19	15	22	11	19	12	19	5	19	10	20	12	20	10	19	11	19	9	18	11	295	12.3	20
„ 31	19	15	18	17	19	17	19	15	19	15	19	16	19	15	19	13	19	11	19	15	20	19	20	19	19	23	19	14	19	21	18	18	19	14	17	17	18	17	19	14	18	15	18	15	19	22	20	22	399	16.6	19
Sums	...	335	...	340	...	352	...	348	...	340	...	357	...	394	...	437	...	467	...	477	...	485	...	472	...	502	...	501	...	494	...	457	...	451	...	424	...	411	...	387	...	400	...	389	...	361	...	352	9933	413.9	..
Means	...	10.8	...	11.0	...	11.4	...	11.2	...	11.0	...	11.5	...	12.7	...	14.1	...	15.1	...	15.4	...	15.6	...	15.2	...	16.2	...	16.2	...	15.9	...	14.7	...	14.5	...	13.7	...	13.3	...	12.5	...	12.9	...	12.5	...	11.6	...	11.4	320.4	13.4	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
May 1, ...	10	cum-nim.	E	10	cum-nim.	E	10	nim.	E	10	nim.	E
„ 2, ...	10	cum. / cum-nim.	SW	10	nim.	...	10	sm-cum. / cum-nim.	W	10	str. / cum-nim.	NNW / W
„ 3, ...	10	R-cum.	...	6	sm-cum. / R-cum.	W / W	10	sm-cum.	W	10	sm-cum. / str-cum.	N / ESE
„ 4, ...	10	nim.	E	10	str. / cum.	ENE	10	str-cum.	ENE	10	sm-cum.	WSW
„ 5, ...	10	cum-nim.	E	10	nim.	ENE	10	nim.	ENE	10	nim.	E
„ 6, ...	10	nim.	...	10	nim.	...	9	sm-cum. / nim.	SE	10	nim.	...
„ 7, ...	10	cum-nim.	E	9	sm-cum. / cum.	W / E	9	sm-cum. / R-cum.	E	10	cum. / R-cum.	SE / ENE
„ 8, ...	10	nim.	E	9	cum.	E	9	sm-cum. / cum.	S / E	10	R-cum.	ENE
„ 9, ...	4	cum.	...	9	cum.	SW	10	c-str. / nim.	SW	10	nim.	...
„ 10, ...	1	str.	...	3	sm-cum.	WSW	2	c-cum. / cum.	W / ..	0	c-cum.	W
„ 11, ...	0	...	...	2	cum.	ENE	1	c-cum.	W	6	c-cum. / sm-cum.	SSW / E
„ 12, ...	1	cum.	...	10	cum.	E	10	cum-nim.	E	10	cum-nim.	ESE
„ 13, ...	10	cum-nim.	...	8	cum.	E	9	cum.	ESE	10	cum. / R-cum.	SSE / ESE
„ 14, ...	0	...	...	1	cum.	...	8	sm-cum. / cum.	E	2	c-str.	NW
„ 15, ...	0	...	...	2	cum.	E	10	cum.	E	2	c-cum. / cum.	NW / ESE
„ 16, ...	0	...	...	0	...	...	3	sm-cum. / cum.	ENE / ..	0	...	...
„ 17, ...	10	nim.	...	4	cum.	...	7	c-cum. sm-cum. / cum.	.. / WNW / ..	3	sm-cum. / cum.	E / ..
„ 18, ...	9	cum-nim.	...	2	str-cum.	...	8	sm-cum. / cum.	NNW	10	sm-cum. / cum-nim.	NW / ..
„ 19, ...	8	sm-cum. / cum.	...	6	nim.	W	3	cum.	WSW	1	sm-cum. / cum.	WSW / ..
„ 20, ...	1	cum.	...	1	cum.	...	9	sm-cum. / cum.	WNW / ..	9	sm-cum. / cum-nim.	SW / SW
„ 21, ...	5	cum-nim.	...	10	nim.	E	10	cum-nim.	ESE	10	R-cum.	SE
„ 22, ..	10	nim.	...	10	nim.	...	10	nim.	SE	10	R-cum.	SSE
„ 23, ...	9	nim.	...	10	nim.	...	10	nim.	S	10	sm-cum. / R-cum.	SW / S
„ 24, ...	9	nim.	E	1	cum.	...	10	cum-nim.	E	10	nim.	ENE
„ 25, ...	9	cum.	E	10	cum-nim.	...	9	sm-cum. R-cum. / cum.	W / NW / NNE	10	c-cum. sm-cum. / cum.	.. / SW / NE
„ 26, ...	4	c-str.	SSW	1	cum.	...	4	c-cum.	S	1	c-str.	...
„ 27, ...	3	cum.	E	1	cum.	E	3	cum.	E	2	cum.	E
„ 28, ...	7	cum.	E	4	R-cum.	E	7	sm-cum. / cum.	ESE	10	cum-nim.	E
„ 29, ...	10	nim.	...	10	nim.	...	10	nim.	SSE	10	nim.	SSW
„ 30, ...	7	cum.	SW	8	cum.	SW	3	cum.	SW	7	c-cum. / cum.	N / WSW
„ 31, ...	9	cum.	SW	6	cum.	SW	6	cum.	SW	9	c-str. / R-cum.	SW
Means,...	6.6	...	...	6.2	...	...	7.7	...	...	7.5	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
May 1,...	10	cum-nim. / str.	SSW / E	10	cum-nim. / str.	S / E	10	nim.	E	10	cum. / cum-nim.	SE	10.0
,, 2,...	10	nim.	W	10	nim.	N	10	nim.	N	10	nim.	N	10.0
,, 3,...	10	str-cum.	ENE	10	cum-nim.	N	9	sm-cum. / cum.	W / W	10	cum.	W	9.4
,, 4,...	3	c-cum.	WSW	6	c-cum. / sm-cum.	WSW / WSW	9	sm-cum.	WSW	7	sm-cum. / cum.	W / E	8.1
,, 5,...	10	str-cum.	E	10	str-cum.	E	10	cum-nim.	E	10	nim.	...	10.0
,, 6,...	10	R-cum.	NW	10	cum-nim.	WNW	10	cum-nim.	W	7	cum-nim.	...	9.5
,, 7,...	10	nim.	E	10	nim.	E	10	nim.	E	10	nim.	E	9.8
,, 8,...	7	cum.	SSE	9	c-cum. / R-cum.	ESE	9	sm-cum. / R-cum.	E	2	sm-cum.	...	8.1
,, 9,...	10	nim.	...	9	c-cum. / cum.	W	8	sm-cum.	...	8	cum.	...	8.5
,, 10,...	1	c-cum.	W	0	...	...	0	...	...	0	...	...	0.9
,, 11,...	9	sm-cum. / str.	SSE / E	4	sm-cum. / cum.	SSE / E	9	sm-cum.	SSE	4	cum.	SE	4.4
,, 12,...	10	R-cum.	E	10	R-cum.	E	9	nim.	E	10	nim.	...	8.7
,, 13,...	10	c-cum. / cum.	SSW / ESE	8	c-cum. / cum.	SSW / ESE	4	R-cum.	E	1	cum.	...	7.5
,, 14,...	7	c-str.	N	5	c-str.	NW	7	c-str.	NW	3	c-str.	...	4.1
,, 15,...	4	c-str. / c-cum. / cum.	NW / SE / ..	1	c-str. / cum.	...	0	...	...	1	cum.	...	2.5
,, 16,...	0	...	...	1	c-cum. / cum.	W	7	c-str. / cum.	NNE / ..	8	cum-nim.	E	2.4
,, 17,...	4	cum.	N	3	cum.	NNW	3	sm-cum. / cum-str.	W / ..	4	cum-nim.	...	4.8
,, 18,...	3	c-cum. / cum.	W / NW	2	cum.	...	1	cum.	...	3	cum.	...	4.7
,, 19,...	1	sm-cum. / cum.	NW	7	c-str. / sm-cum.	WNW / WSW	8	c-str. / sm-cum. / cum.	.. / W / SW	1	cum.	...	4.4
,, 20,...	5	sm-cum. / cum.	W / S	9	c-str. / cum.	WNW / SSW	10	R-cum.	SSW	10	nim.	...	6.8
,, 21,...	10	nim.	SE	10	nim.	...	10	nim.	ESE	10	cum-nim.	...	9.4
,, 22,...	10	nim.	S	10	nim.	...	10	cum. / R-cum.	SW / SW	10	R-cum.	SSW	10.0
,, 23,...	10	cum. / cum-nim.	S	10	nim.	WSW	7	sm-cum. / cum. / cum.	SW / ESE / ..	10	cum-nim.	ESE	9.5
,, 24,...	10	nim.	E	10	nim.	ENE	10	R-cum.	E	10	R-cum.	E	8.7
,, 25,...	10	sm-cum.	SW	9	sm-cum. / cum.	WSW / N	8	c-str. / sm-cum.	WSW	7	c-str. / sm-cum.	SSW / WSW	9.0
,, 26,...	1	c-str.	...	0	...	...	1	cum.	...	1	c-cum.	...	1.6
,, 27,...	4	cum.	E	2	cum.	E	3	cum.	E	1	cum.	E	2.4
,, 28,...	10	cum-nim.	E	10	cum-nim.	E	10	nim.	E	10	R-cum.	E	8.5
,, 29,...	10	cum-nim. / R-cum.	SW	10	c-str. / R-cum.	W	8	sm-cum. / cum.	W	5	cum. / cum.	WNW / SW	9.1
,, 30,...	4	c-str. / cum.	NE / WSW	6	c-str. / cum.	NE / WSW	7	c-str. / cum.	WSW	9	cum.	WSW	6.4
,, 31,...	9	cum-str. / R-cum.	SW	8	c-str. / R-cum.	SW	7	c-str. / cum.	SW	7	c-str. / cum.	SW	7.6
Means,...	7.2	...	...	7.1	...	...	7.2	...	...	6.4	...	...	7.0

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND, FOR THE MONTH OF MAY, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	2.39	9.35	1.00	0.35	+1.39	+ 9.00	E 9° N
2 „	2.87	8.90	1.42	0.48	1.45	8.42	E 10° N
3 „	2.55	9.06	1.42	0.97	1.13	8.09	E 8° N
4 „	3.13	8.87	0.90	1.06	2.23	7.81	E 16° N
5 „	2.77	8.71	1.32	0.84	1.45	7.87	E 10° N
6 „	2.94	8.39	1.52	1.10	1.42	7.29	E 11° N
7 „	3.65	9.58	1.32	1.29	2.33	8.29	E 16° N
8 „	4.48	10.16	1.10	1.97	3.38	8.19	E 22° N
9 „	3.55	10.61	1.94	2.35	1.61	8.26	E 11° N
10 „	3.23	11.03	1.71	2.61	1.52	8.42	E 10° N
11 „	3.26	11.58	1.61	2.81	1.65	8.77	E 11° N
Noon.	3.03	10.90	2.29	2.39	0.74	8.51	E 5° N
1 p.	2.74	11.65	2.68	2.32	0.06	9.33	E
2 „	2.84	11.65	2.61	2.29	+0.23	9.36	E 1° N
3 „	2.23	11.52	2.55	2.65	−0.32	8.87	E 2° S
4 „	2.26	10.58	2.00	2.42	+0.26	8.16	E 2° N
5 „	1.97	10.94	2.52	1.65	−0.55	9.29	E 3° S
6 „	1.84	11.00	2.55	0.97	−0.71	10.03	E 4° S
7 „	2.55	10.55	2.26	0.94	+0.29	9.61	E 2° N
8 „	2.29	10.16	1.58	0.90	0.71	9.26	E 4° N
9 „	2.77	10.13	1.35	0.97	1.42	9.16	E 9° N
10 „	2.55	10.42	1.32	0.52	1.23	9.90	E 7° N
11 „	2.97	9.68	1.06	0.65	1.91	9.03	E 12° N
Midt.	2.29	8.81	1.90	0.97	+0.39	+ 7.84	E 3° N
Means,.....	2.80	10.18	1.75	1.48	+1.05	+ 8.70	E 7° N

PHENOMENA :—

Solar halo :—on the 13th, 14th, 15th and 19th.

Solar corona :—on the 11th.

Lunar corona :—on the 3rd, 7th, 23rd, 25th, 26th, 27th, 30th and 31st.

Slight fog :—on the 24th.

Haze :—on the 9th, 16th, 17th and 18th.

Unusual visibility :—on the 2nd, 3rd, 4th, 6th, 9th, 10th, 11th, 16th, 19th, 20th, 25th, 26th and 28th

Dew :—on the 16th and 18th.

Rainbow :—on the 7th, 12th, 22nd and 23rd.

Lightning without thunder :—on the 8th, 15th, 17th, 23rd and 25th.

Thunder without lightning :—on the 21st and 22nd.

Thunderstorms :—On the 16th, 10 p.—10.30 p. in N, distant. On the 19th 6 p.—7.15 p. in NW, distant. On the 20th 7.45 p.—10.45 p. NW–E nearest (4^s) at 9.32 p. During this storm a native on board a cargo boat in the harbour was instantaneously killed by lightning. On the 29th 5 a.–8 a. in. ESE, distant.

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF JUNE, 1893.

Date.	1 a.	2 a	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
June 1,...	29.625	29.603	29.587	29.579	29.579	29.591	29.603	29.620	29.627	29.625	29.611	29.605	29.581	29.550	29.544	29.541	29.540	29.563	29.586	29.600	29.600	29.619	29.612	29.598	29.591
„ 2,...	.586	.571	.566	.579	.588	.595	.616	.633	.654	.665	.654	.659	.640	.629	.616	.610	.615	.640	.652	.672	.698	.716	.710	.708	.636
„ 3,..	.698	.686	.687	.689	.700	.726	.745	.757	.766	.773	.774	.756	.742	.732	.718	.708	.703	.700	.706	.717	.726	.735	.740	.739	.726
„ 4,...	.737	.730	.732	.736	.747	.760	.775	.782	.796	.792	.786	.771	.758	.743	.734	.720	.710	.700	.701	.709	.718	.738	.753	.752	.745
„ 5,...	.741	.730	.723	.726	.733	.747	.755	.759	.762	.768	.761	.747	.733	.726	.727	.707	.704	.704	.710	.719	.720	.721	.728	.728	.732
„ 6,...	.722	.721	.722	.738	.735	.750	.757	.769	.770	.766	.757	.745	.734	.716	.697	.686	.685	.686	.703	.716	.727	.739	.741	.730	.730
„ 7,...	.716	.707	.703	.705	.712	.738	.752	.754	.756	.752	.741	.726	.703	.687	.670	.656	.658	.675	.703	.713	.748	.766	.770	.774	.720
„ 8,...	.768	.770	.756	.751	.760	.782	.796	.808	.812	.819	.814	.806	.793	.770	.752	.747	.744	.754	.785	.803	.824	.850	.845	.842	.790
„ 9,...	.820	.814	.813	.808	.812	.832	.848	.866	.872	.878	.867	.844	.827	.809	.782	.774	.772	.774	.774	.791	.802	.810	.815	.808	.817
„ 10,...	.796	.783	.778	.770	.775	.790	.801	.812	.816	.812	.800	.780	.763	.748	.732	.718	.710	.709	.728	.747	.760	.774	.767	.747	.767
„ 11,...	.725	.723	.713	.723	.735	.755	.773	.788	.795	.791	.778	.763	.751	.739	.724	.709	.705	.708	.719	.734	.760	.772	.777	.768	.747
„ 12,...	.758	.743	.735	.739	.744	.750	.763	.779	.790	.793	.783	.773	.762	.745	.739	.728	.729	.738	.750	.761	.781	.797	.804	.802	.762
„ 13,...	.790	.782	.785	.787	.798	.812	.833	.844	.859	.854	.838	.812	.799	.778	.766	.752	.746	.762	.780	.805	.813	.828	.824	.819	.803
„ 14,...	.800	.786	.778	.784	.780	.794	.808	.807	.808	.812	.810	.796	.788	.766	.744	.730	.724	.733	.759	.762	.787	.800	.795	.777	.780
„ 15,...	.760	.749	.742	.739	.742	.743	.756	.763	.763	.767	.767	.766	.752	.733	.711	.704	.712	.714	.736	.747	.762	.786	.786	.775	.749
„ 16,...	.763	.746	.733	.741	.732	.748	.761	.759	.769	.772	.774	.766	.760	.744	.732	.722	.726	.736	.750	.773	.783	.786	.790	.774	.756
„ 17,...	.761	.759	.745	.741	.737	.752	.768	.771	.781	.782	.785	.776	.787	.770	.770	.756	.748	.748	.766	.780	.787	.791	.787	.773	.768
„ 18,...	.749	.740	.737	.721	.724	.745	.760	.766	.786	.801	.811	.793	.737	.726	.712	.694	.680	.690	.719	.747	.756	.779	.778	.767	.747
„ 19,...	.754	.749	.752	.761	.770	.778	.792	.797	.787	.792	.793	.784	.769	.765	.753	.746	.747	.742	.762	.785	.800	.823	.823	.813	.777
„ 20,...	.796	.783	.785	.792	.802	.820	.830	.844	.850	.853	.844	.830	.821	.796	.790	.764	.759	.764	.780	.795	.811	.833	.835	.831	.809
„ 21,...	.814	.800	.806	.803	.805	.818	.832	.839	.844	.832	.816	.800	.779	.767	.751	.730	.715	.728	.738	.743	.754	.776	.780	.770	.785
„ 22,...	.746	.735	.730	.716	.715	.724	.728	.733	.741	.748	.739	.722	.707	.696	.684	.671	.664	.655	.675	.696	.710	.719	.720	.716	.712
„ 23,...	.699	.685	.669	.664	.659	.670	.692	.708	.717	.724	.716	.705	.684	.681	.661	.657	.664	.690	.710	.727	.741	.757	.740	.728	.698
„ 24,...	.707	.698	.685	.692	.694	.715	.723	.724	.738	.737	.754	.733	.735	.736	.742	.725	.710	.702	.720	.742	.755	.768	.764	.763	.728
„ 25,..	.751	.733	.714	.714	.732	.738	.752	.765	.774	.774	.781	.779	.763	.757	.746	.742	.745	.754	.765	.768	.789	.814	.809	.798	.761
„ 26,...	.780	.773	.766	.765	.767	.780	.787	.800	.806	.820	.814	.820	.806	.791	.776	.761	.760	.763	.785	.802	.817	.832	.829	.818	.792
„ 27,...	.803	.789	.789	.790	.802	.812	.835	.839	.855	.858	.855	.846	.823	.810	.793	.780	.772	.765	.779	.794	.815	.832	.837	.833	.813
„ 28,..	.816	.803	.795	.800	.806	.819	.824	.838	.840	.838	.834	.812	.796	.775	.760	.741	.726	.738	.759	.768	.781	.800	.806	.798	.795
„ 29,...	.791	.784	.777	.774	.781	.784	.801	.807	.812	.810	.808	.786	.770	.748	.724	.719	.710	.715	.726	.742	.757	.771	.772	.766	.768
„ 30,...	.754	.748	.750	.736	.726	.738	.747	.758	.753	.753	.747	.733	.725	.706	.693	.687	.688	.689	.698	.716	.724	.736	.736	.732	.728
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means,.....	29.751	29.741	29.735	29.735	29.740	29.754	29.767	29.776	29.783	29.785	29.780	29.768	29.753	29.738	29.725	29.713	29.709	29.715	29.731	29.746	29.760	29.776	29.776	29.768	29.751

TABLE II.

TEMPERATURE FOR THE MONTH OF JUNE, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
June 1,.....	80.8	80.4	80.4	80.3	80.8	80.2	80.8	80.6	81.2	83.1	83.6	83.8	84.6	83.6	83.8	81.9	81.6	80.9	80.6	81.2	81.1	80.4	80.3	80.6	81.5	85.4	80.2
„ 2,.....	80.4	80.4	79.8	77.5	76.8	76.8	77.1	77.6	79.2	80.2	81.2	79.2	79.9	78.8	79.8	82.5	80.2	79.2	78.8	78.8	78.5	78.5	78.4	78.4	79.1	82.9	76.8
„ 3,.....	78.4	78.3	78.8	78.9	77.8	79.4	80.4	80.8	82.6	84.0	84.6	86.4	84.3	84.3	83.8	82.2	81.8	81.3	80.5	80.5	79.8	79.9	79.7	79.3	81.2	86.7	77.8
„ 4,.....	78.8	78.8	78.6	77.9	77.9	79.9	81.3	81.8	80.8	82.0	81.8	82.0	83.1	82.0	81.5	81.9	80.0	79.8	79.2	78.9	79.1	79.2	78.9	78.7	80.2	83.2	77.7
„ 5,.....	78.7	77.8	77.8	77.5	77.7	78.2	80.9	82.3	82.2	83.9	83.3	83.9	86.0	85.0	84.9	84.2	83.3	82.3	81.3	80.2	80.0	78.7	78 3	78.6	81.1	87.4	77.5
„ 6,.....	78.3	78.5	77.8	77.9	77.9	80.1	80.4	82.9	84.2	84.3	84.3	86.7	86.7	87.2	86.6	86.2	85.7	83.2	82.0	81.5	80.8	80.5	79.8	79.3	82.2	87.8	77.8
„ 7,.....	78.8	78.4	78.6	77.8	77.4	82.1	80.5	82.7	83.4	84.2	86.8	87.9	88.0	89.3	89.0	87.1	86.0	84.2	82.8	81.9	81.8	81.5	82.0	80.8	83 0	89.3	77.2
„ 8,.....	79.8	79.6	79.0	78.6	78.5	78.3	81.2	83.0	83.3	84.0	84.8	85.3	84.3	84.8	84.5	83.9	83.3	81.8	81.3	81.0	81.0	81.4	81.1	81.1	81.9	85.6	78.1
„ 9,.....	81.1	81.0	81.1	81.0	80.7	81.1	81.8	78.8	79.5	83.0	83.6	83.8	84.0	84.2	83.9	83.4	83.0	82.2	81.5	81.3	81.2	81.3	81.1	81.1	81.9	85.2	77.8
„ 10,.....	81.0	80.9	80.8	80.4	80.6	81.6	82.3	83.1	83.9	85.3	85.1	84.2	84.7	86.3	84.8	84.3	83.2	80.2	80.9	80.9	81.4	81.5	81.3	81.3	82.5	86.3	79.1
„ 11,.....	81.1	80.6	80.0	80.5	80.4	80.5	82.3	82.9	83.5	84.2	85.6	86.2	86.8	87.0	85.8	85.3	84.8	82.8	81.8	81.0	80.8	80.6	80.1	80.0	82.7	88 1	78.3
„ 12,.....	79.6	79.5	79.0	78.8	78.6	79.3	81.4	82.9	83.2	85.2	86.2	87.8	88.9	87.5	86.8	85.4	85.0	84 2	82.3	82.0	81.2	81.2	80.4	80.2	82.8	90.2	78.7
„ 13,.....	79.7	79.5	79.6	79.6	79.2	79.0	82.1	84.0	86.2	87.2	86.9	86.0	85.1	86.3	86.1	85.1	83.4	83.0	81.9	81.9	81.5	81.2	81.5	81.4	82.8	87.6	79.2
„ 14,.....	80.4	80.4	80.8	79.0	79.1	79.8	83.2	84.4	85.3	83.1	84.3	84.2	82.7	85.2	83.6	82.9	82.4	82.5	81.6	81.5	81.0	81.2	81.1	80.9	82.1	87.4	79.0
„ 15,.....	80.6	80.7	77.8	76.7	77.0	77.6	80.9	81.3	81.2	82.8	81.2	76.1	81.5	81.9	81.5	81.2	80.8	80.5	80.0	80.1	80.2	80.0	79.8	79.7	80.0	82.9	75.6
„ 16,.....	79.7	79.8	79.5	79.7	80.1	79.7	80.8	81.5	81.9	82.3	82.4	82.5	81.4	81.6	81.8	81.6	80.8	80.9	80.1	79.8	79.9	80.0	80.0	80.0	80.7	82.8	79.7
„ 17,.....	80.0	76.8	78.6	77.7	78.0	78.6	78.9	79.6	80.0	81.3	83.1	85.3	78.3	78.6	76.6	76.8	76.8	77.2	77.9	78.2	78.5	78.5	78 8	78.5	78.9	85.3	76.6
„ 18,.....	77.8	79.6	79.5	79.5	79.8	76 1	74.8	74.9	76.1	75.1	75.6	75.2	75.7	78.0	78.6	78.2	78.6	78.4	78.1	78.0	78.0	78.4	79.1	78.8	77.6	79.8	74.6
„ 19,.....	78.6	77.9	78.1	76.5	77.0	77.3	77.1	78.1	78.7	78.1	80.2	81.7	80.5	78.5	79.2	80.4	80 2	79.8	79 5	79.1	78.9	78.8	78.8	78.5	78.8	82.4	76.4
„ 20,.....	79.1	78.4	78.7	78.4	79.5	79.8	82.6	82.5	84.1	83.2	86.8	84.3	85.1	84.9	85.3	84.4	84.7	82.7	81.2	81.1	79.9	80.0	79.9	80.0	81.9	86.9	78.2
„ 21,.....	80.3	80.5	80.1	79.9	79.8	79.7	80.5	81.8	82.8	83.8	83.5	83.0	83.7	83.4	83.3	83.5	82.3	81.6	80.8	80.3	80.7	81.5	80.7	80.7	81.6	85.4	74.8
„ 22,.....	80.3	80.1	79.6	79.6	78.9	79.1	81.3	80.8	79.9	82.8	80.9	83.7	83.7	84.6	83.6	83.4	82.1	81.8	81.5	81 2	81.0	81.0	80.7	80.7	81.4	84.6	78.6
„ 23,.....	80.6	79.9	78.7	78.6	78.9	79.8	80.2	76.7	80.1	80.2	82.1	83.4	80.0	78.7	82.9	77.1	77.4	77.8	78.8	78.5	78.8	78.8	80.6	80.8	79.6	84.6	76.0
„ 24,.....	80.5	79.9	77.6	80.2	79.6	77.6	79.5	80.8	81.0	80.7	79.9	82.8	76.8	75.8	74.8	78.2	78.5	79.8	79.5	79.8	80.0	80.5	80.4	79.9	79.3	83.5	74.8
„ 25,.....	80.1	80.8	80.6	80.4	80.8	80.8	81.6	82.0	82.8	81.3	80.5	82.8	82.8	82.9	82.9	78.0	80.6	80.1	79.9	79.9	80.2	80.4	80.2	80.0	80.9	84.3	77.9
„ 26,.....	79.8	79.5	79.4	78.8	79.2	80.8	80.9	82.1	81.9	83.9	84.1	84.3	84.5	83.0	84.7	82.8	82.5	82.7	80.6	80.6	80.6	79.6	80.1	79.8	81.5	85.7	78.1
„ 27,.....	80.0	79.8	78.3	78.8	78.9	81.9	81.9	82.1	83.2	83.0	85.5	86.7	86.3	83.5	85.6	84.0	84.4	83.2	81.8	80.8	80.6	80.6	79.8	79.7	82.1	87.6	78.3
„ 28,.....	79.3	79.7	79.1	78.5	78.2	79.2	80.2	81.2	83.2	82.9	85.8	86.1	86.5	86.8	88.1	86.0	83.9	82.7	81.3	82.0	81.2	80.3	80.0	80.4	82.2	88.4	78.2
„ 29,.....	80.4	80.0	80.1	79.8	79.8	80.4	81.8	83.6	84.3	84.3	82.6	84.3	85.4	85.7	86.2	85.4	84.3	83.2	81.8	81.3	81.1	80.7	80.7	80.5	82.4	87.2	79.8
„ 30,.....	80.1	80.4	80.2	80.0	79.8	80.0	80.9	82.2	83.3	85.0	84.9	86.6	85.5	84.2	84.8	83.1	82.7	82.5	81 4	81.1	80.8	80.8	80.7	80.0	82.1	87.6	79.7
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
Means, ...	79.8	79.6	79.3	79.0	79.0	79.5	80.7	81.3	82.1	82.8	83.4	83.9	83.6	83.5	83.5	82.7	82.2	81.4	80.7	80.5	80.3	80.2	80.1	80.0	81.2	85.7	77.7

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION, FOR THE MONTH OF JUNE, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
June 1,..	75.6	75.8	75.5	75.7	75.9	76.5	76.6	76.8	77.2	78.1	78.1	77.4	76.9	77.3	77.8	76.7	76.9	76.9	77.1	76.5	76.5	77.2	77.5	77.5	76.8	140.2
„ 2,...	77.5	77.6	77.8	76.0	75.5	75.4	75.4	75.7	76.0	76.6	76.3	76.0	76.4	76.2	76.4	77.5	77.2	77.1	77.4	77.2	77.1	77.0	77.1	77.1	76.6	144.7
„ 3,...	76.9	77.1	76.8	76.8	76.8	76.8	76.9	76.5	76.6	77.2	76.9	76.9	76.9	76.3	77.5	78.4	77.1	77.2	76.5	76.5	76.5	76.0	75.8	75.7	76.8	145.6
„ 4,...	75.4	75.7	75.3	75.6	75.0	76.9	76.9	76.4	76.0	76.2	76.0	76.7	76.1	76.5	76.1	77.2	76.0	75.8	75.4	76.0	76.2	76.3	75.9	76.2	76.1	142.4
„ 5,...	75.7	75.8	75.6	75.4	75.5	76.2	76.8	77.1	77.9	78.5	77.9	78.2	77.3	77.8	77.9	77.4	77.2	77.2	77.6	76.5	76.2	75.5	76.1	76.3	76.8	143.2
„ 6,...	76.4	76.4	76.1	76.5	75.9	77.8	78.0	78.9	77.6	77.2	76.9	79.3	78.6	79.8	78.5	78.7	76.5	76.6	76.9	76.8	76.9	77.4	77.1	77.4	77.4	140.2
„ 7,...	77.0	77.0	77.2	76.8	76.2	76.9	78.2	79.1	77.2	78.2	78.3	80.2	78.8	78.8	79.6	77.5	77.5	76.9	77.2	77.0	77.1	77.3	77.1	76.9	77.7	139.5
„ 8,...	76.8	76.7	76.8	76.7	76.7	76.5	78.2	77.3	75.8	75.6	76.8	77.2	77.0	76.0	76.5	77.9	76.7	76.8	76.5	77.3	77.2	77.4	77.3	77.2	76.9	141.4
„ 9,...	77.3	77.3	77.2	77.1	77.2	77.4	78.0	75.8	76.3	78.2	78.5	78.7	78.2	78.3	78.0	77.3	77.4	77.2	76.9	76.8	76.6	77.1	76.7	77.3	77.4	142.2
„ 10,...	77.1	77.0	77.0	76.9	77.1	77.1	77.7	77.3	77.4	78.2	78.2	78.2	78.5	79.2	78.2	78.1	77.4	76.9	76.6	76.9	76.8	77.1	76.6	76.5	77.4	146 6
„ 11,...	76.7	76.7	76.8	76.4	76.5	76.6	77.3	77.9	76.6	78.2	77.5	77.9	77.8	78.7	77.8	78.2	77.8	76.8	76.8	76.5	76.7	76.9	76.7	76.7	77.2	143.8
„ 12,...	76.7	76.5	76.7	76.0	75.8	76.3	77.2	77.4	78.2	78.2	78.2	78.1	78.7	77.5	78.7	78.0	77.9	77.2	76.7	76.5	77.2	76.6	77.3	77.1	77.3	147.1
„ 13,...	77.1	77.2	77.2	76.5	76.3	76.8	77.6	78.2	78.2	79.1	78.0	78.2	77.9	79.2	79.0	78.3	78.2	77.3	77.4	77.1	77.3	77.3	77.0	76.9	77.6	146.5
„ 14,...	76.8	76.9	76.4	76.7	76.8	77.7	78.1	78.0	77.4	78.2	77.3	77.5	77.7	78.5	77.4	77.4	76.7	77.2	76.0	75.9	76.4	75.8	76.6	77.8	77.1	145.8
„ 15,...	76.0	76.9	75.0	75.9	75.6	76.1	76.5	77.0	77.2	78.0	76.9	74.7	76.7	76.8	76.1	76.1	75.7	75.8	75.5	74.8	75.1	75.0	74.5	74.1	75.9	142.5
„ 16,...	76.1	73.6	73.2	70.8	70.2	72.5	73.2	72.8	72.0	73.1	73.8	74.6	73.8	73.8	73.8	73.6	74.1	75.0	75.2	75.8	75.9	75.9	76.6	76.1	74.0	136.8
„ 17,...	76.2	75.5	76.3	75.8	75.8	75.4	75.4	76.2	76.1	76.8	78.2	78.3	75.4	75.7	75.7	75.6	75.6	76.1	76.2	76.1	76.1	76.2	76.5	76.1	76.1	147.2
„ 18,...	76.8	76.5	76.8	76.8	76.8	73.3	73.7	73.9	73.9	74.1	74.9	74.4	74.8	75.8	75.4	75.6	75.8	75.8	75.5	75.7	75.8	76.3	76.8	76.9	75.5	101.0
„ 19,...	75.9	76.0	76.7	74.9	75.1	75.8	73.8	75.6	76.3	76.6	78.4	78.1	77.7	76.8	77.1	77.4	77.5	77.1	77.0	77.4	77.2	76.8	76.8	77.0	76.6	128.5
„ 20,...	77.1	76.8	77.1	77.4	77.1	76.7	78.9	77.4	78.6	78.2	79.3	77.3	77.8	77.0	78.1	78.4	76.8	77.0	76.5	76.3	77.3	77.4	77.8	77.2	77.5	146.0
„ 21,...	77.9	77.5	76.6	76.6	76.6	76.8	76.8	77.8	78.8	78.9	78.1	78.2	78.2	78.3	78.3	77.5	77.3	76.8	77.1	76.9	77.1	77.4	77.2	77.2	77.5	144.0
„ 22,...	77.4	77.4	77.4	77.4	77 2	77.5	78.3	78.0	78.1	80.0	76.9	79.8	79.1	79.2	78.5	78.2	78.2	78.0	77.8	76.9	76.7	76.8	77.1	76.9	77.9	147.3
„ 23,...	76.9	76.6	75.9	75.9	76.4	76.6	77.1	74.2	75.8	76.1	77.1	77.5	76.6	75.2	78.2	73.7	74.1	75.1	73.9	75.4	75.5	76.8	76.8	76.7	76.0	132.7
„ 24,...	76.4	77.1	74.7	77.4	77.1	75.7	76.5	76.8	76.9	77.1	76.8	76.8	74.4	74.5	73.8	75.9	75.6	75.9	74.6	75.7	75.0	75.8	75.0	75.8	75.9	130.7
„ 25,...	76.0	76.0	75.8	75.9	75.8	76.8	76.6	76.6	77.5	77.0	76.8	75.8	75.9	76.5	76.3	74.9	75.9	75.1	75.7	75.8	76.0	75.8	75.8	75.5	76.1	149.1
„ 26,...	75.7	75.5	75.2	75.1	75.5	76.0	76.0	76.4	75.7	76.3	76.4	77.2	77.4	76.5	78.0	77.8	77.0	77.3	75.7	76.7	76.6	76.8	76.8	76.9	76.4	143.6
„ 27,...	76.5	76.1	75.8	75.6	75.9	77.3	76.8	76.5	76.8	77.3	76.4	77.8	78.3	77.4	78.8	77.0	77.8	76.2	76.8	76.4	75.9	75.8	76.2	75.6	76.7	139.9
„ 28,...	75.4	75.3	75.8	75.7	75.3	76.6	77.0	77.0	78.1	76.4	76.8	78.5	77.8	78.1	78.4	78.2	76.8	75.4	75.3	74.5	75.3	75.4	75.9	75.9	76.5	137.2
„ 29,...	76.2	76.5	76.8	76.8	76.5	77.0	77.1	77.9	78.4	78.9	79.3	78.2	79.0	78.6	79.0	77.8	77.3	77.0	76.1	76.4	76.3	75.7	74.6	75.1	77.2	144.5
„ 30,...	75.3	75.8	76.5	76.8	76.8	76.1	76.8	77.7	76.7	77.7	77.3	80.0	77.9	78.0	77.8	77.0	76.9	76.7	75.9	75.9	76.1	76.1	76.2	76.0	76.8	146.8
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means, ...	76.5	76.4	76.3	76.1	76.0	76.4	76.8	76.8	76.8	77.3	77.3	77.6	77.3	77.3	77.4	77.1	76.8	76.6	76.3	76.3	76.4	76.5	76.5	76.5	76.7	140.9

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF JUNE, 1893.

Hour.	Hourly Mean. Humidity.	Hourly Mean. Tension.	Date.	Daily Mean. Humidity.	Daily Mean. Tension.
			1893.		
1 a.	86	0.870	June 1,.....	80	0.860
2 „	86	.868	„ 2,.....	89	.883
3 „	87	.868	„ 3,.....	81	.863
4 „	87	.863	„ 4,.....	82	.847
5 „	87	.859	„ 5,.....	82	.865
6 „	87	.870	„ 6,.....	80	.877
7 „	83	.871	„ 7,.....	78	.879
8 „	81	.863	„ 8,.....	79	.859
9 „	78	.852	„ 9,.....	81	.880
10 „	77	.865	„ 10,.....	79	.873
11 „	75	.857	„ 11,.....	77	.861
Noon.	74	.863	„ 12,.....	77	.864
1 p.	74	.854	„ 13,.....	78	.877
2 „	74	.855	„ 14,.....	79	.865
3 „	75	.860	„ 15,.....	82	.841
4 „	77	.858	„ 16,.....	72	.751
5 „	77	.851	„ 17,.....	88	.864
6 „	80	.853	„ 18,.....	91	.856
7 „	80	.849	„ 19,.....	90	.887
8 „	81	.852	„ 20,.....	81	.885
9 „	83	.859	„ 21,.....	83	.889
10 „	84	.865	„ 22,.....	85	.910
11 „	84	.867	„ 23,.....	85	.851
Midt.	85	.868	„ 24,.....	85	.851
			„ 25,.....	79	.837
			„ 26,.....	78	.842
			„ 27,.....	77	.847
			„ 28,.....	76	.837
			„ 29,.....	78	.865
			„ 30,.....	78	.851
			.....	...	...
Means,.....	81	0.861	Means.	81	0.861

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
June 1,.....	...	...	...	...	0.2	0.9	1.0	1.0	0.5	0.8	...	...	...	4.4
„ 2,.....	...	...	...	...	0.3	0.8	...	0.1	...	...	0.1	...	...	1.3
„ 3,.....	...	0.2	0.9	1.0	1.0	1.0	1.0	1.0	0.8	0.9	0.5	0.1	0.4	8.8
„ 4,.....	0.4	1.0	1.0	0.8	1.0	1.0	1.0	1.0	1.0	0.9	1.0	...	...	10.1
„ 5,.....	0.4	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.9	1.0	0.6	11.3
„ 6, ...	0.3	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	11.9
„ 7,.....	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	11.7
„ 8,.....	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	11.8
„ 9,.....	...	0.4	...	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	8.8
„ 10,.....	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.6	0.3	11.2
„ 11,.....	...	0.5	0.3	0.4	0.5	0.7	0.8	0.9	0.9	1.0	1.0	0.9	...	7.9
„ 12,.....	0.3	1.0	0.8	0.4	1.0	1.0	1.0	1.0	1.0	1.0	0.7	0.6	...	9.8
„ 13,.....	...	0.9	1.0	1.0	1.0	1.0	1.0	0.7	1.0	0.7	0.7	0.4	...	9.4
„ 14,.....	...	0.7	0.9	0.8	0.5	0.3	...	...	0.6	0.1	...	...	...	3.9
„ 15,.....	...	...	0.3	0.3	1.0	...	...	0.2	0.6	0.3	...	...	...	2.7
„ 16,.....	0.1	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.8	1.0	1.0	0.9	0.6	11.2
„ 17.....	...	0.2	0.2	...	0.3	0.8	0.8	...	...	...	...	...	...	2.3
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 20,.....	...	0.7	0.9	0.8	0.9	0.8	0.9	0.9	0.8	0.7	...	0.3	...	7.7
„ 21.....	...	0.2	0.6	0.8	0.8	0.2	...	0.6	0.7	1.0	1.0	0.9	0.1	6.9
„ 22,.....	0.2	1.0	0.2	0.3	0.6	0.2	0.1	1.0	1.0	1.0	1.0	0.9	0.1	7.6
„ 23,.....	...	0.1	...	0.1	...	...	...	...	...	0.8	...	...	...	1.0
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	0.1	0.8	0.8	0.7	0.8	0.4	0.3	0.3	0.2	...	...	...	...	4.4
„ 26,.....	0.1	0.8	0.9	0.8	0.9	0.9	1.0	1.0	0.8	1.0	0.9	0.8	0.5	10.4
„ 27,.....	0.5	1.0	0.9	1.0	0.8	1.0	1.0	0.8	0.7	0.9	1.0	1.0	0.6	11.2
„ 28,.....	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.2	11.3
„ 29,.....	0.4	1.0	1.0	1.0	0.8	0.6	0.9	1.0	1.0	1.0	1.0	0.2	0.3	10.2
„ 30,.....	...	...	...	0.8	0.9	1.0	0.8	0.1	...	...	...	...	...	3.6
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums,.....	3.9	17.4	17.7	18.0	21.0	20.6	19.5	19.3	19.2	19.9	16.7	13.4	6.2	212.8

TABLE VI.

RAINFALL FOR THE MONTH OF JUNE, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
June 1,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 2,.....	...	...	...	0.100	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	0.015	...	...	...	...	...	0.125	1
„ 3,.....	0.005	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.015	1
„ 4,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 7,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 8,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9,.....	...	...	...	...	...	...	...	0.035	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.035	...
„ 10,.....	...	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...	0.020	0.005	0.005	...	...	...	...	...	0.040	1
„ 11,.....	0.030	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.040	1
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 15,.....	...	...	0.275	0.250	...	...	0.040	0.090	0.070	...	...	0.295	...	...	...	...	...	...	...	...	...	...	...	...	1.020	4
„ 16,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 17,.....	...	0.400	0.150	0.115	0.075	...	...	...	...	...	...	...	0.060	0.020	0.320	0.035	0.015	...	...	...	...	...	...	0.010	1.200	9
„ 18,.....	...	...	...	...	...	0.340	0.255	0.005	0.115	0.095	0.200	0.200	0.035	...	...	...	...	...	...	...	...	...	...	...	1.245	7
„ 19,.....	...	...	...	0.215	...	0.025	...	...	...	0.385	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.625	3
„ 20,.....	...	...	...	0.015	...	...	...	...	0.040	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.055	1
„ 21,.....	...	...	...	...	...	...	...	0.150	..	0.015	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...	0.170	1
„ 22,.....	...	...	...	...	...	...	...	0.165	0.010	0.040	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.215	2
„ 23,.....	0.010	0.010	0.360	...	...	0.020	0.095	0.080	...	...	...	0.010	0.105	0.010	...	0.075	0.025	...	...	...	...	...	...	...	0.800	7
„ 24,.....	...	...	0.065	...	0.240	0.070	...	...	...	0.215	...	...	0.120	0.210	0.100	0.010	...	...	...	...	...	...	...	...	1.030	7
„ 25,.....	...	...	...	...	...	...	...	...	...	0.045	0.005	0.025	0.005	...	0.075	0.185	...	...	...	...	...	...	...	...	0.340	1
„ 26,.....	...	...	...	...	...	...	...	...	...	...	...	...	0.065	...	...	...	...	...	...	...	...	0.045	...	0.015	0.065	1
„ 27,.....	...	...	0.065	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.065	...
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 29,.....	...	...	...	...	...	...	...	...	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...
„ 30,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	0.045	0.420	0.915	0.715	0.325	0.455	0.390	0.525	0.235	0.795	0.210	0.530	0.330	0.240	0.495	0.305	0.060	0.005	0.020	...	...	0.045	0.005	0.025	7.090	47

The daily duration of rain is entered from estimations.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF JUNE, 1893.

Date.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a.		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		Vel.		Dir.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
June 1,	20	21	19	22	19	30	18	28	19	24	19	21	20	23	20	18	20	23	19	25	20	24	19	27	20	28	20	20	19	22	19	20	19	19	19	18	19	14	20	20	19	22	20	15	21	14	21	15	513	21.4	19
" 2,	21	15	20	13	21	11	27	10	25	9	25	10	25	12	25	12	25	13	26	10	23	8	25	9	25	7	24	6	24	4	...	1	9	6	8	7	8	9	8	6	8	6	8	6	6	7	6	5	205	8.5	24
" 3,	6	3	9	7	5	3	5	4	8	5	15	6	16	9	15	11	14	11	16	11	11	9	15	10	12	10	14	12	14	12	10	12	12	11	12	11	13	8	13	8	14	10	13	13	14	9	14	11	216	9.0	13
" 4,	14	9	14	8	14	7	13	5	13	2	10	5	11	11	8	16	9	16	10	16	8	21	8	20	8	20	8	18	8	17	8	17	8	19	9	13	10	11	9	9	9	11	9	5	10	5	10	5	286	11.9	9
" 5,	10	4	10	4	10	4	10	4	10	5	9	2	7	3	7	7	7	10	8	6	6	7	7	3	16	9	17	10	16	11	16	8	16	8	16	6	16	6	16	4	...	1	...	1	...	0	...	1	124	5.2	12
" 6,	...	1	16	2	...	0	...	0	...	0	...	0	...	1	26	4	18	5	25	8	24	10	24	10	21	8	22	9	22	10	24	7	22	6	19	8	19	2	19	2	...	1	...	1	...	0	...	1	96	4.0	22
" 7,	...	1	29	6	29	5	29	3	29	5	29	3	29	3	29	5	29	5	25	8	24	9	24	12	23	10	24	9	23	7	17	9	17	11	18	7	18	4	16	6	16	4	15	6	15	5	15	5	148	6.2	22
" 8,	15	3	9	4	9	4	9	3	9	3	...	1	6	4	9	12	9	14	9	15	10	15	9	18	10	19	9	16	10	21	9	17	7	14	10	12	9	10	11	7	9	8	11	11	10	10	10	12	253	10.5	9
" 9,	9	12	8	12	7	8	6	9	6	10	7	13	7	11	9	15	7	11	8	11	7	17	8	18	8	21	9	17	10	20	10	18	9	15	9	13	10	12	10	8	10	13	10	14	10	13	11	13	324	13.5	9
" 10,	10	14	11	12	9	12	10	10	7	12	9	11	9	17	10	15	9	17	8	20	8	21	8	21	8	20	8	17	8	19	8	17	9	21	10	9	11	14	11	14	11	14	10	19	11	14	12	14	371	15.6	9
" 11,	12	16	12	15	12	14	12	10	12	10	12	8	13	9	13	12	11	10	14	8	14	11	15	10	15	12	11	11	11	11	14	12	14	10	11	8	10	6	10	6	11	5	11	5	11	5	11	3	227	9.5	13
" 12,	...	1	11	2	6	2	6	2	...	0	...	1	...	1	2	2	27	5	24	4	24	7	24	8	24	6	17	9	16	10	15	8	16	9	15	6	15	6	15	3	...	1	15	2	...	1	...	0	96	4.0	18
" 13,	...	0	...	1	...	0	7	3	10	2	6	3	6	2	8	5	8	8	8	10	9	13	9	15	9	16	8	17	8	17	8	16	8	14	8	10	8	10	8	10	8	10	10	9	10	12	10	8	241	8.8	8
" 14,	5	7	7	6	11	4	...	1	2	2	...	1	3	5	6	6	6	10	8	15	7	14	7	12	7	11	8	12	8	17	8	16	10	12	8	12	11	10	11	14	11	10	11	11	10	14	10	12	234	9.8	8
" 15,	19	5	9	7	13	5	30	6	...	1	39	3	9	8	5	11	6	17	7	23	7	23	12	22	8	17	8	22	8	24	9	20	8	18	8	21	8	21	8	21	8	23	8	23	8	21	7	20	382	15.9	8
" 16,	8	23	7	23	7	23	7	20	7	23	7	21	6	19	7	26	7	24	6	24	7	26	7	24	7	21	5	24	6	23	7	20	8	21	8	20	8	22	8	19	9	24	9	22	8	23	8	18	533	22.2	7
" 17,	8	19	10	15	10	13	7	15	11	18	12	10	12	5	9	8	11	13	10	12	10	13	12	16	16	12	18	5	7	6	9	5	6	5	6	8	8	9	8	13	8	11	8	13	9	13	11	12	269	11.2	10
" 18,	10	10	11	8	10	5	13	5	13	4	17	10	7	5	4	5	17	5	14	3	24	8	15	2	15	4	15	2	9	5	8	8	8	12	8	13	8	13	8	7	8	7	8	5	7	6	6	8	160	6.7	10
" 19,	5	11	8	9	6	8	13	9	4	6	8	10	13	7	7	8	7	9	25	5	32	4	6	4	4	11	8	13	6	4	6	3	6	6	7	10	7	8	7	7	8	9	8	8	8	6	8	12	187	7.8	7
" 20,	7	8	7	9	7	7	9	5	12	8	11	8	10	12	13	12	11	13	13	13	12	13	10	13	15	11	15	10	16	7	16	5	16	4	14	7	11	6	10	5	9	4	9	7	9	8	9	8	203	8.5	11
" 21,	9	8	10	12	10	9	11	10	9	7	7	4	9	7	7	4	9	9	8	12	8	14	7	17	8	13	8	16	8	18	8	14	8	14	11	10	11	11	10	10	11	8	9	12	11	13	10	14	266	11.1	9
" 22,	10	10	9	6	9	2	8	4	6	4	8	4	8	2	8	8	5	6	5	3	5	11	7	9	8	23	9	20	8	17	9	17	9	19	10	14	11	14	12	14	12	12	11	9	11	6	10	3	237	9.9	9
" 23,	16	5	16	3	16	5	5	4	9	7	9	5	13	21	14	15	14	5	14	6	7	4	7	8	13	14	4	8	15	12	15	23	16	13	...	1	14	8	10	4	6	7	6	8	12	13	10	14	213	8.9	12
" 24,	10	13	12	16	8	18	12	15	11	16	13	16	12	18	13	23	12	27	12	25	13	17	13	23	15	25	14	20	14	17	14	11	26	5	14	14	14	17	13	13	15	20	14	16	14	14	14	13	412	17.2	13
" 25,	14	12	13	16	12	17	12	17	14	19	12	20	12	21	12	25	12	21	13	24	13	30	14	32	14	30	15	23	11	18	13	10	14	11	13	10	11	11	12	12	12	12	14	12	14	15	13	9	427	17.8	13
" 26,	11	11	13	8	11	8	12	10	12	10	12	9	13	11	14	12	15	18	14	18	11	18	14	16	14	15	15	13	15	13	14	12	15	10	11	10	11	7	10	8	11	10	12	7	11	12	12	10	276	11.5	13
" 27,	14	10	13	10	14	10	13	8	11	6	14	9	14	11	14	10	14	8	15	11	17	13	16	12	16	10	17	11	17	10	15	11	16	7	18	5	16	4	18	4	18	2	...	1	...	1	...	1	185	7.7	15
" 28,	...	1	19	4	19	2	...	1	...	1	...	0	19	3	28	5	28	7	27	8	25	12	24	9	23	10	23	8	22	9	20	9	19	12	18	9	19	4	...	0	...	1	14	2	18	2	20	3	122	5.1	22
" 29,	21	6	21	8	22	11	21	9	21	8	24	7	25	5	25	7	24	8	25	8	21	11	24	9	24	11	24	10	22	12	20	10	18	9	17	10	18	5	18	5	18	7	18	6	21	3	21	6	191	8.0	22
" 30,	23	8	29	9	20	9	21	10	21	10	21	9	21	10	22	10	22	9	20	8	22	10	23	10	19	7	17	10	17	11	19	11	19	11	17	10	18	8	17	6	17	6	16	4	16	5	17	6	207	8.6	20
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	...	267	...	277	...	259	...	240	...	237	...	230	...	276	...	329	...	357	...	370	...	413	...	419	...	431	...	398	...	404	...	367	...	352	...	312	...	290	...	265	...	279	...	273	...	270	...	262	7577	315.7	...
Means, ...	...	8.9	...	9.2	...	8.6	...	8.0	...	7.9	...	7.7	...	9.2	...	11.0	...	11.9	...	12.3	...	13.8	...	14.0	...	14.4	...	13.3	...	13.5	...	12.2	...	11.7	...	10.4	...	9.7	...	8.8	...	9.3	...	9.1	...	9.0	...	8.7	252.6	10.5	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction.	Amount.	Name.	Direction.	Amount.	Name.	Direction.	Amount.	Name.	Direction.
1893.												
June 1, ...	9	cum.	SW	10	R-cum.	SW	10	str-cum.	SW	10	c-str. / R-cum.	WSW
,, 2, ...	9	cum.	WSW	10	nim.	W	9	cum-nim.	WSW	9	c-cum. / R-cum.	N / SW
,, 3, ...	10	nim.	SW	10	nim.	SSW	8	c-cum. / cum.	S	7	c-cum. / cum. / R-cum.	.. / SSE / S
,, 4, ...	3	cum.	S	2	cum.	SE	3	cum.	SSE	3	c-str. / cum. / cum.	.. / SSW / SE
,, 5, ...	1	cum.	SSE	1	cum.	SSE	3	cum.	S	5	cum.	SSW
,, 6, ...	5	cum.	SSW	5	cum.	SSW	2	c-str. / cum.	SW	3	cum.	WSW
,, 7, ...	0	...	...	0	...	...	1	cum.	...	1	cum.	...
,, 8, ...	0	...	...	0	...	...	2	cum.	E	2	cum.	E
,, 9, ...	0	...	...	3	cum.	E	4	cum.	E	8	c-cum. / cum.	NE / ESE
,, 10, ...	2	cum.	ESE	2	cum.	ESE	6	cum.	ESE	5	c-cum. / cum.	ENE / SE
,, 11, ...	2	nim.	...	4	cum-nim.	ESE	5	c-cum. / cum.	ESE	8	c-cum. / cum. / cum-nim.	.. / SSW / SSE
,, 12, ...	0	...	...	0	...	...	6	c-cum. / cum.	N / ..	7	c-str. / sm-cum. / cum.	N / WNW / SE
,, 13, ...	0	...	...	0	...	...	3	c-cum. / cum.	...	6	c-str. / cum. / cum.	NW / S / SE
,, 14, ...	7	cum-nim.	...	10	cum-nim.	...	8	c-str. / cum.	WNW / SE	7	c-str. / sm-cum. / R-cum.	NW / E / SE
,, 15, ...	5	cum.	E	10	nim.	...	10	nim.	E	8	c-cum. / cum. / cum-nim.	.. / ESE / ESE
,, 16, ...	7	R-cum.	E	1	cum.	...	2	c-cum. / cum.	E	3	c-cum. / cum.	N / E
,, 17, ...	10	nim.	E	10	nim.	...	6	cum.	S	8	c-str. / cum. / cum-str.	E / SE / SSE
,, 18, ...	6	cum-nim.	...	7	cum-nim.	S	10	nim.	SSW	10	nim.	W
,, 19, ...	8	cum-nim.	E	10	nim.	...	9	sm-cum. / nim.	...	10	nim.	SSE
,, 20, ...	0	...	...	2	cum.	...	5	c-cum. / cum.	ESE	5	c-cum. / cum.	NNE / SE
,, 21, ...	5	cum-nim.	...	2	cum.	...	6	c-cum. / cum.	ENE / SE	6	c-cum. / cum.	NE / SSE
,, 22, ..	1	cum-nim.	...	1	nim.	...	5	c-str. / cum.	NNE / SSE	9	c-cum. / sm-cum. / nim.	ESE / SE / SE
,, 23, ...	7	cum-nim.	S	1	cum.	S	9	c-cum. / cum-nim.	SSE	10	nim.	S
,, 24, ...	3	cum.	SSE	2	cum.	...	9	sm-cum. / cum-nim.	SSE	10	nim.	SE
,, 25, ...	9	sm-cum. / cum.	SSE / SSE	10	cum.	SSE	7	sm-cum. / cum.	SSW / SSE	9	c-cum. / cum. / R-cum.	SSW / .. / SSE
,, 26, ...	6	cum.	SSE	5	cum.	...	4	cum.	S	7	sm-cum. / cum.	S / S
,, 27, ...	2	cum.	S	1	cum.	S	3	cum.	S	8	cum. / cum-nim.	S / SSE
,, 28, ...	2	c-str. / cum.	...	1	cum.	...	3	c-str. / cum.	SW	2	c-cum.	E
,, 29, ...	8	c-str. / cum. / cum.	ENE / SSW / W	8	c-str. / cum.	W	4	c-str. / cum.	ENE / ..	5	c-cum. / cum. / cum-nim.	.. / W / SW
,, 30, ...	10	c-str. / cum.	SW	9	c-str. / sm-cum. / cum.	...	9	c-str. / cum.	WSW	10	c-cum. / sm-cum. / cum.	NE / NE / WSW
.....	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	4.6	...	...	4.6	...	...	5.7	...	...	6.7	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
June 1,...	7	c-str. / cum.	NE / ..	8	c-cum. / cum.	NNE / SW	10	c-str. / R-cum.	SW	10	R-cum.	SW	9.2
„ 2,...	10	R-cum.	SW	10	cum.	SW	10	cum-nim.	SW	9	sm-cum. / cum	SW	9.5
„ 3,...	5	c-str. / cum.	S	9	c-cum. / cum / R-cum.	.. / SSW / SE	5	c-str. / cum.	SSE	4	cum.	...	7.3
„ 4,...	3	c-str. / cum.	SSE	7	c-cum. / cum. / cum.	.. / SSW / SSE	1	c-str. / cum.	...	8	cum.	SSE	3.7
„ 5,...	2	cum.	SW	2	cum.	S	1	cum.	...	0	...	...	1.9
„ 6,...	1	cum.	...	1	cum.	...	1	cum.	...	0	...	...	2.0
„ 7,...	1	cum.	...	1	c-cum. / cum.	...	0	...	...	0	...	...	0.5
„ 8,...	1	c-str. / cum.	...	1	c-cum.	...	0	...	...	1	cum.	...	0.9
„ 9,...	4	c-cum. / cum.	E / ESE	3	c-str. / cum.	E / ESE	1	c-cum. / cum.	...	0	...	...	2.9
„ 10,...	7	c-cum. / cum.	ESE	4	c-cum. / cum.	SE	2	cum.	ESE	2	cum.	...	3.8
„ 11,...	7	cum.	SSE	7	c-cum. / cum. / cum.	.. / NW / SE	3	c-cum. / cum.	SE	0	...	...	4.5
„ 12,...	4	c-cum. / cum.	NW / NW	7	c-cum. / cum.	WNW / WSW	6	c-str.	W	0	...	...	3.7
„ 13,...	8	c-str. / cum. / cum.	WNW / ESE / SSE	8	c-str. / cum.	WNW / SE	9	c-str. / cum.	WNW / ..	1	cum.	...	4.4
„ 14,...	9	c-str. / sm-cum. / cum.	NW / .. / SE	9	c-str. / cum.	NW / SE	7	c-cum. / sm-um. / cum.	.. / S / ESE	3	cum.	...	7.5
„ 15,...	8	c-cum. / c-m.	ESE	9	c-cum. / cum.	ESE	10	c-cum. / sm-um. / cum.	E	7	cum.	E	8.4
„ 16,...	7	c-cum. / cum.	E	2	c-str. / cum	W / E	2	c-str. / cum.	E	4	cum.	E	3.5
„ 17,...	10	nim.	SSW	10	nim.	S	10	c-str. / sm-cum. / cum.	SSE	2	R-cum.	...	8.3
„ 18,...	10	nim.	SW	10	c-str. / sm-cum.	...	5	c-str. / sm-cum. / cum	...	4	c-cum. / cum.	ESE	7.7
„ 19,...	9	sm-cum. / cum.	S	9	c-str. / cum.	S	10	str-cum.	...	4	c-str.	...	8.6
„ 20,...	7	c-str. / cum.	NNE / S	9	c-str. / cum.	NNE / S	9	c-str. / cum.	NNE / ..	4	c-str. / cum.	NNW / ..	5.1
„ 21,...	9	c-str. / cum.	E / S	8	c-str. / c-cum.	ENE / S E	9	c-str. / cum.	E / SSE	7	c-str. / cum.	ESE	6.5
„ 22,...	3	c-cum. / cum.	ESE	7	c-cum. / sm-cum. / cum. / cum.	NE / S / ESE	4	c-cum. / cum.	ESE	3	c-str. / cum.	SE	4.5
„ 23,...	10	nim.	SSE	10	nim.	SSE	8	sm-cum. / c.n.-nim.	SSE	10	nim.	SSE	8.1
„ 24,...	10	nim.	SSE	10	nim.	S	9	c-str. / cum.	SSE	5	c-cum. / cum.	SE / S	7.3
„ 25,...	9	cum-nim.	S	9	c-str. / nim.	ENE / SSE	7	c-cum. / cum.	SSE	7	c-cum. / cum.	SSE	8.4
„ 26,...	7	c-cum. / cum.	S / S	4	c-cum. / cum.	S / S	1	cum.	SSE	9	nim.	SSE	5.4
„ 27,...	4	c-cum. / cum.	S	3	c-str. / cum.	S	3	c-str. / cum.	S	1	cum.	S	3.1
„ 28,...	1	c-str. / cum.	W	6	c-cum. / cum.	E / W	4	c-str.	E	9	c-str.	ENE	3.5
„ 29,...	3	c-str. / cum.	ENE / W	8	c-cum.	ENE	5	c-cum. / cum.	ENE / ..	3	c-str. / cum.	SW	5.5
„ 30,...	9	sm-cum / cum.	NE / SW	10	str. / cum.	WSW	8	c-cum. / cum.	WSW	6	sm-cum. / cum.	SW	8.9
.....	..	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	6.2	...	...	6.7	...	...	5.3	...	...	4.1	...	...	5.5

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND, FOR THE MONTH OF JUNE, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	0.43	5.77	3.57	1.33	−3.14	+ 4.44	E 35° S
2 „	0.43	5.83	4.33	1.30	3.90	4.53	E 41° S
3 „	0.57	5.23	3.73	1.63	3.16	3.60	E 41° S
4 „	1.03	4.63	3.67	1.30	2.64	3.33	E 38° S
5 „	0.80	4.87	3.37	1.33	2.57	3.54	E 36° S
6 „	0.53	4.37	3.40	1.37	2.87	3.00	E 44° S
7 „	0.77	5.43	4.43	1.50	3.66	3.93	E 43° S
8 „	1.20	6.80	4.40	1.73	3.20	5.07	E 32° S
9 „	1.27	7.50	4.47	2.00	3.20	5.50	E 30° S
10 „	1.03	7.17	4.80	2.30	3.77	4.87	E 38° S
11 „	1.03	8.10	4.63	3.07	3.60	5.03	E 36° S
Noon.	0.63	8.07	5.37	2.73	4.74	5.34	E 42° S
1 p.	0.50	7.67	6.27	2.50	5.77	5.17	E 48° S
2 „	0.63	7.33	5.37	2.17	4.74	5.16	E 43° S
3 „	0 40	7.63	5.87	1.83	5.47	5.80	E 43° S
4 „	0.17	7.53	5.53	1.30	5.36	6.23	E 41° S
5 „	0.30	7.10	5.03	1.33	4.73	5.77	E 39° S
6 „	0.17	6.53	4.97	0.87	4.80	5.66	E 40° S
7 „	0.07	6.73	4.50	0.57	4.43	6.16	E 36° S
8 „	0.03	6.33	3.93	0.63	3.90	5.70	E 34° S
9 „	0.10	6.47	4.10	0.57	4.00	5.90	E 34° S
10 „	0.10	6.73	3.87	0.43	3.77	6.30	E 31° S
11 „	0.13	6.63	4.00	0.53	3.87	6.10	E 32° S
Midt.	0.30	6.47	3.63	0.67	−3.33	+ 5.80	E 30° S
Means, ...	0.53	6.54	4.47	1.46	−3.94	+ 5.08	E 38° S

PHENOMENA :—

Solar halo :—on the 1st, 4th, 12th, 13th, 14th, 15th, 17th and 20th.

Lunar halo :—on the 1st, 20th, 21st, 24th, 27th, 28th, 29th and 30th.

Lunar corona :—on the 1st, 4th, 9th, 11th, 19th, 21st, 23rd, 24th, 26th, 27th and 29th.

Haze :—on the 14th and 22nd.

Unusual visibility :—on the 5th, 8th, 12th, 13th, 26th, 27th and 28th.

Dew :—on the 4th, 5th, 6th, 7th, 12th, 13th, 19th, 20th, 27th, 28th and 29th.

Rainbow :—on the 10th, 21st, 23rd, 26th and 27th.

Lightning without thunder :—on the 1st, 2nd, 6th, 7th, 8th, 12th, 13th, 14th, 15th, 16th, 20th, 23rd, 25th and 30th.

Thunder without lightning :—on the 14th and 15th.

Thunder and lightning :—*on the* 18*th*, 19*th* and 24*th*.

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF JULY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
July 1,...	29.723	29.720	29.712	29.703	29.714	29.723	29.733	29.735	29.738	29.753	29.750	29.752	29.746	29.737	29.714	29.694	29.686	29.688	29.686	29.701	29.712	29.738	29.745	29.745	29.723
„ 2,...	.732	.717	.712	.713	.713	.733	.753	.755	.761	.770	.763	.747	.746	.732	.714	.694	.695	.711	.739	.763	.777	.785	.779	.762	.740
„ 3,...	.749	.736	.722	.724	.728	.753	.777	.761	.762	.775	.770	.784	.791	.778	.733	.704	.688	.697	.702	.718	.719	.728	.720	.724	.739
„ 4,...	.725	.711	.702	.699	.690	.706	.728	.728	.726	.736	.734	.721	.715	.706	.692	.678	.674	.677	.696	.705	.717	.736	.741	.730	.711
„ 5,...	.714	.700	.697	.696	.702	.709	.753	.754	.771	.790	.795	.767	.744	.730	.724	.726	.732	.739	.743	.752	.778	.785	.767	.763	.743
„ 6,...	.751	.750	.745	.746	.738	.746	.762	.781	.794	.810	.796	.792	.778	.768	.761	.749	.746	.757	.767	.773	.788	.802	.786	.772	.769
„ 7,...	.757	.742	.737	.740	.747	.760	.772	.790	.798	.812	.795	.787	.783	.770	.764	.758	.754	.763	.770	.779	.780	.788	.785	.779	.771
„ 8,...	.758	.743	.733	.735	.743	.756	.779	.790	.805	.816	.811	.801	.790	.774	.759	.745	.733	.729	.729	.740	.763	.783	.780	.775	.765
„ 9,...	.756	.744	.731	.727	.728	.748	.769	.777	.781	.779	.769	.758	.739	.734	.712	.694	.685	.680	.694	.718	.742	.758	.758	.744	.739
„ 10,...	.727	.709	.696	.689	.686	.692	.699	.714	.725	.724	.711	.698	.694	.675	.643	.621	.619	.620	.642	.674	.684	.691	.694	.695	.684
„ 11,...	.675	.664	.659	.651	.659	.668	.672	.686	.691	.695	.695	.681	.664	.642	.617	.610	.598	.609	.627	.656	.675	.689	.689	.678	.660
„ 12,...	.660	.647	.641	.633	.652	.665	.678	.687	.690	.689	.684	.682	.671	.654	.641	.619	.614	.626	.639	.658	.672	.690	.697	.693	.662
„ 13,...	.683	.667	.653	.650	.644	.647	.661	.665	.669	.669	.666	.663	.643	.626	.613	.588	.581	.586	.609	.627	.634	.648	.651	.652	.641
„ 14,...	.638	.623	.619	.617	.625	.638	.651	.662	.655	.653	.658	.655	.641	.623	.607	.591	.598	.604	.630	.660	.674	.678	.673	.675	.639
„ 15,...	.656	.651	.642	.637	.643	.661	.680	.680	.684	.687	.688	.677	.657	.644	.625	.620	.614	.629	.644	.669	.676	.696	.692	.682	.660
„ 16,...	.671	.645	.634	.624	.633	.643	.647	.661	.658	.668	.659	.651	.640	.616	.603	.611	.618	.632	.644	.646	.675	.690	.695	.686	.648
„ 17,...	.665	.633	.633	.633	.618	.601	.620	.645	.643	.635	.646	.642	.639	.618	.613	.599	.606	.600	.614	.631	.634	.647	.645	.640	.629
„ 18,...	.619	.606	.583	.571	.572	.581	.590	.595	.602	.599	.590	.578	.565	.540	.512	.500	.506	.502	.538	.555	.593	.612	.586	.552	.569
„ 19,...	.535	.508	.500	.496	.485	.514	.534	.551	.553	.556	.542	.524	.513	.502	.499	.491	.496	.508	.520	.530	.551	.554	.548	.540	.523
„ 20,...	.518	.508	.502	.501	.512	.532	.544	.554	.580	.568	.569	.563	.555	.532	.508	.502	.483	.502	.519	.535	.545	.546	.558	.545	.533
„ 21,...	.532	.506	.497	.483	.495	.502	.514	.528	.546	.546	.547	.523	.558	.537	.523	.496	.494	.501	.513	.535	.549	.565	.589	.585	.528
„ 22,...	.570	.563	.555	.560	.560	.573	.592	.611	.623	.624	.633	.615	.586	.580	.567	.562	.547	.554	.589	.614	.619	.624	.624	.621	.590
„ 23,...	.598	.575	.577	.588	.598	.591	.601	.604	.615	.636	.625	.633	.650	.637	.636	.620	.610	.614	.637	.638	.644	.653	.661	.643	.620
„ 24,...	.624	.618	.620	.646	.625	.619	.639	.648	.667	.688	.700	.683	.673	.652	.620	.615	.625	.627	.648	.664	.681	.700	.694	.686	.653
„ 25,...	.660	.639	.623	.622	.623	.638	.655	.669	.681	.689	.688	.671	.664	.654	.650	.650	.644	.651	.672	.680	.701	.708	.698	.692	.663
„ 26,...	.676	.667	.657	.653	.664	.685	.691	.709	.732	.737	.726	.708	.696	.678	.658	.656	.644	.651	.661	.690	.702	.711	.696	.695	.685
„ 27,...	.690	.667	.659	.666	.665	.680	.692	.705	.727	.730	.719	.707	.687	.661	.645	.636	.633	.666	.684	.698	.721	.728	.728	.713	.688
„ 28,...	.695	.678	.673	.662	.664	.673	.683	.690	.699	.712	.705	.697	.687	.664	.639	.632	.632	.640	.659	.673	.689	.699	.690	.684	.676
„ 29,...	.675	.661	.641	.636	.630	.634	.640	.654	.659	.660	.657	.639	.624	.605	.568	.556	555	.568	.597	.586	.592	.600	.598	.602	.618
„ 30,...	.590	.585	.583	.582	.585	.594	.610	.625	.640	.645	.643	.620	.599	.588	.570	.569	.566	.568	.577	.612	.641	.655	.661	.666	.607
„ 31,...	.656	.647	.646	.651	.655	.662	.674	.687	.708	.710	.700	.693	.687	.659	.658	.646	.653	.661	.676	.701	.706	.717	.715	.700	.678
Means,.....	29.667	29.653	29.645	29.643	29.645	29.656	29.671	29.681	29.690	29.696	29.691	29.681	29.672	29.655	29.638	29.627	29.624	29.631	29.647	29.664	29.679	29.690	29.688	29.681	29.663

TABLE II.

TEMPERATURE FOR THE MONTH OF JULY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
July 1,.....	80.6	79.9	79.8	79.5	79.8	81.6	82.4	82.5	83.2	83.8	83.6	76.3	79.8	80.8	79.8	80.5	78.9	79.5	78.8	79.4	78.8	78.8	78.5	77.8	80.2	84.8	76.9
„ 2,.....	78.1	77.7	76.7	76.9	75.5	75.9	75.8	76.8	78.8	79.5	81.8	81.8	81.8	82.8	83.7	84.2	82.1	80.3	76.5	77.2	77.3	77.3	76.9	77.2	78.9	85.4	75.5
„ 3,.....	77.3	77.3	76.8	77.5	76.8	80.6	77.7	80.2	81.8	82.2	79.8	72.7	73.6	74.9	76.7	77.6	78.4	77.2	76.9	76.8	76.2	76.5	76.2	76.6	77.4	82.2	72.1
„ 4,.....	76.6	76.5	75.9	75.8	75.8	76.5	76.9	78.9	81.2	82.3	83.1	83.5	83.7	82.9	82.5	82.1	82.2	81.5	80.8	80.0	80.0	79.4	79.0	78.9	79.8	83.7	75 3
„ 5,.....	78.8	78.0	78.7	78.5	78.9	78.5	74.1	74.8	75.0	74.8	75.3	76.1	76.8	77.6	77.8	77.8	77.8	77.8	77.9	77.9	78.1	78.0	78.1	78.1	77.3	79.3	72.5
„ 6,.....	77.9	77.9	78.1	78.2	78.3	78.9	79.6	82.8	82.4	83.6	83.7	84.8	85.1	85.5	84.8	83.1	83.7	82.3	81.2	80.0	80.1	78.8	78.5	77.8	81.1	86.7	77.8
„ 7,.....	78.2	78.0	78.8	78.5	78.6	78.6	80.8	75.2	74.3	76.1	78.8	83.2	82.2	83.3	84.8	84.3	83.0	81.5	80.2	79.6	79.0	78.3	78.3	77.6	79 6	85.5	74.3
„ 8,.....	77.4	76.8	76.7	76.5	75.6	78.6	78.0	80.3	81.3	83.2	84.4	83.6	84.5	84.6	84.7	82.5	82.5	81.0	80.3	79.8	79.8	79.1	78.8	78.5	80.4	85.9	75.6
„ 9,.....	78.8	77.9	77.9	78.0	77.8	78.3	80.0	82.4	83.9	80.9	82.9	83.2	83.7	83.5	82.1	81.9	81.8	81.7	80.7	80.3	80.3	79.5	79.5	78.3	80.6	84.5	77.8
„ 10,.....	78.8	78.1	77.9	77.6	77.4	77.4	82.6	84.4	84.9	85.4	85.0	86.5	86.1	87.2	85.5	84.5	84.8	84.0	82.3	82.0	80.4	80.9	80.0	79.8	82.2	88.3	77.4
„ 11,.....	78.9	78.5	78.6	78.6	78.3	80.8	82.0	84.0	83.2	85.2	87.4	87.1	84.3	84.3	86.3	86.8	84.9	84.2	82.9	82.2	82.0	81.6	81.5	80.9	82.7	88.8	78.1
„ 12,.....	80.8	79.8	79.8	79.8	79.8	79.8	81.3	83.3	84.4	85.1	88.0	87.1	85.6	88.6	88.0	86.8	85.4	84.9	82.9	82.5	81.6	81.6	80.8	80.6	83.3	89.7	79.5
„ 13,.....	79.9	80.6	79.9	80.0	79.9	80.4	82.0	82.0	84.4	84.0	85.7	87.2	88.2	88.7	88.4	88.0	86.2	84.6	84.2	82.5	82.8	81.8	81.1	81.6	83.5	89.9	79.9
„ 14,.....	81.5	80.2	81.2	79.9	79.8	80.1	82.1	81.3	84.2	86.2	87.2	87.3	86.5	85.2	85.1	85.1	85.1	84.2	83.2	82.9	81.2	81.3	80.8	80.5	83.0	88.1	79.8
„ 15,.....	79.4	78.8	78.6	78.3	76.5	76.8	77.0	79.1	78.4	80.8	79.4	77.6	78.3	80.4	81.6	75.8	76.8	77.5	77.8	77.4	78.7	79.1	78.8	78.8	78.4	82.3	75.8
„ 16,.....	76.6	75.8	76.0	78.1	78.1	79.2	80.8	81.5	81.6	83.2	79.1	83.7	82.0	82.6	82.6	82.1	78.9	77.8	79.2	79.6	78.7	76.2	77.5	77.6	79.5	84.5	75.8
„ 17,.....	77.9	76.9	76.9	77.8	77.8	77.6	78.0	79.1	81.3	82.8	81.9	79.9	76.8	76.0	78.5	78.8	77.6	77.8	77.1	77.0	76.8	76.8	76.7	77.0	78.1	83.3	76.0
„ 18,.....	77.2	76.6	76.4	76.1	75.7	77.5	78.1	80.9	82.8	83.2	84.2	85.7	86.0	86.9	87.0	86.9	85.9	84.3	83.2	83.2	74.4	74.5	74.8	74.9	80.7	87.6	74.4
„ 19,.....	75.1	74.9	74.9	75.5	75.8	76.8	77.0	78.8	80.4	81.4	83.0	83.4	84.2	85.3	85.9	85.4	84.2	83.2	82.5	82.7	82.0	82.2	80.8	79.2	80.6	87.1	74.9
„ 20,.....	79.6	81.1	81.1	80.1	78.8	78.8	78.8	79.5	77.1	76.8	78.8	76.0	75.6	76.0	76.5	76.6	76.0	77.8	78.0	78.8	78.7	78.8	80.1	80.8	78.3	81.8	75.6
„ 21,.....	80.9	81.3	81.1	77.9	76.6	77.3	78.8	80.1	78.8	81.8	78.2	80.3	76.0	75.4	75.1	76.8	82.7	82.8	82.8	82.6	82.2	82.5	82.8	82.5	79.9	82.9	73.9
„ 22,.....	82.0	81.5	82.1	82.1	81.9	77.3	81.3	81.8	82.5	82.8	76.6	80.6	82.4	83.0	82.8	82.7	82.8	82.7	82.6	82 1	81.8	81.9	81.0	79.8	81.6	83.5	74.9
„ 23,.....	81.5	81.6	81.8	80.9	80.8	80.8	80.9	81.5	81.8	80.8	79.4	75.8	73.9	73.9	74.6	73.9	74.8	75.5	75.0	75.1	75.3	75.2	75.7	75.6	77.8	81.9	73.9
„ 24,.....	75.8	75.5	76.0	74.7	73.6	73.0	73.8	74.6	74.9	74.9	74.4	74.1	74.7	74.1	74.3	75.1	75.3	75.5	75.7	75.8	75.8	75.9	76.6	76.9	75.0	76.9	72.3
„ 25,.....	76.9	77.6	78.6	77.7	77.8	78.5	78.8	78.1	77.2	79.2	79.9	79.8	78.5	80.1	79.7	79.7	79.1	78.8	77.5	77.2	76.6	76.8	76.4	76.3	78.2	80.6	76.1
„ 26,.....	76.1	75.8	75.8	76.2	76.3	76.8	78.7	79.8	79.2	81.4	83.1	82.7	82.5	82.9	81.5	81.6	80.8	80.4	79.7	79.2	79.0	78.4	78.5	78.2	79.4	84.4	75.8
„ 27,.....	77.8	77.8	77.6	76.8	77.0	77.0	79.3	80.3	80.1	80.4	80.7	79.8	81.3	82.1	81.3	81.3	81.1	79.5	79.5	78.9	79.4	79.2	79.4	78.7	79.4	82.4	76.8
„ 28,.....	78.0	77.8	77.2	77.2	76.9	79.5	79.4	81.2	81.3	82.9	83.4	85.4	84.0	83.6	82.2	82.2	82.3	80.8	80.5	79.8	78.9	78.7	78.8	78.7	80.4	86.0	76.8
„ 29,.....	78.0	77.8	77.0	77.8	77.5	78.1	79 5	81.5	82.7	83.7	85.7	86.2	86.8	87.9	87.7	87.1	86.2	84.1	82.8	78.8	79.8	79.4	78.9	79.5	81.9	88.4	76.8
„ 30,.....	79.5	78.4	79.2	78.7	78.6	79.2	81.1	83.8	84.2	84.6	86.8	87.4	88.1	88.8	88.7	85.5	84.7	83.0	81 9	81.3	81.9	81.9	82.8	82.6	83.0	89.6	78.4
„ 31,.....	81.8	81.5	81.3	80.8	79.6	78.7	80.8	81.5	76.8	78.0	82.2	85.3	86.7	87.5	86.2	84.0	84.3	82.5	81.4	80.5	79.9	78.7	79.3	78.7	81.6	89.4	76.8
Means,.....	78.6	78.3	78.3	78.1	77.8	78.4	79.3	80.4	80.8	81.6	82.0	82.1	81.9	82.5	82.5	82.0	81.6	80.9	80.2	79.8	79.3	79.0	78.9	78.7	80.1	85.0	76.0

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF JULY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
July 1, .	75.9	76.6	75.9	76.0	75.6	76.3	77.6	77.0	77.0	77.7	76.1	71.2	76.1	76.9	75.9	76.9	75.4	75.8	75.8	76.1	76.1	76.8	76.6	74.1	76.1	137.6
„ 2,...	74.3	74.6	74.2	74.2	73.4	73.5	73.8	74.7	75.0	76.3	77.5	77.8	77.6	78.0	76.1	77.9	75.8	75.2	74.3	74.0	74.2	74.3	73.9	74.8	75.2	144.6
„ 3,...	74.1	74.6	74.7	74.8	74.9	76.9	76.6	77.0	76.8	76.7	75.7	72.1	72.3	73.7	74.9	75.0	75.0	73.8	73.5	73.9	73.8	74.3	74.1	73.6	74.7	140.7
„ 4,...	73.5	74.0	73.5	73.8	73.8	73.5	74.7	75.0	75.0	76.8	78.2	76.3	76.5	76.9	76.9	77.1	76.9	76.8	76.9	77.5	76.8	77.2	77.0	76.9	75.9	145.6
„ 5,...	76.8	76.8	76.9	76.9	76.9	76.8	71.4	72.1	73.2	73.8	73.0	73.2	73.7	73.3	74.2	74.1	74.9	74.8	75.1	75.9	76.0	76.6	76.1	76.5	75.0	103.5
„ 6,...	76.7	76.6	76.7	76.8	76.9	77.1	77.8	79.3	78.3	78.3	77.5	78.8	76.9	78.8	76.8	77.0	77.9	77.0	77.1	77.0	76.8	76.9	76.9	76.8	77.4	143.1
„ 7,...	76.8	76.8	76.8	76.8	76.6	77.0	77.5	73.1	72.9	75.1	76.1	77.2	77.3	78.3	73.4	75.3	76.1	75.7	76.1	76.4	76.3	76.5	76.2	76.5	76.1	143.0
„ 8,...	75.7	74.8	74.8	74.8	74.6	75.9	75.4	76.3	77.3	77.2	78.3	77.3	77.3	77.9	77.2	76.3	76.1	75.8	76.5	76.5	76.8	76.2	76.8	76.9	76.4	139.2
„ 9,...	76.9	76.9	77.0	76.9	76.9	77.0	78.2	77.1	79.0	77.8	79.2	78.5	78.0	78.0	78.5	78.3	78.6	78.4	78.3	78.0	77.9	77.8	77.8	77.2	77.8	145.5
„ 10,...	77.1	77.0	76.8	77.0	76.8	76.9	79.4	80.2	79.9	80.0	79.2	79.2	78.4	76.3	77.6	77.6	77.8	76.2	76.9	76.7	77.2	76.3	76.7	77.5	77.7	141.0
„ 11,...	77.5	76.8	76.9	76.7	76.8	78.7	78.3	77.9	77.4	78.3	78.7	77.7	78.4	78.4	78.3	78.6	78.2	77.6	77.6	78.0	76.9	77.3	77.2	76.9	77.7	144.1
„ 12,...	76.9	76.9	76.9	76.9	76.9	77.5	78.3	78.4	79.4	79.9	78.2	78.2	78.7	80.5	78.7	77.8	77.8	77.2	77.8	77.7	77.8	77.6	77.7	77.8	78.0	149.7
„ 13,...	77.2	77.6	77.7	77.7	77.0	78.2	79.1	78.3	79.2	78.8	78.1	79.2	79.8	79.7	79.0	80.2	79.0	78.7	78.5	77.6	77.8	77.8	77.8	77.7	78.4	144.6
„ 14,...	77.7	78.0	77.9	78.0	78.1	78.0	78.2	78.2	78.3	80.2	80.2	80.1	79.4	79.2	78.8	80.1	79.0	78.2	78.2	78.0	78.0	77.0	77.1	77.4	78.5	145.6
„ 15,...	77.7	77.1	77.0	77.1	74.8	75.0	74.5	75.2	74.3	76.6	75.7	75.9	75.8	76.6	76.9	75.0	75.0	75.8	74.9	75.6	75.8	76.1	76.1	75.7	75.8	145.6
„ 16,...	74.7	73.0	73.9	75.8	75.9	75.8	75.8	76.9	77.1	79.2	78.3	77.2	76.3	76.4	77.4	76.6	75.1	75.6	76.3	76.3	77.2	74.9	74.9	75.0	76.1	146.8
„ 17,...	75.0	75.5	75.0	75.9	76.0	75.8	75.6	76.4	80.1	78.5	78.2	76.8	75.8	74.6	75.9	75.8	75.9	76.2	75.8	75.8	75.8	75.7	76.0	75.5	76.2	145.0
„ 18,...	76.1	75.2	75.3	75.0	74.8	75.2	76.2	77.8	78.4	77.6	78.5	77.8	79.2	79.8	79.0	78.3	79.2	78.2	78.0	78.3	74.2	73.8	73.9	73.5	76.8	139.9
„ 19,...	72.8	72.8	72.6	73.0	71.9	73.6	73.9	75.4	75.6	76.4	76.7	76.3	78.1	78.3	79.3	79.4	78.7	77.9	77.3	78.0	77.9	77.8	75.5	73.7	76.0	141.7
„ 20,...	77.4	78.2	77.5	77.7	76.8	75.8	76.7	77.5	75.0	75.8	77.1	75.1	74.8	74.8	75.1	75.6	75.1	75.8	75.8	76.2	76.5	76.6	77.0	77.3	76.3	101.2
„ 21,...	77.5	77.7	77.8	76.1	75.5	76.3	77.2	78.0	77.2	78.8	77.0	76.8	75.8	74.8	74.8	76.0	78.7	78.0	78.6	78.7	78.0	77.9	77.8	78.1	77.2	102.0
„ 22,...	77.6	77.5	77.9	77.8	77.6	76.0	77.8	78.2	77.9	78.0	74.6	77.2	78.8	78.8	78.8	78.3	78.5	78.7	78.3	78.9	78.8	78.8	78.6	78.2	78.0	110.3
„ 23,...	77.9	78.2	77.8	77.9	78.1	77.8	78.3	78.4	77.8	77.2	75.6	75.3	73.3	73.5	74.0	73.5	73.9	74.2	73.7	73.8	74.1	73.8	73.8	74.0	75.7	98.9
„ 24,...	73.9	74.6	74.8	72.4	71.8	72.4	72.7	73.5	73.6	73.2	73.8	73.8	74.1	73.2	73.5	73.6	73.5	73.8	73.8	73.8	74.2	74.7	74.9	75.5	73.7	93.9
„ 25,...	75.6	76.0	76.5	76.0	76.0	76.7	77.1	77.4	76.3	77.4	77.1	77.9	76.7	77.6	77.6	78.0	77.8	77.6	76.8	76.4	75.8	75.7	75.5	75.1	76.7	93.5
„ 26,...	75.1	75.1	74.8	74.8	75.1	75.1	76.7	77.3	76.9	78.5	79.2	78.4	79.2	79.2	78.4	78.6	78.1	78.2	77.2	77.1	77.2	77.2	76.9	77.3	77.2	141.2
„ 27,...	76.9	76.9	76.8	75.9	76.1	76.1	77.3	77.8	77.8	77.9	77.7	77.5	78.7	78.8	76.2	77.4	77.4	77.7	77.7	76.7	77.0	77.1	77.2	77.1	77.2	146.9
„ 28,...	76.8	76.8	76.4	76.4	76.4	77.1	77.1	77.3	77.3	78.0	76.7	77.4	78.2	78.3	78.0	77.4	78.1	77.1	77.1	76.0	76.5	76.7	76.2	75.9	77.0	138.3
„ 29,...	75.9	75.9	75.9	75.9	75.6	76.0	77.2	77.8	78.2	77.8	80.1	78.1	78.4	78.6	77.8	79.4	79.6	78.2	76.8	75.8	75.9	76.8	77.3	77.3	77.3	142.5
„ 30,...	77.4	77.6	77.5	77.3	77.1	77.4	78.8	79.8	79.8	79.8	80.5	80.3	81.4	81.2	82.0	80.2	79.1	79.0	78.3	78.3	77.5	77.9	78.7	78.0	79.0	142.0
„ 31,...	78.6	77.9	77.9	77.3	77.2	75.3	76.8	77.6	73.5	75.8	77.4	77.7	79.2	79.8	78.1	77.4	78.3	78.0	77.9	77.9	77.2	77.2	76.9	76.8	77.4	146.9
Means,.....	76.3	76.3	76.2	76.1	75.9	76.2	76.6	77.0	77.0	77.5	77.4	77.0	77.2	77.4	77.1	77.2	77.1	76.8	76.7	76.7	76.5	76.5	76.4	76.3	76.7	133.7

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF JULY, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Te
			1893.		
1 a.	90	0.878	July 1,.....	82	
2 „	91	.882	„ 2,.....	83	.8
3 „	91	.878	„ 3,.....	88	.825
4 „	91	.876	„ 4,.....	83	.843
5 „	91	.871	„ 5,.....	90	.838
6 „	90	.876	„ 6,.....	84	.892
7 „	88	.881	„ 7,.....	85	.855
8 „	85	.884	„ 8,.....	82	.857
9 „	84	.879	„ 9,.....	88	.917
10 „	83	.890	„ 10,.....	81	.890
11 „	81	.880	„ 11,.....	79	.884
Noon.	79	.862	„ 12,.....	78	.889
1 p.	80	.873	„ 13,.....	79	.904
2 „	79	.874	„ 14,.....	81	.915
3 „	77	.860	„ 15,.....	89	.858
4 „	80	.873	„ 16,.....	85	.856
5 „	81	.872	„ 17,.....	92	.879
6 „	83	.869	„ 18,.....	83	.870
7 „	85	.873	„ 19,.....	80	.837
8 „	87	.880	„ 20,.....	91	.881
9 „	88	.877	„ 21,.....	88	.899
10 „	89	.881	„ 22,.....	85	.912
11 „	89	.878	„ 23,.....	91	.862
Midt.	89	.876	„ 24,.....	94	.815
			„ 25,.....	93	.900
			„ 26,.....	90	.905
			„ 27,.....	90	.905
			„ 28,.....	85	.883
			„ 29,.....	81	.876
			„ 30,.....	83	.938
			„ 31,.....	82	.885
Means,.....	85	0.876	Means.	85	0.876

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums
1893.														
July 1,.....	0.1	0.4	...	0.1	0.4	...	...	...	...	...	...	...	...	1.0
„ 2,.....	...	...	0.2	0.2	...	0.8	0.8	0.9	0.7	0.8	0.4	...	...	4.8
„ 3,.....	...	0.2	0.8	1.0	0.5	...	...	...	...	...	0.2	0.7	...	3.4
„ 4,.....	...	...	0.1	0.1	0.9	0.4	0.4	...	...	...	...	...	...	1.9
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6,.....	...	...	0.2	0.2	...	...	0.8	0.3	0.3	0.4	0.3	0.7	...	3.2
„ 7,.....	0.1	0.1	...	...	...	...	0.1	0.3	0.9	1.0	0.9	...	...	3.4
„ 8,.....	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.6	1.0	0.1	10.9
„ 9,.....	...	0.1	0.7	0.6	0.3	0.3	0.6	0.1	...	...	...	...	...	2.7
„ 10,.....	0.3	1.0	1.0	1.0	1.0	0.9	1.0	1.0	0.9	...	...	0.5	0.6	9.2
„ 11,.....	0.4	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.5	0.8	0.9	0.4	0.2	10.1
„ 12,.....	0.1	1.0	1.0	1.0	1.0	0.8	0.5	0.8	0.9	1.0	1.0	0.8	0.7	10.6
„ 13,.....	...	1.0	0.7	1.0	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	10.7
„ 14,.....	0.4	0.6	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	10.9
„ 15,.....	...	0.1	...	...	0.6	...	...	0.2	1.0	0.5	...	...	...	2.4
„ 16,.....	...	0.3	0.3	0.8	0.7	0.5	1.0	0.2	1.0	0.8	0.2	...	...	5.8
„ 17,.....	...	0.1	...	0.5	0.8	...	...	...	...	...	...	...	...	1.4
„ 18,.....	0.1	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	11.7
„ 19,.....	0.1	...	0.6	1.0	1.0	1.0	0.8	0.1	0.9	1.0	1.0	1.0	0.4	8.9
„ 20,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 26,.....	0.2	0.6	0.6	0.6	0.6	1.0	1.0	0.9	1.0	0.6	0.6	0.5	0.3	8.5
„ 27,.....	0.2	0.8	0.4	0.6	0.7	0.5	...	0.8	1.0	1.0	1.0	0.4	...	7.4
„ 28,.....	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.2	...	10.4
„ 29,.....	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.2	11.3
„ 30,.....	0.2	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	0.1	...	9.2
„ 31,.....	0.1	0.8	0.2	...	0.5	1.0	0.9	1.0	1.0	0.8	...	0.4	...	6.7
Sums,.....	3.2	12.8	13.6	15.7	16.6	15.2	15.9	14.5	17.1	15.5	12.0	10.7	3.7	166.5

TABLE VI.

RAINFALL FOR THE MONTH OF JULY, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
July 1,.....	...	0.025	...	0.005	...	...	...	...	...	...	...	0.210	...	0.040	0.150	...	...	...	...	...	...	0.025	...	0.040	0.495	2
„ 2,.....	...	...	0.065	0.010	0.110	0.010	0.065	0.020	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.280	4
„ 3,.....	...	...	...	...	...	0.045	0.010	...	...	...	...	0.850	0.150	0.040	...	0.010	...	...	...	...	...	...	...	...	1.105	3
„ 4,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 5,.....	...	...	...	...	...	0.345	0.015	0.020	0.360	0.055	0.050	0.010	0.005	...	...	...	...	...	...	...	...	...	...	...	0.860	7
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 7,.....	...	...	...	...	...	...	...	0.015	0.450	0.120	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	0.590	3
„ 8,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9,.....	...	...	...	...	...	...	...	...	0.070	...	...	0.100	...	...	...	...	...	...	...	...	...	...	...	...	0.170	1
„ 10,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	...	0.100	0.110	2
„ 15,.....	0.020	0.030	0.005	0.265	0.010	...	...	...	...	...	...	0.025	...	...	0.020	0.155	0.040	0.010	0.070	0.015	0.010	0.070	...	0.015	0.760	13
„ 16,.....	0.050	0.120	0.005	0.020	0.030	...	...	...	0.025	0.050	0.040	...	...	...	...	0.020	0.080	0.020	...	0.030	...	0.160	0.010	...	0.660	11
„ 17,.....	...	...	...	...	...	...	...	...	0.015	0.010	0.030	...	0.180	0.015	...	0.025	0.060	...	...	...	...	...	...	...	0.335	3
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.300	0.090	0.060	...	1.450	3
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 20,.....	...	...	...	0.075	0.040	0.005	0.050	0.080	0.130	0.070	0.200	0.330	0.040	0.025	0.055	0.120	0.030	0.010	...	...	...	...	...	...	1.260	13
„ 21,.....	...	0.045	0.010	0.095	0.120	0.110	0.010	0.090	0.220	...	0.240	0.045	1.715	1.800	0.170	0.030	...	...	...	...	0.020	...	...	...	4.720	11
„ 22,.....	...	...	...	...	0.100	0.200	0.125	0.005	..	0.200	0.215	0.105	...	...	...	...	...	...	...	...	0.080	...	0.065	0.555	1.650	8
„ 23,.....	0.380	0.050	0.010	0.135	0.155	0.220	...	0.010	...	0.110	0.350	0.800	1.050	0.450	0.230	0.080	0.015	0.035	...	...	...	...	...	...	4.080	14
„ 24,.....	...	...	0.140	0.515	0.285	0.115	0.085	...	0.045	0.250	0.170	0.100	0.075	0.055	...	...	...	...	...	...	...	...	...	...	1.835	11
„ 25,.....	...	...	...	...	...	...	...	0.290	0.040	...	...	0.245	0.035	...	...	0.070	...	...	...	...	...	...	...	...	0.680	5
„ 26,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	0.015	...	...	...	...	...	...	...	...	...	...	...	...	0.015	...
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 29,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 30,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 31,.....	...	...	...	...	0.045	...	...	0.075	0.035	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.165	3
Sums, ...	0.450	0.270	0.235	1.120	0.895	1.050	0.360	0.605	1.390	0.875	1.300	2.835	3.250	2.425	0.625	0.510	0.225	0.075	0.070	0.045	1.410	0.355	0.135	0.710	21.220	117

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF JULY, 1893.

DATE.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		VEL.		DIR.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
July 1.....	16	7	20	9	20	10	20	6	19	7	18	5	16	4	16	7	16	7	16	8	16	10	12	9	...	1	..	1	21	3	7	3	12	9	12	2	10	3	10	2	10	2	13	4	8	4	8	5	128	5.3	15
„ 2,.....	13	3	5	5	5	9	10	8	8	9	8	5	6	4	8	6	6	7	5	2	9	3	8	11	8	12	9	13	16	8	8	11	16	10	14	10	7	14	5	6	5	2	5	3	5	3	7	6	170	7.1	8
„ 3, ...	5	5	6	4	6	5	6	5	7	5	5	6	1	3	29	5	28	2	25	2	4	8	19	21	19	5	5	6	27	6	29	5	27	4	28	5	26	2	19	2	19	2	15	3	...	1	10	5	115	4.8	31
„ 4.....	10	3	10	3	10	2	...	1	7	4	8	3	...	1	...	1	8	4	8	4	9	7	13	5	15	7	17	5	17	4	15	5	15	6	15	6	19	4	...	1	18	2	18	3	9	4	9	4	89	3.7	13
„ 5, ...	9	5	8	7	9	6	8	4	7	5	7	13	13	5	5	4	15	5	5	5	5	12	8	13	7	10	7	10	7	7	7	12	7	9	7	10	8	11	9	9	6	9	7	14	8	12	8	11	208	8.7	7
„ 6.....	7	6	7	6	7	4	7	7	8	3	5	5	5	4	7	2	8	5	16	7	15	9	14	8	15	10	15	12	17	13	15	9	17	9	17	6	16	4	16	2	...	1	16	2	16	2	13	4	140	5.8	13
„ 7.....	8	5	8	4	7	3	6	5	6	4	7	5	6	6	27	14	15	6	3	3	6	4	7	2	9	4	27	5	16	8	17	6	16	5	16	4	16	3	16	2	9	5	7	7	7	3	7	6	119	5.0	9
„ 8,.....	6	5	6	5	6	2	6	3	...	1	...	0	...	1	...	1	6	3	7	5	9	10	8	8	10	6	9	11	8	15	8	13	8	10	8	11	9	12	9	6	9	6	...	1	9	2	...	1	138	5.7	8
„ 9,.....	...	1	9	2	9	2	9	2	...	1	...	1	9	2	9	4	10	6	4	5	10	8	7	11	8	7	9	9	8	6	9	5	8	7	9	10	8	11	9	7	8	6	8	2	...	1	10	3	119	5.0	8
„ 10,.....	...	0	...	0	14	3	..	1	..	1	..	1	...	1	7	3	7	4	3	2	25	3	24	4	9	6	17	10	16	10	15	7	17	5	17	6	17	4	17	4	11	3	7	3	...	1	7	2	84	3.5	15
„ 11,.....	...	1	7	2	...	9	...	1	9	2	9	2	9	2	5	4	10	5	7	5	16	9	16	7	22	10	23	8	24	9	19	8	17	6	17	5	15	3	15	3	14	6	12	5	...	1	12	2	106	4.4	16
„ 12,..... ...	12	2	8	3	7	3	7	2	...	1	8	2	8	2	8	4	8	6	11	4	13	6	18	8	16	6	20	9	19	8	17	9	18	5	18	6	17	4	18	2	17	3	18	2	...	0	...	0	97	4.0	16
„ 13,.....	23	2	...	1	23	2	...	1	..	0	...	1	17	2	25	4	28	8	25	8	25	10	24	10	24	10	17	6	16	7	24	8	16	6	17	7	17	3	17	3	15	2	15	2	7	3	7	2	106	4.4	22
„ 14,.....	...	1	...	1	17	2	17	3	...	1	11	3	18	4	26	8	15	3	26	5	9	9	9	10	8	16	8	17	8	17	7	18	12	12	13	12	12	9	11	9	11	6	14	6	14	2	19	3	172	7.2	10
„ 15	25	2	23	3	22	2	22	6	7	12	6	10	8	12	7	9	9	11	8	12	7	21	7	20	8	15	8	14	7	16	7	18	6	10	8	12	12	14	4	7	10	10	10	10	11	13	9	13	275	11.5	8
„ 16,.....	5	14	5	14	6	13	10	17	12	16	11	17	10	21	9	22	10	25	12	28	12	22	12	23	13	24	10	22	9	24	11	25	15	20	14	6	11	12	12	12	10	15	16	6	4	4	5	4	406	16.9	11
„ 17,.....	5	7	5	5	5	6	8	11	10	12	10	13	8	12	8	11	7	17	7	15	9	14	8	18	16	8	4	10	8	15	6	6	2	3	2	2	2	2	2	2	2	2	11	2	11	2	11	3	198	8.3	8
„ 18,..... ..	...	1	...	1	11	2	14	2	...	1	14	2	19	5	23	6	24	9	25	10	23	13	23	12	23	12	24	14	24	11	23	12	22	11	22	12	23	11	22	17	11	7	12	2	9	3	17	3	179	7.5	22
„ 19,.....	1	3	1	5	26	9	26	12	25	15	26	14	26	10	25	9	25	16	25	12	23	19	25	21	24	13	23	9	21	14	19	17	20	18	21	18	20	16	19	25	22	11	20	11	25	7	24	6	310	12.9	13
„ 20,.....	23	10	21	17	22	17	24	11	23	11	21	10	23	8	28	12	19	7	...	1	29	6	29	5	29	5	29	4	4	5	24	6	27	6	16	6	18	4	19	7	16	7	16	3	18	10	18	12	190	7.9	22
„ 21.....	18	16	19	22	20	19	21	19	24	16	27	9	27	13	20	15	24	17	20	20	19	26	16	22	24	21	30	12	31	2	26	12	19	24	18	27	18	28	18	23	18	24	18	23	20	21	455	19.0	20
„ 22,.....	20	23	19	26	19	26	20	25	20	29	21	20	19	27	19	28	18	18	20	23	22	25	18	16	18	19	17	16	18	17	17	15	17	19	17	20	17	14	17	13	16	16	16	16	16	15	16	18	484	20.2	19
„ 23,.....	16	18	18	22	17	23	18	16	16	16	17	18	18	15	17	20	16	21	17	19	16	14	20	20	25	9	2	5	26	2	10	5	8	3	9	10	8	7	8	12	8	20	8	17	8	18	8	20	350	14.6	15
„ 24,.....	9	20	8	16	7	16	11	10	15	3	8	8	7	13	8	15	8	13	9	7	1	3	11	3	7	9	8	12	8	12	8	13	7	12	8	15	9	13	8	17	8	15	8	17	8	15	8	12	289	12.0	8
„ 25,..... ...	7	8	6	6	9	6	6	6	6	4	6	3	8	5	6	4	7	3	15	7	12	6	7	4	4	5	4	6	7	13	8	14	7	12	6	9	6	7	6	7	7	12	6	9	6	7	6	7	153	6.4	7
„ 26,...	6	9	8	9	5	9	7	7	7	8	7	9	7	7	6	10	7	10	8	9	7	8	9	10	8	12	8	8	8	8	8	16	7	13	7	14	8	11	8	9	8	8	8	7	8	9	8	7	227	9.5	7
„ 27,.....	8	6	8	6	8	4	8	3	8	2	8	4	8	10	8	12	8	15	9	13	7	15	8	20	8	16	8	16	6	17	7	16	7	13	8	15	8	9	8	10	8	4	8	7	8	5	8	5	243	10.1	8
„ 28,.....	8	5	8	3	8	2	8	3	7	5	8	6	8	10	7	11	9	11	9	9	9	13	8	11	9	15	8	20	8	17	8	14	7	8	7	4	7	2	...	1	...	1	7	2	7	5	7	2	180	7.5	8
„ 29,.....	7	3	...	1	7	3	26	3	24	2	26	2	23	3	22	4	23	7	23	8	22	10	24	13	23	13	23	11	23	10	22	9	22	10	22	8	2	6	11	2	...	1	...	1	11	3	11	3	136	5.7	23
„ 30,..... ...	31	6	30	5	30	4	...	1	30	3	25	6	25	7	24	7	23	8	25	8	24	8	23	7	24	9	22	8	24	8	24	8	22	8	23	7	...	0	22	3	...	1	16	2	19	6	20	6	136	5.7	24
„ 31,.....	18	5	19	4	...	0	...	0	14	8	3	3	...	1	27	6	26	8	29	3	8	2	10	2	23	5	17	6	16	9	16	7	16	3	25	2	...	1	...	1	25	2	25	5	25	9	7	9	101	4.2	20
Sums,.....	...	202	...	217	...	211	...	201	...	209	...	207	...	218	...	262	...	289	...	265	...	334	...	356	...	319	...	313	...	312	...	322	...	289	...	284	...	250	...	233	...	211	...	198	...	193	...	205	6103	254.3	..
Means,.....	...	6.5	...	7.0	...	6.9	...	6.5	...	6.7	...	6.7	...	7.0	...	8.5	..	9.3	...	8.5	...	10.8	...	11.5	...	10.3	...	10.1	...	10.1	...	10.4	...	9.3	...	9.2	...	8.1	...	7.5	...	6.8	...	6.4	...	6.2	...	6.6	196.9	8.2	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
July 1, ...	9	c-str. / c-cum. / cum.	.. / W / SW	9	c-str. / cum-nim.	SW	9	c-cum. / cum.	SW	10	c-str. / R-cum.	SW
„ 2, ...	9	c-str. / cum.	SSW	9	sm-cum. / cum.	S	9	nim.	S	9	c-str. / sm-cum. / nim.	.. / NNW / S
„ 3, ...	2	c-cum.	W	1	c-cum. / cum.	S	6	c-cum. / cum.	S	7	c-cum. / cum-str.	WNW / S
„ 4, ...	10	cum.	...	10	cum.	...	9	sm-cum.	W	7	sm-cum. / cum.	WSW / S
„ 5, ...	9	sm-cum. / cum.	SSW / ..	10	cum.	S	10	nim.	S	10	nim. / str.	SW / ESE
„ 6, ...	10	str. / cum.	...	10	str-cum.	...	10	sm-cum. / cum.	S	10	sm-cum. / cum-nim.	WSW / SSW
„ 7, ...	9	str-cum. / cum.	S	6	c-str. / cum.	S	8	c-cum. / cum.	S	9	c-cum. / nim.	S
„ 8, ...	1	cum.	...	1	c-cum.	...	2	c-cum. / cum.	S	4	c-cum. / cum.	N / S
„ 9, ...	3	cum.	SE	7	sm-cum.	W	8	sm-cum. / cum.	SSE	6	c-cum. / cum-str. / nim.	SW / .. / SE
„ 10, ...	0	...	...	0	...	...	2	c-cum. / cum.	...	3	c-cum. / cum.	WNW / SE
„ 11, ...	0	...	...	1	cum.	...	1	cum.	...	5	c-cum. / cum.	S
„ 12, ...	1	cum.	...	0	...	...	2	c-str. / cum.	S	4	c-cum. / cum. / cum-nim.	.. / SW / S
„ 13, ...	1	cum.	S	2	cum.	S	3	c-cum. / cum.	S	6	c-cum. / c-m-nim.	ESE / S
„ 14, ...	1	cum.	...	1	cum.	...	8	c-cum. / cum.	WSW	3	c-cum. / cum.	ESE / ..
„ 15, ...	9	cum-nim.	SE	10	nim.	...	8	c-cum. / nim.	ESE / E	10	cum-str. / str.	ESE / E
„ 16, ...	5	cum-nim.	...	9	nim.	...	8	c-str. / sm-cum. / cum	.. / SSE / SSE	9	c-cum. / cum.	SSE
„ 17, ...	2	sm-cum. / cum.	...	7	sm-cum. / cum.	SE	9	sm-cum. / cum.	SE	8	cum-str. / cum.	ESE
„ 18, ...	0	...	...	0	...	...	1	c-cum.	...	2	c-cum. / cum.	E / WNW
„ 19, ...	8	cum-nim.	...	1	c-cum.	...	6	sm-cum.	NNW	3	c-cum. / cum.	NNW / W
„ 20, ...	5	cum-nim.	WSW	8	nim.	...	9	c-cum. / nim.	WSW	10	nim.	SW
„ 21, ...	9	cum-nim.	SW	9	nim.	SW	10	sm-cum. / cum-nim.	WSW	10	cum-str. / R-cum.	WSW / SW
„ 22, ..	9	cum.	SW	9	cum.	SW	10	nim.	SW	10	nim.	SW
„ 23, ...	10	nim.	S	10	nim.	...	10	cum-nim.	S	10	nim.	SSW
„ 24, ...	10	cum.	SSE	10	nim.	...	10	sm-cum. / nim.	W / SE	10	nim.	...
„ 25, ...	10	sm-cum. / cum.	S	10	cum.	S	10	sm-cum. / cum.	S	10	nim.	SSW
„ 26, ...	9	sm-cum. / cum	S	9	sm-cum. / cum.	SSE	6	sm-cum. / cum.	S	7	c-str. / sm-cum. / cum.	.. / NW / S
„ 27, ...	7	c-str. / c-cum. / cum.	ESE	7	cum.	...	3	c-str. / c-cum. / cum.	NNE / S / ..	9	cum-str.	S
„ 28, ...	6	c-str. / cum.	...	2	c-str.	...	5	c-str. / c-cum / cum.	NNE / .. / E	3	c-cum. / cum.	NNW / ..
„ 29, ...	7	c-cum. / cum.	NNW / SSE	5	c-cum.	N	3	c-cum.	N	5	c-cum. / cum.	NNW / N
„ 30, ...	2	c-cum. / cum.	...	9	sm-cum.	NW	6	c-cum. / cum.	W	5	c-cum. / cum.	NW / ..
„ 31, ...	8	sm-cum. / cum.	SSW	8	sm-cum. / cum.	SSW	6	sm-cum. / nim.	SW	7	c-str. / cum-str.	WSW / WSW
Means,...	5.8	...	...	6.1	...	...	6.7	...	...	7.1	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
July 1,...	10	sm-cum. / cum.	SSW	10	R-cum.	S	9	c-str. / cum.	...	10	cum-nim.	W	9.5
„ 2,...	8	c-str. / cum.	S	8	c-cum. / R-cum.	SSW	9	sm-cum. / cum.	SW	2	cum.	SW	7.9
„ 3,...	10	nim.	SSW	10	c-str. / cum.	WNW / SSW	5	sm-cum.	...	9	c-str. / cum.	SSW	6.0
„ 4,...	9	sm-cum. / cum.	W / S	9	sm-cum. / cum.	W / SSW	10	sm-cum. / cum.	W / SSW	8	sm-cum. / cum.	...	9.0
„ 5,...	10	cum-nim.	S	10	str. / cum.	SSW	10	str.	...	10	str-cum.	...	9.9
„ 6,...	7	c-cum. / cum.	S	8	c-cum. / sm-cum. / cum.	WNW / W / S	7	c-cum. / sm cum. / cum.	W / W / SSW	2	c-cum. / cum.	...	8.0
„ 7,...	9	c-cum. / cum.	S / SSW	4	c-str. / c-cum.	...	9	c-str.	...	1	c-str.	...	6.9
„ 8,...	1	c-cum. / cum.	...	3	c-cum. / cum.	SSE	2	c-cum.	...	1	c-cum.	...	1.9
„ 9,...	5	c-cum. / cum-str. / cum.	S	7	c-cum. / cum-str. / cum.	...	6	cum-str.	...	0	...	...	5.3
„ 10,...	6	c-cum. / cum.	WNW / S	8	c-cum. / cum-str.	WNW / ..	2	c-str. / cum.	WNW / ..	0	...	...	2.6
„ 11,...	4	c-str. / cum.	W / S	5	c-cum. / cum.	SSW	3	c-cum. / cum.	...	0	...	...	2.4
„ 12,...	4	c-cum. / cum.	S	1	c-cum. / cum.	...	2	c-cum. / cum.	...	0	...	...	1.7
„ 13,...	3	c-cum. / cum.	E / WSW	2	c-cum. / cum.	SW	1	c-cum. / cum.	...	0	...	...	2.3
„ 14,...	4	c-cum. / cum.	...	7	c-cum. / cum.	SSE / ..	4	c-cum. / cum.	E / SE	9	cum-nim.	SE	4.6
„ 15,...	9	str. / cum.	E	9	str. / nim.	E	10	nim.	ESE	9	nim.	ESE	9.2
„ 16,...	8	c-cum. / cum.	SE	9	c-cum. / cum.	SSE	10	nim.	SSE	9	nim.	SSE	8.4
„ 17,...	10	nim.	ESE	9	str. / cum-nim.	ESE	8	cum-str. / cum-nim.	SE	9	cum-str.	SSE	7.8
„ 18,...	2	c-cum. / sm-cum.	E / ..	6	c-cum. / cum.	E / ..	9	c-cum.	E	10	nim.	...	3.7
„ 19,...	7	c-cum.	E	7	c-cum. / cum.	E / W	5	c-cum. / sm-cum. / cum.	E / .. / ..	1	c-str. / cum.	W	4.8
„ 20,...	10	nim.	SW	10	nim.	WSW	10	nim.	WSW	10	sm-cum. / cum.	WSW	9.0
„ 21,...	10	nim.	W	10	nim.	SW	10	cum-nim.	SSW	10	cum-nim.	SSW	9.7
„ 22,...	10	cum-nim.	SSW	10	cum-str.	SW	9	cum-str.	SW	9	cum-str.	S	9.5
„ 23,...	10	nim.	...	10	nim.	E	10	str. / cum.	E	9	sm-cum. / cum.	SSE	9.9
„ 24,...	10	nim.	...	10	str.	...	8	sm-cum.	...	10	cum-nim.	...	9.8
„ 25,...	10	nim.	SSW	10	cum-nim.	SSW	10	str. / cum.	SSW	9	c-str. / cum.	...	9.9
„ 26,...	4	c-str. / cum.	SSW	8	c-str. / cum.	NNE / S	6	c-str. / c-cum.	NNE / ..	7	c-str. / cum.	N / SSE	7.0
„ 27,...	7	c-str. / cum. / cum.	N / W / ESE	6	c-cum. / cum.	NNE / SSE	7	c-str. / c-cum. / cum.	SE	7	c-str. / cum.	ESE	6.6
„ 28,...	6	c-cum. / cum.	N / ..	7	c-cum. / cum.	N / S	7	c-str. / c-cum. / cum.	....	8	c-cum.	N	5.5
„ 29,...	6	c-cum. / cum.	N	4	c-cum. / cum.	...	6	c-cum / cum-str.	N	7	sm-cum. / cum-str.	NW / ..	5.4
„ 30,...	3	c-cum. / cum.	...	5	cum-str.	WSW	2	sm-cum.	NW	7	sm-cum. / cum.	S	4.9
„ 31,...	7	c-str. / c-cum. / cum.	WSW / WSW / S	7	c-str. / cum.	WSW / S	8	c-str. / sm-cum / cum-str.	WSW / .. / ..	1	sm-cum. / cum.	...	6.5
Means,...	7.1	...	...	7.4	...	...	6.8	...	...	5.9	...	...	6.6

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND FOR THE MONTH OF JULY, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	1.06	3.23	2.35	1.26	−1.29	+ 1.97	S 57° E
2 „	0.97	3.13	2.58	1.97	1.61	1.16	S 36° E
3 „	1.13	2.97	2.68	2.26	1.55	0.71	S 25° E
4 „	0.48	2.87	2.29	2.42	1.81	0.45	S 14° E
5 „	0.61	2.90	2.26	2.26	1.65	0.64	S 21° E
6 „	1.03	3.55	1.87	1.90	0.84	1.65	S 63° E
7 „	0.81	3.52	2.10	2.06	1.29	1.46	S 49° E
8 „	1.26	3.84	2.23	2.94	0.97	0.90	S 43° E
9 „	0.74	4.81	2.81	2.58	2.07	2.23	S 47° E
10 „	0.97	3.77	3.00	2.87	2.03	0.90	S 24° E
11 „	1.13	4.90	4.13	3.32	3.00	1.58	S 28° E
Noon.	0.45	5.48	4.16	3.39	3.71	2.09	S 29° E
1 p.	0.35	4.74	2.87	3.68	2.52	1.06	S 23° E
2 „	1.03	5.23	2.87	2.58	1.84	2.65	S 55° E
3 „	0.65	5.19	3.19	2.35	2.54	2.84	S 48° E
4 „	0.81	5.74	3.26	2.42	2.45	3.32	S 54° E
5 „	0.81	3.48	4.90	2.26	4.09	1.22	S 17° E
6 „	0.52	3.90	4.45	2.13	3.93	1.77	S 24° E
7 „	0.42	4.39	3.52	1.42	3.10	2.97	S 44° E
8 „	0.32	3.74	3.42	1.68	3.10	2.06	S 34° E
9 „	0.26	4.13	2.77	0.77	2.51	3.36	S 53° E
10 „	0.35	3.45	2.81	0.77	2.46	2.68	S 47° E
11 „	0.45	3.61	2.13	1.03	1.68	2.58	S 57° E
Midt.	0.29	4.13	2.19	1.06	−1.90	+ 3.07	S 58° E
Means, ...	0.70	4.03	2.95	2.14	−2.25	+ 1.89	S 40° E

PHENOMENA :—

Solar halo :—on the 9th, 10th, 19th, 27th and 31st.

Solar corona :—on the 14th.

Lunar halo :—on the 1st, 21st, 25th, 26th and 27th.

Lunar corona :—on the 5th, 19th, 25th, 26th, 27th, 28th, 29th, 30th and 31st.

Haze :—on the 4th, 8th, 9th, 10th, 11th, 12th, 13th, 17th, 18th, 25th, 26th, 27th, 28th, 29th and 31st.

Unusual visibility :—on the 10th, 11th and 31st.

Dew :—on the 3rd, 4th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 17th, 18th, 27th, 28th, 29th, 30th and 31st.

Rainbow :—on the 2nd, 3rd, 4th, 9th, 14th, 20th and 31st.

Lightning without thunder :—on the 4th, 6th, 8th, 14th, 16th and 30th.

Thunder without lightning :—on the 25th.

Thunderstorms :—on the 1st, at noon, SW-NE, distant. On the 2nd, 2.30 a.—5.30 a., in SW, distant. On the 3rd, 11.15 a.—1 p in W, distant. On the 5th, 1 a.—9.30 a. in W and N, nearest distant. On the 7th, 7.30 a.—9.45 a., NW-E, nearest at 8.52 a. ($1\frac{1}{2}^s$). On at 6.25 .. (10°) at 9 5 a. (8°). On the 9th, 9 a.—10 a., NW-SE, distant. On the 17th, at noon, in N, nearest at 12.15 p. (50°). On the 18th, 7.45 p.—10.30 p , N-S, nearest at 9.26 p. (3°). On the 20th, 11.45 a.—2.30 p. SW-NE, nearest at 12.19 p. (10°). On the 21st, 1.30 p.—3 p. in SW, nearest at 2.23 p. (10°). From the 22nd, 7 p.—23rd, 6.30 a., chiefly distant, nearest at 5.5 a. (1° . On the 23rd, 11.30 a.—3.30 p., NW-SE, nearest at 12.37 p. (1°), when sparks were seen in the office and a bed room of Observatory. On the 24th, 0.15 a.—3.30 a., SSW-NE, distant. On the 29th, at 5 p., in NW and NE, distant. On the 31st, 7 a.—9.30 a. in N, distant.

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF AUGUST, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
Aug. 1,...	29.688	29.679	29.682	29.678	29.680	29.688	29.694	29.705	29.717	29.718	29.716	29.701	29.693	29.684	29.663	29.665	29.660	29.669	29.675	29.690	29.701	29.706	29.706	29.691	29.690
„ 2,...	.686	.678	.671	.667	.670	.684	.696	.710	.725	.723	.705	.692	.679	.668	.652	.634	.636	.645	.655	.657	.668	.678	.676	.681	.677
„ 3,...	.670	.662	.650	.643	.651	.678	.702	.715	.706	.703	.707	.687	.669	.648	.640	.635	.627	.634	.657	.673	.683	.687	.684	.678	.670
„ 4,...	.667	.662	.667	.666	.670	.682	.695	.700	.706	.701	.705	.690	.683	.668	.651	.634	.632	.642	.655	.675	.685	.684	.676	.668	.673
„ 5,...	.663	.655	.637	.639	.644	.654	.665	.669	.684	.685	.674	.662	.639	.622	.624	.616	.604	.602	.618	.637	.665	.680	.685	.671	.650
„ 6,...	.661	.650	.644	.646	.641	.658	.669	.683	.700	.701	.700	.696	.685	.675	.678	.667	.675	.682	.688	.710	.736	.747	.761	.748	.688
„ 7,...	.728	.715	.712	.718	.720	.730	.753	.769	.780	.792	.799	.796	.806	.798	.787	.769	.777	.785	.796	.811	.834	.851	.840	.822	.779
„ 8,...	.804	.797	.799	.791	.780	.798	.815	.829	.833	.832	.823	.802	.784	.760	.740	.728	.715	.721	.742	.766	.776	.772	.761	.762	.780
„ 9,...	.757	.777	.713	.699	.708	.706	.717	.726	.741	.733	.718	.697	.675	.651	.630	.616	.621	.643	.648	.670	.695	.723	.690	.667	.693
„ 10,...	.652	.636	.624	.619	.606	.616	.634	.639	.653	.653	.650	.632	.606	.580	.556	.545	.553	.557	.572	.573	.587	.606	.606	.601	.606
„ 11,...	.588	.578	.576	.571	.571	.583	.600	.608	.614	.618	.620	.603	.586	.588	.550	.555	.540	.546	.545	.559	.564	.572	.580	.581	.579
„ 12,...	.582	.582	.573	.575	.576	.584	.590	.602	.607	.610	.594	.583	.568	.553	.525	.522	.520	.530	.533	.550	.566	.569	.573	.565	.568
„ 13,...	.572	.553	.544	.545	.543	.553	.563	.570	.577	.578	.578	.568	.557	.538	.518	.500	.503	.527	.562	.566	.580	.593	.592	.581	.557
„ 14,...	.571	.563	.566	.570	.569	.586	.605	.607	.614	.619	.618	.609	.596	.573	.568	.546	.550	.553	.571	.591	.603	.615	.614	.620	.587
„ 15,...	.615	.599	.589	.592	.598	.600	.616	.630	.637	.643	.648	.628	.608	.576	.571	.571	.583	.596	.594	.604	.630	.648	.653	.652	.612
„ 16,...	.635	.626	.614	.610	.624	.638	.646	.654	.664	.666	.670	.658	.642	.627	.610	.616	.608	.618	.637	.660	.680	.678	.682	.668	.643
„ 17,...	.664	.650	.643	.646	.644	.661	.670	.685	.694	.692	.691	.675	.662	.642	.631	.622	.624	.626	.636	.664	.688	.693	.688	.678	.661
„ 18,...	.668	.655	.654	.648	.649	.662	.683	.688	.689	.682	.679	.652	.637	.605	.605	.592	.583	.589	.612	.626	.646	.646	.644	.612	.642
„ 19,...	.603	.596	.582	.573	.586	.582	.601	.608	.626	.633	.624	.599	.570	.564	.539	.525	.535	.542	.564	.580	.603	.614	.606	.603	.586
„ 20,...	.584	.571	.573	.578	.575	.584	.603	.612	.632	.640	.630	.626	.610	.594	.595	.600	.602	.620	.644	.673	.683	.697	.702	.704	.622
„ 21,...	.669	.670	.668	.669	.659	.683	.702	.718	.724	.744	.712	.715	.688	.691	.690	.684	.692	.714	.722	.721	.747	.762	.748	.733	.705
„ 22,...	.719	.690	.696	.684	.700	.704	.721	.736	.749	.742	.730	.719	.694	.689	.663	.653	.651	.674	.687	.704	.718	.739	.726	.703	.704
„ 23,...	.681	.660	.648	.658	.660	.677	.690	.704	.712	.711	.701	.694	.667	.659	.644	.628	.632	.632	.659	.685	.705	.700	.704	.700	.675
„ 24,...	.683	.664	.663	.659	.663	.678	.684	.701	.702	.715	.708	.707	.683	.661	.645	.634	.630	.654	.668	.689	.709	.717	.709	.703	.680
„ 25,...	.698	.685	.679	.684	.703	.700	.716	.714	.725	.728	.728	.726	.708	.686	.664	.664	.659	.661	.690	.720	.740	.742	.749	.741	.705
„ 26,...	.734	.717	.706	.702	.704	.715	.729	.748	.764	.766	.767	.755	.738	.713	.698	.693	.689	.698	.717	.755	.776	.785	.781	.759	.734
„ 27,...	.743	.727	.716	.720	.733	.744	.769	.781	.785	.781	.778	.760	.756	.721	.697	.683	.688	.690	.707	.725	.740	.737	.728	.717	.734
„ 28,...	.708	.703	.697	.692	.694	.711	.720	.736	.737	.737	.730	.712	.696	.672	.652	.650	.639	.640	.650	.674	.669	.678	.679	.666	.689
„ 29,...	.652	.635	.634	.630	.634	.639	.657	.671	.679	.684	.688	.669	.653	.644	.636	.637	.636	.654	.666	.684	.704	.716	.719	.714	.664
„ 30,...	.700	.676	.660	.655	.648	.637	.651	.670	.686	.690	.686	.702	.705	.679	.668	.661	.652	.680	.699	.726	.740	.753	.748	.734	.688
„ 31,...	.715	.690	.676	.668	.677	.685	.705	.715	.718	.714	.708	.695	.674	.650	.641	.625	.618	.631	.655	.672	.696	.708	.704	.688	.680
Means,.....	29.670	29.658	29.650	29.648	29.651	29.661	29.676	29.687	29.696	29.698	29.693	29.681	29.665	29.648	29.633	29.625	29.624	29.634	29.649	29.667	29.684	29.693	29.691	29.681	29.665

TABLE II.

TEMPERATURE FOR THE MONTH OF AUGUST, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
Aug. 1,.....	78.4	79.5	79.8	79.5	78.8	78.8	80.1	82.3	84.2	81.0	81.9	81.9	84.2	85.5	83.9	82.6	82.7	81.1	80.0	79.5	80.0	79.8	78.6	78.7	80.9	86.3	78.2
„ 2,.....	77.3	77.0	76.9	77.3	76.9	78.3	78.5	82.9	79.7	83.4	84.5	81.6	83.8	81.4	82.8	83.2	83.1	82.5	80.3	80.6	79.7	79.9	79.1	78.9	80.4	85.8	76.9
„ 3,.....	79.1	78.5	78.1	77.9	77.5	77.2	76.5	77.6	77.8	79.4	79.7	81.7	81.5	82.1	82.5	83.0	80.1	80.2	79.9	80.0	79.2	79.4	79.9	81.8	79.6	84.0	76.5
„ 4,.....	81.8	81.9	79.4	79.8	78.8	78.8	80.0	81.1	81.7	85.2	86.1	84.9	84.0	84.6	84.3	82.8	83.8	82.9	81.8	82.2	81.8	82.2	81.9	79.6	82.1	86.1	78.0
„ 5,.....	81.2	81.5	81.8	80.5	79.7	79.6	81.2	82.4	82.7	79.1	85.2	82.2	83.2	83.4	84.0	83.8	83.6	82.5	81.8	81.0	81.3	80.8	80.8	80.9	81.8	86.0	79.1
„ 6,.....	81.5	80.6	80.0	80.6	77.1	76.8	77.6	78.3	78.6	78.4	80.3	84.8	81.1	81.9	80.8	83.2	82.7	81.5	80.5	79.9	79.9	80.1	79.4	78.9	80.2	85.3	76.8
„ 7,.....	78.5	78.7	81.2	81.3	79.8	80.5	81.1	82.5	83.0	84.6	83.8	85.1	80.1	79.5	80.3	79.8	79.8	79.4	79.2	78.5	78.5	78.4	78.6	78.8	80.5	85.8	78.4
„ 8,.....	77.8	77.8	78.2	77.5	77.2	77.5	80.2	82.7	82.3	84.3	85.1	85.3	84.5	87.1	87.0	85.6	86.1	85.2	82.7	82.5	81.0	81.3	80.3	79.8	82.0	87.1	77.1
„ 9,.....	80.0	74.7	75.7	74.5	75.2	75.8	76.2	78.4	80.3	81.4	84.4	85.0	84.7	84.6	85.3	85.4	84.3	83.0	81.1	80.9	80.8	80.0	80.0	78.9	80.4	85.5	74.1
„ 10,.....	78.7	78.5	77.9	77.9	77.6	78.0	79.8	81.8	83.3	85.0	86.5	87.3	88.7	88.6	88.7	87.8	87.8	85.2	83.8	83.3	81.9	81.8	81.4	80.2	83.0	89.1	77.6
„ 11,.....	80.5	80.5	80.6	80.9	80.7	80.7	82.8	84.3	84.2	85.6	87.3	86.8	89.2	87.6	86.2	83.9	82.4	81.3	80.2	81.0	79.9	79.8	78.6	78.3	82.6	89.4	78.3
„ 12,.....	78.0	78.6	77.5	77.7	77.7	78.8	80.9	82.7	84.2	86.2	86.8	87.4	87.4	88.3	87.4	87.1	84.4	83.7	83.3	82.4	81.7	80.3	80.6	79.2	82.6	88.7	77.5
„ 13,.....	79.2	78.8	78.8	78.6	79.4	78.2	80.0	82.3	83.1	84.2	85.9	89.2	87.7	88.5	85.0	85.0	83.6	83.2	81.8	80.1	81.0	80.0	79.4	78.9	82.2	89.7	78.2
„ 14,.....	79.8	77.5	78.6	77.1	77.8	77.6	80.5	83.5	85.1	85.2	85.2	86.1	83.8	82.1	86.6	84.2	84.2	82.5	82.0	81.0	80.4	80.0	79.8	79.3	81.7	88.1	77.1
„ 15,.....	78.3	78.2	78.1	77.3	77.8	78.1	79.5	84.0	84.5	83.6	81.5	80.2	83.5	86.8	85.8	83.4	81.8	80.1	79.3	78.5	78.7	78.8	77.9	77.8	80.6	88.1	77.3
„ 16,.....	77.8	77.8	77.9	76.8	77.6	78.4	80.5	83.8	82.1	83.0	82.9	84.3	82.8	83.0	82.7	83.3	82.2	82.2	80.9	81.5	79.9	80.4	79.4	78.8	80.8	85.8	76.8
„ 17,.....	78.8	78.4	78.8	78.8	77.8	77.8	79.1	81.7	81.4	84.0	83.3	86.6	85.0	86.9	84.9	82.4	83.2	82.2	81.0	80.7	80.6	80.2	79.8	78.9	81.3	88.4	77.8
„ 18,.....	79.8	78.9	78.3	78.6	78.9	79.3	81.7	84.9	84.7	87.4	88.0	84.8	84.9	88.6	88.2	88.4	87.2	84.8	83.3	82.7	81.8	81.5	81.1	80.2	83.3	89.0	78.1
„ 19,.....	80.2	79.1	79.5	79.5	78.1	81.9	80.8	80.9	81.2	81.8	80.8	82.8	81.8	81.8	83.1	81.2	80.6	80.5	79.7	79.5	79.9	79.8	78.9	78.9	80.5	84.3	78.1
„ 20,.....	79.1	79.3	77.6	76.8	76.5	77.2	77.8	82.7	82.9	80.3	81.8	81.9	80.0	83.0	79.6	78.3	79.3	80.1	79.7	78.8	79.1	78.2	77.6	76.8	79.3	84.6	76.0
„ 21,.....	76.7	77.0	77.4	77.6	78.2	78.2	79.0	78.9	80.4	78.8	77.8	79.9	81.5	80.1	83.3	81.0	79.0	75.8	75.9	76.5	77.0	76.8	76.8	76.9	78.4	83.6	75.6
„ 22,.....	76.9	77.5	77.6	77.7	77.8	78.0	80.3	83.0	77.0	79.1	82.4	84.8	85.8	85.8	85.0	84.2	82.2	81.6	80.8	80 3	79.8	79.8	79.8	78.9	80.7	87.0	76.7
„ 23,.....	78.5	78.6	78.0	77.6	77.4	77.7	79.2	81.2	82.2	84.4	86.0	85.1	85.4	80.8	84.8	86.0	84.4	82.9	81.4	81.3	80.1	79.8	79.9	79.7	81.4	87.3	77.4
„ 24,.....	79.1	79.2	79.3	79.8	79.8	79.8	81.2	83.0	83.7	83.4	84.8	84.9	84.3	84.0	84.2	84.4	83.2	82.2	82.3	81.3	82.1	81.6	81.1	81.2	82.1	85.9	79.1
„ 25,.....	80.2	79.9	78.9	78.9	77.4	77.0	76.9	79.3	80.3	82.4	83.4	84.4	84.4	83.4	84.2	84.2	82.9	81.8	81.5	81.6	81.2	81.2	80.6	80.6	81.1	84.8	76.6
„ 26,.....	79.9	79.8	79.6	78.8	78.8	78.9	80.5	82.4	82.0	79.0	79.4	83.8	85.5	85.5	83.8	82.2	83.1	82.5	81.0	80.8	80.0	79.8	79.7	79.2	81.1	86.1	78.4
„ 27,.....	79.4	79.2	78.0	78.2	78.0	77.9	80.8	82.2	84.2	83.8	85.8	85.5	79.9	81.6	83.9	82.8	83.3	82.1	80.3	81.0	81.1	80.0	79.0	79.3	81.1	86.3	77.9
„ 28,.....	78.4	78.5	77.8	77.8	77.8	77.6	78.0	77.6	78.8	81.0	79.6	80.2	84.3	84.4	83.0	83.1	82.3	80.9	80.7	80.8	80.6	81.2	79.9	81.3	80.2	84.8	77.4
„ 29,.....	80.8	81.1	80.4	80.6	80.4	80.5	81.3	81.9	81.9	82.8	80.1	82.7	84.2	83.8	81.2	82.5	81.8	81.1	81.8	82.3	81.8	80.0	81.0	79.7	81.5	85.0	78.0
„ 30,.....	76.7	77.8	77.8	80.7	80.2	80.5	80.8	79.5	81.5	81.1	82.4	78.7	76.8	80.8	82.6	81.8	82.1	81.5	81 9	82.3	81.9	82.0	81.9	82.1	80.6	83.0	76.1
„ 31,.....	82.0	81.5	81.7	81.4	81.7	81.5	82.1	83.7	84.7	84.9	85.6	86.3	85.8	85.3	84.9	84.2	83.0	82.3	81.7	81.6	80.9	81.3	80.5	80.7	82.9	86.4	80.0
Means,.....	79.2	78.9	78.7	78.6	78.3	78.6	79.8	81.7	82.1	82.7	83.5	84.1	83.9	84.2	84.2	83.6	82.9	81.9	81.0	80.8	80.4	80.2	79.8	79.5	81.2	86.4	77.5

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF AUGUST, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
August 1,...	77.1	77.2	77.1	77.4	76.1	76.9	78.0	78.4	79.3	77.9	78.0	77.9	78.3	80.0	78.7	77.6	77.8	76.6	76.5	76.2	75.8	75.8	75.8	75.8	77.3	143.6
" 2,...	75.8	75.6	75.8	75.7	75.6	76.3	77.0	78.4	77.2	79.2	79.2	76.8	78.8	77.3	78.2	78.3	77.6	77.0	77.4	77.3	77.8	77.8	77.3	77.5	77.3	145.3
" 3,...	77.3	77.7	76.5	77.5	75.1	75.0	75.8	75.9	76.9	77.8	77.1	77.9	78.5	77.9	79.1	79.1	77.6	77.7	77.8	78.0	77.2	76.7	76.9	78.5	77.3	117.1
" 4,...	78.5	78.0	76.3	76.5	76.8	77.0	77.8	78.8	78.4	80.0	80.1	79.7	78.9	79.9	79.2	79.0	78.8	78.9	77.1	78.3	78.2	78.5	78.0	76.8	78.3	146.1
" 5,...	78.0	77.9	77.8	76.9	77.6	77.8	77.2	78.0	78.0	77.0	79.3	80.3	78.3	78.6	78.5	78.0	78.5	78.2	78.0	78.8	78.6	78.6	78.6	78.7	78.2	151.5
" 6,...	78.6	78.5	77.9	77.8	75.9	76.0	75.8	75.1	76.5	76.6	78.3	79.8	78.7	79.5	76.0	78.2	78.5	78.6	78.8	78.8	78.8	78.5	76.8	76.1	77.7	138.6
" 7,...	76.5	76.1	77.8	77.5	77.4	77.9	78.8	78.6	78.0	79.6	78.8	79.5	76.7	75.8	77.4	77.4	76.9	77.3	76.8	76.3	77.0	76.9	76.8	77.0	77.4	143.6
" 8,...	76.8	76.6	76.8	76.5	76.5	76.8	78.1	78.8	79.4	79.7	79.7	78.7	79.2	80.4	80.7	79.7	79.2	79.2	78.4	76.9	77.3	77.4	77.8	78.5	78.3	142.9
" 9,...	78.1	72.8	72.8	71.8	72.3	72.1	73.2	74.2	74.8	75.1	77.1	78.0	78.2	79.6	80.2	80.4	79.6	77.9	77.7	76.5	76.8	77.1	75.0	76.8	76.2	138.8
" 10,...	76.9	75.8	76.6	76.1	76.0	76.6	77.0	78.0	79.0	79.9	80.8	80.5	81.0	81.2	81.1	81.0	80.8	80.2	79.5	79.0	79.6	79.5	79.1	78.7	78.9	140.6
" 11,...	79.1	79.0	79.1	78.2	78.7	78.9	80.5	81.2	81.2	81.8	82.2	79.9	83.2	81.7	80.1	78.9	76.4	76.3	76.3	76.0	75.9	75.7	75.9	76.3	78.9	151.2
" 12,...	76.5	76.4	76.4	75.8	75.8	77.4	78.5	79.0	79.8	81.8	81.2	81.2	81.2	80.7	80.3	80.3	79.2	80.2	79.1	79.3	79.2	78.5	78.9	78.4	79.0	146.4
" 13,...	78.3	77.9	77.8	77.6	77.3	77.3	78.3	79.4	79.5	79.4	80.0	80.1	80.5	80.2	79.7	78.4	78.2	78.3	77.8	77.2	77.8	77.1	77.5	76.9	78.4	146.5
" 14,...	76.8	76.6	76.8	76.3	76.8	76.8	79.0	79.2	80.2	79.2	79.3	79.0	78.8	78.8	80.0	78.6	78.4	78.1	77.7	77.7	77.8	77.6	77.5	77.1	78.1	141.2
" 15,...	76.7	76.8	76.8	76.3	76.1	76.1	77.9	79.6	79.4	78.7	76.0	76.1	76.2	78.7	78.1	77.4	78.0	77.2	77.0	75.9	75.9	76.7	76.0	76.4	77.1	143.2
" 16,...	76.5	76.5	76.6	75.8	76.5	76.8	78.0	79.0	78.0	77.7	76.8	79.2	77.8	76.3	77.1	78.1	77.2	77.0	76.5	76.9	76.4	76.5	76.6	75.8	77.1	144.1
" 17,...	76.6	76.7	76.8	76.8	76.8	76.8	77.2	78.1	78.2	77.0	78.3	80.8	78.5	80.9	79.0	78.9	78.5	78.2	78.7	77.8	77.6	77.8	77.9	77.7	78.0	146.1
" 18,...	77.8	77.6	77.5	77.5	77.0	77.7	78.9	80.2	79.8	81.2	81.0	78.3	78.5	80.3	80.3	80.2	79.9	79.4	78.8	78.8	79.3	78.9	78.7	78.4	79.0	148.7
" 19,...	78.7	76.5	76.1	74.7	74.5	75.2	75.0	76.3	77.1	77.6	77.1	78.1	76.8	77.1	78.1	77.1	77.8	77.7	77.6	76.9	76.6	76.9	77.3	77.1	76.8	152.3
" 20,...	76.8	76.8	76.8	75.9	75.8	76.2	76.8	79.0	78.5	78.3	78.4	77.7	77.8	78.0	76.8	76.1	77.0	77.2	77.6	77.2	77.1	77.2	77.0	74.8	77.1	140.3
" 21,...	75.1	76.1	76.4	76.5	76.8	76.8	77.7	77.5	78.5	75.4	75.4	77.0	78.3	77.8	78.6	78.8	75.1	74.9	75.0	75.6	75.8	75.8	75.9	75.9	76.5	125.7
" 22,...	75.9	75.7	75.7	75.8	75.9	76.3	77.7	79.1	74.6	75.8	77.3	79.6	79.8	80.0	78.6	79.3	78.6	78.4	77.8	77.7	77.1	77.9	77.6	77.2	77.5	144.4
" 23,...	77.1	76.8	76.7	75.9	75.9	76.2	76.3	77.2	78.0	78.4	79.4	79.7	79.7	77.6	79.3	80.2	78.6	78.2	78.0	78.3	77.9	77.8	77.9	77.9	77.9	148.3
" 24,...	77.7	77.5	77.7	77.5	77.6	77.8	78.9	78.4	79.1	79.4	79.8	79.3	79.0	79.5	79.3	79.3	79.3	77.1	77.2	77.5	77.0	77.5	78.7	77.6	78.3	144.2
" 25,...	77.6	76.8	77.3	76.5	74.8	74.7	74.9	75.7	76.1	76.8	77.2	77.2	78.3	77.2	77.4	78.4	77.5	77.6	77.0	77.8	77.5	76.9	77.2	76.9	76.9	143.5
" 26,...	76.9	76.8	76.7	76.9	76.8	76.3	77.2	77.5	77.8	77.4	76.2	78.5	78.6	78.8	77.5	78.7	77.8	78.1	77.1	77.6	77.6	77.8	77.4	77.1	77.5	145.9
" 27,...	77.2	76.9	76.7	76.5	76.2	76.4	78.0	78.2	78.2	78.5	79.5	79.1	75.2	76.7	78.6	77.5	77.8	78.0	77.9	77.2	76.9	77.1	76.8	76.5	77.4	154.0
" 28,...	76.7	76.5	76.4	76.5	76.1	76.0	76.8	75.2	76.8	77.2	76.6	77.0	78.3	78.2	77.9	78.0	77.3	76.9	77.2	76.8	77.0	76.6	76.9	77.4	76.9	145.3
" 29,...	76.9	77.1	76.9	76.8	76.4	76.1	76.9	76.7	75.9	76.5	76.0	77.6	77.4	76.5	77.4	78.2	77.8	77.0	76.3	76.8	76.9	76.8	77.6	77.2	76.9	139.3
" 30,...	73.5	75.9	76.3	77.0	77.1	76.1	76.4	76.6	76.8	77.2	77.3	77.5	75.8	77.4	77.3	77.8	77.8	77.6	76.9	76.9	77.8	78.5	78.7	78.7	77.0	117.1
" 31,...	77.6	77.9	76.7	77.1	76.8	77.0	77.8	77.8	78.8	80.1	80.9	77.1	76.1	76.9	77.6	77.7	77.3	78.0	77.8	77.8	78.5	78.5	77.8	78.0	77.8	138.5
Means,.....	77.1	76.8	76.8	76.5	76.3	76.5	77.3	77.9	78.1	78.3	78.5	78.7	78.5	78.7	78.6	78.6	78.1	77.8	77.5	77.4	77.4	77.4	77.4	77.2	77.6	142.4

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF AUGUST, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	91	0.904	August 1,.....	85	0.890
2 „	91	.895	„ 2,.....	87	.897
3 „	91	.897	„ 3,.....	90	.907
4 „	91	.886	„ 4,.....	84	.918
5 „	91	.881	„ 5,.....	85	.918
6 „	91	.886	„ 6,.....	89	.917
7 „	89	.905	„ 7,.....	87	.900
8 „	84	.906	„ 8,.....	84	.920
9 „	83	.909	„ 9,.....	81	.848
10 „	81	.910	„ 10,.....	83	.933
11 „	79	.909	„ 11,.....	84	.939
Noon.	77	.910	„ 12,.....	85	.944
1 p.	77	.903	„ 13,.....	84	.922
2 „	77	.908	„ 14,.....	85	.915
3 „	77	.904	„ 15,.....	85	.885
4 „	79	.912	„ 16,.....	84	.882
5 „	80	.899	„ 17,.....	86	.916
6 „	83	.898	„ 18,.....	82	.934
7 „	85	.897	„ 19,.....	84	.873
8 „	85	.896	„ 20,.....	90	.902
9 „	87	.901	„ 21,.....	91	.888
10 „	88	.904	„ 22,.....	86	.902
11 „	89	.909	„ 23,.....	85	.910
Midt.	90	.904	„ 24,.....	84	.918
			„ 25,.....	82	.869
			„ 26,.....	85	.896
			„ 27,.....	84	.892
			„ 28,.....	86	.881
			„ 29,.....	81	.864
			„ 30,.....	85	.881
			„ 31,.....	79	.885
Means,.....	85	0.901	Means.	85	0.901

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
August 1,.....	...	0.6	0.9	0.5	0.2	0.6	0.5	0.9	0.9	0.5	...	0.3	...	5.9
„ 2,.....	0.1	0.4	0.6	...	0.8	0.9	0.8	0.6	...	0.9	0.5	...	...	5.6
„ 3,.....	...	...	...	...	...	...	...	...	...	0.1	...	...	...	0.1
„ 4,.....	...	...	...	0.3	1.0	1.0	0.3	...	...	...	...	0.1	...	2.7
„ 5,.....	...	...	0.3	...	0.2	0.8	0.3	...	...	0.1	0.6	0.4	...	2.7
„ 6,.....	...	...	...	...	...	...	0.1	...	...	...	...	...	...	0.1
„ 7,.....	...	0.7	0.7	0.5	0.8	...	0.2	...	...	...	...	...	...	2.9
„ 8,.....	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	11.9
„ 9,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	0.5	0.2	0.9	0.9	1.0	0.3	9.3
„ 10,.....	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	11.1
„ 11,.....	0.3	1.0	1.0	1.0	1.0	1.0	0.8	1.0	0.9	0.8	0.9	0.1	...	9.8
„ 12,.....	0.2	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	0.8	...	0.1	10.0
„ 13,.....	...	0.8	0.9	0.9	1.0	1.0	1.0	1.0	0.8	0.5	0.3	...	...	8.2
„ 14,.....	0.2	1.0	1.0	1.0	0.1	...	0.1	0.5	0.2	0.6	0.4	...	...	5.1
„ 15,.....	...	0.3	1.0	1.0	0.3	...	...	0.3	0.5	0.6	0.2	...	...	4.2
„ 16,.....	0.2	1.0	1.0	0.5	0.1	0.3	0.8	0.9	1.0	1.0	1.0	1.0	0.2.	9.0
„ 17,.....	0.1	1.0	0.7	0.2	1.0	0.5	1.0	0.8	1.0	0.7	...	0.7	0.1	7.8
„ 18,.....	0.2	1.0	1.0	1.0	1.0	1.0	0.3	0.1	1.0	1.0	1.0	0.6	...	9.2
„ 19,.....	...	...	...	...	...	0.1	0.6	0.6	0.7	1.0	...	...	...	3.0
„ 20,.....	...	...	0.7	0.4	0.8	0.7	...	...	0.9	0.2	...	...	...	3.7
„ 21,.....	...	...	...	...	...	...	...	0.3	0.1	0.1	0.1	...	...	0.6
„ 22,.....	0.1	0.6	0.7	...	...	0.6	0.8	0.8	1.0	0.5	...	...	...	5.1
„ 23,.....	0.1	0.5	0.9	0.9	1.0	1.0	0.6	0.7	0.2	1.0	1.0	0.9	0.2	9.0
„ 24,.....	...	0.2	0.9	0.5	0.7	0.9	0.6	0.1	0.9	0.9	1.0	0.3	...	7.0
„ 25,.....	...	...	0.1	0.8	0.9	1.0	1.0	0.7	0.4	0.8	1.0	0.5	...	7.2
„ 26,.....	0.3	0.5	0.7	0.4	0.1	...	0.9	1.0	1.0	0.4	0.4	1.0	...	6.7
„ 27,.....	0.1	1.0	1.0	1.0	1.0	1.0	1.0	0.1	...	...	0.6	0.8	0.2	7.8
„ 28,.....	...	...	...	0.1	0.2	0.4	0.7	0.9	1.0	1.0	1.0	0.5	...	5.8
„ 29,.....	...	0.9	0.9	0.4	0.8	0.2	0.4	0.7	...	...	...	...	...	4.3
„ 30,.....	...	...	...	...	...	...	...	...	...	0.1	0.5	0.5	...	1.1
„ 31,.....	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.2	10.8
Sums,.....	2.2	15.3	20.0	16.4	18.0	18.0	17.7	16.5	16.7	17.7	15.2	11.7	2.3	187.7

TABLE VI.

RAINFALL FOR THE MONTH OF AUGUST, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
August 1,.....	...	...	...	...	...	...	...	...	...	0.015	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.015	1
„ 2,.....	...	...	...	...	...	...	...	0.005	0.015	...	0.005	...	...	0.010	0.005	...	...	...	...	0.055	...	0.020	...	...	0.115	2
„ 3,.....	0.005	0.100	0.060	0.500	0.100	0.100	0.050	...	0.015	0.030	...	0.020	...	...	...	...	...	...	...	...	...	...	...	...	0.980	9
„ 4,.....	0.005	...	0.015	...	...	0.035	...	0.030	0.015	...	...	0.005	...	...	...	0.025	...	...	...	...	...	...	...	0.040	0.170	2
„ 5,.....	0.010	...	...	0.135	...	0.010	...	...	...	0.025	0.005	0.080	...	...	...	...	...	...	...	...	...	...	...	...	0.265	3
„ 6,.....	...	...	...	0.550	0.020	0.590	0.005	0.030	0.030	0.130	...	0.015	0.030	...	0.070	...	0.005	...	...	...	...	...	...	...	1.475	4
„ 7,.....	0.010	...	0.005	...	0.125	...	...	...	...	...	...	0.120	0.090	...	...	...	...	...	...	...	...	...	...	...	0.350	1
„ 8,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9,.....	0.325	0.020	0.020	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.365	2
„ 10,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 15,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 16,.....	...	...	...	...	...	...	...	...	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	1
„ 17,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 20,.....	...	...	0.350	0.190	0.040	0.155	0.040	...	0.010	0.110	...	...	0.235	...	0.270	0.325	...	...	...	0.030	0.070	...	0.420	0.065	2.310	8
„ 21,.....	0.015	0.015	0.015	...	...	...	0.440	...	0.100	...	...	...	...	0.100	...	0.010	0.670	0.220	0.030	...	...	...	...	...	1.615	8
„ 22,.....	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	0.060	...	...	...	...	...	...	...	...	...	...	0.060	...
„ 24,.....	...	...	...	...	...	...	...	...	0.080	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.080	...
„ 25,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 26,.....	...	...	...	...	...	...	...	...	...	0.020	...	...	...	...	...	0.025	...	...	...	...	...	...	...	...	0.045	1
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 28,.....	...	...	...	...	...	...	...	0.045	0.005	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	0.055	1
„ 29,.....	...	...	0.010	0.020	...	...	...	...	...	...	0.075	...	...	...	0.005	0.005	...	0.015	...	...	...	...	0.090	0.010	0.230	2
„ 30,.....	...	0.050	...	0.005	0.020	0.005	0.015	0.010	0.010	0.055	...	0.200	0.220	...	...	...	...	...	...	...	...	...	...	...	0.590	5
„ 31,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	0.370	0.185	0.475	1.400	0.305	0.895	0.550	0.120	0.290	0.385	0.090	0.440	0.575	0.170	0.350	0.390	0.675	0.235	0.030	0.085	0.070	0.020	0.510	0.115	8.730	50

2nd 1 p.—3rd 10 a., clock stopped. Entries made from tri-hourly observations.

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF AUGUST, 1893.

Date.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		Vel.		Dir.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
Aug. 1,	7	4	5	3	5	3	5	6	8	6	7	4	6	5	5	4	6	7	8	12	8	11	8	14	10	11	7	15	8	16	8	11	8	11	8	10	8	8	8	4	8	3	...	1	...	0	8	3	175	7.3	8
" 2,	...	0	...	1	...	0	...	0	...	1	15	2	12	2	8	3	8	4	6	3	7	12	6	11	8	10	16	7	11	6	8	6	15	5	15	4	15	3	7	4	7	2	7	6	6	5	7	4	101	4.2	9
" 3,	5	2	18	3	17	3	16	10	...	1	13	3	6	3	15	3	2	2	4	2	27	3	17	2	8	3	..	1	29	5	..	1	8	10	8	12	7	10	7	11	7	8	6	4	7	4	16	9	115	4.8	9
" 4,	17	8	16	9	24	8	17	7	23	7	29	4	...	1	18	5	17	8	18	12	16	20	16	15	15	13	16	12	16	14	18	10	15	11	16	10	15	7	14	6	15	5	15	6	14	7	17	11	216	9.0	17
" 5,	16	8	17	12	17	10	18	9	18	5	21	2	14	5	16	4	15	7	23	7	16	13	16	18	16	10	15	8	18	9	18	9	16	11	16	6	19	4	30	2	17	2	17	2	...	1	12	4	168	7.0	17
" 6,	16	6	9	5	7	4	12	8	3	3	26	5	12	9	15	6	14	5	5	7	12	6	16	10	15	7	9	8	16	13	16	9	17	6	11	5	7	8	9	10	8	8	8	10	8	14	6	12	184	7.7	11
" 7,	7	11	6	9	12	10	14	10	12	11	12	8	10	8	13	9	15	10	15	12	14	12	14	13	8	8	7	7	7	11	8	14	8	12	8	13	9	14	9	11	8	9	9	10	9	9	9	7	248	10.3	10
" 8,	9	3	13	2	...	1	17	2	..	1	...	1	...	1	...	1	17	2	23	3	23	6	23	8	23	10	23	10	22	8	22	10	21	10	24	7	24	6	24	5	...	0	24	2	24	2	24	2	103	4.3	23
" 9,	19	13	8	25	11	8	28	4	32	4	25	3	26	1	26	5	23	6	23	6	23	8	24	10	23	8	22	8	22	8	22	4	9	6	8	8	10	4	7	6	...	0	..	0	29	6	29	3	157	6.5	22
" 10,	24	2	26	2	19	3	19	2	19	2	...	1	...	1	...	1	31	4	26	10	23	10	23	9	22	10	23	10	22	8	24	7	23	5	18	3	24	2	20	2	28	3	...	1	28	2	28	4	104	4.3	23
" 11,	28	2	...	0	26	3	21	7	25	3	24	4	27	6	27	7	25	7	27	8	24	8	27	7	21	11	27	10	24	4	27	7	25	6	21	2	21	3	...	1	26	2	...	1	...	0	...	0	109	4.5	25
" 12,	...	1	...	0	21	5	...	0	27	4	...	0	27	2	27	5	25	8	24	8	23	11	24	11	24	9	20	8	20	7	17	9	18	8	23	4	19	2	27	2	...	0	...	1	...	0	...	1	104	4.3	22
" 13,	22	3	...	0	...	1	...	1	22	2	...	1	...	1	22	3	25	5	25	7	22	9	20	5	18	10	22	10	22	7	18	8	18	4	21	2	...	0	17	3	...	1	...	1	...	0	17	2	86	3.6	21
" 14,	17	3	...	0	...	0	...	1	...	1	17	2	17	2	...	0	25	1	25	4	26	4	26	3	9	8	8	7	16	6	12	4	15	4	8	3	...	1	...	1	32	3	...	1	11	2	9	3	67	2.8	19
" 15,	...	0	...	0	...	0	...	1	9	2	12	2	...	0	12	2	15	4	21	5	27	7	28	3	15	4	25	4	27	3	8	6	11	5	29	3	32	2	29	4	18	4	16	3	9	4	8	3	71	3.0	18
" 16,	9	3	8	4	7	5	7	4	7	6	7	3	7	6	7	6	7	8	10	7	9	13	8	17	7	17	7	13	8	15	9	10	9	8	14	7	9	4	9	3	9	4	6	4	11	3	9	6	176	7.3	8
" 17,	9	4	9	3	6	4	6	4	6	3	...	0	...	1	6	2	7	5	6	7	7	7	8	7	8	3	24	3	6	5	9	9	7	6	8	5	...	1	9	4	9	4	9	2	...	1	9	2	92	3.8	8
" 18,	9	2	...	1	14	2	20	3	20	3	...	1	...	1	20	3	23	5	23	8	21	13	21	9	23	5	29	4	26	7	23	7	19	7	18	3	32	2	8	3	31	3	31	2	31	4	29	4	102	4.2	23
" 19,	26	7	19	3	...	1	21	4	16	3	31	5	5	2	10	7	8	11	7	17	10	14	9	15	9	18	19	16	10	15	9	18	9	10	9	9	6	9	7	6	10	7	8	8	9	8	11	229	9.5	9
" 20,	8	9	6	10	7	13	7	4	29	3	20	3	15	4	8	10	13	18	8	21	9	22	11	29	13	23	15	23	15	11	16	10	5	10	4	8	7	8	12	5	5	5	25	3	16	12	5	6	264	11.0	10
" 21,	7	9	7	8	7	11	8	9	9	14	8	11	8	12	6	8	12	18	13	16	8	21	11	10	13	10	17	8	15	7	6	10	13	7	30	10	31	3	31	3	31	3	3	4	3	4	3	3	219	9.1	9
" 22,	3	4	8	11	10	11	9	10	10	10	9	6	9	8	5	8	8	11	3	4	9	1	8	5	9	3	27	6	18	4	10	5	14	5	14	2	14	2	...	1	14	3	24	5	...	1	18	2	131	5.5	9
" 23,	15	3	10	3	...	0	...	0	...	0	...	0	10	4	18	3	...	1	16	2	16	4	8	8	7	10	16	8	9	4	5	5	9	7	11	4	14	3	11	3	...	1	8	2	7	2	8	2	79	3.3	11
" 24,	8	3	7	2	8	3	9	6	9	4	9	4	9	3	4	8	7	10	8	12	9	13	9	11	9	12	10	16	10	18	9	16	9	16	9	12	5	9	5	4	11	6	8	5	6	4	6	4	204	8.5	8
" 25,	6	2	...	1	...	0	9	10	8	18	9	12	8	13	9	9	9	11	8	10	7	16	8	21	9	19	8	14	8	14	10	18	9	15	8	13	7	11	7	6	6	6	6	7	6	7	4	4	257	10.7	8
" 26,	...	1	8	3	9	3	...	1	10	2	11	3	8	6	4	5	10	4	8	18	8	14	9	6	8	10	8	13	9	10	26	3	8	11	8	8	10	3	19	3	...	0	...	0	...	0	...	0	127	5.3	8
" 27,	7	2	...	0	...	1	...	1	...	0	11	2	14	2	14	3	16	6	9	11	19	10	8	14	19	4	22	2	31	2	32	2	3	2	8	5	9	3	9	5	9	2	...	1	9	2	...	0	82	3.4	9
" 28,	...	1	...	0	...	0	...	0	..	0	...	1	...	0	7	11	9	7	9	7	9	13	9	15	10	16	8	16	9	13	8	14	10	13	10	6	11	4	7	5	9	7	6	10	7	13	6	19	194	8.1	8
" 29,	6	19	6	18	5	16	6	16	5	17	1	18	5	20	5	20	5	22	6	20	5	18	7	16	7	15	8	20	9	17	8	23	8	28	7	21	6	22	9	30	9	27	10	25	8	26	8	27	501	20.9	7
" 30,	7	32	7	22	7	26	6	38	6	32	6	26	6	34	6	26	6	30	6	24	7	30	7	28	7	22	6	22	6	30	7	30	7	30	7	26	7	23	8	24	8	24	9	19	8	16	7	20	631	26.3	7
" 31,	7	26	7	30	7	33	7	32	7	32	7	29	7	25	6	22	7	25	7	25	7	23	7	19	8	33	9	17	10	17	10	16	11	16	9	12	9	10	6	7	8	5	8	5	8	3	...	1	453	18.9	8
Sums,	...	193	...	190	...	186	...	210	...	200	...	166	...	191	...	209	...	278	...	315	...	378	...	363	...	342	...	323	...	320	...	311	...	305	...	243	...	188	...	185	...	157	...	151	...	163	...	179	5749	239.5	...
Means,	...	6.2	...	6.1	...	6.0	...	6.8	...	6.5	...	5.4	...	6.2	...	6.7	...	9.0	...	10.2	...	12.2	...	11.7	...	11.0	...	10.5	...	10.3	...	10.0	...	9.8	...	7.8	...	6.1	...	6.0	...	5.1	...	4.9	...	5.3	...	5.8	185.5	7.7	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
Aug. 1, ...	5	c-str. / cum.	SE	3	c-str. / cum.	SSE	3	cum. / cum.	SSE / S	8	cum-str. / cum.	SSE
„ 2, ...	2	c-str.	...	1	cum.	S	6	c-cum. / cum.	SSE	10	c-cum. / cum-nim.	S / SSW
„ 3, ...	9	nim.	S	10	nim.	S	10	nim.	SW	10	nim.	...
„ 4, ...	10	cum.	SSW	9	cum.	SSW	7	c-str. / cum.	SSW	8	c-str. / R-cum.	SW
„ 5, ...	9	cum-nim.	SSW	8	cum.	S	9	c-str. / c-cum. / cum.	.. / SW / SSE	10	c-cum. / cum. / cum-nim.	SSW / .. / SSW
„ 6, ...	5	cum.	S	10	nim.	S	10	nim.	SSW	10	nim.	SSW
„ 7, ...	4	cum.	SSW	7	c-str. / cum.	SSW	8	c-cum. / cum.	SSE	8	c-cum. / R-cum.	S / S
„ 8, ...	1	c-str.	...	4	cum.	...	2	c-cum. / sm-cum.	...	3	c-cum. / cum.	ENE / ..
„ 9, ...	10	c-cum. / cum.	...	10	nim.	...	8	c-str. / c-cum.	NNE / ENE	6	c-cum. / sm-cum.	NNE / NE
„ 10, ...	9	c-str.	...	1	c-cum.	NNE	6	c-cum. / cum.	NNE / ..	2	sm-cum.	NW
„ 11, ...	0	...	...	0	...	...	6	cum.	WSW	4	c-cum. / cum-str. / cum.	.. / NW / SSW
„ 12, ...	0	...	...	1	cum.	...	1	cum.	...	3	c-cum. / cum. / cum-nim.	N / .. / W
„ 13, ...	0	...	...	0	...	...	5	c-str. / cum.	E	5	c-cum. / cum.	SE
„ 14, ...	6	c-str.	...	8	c-str. / cum.	...	2	c-cum. / cum.	W / ..	9	c-cum. / cum.	N / ..
„ 15, ...	1	sm-cum.	...	1	sm-cum.	...	8	c-cum. / sm-cum.	...	7	c-cum. / cum / cum-str.	.. / SE / W
„ 16, ...	1	cum.	...	3	cum.	...	4	c-cum. / cum.	SSW / ..	6	c-cum. / cum-str.	WNW / SE
„ 17, ...	1	cum.	...	4	cum.	...	3	sm-cum. / cum.	S / S	4	c-cum. / cum-str. / cum.	.. / SE / S
„ 18, ...	0	...	...	0	...	...	2	c-cum. / cum.	...	3	c-cum. / cum.	E / WNW
„ 19, ...	7	c-str. / cum.	...	0	...	...	9	sm-cum. / cum.	...	10	c-cum. / cum-str. / cum-nim.	.. / ENE / E
„ 20, ...	7	cum.	E	10	nim.	E	9	nim.	E	9	c-cum. / nim.	ENE / SE
„ 21, ...	9	cum-nim.	...	9	cum.	SE	10	nim.	ESE	10	nim.	SSE
„ 22, ..	2	c-str.	...	9	sm-cum.	...	9	sm-cum. / cum.	W / ..	9	cum-str.	ESE
„ 23, ...	1	c-str. / sm-cum.	...	0	...	...	4	c-cum. / cum	...	2	c-cum. / cum.	SE / NW
„ 24, ...	1	c-str. / cum.	...	0	...	...	7	c-str. / cum.	E	8	c-str. / sm-cum. / cum	ESE / .. / ESE
„ 25, ...	7	c-str. / cum.	E / ..	9	c-str. / cum-nim.	...	9	c-str. / c-cum / cum-nim.	.. / E / ESE	8	c-str. / sm-cum.	E / E
„ 26, ...	5	sm-cum.	W	4	cum.	E	7	c-cum. / cum.	E	9	c-cum. / nim.	E
„ 27, ...	0	...	...	0	...	...	2	c-cum. / cum	E	7	c-str. / cum.	SE / ..
„ 28, ...	3	c-cum.	...	1	cum.	E	1	cum.	...	9	c-cum. / cum.	E
„ 29, ...	5	c-str. / c-cum. / cum.	.. / E / ..	5	R-cum.	E	5	cum.	E	9	nim.	ENE
„ 30, ...	10	cum.	E	10	cum.	E	10	nim.	ENE	10	R-cum.	E
„ 31, ...	3	cum.	E	5	cum.	E	7	c-cum. / cum.	ENE	4	cum.	E
Means,..	4.3	...	...	4.6	...	...	6.1	...	...	6.8	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
Aug. 1,...	2	c-cum. / cum.	S	6	c-cum. / cum.	SSE	3	sm-cum. / cum.	...	1	c-cum. / sm-cum.	...	3.9
„ 2,...	8	c-cum. / cum. / cum-str.	S / SSW / ..	9	c-str. / c-cum. / cum.	S / S / SSW	10	c-str. / c-cum. / cum.	SSW	10	nim.	...	7.0
„ 3,...	10	cum-str.	...	9	c-str. / cum.	SW	8	c-str. / cum-str.	S / W	6	cum-str.	SSW	9.0
„ 4,...	9	c-str. / cum.	S	9	c-str. / cum.	SSW	6	c-str. / cum.	SSW	1	cum.	...	7.4
„ 5,...	9	c-cum. / cum.	SSW	9	c-str. / c-cum. / cum.	.. / S / SSW	10	cum.	SSW	5	cum.	...	8.6
„ 6,...	10	nim.	S	10	sm-cum. / cum.	S	10	c-str. / cum.	SSW	7	cum.	...	9.0
„ 7,...	8	c-cum. / cum. / nim.	S	9	c-cum. / cum.	SSE	9	c-str.	...	1	c-str.	...	6.8
„ 8,...	7	c-cum. / cum.	ENE / NNW	6	c-cum. / cum.	ENE / NNW	5	c-cum.	ENE	3	c-cum.	...	3.9
„ 9,...	8	c-str.	NNE	7	c-cum.	N	3	c-cum. / cum.	N / ..	4	cum-str.	...	7.0
„ 10,...	3	c-cum. / cum.	NNW	2	c-cum. / cum.	NNW	1	cum-str.	...	0	...	...	3.0
„ 11,...	7	c-cum. / cum.	W / SSW	6	c-cum. / sm-cum.	N / NW	5	c-cum.	ENE	0	...	...	3.5
„ 12,...	1	c-str. / cum.	W	3	c-str. / cum.	W	1	c-str. / cum.	...	0	...	...	1.2
„ 13,...	3	c-cum. / cum.	ESE	6	c-cum. / cum.	NNE / ..	5	c-cum. / cum.	N / S	6	c-str.	...	3.8
„ 14,...	8	sm-cum. / cum.	N / ..	7	c-str. / c-cum. / cum.	N / N / ..	10	c-cum. / sm-cum.	N / ..	5	nim.	...	6.9
„ 15,...	7	c-cum. / cum-str.	...	9	c-cum. / cum.	SE	7	c-cum.	...	1	cum.	SE	5.1
„ 16,...	6	sm-cum. / cum.	S / S	4	c-cum. / cum.	S	0	...	...	0	...	...	3.0
„ 17,...	7	c-cum. / cum.	S	9	cum.	SE	3	c-cum. / cum.	...	0	...	...	3.9
„ 18,...	7	c-cum. / cum. / nim.	.. / WNW / ..	7	c-cum. / cum.	E / WNW	2	c-cum.	...	6	c-cum. / cum.	...	3.4
„ 19,...	7	c-cum. / cum-str. / cum.	ENE / NE / ..	7	c-str. / cum.	NNE / E	9	c-str. / c-cum.	ENE	10	c-str. / cum-nim.	E	7.4
„ 20,...	10	nim.	SE	10	nim.	SE	7	c-str. / cum.	SE	5	c-str. / cum.	SE	8.4
„ 21,...	9	nim.	SSE	9	c-cum. / cum.	S	10	nim.	S	7	c-cum. / cum.	S	9.1
„ 22,...	7	c-cum. / cum.	SSW	9	c-cum. / cum.	E / SSW	6	c-cum. / sm-cum.	...	9	sm-cum. / cum.	S / ..	7.5
„ 23,...	4	c-str. / cum.	SSE / ..	7	c-cum. / cum.	SE / ENE	1	c-str. / cum.	...	1	c-str.	SE	2.5
„ 24,...	9	c-str. / cum.	SSE / ESE	7	c-cum. / cum.	E / ESE	4	c-str. / cum.	ESE	5	c-str. / cum.	ESE	5.1
„ 25,...	8	c-str. / sm-cum. / cum.	E / E / ..	4	c-cum. / cum.	E / ..	3	sm-cum. / cum.	...	8	sm-cum.	...	7.0
„ 26,...	5	c-cum. / cum.	E	6	cum. / nim.	E / ..	1	cum.	...	7	sm-cum.	NE	5.5
„ 27,...	8	c-cum. / cum-nim.	NNE	6	c-cum. / cum.	SSE / ..	6	c-str. / sm-cum.	N	4	c-str.	NW	4.1
„ 28,...	6	c-cum. / sm-cum. / cum.	ENE / W / ESE	3	c-cum. / sm-cum. / cum.	E / W / E	7	c-str.	...	6	c-str. / cum.	E	4.5
„ 29,...	7	c-str. / c-cum. / cum.	.. / ESE / ENE	10	cum-nim.	ENE	10	cum.	ENE	10	str. / cum.	E	7.6
„ 30,...	10	cum-nim.	E	6	c-cum. / cum-str.	SSE / E	2	cum.	E	9	sm-cum. / cum.	ESE	8.4
„ 31,...	0	...	...	0	...	...	1	cum.	...	5	cum.	ENE	3.1
Means,...	6.8	...	...	6.8	...	...	5.3	...	...	4.6	...	...	5.7

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND FOR THE MONTH OF AUGUST, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	1.03	4.26	1.39	0.71	−0.36	+ 3.55	E 6° S
2 „	0.94	4.94	1.03	0.23	0.09	4.71	E 1° S
3 „	1.00	4.55	1.16	0.61	0.16	3.94	E 2° S
4 „	1.19	4.61	1.84	0.61	−0.65	4.00	E 9° S
5 „	1.32	4.81	1.00	0.71	+0.32	4.10	E 4° N
6 „	1.35	3.81	0.77	0.61	0.58	3.20	E 10° N
7 „	1.26	4.90	0.90	0.35	0.36	4.55	E 5° N
8 „	1.97	4.61	1.32	0.74	+0.65	3.87	E 10° N
9 „	1.52	6.06	2.32	1.23	−0.80	4.83	E 9° S
10 „	1.52	6.71	1.58	2.23	0.06	4.48	E 1° S
11 „	1.13	8.00	2.94	2.42	1.81	5.58	E 18° S
Noon.	0.77	7.68	3.13	1.94	2.36	5.74	E 22° S
1 p.	0.39	7.39	3.39	1.87	3.00	5.52	E 29° S
2 „	0.87	6.23	3.13	2.19	2.26	4.04	E 29° S
3 „	0.84	6.19	3.71	1.71	2.87	4.48	E 33° S
4 „	0.65	6.74	2.81	1.55	2.16	5.19	E 23° S
5 „	0.52	7.00	3.06	0.97	2.54	6.03	E 23° S
6 „	0.84	5.74	1.71	0.74	0.87	5.00	E 10° S
7 „	1.06	4.74	1.10	0.48	0.04	4.26	E 1° S
8 „	0.65	4.94	1.00	0.42	0.35	4.52	E 4° S
9 „	0.74	4.03	0.81	0.26	0.07	3.77	E 1° S
10 „	0.58	3.77	0.87	0.32	0.29	3.45	E 5° S
11 „	0.74	4.10	0.77	0.23	−0.03	3.87	E
Midt.	1.19	4.32	0.97	0.39	+0.22	+ 3.93	E 3° N
Means,.....	1.00	5.42	1.78	0.98	−0.78	+ 4.44	E 10° S

PHENOMENA :—

Solar halo :—on the 2nd, 3rd, 5th, 9th, 14th, 18th, 19th, 22nd, 23rd, 24th, 25th, 26th, 27th and 29th.

Solar corona :—on the 5th.

Lunar halo :—on the 2nd, 7th, 19th, 21st, 24th, 28th and 29th.

Lunar corona :—on the 1st, 2nd, 4th, 5th, 18th, 20th, 21st, 22nd, 23rd, 24th, 25th and 28th.

Fog :—on the 28th.

S ight fog :—on the 2nd, 10th, 12th, 13th, 14th, 15th, 17th, 18th and 23rd.

Haze :—on the 1st, 8th, 11th, 13th, 16th, 17th, 22nd, 24th and 25th.

Unusual visibility :—on the 14th, 16th, 18th and 20th.

Dew :—on the 2nd, 7th, 8th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 18th, 19th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th and 28th.

Rainbow :—on the 2nd, 5th, 17th and 20th.

Lightning without thunder :—on the 2nd, 4th, 5th, 8th, 12th, 13th, 15th, 17th, 18th, 19th, 20th, 21st, 22nd, 25th, 26th, 27th, 28th, 30th and 31st.

Thunder without lightning :—on the 2nd, 4th, 5th, 13th, 15th, 25th, 26th, 27th and 28th.

Thunder and lightning :—on the 10th and 14th.

Thunderstorms :—on the 3rd, 3 a.—11.30 a., W—E, nearest at 3.33 a. ($\frac{1}{4}^s$), when a spark was seen in the office of the Observatory. On the 6th, 4 a.—9 a., S—N, nearest at 4.16 a. (2^s). On the 6th, 2 p.—3 p., S—N, nearest at 2.33 p. (1^s). On the 7th, 12.45 p.—1.30 p. in N, distant. On the 9th, 1 a.—3 a., NE—SE, nearest at 1.25 a. (2^s). On the 11th, 1.45 p.—2.15 p. in E, nearest at 1.50 p. (5^s).

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF SEPTEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
Sept. 1,...	29.671	29.644	29.622	29.615	29.604	29.602	29.610	29.615	29.615	29.616	29.604	29.577	29.544	29.512	29.495	29.483	29.474	29.486	29.502	29.515	29.537	29.531	29.532	29.518	29.563
„ 2,...	.504	.494	.483	.482	.491	.505	.519	.528	.525	.519	.509	.502	.488	.481	.475	.466	.471	.480	.493	.516	.528	.532	.524	.519	.501
„ 3,...	.511	.508	.514	.514	.528	.548	.566	.582	.594	.599	.592	.577	.556	.548	.537	.543	.548	.554	.568	.603	.626	.637	.635	.634	.568
„ 4,...	.633	.621	.619	.619	.621	.636	.649	.670	.692	.697	.680	.671	.651	.650	.649	.646	.620	.632	.664	.678	.695	.700	.714	.722	.660
„ 5,...	.726	.708	.697	.688	.677	.683	.688	.713	.725	.735	.733	.708	.691	.679	.666	.660	.660	.657	.678	.700	.719	.720	.700	.693	.696
„ 6,...	.669	.651	.643	.639	.635	.647	.656	.648	.651	.639	.622	.609	.584	.563	.540	.522	.528	.546	.552	.574	.582	.584	.566	.543	.600
„ 7,...	.531	.514	.495	.485	.498	.517	.529	.543	.552	.545	.532	.517	.493	.458	.452	.435	.429	.449	.483	.482	.480	.464	.448	.441	.491
„ 8,...	.413	.405	.388	.352	.332	.348	.341	.350	.357	.338	.313	.282	.232	.190	.172	.146	.132	.144	.141	.137	.120	.102	.047	.026	.242
„ 9,...	.007	28.989	28.976	28.993	.035	.112	.156	.198	.254	.295	.330	.340	.368	.375	.363	.366	.391	.406	.430	.452	.490	.524	.528	.527	.288
„ 10,...	.533	29.523	29.521	29.525	.538	.563	.579	.604	.609	.616	.615	.601	.584	.579	.564	.575	.592	.607	.620	.640	.655	.667	.665	.653	.593
„ 11,...	.641	.618	.611	.615	.617	.623	.617	.621	.603	.591	.594	.562	.534	.496	.467	.458	.460	.457	.466	.484	.495	.498	.494	.486	.546
„ 12,...	.468	.454	.450	.453	.464	.482	.505	.540	.561	.563	.572	.580	.578	.578	.583	.590	.595	.609	.641	.668	.690	.695	.696	.692	.571
„ 13,...	.694	.694	.688	.689	.696	.714	.739	.749	.764	.775	.765	.748	.740	.715	.710	.719	.734	.747	.757	.780	.804	.820	.815	.803	.744
„ 14,...	.793	.788	.775	.774	.784	.791	.806	.826	.836	.845	.829	.809	.792	.780	.768	.766	.771	.776	.794	.806	.827	.835	.835	.817	.801
„ 15,...	.816	.802	.785	.786	.786	.794	.815	.837	.842	.845	.854	.830	.805	.802	.775	.780	.786	.780	.800	.817	.823	.815	.798	.803	.807
„ 16,...	.812	.799	.789	.790	.790	.801	.824	.837	.848	.842	.839	.800	.785	.771	.754	.757	.768	.783	.797	.822	.846	.850	.844	.835	.808
„ 17,...	.825	.810	.790	.785	.787	.810	.824	.837	.846	.854	837	.821	.796	.774	.758	.760	.767	.770	.788	.807	.828	.831	.819	.810	.806
„ 18,...	.788	.771	.762	.760	.776	.785	.795	.814	.823	.818	.812	.789	.770	.758	.746	.736	.741	.749	.758	.781	.783	.785	.771	.765	.776
„ 19,...	.750	.735	.725	.728	.742	.749	.763	.773	.775	.766	.745	.722	.696	.665	.650	.646	.656	.670	.686	.708	.720	.715	.708	.702	.716
„ 20,...	.681	.667	.640	.652	.661	.670	.685	.697	.703	.708	.697	.685	.667	.654	.643	.646	.652	.657	.666	.680	.692	.700	.706	.703	.676
„ 21,...	.688	.676	.668	.675	.693	.700	.721	.747	.753	.761	.757	.746	.725	.717	.710	.707	.710	.723	.739	.760	.775	.776	.781	.785	.729
„ 22,...	.774	.773	.760	.762	.769	.790	.819	.834	.839	.836	.824	.802	.775	.762	.752	.758	.761	.765	.771	.792	.808	.808	.803	.791	.789
„ 23,...	.781	.765	.748	.753	.763	.764	.786	.807	.811	.813	.798	.783	.758	.739	.741	.736	.724	.729	.738	.760	.771	.765	.765	.760	.765
„ 24,...	.749	.731	.713	.709	.705	.713	.720	.750	.755	.773	.764	.743	.721	.706	.693	.682	.703	.725	.721	.753	.772	.767	.754	.740	.732
„ 25,...	.727	.695	686	.693	.715	.749	.780	.803	.815	.819	.811	.795	.779	.750	.728	.721	.725	.723	.736	.756	.782	.786	.790	.783	.756
„ 26,...	.760	.740	.726	.717	.726	.736	.752	.771	.770	.767	.753	.738	.716	.691	.675	.662	.661	.664	.676	.701	.719	.715	.702	.694	.718
„ 27,...	.668	.660	.644	.643	.647	.658	.668	.681	.687	.679	.666	.652	.627	.595	.564	.547	.549	.563	.579	.589	.592	.593	.578	.567	.621
„ 28,...	.558	.543	.525	.505	.512	.521	.528	.529	.571	.580	.548	.511	.481	.462	.460	.453	.477	.494	.518	.540	.551	.558	.538	.538	.521
„ 29,...	.537	.536	.534	.554	.563	.578	.611	.644	.665	.680	.692	.674	.672	.655	.664	.676	.688	.696	.726	.743	.751	.740	.754	.767	.658
„ 30,...	.762	.753	.749	.744	.749	.764	.786	.808	.806	.802	.788	.771	.749	.731	.719	.705	.695	.703	.703	.707	.710	.704	.689	.671	.740
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means,.....	**29.649**	**29.636**	**29.624**	**29.623**	**29.630**	**29.645**	**29.661**	**29.679**	**29.688**	**29.691**	**29.682**	**29.665**	**29.645**	**29.628**	**29.616**	**29.612**	**29.616**	**29.625**	**29.640**	**29.658**	**29.672**	**29.674**	**29.667**	**29.660**	**29.649**

TABLE II.

TEMPERATURE FOR THE MONTH OF SEPTEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
Sept. 1,.....	80.0	80.1	79.1	79.0	78.8	79.2	80.3	82.1	83.0	84.3	85.7	84.9	87.7	88.5	87.1	86.7	87.8	85.4	84.8	83.5	83.3	83.0	83.4	83.2	83.4	89.1	78.8
„ 2,.....	83.2	82.8	82.1	82.1	81.7	81.3	83.6	85.2	85.4	87.2	88.2	87.2	87.2	85.7	87.9	86.9	86.2	85.2	84.3	84.2	84.3	83.8	82.8	83.1	84.6	88.9	81.1
„ 3,.....	81.8	81.5	80.8	83.4	82.3	83.2	83.2	84.1	86.1	88.7	89.6	90.3	90.8	89.2	88.7	87.3	86.4	86.2	84.2	83.5	82.8	82.8	82.0	82.1	85.0	92.3	80.4
„ 4,.....	82.0	81.3	81.5	80.5	81.4	81.7	84 3	84.4	84.7	81.8	82.8	82.6	82.9	79.2	80.5	81.2	82.4	81.8	81.8	82.2	82.4	80.6	81.3	76.8	81.8	86.0	76.8
„ 5,.....	74.5	74.1	75.1	76.4	77.0	77.8	79.3	80.1	80.8	82.0	82.8	84.0	83.8	83.5	83.1	81.1	80.8	80.6	80.5	80.3	79.9	79.0	78.9	79.2	79.8	85.6	74.1
„ 6,.....	78.8	77.8	77.5	78.0	76.8	77.9	79.8	81.1	82.2	85.1	85.1	87.0	86.7	87.3	87.2	87.3	86.6	80.8	79.0	79.8	80.8	81.2	79.8	80.2	81.8	88.1	76.6
„ 7,.....	79.2	79.4	79.1	79.1	79.4	80.6	82.2	82.7	84.3	85.7	87.0	86.8	83.8	87.8	82.2	83.4	84.8	80.7	79.8	80.1	79.8	80.0	79.8	80.6	82.0	88.2	78.0
„ 8,.....	82.0	78.8	77.4	78.3	78.9	80.9	81.5	81.5	80.1	80.3	79.8	82.5	84.4	84.6	79.9	81.6	80.5	77.8	78.0	76.9	77.6	75.2	75.2	73.8	79.5	85.2	73.8
„ 9,.....	73.4	71.9	71.2	70.4	69.8	70.6	71.4	72.5	74.1	75.6	75.7	77.1	76.2	73.8	76.2	77.4	77.7	76.1	76.4	76.5	75.9	75.2	73.1	73.4	74.2	77.7	69.8
„ 10,.....	72.8	72.5	72.5	72.1	71.1	72.7	72.4	75.2	76.0	77.0	77.9	80.8	81.8	80.3	79.0	78.0	77.8	77.8	76.8	76.5	75.9	76.1	75.8	75.5	76.0	83.8	71.1
„ 11,.....	75.1	74.4	74.3	74.8	74.7	77.2	80.1	81.8	82.2	83.2	85.2	85.4	87.9	85.3	85.2	83.8	83.4	82.7	82.4	82.9	82.3	81.9	81.0	79.7	81.1	88.4	74.3
„ 12,.....	78.1	77.3	74.4	73.5	73.5	73.4	73.5	74.0	73.0	73.9	74.3	73.9	74.6	75.8	75.9	75.8	75.9	75 6	75.8	75.6	76.3	76.8	77.5	79.1	75.3	80.2	73.0
„ 13,.....	79.1	79.0	78.6	78.7	79.0	78.3	77.4	78.8	79.5	79.6	80.4	81.7	80.3	80.6	79.4	79.2	78.9	78.2	78.2	78.6	78.9	79.2	79.3	79.2	79.2	82.6	77.4
„ 14,.....	79.1	79.0	78.8	78.8	78.5	77.8	78.8	80.7	80.5	81.0	80.8	81.8	81.8	81.1	81.1	80.0	77.6	77.5	76.9	77.3	77.7	77.0	76.1	77.1	79.0	83.2	76.1
„ 15,.....	77.2	76.8	77.0	77.2	76.6	76.7	76.3	76.5	77.2	76.6	75.2	73.8	74.1	74.7	74.5	74.6	74.9	74.8	74.8	75.2	75.1	75.5	75.2	75.8	75.7	78.6	73.6
„ 16,.....	75.9	73.9	75.5	75.4	75.1	74.8	77.2	78.7	78.9	80.2	80.6	81.1	81.8	81.1	80.2	79.9	79.5	79.2	78.8	78.8	78.6	78.6	78.5	77.4	78.3	82.3	73.9
„ 17,.....	77.4	77.1	77.1	76.7	77.1	77.5	78.8	81.3	81.2	83.1	83.0	84.4	83.0	82.4	81.6	80.8	80.5	79.7	78.7	78.6	77.9	77.3	76 9	77.2	79.6	84.4	76.6
„ 18,.....	76.8	76.6	75.9	76.4	76.4	77.2	77.8	78.2	76.2	77.1	81.2	82.2	82.4	81.5	80.9	81.9	80.7	79.8	79.5	78.8	77.8	77.8	77.7	77.5	78.7	84.3	75.6
„ 19,.....	75.9	77.7	77.8	78.0	75.6	77.2	78.9	79.1	80.7	83.2	82.3	85.0	85.7	86.2	85.3	85.0	84.8	80.8	79.9	79.8	78.5	78.7	78.8	76.7	80.5	86.9	75.3
„ 20,.....	77.0	75.6	75.8	76.7	75.4	76.8	77.9	79.1	80.2	82.2	83.1	84.2	85.1	85.4	86.7	84.2	84.2	81.7	80.6	79.8	78.0	78.9	78.0	78.2	80.2	87.4	75.3
„ 21,.....	77.2	77.1	77.1	76.4	76.5	76.8	78.4	79.9	82.2	84.4	85.4	84.7	84.8	85.2	84.1	84.2	82.1	80.6	79.9	79.8	78.8	78.7	79.0	79.1	80.5	87.5	76.2
„ 22,.....	78.8	78.1	78.4	76.8	77.1	76.8	78.5	80.2	82.3	84.2	84.2	84.5	84.6	83.8	83.4	83.3	82.1	80.8	80.4	80 7	80.9	81.0	80.8	80.2	80.9	85.3	76.7
„ 23,.....	79.4	79.5	80.1	80.1	77.0	79.5	77.5	79.5	81.7	77.8	82.8	81.9	82.8	76.9	78.4	79.0	79.3	79.5	78.9	79.5	79.8	79.9	79.9	79.5	79.6	84.2	75.6
„ 24,.....	79.7	79.6	79.5	79.6	79.5	79.8	80.5	81.8	81.6	81.9	80.8	82.0	83.8	81.6	82.9	79.1	74 9	75.8	74.8	74.6	75.5	76.3	77.9	79.3	79.3	84.8	74.4
„ 25,.....	79.5	78.8	77.5	79.0	79.6	77.8	74.9	74.0	74.3	75.0	75.0	76.4	76.0	77.1	78.8	79.4	78.4	77.9	77.5	77.2	77.8	77.8	77.4	77.1	77.3	79.8	73.5
„ 26,.....	77.4	77.5	77.4	77.3	77.2	76.7	78.8	80.7	82.8	82.6	83.5	82.7	83.6	84.2	84.2	84.9	82.9	79.9	79.5	78.9	78.3	77.9	77.4	77.1	80.1	86.2	76.5
„ 27,.....	76.5	76.6	76.6	76.1	76.8	76.2	78.2	79.2	80.7	82.2	82.8	83.2	84.3	84.2	83.8	82.6	82.2	82.1	81.6	80.8	81.2	80.9	81.0	81.2	80.5	85.9	75.7
„ 28,.....	80.6	80.8	81.5	80.5	80.1	80.5	81.0	79.9	78.3	78.0	80.8	82.7	83.8	84.2	80.2	81.6	77.5	80.3	79.8	80.0	80.5	80.8	81.9	82.2	80.7	84.2	77.5
„ 29,.....	82.0	82.2	82.2	82.0	81.4	81.3	81.4	81.4	80.5	77.2	79.4	81.1	79.9	81.2	81.3	81.1	81.2	79.0	79.4	78.2	80.9	81.0	81.0	80.9	80.7	82.2	77.2
„ 30,.....	80.9	80.9	80.7	80.2	80.9	80.5	81.2	82.1	83.1	85.2	85.2	83.4	85.0	84.3	83.4	83.9	83.3	81.4	81.5	81.0	81.6	81.8	82.8	82.8	82.4	87.1	80.2
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means, ...	78.4	78.0	77.7	77.8	77.5	78.0	78.8	79.9	80.5	81.2	82.0	82.6	83.0	82.6	82.1	81.8	81.2	80.0	79.5	79.3	79.3	79.2	79.0	78.8	79.9	85.0	75.8

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF SEPTEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
Sept. 1,..	77.9	78.2	77.9	77.6	77.7	77.3	78.4	78.2	78.5	80.1	80.9	79.8	81.2	82.5	81.4	81.0	79.8	79.3	79.5	79.8	79.8	79.1	78.7	79.0	79.3	144.6
„ 2,...	79.3	78.9	78.8	77.6	77.7	77.2	77.6	78.8	78.4	78.3	79.2	80.4	80.8	79.0	80.5	80.3	79.8	78.3	78.7	79.3	78.7	77.6	76.4	75.7	78.6	147.4
„ 3,...	75.3	76.1	75.5	73.2	73.0	73.5	74.5	75.7	76.2	76.7	76.4	78.4	79.0	77.7	78.7	79.3	79.2	78.2	77.5	77.8	77.7	77.4	77.6	77.7	76.8	142.7
„ 4,...	77.7	77.8	77.3	77.7	77.9	77.5	78.7	78.1	77.3	76.2	77.0	78.4	79.0	77.4	76.8	77.6	78.5	78.5	78.4	78.7	78.6	77.0	78.6	76.6	77.8	136.9
„ 5,...	73.9	73.8	74.3	74.1	74.1	75.5	76.1	76.8	76.8	77.4	77.6	77.5	76.9	78.0	77.8	76.8	76.5	76.5	76.3	76.8	76.5	76.1	76.9	76.9	76.2	146.6
„ 6,...	76.3	75.1	75.7	74.8	75.4	75.2	76.3	76.6	77.1	78.5	79.0	81.2	81.2	81.2	81.2	80.2	79.6	76.8	75.2	75.8	75.8	76.8	76.8	77.5	77.5	148.4
„ 7,...	77.3	76.8	77.1	76.8	76.8	76.9	77.7	78.2	78.4	79.0	79.9	80.4	78.5	79.9	77.8	79.2	78.8	77.8	77.2	75.8	76.7	76.6	76.9	77.2	77.8	150.5
„ 8,...	76.7	77.1	76.6	75.8	75.8	75.0	75.1	75.7	75.3	76.0	76.2	76.0	76.5	76.7	76.1	75.6	*75.4	75.2	74.2	72.9	72.2	71.9	71.3	70.7	75.0	121.9
„ 9,...	69.9	69.3	69.3	68.4	68.6	68.5	68.3	68.0	68.4	68.6	69.2	70.0	68.5	69.2	71.3	70.0	70.1	70.1	70.1	68.6	68.3	67.9	68.1	67.8	69.0	142.5
„ 10,...	67.4	66.3	66.4	66.2	66.6	66.5	67.2	68.1	69.2	69.4	70.9	71.4	73.7	71.8	71.8	71.8	71.8	71.5	71.5	72.0	71.8	72.5	71.8	73.0	70.0	†144 2
„ 11,...	73.5	71.7	71.4	72.1	70.2	69.5	71.2	72.8	73.6	73.8	75.7	76.2	76.3	76.2	76.0	76.6	76.0	75.3	75.2	75.3	74.9	74.9	74.7	75.0	74.1	147.7
„ 12,...	73.9	73.1	72.8	72.1	72.4	72.1	72.2	72.2	71.9	72.9	72.8	72.0	72.9	73.6	73.6	73.0	72.9	72.9	72.8	73.9	74.5	74.8	75.8	75.7	73.2	102.9
„ 13,...	75.3	75.9	75.8	76.1	77.1	73.1	73.5	73.9	75.9	72.5	74.0	75.5	74.8	76.5	75.2	74.8	75.0	74.9	75.2	75.8	76.5	76.5	76.5	76.4	75.3	143.7
„ 14,...	76.6	76.2	76.2	76.5	76.1	74.7	76.8	77.8	76.6	77.7	77.0	78.0	77.8	77.6	76.9	76.4	75.7	74.6	74.8	75.5	75.6	75.5	74.6	75.4	76.3	147.1
„ 15,...	75.1	74.9	75.2	75.6	75.5	74.4	74.8	75.0	75.9	74.7	74.2	72.6	73.6	73.5	73.0	73.6	73.5	74.0	73.1	73.3	73.2	73.4	73.8	73.2	74.1	100.1
„ 16,...	73.5	72.6	73.4	73.5	73.4	73.2	74.3	74.9	75.0	75.9	76.9	76.4	75.8	76.6	75.8	75.6	75.6	75.7	75.2	75.0	75.1	75.7	75.6	75.1	75.0	145.6
„ 17,...	75.2	75.1	75.0	75.0	74.9	75.2	76.6	76.9	76.2	77.0	76.2	77.0	77.3	77.2	76.6	74.8	76.0	75.6	75.3	75.8	75.5	75.7	75.5	75.5	75.9	143.4
„ 18,...	75.1	74.0	73.7	74.1	73.5	73.9	74.8	75.1	74.5	74.6	76.2	77.1	76.4	77.4	75.1	77.0	76.4	75.7	75.5	75.1	74.8	75.8	75.5	75.5	75.3	146.4
„ 19,...	74.4	72.9	73.1	72.5	72.0	71.8	72.3	72.0	72.4	74.7	74.2	76.2	77.2	77.3	76.5	76.2	76.2	74.6	73.8	73.5	73.1	72.0	71.2	71.0	73.8	144.0
„ 20,...	70.8	70.4	70.3	70.2	69.6	69.4	71.0	71.8	72.3	74 2	75.2	76.2	76.3	77.2	78.0	76.2	77.1	75.5	74.9	75.7	74.9	75.0	74.9	73.7	73.8	144.3
„ 21,...	74.3	73.6	71.8	72.4	72.8	73.2	74.5	74.3	76.0	76.4	78.2	76.1	75.7	76.4	76.2	76.2	76.3	76.1	75.8	76.0	76.5	76.6	76.5	75.0	75.3	141.4
„ 22,...	74.3	74.5	74.3	73.7	73.8	74.1	75.4	76.0	75.7	76.9	77.3	77.4	76.4	75.4	76.5	77.0	75.8	74.8	75.1	76.2	76.5	76.6	76.5	76.1	75.7	140.1
„ 23,...	75.7	76.4	75.7	75.7	74.8	76.0	76.1	76.6	76.8	75.0	77.9	76.5	77.5	75.7	75.7	74.9	75.8	75.9	75.9	75.8	76.5	76.5	76.5	76.5	76.1	147.7
„ 24,...	76.6	76.5	76.2	76.1	76.0	76.1	76.8	77.0	77.6	77.0	77.8	77.8	77.9	76.9	78.0	77.0	73.0	74.8	73.8	73.8	74.3	75.0	76.0	77.0	76.2	148.6
„ 25,...	75.7	76.6	75.3	76.2	76.5	74.1	73.8	72.6	73.1	73.1	73.5	74.6	74.5	74.8	75.7	76.1	74.9	74.8	74.9	74.8	75.9	74.8	74.8	75.0	74.8	113.7
„ 26,...	75.0	75.2	75 6	74.9	75.6	75.4	76.8	77.4	78.2	77.7	78.1	77.5	78.3	77.8	78.6	77.5	77.2	75.9	75.8	75.9	75.6	75.7	74.9	74.7	76.5	142.8
„ 27,...	74.3	75.0	74.8	74.5	74.9	74.3	75.3	75.7	76 6	77.4	78.1	78.7	79.2	79.0	79.1	78.6	78.3	78.2	78.8	78.8	79.4	78.5	77.5	77.0	77.2	150.0
„ 28,...	76.1	75.7	74.7	74.1	73.5	73.3	74.1	72.9	73.7	74.2	74.7	76.8	77.2	77.5	76.8	75.4	75.4	75.2	74.4	74.6	75.3	76.2	76.9	76.7	75.2	137.9
„ 29,...	76.8	77.2	77.2	77.2	76.5	76.2	76.5	76.5	76.5	76.7	76.0	77.9	76.2	77.3	77.3	77.4	77.2	76.3	75.4	75.3	76.2	76.2	76.3	75.4	76.6	115.6
„ 30,...	75.7	75.3	76.2	76.0	75.9	76.2	77.0	76.8	76.5	77.8	77.3	77.4	78.5	78.1	78.8	78.2	77.9	77.6	77.4	77.0	76.8	76.7	73.8	73.3	76.8	148.0
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means, ...	75.0	74.7	74.6	74.4	74.3	74.0	74.8	75.1	75.4	75.7	76.3	76.7	76.8	76.8	76.8	76.5	76.2	75.7	75.4	75.5	75.6	75.5	75.4	75.2	75.5	139.2

* Interpolated.

† Approximate.

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF SEPTEMBER, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	84	0.825	Sept. 1,.....	83	0.947
2 „	85	.819	„ 2,.....	76	.898
3 „	86	.819	„ 3,.....	67	.812
4 „	84	.809	„ 4,.....	83	.900
5 „	85	.809	„ 5,.....	85	.857
6 „	82	.789	„ 6,.....	82	.886
7 „	82	.812	„ 7,.....	82	.897
8 „	79	.809	„ 8,.....	80	.809
9 „	78	.814	„ 9,.....	75	.640
10 „	77	.818	„ 10,.....	73	.654
11 „	76	.833	„ 11,.....	71	.750
Noon.	75	.842	„ 12,.....	90	.790
1 p.	74	.841	„ 13,.....	82	.824
2 „	76	.847	„ 14,.....	88	.871
3 „	78	.853	„ 15,.....	93	.823
4 „	78	.845	„ 16,.....	85	.825
5 „	78	.839	„ 17,.....	85	.847
6 „	81	.834	„ 18,.....	85	.832
7 „	82	.828	„ 19,.....	72	.746
8 „	83	.835	„ 20,.....	72	.749
9 „	84	.839	„ 21,.....	77	.808
10 „	83	.836	„ 22,.....	77	.820
11 „	84	.835	„ 23,.....	85	.855
Midt.	84	.829	„ 24,.....	87	.863
			„ 25,.....	89	.829
			„ 26,.....	85	.866
			„ 27,.....	86	.891
			„ 28,.....	76	.801
			„ 29,.....	83	.862
			„ 30,.....	77	.848
			.....	...	...
Means,.....	81	0.827	Means.	81	0.827

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
September 1,.....	...	0.8	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	0.1	10.8
„ 2,.....	...	0.9	1.0	1.0	1.0	1.0	1.0	0.8	0.4	1.0	1.0	0.9	0.1	10.1
„ 3,.....	...	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.2	9.9
„ 4,.....	...	0.9	0.7	...	...	...	0.1	0.1	...	...	...	0.5	...	2.3
„ 5,.....	...	...	0.2	0.1	0.1	0.5	1.0	0.8	1.0	0.3	...	...	...	4.0
„ 6, ...	...	0.8	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	0.9	0.6	...	10.2
„ 7,.....	...	0.3	0.2	0.7	0.6	1.0	1.0	0.4	0.7	...	0.1	0.6	...	5.6
„ 8,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 10,.....	...	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	...	...	...	7.3
„ 11,.....	...	0.9	1.0	1.0	1.0	1.0	0.9	0.8	...	...	...	...	...	6.6
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	0.1	...	0.1	0.9	0.2	0.5	0.3	...	2.1
„ 14,.....	...	...	0.4	0.6	...	...	0.6	0.3	0.5	...	...	...	...	2.4
„ 15,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 16,.....	...	0.1	...	...	0.7	0.6	0.1	0.1	...	0.2	...	...	...	1.8
„ 17,.....	...	0.1	0.7	0.5	1.0	1.0	1.0	1.0	0.6	0.1	...	0.1	...	6.1
„ 18,.....	...	0.1	0.3	...	...	0.9	0.9	0.9	0.5	0.9	1.0	0.5	...	6.0
„ 19,.....	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.1	10.9
„ 20,.....	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	0.7	...	10.4
„ 21,.....	...	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.6	...	10.2
„ 22,.....	...	1.0	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	10.9
„ 23,.....	...	0.1	0.5	0.9	0.6	0.7	0.9	0.8	...	...	...	...	...	4.5
„ 24,.....	...	0.1	0.8	0.7	0.4	0.8	0.9	1.0	0.3	0.6	...	...	...	5.6
„ 25,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 26,.....	...	0.9	1.0	1.0	1.0	1.0	0.5	1.0	1.0	1.0	1.0	1.0	...	10.4
„ 27,.....	...	0.7	0.6	...	0.4	0.1	0.6	1.0	0.9	0.8	0.2	0.3	...	5.6
„ 28,.....	...	0.1	...	...	...	0.3	0.2	0.3	...	...	...	...	...	0.9
„ 29,.....	...	...	...	...	...	...	...	...	...	0.1	...	...	...	0.1
„ 30,.....	...	...	0.2	0.4	0.8	1.0	0.8	1.0	1.0	1.0	1.0	0.8	...	8.0
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums,.....	...	10.8	15.2	14.8	15.6	18.0	18.4	18.4	15.7	13.2	11.3	10.7	0.6	162.7

TABLE VI.

RAINFALL FOR THE MONTH OF SEPTEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
Sept. 1,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 2,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 3,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 4,.....	...	...	...	0.005	...	...	...	...	...	...	...	...	0.060	0.005	...	...	...	...	...	...	0.015	0.340	0.210	0.770	1.405	2
„ 5,.....	1.000	0.040	0.135	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.185	5
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.110	...	...	...	...	...	...	0.110	1
„ 7,.....	...	...	...	...	...	...	...	...	...	...	...	0.005	...	...	0.025	...	...	0.025	0.080	0.005	...	...	...	...	0.140	1
„ 8,.....	0.030	0.390	0.110	0.035	...	...	...	...	...	0.005	0.025	...	...	...	0.120	0.045	0.050	0.160	...	0.005	...	0.045	0.110	0.040	1.170	11
„ 9,.....	0.025	0.045	0.095	0.085	0.140	0.065	0.030	0.020	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.505	9
„ 10,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	0.015	0.185	0.140	0.185	0.125	0.100	0.180	0.290	0.120	0.045	0.050	0.010	...	...	...	...	...	...	0.005	...	...	...	...	1.450	13
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14,.....	...	...	...	...	...	0.005	0.015	0.010	...	...	...	...	0.010	0.005	...	0.035	0.030	0.010	...	...	...	...	0.010	...	0.130	3
„ 15,.....	...	...	...	...	0.010	...	0.365	0.400	0.045	0.400	0.920	0.180	0.025	0.035	0.190	0.035	...	...	...	...	...	...	...	...	2.605	12
„ 16,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 17,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 18,.....	...	...	...	...	...	...	0.020	...	0.090	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.110	1
„ 19,.....	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 20,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22,.....	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	0.005	0.010	...	0.165	0.005	...	0.195	...	...	0.045	...	...	0.020	0.065	0.005	...	...	...	...	...	...	...	...	...	0.515	4
„ 24,.....	...	...	...	...	...	...	...	...	...	...	0.040	...	...	...	...	0.610	0.375	0.235	0.200	0.315	0.005	...	...	0.020	1.800	6
„ 25,.....	...	0.040	0.030	0.005	0.055	0.045	0.825	0.480	0.720	0.145	0.050	0.065	0.010	...	...	...	...	...	...	...	...	...	...	...	2.470	9
„ 26,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 28,.....	...	...	...	...	...	...	...	...	0.050	0.010	0.015	0.035	...	...	0.140	...	0.035	...	...	...	...	...	0.020	...	0.305	4
„ 29,.....	...	...	...	...	...	...	...	0.105	0.050	0.320	0.165	0.165	0.090	0.080	...	...	0.005	0.070	0.085	...	...	...	...	...	1.135	5
„ 30,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	1.060	0.540	0.555	0.445	0.395	0.240	1.550	1.195	1.245	1.045	1.260	0.500	0.225	0.190	0.480	0.725	0.495	0.610	0.365	0.330	0.020	0.385	0.350	0.830	15.035	86

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF SEPTEMBER, 1893.

Date.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		Vel.		Dir.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
Sept. 1,	...	1	...	1	...	0	29	2	...	0	29	2	...	0	24	5	24	7	23	12	22	12	23	13	24	14	23	14	22	14	24	14	22	13	23	11	23	6	26	5	24	6	23	6	23	7	23	11	176	7.3	23
" 2,	26	13	25	14	25	11	28	15	27	10	25	10	26	8	25	8	24	9	27	9	27	11	23	14	24	15	22	15	23	14	23	11	23	12	23	10	27	6	23	5	23	8	28	7	28	4	23	10	249	10.4	25
" 3,	22	8	25	6	22	4	4	11	2	6	11	6	11	6	29	6	32	14	2	12	32	5	15	4	20	6	24	7	23	4	23	6	26	5	...	1	...	0	...	1	19	2	...	1	10	7	9	7	135	5.6	30
" 4,	9	3	8	6	5	6	6	7	5	9	5	10	5	9	5	15	7	22	7	20	5	16	6	15	7	17	5	26	7	15	8	14	7	21	6	22	6	24	6	23	6	28	10	28	7	28	10	21	405	16.9	7
" 5,	12	7	32	2	6	6	10	5	10	12	9	11	8	16	6	16	6	21	6	15	7	14	8	13	7	17	8	16	9	15	7	13	8	11	7	10	6	8	7	7	5	3	...	1	...	1	...	0	240	10.0	7
" 6,	...	1	7	3	...	1	...	1	..	1	14	2	...	1	19	5	24	8	24	9	24	13	24	14	23	13	23	12	22	13	22	10	23	11	3	12	12	3	9	6	8	8	6	5	...	1	1	3	156	6.5	23
" 7,	13	2	13	3	...	0	...	1	13	3	10	6	7	8	5	6	5	3	7	8	7	11	10	12	10	15	9	11	7	11	31	4	30	7	7	17	7	9	5	9	15	3	..	0	...	0	...	1	150	6.2	8
" 8,	...	1	8	12	10	5	32	20	31	12	1	20	32	22	32	26	1	24	32	27	32	25	32	28	32	29	32	28	31	29	32	39	31	37	31	33	30	30	30	36	30	41	30	43	29	43	29	49	659	27.5	31
" 9,	29	53	28	50	28	59	27	55	27	48	27	44	27	37	27	45	26	33	25	36	27	26	28	24	26	21	23	21	22	13	27	12	27	14	29	16	28	14	26	11	29	10	28	8	28	5	28	8	663	27.6	27
" 10,	29	10	28	10	...	1	...	0	32	2	...	0	32	3	32	2	25	6	22	3	11	6	11	6	11	4	14	3	9	8	11	9	11	5	7	6	7	2	...	1	...	0	7	2	...	1	...	0	90	3.8	8
" 11,	...	0	7	2	30	4	30	2	30	4	30	4	2	2	5	5	25	4	32	11	31	10	24	8	30	10	26	14	27	14	27	21	27	16	24	11	24	13	26	12	27	16	27	14	26	13	29	14	224	9.3	27
" 12,	25	15	26	19	26	18	27	17	24	24	25	21	22	22	23	14	21	15	22	15	24	18	25	18	26	14	24	8	25	5	...	1	...	1	26	3	11	6	7	5	7	3	7	4	5	5	12	10	281	11.7	24
" 13,	11	9	12	8	12	8	10	8	9	13	9	13	6	7	7	9	8	8	12	12	8	9	8	13	8	18	7	18	9	15	8	18	8	16	9	16	8	15	8	13	8	15	8	16	8	16	9	16	309	12.9	9
" 14,	9	15	10	12	8	15	9	13	10	11	6	8	9	10	10	12	9	15	8	16	7	16	7	17	8	19	8	21	8	21	8	18	6	10	7	14	8	9	8	11	8	10	6	7	6	7	8	10	317	13.2	8
" 15,	6	7	7	12	7	9	9	3	9	2	9	6	13	8	19	5	17	2	29	3	4	4	19	7	27	3	27	3	7	9	7	10	7	11	7	13	8	8	6	6	5	8	7	6	10	4	7	12	161	6.7	7
" 16,	10	8	32	4	1	2	11	2	8	2	5	3	8	8	8	9	8	8	8	9	9	16	9	14	9	15	8	16	8	17	9	15	10	11	8	10	9	9	7	6	7	7	7	5	7	3	7	4	203	8.5	8
" 17,	7	4	7	4	...	0	...	1	...	0	...	0	...	1	8	7	8	9	10	13	10	12	10	11	9	15	10	17	9	15	9	12	9	8	8	6	9	4	...	1	...	0	...	1	...	0	...	0	144	6.0	9
" 18,	...	0	...	0	...	1	...	0	...	0	...	1	10	3	5	2	12	8	32	3	21	3	24	6	24	10	24	13	25	9	23	8	24	8	23	6	24	6	25	3	25	2	17	2	...	0	...	1	95	4.0	23
" 19,	3	4	1	5	1	3	31	5	31	4	3	5	3	3	1	6	32	5	17	4	24	7	24	6	25	15	28	17	28	19	27	19	28	11	30	8	31	7	31	9	32	5	...	1	30	3	28	6	177	7.4	29
" 20,	28	6	26	7	28	10	26	6	28	4	27	3	30	2	29	4	23	8	23	4	24	7	23	7	22	10	22	10	22	7	10	5	17	5	16	4	16	2	...	0	18	2	20	2	...	1	...	0	116	4.8	24
" 21,	18	3	...	0	...	1	...	1	...	0	18	2	18	2	...	1	22	2	9	5	11	4	8	9	8	8	9	8	8	12	9	11	8	11	9	8	10	5	10	2	10	2	11	6	7	9	7	9	121	5.0	9
" 22,	8	12	11	6	6	7	..	1	..	0	...	1	...	1	10	2	8	9	8	11	10	15	9	18	10	18	10	17	9	18	9	16	10	17	8	17	7	13	7	16	7	18	7	21	7	20	7	18	292	12.2	8
" 23,	8	19	7	18	7	18	6	19	10	7	5	19	6	14	5	14	6	17	4	14	7	21	7	19	8	27	9	23	10	21	7	17	7	16	7	18	7	18	7	20	7	21	8	25	8	27	9	24	456	19.0	7
" 24,	9	23	10	22	9	27	10	26	7	27	8	28	8	29	10	30	10	25	10	28	9	26	10	23	10	21	10	22	9	14	10	14	14	10	8	12	7	9	5	7	7	8	8	12	7	18	9	23	484	20.2	9
" 25,	10	21	10	26	10	26	11	23	11	23	12	20	16	9	18	9	25	6	16	5	4	5	7	4	7	7	5	6	5	6	12	12	11	7	10	7	11	2	2	6	9	9	8	8	8	2	8	5	257	10.7	10
" 26,	9	6	9	7	9	6	9	6	...	1	..	1	...	1	7	3	7	5	9	11	9	10	9	9	9	3	6	4	6	4	18	6	17	5	17	5	16	6	16	5	...	1	...	0	...	1	...	1	107	4.5	10
" 27,	...	1	...	0	...	0	24	3	...	0	24	3	25	5	25	5	24	2	24	3	24	7	24	9	24	9	24	12	22	11	22	10	27	9	27	6	27	8	27	6	27	7	27	3	25	4	25	3	126	5.2	25
" 28,	27	7	31	6	1	19	32	19	1	22	32	23	1	23	1	28	1	21	2	27	3	36	5	44	5	41	5	49	5	51	5	54	6	45	7	50	6	53	6	45	6	51	5	50	7	61	7	59	890	37.1	5
" 29,	7	55	7	59	7	58	9	53	7	60	7	59	8	55	9	49	10	44	11	53	10	49	11	48	10	47	10	43	10	42	10	43	11	40	8	41	9	42	8	38	7	42	7	42	7	37	1158	48.3	9
" 30,	7	31	8	27	5	23	6	21	7	27	8	23	7	15	4	7	32	7	1	9	18	6	22	6	23	12	24	12	22	12	24	11	26	10	24	8	25	7	24	7	23	7	24	10	31	14	32	24	336	14.0	3
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums,	...	345	...	351	...	348	...	349	...	334	...	354	...	334	...	361	...	372	...	398	...	424	...	443	...	477	...	490	...	432	...	452	...	406	...	400	...	343	...	326	...	339	...	336	...	347	...	386	9177	382.4	...
Means,	...	11.5	...	11.7	...	11.6	...	11.6	...	11.1	...	11.8	...	11.1	...	12.0	...	12.4	...	13.3	...	14.1	...	14.8	...	15.9	...	16.3	...	15.1	...	15.1	...	13.5	...	13.3	...	11.4	...	10.9	...	11.3	...	11.2	...	11.6	...	12.9	305.9	12.7	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
Sept. 1, ...	2	cum.	ENE	6	cum.	ENE	1	c-cum. / cum.	E / NNW	2	c-cum. / cum.	NE / N
„ 2, ...	5	c-str.	ENE	4	c-str.	ENE	5	c-str. / c-cum.	E / E	2	c-cum.	E
„ 3, ...	0	...	...	0	...	...	7	c-cum. / sm-cum.	WSW	0	...	...
„ 4, ...	0	...	...	2	cum.	ESE	5	sm-cum. / cum.	SSE / ESE	9	str-cum. / cum.	S / E
„ 5, ...	10	nim.	...	10	cum.	...	7	c-str. / sm-cum. / cum.	.. / ENE / E	9	sm-cum. / cum-nim.	E / SSE
„ 6, ...	0	...	...	1	c-cum.	E	2	c-cum. / cum.	...	2	c-str. / c-cum.	ENE
„ 7, ...	0	...	...	0	...	...	8	c-str.	E	9	c-str. / cum.	E / ENE
„ 8, ...	10	cum-nim.	...	2	cum.	...	6	c-cum. / sm-cum. / cum.	ENE	10	c-cum. / nim.	ENE
„ 9, ...	10	nim.	NW	10	nim.	NW	10	nim.	WNW	10	str-cum.	W
„ 10, ...	10	str-cum.	...	5	sm-cum.	...	7	sm-cum.	WSW	6	c-str.	WSW
„ 11, ...	0	...	...	1	sm-cum.	...	1	sm-cum.	...	2	c-cum.	ESE
„ 12, ...	10	nim.	...	10	nim.	...	10	nim.	WNW	10	nim.	W
„ 13, ...	1	cum.	...	1	cum.	...	10	sm-cum. / cum.	ESE / SSE	10	str. / cum.	SSE
„ 14, ...	7	cum.	SE	8	cum-nim.	SE	8	sm-cum. / nim.	SSE	9	sm-cum. / cum.	W / SSE
„ 15, ...	10	cum.	SSE	5	cum.	SE	10	nim.	ESE	10	nim.	SSE
„ 16, ...	5	sm-cum. / cum.	SSE	8	sm-cum. / cum.	SSE	9	sm-cum. / cum.	WSW / SSE	8	sm-cum. / cum.	W / E
„ 17, ...	4	cum.	...	7	cum.	...	6	sm-cum. / cum.	E	6	sm-cum. / cum.	NW / ESE
„ 18, ...	0	...	...	1	cum.	...	5	cum.	E	7	c-cum. / cum.	...
„ 19, ...	0	...	...	0	...	...	2	sm-cum.	N	0	...	...
„ 20, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 21, ...	0	...	...	0	...	...	1	c-cum. / cum.	...	2	c-cum. / cum.	N / E
„ 22, ...	1	c-cum. / cum.	...	0	...	...	1	cum.	E	2	cum.	E
„ 23, ...	8	c-cum. / cum.	E	6	c-str. / cum.	E	8	c-cum. / cum. / n m.	.. / E / E	8	c-str. / cum. / nim.	.. / E / E
„ 24, ...	8	cum.	E	9	cum-nim.	E	8	cum.	ESE	8	c-cum. / cum.	ESE
„ 25, ...	8	c-cum. / cum.	SSE	9	cum.	SSE	10	nim.	SSE	10	nim.	...
„ 26, ...	6	c-cum. / sm-cum.	SSW	1	sm-cum. / cum.	...	3	c-str. / c-cum. / cum.	.. / NNW / ..	2	c-cum. / cum.	NNW / SE
„ 27, ...	0	...	...	0	...	...	2	sm-cum.	...	8	c-str.	...
„ 28, ...	9	sm-cum.	NE	8	c-cum. / sm-cum.	ENE	9	sm-cum.	E	10	R-cum.	NE
„ 29, ...	9	R-cum.	ESE	10	R-cum.	ESE	10	cum-nim.	ESE	10	nim.	ESE
„ 30, ...	5	c-cum. / cum.	ESE	6	c-cum. / cum.	ESE	8	c-str. / cum.	E	8	c-str. / cum.	WSW / ENE
.....	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	4.6	...	...	4.3	...	...	6.0	...	...	6.3	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
Sept. 1,...	2	cum.	N	1	c-cum. / cum.	NE / ..	1	cum.	...	1	cum.	...	2.0
,, 2,...	5	c-cum. / cum.	E / NNW	4	c-cum. / cum.	E	1	c-str.	...	0	...	...	3.2
,, 3,...	0	...	...	1	cum.	NNW	0	...	...	0	...	...	1.0
,, 4,...	10	nim.	...	10	str-cum. / cum.	S / E	9	cum.	E	10	cum-nim.	E	6.9
,, 5,...	7	c-cum. / cum.	E / E	9	sm-cum. / str-cum.	E / E	2	sm-cum.	...	3	sm-cum.	...	7.1
,, 6,...	5	cum. / cum.	NNE / N	6	c-str. / cum.	E / N	7	c-str. / cum-nim.	...	9	cum-nim.	...	4.0
,, 7,...	8	sm-cum. / cum.	ENE	8	sm-cum. / cum.	NNE	10	nim.	ENE	2	cum.	...	5.6
,, 8,...	10	str. / cum-nim.	NE	10	str. / nim.	NNE	10	str. / cum-nim.	N	10	nim.	NNW	8.5
,, 9,...	10	str-cum.	W	10	str-cum.	W	4	str-cum.	...	6	str.	...	8.8
,, 10,...	4	c-str. / sm-cum. / cum.	.. / WSW / NNW	8	c-str. / cum-nim.	N	3	c-str. / sm-cum.	...	4	cum.	...	5.9
,, 11,...	9	sm-cum.	E	10	str.	E	9	c-str.	...	10	cum-nim.	N	5.2
,, 12,...	10	nim.	WNW	9	c-cum. / cum.	W / S	9	nim.	S	8	cum-nim.	SSE	9.5
,, 13,...	9	str. / cum.	SSE	8	c-cum.	WNW	7	c-cum. / cum.	...	9	cum.	ESE	6.9
,, 14,...	9	sm-cum. / cum.	SSE	10	str-cum.	SSE	10	cum-nim.	...	5	cum.	SSE	8.3
,, 15,...	10	nim.	S	10	nim.	...	10	tr. / cum-nim.	...	10	cum-nim.	...	9.4
,, 16,...	8	sm-cum. / cum.	NW / ..	7	sm-cum. / cum.	NNE / ..	8	str. / cum.	...	9	cum.	...	7.7
,, 17,...	5	c-cum. / cum.	ESE	8	c-cum. / sm-cum. / cum.	ESE	3	c-cum. / sm-cum.	ENE / ..	3	c-str. / sm-cum.	NNW	5.3
,, 18,...	8	c-cum. / cum.	ENE	5	c-cum. / cum.	N / ENE	4	c-str.	...	0	...	...	3.7
,, 19,...	1	cum.	NNW	1	cum.	N	4	cum.	N	0	...	...	1.0
,, 20,...	1	cum.	...	7	cum. / cum.	NNW / ENE	0	...	...	0	...	...	1.0
,, 21,...	2	cum.	E	2	cum.	E	1	cum.	...	0	...	...	1.0
,, 22,...	2	cum.	E	1	c-cum.	...	1	cum.	...	4	cum.	E	1.5
,, 23,...	9	cum.	E	9	sm-cum. / cum.	ESE	9	c-str. / sm-cum. / cum.	.. / E / ESE	8	sm-cum. / cum.	E / E	8.1
,, 24,...	9	c-cum. / cum.	SE	10	nim.	SE	10	nim.	...	10	nim.	SSE	9.0
,, 25,...	10	cum-nim.	S	9	c-cum. / cum.	S	7	c-cum. / cum.	S	7	c-str. / sm-cum.	S	8.8
,, 26,...	3	cum.	SSE	2	c-cum. / cum.	N / SSE	0	...	...	0	...	...	2.1
,, 27,...	9	c-str. / cum.	NE	7	c-str. / sm-cum. / cum.	NNE	4	c-str. / cum.	...	5	c-str. / sm-cum.	E	4.4
,, 28,...	9	sm-cum. / cum.	E / ENE	10	sm-cum. / R-cum.	E	9	cum-nim.	E	10	R-cum.	E	9.2
,, 29,...	10	nim.	ESE	10	c-cum. / cum-nim.	S / SE	10	cum-nim.	ESE	9	c-str. / cum-nim.	E	9.8
,, 30,...	3	cum.	ENE	3	c-str. / cum.	E / NNE	0	...	...	4	c-str. / sm-cum.	...	4.6
.....	...	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	6.6	...	...	6.8	...	...	5.4	...	...	5.2	...	...	5.7

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND FOR THE MONTH OF SEPTEMBER, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	3.07	7.13	1.30	2.67	+1.77	+ 4.46	E 22° N
2 „	3.07	7.27	1.20	2.90	1.87	4.37	E 23° N
3 „	4.10	6.93	0.87	2.73	3.23	4.20	E 38° N
4 „	4.23	6.20	1.50	2.77	2.73	3.43	E 39° N
5 „	3.77	6.37	1.00	2.67	2.77	3.70	E 37° N
6 „	3.93	6.83	0.97	2.60	2.96	4.23	E 35° N
7 „	3.23	6.40	1.07	2.17	2.16	4.23	E 27° N
8 „	4.47	6.20	1.20	2.77	3.27	3.43	E 44° N
9 „	3.63	6.67	1.40	3.17	2.23	3.50	E 33° N
10 „	4.10	6.93	2.10	3.03	2.00	3.90	E 27° N
11 „	3.93	8.03	2.27	3.37	1.66	4.66	E 20° N
Noon.	2.90	8.77	2.33	4.03	0.57	4.74	E 7° N
1 p.	2.93	9.20	2.33	4.67	0.60	4.53	E 8° N
2 „	3.27	9.37	2.30	5.00	0.97	4.37	E 13° N
3 „	3.13	9.43	2.43	4.23	0.70	5.20	E 8° N
4 „	3.67	8.73	2.17	3.80	1.50	4.93	E 17° N
5 „	3.60	7.50	2.13	3.63	1.47	3.87	E 21° N
6 „	3.30	8.73	1.47	2.43	1.83	6.30	E 16° N
7 „	3.20	7.63	0.67	2.23	2.53	5.40	E 25° N
8 „	3.67	7.06	0.53	2.07	3.14	4.99	E 32° N
9 „	3.83	7.40	0.43	2.20	3.40	5.20	E 33° N
10 „	3.63	7.47	0.60	1.97	3.03	5.50	E 29° N
11 „	3.53	8.13	0.20	1.93	3.33	6.20	E 28° N
Midt.	4.10	8.27	1.07	2.30	+3.03	+ 5.97	E 27° N
Means,.....	3.60	7.61	1.40	2.97	+2.20	+ 4.64	E 25° N

PHENOMENA :—

Solar halo :—on the 10th, 23rd, 27th and 30th.

Lunar halo :—on the 2nd and 25th.

Lunar corona :—on the 2nd, 21st, 22nd, 23rd, 25th, 27th, 28th and 30th.

Slight fog :—on the 1st, 6th, 7th, 18th, 21st and 26th.

Haze :—on the 20th and 22nd.

Unusual visibility :—on the 8th.

Dew :—on the 1st, 3rd, 4th, 5th, 6th, 7th, 10th, 11th, 12th, 13th, 15th, 16th, 17th, 18th, 21st, 22nd, 26th and 27th.

Rainbow :—on the 7th, 18th, 23rd, 24th and 25th.

Lightning without thunder :—on the 2nd, 3rd, 4th, 7th, 18th. 28th and 29th.

Thunder without lightning :—on the 7th, 15th and 25th.

Thunderstorms :—on the 6th, 5 p.—7 p., NNE—SSW, nearest at 6.20 p. (11'). On the 8th, 1.45 a.—3 a., distant. On the 24th, 7 p.—7.15 p., N—SE, nearest at 7.2 p. (4').

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF OCTOBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
Oct. 1,...	29.660	29.658	29.642	29.651	29.655	29.660	29.659	29.652	29.650	29.642	29.630	29.600	29.565	29.540	29.513	29.489	29.478	29.474	29.465	29.478	29.470	29.444	29.437	29.433	29.564
„ 2,...	.425	.382	.354	.331	.329	.274	.286	.316	.306	.298	.292	.281	.268	.230	.240	.265	.265	.273	.327	.348	.371	.384	.395	.400	.318
„ 3,...	.408	.397	.397	.395	.413	.429	.466	.500	.516	.528	.530	.514	.487	.480	.476	.490	.500	.504	.511	.533	.554	.556	.564	.574	.488
„ 4,...	.568	.572	.560	.562	.574	.586	.614	.642	.664	.664	.660	.648	.640	.634	.634	.633	.639	.662	.682	.698	.726	.739	.750	.746	.646
„ 5,...	.726	.717	.714	.715	.728	.742	.766	.790	.810	.819	.802	.796	.774	.770	.762	.755	.778	.790	.810	.840	.852	.855	.850	.847	.784
„ 6,...	.822	.810	.788	.794	.804	.818	.847	.846	.846	.841	.830	.786	.759	.723	.703	.707	.715	.731	.733	.746	.744	.742	.735	.731	.775
„ 7,...	.719	.703	.688	.686	.687	.689	.692	.684	.693	.704	.679	.636	.596	.569	.573	.580	.572	.577	.588	.610	.618	.616	.596	.590	.639
„ 8,...	.564	.540	.510	.490	.494	.507	.535	.544	.578	.596	.610	.595	.588	.591	.601	.610	.624	.647	.671	.709	.742	.748	.760	.760	.609
„ 9,...	.760	.758	.747	.735	.751	.767	.792	.812	.826	.829	.810	.789	.774	.757	.754	.761	.760	.764	.780	.805	.820	.825	.817	.808	.783
„ 10,...	.796	.793	.784	.783	.793	.800	.808	.823	.830	.833	.818	.798	.772	.752	.735	.719	.726	.732	.746	.765	.773	.775	.779	.777	.780
„ 11,...	.768	.756	.749	.753	.779	.800	.830	.840	.854	.839	.820	.798	.770	.748	.735	.734	.736	.748	.753	.766	.773	.781	.782	.780	.779
„ 12,...	.768	.754	.742	.741	.748	.757	.768	.776	.785	.781	.758	.735	.708	.684	.679	.678	.688	.697	.707	.731	.746	.758	.760	.758	.738
„ 13,...	.742	.746	.721	.721	.724	.745	.772	.788	.813	.805	.792	.765	.740	.720	.708	.707	.711	.733	.751	.779	.799	.804	.807	.807	.758
„ 14,...	.800	.796	.794	.801	.823	.845	.863	.876	.891	.893	.885	.867	.850	.836	.826	.830	.840	.852	.866	.891	.906	.919	.919	.917	.858
„ 15,...	.910	.914	.914	.910	.919	.934	.946	.966	.983	.978	.976	.956	.934	.918	.910	.910	.909	.916	.929	.955	.972	.973	.973	.963	.940
„ 16,...	.958	.960	.963	.965	.972	.989	30.000	30.013	30.020	30.015	30.007	.978	.956	.936	.930	.928	.932	.935	.964	.980	.990	.993	.990	.981	.973
„ 17,...	.967	.955	.963	.961	.973	.993	.008	.011	.021	.022	.002	.976	.950	.924	.906	.913	.928	.938	.959	.986	.997	30.008	30.007	.996	.973
„ 18,...	.984	.965	.959	.961	.975	.987	29.999	.007	.011	29.994	29.970	.943	.912	.897	.890	.895	.910	.937	.952	.981	.997	.010	.008	30.005	.965
„ 19,...	.991	.981	.974	.970	.978	.994	30.019	.033	.050	30.037	30.030	30.007	.988	.971	.956	.961	.965	.990	30.005	30.024	30.037	.044	.039	.031	30.003
„ 20,...	30.016	30.014	30.014	30.014	30.034	30.053	.076	.092	.102	.102	.096	.069	30.047	30.034	30.022	30.026	30.036	30.048	.077	.101	.115	.115	.110	.108	.063
„ 21,...	.104	.104	.097	.089	.099	.107	.128	.146	.157	.153	.134	.101	.073	.051	.040	.044	.048	.059	.079	.100	.108	.106	.096	.098	.097
„ 22,...	.093	.084	.081	.091	.110	.124	.137	.148	.152	.148	.125	.093	.054	.029	.007	.004	.012	.015	.038	.052	.065	.067	.066	.057	.077
„ 23,...	.035	.020	.007	.007	.017	.029	.045	.056	.066	.053	.034	.009	29.975	29.945	29.932	29.935	29.943	29.953	29.966	29.980	29.982	29.982	29.973	29.976	29.997
„ 24,...	29.932	29.949	29.945	29.934	29.939	29.959	29.976	29.985	29.993	29.989	29.972	29.947	.918	.899	.893	.898	.915	.925	.945	.962	.976	.984	.981	.975	.951
„ 25,..	.959	.945	.938	.939	.948	.959	.986	.999	30.013	30.012	.989	.971	.951	.936	.924	.926	.935	.941	.959	.983	.994	.992	.992	.984	.966
„ 26,...	.977	.975	.973	.969	.977	.992	30.021	30.034	.058	.056	30.043	30.018	.988	.968	.956	.960	.964	.966	.984	30.000	30.004	30.006	30.006	.994	.995
„ 27,...	.980	.972	.963	.970	.975	.994	.013	.026	.040	.032	.014	29.996	.970	.956	.952	.955	.959	.966	.991	.010	.022	.025	.033	30.027	.993
„ 28,...	30.013	30.011	30.011	30.015	30.026	30.039	.054	.058	.063	.064	.053	30.026	30.001	.976	.974	.973	.989	.990	30.006	.031	.041	.056	.055	.041	30.024
„ 29,...	.039	.036	.036	.037	.045	.065	.077	.088	.095	.087	.074	.056	.039	30.018	30.004	30.020	30.035	30.044	.064	.080	.079	.089	.078	.067	.056
„ 30,...	.063	.043	.038	.039	.038	.058	.070	.080	.088	.092	.074	.053	.026	29.995	29.986	29.979	29.974	29.978	29.994	.006	.007	.011	.003	29.991	.029
„ 31,...	29.980	† 29.971	† 29.967	† 29.965	† 29.975	29.997	.013	.028	.042	.034	.017	29.998	29.954	.939	.928	.934	.938	.952	.973	29.988	.006	.011	.005	.992	29.984
Means,.....	29.857	29.848	29.840	29.839	29.848	29.861	29.880	29.892	29.904	29.901	29.888	29.865	29.840	29.820	29.811	29.814	29.820	29.830	29.848	29.868	29.880	29.884	29.883	29.878	29.858

TABLE II.

TEMPERATURE FOR THE MONTH OF OCTOBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
Oct. 1,.....	83.5	81.8	81.3	81.1	81.0	80.2	79.9	80.9	81.4	81.5	82.2	82.1	81.3	82.1	84.5	83.1	83.1	82.0	83.0	82.9	83.1	83.0	80.8	77.2	81.8	85.1	77.2
„ 2,.....	77.2	77.2	80.5	78.7	76.2	76.0	75.2	76.1	76.3	78.8	74.8	74.7	75.4	75.0	77.7	77.8	78.0	76.9	75.8	75.6	76.5	76.8	75.5	76.2	76.6	80.5	74.7
„ 3,.....	76.5	76.4	77.1	77.6	78.2	79.2	78.5	78.9	79.2	80.0	78.7	78.4	78.3	78.7	79.2	76.6	76.4	77.8	78.2	78.2	76.7	76.5	76.0	75.3	77.8	80.0	75.3
„ 4,.....	76.3	75.4	76.2	76.3	76.3	76.4	76.4	77.0	77.1	79.3	80.0	80.1	79.9	78.8	79.8	78.6	77.8	77.8	78.7	77.9	78.8	78.7	77.9	78.2	77.9	82.3	75.3
„ 5,.....	78.0	77.8	77.9	77.8	77.8	78.1	75.9	75.4	75.7	75.2	78.0	78.8	78.9	79.4	79.1	79.3	78.7	78.0	77.9	77.9	75.0	74.0	74.3	74.4	77.2	80.1	74.0
„ 6,.....	72.3	72.8	71.1	71.4	71.5	71.0	74.1	75.8	76.0	77.4	79.8	80.4	79.8	79.8	79.5	78.4	78.0	75.5	75.4	75.5	75.0	74.1	73.3	72.2	75.4	81.9	70.6
„ 7,.....	73.2	72.3	71.5	71.2	71.5	71.5	73.2	73.0	74.9	76.4	79.4	80.4	81.8	81.2	81.2	79.9	76.8	75.8	76.2	74.0	72.8	72.8	73.8	72.1	75.3	83.6	70.1
„ 8,.....	71.4	71.5	70.6	70.3	73.8	73.3	74.3	77.3	78.2	77.8	77.2	77.7	78.5	78.5	76.7	77.4	77.8	77.8	78.3	78.3	78.4	78.2	77.4	77.2	76.2	78.5	70.3
„ 9,.....	76.4	76.3	77.4	77.7	78.2	78.5	78.4	79.2	80.2	81.6	80.8	81.4	80.3	78.5	80.1	79.0	78.8	78.2	77.8	77.5	77.4	77.2	76.7	76.5	78.5	82.1	76.3
„ 10,.....	76.0	75.7	75.7	75.3	75.3	75.2	76.2	79.2	81.2	82.2	85.2	83.2	84.5	83.6	84.4	83.2	81.3	79.3	78.8	78.8	78.6	78.0	78.2	78.1	79.5	86.7	75.2
„ 11,.....	75.9	75.3	75.8	75.9	75.8	73.5	73.2	72.4	73.3	74.8	77.3	79.3	81.2	80.5	80.2	80.2	79.2	77.2	76.0	78.2	76.2	75.2	74.5	74.5	76.5	82.2	71.4
„ 12,.....	74.0	74.2	74.1	74.4	73.7	73.8	75.3	77.9	77.9	79.0	79.5	79.6	80.3	81.2	81.2	81.2	79.0	76 4	75.9	74.8	73.4	74.0	72.3	72.4	76.5	81.2	72.0
„ 13,.....	72.8	72.1	72.1	71.3	71.7	72.4	73.2	75.6	76.8	78.0	79.0	79.1	78.4	80.1	79.2	79.5	79.1	76.3	77.1	77.2	76.0	75.9	75.7	75.3	76.0	82.5	69.6
„ 14,.....	74.7	74.9	74.8	75.0	73.8	74.1	75.2	77.2	79.2	80.6	79.3	80.4	81.2	81.0	80.1	79.3	77.8	78.0	77.9	77.8	77.8	77.5	77.8	77.2	77.6	82.3	73.2
„ 15,.....	73.9	73.7	72.2	73.0	74.6	75.0	75.9	77.8	78.3	77.6	77.3	78.0	77.8	77.9	78.5	77.2	75.5	73.4	76.1	76.3	76.6	76.5	76.2	76.1	76.1	78.7	72.2
„ 16,.....	76.1	75.4	74.9	74.7	73.7	72.9	74.5	75.5	77.6	78.4	79.1	80.0	78.3	79.1	78.2	77.8	77.3	75.1	74.8	74.0	77.0	77.1	77.0	77.0	76.5	80.5	72.1
„ 17,.....	77.0	77.2	76.4	76.8	76.3	75.6	75.8	76.8	79.2	80.1	81.2	80.2	79.7	78.7	78.8	79.0	77.0	75.6	75.2	74.3	74.2	72.8	72 0	72.0	76.7	82.3	72.0
„ 18,.....	71.4	71.8	71.5	71.6	71.3	71.5	73.2	76.2	77.3	79.7	80.5	82.0	82.8	82.1	81.8	79.4	77.4	76.8	75.8	75.1	75.3	74.3	73.2	72.2	76.0	83.7	70.6
„ 19,.....	72.3	72.5	72.3	71.6	72.1	71.3	72.6	73.7	75.0	77.5	78.7	79.1	79.9	79.9	81.2	79.0	77.5	75.7	75 4	75.2	72.3	70.9	70.8	70.2	74.9	82.9	70.2
„ 20,.....	71.3	71.4	70.9	70.5	69.7	69.5	70.3	70.5	72.7	73.9	74.1	74.5	74.9	74.9	74.3	74.2	73.9	72 8	73.1	73.2	73.2	72.9	73.4	72.7	72.6	74.9	68.4
„ 21,.....	72.4	71.7	71.9	71.6	71.0	70.8	71.7	73.3	74.8	75.0	76.1	77.0	77.0	76.2	75.4	75.1	74.8	73.4	73.7	73.4	73.7	74.3	74 1	74 0	73.8	79.3	69.8
„ 22,.....	73.5	72.8	72.3	72.0	71.9	71.0	72.5	73.9	75.5	77.0	76.8	76.9	76.3	78.1	77.1	75.3	75.4	73.8	73.6	73 1	71.9	71.4	71.6	71.3	74.0	79.1	70.8
„ 23,.....	71.5	71.9	72.8	71.9	71.7	71.6	73.7	74.9	77.2	76.7	77.0	76.1	77.5	77.7	77.1	76.6	75.4	74.9	73.3	73.0	71..	72.2	71.8	72.6	74.2	78.0	71.3
„ 24,.....	71.8	71.3	71.1	70.4	71.0	71.0	73.7	75.0	76.9	79.8	78.0	78.1	78.2	78.0	77.7	77.0	75.3	74.7	74.4	74.6	74.5	74.5	74.0	74.5	74.8	79.8	70.4
„ 25,.....	73.4	73.1	72.5	72.9	72.3	71.7	72.2	73.1	76.6	77.6	77.1	78.1	77.9	78.1	77.0	75.9	74.7	74.9	74.8	74.8	72.3	70.9	70.9	71.7	74.1	80.6	70.8
„ 26,.....	69.0	69.2	69.7	71.2	70.3	70.3	70.5	71.0	72.5	74.4	74.0	74.0	75.6	75.8	74.2	73.2	72.6	72.4	72.1	72.9	71.7	71.4	70 6	71.2	72.0	77.1	68.4
„ 27,.....	71.1	70.9	70.4	68.6	70.1	69.0	69.9	71.8	73.8	73.8	73.5	74.2	74.4	72.8	72.0	72.0	71.1	70.9	71.2	71.7	72.0	71.8	71.9	71.6	71.7	75.5	67.9
„ 28,.....	71.3	71.0	70.3	68.2	68.5	68.6	69.5	71.0	72.1	73.4	74.8	74.8	75.0	75.5	74.8	73.5	73.0	72.5	72.3	72.8	72.8	72.8	73.0	72.7	72.3	76.8	67.4
„ 29,.....	72.4	71.8	70.9	70.5	69.9	69.5	70.5	72.5	73.3	73.6	75.5	73.9	74.7	74.3	73.9	73.1	72.2	72.4	72.2	72.9	72.9	72.6	72.1	71.8	72.5	75.5	68.1
„ 30,.....	71.4	71.0	70.3	70.3	70.1	68.9	70.0	70.6	71.8	72.2	72.0	72.1	72.3	72.4	72.9	72.1	72.2	71.3	71 5	71.5	71.2	72.5	72 4	72.0	71.5	73.3	68.6
„ 31,.....	71.8	71.4	70.8	70.3	69.8	69.0	69.3	72.5	74.2	73.5	73.2	73.4	74.8	74.9	73.2	72.2	72.0	71.6	71.3	70.3	70.5	69.8	70.1	70.4	71.7	76.1	68.7
Means,.....	73.9	73.6	73.5	73.2	73.2	72.9	74.0	75.0	76.3	77.3	77.7	78.0	78.3	78.2	78.1	77.3	76.5	75.5	75.4	75.3	74.8	74.5	74.2	73.9	75.4	80.1	71.4

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF OCTOBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
Oct. 1, .	73.2	72.7	72.2	72.0	71.7	71.3	71.7	71.7	72.1	71.9	72.2	72.8	72.5	72.8	73.8	72.6	72.5	73.2	73.2	73.2	73.2	73.2	73.1	73.6	72.6	131.5
„ 2,...	73.1	72.8	73.5	74.2	73.4	74.0	74.1	73.0	73.2	74.3	73.0	73.2	73.2	74.8	75.0	74.3	73.2	74.2	75.5	75.2	76.0	75.8	75.1	74.5	74.1	† 88.0
„ 3,...	74.2	74.0	74.9	74.7	75.0	75.1	74.4	75.3	75.1	75.0	75.2	74.3	74.2	75.0	74.7	72.6	73.3	73.8	75.1	75.8	75.2	76.2	75.5	74.1	74.7	148.3
„ 4,...	74.0	74.2	74.2	74.2	73.4	74.7	74.2	74.2	74.0	75.3	75.9	75.2	74.8	75.8	75.8	75.8	74.5	75.5	76.3	76.9	77.0	76.8	76.4	76.0	75.2	149.7
„ 5,...	75.8	75.2	75.2	75.1	75.7	75.5	75.0	74.4	74.1	72.7	72.8	72.8	72.2	72.0	72.0	72.1	72.2	72.6	72.7	72.6	72.3	72.8	72.0	72.8	73.4	141.2
„ 6,...	70.5	69.6	68.5	67.8	67.3	68.9	68.6	69.2	68.3	69.0	70.7	70.6	70.6	70.7	70.0	69.3	69.4	67.8	67.7	67.2	66.0	65.7	65.2	65.4	68.5	135.3
„ 7,...	64.7	64.5	64.1	64.1	64.4	64.3	65.2	64.7	67.2	68.0	69.0	70.2	71.3	70.7	71.2	70.2	69.0	68.8	68.8	68.8	68.5	68.4	68.3	68.0	67.6	146.7
„ 8,...	67.8	68.5	68.5	68.5	70.8	71.4	74.3	74.2	74.2	73.8	74.2	75.4	74.9	75.0	75.0	74.4	74.7	74.8	74.4	74.6	74.2	75.2	74.3	73.6	73.2	106.9
„ 9,...	73.2	74.1	73.3	73.0	73.7	74.3	75.1	75.5	75.4	77.2	76.5	75.9	76.0	74.8	75.5	75.4	75.5	75.3	74.6	74.5	74.3	74.8	74.8	74.5	74.9	141.4
„ 10,...	74.5	74.5	74.2	73.9	73.8	73.7	74.7	76.1	75.4	76.2	77.2	76.2	78.2	77.8	77.9	77.4	76.0	75.2	75.4	74.9	75.4	75.1	74.8	71.7	75.4	149 0
„ 11,...	72.7	72.8	72.9	73.0	72.6	72.1	71.2	71.7	72:5	73.5	74.0	74.4	75.1	75.2	75.2	74.4	74.2	73.7	73.5	75.7	72.9	72.3	72.3	71.8	73.3	138.7
„ 12,...	71.6	71.4	70.6	69.3	68.9	68.1	69.6	71.1	71.4	72.0	72.3	72.7	72.3	73.5	74.2	74.3	72.8	70.6	70.9	70.2	68.4	67.7	66.9	66.6	70.7	135.6
„ 13,...	66.6	66.3	66.8	66.0	65.9	66.6	67.8	69.0	69.6	69.9	71.1	70.3	71.2	72.4	72.3	72·5	72.9	71.9	70.7	68.3	68.7	68.2	67.6	67.9	69.2	140.5
„ 14,...	68.1	68.4	67.6	67.5	67.6	67.1	68.0	68.4	69.9	69.6	69.4	70.3	71.2	72.6	72.3	72.3	72.0	72.1	71.8	71.3	72.2	72.7	72.5	72.2	70.3	140.8
„ 15,...	71.8	71.3	70.5	70.6	70.5	69.5	68.9	69.8	69.8	69.3	67.2	66.4	65.3	67.1	67.8	68.3	67.8	67.7	68.6	69.1	68.8	69.1	68.5	68.5	68.8	140.6
„ 16,...	68.6	69.3	68.6	68.0	67.5	66.7	65.5	64.6	64.8	65.2	67.1	65.4	67.3	67.3	67.1	67.8	68.2	67.2	67.1	68.0	68.7	69.3	69.5	68.5	67.4	135.2
„ 17,...	68.7	69.6	68.4	69.0	68.1	67.3	68.1	66.3	67.5	68.1	68.2	69.2	68.8	68.8	68.5	69.2	68.4	68.0	68.2	68.6	68.4	68.8	68.4	68.7	68.4	135.9
„ 18,...	68.0	68.3	68.6	68.3	68.3	68.2	69.2	66.5	65.9	64.7	66.0	65.0	64.9	63.8	65.8	66.3	67.7	66.0	67.1	68.5	68.7	68.8	68.4	66.2	67.1	138.0
„ 19,...	67.2	66.8	64.8	64.8	64.1	63.4	63.5	64.9	65.1	66.5	67.1	67.2	68.1	68.3	68.8	67.0	65.6	67.8	69.4	68.8	69.2	68.2	69.6	67.6	66.8	143.7
„ 20,...	67.5	67.5	66.1	65.8	63.9	63.6	64.1	63.2	64.7	65 6	66.1	66.8	66.2	66.9	66.8	66.0	66.1	64.9	65.4	65.6	66.4	65.8	66.4	66.3	65.7	138.1
„ 21,...	66.3	65.3	65.3	65.1	64.4	64.1	64.4	65.1	64.5	63.0	64.5	65.0	66.1	66.7	65.5	66.2	65.8	65.2	66.0	66.1	66.6	67.1	67.0	66.6	65.5	139.8
„ 22,...	65.9	66.3	65.5	65.6	64.5	63.9	63.2	64.2	63.9	65.0	64.0	64.8	65.1	66.0	65.8	66.1	66.7	65.7	66.0	66.1	67.1	67.0	67.6	67.5	65.6	132.4
„ 23,...	67.8	67.3	67.9	67.2	66.5	66.3	66.7	67.5	67.7	67.0	67.5	66.8	68.5	68.5	68.2	68.0	68.8	67.5	68.2	68.1	67.5	68.5	68.8	68.3	67.7	132.3
„ 24,...	67.9	67.9	67.7	68.0	68.2	68.5	69.1	70.0	70.9	71.2	70.0	70.0	69.9	70.0	69.9	69.8	66.7	68.0	68.2	69.0	68.9	69.2	69.8	69.6	69.1	139.9
„ 25,...	68.8	68.6	68.6	68.2	65.4	61.7	61.9	62.7	64.5	64.8	64.2	65.8	66.9	67.8	67.3	67.7	67.9	68.0	67.5	67.7	67.8	68.3	68.0	68.1	66.6	136.9
„ 26,...	67.3	66.6	66 4	65.6	64.9	64.6	64.0	64.0	64.4	64.2	63.5	64 1	64.9	65.0	64.1	64.2	64.1	64.5	64.3	64.5	65.2	65.1	64.2	65.1	64.8	130.8
„ 27,...	65.2	64.8	64.4	63.5	64.2	63.9	64.8	64.9	65.8	64.6	63.9	65.9	66.0	64.8	64.0	64.1	63.6	63.8	64.2	65.6	64.2	63.7	64.3	64.3	64.5	133.8
„ 28,...	64.1	64.2	64.0	62.7	61.7	61.2	61.7	62.0	62.7	62.0	62.9	63.4	64.3	64.1	64.8	64.3	64.1	63.4	63.9	65.7	65.7	65.7	65.7	65.7	63.7	133.7
„ 29,...	65.3	65.0	64.7	64.2	62.6	61.8	62.2	63.2	63.9	60.9	63.9	62.9	64.0	63.8	62.1	63.2	62.9	64.4	64.8	64.5	64.8	63.9	65.2	65.4	63.7	133.1
„ 30,...	65.4	64.1	63.7	62.7	62.7	62.0	62.5	62.4	62.5	62.4	62.9	62.8	63.4	64.1	64.5	64.1	64.8	63.9	64.5	64.8	64.7	65.2	65.0	64.8	63.7	130.2
„ 31,...	65.1	65.8	65.4	65.0	64.9	64.7	64.6	65.8	66.8	65.8	64.8	64.0	64.1	65 5	65.2	64.3	64.8	65.0	64.8	64.5	65.2	65.3	66.4	66.6	65.2	133.2
Means,.....	69.1	69.0	68.6	68.3	68.0	67.7	68.0	68.2	68.6	68.7	68.6	69.0	69.4	69.7	69.7	69.5	69.2	69.0	69.3	69.5	69.4	69.5	69.4	69.0	68.9	135.5

† Approximate.

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF OCTOBER, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	77	0.654	Oct. 1,.....	61	0.678
2 „	79	.655	„ 2,.....	88	.810
3 „	76	.641	„ 3,.....	86	.819
4 „	76	.634	„ 4,.....	88	.839
5 „	75	.623	„ 5,.....	83	.773
6 „	75	.615	„ 6,.....	68	.605
7 „	72	.612	„ 7,.....	65	.574
8 „	69	.606	„ 8,.....	86	.779
9 „	66	.603	„ 9,.....	84	.818
10 „	62	.594	„ 10,.....	82	.826
11 „	61	.584	„ 11,.....	85	.779
Noon.	61	.595	„ 12,.....	74	.674
1 p.	61	.606	„ 13,.....	70	.624
2 „	63	.619	„ 14,.....	68	.644
3 „	63	.621	„ 15,.....	68	.607
4 „	66	.624	„ 16,.....	60	.550
5 „	68	.623	„ 17,.....	63	.584
6 „	71	.629	„ 18,.....	60	.546
7 „	72	.642	„ 19,.....	64	.550
8 „	74	.650	„ 20,.....	67	.542
9 „	74	.653	„ 21,.....	62	.519
10 „	76	.662	„ 22,.....	61	.520
11 „	77	.662	„ 23,.....	70	.592
Midt.	77	.650	„ 24,.....	73	.636
			„ 25,.....	65	.550
			„ 26,.....	66	.518
			„ 27,.....	65	.512
			„ 28,.....	60	.477
			„ 29,.....	59	.474
			„ 30,.....	63	.488
			„ 31,.....	69	.536
Means,.....	70	0.627	Means.	70	0.627

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
October 1,.....	...	...	...	...	...	...	...	...	...	0.6	...	...	...	0.6
„ 2,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 3,.....	...	...	...	...	...	...	...	...	0.1	...	...	...	...	0.1
„ 4,.....	...	...	...	...	0.3	0.5	0.4	0.2	0.7	1.0	0.6	0.4	...	4.1
„ 5,.....	...	...	...	0.1	...	...	...	0.7	0.7	...	...	...	...	1.5
„ 6, ...	...	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	...	10.7
„ 7,.....	...	0.3	0.1	0.8	1.0	1.0	1.0	0.9	0.7	0.7	0.1	...	...	6.6
„ 8,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9,.....	...	...	...	0.1	1.0	1.0	1.0	1.0	0.9	0.8	0.7	0.7	...	7.2
„ 10,.....	...	...	0.7	0.9	1.0	0.9	1.0	1.0	0.8	1.0	1.0	0.8	...	9.1
„ 11,.....	...	...	...	...	...	0.1	0.9	1.0	1.0	1.0	1.0	0.4	...	5.4
„ 12,.....	...	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	...	10.6
„ 13,.....	...	0.8	1.0	1.0	1.0	0.6	0.4	0.9	0.4	0.5	0.4	0.6	...	7.6
„ 14,.....	...	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	0.6	0.1	0.1	...	7.2
„ 15,.....	...	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	10.0
„ 16,.....	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0 7	...	10.3
„ 17,.....	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	10.4
„ 18,.....	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	...	10.5
„ 19,.....	...	0.8	1.0	1.0	0.9	0.7	1.0	1.0	0.8	1.0	0.2	0.5	...	8.9
„ 20,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	...	10.3
„ 21,.....	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	...	10.5
„ 22,.....	...	0.8	1.0	1.0	1.0	1.0	1.0	1 0	1.0	1.0	1.0	0.8	...	10.6
„ 23,.....	...	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	...	10.6
„ 24,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	10.0
„ 25,.....	...	0.7	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	0.7	0.4	...	9.7
„ 26,.....	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	10.3
„ 27,.....	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	10.4
„ 28,.....	...	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	10.5
„ 29,.....	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	...	10.5
„ 30,.....	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	10.4
„ 31,.....	...	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	10.0
Sums,.....	...	13.6	21.2	22.9	24.1	23.8	24.7	25.7	25.1	25.2	21.7	16.6	...	244.6

TABLE VI.

RAINFALL FOR THE MONTH OF OCTOBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
Oct. 1,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.110	0.390	0.500	1
„ 2,.....	0.270	0.030	0.050	0.050	0.210	0.290	0.280	0.195	0.235	0.015	0.235	0.305	0.375	0.270	0.135	0.015	0.090	0.090	0.205	0.260	0.150	0.060	0.450	0.220	4.485	21
„ 3,.....	0 260	0.045	0.475	0.140	0.030	...	...	...	...	...	0.015	0.095	0.270	...	0.030	0.440	0.005	0.005	0.040	0.090	1.540	1.650	1.300	0.480	6.910	14
„ 4,.....	0.090	0.200	0.030	0.060	0.070	0.060	0.005	0.005	...	...	...	...	0.040	...	...	0.025	...	...	0.005	0.020	...	0.060	0.090	...	0.760	9
„ 5,.....	...	...	...	...	...	0.025	0.090	0.025	...	0.010	...	...	...	...	...	...	...	...	...	...	...	0.010	...	0.055	0.215	3
„ 6,.....	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	...
„ 7,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	0.020	0.015	...	...	...	0.040	3
„ 8,.....	0.095	0.105	0.075	0.070	0.275	0.840	0.275	0.090	0.055	0.035	0.220	0.040	0.025	0.025	0.375	0.015	0.005	0.005	...	...	...	...	...	...	2.625	16
„ 9,.....	...	0.010	0.020	0.015	...	...	...	...	...	...	...	...	...	0.005	...	0.005	...	...	...	...	...	...	...	...	0.055	1
„ 10,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11,.....	0.020	...	...	...	0.515	0.165	0.110	0.015	0.015	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.840	3
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.310	0.310	...
„ 15,.....	0.150	0.185	0.105	0.110	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.550	3
„ 16,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 17,.....	...	0.005	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	...
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.020	0.045	0.110	0.125	0.040	0.340	4
„ 20,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	0.010	...
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.020	...	...	...	0.110	0.130	1
„ 26,.....	0.050	0.035	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.085	2
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 29,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 30,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 31,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	0.940	0.615	0.760	0.445	1.100	1.380	0.760	0.330	0.305	0.060	0.470	0.440	0.710	0.300	0.540	0.500	0.100	0.100	0.255	0.430	1.750	1.890	2.075	1.615	17.870	81

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF OCTOBER, 1893.

DATE.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		VEL.		DIR.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
Oct. 1,	32	26	32	27	32	24	1	24	32	22	32	23	32	20	32	26	31	21	32	16	32	11	31	16	31	13	30	14	31	25	32	31	1	31	1	32	1	36	1	37	1	36	1	37	2	32	2	32	612	25.5	32
" 2,	2	29	2	43	3	51	4	54	3	56	4	70	5	70	6	74	6	77	6	74	6	75	6	74	6	76	6	79	7	81	8	75	8	75	8	81	9	74	10	74	9	71	9	70	10	70	10	59	1632	68.0	7
" 3,	12	52	12	59	12	48	12	59	12	51	12	44	12	40	13	37	13	36	13	40	13	39	14	36	14	34	13	32	14	34	14	30	13	27	13	24	12	34	13	28	15	26	14	37	15	23	15	21	891	37.1	13
" 4,	16	17	15	16	10	10	13	10	13	16	14	19	13	19	13	21	14	14	13	17	15	16	14	18	14	16	13	15	12	14	10	19	10	14	8	15	9	17	9	18	9	20	9	23	10	24	10	25	413	17.2	12
" 5,	9	24	10	19	9	17	9	19	9	18	9	23	6	31	6	36	7	33	7	31	7	36	7	37	7	43	7	39	7	35	7	32	7	18	7	20	7	18	6	13	2	10	2	3	...	0	27	4	559	23.3	7
" 6,	1	5	2	4	32	9	1	9	1	10	31	9	...	1	25	3	31	14	31	12	30	8	28	10	31	14	29	14	31	22	30	17	30	17	30	15	30	14	30	12	32	7	32	6	31	7	24	3	242	10.1	31
" 7,	31	5	30	6	31	8	31	10	27	7	28	8	30	14	31	22	30	22	30	18	29	16	31	19	31	17	31	14	31	20	32	19	31	19	31	19	31	19	32	20	32	21	32	24	32	35	32	35	417	17.4	31
" 8,	1	42	1	37	1	44	1	42	3	36	4	34	6	49	6	53	7	58	7	54	8	52	9	52	9	55	9	46	10	42	10	43	10	40	10	38	9	39	9	37	10	30	9	31	8	38	9	36	1028	42.8	7
" 9,	9	31	8	34	12	29	11	34	11	30	10	25	8	21	8	22	9	24	9	23	8	22	9	22	10	18	6	16	7	18	8	16	7	16	9	11	6	11	6	10	5	7	6	5	6	4	7	2	451	18.8	9
" 10,	7	2	...	1	...	0	...	0	...	0	...	0	...	0	...	0	7	4	10	5	29	6	25	9	22	10	23	11	23	12	24	12	25	13	25	10	25	7	25	7	25	10	26	7	3	3	32	10	139	5.8	25
" 11,	3	4	...	1	29	2	29	3	6	7	9	6	30	3	26	6	25	6	25	6	23	6	22	9	23	7	24	11	24	11	26	12	24	6	27	5	27	5	27	5	25	4	25	7	26	6	143	6.0	25
" 12,	26	3	26	4	26	4	...	1	...	1	29	3	...	0	29	3	22	7	24	11	24	13	25	16	27	17	27	17	24	17	24	15	28	11	30	6	30	7	1	10	1	7	4	5	3	4	1	4	186	7.8	27
" 13,	1	6	31	9	31	5	31	5	...	1	31	3	30	4	30	3	23	5	23	6	23	8	23	9	23	9	22	11	22	12	22	10	24	8	29	7	30	3	2	5	32	6	32	6	32	8	32	8	157	6.5	27
" 14,	32	3	32	5	32	2	1	5	2	5	32	4	2	5	2	6	7	5	4	8	7	15	8	14	9	14	10	14	9	16	9	17	9	17	8	14	7	15	7	11	7	10	7	6	8	10	32	11	232	9.7	7
" 15,	1	6	4	13	30	4	32	4	5	14	5	21	5	21	6	23	7	22	8	25	7	28	7	31	6	31	6	23	7	21	8	24	8	22	8	24	7	24	8	28	8	29	7	25	7	25	7	24	512	21.3	7
" 16,	6	27	5	22	4	22	4	24	4	19	4	20	5	19	4	23	4	19	6	14	5	12	5	14	10	16	9	15	10	15	10	16	9	13	11	13	7	6	...	1	8	18	8	23	8	23	8	22	416	17.3	6
" 17,	8	19	4	16	5	14	3	11	3	9	5	6	5	3	3	8	6	14	7	12	6	14	9	15	10	17	9	18	10	17	10	14	10	12	10	6	10	5	10	2	10	2	10	2	...	0	10	2	238	9.9	7
" 18,	10	2	...	1	...	0	...	0	...	0	10	2	10	2	1	14	32	18	1	16	32	16	3	20	4	16	6	12	11	12	10	12	10	11	9	11	9	7	10	7	7	8	7	7	9	3	2	2	199	8.3	5
" 19,	10	3	2	7	1	14	1	13	1	11	2	14	1	9	32	9	32	12	32	8	31	7	4	8	6	10	7	8	23	3	5	11	5	12	7	13	6	14	5	13	7	17	5	16	4	17	2	11	260	10.8	3
" 20,	6	21	4	17	2	11	2	9	1	9	1	10	32	8	1	10	5	14	6	17	7	19	8	20	8	19	9	18	10	21	9	18	7	17	7	15	7	17	6	12	5	10	3	10	7	16	5	14	352	14.7	6
" 21,	4	13	4	13	5	15	5	21	4	19	4	20	4	18	4	17	6	20	7	20	8	11	8	13	10	15	10	16	10	17	9	19	8	17	6	12	6	13	5	12	5	12	6	21	7	27	5	21	402	16.7	6
" 22,	5	22	5	17	5	16	4	18	5	14	5	15	4	14	5	16	6	14	6	13	5	15	8	15	10	14	10	11	10	13	11	15	10	13	9	11	9	8	8	3	...	1	..	0	...	0	...	1	279	11.6	7
" 23,	...	1	5	4	4	9	3	8	3	8	3	9	4	7	4	10	6	12	8	12	9	16	10	14	10	11	10	11	9	9	6	5	26	5	24	4	16	3	16	2	16	3	12	4	10	4	10	5	176	7.3	7
" 24,	10	4	7	3	...	1	...	0	10	2	10	3	10	4	5	10	5	7	8	11	10	10	9	12	10	15	9	17	9	21	9	15	11	11	11	7	11	8	10	7	6	7	6	5	10	4	8	8	192	8.0	9
" 25,	7	7	8	7	8	3	4	4	1	8	2	18	32	26	32	24	32	17	32	10	6	13	4	14	9	17	11	15	10	15	10	15	9	16	7	14	8	14	4	11	7	14	8	8	9	9	11	8	307	12.8	6
" 26,	3	4	2	10	3	11	4	16	3	15	4	14	3	7	1	9	32	11	6	12	5	13	7	11	10	12	11	13	11	14	11	14	10	11	7	11	6	9	5	7	4	7	4	9	6	10	5	11	261	10.9	6
" 27,	5	13	5	15	4	12	3	8	5	11	5	11	5	9	5	9	6	7	8	10	8	11	10	13	9	16	10	21	10	19	9	19	8	16	7	16	6	16	7	15	7	17	6	18	6	18	7	20	349	14.2	7
" 28,	5	21	5	16	4	15	1	10	5	10	4	9	4	9	4	12	4	18	6	14	5	12	8	15	10	14	10	17	10	17	10	18	8	15	7	17	7	17	7	16	7	22	7	20	6	21	6	24	379	15.8	6
" 29,	5	22	3	18	3	14	4	13	4	15	3	12	2	13	4	16	5	22	7	24	7	27	8	27	7	23	7	19	8	21	6	18	7	17	7	19	7	19	8	23	8	29	6	24	7	31	6	31	497	20.7	6
" 30,	5	28	5	27	6	25	6	25	6	22	6	25	7	23	6	26	7	29	7	27	7	27	8	24	8	23	9	22	8	20	8	21	7	16	7	15	8	17	7	14	7	18	8	21	8	22	7	21	538	22.4	7
" 31,	7	20	7	22	5	22	6	19	6	14	5	14	4	14	6	16	6	17	7	18	7	18	7	17	9	18	10	15	10	17	9	16	9	17	7	12	7	8	5	5	5	6	4	5	6	9	6	13	352	14.7	7
Sums,	...	482	...	493	...	461	...	478	...	460	...	494	...	483	...	564	...	599	...	584	...	592	...	624	...	630	...	604	...	631	...	618	...	553	...	517	...	504	...	465	...	486	...	482	...	504	...	494	12812	533.4	..
Means,	...	15.5	...	15.9	...	14.9	...	15.4	...	14.8	...	15.9	...	15.6	...	18.2	..	19.3	...	18.8	...	19.1	...	20.1	...	20.3	...	19.5	...	20.1	...	19.9	...	17.8	...	16.7	...	16.3	...	15.0	...	15.7	...	15.5	...	16.3	...	15.9	413.0	17.2	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
Oct. 1, ...	2	c-str. / sm-cum.	ENE	9	sm-cum.	ENE	9	sm-cum.	ENE	10	str-cum.	NE
„ 2, ...	10	nim.	NE	10	nim.	ENE	10	nim.	ENE	10	nim.	ENE
„ 3, ...	10	nim.	ESE	10	nim.	SE	10	R-cum.	SSE	10	nim.	S
„ 4, ...	10	nim.	...	10	cum-nim.	SSE	9	nim.	SSE	8	sm-cum. / R-cum.	S / SSE
„ 5, ...	2	sm-cum.	...	2	cum.	ESE	10	nim.	...	10	nim.	E
„ 6, ...	10	nim.	...	8	str-cum.	...	1	cum.	NNE	2	c-str. / cum.	NNE
„ 7, ...	0	...	...	1	sm-cum.	...	8	c. / R-cum.	ENE	5	c-cum. / sm-cum. / cum.	E / NNE / ..
„ 8, ...	10	nim.	...	10	nim.	...	10	nim.	ENE	10	nim.	E
„ 9, ...	10	cum.	ESE	10	cum.	ESE	10	sm-cum. / cum.	ESE	4	cum.	ESE
„ 10, ...	1	cum.	...	0	...	...	3	c-cum. / sm-cum.	E / E	5	c-cum. / cum.	ENE / NE
„ 11, ...	9	cum-nim.	ESE	10	cum.	SE	10	nim.	...	9	sm-cum.	SE
„ 12, ...	0	...	...	0	...	...	0	...	...	1	sm-cum.	...
„ 13, ...	0	...	...	0	...	...	1	c-str.	...	1	sm-cum.	...
„ 14, ...	10	cum.	SE	9	cum.	SE	9	sm-cum.	SE	0	...	...
„ 15, ...	10	nim.	...	10	nim.	...	8	sm-cum. / cum.	ENE	1	cum.	ENE
„ 16, ...	3	cum.	E	2	cum.	E	0	...	...	0	...	...
„ 17, ...	6	cum.	E	8	cum.	E	1	sm-cum.	...	1	sm-cum.	...
„ 18, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 19, ...	3	cum.	E	5	cum.	E	1	sm-cum.	...	4	sm-cum.	ESE
„ 20, ...	10	cum-nim.	NE	7	cum.	...	4	sm-cum.	...	1	sm-cum.	...
„ 21, ...	10	cum.	E	0	...	...	1	cum.	ENE	0	...	...
„ 22, ..	1	cum.	NE	0	...	...	0	...	...	0	...	...
„ 23, ...	2	cum.	NE	1	cum.	E	0	...	...	1	cum.	E
„ 24, ...	0	...	...	0	...	...	2	cum.	ENE	3	cum.	NE
„ 25, ...	10	sm-cum. / cum.	W / E	10	cum.	...	2	sm-cum.	...	3	sm-cum.	W
„ 26, ...	10	nim.	NNE	10	cum.	NE	2	sm-cum. / cum.	...	1	c-cum.	W
„ 27, ...	3	cum.	ENE	2	cum.	...	1	cum.	NNE	2	cum.	NE
„ 28, ...	3	cum.	NE	0	...	...	0	...	...	0	...	...
„ 29, ...	3	cum.	NE	2	cum.	NE	0	...	...	1	c-str. / cum.	...
„ 30, ...	3	cum.	E	0	...	...	1	c-str.	...	1	c-cum.	...
„ 31, ...	4	cum.	E	3	cum.	E	2	cum.	ENE	1	cum.	E
Means,...	5.3	...	...	4.8	...	...	4.0	...	...	3.4	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
Oct. 1,...	10	str-cum.	NE	10	str. / cum-nim.	NE	10	str-cum.	...	10	nim.	...	8.7
,, 2,...	10	nim.	E	10	nim.	E	10	nim.	...	10	nim.	...	10.0
,, 3,...	9	sm-cum. / cum.	S / SSE	10	cum-nim.	S	10	nim.	SSE	10	nim.	...	9.9
,, 4,...	10	nim.	SSE	10	sm-cum. / cum-nim.	SSE	10	nim.	...	10	nim.	...	9.6
,, 5,...	8	cum.	E	8	sm-cum. / cum.	SW / E	10	cum-nim.	E	10	str-cum.	E	7.5
,, 6,...	2	c-str. / cum.	N	2	c-cum.	...	1	c-cum. / cum.	...	0	...	...	3.3
,, 7,...	8	c-cum. / sm-cum.	E / NNE	9	str. / str-cum.	NE	10	nim.	...	10	nim.	...	6.4
,, 8,...	10	nim.	ESE	10	nim.	SE	10	cum.	ESE	10	cum.	ESE	10.0
,, 9,...	4	cum.	ESE	6	cum.	ESE	1	sm-cum.	...	0	...	...	5.6
,, 10,...	7	cum.	N	4	cum.	N	0	...	...	0	...	...	2.5
,, 11,...	4	c-cum. / sm-cum. / cum.	W / .. / ..	2	c-str. / cum.	NNW	0	...	...	0	...	...	5.5
,, 12,...	1	sm-cum. / cum.	W / W	4	sm-cum. / cum.	NNW	0	...	...	0	...	...	0.7
,, 13,...	5	sm-cum. / cum.	W / ..	4	sm-cum. / cum.	N	1	sm-cum.	...	8	str-cum.	...	2.5
,, 14,...	2	sm-cum. / cum.	N	8	sm-cum. / cum.	SSE / ..	8	str. / cum.	...	10	str-cum.	...	7.0
,, 15,...	0	...	...	0	...	...	1	cum.	...	2	cum.	E	4.0
,, 16,...	0	...	...	0	...	...	1	cum.	...	3	cum.	E	1.1
,, 17,...	0	...	...	1	sm-cum.	...	1	sm-cum.	...	0	...	...	2.3
,, 18,...	0	...	...	0	...	...	0	...	...	1	cum.	ENE	0.1
,, 19,...	7	sm-cum.	SE	7	sm-cum. / cum.	ESE / NNE	2	sm-cum. / cum.	ESE / NE	9	nim.	NNE	4.7
,, 20,...	6	sm-cum. / cum.	N / ENE	1	sm-cum.	N	2	sm-cum.	NNE	8	sm-cum. / R-cum.	NNE / ENE	4.9
,, 21,...	2	sm-cum.	ESE	1	sm-cum.	...	0	...	...	1	cum.	NE	1.9
,, 22,...	0	...	...	0	...	...	0	...	...	0	...	...	0.1
,, 23,...	0	...	...	0	...	...	0	...	...	0	...	...	0.5
,, 24,...	1	cum.	N	1	sm-cum.	...	0	...	...	8	sm-cum.	N	1.9
,, 25,...	1	sm-cum. / cum.	E	1	sm-cum.	N	7	sm-cum. / cum.	NNE	9	sm-cum. / cum.	NNE	5.4
,, 26,...	1	cum.	NE	1	sm-cum.	...	2	sm-cum.	N	2	sm-cum. / cum.	NE	3.6
,, 27,...	3	cum.	NNE	0	...	...	1	cum.	...	2	sm-cum. / cum.	ENE	1.8
,, 28,...	0	...	...	0	...	...	0	...	...	2	cum.	ENE	0.6
,, 29,...	0	...	...	1	c-str.	...	1	c-str. / cum.	...	1	cum.	E	1.1
,, 30,...	0	...	...	0	...	...	0	...	...	0	...	...	0.6
,, 31,...	1	cum.	...	0	...	...	0	...	...	0	...	...	1.4
Means,...	3.6	...	...	3.6	...	...	3.2	...	...	4.4	...	...	4.0

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND FOR THE MONTH OF OCTOBER, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	7.00	10.13	2.23	0.13	+4.77	+10.00	E 25° N
2 „	8.35	9.48	2.10	0.26	6.25	9.22	E 34° N
3 „	8.84	8.45	2.00	0.29	6.84	8.16	E 40° N
4 „	8.87	9.13	2.35	0.16	6.52	8.97	E 36° N
5 „	8.19	9.23	2.29	0.19	5.90	9.04	E 33° N
6 „	8.48	10.23	2.23	0.42	6.25	9.81	E 33° N
7 „	8.23	10.39	1.52	0.26	6.71	10.13	E 33° N
8 „	9.55	11.65	1.58	0.52	7.97	11.13	E 36° N
9 „	8.23	13.19	1.68	1.03	6.55	12.16	E 28° N
10 „	5.68	14.29	1.77	1.03	3.91	13.26	E 16° N
11 „	5.19	14.52	1.87	1.39	3.32	13.13	E 14° N
Noon.	4.32	15.32	2.71	1.81	+1.61	13.51	E 7° N
1 p.	3.90	15.71	4.13	1.55	−0.23	14.16	E 1° S
2 „	3.61	15.06	4.10	2.00	0.49	13.06	E 2° S
3 „	3.13	14.97	4.77	2.16	1.64	12.81	E 7° S
4 „	2.97	15.00	3.90	1.74	−0.93	13.26	E 4° S
5 „	3.23	13.71	2.52	1.61	+0.71	12.10	E 3° N
6 „	3.74	13.13	1.74	1.10	2.00	12.03	E 9° N
7 „	4.13	12.87	1.97	0.77	2.16	12.10	E 10° N
8 „	4.52	11.10	2.29	0.52	2.23	10.58	E 12° N
9 „	4.39	11.61	1.90	0.48	2.49	11.13	E 13° N
10 „	4.81	11.58	2.03	0.32	2.78	11.26	E 14° N
11 „	4.55	12.48	2.10	0.26	2.45	12.22	E 11° N
Midt.	5.77	11.19	2.19	0.35	+3.58	+10.84	E 18° N
Means,.....	5.82	12.27	2.42	0.85	+3.40	+11.42	E 17° N

PHENOMENA :—

Solar corona :—on the 6th.

Lunar corona :—on the 1st.

Fog :—on the 10th and 18th.

Haze :—on the 12th and 24th.

Unusual visibility :—on the 6th, 7th, 22nd and 29th.

Dew :—on the 9th, 10th, 11th, 12th, 17th, 22nd, 23rd, 24th and 31st.

Rainbow :—on the 4th, 7th and 9th.

Lightning without thunder :—on the 10th.

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF NOVEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
Nov. 1,...	29.983	29.971	29.964	29.964	29.967	29.991	30.019	30.026	30.040	30.046	30.032	30.018	29.988	29.970	29.963	29.971	29.972	29.990	30.016	30.031	30.042	30.044	30.050	30.039	30.004
„ 2,...	30.035	30.026	30.022	30.020	30.023	30.044	.066	.073	.080	.072	.055	.030	.994	.967	.961	.967	.977	.991	.013	.031	.042	.054	.052	.055	.027
„ 3,...	.055	.047	.040	.042	.052	.080	.099	.113	.119	.123	.103	.078	30.046	30.028	30.007	30.008	30.020	30.037	.057	.072	.081	.092	.091	.087	.066
„ 4,...	.087	.075	.069	.070	.080	.100	.125	.140	.142	.140	.116	.079	.050	.029	.015	.030	.054	.072	.096	.119	.132	.131	.131	.125	.092
„ 5,...	.110	.093	.076	.072	.077	.095	.116	.133	.145	.152	.135	.103	.080	.063	.050	.053	.054	.068	.081	.092	.100	.100	.100	.089	.093
„ 6,...	.082	.079	.077	.071	.076	.103	.119	.138	.151	.143	.121	.096	.053	.026	.016	.010	.008	.014	.036	.055	.067	.066	.065	.059	.072
„ 7,...	.045	.030	.018	.022	.029	.041	.045	.053	.061	.054	.031	29.998	29.963	29.945	29.934	29.930	29.942	29.962	29.979	.001	.010	.011	.016	.011	.005
„ 8,...	.003	.000	29.990	29.993	.004	.020	.038	.046	.047	.038	.027	30.011	.979	.955	.961	.972	.994	30.011	30.035	.051	.053	.052	.049	.034	.015
„ 9,...	.011	29.996	.986	.986	29.982	29.990	.009	.038	.046	.052	.034	.024	30.001	.985	.972	.971	.976	29.984	.004	.029	.041	.052	.050	.048	.011
„ 10,...	.047	30.041	30.029	30.044	30.060	30.084	.105	.120	.131	.105	.095	.066	.030	30.006	30.000	30.006	30.012	30.015	.031	.040	.053	.053	.053	.051	.053
„ 11,...	.047	.038	.031	.031	.044	.060	.087	.095	.111	.112	.094	.070	.053	.037	.029	.031	.047	.058	.069	.088	.094	.090	.088	.072	.066
„ 12,...	.066	.065	.055	.051	.057	.066	.090	.101	.114	.109	.091	.059	.029	.011	.007	.016	.029	.036	.056	.073	.080	.080	.074	.064	.062
„ 13,...	.058	.048	.044	.039	.039	.054	.070	.078	.087	.089	.070	.045	.018	29.998	29.985	29.994	.012	.022	.055	.072	.082	.082	.081	.070	.050
„ 14,...	.067	.053	.046	.044	.050	.070	.089	.100	.109	.105	.083	.057	.023	30.003	30.006	30.019	.030	.047	.070	.100	.103	.103	.104	.102	.066
„ 15,...	.102	.088	.078	.071	.083	.102	.112	.122	.132	.133	.115	.100	.075	.063	.056	.049	.060	.074	.090	.098	.109	.118	.112	.094	.093
„ 16,...	.090	.070	.065	.058	.062	.075	.093	.102	.109	.095	.074	.051	.021	.005	29.999	.000	.012	.030	.046	.067	.073	.086	.083	.060	.059
„ 17,...	.051	.035	.019	.020	.023	.035	.053	.064	.075	.086	.060	.037	.008	29.991	.984	29.984	.005	.015	.040	.059	.059	.064	.056	.046	.036
„ 18,...	.041	.027	.019	.016	.035	.052	.082	.092	.113	.111	.089	.066	.037	30.008	.995	.997	.011	.032	.057	.057	.071	.070	.072	.079	.052
„ 19,...	.075	.065	.062	.074	.087	.093	.108	.123	.130	.138	.116	.102	.068	.049	30.038	30.034	.042	.053	.072	.089	.096	.095	.100	.090	.083
„ 20,...	.087	.068	.066	.067	.067	.087	.125	.138	.152	.150	.130	.104	.065	.036	.029	.031	.036	.038	.055	.069	.079	.085	.071	.063	.079
„ 21,...	.035	.021	.014	.011	.020	.042	.063	.072	.089	.085	.072	.037	.008	29.984	29.980	29.968	29.977	29.990	.008	.020	.030	.040	.042	.033	.027
„ 22,...	.026	.011	.008	.013	.014	.024	.051	.073	.090	.078	.046	.010	29.978	.966	.948	.951	.967	.991	.010	.030	.033	.039	.040	.041	.018
„ 23,...	.034	.024	.020	.016	.026	.042	.060	.090	.107	.105	.094	.061	30.021	30.004	.996	.997	30.012	30.029	.046	.062	.079	.090	.101	.101	.051
„ 24,...	.103	.087	.082	.075	.082	.097	.130	.146	.154	.160	.142	.123	.091	.059	30.048	30.055	.069	.079	.098	.114	.135	.141	.139	.136	.106
„ 25,...	.137	.132	.125	.126	.112	.119	.129	.150	.169	.174	.158	.134	.092	.069	.060	.052	.071	.090	.109	.125	.133	.138	.128	.119	.119
„ 26,...	.105	.093	.082	.080	.082	.104	.132	.152	.160	.152	.141	.108	.068	.043	.038	.044	.055	.074	.084	.104	.108	.116	.119	.112	.098
„ 27,...	.103	.086	.083	.079	.087	.110	.133	.145	.156	.155	.140	.112	.080	.061	.054	.039	.052	.062	.094	.108	.115	.113	.117	.113	.100
„ 28,...	.110	.100	.086	.087	.100	.110	.135	.146	.162	.148	.134	.086	.051	.026	.019	.013	.023	.042	.059	.076	.083	.090	.094	.088	.086
„ 29,...	.089	.083	.057	.048	.041	.057	.074	.082	.095	.093	.079	.062	.028	.011	29.996	29.988	.005	.026	.045	.072	.088	.093	.096	.096	.058
„ 30,...	.084	.084	.074	.071	.061	.090	.112	.127	.141	.143	.133	.108	.082	.062	30.056	30.055	.073	.094	.112	.130	.135	.144	.140	.133	.102
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means,.....	30.066	30.055	30.046	30.045	30.051	30.068	30.089	30.103	30.114	30.112	30.094	30.068	30.036	30.015	30.007	30.008	30.020	30.034	30.054	30.071	30.080	30.084	30.084	30.077	30.062

TABLE II.

TEMPERATURE FOR THE MONTH OF NOVEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
Nov. 1,.....	71.5	71.3	71.0	70.4	70.6	70.4	71.4	74.3	74.5	74.8	75.5	75.9	76.0	76.1	75.6	75.0	73.7	72.7	72.2	72.1	71.7	71.7	71.5	71.2	73.0	76.3	69.5
„ 2,.....	70.5	70.0	70.1	69.6	69.0	68.8	72.2	74.3	77.2	77.0	77.8	80.9	80.8	79.5	78.2	77.0	75.4	73.6	73.5	73.0	72.5	72.9	72.9	72.8	74.1	81.9	68.5
„ 3,.....	72.7	72.6	71.6	71.8	69.8	67.8	68.5	71.0	73.0	75.2	74.0	75.0	74.6	74.6	72.5	72.1	72.0	71.2	71.4	71.5	71.8	72.2	72.0	71.7	72.1	76.0	67.4
„ 4,.....	71.2	70.6	70.4	70.5	70.2	69.6	69.8	71.7	74.2	74.0	75.1	75.5	76.0	74.0	72.0	72.3	70.4	70.2	70.4	70.2	70.1	69.8	69.6	69.7	71.6	76.3	68.8
„ 5,.....	69.2	69.3	68.8	67.5	68.4	67.1	67.7	70.0	71.8	73.2	73.7	72.9	73.0	73.0	72.4	71.8	71.3	71.2	71.1	71.2	71.6	71.6	71.6	71.2	70.9	73.7	66.2
„ 6,.....	71.0	70.4	69.6	69.1	69.2	68.6	69.1	71.1	73.4	73.0	73.9	73.0	73.5	73.1	72.2	72.8	71.1	70.8	71.1	71.1	71.5	71.5	71.6	71.5	71.4	73.9	67.8
„ 7,.....	71.1	71.0	71.0	70.4	69.7	69.1	69.0	70.3	72.9	74.2	74.0	73.8	73.1	73.5	73.1	73.0	71.7	71.1	71.0	70.8	70.5	69.8	70.1	69.4	71.4	76.1	68.3
„ 8,.....	68.7	67.9	68.1	68.5	68.4	68.5	70.0	72.3	75.0	78.4	79.1	78.1	78.8	79.5	77.7	77.9	75.7	74.3	73.0	72.2	71.3	70.8	70.5	70.2	73.1	81.2	67.3
„ 9,.....	69.5	68.7	68.2	67.2	66.7	66.0	66.0	68.0	71.0	71.8	72.7	72.8	72.5	71.9	71.5	71.0	69.2	69.0	69.1	69.0	68.5	68.7	68.7	68.2	69.4	72.8	65.4
„ 10,.....	68.0	68.1	67.7	67.3	67.8	67.8	67.0	69.0	70.4	72.4	73.1	74.0	74.5	74.5	73.2	73.8	71.0	70.2	69.5	67.9	67.8	67.6	67.8	70.6	70.0	74.9	67.0
„ 11,.....	70.0	70.4	69.7	69.3	68.9	68.2	68.8	71.2	73.2	73.2	74.0	74.5	73.7	74.0	72.7	71.6	70.8	70.0	70.0	70.3	70.3	70.0	69.8	69.2	71.0	75.9	67.6
„ 12,.....	68.7	68.1	66.5	66.9	66.6	66.2	66.1	68.0	69.0	70.6	71.0	71.0	71.1	71.0	70.0	69.1	68.8	68.6	68.8	68.8	68.7	68.9	68.8	68.5	68.7	72.5	65.1
„ 13,.....	67.9	67.4	66.5	65.8	63.4	63.1	64.0	67.0	69.7	70.4	70.7	71.1	72.0	71.9	71.6	70.5	68.9	68.5	68.7	68.6	68.7	68.9	69.1	68.6	68.5	72.2	62.6
„ 14,.....	68.1	65.6	65.1	64.4	63.7	63 1	64.0	67.0	69.6	70.8	72.0	74.0	72.7	73.8	72.2	71.8	69.9	69.9	68.7	67.1	66.9	67.7	67.5	66.8	68.4	74.0	62.2
„ 15,.....	66.7	65.8	63.9	64.8	64.4	64.9	65.5	68.0	70.0	71.4	73.5	73.1	73.8	73.0	72.0	71.4	69.9	68.6	68.0	67.9	67.6	66.0	67.0	65.7	68.5	74.4	63.6
„ 16,.....	66.9	66.7	66.0	65.6	65.8	65.4	66.0	68.0	70.7	73.6	73.1	72.1	72.0	71.1	71.0	70.2	69.0	68.8	68.8	68.8	68.5	68.6	68.6	68.5	68.9	74.1	64.6
„ 17,.....	68.1	67.8	66.8	66.4	66.3	65.9	66.7	69.0	69.0	70.8	72.0	70.9	71.9	71.9	71.8	70.9	69.8	68.9	68.9	68.8	68.8	68.8	68.7	68.4	69.1	72.9	65.5
„ 18,.....	67.5	66.6	66.1	65.8	65.8	64.5	65.0	67.0	68.4	68.2	70.0	70.6	69.5	69.0	69.5	67.9	67.3	66.9	67.0	67.6	67.6	67.7	67.6	67.0	67.5	70.6	63.9
„ 19,.....	66.3	65.6	65.1	64.8	62.2	63.6	64.8	67.7	68.7	69.0	69.8	69.1	70.0	69.8	70.0	69.0	67.8	67.5	66.6	67.9	67.8	67.6	66.9	66.1	67.2	70.8	61.3
„ 20,.....	65.8	65.4	65.2	65.2	64.5	64.2	65.0	67.8	67.7	68.6	68.1	68.9	69.7	69.8	69.0	68.9	67.6	67.0	67.3	67.7	67.8	67.8	67.5	67.1	67.2	69.8	63.2
„ 21,.....	66.7	66.3	65.5	65.1	65.1	65.0	65.5	66.8	67.8	67.6	68.0	69.0	69.0	69.0	69.0	67.8	67.3	66.9	66.9	66.9	67.0	67.5	67.4	67.1	67.1	70.0	64.2
„ 22,.....	67.1	66.4	66.3	66.0	66.0	65.1	66.0	69.6	69.5	71.4	72.5	73.9	72.3	71.0	70.2	69.1	68.8	68.3	67.9	68 0	67.8	67.9	67.5	66.3	68.5	74.3	65.0
„ 23,.....	66.2	65.7	64.6	64.2	64.1	63.5	63.0	64.1	66.0	65.6	67.0	70.3	68.7	69.4	68.8	66.8	66.1	65.0	64.8	63.0	62.1	59.5	59.0	58.1	64.8	70.6	58.1
„ 24,.....	57.2	56.2	56.2	55.4	55.3	54.7	55.2	58.0	59.7	62.0	64.0	64.5	64.9	65.0	65.0	64.1	63.0	61.8	60.5	61.8	60.8	59.7	58.8	58.3	60.1	65.3	54.0
„ 25,.....	57.0	56.4	55.3	54.8	54.6	54.8	55.8	57.9	59.5	62.3	63.0	63.6	63.4	64.0	63.8	61.7	60.2	59.8	60.0	58.6	57.9	57.8	57.8	57.1	59.0	65.3	54.2
„ 26,.....	57.5	57.3	57.6	57.8	57.6	55.4	57.1	58.4	61.0	64.2	65.0	66.5	66.3	67.0	65.8	64.1	63.8	63.1	61.9	62.6	60.8	61.0	60.2	59.6	61.3	66.8	55.1
„ 27,.....	59.3	59.0	58.8	57.2	58.1	57.7	58.0	61.9	63.9	66.2	66.7	67.0	68.0	68.0	66.9	65.1	65.2	64.9	63.6	63.2	63.0	61.9	61.9	62.0	62.8	68.5	57.2
„ 28,.....	61.5	62.0	60.8	60.3	59.6	60.7	59.6	62.5	64.6	66.0	66.9	68.0	68.1	67.5	67.8	66.8	65.0	62.9	62.9	62.6	62.2	62.4	62.3	61.9	63.5	70.0	59.6
„ 29,.....	60.9	60.8	60.3	61.1	61.0	59.4	61.0	63.5	65.5	67.2	68.4	70.0	70.6	70.4	70.7	69.2	66.0	65.0	63.0	62.2	62.5	61.8	60.9	60.4	64.2	71.5	59.2
„ 30,.....	59.9	60.1	59.4	59.4	60.6	60.5	61.8	64.0	65.9	67.0	68.0	69.1	68.9	69.4	68.4	68.0	65.1	64.6	63 9	63.5	61.8	61.8	61.1	61.2	63.9	70.0	59.4
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means, ...	66.4	66.0	65.4	65.1	64.8	64.3	65.0	67.3	69.1	70.3	71.1	71.6	71.6	71.5	70.8	70.0	68.7	68.0	67.7	67.5	67.2	67.0	66.8	66.5	67.9	72.8	63.4

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF NOVEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
Nov. 1,...	66.6	66.6	66.4	65.8	66.5	65.8	65.0	66.4	66.3	66.1	66.7	67.0	67.8	67.8	67.0	67.8	65.8	66.0	66.5	66.8	67.3	67.5	67.1	66.9	66.6	137.4
" 2,...	66.7	66.8	67.8	67.0	67.0	66.6	68.6	67.3	67.8	67.0	66.5	68.2	68.8	68.1	68.1	67.0	66.1	66.4	67.0	67.1	67.5	67.1	67.5	67.9	67.3	137.2
" 3,...	67.5	67.2	66.7	66.6	64.0	62.8	61.1	62.5	63.8	65.4	65.2	65.0	65.5	65.8	65.2	65.1	65.8	65.2	65.4	65.4	65.9	66.0	65.8	66.6	65.2	132.7
" 4,...	66.1	66.0	65.6	64.9	64.8	64.6	64.2	64.9	66.0	65.6	65.1	65.0	66.3	66.8	66.0	65.7	63.8	63.7	63.7	64.0	64.3	64.3	64.4	64.0	65.0	136.6
" 5,...	63.8	63.8	63.6	61.8	61.7	61.2	60.5	62.1	63.0	63.0	64.0	63.1	64.0	63.6	63.5	63.1	64.0	64.2	64.0	64.5	64.9	64.6	64.8	65.0	63.4	131.8
" 6,...	64.6	65.1	64.0	64.0	63.8	62.9	62.4	61.4	63.9	62.0	63.9	62.4	62.8	63.0	63.1	63.6	63.6	64.2	65.0	65.4	66.1	66.5	66.2	66.1	64.0	131.5
" 7,...	65.7	65.6	65.7	65.2	64.6	64.3	64.0	62.9	64.6	65.2	66.1	66.5	65.0	65.6	65.6	65.8	65.7	65.4	65.5	65.7	66.0	65.7	65.8	65.6	65.3	138.9
" 8,...	65.0	65.2	65.6	65.3	65.4	65.5	66.3	67.0	67.0	68.0	66.1	65.5	66.1	65.7	61.5	61.8	60.9	59.5	56.5	55.5	55.0	54.5	54.6	52.8	62.3	136.6
" 9,...	52.9	52.5	51.5	51.2	51.0	51.0	51.2	53.1	55.5	55.8	57.2	57.3	57.7	55.9	58.5	58.0	58.8	58.6	59.0	60.0	60.2	60.0	60.1	60.6	56.1	131.8
" 10,...	60.8	61.2	61.5	61.8	61.9	62.3	62.0	62.0	62.0	61.2	62.8	62.7	63.5	64.3	64.0	63.0	63.1	62.8	63.9	63.6	62.5	62.3	60.3	* 60.2	62.3	132.6
" 11,...	* 60.0	* 59.4	* 58.8	* 57.2	* 56.3	* 55.6	55.0	57.1	57.2	55.8	58.5	57.7	58.9	59.0	59.0	60.1	61.9	63.9	63.9	63.9	64.0	63.8	63.8	64.3	59.8	132.0
" 12,...	63.2	63.1	62.1	62.0	61.7	61.2	61.0	61.9	62.2	62.5	63.1	63.9	64.0	63.5	62.8	61.5	61.2	61.9	62.0	61.7	62.0	62.9	62.8	63.0	62.4	133.6
" 13,...	61.8	62.1	61.4	60.9	59.7	57.3	57.6	57.5	58.5	59.2	59.8	59.6	60.4	60.0	60.8	61.1	60.6	60.8	61.5	61.7	61.8	61.9	62.1	61.5	60.4	140.9
" 14,...	61.3	60.1	59.6	59.0	59.0	56.3	55.2	57.0	58.0	58.0	58.0	58.8	60.0	60.7	60.5	60.0	59.8	59.9	60.2	60.0	59.8	59.9	60.0	59.9	59.2	130.9
" 15,...	60.1	59.3	56.7	57.6	58.0	58.6	58.7	58.0	57.9	57.0	56.2	56.2	56.0	57.0	57.0	57.4	57.8	57.8	58.5	58.7	58.5	59.0	59.5	59.8	58.0	134.0
" 16,...	60.1	60.8	59.1	58.0	57.3	57.7	57.8	57.2	59.0	58.0	55.0	54.7	57.0	56.7	58.0	59.0	59.0	59.8	58.7	58.9	60.0	60.9	60.7	60.5	58.5	132.3
" 17,...	60.6	61.1	60.6	60.0	60.1	59.9	60.8	59.5	59.1	59.8	60.5	59.0	58.0	59.0	60.0	61.3	60.8	62.0	62.9	62.9	62.8	62.8	62.8	62.5	60.8	129.6
" 18,...	62.5	61.3	60.6	60.4	59.6	58.8	59.0	60.0	60.1	61.0	61.3	61.7	61.7	61.0	61.7	60.7	60.6	59.9	60.8	59.9	60.6	60.9	60.5	60.1	60.6	127.5
" 19,...	59.5	58.8	58.0	58.1	56.1	57.0	57.0	57.0	57.1	56.6	58.5	58.7	59.5	59.3	59.8	60.0	60.1	60.8	60.8	62.3	62.6	62.0	60.8	60.5	59.2	133.6
" 20,...	60.1	59.5	58.4	57.9	57.2	57.3	58.0	58.5	58.5	58 6	59.8	59.4	60.5	61.2	61.0	61.6	61.2	61.6	61.9	62.3	62.9	62.7	62.4	62.2	60.2	127.6
" 21,...	61.8	61.5	60.8	60.4	60.1	59.9	60.0	60.1	60.3	59.8	60.1	61.0	60.2	60.0	60.4	60.6	61.9	62.0	62.6	62.5	62.9	63.0	63.1	62.8	61.2	127.6
" 22,...	62.8	62.6	62.3	61.8	61.0	60.6	62.0	62.9	63.0	64.1	63.2	64.1	63.1	62.9	62.9	63.0	63.2	63.3	63.9	64.1	63.9	64.0	63.8	62.8	63.0	131.7
" 23,...	57.9	57.3	56.6	55.8	55.8	54.3	54.8	54.7	55.5	54.0	55.0	55.2	54.8	54.8	54.8	54.5	54.3	53.9	53.5	53.0	52.0	51.1	50.5	48.8	54.3	126.8
" 24,...	47.6	46.7	46.6	46.1	46.0	45.9	47.0	48.0	48.8	49.4	50.8	50.9	50.8	50.0	49.8	47.5	46.1	46.2	46.0	46.2	45.8	45.1	45.0	44.3	47.4	126.0
" 25,...	44.7	43.4	41.9	42.3	42.6	42.7	45.0	45.0	46.3	47.2	48.5	48.3	49.3	51.0	50.7	49.5	49.1	49.0	49.5	49.3	49.9	50.0	49.7	50.3	47.3	124.5
" 26,...	50.7	50.9	50.9	50.9	50.0	47.7	50.1	50.0	50.0	52.8	53.0	53.2	53.7	53.7	54.4	53.1	54.0	53.2	53.6	53.7	53.9	51.7	53.6	50.4	52.1	126.3
" 27,...	51.5	52.8	50.4	48.6	47.8	48.3	49.1	51.0	52.0	51.8	53.8	53.6	55.0	56.0	56.0	56.1	55.0	55.8	56.5	56.6	57.3	57.0	57.2	57.9	53.6	127.4
" 28,...	57.8	58.0	56.5	57.5	56.8	53.0	53.0	54.1	56.9	58.1	56.9	56.7	58.0	58.9	58.0	58.1	55.0	55.7	56.5	56.0	56.8	56.9	57.5	56.9	56.6	128.6
" 29,...	56.3	56.2	56.3	56.7	55.3	53.0	52.0	52.2	53.4	53.2	54.1	55.0	54.9	54.5	54.9	55.3	56.2	57.0	55.2	56.1	55.0	56.1	56.5	56.6	55.1	127.7
" 30,...	56.6	51.9	51.5	50.5	50.1	50.0	50.0	49.8	51.6	51.2	51.4	52.6	53.2	55.0	54.8	54.0	54.1	53.7	53.9	54.3	54.6	54.8	55.6	55.6	53.0	129.7
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means, ...	59.9	59.6	58.9	58.5	58.0	57.4	57.6	58.0	58.8	58.9	59.4	59.4	59.9	60.0	60.0	59.8	59.6	59.8	60.0	60.1	60.2	60.2	60.2	59.9	59.3	131.5

* Interpolated.

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF NOVEMBER, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	65	0.439	Nov. 1,.....	70	0.568
2 „	65	.435	„ 2,.....	69	.579
3 „	65	.421	„ 3,.....	67	.531
4 „	64	.413	„ 4,.....	69	.531
5 „	63	.401	„ 5,.....	64	.485
6 „	63	.390	„ 6,.....	64	.498
7 „	60	.387	„ 7,.....	71	.544
8 „	53	.368	„ 8,.....	51	.419
9 „	49	.368	„ 9,.....	38	.275
10 „	45	.356	„ 10,.....	62	.460
11 „	45	.360	„ 11,.....	48	.367
Noon.	43	.354	„ 12,.....	68	.481
1 p.	46	.369	„ 13,.....	60	.419
2 „	46	.374	„ 14,.....	55	.382
3 „	49	.383	„ 15,.....	49	.344
4 „	51	.388	„ 16,.....	49	.354
5 „	55	.399	„ 17,.....	60	.424
6 „	58	.415	„ 18,.....	65	.439
7 „	60	.425	„ 19,.....	60	.399
8 „	61	.430	„ 20,.....	64	.430
9 „	63	.438	„ 21,.....	69	.463
10 „	64	.441	„ 22,.....	72	.504
11 „	65	.443	„ 23,.....	46	.284
Midt.	65	.438	„ 24,.....	30	.161
			„ 25,.....	34	.172
			„ 26,.....	49	.269
			„ 27,.....	51	.291
			„ 28,.....	63	.369
			„ 29,.....	53	.315
			„ 30,.....	43	.259
			.....	...	.....
Means,.....	57	0.401	Means.	57	0.401

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
November 1,.....	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	10.3
„ 2,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.9
„ 3,.....	...	...	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.4
„ 4,.....	...	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	9.7
„ 5,.....	...	0.5	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	10.0
„ 6,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	10.2
„ 7,.....	...	...	0.2	0.5	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	8.2
„ 8,.....	...	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	...	9.9
„ 9,.....	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	10.3
„ 10,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	10.0
„ 11,.....	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	10.0
„ 12,.....	...	0.2	1.0	1.0	1.0	0.8	0.8	1.0	1.0	1.0	1.0	0.3	...	9.1
„ 13,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.8
„ 14,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.9
„ 15,.....	...	0.3	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	0.4	...	9.6
„ 16,.....	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	10.2
„ 17,.....	...	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.8
„ 18,.....	...	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.7
„ 19,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	10.1
„ 20,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.9
„ 21,.....	...	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.7
„ 22,.....	...	0.3	0.9	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.2
„ 23,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.8
„ 24,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	...	10.0
„ 25,.....	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	10.1
„ 26,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.9
„ 27,.....	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	10.1
„ 28,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.9
„ 29,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	10.0
„ 30,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.9
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums,.....	...	12.0	28.9	29.1	29.9	29.8	29.8	30.0	29.9	30.0	30.0	15.2	...	294.6

TABLE VI.

RAINFALL FOR THE MONTH OF NOVEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
Nov. 1,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 2,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 3,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.020	0.020	1
„ 4,.....	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.010	...
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 7,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 8,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 10,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 14,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 15,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 16,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 17,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 20,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 26,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 29,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 30,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.020	0.030	1

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF NOVEMBER, 1893.

DATE.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a.		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		VEL.		DIR.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
Nov. 1	6	12	4	12	4	12	4	13	5	13	4	13	4	10	6	18	5	16	7	20	7	19	9	19	11	14	10	17	10	18	10	15	9	13	9	9	7	9	6	8	6	5	6	8	6	8	5	5	306	12.7	7
" 2	5	3	...	0	...	1	...	0	...	0	...	1	...	0	3	4	2	7	7	5	7	7	12	7	8	5	9	9	9	9	8	12	9	10	11	12	7	11	10	7	9	6	7	9	7	14	7	16	155	6.5	8
" 3	7	19	6	19	6	16	5	13	2	8	2	8	1	12	1	11	4	15	7	14	9	15	9	16	10	18	9	19	9	21	8	22	8	15	7	13	7	15	7	14	8	16	7	20	8	18	8	19	376	15.7	7
" 4	7	23	7	23	6	22	5	22	5	22	5	16	5	16	4	12	3	8	3	4	9	11	9	14	10	14	10	18	8	21	9	21	9	14	8	15	7	14	7	11	6	10	5	9	6	10	4	12	362	15.1	7
" 5	3	10	5	11	6	11	2	7	5	12	2	10	3	9	4	11	6	13	5	11	9	10	10	17	10	17	10	17	10	19	8	22	8	21	7	18	8	19	7	19	7	20	7	18	7	22	7	23	367	15.3	7
" 6	7	25	5	21	4	18	4	17	4	16	3	15	5	19	4	18	6	18	7	23	7	25	7	21	8	19	9	18	9	20	10	21	8	18	8	17	6	18	7	24	8	24	8	25	7	24	8	26	490	20.4	7
" 7	7	23	6	22	6	22	5	19	4	16	6	11	7	12	5	8	9	9	10	13	10	14	9	21	9	23	8	26	9	22	9	19	10	14	10	12	10	9	10	9	9	8	10	8	10	9	10	4	353	14.7	8
" 8	...	1	...	1	...	0	...	0	10	2	...	0	...	1	...	1	14	3	1	8	1	22	2	24	1	19	2	19	32	19	1	21	32	14	32	19	2	10	1	18	32	22	32	27	2	10	2	13	274	11.4	1
" 9	1	22	1	22	1	23	1	23	1	23	1	20	1	15	2	9	4	8	5	12	6	15	8	20	10	19	7	19	9	21	7	16	8	17	7	16	5	10	6	10	6	10	6	12	6	12	6	10	384	16.0	4
" 10	6	8	5	9	4	9	6	10	5	11	4	10	3	7	4	11	6	11	9	9	10	11	9	10	9	11	9	12	9	11	9	4	...	1	30	2	...	1	...	0	26	2	...	1	...	1	32	9	171	7.1	6
" 11	32	9	32	12	32	14	32	12	1	9	2	7	3	5	3	5	2	11	5	18	6	20	7	25	7	23	8	21	9	18	7	19	7	18	7	17	7	17	6	20	6	21	6	21	5	18	6	19	379	15.8	5
" 12	6	17	5	13	3	8	4	12	4	12	4	14	3	8	5	11	6	14	7	15	8	13	10	15	10	19	10	21	10	21	9	21	7	17	7	18	7	16	6	11	6	14	7	21	7	18	6	18	367	15.3	7
" 13	6	19	5	16	4	11	5	7	2	6	2	3	2	2	2	6	5	10	6	12	7	18	9	18	10	15	10	15	10	18	10	17	9	19	8	14	7	11	6	12	6	16	7	16	7	18	6	19	318	13.3	7
" 14	4	12	2	6	2	5	2	4	2	5	2	9	2	6	2	3	5	15	5	17	5	16	7	15	10	14	10	11	11	11	9	7	9	12	8	13	8	14	5	8	3	8	5	10	6	10	4	7	238	9.9	6
" 15	3	8	4	7	2	9	3	8	3	9	4	13	5	13	6	14	5	14	1	11	4	14	4	16	7	16	8	16	7	15	7	11	7	13	10	12	8	10	6	11	7	8	7	6	7	6	7	4	264	11.0	6
" 16	3	8	4	10	4	8	3	10	5	12	5	10	6	8	5	7	7	3	7	8	6	22	7	23	7	24	8	21	10	20	9	18	8	20	8	18	7	16	7	16	7	14	7	15	7	22	7	19	352	14.7	7
" 17	7	17	5	14	5	13	4	11	4	15	4	15	5	15	7	26	7	25	5	22	5	22	6	21	7	23	8	18	9	18	9	18	8	20	8	22	8	23	8	22	7	23	7	23	8	25	7	23	474	19.7	7
" 18	5	23	6	18	5	17	6	20	3	11	4	11	5	11	5	12	7	13	9	19	9	18	10	16	9	19	9	20	9	19	9	23	9	20	7	15	7	17	7	19	7	19	7	24	6	26	5	24	434	18.1	7
" 19	6	26	6	25	6	23	5	17	1	5	5	13	4	16	4	17	5	20	6	23	7	20	6	17	9	18	9	20	9	20	10	19	8	17	7	15	2	8	4	10	7	16	6	24	6	24	7	29	442	18.4	6
" 20	7	24	6	25	5	24	5	22	4	16	5	16	4	14	4	16	6	24	6	26	7	25	7	23	7	18	9	20	9	19	10	18	7	18	7	17	7	15	7	18	7	20	7	23	7	24	6	24	489	20.4	7
" 21	7	25	6	25	7	26	7	26	6	21	5	19	6	22	7	27	6	28	7	29	7	27	7	23	7	21	8	19	9	24	7	23	7	25	7	21	5	16	7	14	8	18	7	15	7	13	6	14	521	21.7	7
" 22	5	17	6	16	6	16	5	13	6	11	5	6	5	6	9	9	8	12	8	11	9	14	9	18	9	22	8	23	9	20	9	20	9	21	8	20	7	17	6	18	6	17	7	17	5	11	1	7	362	15.1	7
" 23	32	15	32	15	32	11	1	12	4	7	3	12	1	20	32	31	32	23	1	27	32	28	32	25	1	24	2	16	1	19	2	15	1	11	32	11	32	13	32	14	32	13	31	6	5	8	1	8	384	16.0	1
" 24	1	16	2	16	32	15	1	22	32	23	32	17	1	6	32	11	32	13	1	12	28	7	24	6	32	12	2	12	32	12	32	13	1	12	1	10	1	11	32	14	1	19	1	23	1	18	1	21	341	14.2	32
" 25	1	6	29	8	32	5	1	9	2	14	32	21	1	20	1	21	1	18	1	7	6	9	7	12	11	13	9	11	9	10	11	12	11	13	12	11	10	7	...	1	9	2	...	0	12	4	...	0	234	9.8	4
" 26	...	1	12	2	12	4	2	12	2	11	32	5	2	4	1	7	7	10	6	7	10	7	10	10	10	13	10	13	10	15	9	14	8	13	7	9	7	3	9	4	...	1	...	0	10	2	...	1	168	7.0	7
" 27	...	0	12	2	8	2	2	6	2	13	32	9	32	11	1	11	2	8	1	6	5	10	8	14	8	16	10	17	10	19	9	19	8	16	7	12	6	8	5	4	5	3	5	3	5	5	5	2	216	9.0	6
" 28	7	3	7	3	4	4	...	1	...	0	2	5	2	2	...	0	3	8	7	10	10	12	10	11	10	13	9	10	27	4	24	10	24	7	17	4	17	4	9	4	8	4	8	2	8	3	...	0	124	5.2	8
" 29	...	1	...	0	12	3	7	10	32	6	32	3	32	8	1	10	32	6	7	4	12	7	11	6	10	5	5	7	1	10	23	3	23	4	23	2	19	2	17	3	10	3	10	3	...	0	...	0	106	4.4	5
" 30	...	1	3	2	...	1	3	3	1	12	32	15	32	15	32	15	32	14	32	13	2	9	5	13	8	11	9	9	10	11	10	12	9	14	9	11	9	8	9	5	...	1	...	1	...	1	12	2	199	8.3	4
.....	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums,	...	394	...	375	...	353	...	361	...	341	...	327	...	313	...	362	...	397	...	416	...	467	...	496	...	498	...	494	...	504	...	485	...	447	...	405	...	352	...	348	...	363	...	390	...	384	...	378	9650	402.1	...
Means,	...	13.1	...	12.5	...	11.8	...	12.0	...	11.4	...	10.9	...	10.4	...	12.1	...	13.2	...	13.9	...	15.6	...	16.5	...	16.8	...	16.5	...	16.8	...	16.2	...	14.9	...	13.5	...	11.7	...	11.6	...	12.1	...	13.0	...	12.8	...	12.6	321.7	13.4	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
Nov. 1, ...	3	cum.	E	3	cum.	E	1	cum.	...	1	cum.	ENE
„ 2, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 3, ...	3	cum.	NE	5	cum.	NE	2	cum.	ENE	1	cum.	E
„ 4, ...	8	cum.	E	6	cum.	E	4	cum.	NNE	2	cum.	NE
„ 5, ...	0	...	...	0	...	...	1	cum.	...	2	c-str. / cum.	W / E
„ 6, ...	4	cum.	E	3	cum.	E	0	...	...	0	...	...
„ 7, ...	8	cum.	E	2	cum.	E	3	sm-cum.	SSE	8	sm-cum.	S
„ 8, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 9, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 10, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 11, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 12, ...	4	cum.	NE	2	cum.	NE	1	cum.	ENE	2	cum.	NE
„ 13, ...	1	cum.	E	0	...	...	0	...	...	0	...	...
„ 14, ...	0	...	...	0	...	...	0	...	...	1	c-cum.	...
„ 15, ...	0	...	...	0	...	...	5	c-str.	SW	7	c-cum.	W
„ 16, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 17, ...	0	...	...	0	...	...	1	cum.	...	0	...	...
„ 18, ...	3	cum.	E	2	cum.	E	0	...	...	1	cum.	E
„ 19, ...	2	cum.	E	0	...	...	0	...	...	3	cum.	NE
„ 20, ...	7	cum.	E	0	...	...	1	sm-cum.	...	1	sm-cum.	WSW
„ 21, ...	3	cum.	E	1	cum.	E	3	cum.	ENE	1	c-cum. / cum.	E
„ 22, ...	4	cum.	E	0	...	...	2	c-cum.	E	1	c-cum.	...
„ 23, ...	0	...	...	2	sm-cum.	...	1	c-cum.	...	0	...	...
„ 24, ...	0	...	...	1	cum.	...	1	sm-cum.	...	0	...	...
„ 25, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 26, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 27, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 28, ...	0	...	...	0	...	...	1	cum.	...	1	cum.	...
„ 29, ...	1	sm-cum.	ESE	0	...	...	0	...	...	0	...	...
„ 30, ...	0	...	...	0	...	...	0	...	...	0	...	...
.....	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	1.7	...	...	0.9	...	...	0.9	...	...	1.1	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
Nov. 1,...	1	cum.	ENE	1	cum.	...	0	...	...	0	...	...	1.2
„ 2,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 3,...	1	cum.	E	1	cum.	...	1	c-str.	...	3	c-str. / R-cum.	...	2.1
„ 4,...	2	cum.	NE	1	cum.	...	0	...	...	0	...	...	2.9
„ 5,...	0	...	...	0	...	...	1	c-str.	...	1	cum.	E	0.6
„ 6,...	0	...	...	0	...	...	0	...	...	1	cum.	...	1.0
„ 7,...	0	...	...	1	cum.	...	0	...	...	0	...	...	2.8
„ 8,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 9,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 10,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 11,...	0	...	...	0	...	...	1	cum.	E	1	cum.	E	0.2
„ 12,...	1	cum.	...	0	...	...	0	...	...	1	cum.	E	1.4
„ 13,...	0	...	...	0	...	...	0	...	...	1	cum.	NE	0.3
„ 14,...	1	c-cum.	...	4	c-str.	W	0	...	...	0	...	...	0.7
„ 15,...	8	c-cum.	W	6	c-cum.	W	2	c-str.	W	0	...	...	3.5
„ 16,...	0	...	...	0	...	...	0	...	...	1	cum.	E	0.1
„ 17,...	0	...	...	0	...	...	2	cum.	E	4	cum.	ENE	0.9
„ 18,...	0	...	...	0	...	...	0	...	...	3	cum.	E	1.1
„ 19,...	1	cum.	...	0	...	...	1	cum.	E	9	sm-cum. / cum.	WSW / E	2.0
„ 20,...	1	c-cum.	...	2	sm-cum.	...	1	cum.	E	4	cum.	E	2.1
„ 21,...	0	...	...	0	...	...	1	cum.	ENE	8	cum.	ENE	2.1
„ 22,...	0	...	...	0	...	...	1	cum.	...	1	sm-cum.	SSE	1.1
„ 23,...	0	...	...	0	...	...	0	...	...	0	...	...	0.4
„ 24,...	0	...	...	0	...	...	0	...	...	0	...	...	0.3
„ 25,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 26,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 27,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 28,...	0	...	...	0	...	...	0	...	...	6	sm-cum.	ESE	1.0
„ 29,...	0	...	...	0	...	...	0	...	...	0	...	...	0.1
„ 30,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
.....	...	...	...	...	...	...	...	...	...	...	...	...	...
Means,...	0.5	...	...	0.5	...	...	0.4	...	...	1.5	...	...	0.9

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND FOR THE MONTH OF NOVEMBER, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	6.17	9.97	0.00	0.00	+6.17	+ 9.97	E 32° N
2 „	6.97	9.00	0.07	0.13	6.90	8.87	E 38° N
3 „	6.93	7.93	0.17	0.00	6.76	7.93	E 40° N
4 „	8.07	7.63	0.00	0.00	8.07	7.63	E 47° N
5 „	8.50	6.27	0.03	0.00	8.47	6.27	E 53° N
6 „	8.43	5.50	0.00	0.00	8.43	5.50	E 57° N
7 „	7.70	5.63	0.00	0.00	7.70	5.63	E 54° N
8 „	8.13	6.83	0.07	0.00	8.06	6.83	E 50° N
9 „	7.40	9.10	0.17	0.00	7.23	9.10	E 38° N
10 „	6.13	10.73	0.37	0.00	5.76	10.73	E 28° N
11 „	5.10	12.73	1.17	0.17	3.93	12.56	E 17° N
Noon.	3.60	14.37	1.90	0.20	+1.70	14.17	E 7° N
1 p.	2.67	14.63	2.93	0.00	−0.26	14.63	E 1° S
2 „	1.73	15.17	2.67	0.00	0.94	15.17	E 4° S
3 „	2.17	14.43	3.70	0.10	1.53	14.33	E 6° S
4 „	2.03	14.13	2.80	0.43	−0.77	13.70	E 3° S
5 „	1.83	13.27	1.27	0.37	+0.56	12.90	E 2° N
6 „	2.50	11.73	1.10	0.13	1.40	11.60	E 7° N
7 „	3.20	10.10	0.47	0.07	2.73	10.03	E 15° N
8 „	4.07	9.57	0.40	0.03	3.67	9.54	E 21° N
9 „	4.17	9.93	0.13	0.07	4.04	9.86	E 22° N
10 „	4.50	10.87	0.13	0.03	4.37	10.84	E 22° N
11 „	3.90	11.47	0.23	0.00	3.67	11.47	E 18° N
Midt.	5.00	10.37	0.10	0.00	+4.90	+10.37	E 25° N
Means, ...	5.04	10.47	0.83	0.07	+4.21	+10.40	E 22° N

PHENOMENA :—

Solar halo :—on the 15th.

Lunar corona :—on the 14th, 17th, 19th, 20th, 21st and 22nd.

Fog :—on the 8th.

Haze :—on the 2nd and 29th.

Unusual visibility :—on the 1st.

Dew :—on the 1st, 2nd, 6th, 14th, 15th, 22nd, 28th and 29th.

TABLE I.

BAROMETRIC PRESSURE FOR THE MONTH OF DECEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.
Dec. 1,...	30.124	30.114	30.116	30.104	30.103	30.121	30.146	30.160	30.177	30.174	30.159	30.132	30.101	30.086	30.075	30.081	30.090	30.104	30.127	30.148	30.152	30.158	30.140	30.129	30.126
,, 2,...	.113	.096	.084	.086	.089	.108	.129	.137	.154	.147	.136	.105	.073	.056	.039	.039	.058	.076	.105	.121	.131	.132	.126	.124	.103
,, 3,...	.118	.101	.085	.081	.080	.099	.111	.129	.138	.130	.116	.092	.058	.046	.031	.032	.051	069	.083	.105	.111	.119	.121	.119	.093
,, 4,...	.110	.098	.085	.074	.077	.100	.122	.141	.166	.164	.152	.121	.079	.056	.046	.045	.054	.074	.087	.106	.120	.122	.124	.117	.102
,, 5,...	.111	.099	.082	.076	.079	.094	.107	.139	.150	.140	.133	.085	.043	.018	.008	.009	.025	.046	.078	.104	.117	.128	.128	.126	.089
,, 6,...	.101	.093	.073	.055	.053	.063	.088	.115	.130	.142	.117	.094	.062	.030	.019	.025	.038	.062	.086	.094	.112	.108	.094	.081	.081
,, 7,...	.071	.055	.042	.034	.041	.044	.061	.082	.102	.110	.094	.071	.040	.021	.006	.002	.010	.026	.045	.065	.073	.082	.074	.065	.055
,, 8,...	.055	.042	.036	.031	.038	.062	.088	.110	.120	.115	.106	.082	.044	.013	.002	.005	.021	.037	.057	.067	.079	.084	.078	.078	.060
,, 9,...	.070	.058	.055	.054	.046	.062	.086	.098	.111	.107	.109	.085	.055	.035	.016	.019	.035	.043	.057	.060	.066	.075	.066	.065	.064
,, 10,...	.063	.054	.042	.043	.038	.061	.073	.089	.101	.101	.089	.055	.019	29.995	29.987	29.983	29.985	.006	.025	.041	.050	.056	.054	.056	.044
,, 11,...	.060	.056	.056	.053	.055	.067	.091	.126	.138	.134	.136	.101	.070	30.043	30.026	30.028	30.042	.058	.078	.092	.103	.113	.117	.124	.082
,, 12,...	.126	.122	.121	.135	.134	.154	.175	.198	.215	.206	.200	.171	.137	.122	.115	.118	.138	.146	.164	.172	.182	.188	.184	.184	.159
,, 13,...	.177	.163	.158	.160	.154	.162	.178	.192	.212	.202	.201	.168	.139	.112	.101	.096	.114	.119	.130	.134	.135	.135	.131	.119	.150
,, 14,...	.119	.119	.122	.119	.117	.121	.124	.149	.164	.157	.143	.110	.087	.076	.073	.070	.083	.082	.105	.120	.126	.141	.141	.144	.117
,, 15,...	.138	.136	.139	.136	.137	.158	.179	.207	.223	.229	.221	.190	.144	.120	.112	.108	.118	.149	.182	.209	.221	.230	.232	.233	.173
,, 16,...	.230	.227	.217	.212	.214	.230	.255	.268	.276	.266	.249	.216	.169	.140	.123	.117	.124	.133	.150	.162	.167	.176	.156	.131	.192
,, 17,...	.131	.118	.101	.085	.091	.107	.121	.139	.150	.145	.137	.121	.083	.063	.053	.063	.082	.097	.112	.121	.128	.140	.133	.125	.110
,, 18,...	.115	.094	.081	.073	.065	.074	.105	.128	.140	.136	.133	.097	.060	.040	.030	.035	.052	.078	.102	.113	.132	.128	.122	.123	.094
,, 19,...	.121	.098	.089	.091	.082	.108	.138	.156	.175	.179	.172	.138	.095	.073	.059	.058	.078	.095	.111	.118	.121	.126	.122	.112	.113
,, 20,...	.093	.074	.063	.063	.069	.078	.096	.114	.126	.113	.095	.057	.015	29.985	29.975	29.982	29.994	.005	.019	.035	.042	.052	.049	.036	.051
,, 21,...	.031	.006	29.986	29.979	29.980	29.999	.013	.030	.044	.042	.026	29.995	29.957	.937	.924	.930	.954	29.971	29.993	.005	.013	.013	.013	.006	29.994
,, 22,...	.007	29.997	.985	.978	.981	.995	.018	.034	.045	.032	.022	.994	.955	.927	.904	.896	.906	.922	.939	29.947	29.973	29.975	29.973	29.962	.974
,, 23,...	29.955	.937	.921	.921	.925	.937	29.967	29.986	.012	.003	29.996	.964	.931	.905	.897	.902	.918	.929	.938	.949	.963	.962	.960	.953	.947
,, 24,...	.946	.934	.928	.932	.934	.945	.957	.986	.010	.018	30.005	.989	.954	.929	.920	.924	.941	.947	.958	.967	.974	.977	.987	.987	.960
,, 25,	.987	.993	.979	.969	.962	.964	.991	30.004	.027	.024	.008	.982	.950	.923	.920	.926	.935	.940	.949	.958	.964	.968	.968	.962	.969
,, 26,...	.963	.948	.946	.948	.957	.972	.998	.000	.012	.015	.001	.973	.945	.923	.905	.907	.923	.934	.951	.971	.974	.976	.977	.974	.962
,, 27,...	.969	.975	.968	.963	.961	.965	.980	29.992	.016	.016	.011	.988	.960	.940	.938	.944	.967	.981	.998	30.018	30.030	30.028	30.041	30.042	.987
,, 28	30.038	30.025	30.018	30.013	30.016	30.029	30.047	30.064	.080	.077	.064	30.031	30.001	.989	.981	.983	.987	30.012	30.037	.054	.071	.093	.113	.124	30.031
,, 29,...	.134	.150	.125	.110	.110	.124	.147	.175	.183	.184	.170	.141	.102	30.084	30.077	30.081	30.097	.106	.122	.133	.144	.146	.154	.148	.131
,, 30,...	.137	.121	.107	.105	.108	.122	.143	.157	.169	.176	.172	.147	.105	.076	.063	.065	.075	.089	.100	.113	.107	.105	.116	.115	.116
,, 31,...	.108	.086	.065	.056	.056	.062	.079	.100	.110	.116	.109	.075	.035	.015	.002	.008	.022	.032	.036	.046	.050	.061	.061	.051	.060
Means,.....	30.081	30.071	30.060	30.056	30.057	30.071	30.091	30.110	30.125	30.123	30.112	30.083	30.047	30.025	30.014	30.016	30.030	30.044	30.062	30.076	30.085	30.090	30.089	30.084	30.071

TABLE II.

TEMPERATURE FOR THE MONTH OF DECEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Max.	Min.
Dec. 1,.....	60.1	59.8	59.0	58.6	58.1	57.2	59.2	63.6	65.4	67.9	67.8	68.9	67.8	66.0	65.7	65.0	64.8	63.5	62.8	62.8	60.9	60.3	59.9	60.6	62.7	69.1	57.1
„ 2,.....	60.0	60.2	59.8	59.2	58.8	59.9	61.0	64.3	66.0	66.8	69.0	68.5	67.9	67.3	66.8	66.0	63.8	63.2	63.2	61.7	60.7	60.2	61.6	60.8	63.2	69.0	58.3
„ 3,.....	60.1	61.0	61.0	60.4	59.1	59.0	59.4	63.9	66.7	68.0	70.0	71.0	70.0	69.9	69.9	66.2	64.7	63.8	63.6	63.7	63.5	63.4	63.6	63.1	64.4	72.1	57.7
„ 4,.....	62.2	61.1	61.2	61.3	61.3	60.3	60.0	64.0	66.9	66.2	66.1	67.0	67.2	68.0	65.5	66.1	64.0	63.6	63.6	63.2	63.0	63.1	62.9	62.5	63.8	68.1	60.0
„ 5,.....	61.5	61.8	60.9	59.2	59.3	60.2	61.0	63.8	65.7	66.0	66.1	67.9	69.2	69.2	69.6	69.1	68.0	65.1	65.6	62.9	64.9	63.9	63.5	62.4	64.4	69.6	59.0
„ 6,.....	62.2	61.7	61.3	60.9	60.4	59.9	60.5	61.0	62.4	62.0	64.3	63.0	64.2	65.0	65.1	64.0	62.3	60.2	59.0	58.6	58.3	56.8	54.6	55.4	61.0	65.1	54.6
„ 7,.....	53.6	53.4	53.1	52.6	52.6	51.6	53.0	55.0	57.0	60.4	63.1	60.9	62.1	60.8	62.1	61.0	58.4	58.5	58.0	56.9	55.0	55.9	56.2	54.8	56.9	63.1	51.4
„ 8,.....	56.0	54.9	54.1	54.6	54.0	53.7	53.0	56.0	58.6	61.0	60.9	62.0	61.1	62.2	62.1	64.6	61.0	58.5	57.0	56.7	56.3	56.0	56.9	56.4	57.8	64.6	53.0
„ 9,.....	55.8	55.3	55.0	55.0	55.1	55.2	56.0	59.5	61.5	64.5	63.8	64.0	65.1	65.1	64.7	64.0	62.0	60.9	62.8	59.1	56.9	56.5	56.3	55.9	59.6	66.0	54.1
„ 10,.....	56.0	56.6	56.0	56.1	58.1	58.0	57.8	60.0	62.0	64.3	64.0	65.1	65.6	66.0	65.0	65.0	62.1	61.6	60.8	60.5	59.7	61.6	61.8	62.3	61.1	67.1	55.9
„ 11,.....	61.8	61.2	61.2	60.6	60.2	59.8	59.1	62.1	64.0	65.6	67.0	66.7	67.9	67.8	68.1	66.8	64.1	63.0	63.0	63.3	63.6	64.0	62.9	61.4	63.6	68.1	58.9
„ 12,.....	59.6	58.4	58.7	57.8	57.7	58.0	57.4	59.0	61.0	62.8	65.6	66.3	57.6	66.8	66.8	66.7	64.6	62.8	62.0	61.0	59.6	59.1	60.0	59.8	61.6	69.0	56.4
„ 13,.....	58.0	56.2	55.5	55.6	56.0	56.2	57.0	58.1	61.0	63.1	63.2	65.0	63.8	63.3	62.6	63.0	61.7	61.7	61.8	62.1	61.8	61.7	61.7	61.5	60.5	66.3	54.4
„ 14,.....	61.5	60.7	59.9	59.3	59.7	60.4	60.2	62.0	64.0	65.4	65.7	65.1	64.9	64.6	63.6	63.0	62.1	62.1	62.3	62.3	62.2	62.8	62.6	62.5	62.5	66.7	58.9
„ 15,.....	62.6	62.7	62.6	63.7	63.1	63.0	64.4	65.0	66.4	68.3	69.7	69.1	69.5	70.2	69.9	69.2	66.8	62.9	63.9	63.6	62.9	61.6	60.4	59.5	65.0	70.6	59.5
„ 16,.....	57.7	56.5	56.7	56.0	54.4	54.9	55.0	59.0	60.0	60.2	61.8	60.7	61.1	61.7	60.9	60.8	60.0	59.3	59.4	59.5	59.9	60.0	60.3	60.4	59.0	62.4	54.3
„ 17,.....	60.4	60.4	59.9	59.5	58.9	58.2	57.7	59.5	60.9	61.9	61.0	61.3	61.0	61.9	61.2	60.9	60.7	60.5	60.1	59.9	59.6	59.9	59.8	59.5	60.2	62.7	57.5
„ 18,.....	59.5	59.9	60.1	59.9	60.1	60.0	60.0	61.0	63.0	64.3	64.1	64.1	64.1	64.2	64.0	64.3	62.0	62.3	61.7	61.6	61.9	61.6	61.6	61.8	62.0	65.3	59.3
„ 19,.....	61.8	61.4	61.7	61.2	60.8	61.0	60.7	61.7	63.8	64.4	64.5	66.1	67.1	67.2	66.9	67.0	64.6	64.1	63.6	63.2	63.7	63.7	64.1	63.7	63.7	67.2	60.6
„ 20,.....	63.4	63.0	63.0	63.0	62.8	62.8	63.1	65.2	67.0	68.0	69.7	70.8	71.8	70.3	71.4	69.2	65.1	65.1	64.9	65.6	65.9	65.7	66.3	65.7	66.2	71.8	62.2
„ 21,.....	66.7	66.7	66.7	64.7	64.0	63.1	63.0	64.9	67.0	67.8	68.0	68.2	67.2	65.9	65.7	65.1	64.5	63.6	63.7	63.3	63.4	63.6	63.6	63.2	65.1	68.2	62.8
„ 22,.....	61.8	60.4	60.4	60.0	60.3	59.6	61.0	64.8	67.1	71.1	71.1	72.2	72.9	73.8	75.4	70.3	68.9	66.5	65.3	63.9	63.1	61.9	62.0	61.0	65.6	76.2	59.6
„ 23,.....	61.6	62.2	62.4	62.5	62.1	61.8	62.1	63.2	64.5	65.2	66.3	66.5	66.5	66.8	65.7	64.8	63.7	62.8	62.3	61.9	62.0	62.0	62.2	62.3	63.5	66.8	60.8
„ 24,.....	62.1	61.7	61.2	60.7	59.9	59.5	60.2	61.8	65.3	66.7	69.2	70.5	70.3	68.6	66.9	66.9	65.8	64.5	63.4	62.6	62.7	62.7	62.6	62.6	64.1	71.2	59.2
„ 25,.....	62.1	61.7	61.6	61.6	61.4	61.4	61.5	61.7	62.7	63.8	64.5	64.3	65.0	64.6	64.7	64.1	63.7	63.6	63.7	64.7	64.8	64.5	64.5	64.4	63.4	65.4	60.9
„ 26,.....	64.5	64.4	64.7	65.5	66.0	66.4	66.3	65.8	66.9	68.4	69.5	70.0	69.8	69.9	69.0	68.1	66.9	66.3	66.4	66.4	65.8	64.7	64.1	64.5	66.7	70.9	63.6
„ 27,.....	64.6	64.2	63.2	63.1	62.7	62.9	63.1	66.5	68.8	72.1	72.6	69.0	67.9	65.7	64.8	65.2	64.8	64.6	64.5	63.7	63.6	63.2	63.2	63.6	65.3	72.6	62.2
„ 28,.....	62.8	62.2	62.0	61.8	61.6	61.9	61.6	61.1	61.3	62.5	64.3	64.9	65.0	64.3	63.6	63.8	62.7	62.6	62.5	62.4	62.5	62.6	60.9	59.2	62.5	65.7	59.2
„ 29,.....	57.4	54.2	53.4	52.3	51.4	52.2	50.8	53.2	55.9	57.0	57.0	57.8	59.7	59.7	60.8	59.0	57.1	55.8	54.9	54.1	53.2	53.9	54.1	55.2	55.4	61.3	49.3
„ 30,.....	55.6	55.6	55.7	55.6	55.1	54.7	53.3	53.5	53.7	56.1	57.1	55.7	58.5	58.2	59.5	58.3	57.9	55.9	55.7	55.1	54.8	53.6	53.6	52.6	55.6	60.2	52.6
„ 31,.....	53.6	54.6	55.3	55.4	55.2	54.6	54.7	56.9	59.8	61.6	63.7	64.2	67.0	65.6	64.9	63.8	63.4	62.8	62.5	62.6	61.8	62.5	62.3	62.2	60.5	68.2	51.4
Means,.....	60.2	59.8	59.6	59.3	59.0	58.9	59.1	61.2	63.1	64.6	65.5	65.7	66.1	65.8	65.6	64.9	63.3	62.3	62.1	61.6	61.2	61.1	61.0	60.7	62.2	67.4	57.6

TABLE III.

TEMPERATURE OF EVAPORATION AND RADIATION FOR THE MONTH OF DECEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Means.	Solar Max.
Dec. 1, .	54.7	55.0	55.3	52.3	53.4	51.9	48.8	50.5	51.2	53.1	55.3	54.4	54.9	55.5	54.2	54.1	54.5	53.9	53.9	53.5	55.0	55.2	55.6	55.6	53.8	128.4
„ 2,...	56.3	56.4	56.0	56.3	55.4	56.4	56.9	57.0	56.3	56.0	57.5	58.0	56.8	55.1	54.2	54.2	54.8	54.8	54.6	55.4	54.7	55.2	56 0	55.4	55.8	127.1
„ 3,...	56.1	56.3	56.1	56.1	55.9	56.0	56.7	55.9	53.8	53.3	54.0	54.1	56.3	56.0	56.0	54.1	54.8	55.7	56.3	55.8	56.6	57.1	57.6	57.8	55.8	128.8
„ 4,...	57.0	56.3	56.2	55.5	54.5	53.6	53.8	57.0	56.9	57.0	56.0	55.5	55.0	56.6	55.0	56.0	55.2	54.3	55.9	57.0	57.5	58.0	57.7	57.5	56.0	125.5
„ 5,...	56.8	56.8	56.1	55.4	54.4	49.3	48.5	49.7	51.0	50.8	50.7	51.0	51.5	51.3	50.7	50.1	50.2	50.0	49.3	48 8	48.9	48.6	48.5	48.2	51.1	130.9
„ 6,...	47.5	47.4	46.5	46.1	46.4	45.8	46.4	46.6	46.7	47.0	47.6	47.1	47.1	47.2	47.0	46.6	44.1	43.9	43.8	43.6	42.2	41.7	41.4	42.1	45.5	126.9
„ 7,...	41.6	40.0	39.8	40.6	40.6	39.6	41.0	42.2	44.0	46.0	47.8	46.8	47.7	47.0	48.8	48.1	46.5	47.8	44.2	43.5	46.2	43.3	42.3	41.7	44.0	122.7
„ 8, ..	41.6	40.9	40.4	40.9	41.4	41.5	42.0	45.0	44.9	46.0	46.9	47.2	46.8	47.2	47.8	49.6	48.2	48.5	48.9	50.0	50.1	50.0	50.4	49.6	46.1	125.4
„ 9,...	50.3	50.2	50.4	50.4	50.1	50.4	50.9	51.5	52.0	51.2	51.0	52.1	52.8	52.1	52.5	53.0	52.9	52.7	52.0	52.2	52.0	52.5	51.8	51.4	51.6	125.4
„ 10,...	52.0	51.8	53.1	53.2	54.2	53.5	53.6	54.0	54.0	54.1	54.5	54.5	53.0	54.1	54.8	55.4	55.0	55.1	55.0	55.1	55.3	57.6	57.6	57.9	54.5	125 7
„ 11,...	57.6	57.3	57.1	55.5	54.7	53.8	53.0	55.0	55.0	54.6	54.0	50.2	50.2	50.0	49.9	55.2	54.0	48.9	48.4	47.8	47.5	47.5	47.4	47.8	52.2	128.2
„ 12,...	47.0	45.6	45.8	46.0	45.4	45.6	45.1	46.0	48.0	48.8	50.4	49.9	50.8	50.0	50.1	50.8	49.3	49.1	48.1	49.2	51.7	52.0	53.0	53.4	48.8	126.3
„ 13,...	51.0	48.6	46.9	46.1	45.2	45.4	47.0	48.0	49.0	50.1	50.7	51.6	51.7	51.6	51.8	53.2	52.6	52.8	54.8	54.5	56.7	55.7	56.0	54.9	51.1	126.9
„ 14,...	54.6	53.4	52.5	52.6	51.1	51.7	52.0	53.0	53.1	53.4	53.9	54.2	54.9	54.6	55.8	57.0	56.0	56.3	56.4	56.9	57.3	58.9	58.4	58.3	54.8	130.5
„ 15,...	58.8	58.7	58.6	56.7	57.2	57.3	57.0	57.5	57.8	58.8	59.7	59.9	59.0	58.8	57.9	57.0	55.0	53.6	54.9	51.1	50.4	51.0	49.4	48.7	56.0	130.6
„ 16,...	48.6	47.5	47.5	47.5	46.6	47.0	47.5	50.0	50.0	50.4	51.4	51.8	52.5	53.1	53.0	52.2	52.9	53.0	53.2	54.2	54.5	55.3	55.3	55.5	51.3	119.5
„ 17,...	55.6	55.5	55.4	54.9	54.8	54.2	54.3	54.7	55.0	55.2	55.0	55.4	55.8	56.2	55.4	55.7	55.7	55.7	55.8	55.5	55.5	56.5	56.4	56.1	55.4	121.1
„ 18,...	56.2	56.6	56.6	56.8	56.1	56.3	56.7	56.0	56.8	56.0	56.7	56.0	56.8	56.1	56.2	57.3	57.1	58.3	58.9	58.7	58.9	58.9	58.6	58.8	57 1	128.1
„ 19,...	58.9	58.7	58.6	58.1	58.1	58.2	58.1	58.7	59.0	59.3	59.0	59.5	60.1	59.1	58.2	58.6	58.4	58.5	58.5	58.4	59.9	60.1	60.5	60.4	59.0	135.1
„ 20,...	60.5	60.7	60.8	60.9	61.0	60.9	61.0	61.0	61.0	62 1	60.9	60.1	61.5	62.2	61.8	60.4	61.5	60.9	60.3	60.4	59.4	59.9	60.3	60.7	60.8	131.6
„ 21,...	58.9	57.9	57.7	60.7	60.7	61.1	61.0	61.0	61.0	62.1	62.0	61.1	63.1	61.8	60.4	60.7	60.8	61.1	60.4	60.5	60.4	60.2	60.0	59.8	60.6	127.2
„ 22,...	58.6	58.3	58.2	58.1	58.1	57.5	58.0	59.2	60.1	58.8	57.5	58.6	58.7	58.1	59.2	62.2	60.7	59.9	59.4	58.5	59.4	58.1	59.0	58.0	58.8	130.1
„ 23,...	58.5	60.1	60.6	60.2	59.5	59.0	59.1	59.8	60.0	59.8	60.0	60.3	60.6	61.0	60.6	60.0	58.8	59.0	59.2	59.3	59.6	59.5	59.8	59.8	59.8	121.9
„ 24,...	59.8	59.5	58.5	57.9	56.9	57.1	58.6	59.0	60.3	60.1	61.3	62.0	62.0	61.9	61.0	59.3	59.1	59.6	60.2	59.6	59.3	58.8	59.1	58.6	59.6	127.8
„ 25,...	58.2	57.6	57.6	57.2	57.5	57.2	57.5	57.6	57.6	58.9	58.5	58.4	59.0	58.3	58.5	59.1	59.4	59.3	59.6	59.9	60.1	60.3	60.2	60.6	58.7	111.4
„ 26,...	60.1	60.1	60.1	59.6	59.6	59.7	60.2	60.1	61.2	62.4	62.1	62.1	62.0	62.0	62.0	62.1	61.4	61.3	61.3	61.1	61.2	61.5	61.4	61.8	61.1	138.1
„ 27,...	62.1	61.7	61.4	61.3	60.8	60.8	61.1	62.0	63.1	64.2	64.9	63.0	63.0	62.6	62.3	62.1	62.3	61.7	61.8	61.1	60.6	59.9	60.0	60.0	61.8	132.5
„ 28, .	59.7	59.5	59.2	59.0	59.2	59.1	58.8	58.8	58.6	59.0	59.9	60.0	61.0	60.4	60.0	59.7	59.6	59.5	59.6	59.7	59.8	59.9	55.5	55.7	59.2	125.0
„ 29,...	54.3	51.3	50.6	49.1	47.8	47.7	45.7	46.6	47.9	49.1	48.9	48.7	49.2	49.0	50.0	49.1	48.1	47.2	46.8	46.1	46.2	47.8	48.9	48.5	48.5	122.1
„ 30,...	49.1	49.2	49.4	49.3	48.9	48.7	47.9	47.8	47.6	49.1	49.0	48.6	50.0	49.9	51.8	50.2	49.1	49.8	49.4	47.5	49.0	49.6	49.0	48.8	49.1	123.3
„ 31,...	49.6	49.6	49.6	49.5	49.5	49.3	49.9	50.7	51.0	52.8	53.1	54.3	55.1	55.5	55.0	54.9	55.7	55.7	55.8	56.7	56.6	55.5	55.5	55.7	53.2	127.7
Means, ...	54.6	54.1	54.0	53.7	53.4	53.1	53.2	53.9	54.3	54.8	55.2	55.0	55.4	55.3	55.2	55.4	55.0	54.8	54.7	54.6	54.9	55.0	54.9	54.8	54.6	126.8

TABLE IV.

MEAN HOURLY AND DAILY RELATIVE HUMIDITY AND TENSION OF AQUEOUS VAPOUR FOR THE MONTH OF DECEMBER, 1893.

Hour.	Hourly Mean.		Date.	Daily Mean.	
	Humidity.	Tension.		Humidity.	Tension.
			1893.		
1 a.	67	0.359	Dec. 1,.....	52	0.298
2 „	66	.350	„ 2,.....	60	.349
3 „	67	.350	„ 3,.....	55	.333
4 „	67	.345	„ 4,.....	59	.347
5 „	66	.341	„ 5,.....	33	.201
6 „	65	.333	„ 6,.....	19	.102
7 „	64	.333	„ 7,.....	26	.119
8 „	58	.325	„ 8,.....	33	.159
9 „	52	.312	„ 9,.....	55	.278
10 „	49	.306	„ 10,.....	63	.339
11 „	47	.306	„ 11,.....	41	.241
Noon.	45	.297	„ 12,.....	32	.177
1 p.	45	.304	„ 13,.....	47	.253
2 „	46	.305	„ 14,.....	58	.329
3 „	46	.304	„ 15,.....	53	.331
4 „	50	.319	„ 16,.....	55	.278
5 „	55	.329	„ 17,.....	72	.377
6 „	58	.337	„ 18,.....	72	.403
7 „	58	.337	„ 19,.....	74	.439
8 „	60	.340	„ 20,.....	71	.463
9 „	63	.355	„ 21,.....	76	.470
10 „	64	.359	„ 22,.....	64	.407
11 „	64	.357	„ 23,.....	79	.467
Midt.	65	.358	„ 24,.....	76	.452
			„ 25,.....	74	.433
			„ 26,.....	71	.465
			„ 27,.....	81	.507
			„ 28,.....	81	.461
			„ 29,.....	56	.251
			„ 30,.....	59	.264
			„ 31,.....	56	.310
Means,.....	58	0.332	Means.	58	0.332

TABLE V.

DURATION OF SUNSHINE.

Date.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	Sums.
1893.														
December 1,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.9
„ 2,.....	...	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.5
„ 3,.....	...	...	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.3
„ 4,.....	...	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.6
„ 5,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.9
„ 6,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.8
„ 7,.....	...	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.7
„ 8,.....	...	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.9
„ 9,.....	...	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.6
„ 10,.....	...	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	9.7
„ 11,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.3	...	9.8
„ 12,.....	...	...	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.3	...	9.1
„ 13,.....	...	...	0.1	0.7	1.0	1.0	0 8	0.7	0.6	0.9	...	...	...	5.8
„ 14,.....	...	0.2	0.6	0.6	0.8	0.3	0.2	...	...	...	...	...	...	2.7
„ 15,.....	...	...	...	...	0.1	0.1	0.4	1.0	0.2	0.6	0.9	0.2	...	3.5
„ 16,.....	...	0.1	0.8	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	0 2	...	9.0
„ 17,.....	...	...	0.7	1.0	1.0	0.7	0.1	...	...	...	...	...	...	3.5
„ 18,.....	...	0.2	0.4	0.7	0.6	0.6	1.0	1.0	1.0	1.0	1.0	0.4	...	7.9
„ 19,.....	...	...	0.1	0.4	...	0.5	0.2	0.1	1.0	0.9	0.9	...	...	4.1
„ 20,.....	...	...	0.3	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.2	...	8.4
„ 21,.....	...	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.4
„ 22,.....	...	...	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	...	...	8.6
„ 23,.....	...	...	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.2	...	9.1
„ 24,.....	...	...	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.4	...	9.0
„ 25,.....	...	...	...	...	0.1	0.2	...	0.1	0.1	...	0.2	...	...	0.7
„ 26,.....	...	...	...	0.2	0.7	0.8	1.0	0.9	1.0	1.0	1.0	0.4	...	7.0
„ 27,.....	...	0.1	1.0	1.0	1.0	0.7	1.0	1.0	0.8	0.1	...	...	...	6.7
„ 28,.....	...	...	...	...	...	...	0.8	0.3	0.1	...	0.1	0.1	...	1.4
„ 29,.....	...	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	...	10.0
„ 30,.....	...	...	...	...	0.6	0.1	0.4	1.0	0.6	0.9	1.0	0.2	...	4.8
„ 31,.....	...	...	...	0.1	...	...	...	0.8	0.2	0.3	0.1	...	...	1.5
Sums,.....	...	4.1	19.9	23.6	24.9	24.0	24.9	25.9	24.6	24.6	24.1	8.3	...	228.9

TABLE VI.

RAINFALL FOR THE MONTH OF DECEMBER, 1893.

Date.	1 a.	2 a.	3 a.	4 a.	5 a.	6 a.	7 a.	8 a.	9 a.	10 a.	11 a.	Noon.	1 p.	2 p.	3 p.	4 p.	5 p.	6 p.	7 p.	8 p.	9 p.	10 p.	11 p.	Midt.	Sums.	Duration Hours.
Dec. 1,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 2,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 3,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 4,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 5,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 6,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 7,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 8,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 9,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 10,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 11,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 12,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 13,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
„ 14,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
„ 15,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 16,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 17,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 18,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 19,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 20,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 21,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 22,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 23,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 24,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 25,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 26,.....	...	...	...	...	...	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.005	2
„ 27,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 28,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.015	0.015	2
„ 29,.....	0.005	0.010	0.010	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.025	3
„ 30,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ 31,.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sums, ...	0.005	0.010	0.010	...	...	...	...	0.005	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.015	0.045	10

The daily duration of rain is entered from estimation.

TABLE VII.

DIRECTION AND VELOCITY OF THE WIND FOR THE MONTH OF DECEMBER, 1893.

Date.	1 a.		2 a.		3 a.		4 a.		5 a.		6 a.		7 a.		8 a.		9 a.		10 a.		11 a.		Noon.		1 p.		2 p.		3 p.		4 p.		5 p.		6 p.		7 p.		8 p.		9 p.		10 p.		11 p.		Midt.		Vel.		Dir.
	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Sums.	Means.	Means.
Dec. 1,	...	1	6	3	...	0	6	2	...	1	6	2	3	6	3	4	6	8	7	13	9	12	9	17	10	18	10	19	9	19	9	19	8	16	9	11	8	6	11	2	...	0	11	3	...	1	3	3	186	7.7	8
„ 2,	...	1	3	3	3	3	...	0	...	1	5	8	5	8	4	6	8	10	9	9	10	12	10	15	10	18	9	17	9	19	9	17	8	18	9	11	6	7	12	3	...	0	12	2	9	4	...	0	192	8.0	8
„ 3,	...	1	9	2	6	3	...	0	...	0	7	2	...	1	13	4	9	3	10	3	10	4	8	11	9	14	10	12	10	15	10	17	9	19	8	15	8	9	6	9	6	11	6	11	5	8	6	11	185	7.7	8
„ 4,	3	9	2	6	3	9	3	8	4	8	4	5	4	2	7	7	7	9	7	10	10	15	10	15	10	15	10	15	10	17	9	20	8	18	7	13	7	13	7	11	7	12	7	11	5	8	6	7	263	11.0	7
„ 5,	4	7	4	9	3	7	3	4	3	2	1	11	32	21	1	16	1	18	1	20	32	22	32	17	30	7	31	10	32	12	32	9	2	7	32	4	1	4	3	11	2	17	2	12	2	13	2	11	271	11.3	1
„ 6,	2	22	2	26	2	34	1	39	1	38	1	42	1	41	1	38	2	41	2	35	1	26	2	22	32	22	32	19	32	19	32	18	1	13	1	5	1	12	2	11	3	9	3	7	21	2	28	2	543	22.6	1
„ 7,	3	6	2	16	1	19	1	21	1	15	32	19	1	15	1	11	1	11	3	4	14	6	24	8	24	12	24	11	21	12	23	10	22	4	9	6	2	4	...	0	...	1	...	1	32	8	32	9	229	9.5	31
„ 8,	32	9	1	11	32	15	1	10	3	6	4	6	...	0	7	2	4	7	5	11	9	10	11	5	24	6	22	5	24	4	24	6	24	5	26	3	...	1	...	1	18	3	...	1	...	0	18	3	130	5.4	1
„ 9,	...	0	...	0	...	0	...	0	...	0	...	0	...	0	5	9	5	17	5	15	6	14	9	14	10	13	10	13	11	14	10	12	9	11	9	6	...	0	...	0	13	2	13	3	...	1	...	0	144	6.0	8
„ 10,	...	0	...	0	...	0	...	0	5	9	4	12	5	12	4	13	6	15	7	14	9	15	10	11	11	17	8	20	9	19	9	17	9	16	7	12	5	8	6	8	4	8	5	14	5	18	7	19	277	11.5	7
„ 11,	6	17	5	16	5	14	3	14	6	12	5	9	...	1	3	7	32	7	8	9	32	10	32	15	32	16	1	16	32	8	25	5	22	9	32	5	1	6	1	12	2	10	4	11	3	10	7	9	248	10.3	3
„ 12,	4	4	32	9	1	5	2	6	2	7	1	8	2	9	1	15	32	17	32	18	32	16	32	7	1	11	32	10	2	9	32	9	1	9	1	8	1	9	5	7	...	1	...	0	4	5	4	6	205	8.5	1
„ 13,	2	6	2	6	32	6	32	11	32	14	32	15	32	11	1	8	4	10	4	12	7	16	7	16	8	17	9	18	9	14	9	16	9	16	8	18	7	13	5	14	7	24	7	24	7	28	6	30	363	15.1	6
„ 14,	6	26	6	20	7	18	6	18	6	21	6	17	4	17	4	14	6	17	6	16	7	16	8	16	9	16	7	12	10	12	9	13	9	14	8	20	8	18	7	13	8	17	8	18	8	13	8	17	399	16.6	7
„ 15,	10	11	9	13	8	4	2	5	24	2	19	2	1	7	32	10	32	19	1	15	32	10	4	7	32	12	32	13	2	12	32	13	1	13	1	13	5	16	3	11	1	8	2	6	1	10	1	6	238	9.9	2
„ 16,	...	1	32	2	...	1	...	1	...	0	...	1	...	0	2	6	4	12	7	13	9	12	9	14	8	14	9	15	9	15	8	12	10	14	9	16	7	18	7	18	7	16	6	19	6	23	7	25	268	11.2	7
„ 17,	6	24	5	21	5	21	5	18	6	20	6	17	6	17	6	17	6	14	10	17	10	21	10	16	9	16	8	15	9	14	9	12	8	12	8	11	8	14	7	11	7	10	6	8	6	10	7	10	366	15.3	7
„ 18,	7	11	6	11	7	15	7	12	7	12	7	15	7	16	7	15	7	14	8	22	9	21	9	24	9	22	8	23	9	23	9	23	9	22	8	18	7	17	7	13	7	11	7	12	7	15	5	12	399	16.6	8
„ 19,	6	14	6	22	6	22	7	18	6	20	6	12	6	10	8	9	9	5	9	13	10	4	10	6	9	6	9	15	10	14	9	15	8	20	9	14	11	12	8	13	7	17	7	14	11	10	10	11	316	13.2	8
„ 20,	8	7	8	4	6	4	6	2	6	5	9	10	9	8	7	9	9	14	9	11	10	8	10	11	9	9	9	6	4	7	3	7	30	7	9	4	9	6	9	8	10	10	9	7	8	15	8	16	195	8.1	8
„ 21,	8	13	9	13	9	16	8	17	9	22	7	17	9	13	9	14	7	16	10	17	9	20	9	19	10	22	9	23	8	22	8	22	9	18	8	18	7	14	10	13	10	14	10	12	10	14	9	3	392	16.3	9
„ 22,	...	1	...	0	...	0	...	0	...	0	...	0	17	2	17	2	22	6	32	18	32	21	32	14	1	16	1	11	1	7	24	7	24	9	25	7	...	1	...	0	19	2	...	0	...	0	...	0	124	5.2	31
„ 23,	10	10	9	13	10	14	7	13	8	16	7	14	7	15	8	16	8	18	8	21	9	20	9	21	9	18	8	20	9	19	8	20	8	18	8	15	7	12	7	10	7	10	9	10	9	11	9	12	366	15.2	8
„ 24,	9	12	9	9	12	6	9	4	...	0	...	0	...	0	...	0	9	4	9	7	9	6	9	12	9	18	8	24	8	25	7	28	8	27	7	32	7	35	7	33	6	39	6	38	7	38	6	40	437	18.2	7
„ 25,	6	34	6	30	6	24	7	29	7	26	7	27	7	24	7	23	7	23	7	23	7	25	7	25	7	25	7	24	7	23	9	21	8	24	7	21	8	22	7	21	8	21	7	18	6	15	8	21	569	23.7	7
„ 26,	7	15	9	18	9	17	9	16	8	17	7	12	9	11	9	14	8	14	8	19	9	21	9	25	9	21	9	22	8	23	8	21	9	18	8	14	8	15	8	16	9	12	8	9	8	5	10	7	382	15.9	8
„ 27,	9	9	8	3	...	0	...	0	...	0	...	1	...	1	25	3	...	1	22	3	21	5	8	24	9	25	8	24	8	23	8	20	7	18	6	19	6	27	6	21	6	25	6	27	6	26	6	20	325	13.5	7
„ 28,	7	20	7	28	7	29	7	22	7	21	7	17	8	19	7	18	7	15	7	12	7	14	9	19	10	16	9	17	8	18	8	17	8	17	9	12	9	10	8	12	8	9	7	5	28	16	29	14	397	16.5	7
„ 29,	32	12	31	11	5	10	1	16	32	11	1	5	32	9	31	4	28	2	1	11	32	13	32	14	2	9	32	11	32	10	32	13	32	15	32	16	32	13	1	11	1	4	13	3	...	1	3	5	229	9.5	32
„ 30,	9	7	3	11	3	10	2	13	3	12	1	9	32	9	32	7	2	11	4	16	4	15	3	14	8	8	11	8	8	10	13	7	17	3	26	8	28	8	3	9	3	4	...	0	3	5	3	5	209	8.7	3
„ 31,	...	1	...	1	27	2	1	5	1	9	1	4	...	1	29	2	29	2	21	4	7	2	9	2	23	10	24	10	22	10	22	8	23	5	...	1	...	0	...	0	...	0	10	5	10	3	...	0	88	3.7	25
Sums,	...	311	...	337	...	328	...	324	...	327	...	319	...	306	...	323	...	380	...	431	...	432	...	456	...	469	...	478	...	468	...	454	...	435	...	376	...	350	...	322	...	328	...	311	...	336	...	334	8935	372.3	...
Means,	...	10.0	...	10.9	...	10.6	...	10.5	...	10.5	...	10.3	...	9.9	...	10.4	...	12.3	...	13.9	...	13.9	...	14.7	...	15.1	...	15.4	...	15.1	...	14.6	...	14.0	...	12.1	...	11.3	...	10.4	...	10.6	...	10.0	...	10.8	...	10.8	288.2	12.0	...

TABLE VIII.

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 a.			4 a.			7 a.			10 a.		
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction
1893.												
Dec. 1, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 2, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 3, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 4, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 5, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 6, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 7, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 8, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 9, ...	0	...	...	0	...	...	0	...	...	1	c-cum.	...
„ 10, ...	0	...	...	0	...	...	1	cum.	ENE	1	c-cum.	...
„ 11, ...	0	...	...	0	...	...	1	sm-cum.	...	0	...	...
„ 12, ...	0	...	...	6	sm-cum.	...	4	sm-cum.	...	1	sm-cum.	...
„ 13, ...	0	...	...	0	...	...	8	sm-cum.	S	5	sm-cum.	S
„ 14, ...	8	cum.	SSW	10	nim.	...	5	sm-cum.	WSW	9	sm-cum. / cum.	SE / ESE
„ 15, ...	10	cum.	...	8	sm-cum.	W	10	sm-cum.	W	9	sm-cum.	W
„ 16, ...	0	...	...	0	...	...	5	c-cum. / sm-cum.	ENE	4	c-cum.	SSW
„ 17, ...	9	cum.	E	7	cum.	E	5	c-cum. / cum.	SSW / E	7	c-cum. / cum.	SW / E
„ 18, ...	2	sm-cum.	SE	10	cum.	...	1	sm-cum.	...	5	sm-cum.	SSW
„ 19, ...	5	sm-cum.	...	8	cum.	E	7	sm-cum. / cum.	ENE	8	sm-cum. / cum.	S / E
„ 20, ...	1	sm-cum.	SW	10	sm-cum.	SW	9	sm-cum.	WSW	7	sm-cum.	SSW
„ 21, ...	8	sm-cum.	S	6	sm-cum.	SSW	8	sm-cum.	WSW	3	sm-cum.	S
„ 22, ..	0	...	...	0	...	...	0	...	...	2	c-cum.	...
„ 23, ...	0	...	...	0	...	...	0	...	...	6	c-cum.	WSW
„ 24, ...	0	...	...	0	...	...	0	...	...	0	...	...
„ 25, ...	8	sm-cum. / cum.	W / E	9	cum.	E	10	sm-cum. / cum.	E	10	sm-cum. / cum.	E
„ 26, ...	9	cum.	ESE	10	cum.	ESE	9	sm-cum. / cum-nim.	ESE	4	sm-cum.	S
„ 27, ...	0	...	...	0	...	...	0	...	...	1	cum.	...
„ 28, ...	10	cum.	E	10	cum.	E	10	nim.	ENE	10	cum. / cum-nim.	SSE / ENE
„ 29, ...	10	nim.	...	10	cum.	...	0	...	...	1	c-cum.	...
„ 30, ...	8	cum.	SE	10	cum.	SE	10	cum.	ESE	4	sm-cum. / cum.	E
„ 31, ...	4	cum.	...	9	sm-cum.	SE	10	sm-cum.	SSE	10	sm-cum.	S
Means,...	3.0	...	...	4.0	...	...	3.6	...	...	3.5	...	...

TABLE VIII,—*Continued.*

AMOUNT AND CLASSIFICATION OF CLOUDS AND DIRECTION WHENCE COMING.

Date.	1 p.			4 p.			7 p.			10 p.			Means.
	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	Amount.	Name.	Direction	
1893.													
Dec. 1,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 2,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 3,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 4,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 5,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 6,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 7,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 8,...	0	...	...	0	...	...	0	...	...	0	...	...	0.0
„ 9,...	1	c-cum.	W	0	...	...	0	...	...	0	...	...	0.2
„ 10,...	0	...	...	0	...	...	0	...	...	0	...	...	0.3
„ 11,...	0	...	...	0	...	...	0	...	...	0	...	...	0.1
„ 12,...	0	...	...	0	...	...	0	...	...	0	...	...	1.4
„ 13,...	7	sm-cum.	S	9	sm-cum.	S	10	nim.	...	2	sm-cum.	SSW	5.1
„ 14,...	9	sm-cum. / cum.	SSE / ESE	9	R-cum.	SE	9	sm-cum.	SW	9	str-cum.	...	8.5
„ 15,...	7	sm-cum.	W	5	sm-cum.	NW	1	c-cum.	WNW	3	sm-cum. / cum.	ENE	6.6
„ 16,...	0	...	...	2	c-str.	WSW	0	...	...	2	c-str. / cum.	ENE	1.6
„ 17,...	9	sm-cum.	S	9	sm-cum. / cum.	SSW / E	5	sm-cum.	SSE	8	sm-cum.	SSE	7.4
„ 18,...	0	...	...	0	...	...	0	...	...	1	sm-cum.	...	2.4
„ 19,...	7	sm-cum.	SSE	1	sm-cum.	SSE	1	sm-cum.	SSE	1	sm-cum.	SSE	4.7
„ 20,...	1	sm-cum.	S	4	c-cum. / sm-cum.	S	4	sm-cum.	S	5	sm-cum.	S	5.1
„ 21,...	0	...	...	0	...	...	0	...	...	0	...	...	3.1
„ 22,...	1	c-str.	...	2	c-str.	...	0	...	...	0	...	...	0.6
„ 23,...	7	c-str.	...	1	c-str.	...	0	...	...	0	...	...	1.8
„ 24,...	0	...	...	0	...	...	2	cum.	E	3	cum.	E	0.6
„ 25,...	9	sm-cum. / cum.	S / E	9	sm-cum. / R-cum.	ESE	9	sm-cum. / R-cum.	ESE	9	sm-cum. / cum.	S / ESE	9.1
„ 26,...	4	sm-cum.	...	0	...	...	1	sm-cum.	...	0	...	...	4.6
„ 27,...	1	cum.	...	9	R-cum.	ENE	10	cum-nim.	...	10	cum-nim.	E	3.9
„ 28,...	9	sm-cum.	W	8	sm-cum. / R-cum.	WSW / E	10	cum-nim.	...	10	cum-nim.	...	9.6
„ 29,...	1	c-cum.	...	5	c-cum.	W	0	...	...	0	...	...	3.4
„ 30,...	7	c-cum. / sm-cum.	E	3	c-cum. / sm-cum.	...	0	...	...	0	...	...	5.2
„ 31,...	4	sm-cum.	S	9	sm-cum.	SSE	10	sm-cum.	SSE	9	sm-cum.	SSE	8.1
Means,...	2.7	...	...	2.7	...	...	2.3	...	...	2.3	...	...	3.0

TABLE IX.

MEAN HOURLY COMPONENTS AND MEAN DIRECTION OF THE WIND FOR THE MONTH OF DECEMBER, 1893.

Hour.	Components (miles per hour).						Direction.
	N	E	S	W	+N-S	+E-W	
1 a.	3.87	7.90	0.42	0.00	+3.45	+ 7.90	E 24° N
2 „	5.13	8.00	0.42	0.06	4.71	7.94	E 31° N
3 „	5.16	7.65	0.48	0.06	4.68	7.59	E 32° N
4 „	5.90	6.71	0.13	0.00	5.77	6.71	E 41° N
5 „	5.23	7.26	0.13	0.06	5.10	7.20	E 35° N
6 „	5.61	6.61	0.13	0.03	5.48	6.58	E 40° N
7 „	5.52	5.77	0.26	0.00	5.26	5.77	E 42° N
8 „	5.61	6.48	0.35	0.16	5.26	6.32	E 40° N
9 „	6.06	8.26	0.26	0.23	5.80	8.03	E 36° N
10 „	5.55	10.00	0.77	0.19	4.78	9.81	E 26° N
11 „	4.74	9.68	1.97	0.13	2.77	9.55	E 16° N
Noon.	3.61	11.32	2.06	0.26	1.55	11.06	E 8° N
1 p.	3.10	11.13	2.68	1.00	0.42	10.13	E 2° N
2 „	3.13	11.65	1.74	0.90	1.39	10.75	E 7° N
3 „	2.74	11.81	2.29	0.74	0.45	11.07	E 2° N
4 „	2.42	11.19	1.81	1.13	0.61	10.06	E 3° N
5 „	2.13	11.13	1.29	1.13	0.84	10.00	E 5° N
6 „	2.48	10.00	0.48	0.55	2.00	9.45	E 12° N
7 „	3.35	9.35	0.32	0.19	3.03	9.16	E 18° N
8 „	3.52	8.74	0.32	0.00	3.20	8.74	E 20° N
9 „	3.29	8.97	0.58	0.06	2.71	8.91	E 17° N
10 „	3.03	8.90	0.61	0.00	2.42	8.90	E 15° N
11 „	3.84	8.68	0.52	0.42	3.32	8.26	E 22° N
Midt.	3.71	8.84	0.42	0.32	+3.29	+8.52	E 21° N
Means, ...	4.11	9.00	0.85	0.32	+3.26	+8.68	E 21° N

PHENOMENA :—

Lunar corona :—on the 16th and 25th.

Fog :—on the 3rd, 20th and 27th.

Slight fog :—on the 8th, 22nd and 24th.

Haze :—on the 1st, 9th, 12th, 13th, 15th, 16th, 22nd, 24th and 31st.

Unusual visibility :—on the 29th.

Dew :—on the 1st, 2nd, 9th, 10th, 23rd, 24th and 27th.

THE TYPHOONS OF 1888

By W. Doberck and F. G. Figg.

On the 13th May there were some indications of a depression near South Luzon. The barometer fell sharply in South Luzon on that day and N to E gentle and fresh breezes with rain prevailed there. On the 14th the barometer rose again and the weather improved with light E breezes. There are no data available to give any idea of the intensity of the depression but it apparently moved Westward in the China Sea.

On the 20th May a depression lay over the stations along the Yangtze and on the 21st strong to moderate N to E gales were felt at those stations and also on the East Coast with rapidly rising barometer. This sudden increase of pressure in the North produced gradients for NE winds on the S and SE coasts of China and gentle to fresh NE breezes extended somewhat to the South of Hongkong on the 22nd. South of 19° latitude light to gentle SW breezes prevailed and there was between 19° and 20° latitude an area of slightly lower pressure where light airs and calms with heavy rain prevailed. This area which apparently extended several degrees in longitude continued as a diffused depression for the next few days. NE to E gentle to fresh breezes with showery weather prevailed on the South Coast during this period. but on the 26th May, pressure gave way in the North and the South monsoon advanced up the Coast.

On May 31st a depression lay over the interior of North China in a district to the North and North-West of the Yangtze. The barometer was low at all the northern coast stations and a moderate SE breeze with cloudy sky prevailed at Taku, SSW winds gentle to moderate breezes prevailed at the Shantung Promontory. The barometer was also low at the Yangtze stations where light airs and breezes chiefly South Westerly with cloudy sky prevailed. On the East and South-east coasts a moderate South-west monsoon was blowing with barometer (noon) 29.73 at North Saddle, 29.76 at Foochow, 29.79 at Hongkong. The readings of the barometers at the northern and Yangtze stations cannot be given as the corrections to be applied to them are unknown.

On June 1st the barometer had risen about 0.1 inch at the stations around the Gulf of Pechili and about half that amount at the Shantung Promontory. Pressure had also commenced to increase at the Yangtze stations. Between Hongkong and Shanghai the barometer was almost steady. North Saddle had 29.77, Foochow 29.75, Amoy 29.75, Hongkong 29.79 at noon. Winds were chiefly NE gentle to moderate breezes with thunder showers in Gulf of Pechili and at Shantung Promontory. Light SW veering to NW breezes in the evening along the Yangtze (North stations) with fine weather and at the mouth of that river gentle to moderate S breezes. At Wenchow there was a moderate W breeze and on the South-East coast moderate SW breezes with cloudy sky.

It appears that the depression which was troughlike and lying WSW to ENE was moving from the NW towards the SE and the centre of this trough crossed a line stretching from about the neighbourhood of Hankow to Shanghai during the evening of the 1st June, its passage being characterised by the minimum readings of the barometer and a rather sudden change of wind from about SW to NW and NE with rapidly rising barometer. Temperature was high in front but decreased quickly in the rear of the depression.

On June 2nd a further increase of pressure was noted at the North China stations where moderate NNE to NW breezes were blowing with fine weather. The barometer had risen at the more northern of the Yangtze stations but a fall was noted at Kiukiang. It was calm in the morning but a fresh NE gale blew at that station during the afternoon with rainsqualls. At the mouth of the Yangtze fresh and strong NE breezes with showery weather prevailed with a slightly rising barometer except at North Saddle (29.73) where there was a slight fall. At Wenchow on the East Coast the barometer was low and falling with a gentle SE backing and increasing breeze and wet weather. The barometer had fallen nearly 0.1 inch on the SE coast: Amoy 29.66, Hongkong 29.73, and moderate SW breezes blew in that district with clouded sky.

The troughlike depression had continued to move in a SE direction on the 2nd June and as it advanced the stations on its line of march experienced the rather sudden change from SW to NE winds, the shift of wind being accompanied by rain squalls. It passed to the South of Kiukiang during the morning and to the South of Ningpo somewhat later in the day.

On June 3rd the stations on the SE and S coast experienced the same phenomena of the minimum barometer-reading and a sudden change from SW to N and NE winds accompanied by a rain squall, and in some instances by thunder and lightning with rapidly rising barometer and falling temperature. During the early morning of the 3rd the change came to those places on a curve stretching from Hongkong to Tamsui and during the early afternoon the South Formosa stations experienced the same set of phenomena. A great increase of pressure had taken place at the most western of the Yangtze stations amounting to 0.2 inch or more in the neighbourhood of Hankow. On the East Coast also a considerable rise of the barometer had taken place, but in North China pressure was

decreasing again. The barometer was falling or steady at the stations on the SE coast until about the time the shift of wind took place when it commenced rising. The phenomena appear to have been most intense on a line passing through Kiukiang and North Formosa. At Tamsui force 11 from the SW was registered at 3a. on the 3rd.

The barque *Nicoya* reports: "On the morning of the 3rd off White Dogs had a gale from SW which changed suddenly to NE with much lightning and torrents of rain. Carried away lower fore-top-sail." The S.S. *General Werder* from Nagasaki to Hongkong at noon on the 3rd in 26° 21′, 122° 31′ experienced the change about 2a. having first SSE 5 and then N 6 with rain and the barometer rapidly rising after the shift of wind. The S.Ss. *Kildare* and *Moray* also experienced much the same weather. The *Catterthun* approaching Hongkong from the SE on the morning of the 3rd experienced a sudden shift of wind from SW to NE with heavy rain. The *Telamon* and *Devawongse* to the South of Hongkong in about 20° latitude had there the wind suddenly changing from moderate SW breezes to strong N and NE breezes with rain.

The following observations indicate the character of the weather during the passage of the trough-like depression:—

HONGKONG.

June 3,.....	3 a.	29.66	82	SW	5	o.
	4	.66	82	„	6	„
	5	.69	75	NW	2	opq.
	6	.70	76	SW	1	o.
	7	.70	76	N	2	„
	8	.73	78	„	2	„

MIDDLE DOG.

June 2,.....	9 p.	29.52	78	SW	4	or.
	Midt.	.50	78	„	5	„
3,.....	3 a.	.54	74	NE	4	„
	6	.60	68	„	6	„
	9	.73	66	„	6	od.

TAMSUI.

June 2,.....	9 p.	29.58	83	SSW	4	c.
3,.....	3 a.	.55	82	SW	11	ol.
	6	...	...	...	...	...
	9	.75	67	NNE	4	o.
	Noon	...	...	...	...	...
	3 p.	...	...	...	...	...

FISHER ISLAND.

29.65	78	S	5	c.
.64	78	„	6	„
.67	79	SSW	3	or.
.72	72	NE	6	orq.
.74	71	„	8	„

SOUTH CAPE.

29.66	83	WSW	5	c.
.67	83	„	5	„
.68	86	W	6	„
.69	87	„	6	rq.
.80	75	N	2	cd.

On the 4th the barometer was falling in North Luzon where light SW breezes prevailed. On the SE coast moderate to fresh NE breezes prevailed and the barometer ceased to rise during the day. Along the Yangtze and in North China the barometer was falling quickly again and light S breezes prevailed. From the ship-logs it appears that the NE winds continued to spread to the southward in the China Sea to the latitude of about 16° but they became more feeble as they advanced southward.

This troughlike depression might have been mistaken—at some stations where the winds were severe—for a typhoon-centre moving on an unusual course but it is seen that in point of time the phenomena connected with it took place at the same time over a large area and there is no evidence that the isobars were closed and that winds were cyclonic at any time. The disturbance is accounted for by the sudden increase of pressure in the N and its advance southward.

On the 6th and 7th June the barometer was falling on the SE and E coasts and on the latter day SW breezes had again advanced northward and now blew on the SE coast and in the China Sea. On the East coast a small depression appeared to the South of Ningpo which occasioned moderate E backing gales and wet weather at the mouth of the Yangtze during the day. On the 8th the weather improved with rising barometer.

On June 11th the SW monsoon was blowing strongly over the China Sea to the East of Cochin China and Annam. In Luzon the barometer (Bolinao at noon 29.71) was almost steady and moderate to fresh breezes from SW to SSE prevailed with overcast sky. On the S and SE coasts of China gentle breezes from E to NE prevailed with falling barometer: Hoihow 29.66, Hongkong 29.69, S Cape 29.71, Foochow 29.73. At sea the barque *Electra* in about 18°, 118° had the barometer (29.54) falling very rapidly with fresh SW breeze and heavy rain. The vessel was hove to at 8 a., her commander suspecting a typhoon and during the afternoon and evening a strong SW gale with heavy rain squalls was experienced. The ship *Anna* was in 19° 50′, 114° 21′ at noon on the 11th and had at the time calm weather but there was a moderately rough N sea. The observations are insufficient to determine the centre of the depression—which appears to have just been formed—with accuracy but it appears probable that it was a little to the N of the *Electra's* position perhaps in 19°, 118°.

On June 12th the barometer remained almost steady in Luzon (29.73 at Bolinao) and winds were chiefly gentle SW to S breezes, the weather was cloudy with rain at Bolinao. On the S and SE coast the barometer was falling slowly except at Hongkong where the fall was rather marked. Hoihow had 29.64, Hongkong 29.63, S Cape 29.68, Amoy 29.72, Foochow 29.69. Weather was cloudy but fine for the most part. At Hongkong rain had fallen during the morning hours. The wind direction had backed somewhat on the coast since the previous day and was now from NE a moderate breeze in the south part of the district and somewhat lighter further north. The mean temperature of the day in Hongkong was 80°.6, at Hoihow 84°, at Lamocks 78°, at S Cape 78°, at Turnabout 78°, and at Foochow 81°.

Fresh to strong W to SW breezes prevailed in the S part of the China Sea where the weather was mostly wet and squally. The barque *Electra* at noon in 18° 41′, 117° 30′ had a moderate WSW gale during the morning hours (barometer 29.64 rising) and during the evening the wind backed to S and decreased to a strong breeze (barometer 29.69). The ship *Anna* was at noon in 20° 35′, 114° 7′ and she had a moderate N breeze with rain. The centre of the depression was perhaps in 20°, 116° moving WNW.

On June 13th the following were the prevailing conditions:—In Luzon the barometer remained steady (Bolinao 29.72) with fresh SW breezes in the S and squally wet weather and at Bolinao a gentle SSE breeze with showers. At Hoihow the barometer (29.64) was steady with a light air from NE and fine weather. At Hongkong the barometer (29.56) had fallen 0.07 inch since the previous day. It had also fallen slightly in the neighbourhood of Swatow (29.63). It was steady at the N entrance to the Formosa Channel (Middle Dog 29.70) and rising at S Cape, Formosa (29.73). An increase of pressure of between one and two tenths of an inch had taken place at the stations along the Yangtze. The wind had backed at Hongkong and was from N force 2 to 3 during the morning hours. During the afternoon it gradually veered and increased in force and during the evening it blew a moderate to fresh gale from E by N. The lowest reading of the barometer was at 6 p. 29.46 after which hour it rose very slightly and at midnight read 29.51. Temperature was high during the early morning (81°) but decreased to 78° and 79° later on when the rain set in. Heavy rain fell in the squalls during the afternoon and evening, 3.76 inches being measured for the 24 hours. At Victoria Peak the wind was NE 5 in the morning ENE 8 in the evening. At the stations in the neighbourhood of Swatow the weather was showery and the wind had veered and blew from E to ESE a moderate to strong breeze during the day. In Southern Formosa light to fresh breezes chiefly from SE prevailed and the weather was fine. Light variable airs and fine weather prevailed at the N entrance to the Formosa Channel.

Vessels at sea on June 13th experienced the following weather. In the S part of the China Sea the S.Ss. *Dafila*, *Tetartos*, and *Glücksburg* off the coast of Annam had fresh SW breezes and squally wet weather. The S.S. *Phra Chom Klao* at noon in 14° 08′, 110 °09′ had a fresh W breeze (barometer 29.60 falling) with overcast sky. The barque *Young Siam* in 17° 39′, 114° 10′ had a strong W breeze with heavy rain squalls. The S.S. *Sachsen* in 18° 31′, 111° 51′ had barometer (29.65) falling with light breezes from SW to NW and dark rainy weather. The barque *Electra* in 19° 32′, 117° 30′ had a fresh WSW breeze with a threatening appearance in the N (barometer 29.54). The ship *Anna* in 21° 10′, 113° 54′ had a fresh NNW breeze with strong squalls and rough sea. The *Fushun* and *Mongkut* approaching Hongkong had heavy confused sea and gloomy rainy weather with fresh NNE breezes.

The centre of the depression which was almost stationary was at noon on the 13th June in 20° 20′, 115° 30′.

On June 14th a further increase of pressure of about 0.1 inch had taken place at the Yangtze and East coast stations (N Saddle 29.77), while a decrease of about 0.1 inch is shown by the observations made at the Formosa and adjacent stations: Tamsui 29.61, Fisher Island 29.63, S. Cape 29.61. At Hongkong the barometer (29.56) remained steady while Canton showed a fall of about 0.1 inch. At Hoihow (29.60) there was a slight fall and also in West Luzon (Bolinao 29.68). In North Luzon pressure had decreased 0.1 inch.

Gradients had therefore become steeper for NE winds on the SE coast and moderate breezes increasing to moderate gales in the evening prevailed at the stations in the N part of the Formosa channel. The weather was cloudy but fine. At the S part of the Channel moderate ENE to SE breezes prevailed. At Hongkong the weather was very wet and the wind blew with force 6 to 7 the whole day, at first from about SE by E but later it backed to E by N again, the direction of the lower clouds backing with the wind. At Victoria Peak the wind backed from SE 6 in the morning to E 7 in the evening. Over South Formosa gentle breezes from NW to NE prevailed during the day and the weather was showery at S. Cape with wind veering in the evening to E 2. In Luzon SW gentle breezes chiefly prevailed. In the Gulf of Tongking N to NW gentle breezes prevailed with clouded sky and thunderstorms at Pakhoi in the evening.

Very wet squally weather prevailed in the N part of the China Sea. The *Phra Chom Klao* in 18° 15′, 111° 22′ (barometer 29.52) had a fresh WNW breeze. The barque *Young Siam* in 18° 31′, 114° 29′ had NNW wind and barometer falling. The *Glücksburg* in 19° 20′, 113° 53′ had a moderate W breeze. The barque *Electra* in 19° 32′, 117° 30′ (barometer 29.54) had calm overcast weather. The S.S. *Don Juan* in 21° 26′, 118° 59′ (barometer 29.61) had a fresh ENE breeze. Off the Annam coast SW gentle breezes prevailed and the S.S. *China* to the West of Luzon in 15° 39′, 118° 35′ (barometer 29.68) had a strong WSW breeze and rough sea.

It appears that Depression I was moving towards the WNW on the evening of the 13th and early morning of the 14th and passed at the latter time a short distance to the South of Hongkong as shown by the veering of the wind. Later it appears to have ceased moving or to have become diffused, as a depression is still seen to exist at noon on the 14th with its centre in about 21°¼, 113°½. At the

same time there is evidence of another small depression with centre in perhaps 20°, 119° which caused the decrease of pressure in Formosa and North Luzon and the wind to commence backing again on the SE coast. It is seen that the wind circulation at stations and vessels is divided into two groups the one being governed by the depression to the South of Hongkong and the other by the depression a little to the West of Bashee Channel.

On June 15th pressure had decreased at the Yangtze stations but had increased on the E coast (Steep Island 29.87) and in Formosa (Tamsui 29 66, S. Cape 29.63). On the SE coast (Lamocks 29.55) at Hongkong (29.53) and at Hoihow (29.55) the barometer had fallen. In Luzon it was steady (Bolinao 29.68). Light S to SSE breezes prevailed chiefly in Luzon with showery weather. The wind had veered in South Formosa since the previous day, fresh SE breezes with wet weather being now experienced. Fresh NE breezes blew in the N part of the Formosa Channel, and moderate to strong NE breezes prevailed between Amoy and Hongkong with showery weather except at the latter station where it was overcast but dry. In the Gulf of Tongking NW gentle breezes prevailed with thunder showers at Pakhoi. The mean temperature of the 24 hours was 81°.5 at Hongkong which is about 1°.5 above the mean, at Lamocks 79°, S. Cape 79°.5, Chapel Island 76°, Turnabout 76°.

The following are the observations for noon on 15th June made on board vessels at sea :—

S.S. *Dafila*, ...	16° 08′	110° 55′	29.57	N	...	oq.	
„ *China*, ...	18 14	116 13	.56	W	6		rough sea.
„ *Tetartos*, ...	19 50	112 30	...	NNE	6	oq.	
BK. *Young Siam*, ...	20 08	114 07	...	calm	...	o.	threatening, strong SW sea.
„ *Electra*, ...	20 06	117 31	.49	WSW	5	oqr.	
S.S. *Phra Chom Klao*, ...	21 35	113 00	...	ENE	6	oqr.	
„ *Danube*, ...	21 58	113 40	.54	ENE	4		

Depression II appears to have moved WNW since the 14th and to have been situated at noon on the 15th in about 20°¾, 116°½ and depression I has ceased to exist or has become absorbed in depression II.

On June 16th pressure showed a further reduction at the Yangtze and E coast stations (Steep Island 29.77) amounting to about 0.1 inch. At the stations around the Formosa Channel the barometer had continued rising the increase amounting to about 0.05 inch. Foochow had 29.70, Tamsui 29.70, Amoy 29.68, Fisher Island 29.65, S. Cape 29.68. At Breaker Point (29.49) and Hongkong (29.46) there was a decrease of 0.06 inch and 0.07 inch respectively. Hoihow had 29.57 a slight rise and in Luzon (Bolinao 29.77) there was an increase of nearly 0.1 inch.

Fresh E to SE breezes and at some places showery weather prevailed on the East Coast, light variable and fine weather at the N entrance to the Formosa Channel, NE veering to SE moderate to strong breezes with showers between Amoy and Breaker Point, moderate to fresh SE veering breezes with showers in South Formosa, gentle SSE breezes with rain on the W coast of Luzon. At Hongkong NE to N light breezes backing to W 2 towards midnight with almost continuous rain, 2.40 inches being measured for the 24 hours. The barometer was falling steadily and moderately fast the whole day, the lowest reading, when corrected for daily variation, occurring at midnight and the direction of the lower clouds backed with the wind. In Hoihow light W breezes with fine weather prevailed.

The mean temperature at Hoihow was 82°, at Hongkong 78°.8, at Breaker Point 79°.5, at S. Cape 81°, at Fisher Island 77°, at Tamsui and Foochow 79°.

The following observations at noon on June 16th are from vessels in the vicinity of the depression :—

S.S. *Dafila*, ...	19° 26′	112° 07′	29.53	W	...	oq.	threatening.
BK. *Electra*, ...	20 07	116 44	.49	SSW	9	oqr.	high sea.
„ *Young Siam*, ...	20 29	114 09	...	N	3		heavy SW sea.
S.S. *China*, ...	20 34	114 17	.46	NW	6		rough sea.
„ *Tetartos*, ...	21 55	113 50	...	NNE	7	oqr.	do.
„ *General Werder*, ...	22 26	115 09	.41	NE	8	oq.	do.

Of these vessels the barque *Electra* had the wind veering slightly with somewhat better weather in the evening. The S.S. *China* steering for Hongkong had the wind backing during the afternoon and at 6 p. it blew a fresh gale from W with very severe squalls of wind and rain. The S.S. *General Werder* steering about ENE had the wind veering and decreasing in force with rapidly rising barometer (at midnight 29.63 SSE 5).

The centre of the depression was in 21° 30′, 115° 20′ at noon on the 16th and it was now a well formed depression though of no great intensity. During the evening its speed was accelerated and it entered the coast within 40 miles to the East of Hongkong about midnight moving NNW.

The following gives the data at some of the coast stations for noon on June 17:—

Bolinao,	29.84	+ .07	E	3	o.	South Cape,	29.76	+ 08	S	5	cpq.
Hoihow,	.63	+ .06	WSW	3	cp.	Fisher Island,	.71	+ .06	SE	5	opqf.
Hongkong,	.54	+ .08	SSW	4	o.	Chapel Island,	.66	+ 02	SE	4	cf.
Canton,	.43	— .14	WNW	1	o.	Middle Dog,	.70	+ .01	SSW	4	om.
Breaker Point,	.61	+ .12	S	4	om.	Steep Island,	.70	— .07	SSW	3	f.
Lamocks,	.62	+ .09	SSE	4	opf.						

The first column gives the name of the station, the second the height of the barometer, the third the change in hundredths of an inch of the barometric readings since noon of the previous day, + meaning an increase, — a decrease in the readings, the fourth and fifth give the wind direction and force and the sixth the state of the weather.

Pressure had decreased considerably at the stations around the Gulf of Pechili and at the Yangtze and E coast stations. At the northern entrance to the Formosa Channel there was a very slight increase and an increase of between 0.05 and 0.10 inch in all the other districts with the exception of Canton which shows a decrease of 0.14 inch.

Along the Yangtze light airs and breezes chiefly from E and ESE prevailed with fine weather. On the E coast gentle breezes from SE to SSW were blowing with dry but foggy weather and on the SE coast and in South Formosa moderate to fresh SE veering breezes prevailed with showery weather. At Hongkong the wind had backed to SSW by 3 a. of June 17th and blew at that time with force 6. It continued to blow from the same direction the whole day but gradually decreased to force 3 in the evening. Heavy rain fell during the morning and the weather continued showery the whole day. 2.73 inches were measured for the 24 hours. Lightning was noted in the evening. The barometer was after 2 a. rising quickly the whole day. At Canton the lowest recorded reading of the barometer (29.39) was made at 9 a. with wind NW 1. At 3 p. the barometer (29.49) had risen considerably and the wind had backed to W 1 and the weather had become wet. At 9 p. (barometer 29.55) the wind was from SE force 1. At Hoihow there was a gentle WSW breeze with showers.

Vessels arriving at Hongkong from the Eastward report strong SE to S breezes with very heavy squalls of wind and rain and a heavy sea from S to SE. The barque *Electra* in 20° 30′, 115° 19′ (barometer 29.54) had a strong S gale with high sea. The barque *Young Siam* in 20° 38′, 113° 51′ had a strong W gale with heavy rain squalls and high sea.

The centre of the depression appears to have been a little to the East of Canton about 9 a. on the 17th and at noon it was in about 23° 30′, 113° 45′.

This depression cannot be traced after June 17th.

Depressions I and II both appear to have originated in an elongated area of low pressure in 19° to 21° lat. and lying between the E coast of Hainan and about 120° E long. No more than a strong gale was experienced at sea or a fresh gale on shore from either of them and the depression at the centre in the first probably did not exceed 0.25 inch and in the second 0.40 inch below normal.

On June 22nd and 23rd there was a depression in the Gulf of Pechili which caused a fresh SW gale in the neighbourhood of Chefoo. This depression appears to have moved Eastward across N Corea.

On June 24th a considerable decrease of pressure took place at the Yangtze stations, on the E coast and at the stations around the N entrance to the Formosa Channel. The greatest fall amounting to 0.15 inch was observed at the mouth of the Yangtze. N Saddle and Steep Island had 29.68 (falling rapidly), Middle Dog 29.63, Amoy 29.66, Hongkong 29.68. At the latter station the barometer was falling but slightly. Winds were light variable airs chiefly SE and calms along the Yangtze with rain in some places, and at the mouth of that river fresh SE to E breezes decreasing towards evening rain in some places, and at the mouth of that river fresh SE to E breezes decreasing towards evening at some stations and the direction suddenly shifting to about W late at night. The weather was wet and foggy. Heavy rain fell at Wenchow during the day but it was calm. On the SE coast light to moderate S to SW breezes prevailed and the weather was fine for the most part.

At sea the S.Ss. *Bokhara*, *City of Peking* and *Miike Maru* from Japan to Hongkong were not far asunder in about 30°, 127° (barometer 29.73) and they experienced a fresh SE veering and increasing breezes with squally wet weather and falling barometer.

The centre of the depression appears to have moved from the WSW and to have been in the neighbourhood of Shanghai on the evening of the 24th.

During the early morning of the 25th June (about 3 a.) the barometer attained its minimum at the stations at the mouth of the Yangtze and the wind was from W and NW force 4 to 5. Drizzling rain was falling and there was fog. During the day the barometer was rising quickly (North Saddle 29.61). The barometer had risen at the Yangtze stations and on the SE coast it was almost steady. Foochow had 29.60, Amoy 29.64 and Hongkong 29.65. In this district moderate to strong S and SW breezes prevailed with showery weather. Pressure was decreasing rapidly in S Korea (Fusan 29.58) and W Japan (Nagasaki at 2 p. 29.45), with wind NE 4 at Fusan in the morning and increasing to a fresh gale towards the afternoon with rain. In W Japan wet weather with E veering gales prevailed during the day.

The following observations made on board vessels at sea are for noon on June 25th :—

S.S. *Kwongsang*, ...	26°	28′	120°	28′	29.58	SW	6	oq.	confused sea.
„ *City of Peking*, ...	27	33	123	12	.60	SW	5		
„ *Bokhara*, ...	27	34	122	49	.54	SW	5	o.	
„ *Miike Maru*, ...	28	36	124	40	.51	W	8	orq.	
„ *Norden*, ...	31	17	127	58	...	SW	9	o.	high sea.

Of these the *Miike Maru* steering SW had the lowest barometer (29.44) at 2 a. with a moderate SE gale at that time which quickly veered and increased to a fresh SW gale at 4 a. From 8 a. it blew a fresh to strong W gale until 8 p. when it began to decrease and at midnight was NW 4 (barometer 29 60). After 2 a. continuous heavy rain was experienced the whole day. The *Norden* also steering SW had the wind veering and decreasing to a moderate W gale at midnight.

The centre at noon on June 25th was to the Eastward of Nagasaki and north of the *Norden* and situated in about 32°½, 128°. Subsequently as seen from the Japanese Weather Maps it traversed Corea Straits during the evening and on the 26th and 27th June moved NEward in the sea of Japan.

This depression came from the interior of China and was therefore of a different type to those depressions forming in the Pacific or China Sea. It attained however considerable intensity when it gained the sea and its path is therefore given though it must not be classed with the paths of typhoons proper.

During the early morning hours of the 4th July a small depression—which had arrived from the interior and had been felt at the Yangtze stations somewhat earlier—passed near Shanghai moving to the Eastward. No more than fresh breezes were experienced at the mouth of the Yangtze but there was a considerable rainfall. During the afternoon this depression appears to have approached the W coast of Japan. At Nagasaki—the wind having veered since the morning—there was a moderate S gale with wet weather and falling barometer. Towards evening the barometer rose at that station and the area of slightly low barometer with light winds and calms existed over Corea Straits and the Inland Sea.

On the 5th and 6th July pressure was increasing on the China coast but on the 7th it was decreasing again particularly along the Yangtze. In Luzon there was also a reduction of about 0.1 inch.

The following are some of the observations for noon on the latter day :—

Manila, ...	29.80	— .10	NNE	2	c.	Foochow, ...	29.88	— .05	SE	2 c.
Bolinao, ...	.79	— .09	ESE	2	o.	North Saddle, ...	.89	— .07	SSW	5 f.
Hongkong, ...	.86	— .01	E	3	o.	Kiukiang, ...	...	— .12	SSW	3 b.
South Cape, ...	.85	— .03	NE	3	cr.	Chefoo, ...	...	— .06	SSE	3 c.
Amoy, ...	.90	+ .01	E	2	b.	NE Shantung Py., ...	...	— .07	S	4 cm.

The following observations are for the 8th July at noon :—

COAST STATIONS.

Manila, ...	29.74	— .06	S by E	2	c.	Amoy, ...	29.80	— .10	SW	2 b.
Bolinao, ...	.71	— .08	SE	3	c.	Middle Dog, ...	.79	— .11	E	2 b.
Hoihow, ...	.78	— .03	ENE	3	c.	North Saddle, ...	.83	— .06	SSW	5 f.
Hongkong, ...	.78	— .08	ENE	3	c.	Kiukiang, ...	...	— .04	SW	3 b.
Breaker Point, ...	.79	— .06	NE	3	c.	NE Shantung Py., ...	...	— .24	NNE	2 om.
South Cape, ...	.78	— .07	NE	3	c.	Chemulpo, ...	...	— .32	SSW	8 orq.

VESSELS.

S.S. *Diomed*, ...	10°	38′	111°	00′	...	WSW	5		high sea.
„ *Deuteros*, ...	13	49	110	10	29.74	W	2	or.	
„ *Mongkut*, ...	14	42	109	16	.67	W	3		
BK. *Dagmar*, ...	14	23	118	37	...	S	5	c.	
„ *Aron*, ...	15	54	114	14	.60	NNE	5	pq.	
S.S. *Dafila*, ...	17	00	118	11	.69	E	4		
„ *Cicero*, ...	19	38	112	18	...	NE	6	oq.	
„ *Diamante*, ...	21	09	116	03	.77	ENE	5	q.	swell from East.

It is seen that the barometer showed a reduction of pressure at all stations on the 8th July. The fall in North China and Corea was caused by a depression lying now near Chemulpo on the West coast of Corea and which had advanced from the WSW and was already indicated to some extent on the 7th to have been situated in a district to the North of the Yangtze and West of Shantung. The lowest recorded readings of the barometer were made at the Chefoo and Shantung Promontory stations at 3a. on the 8th the wind backing from SE to NE during the day with wet weather. At Chemulpo the lowest reading of the barometer was made at 3p. with a fresh SSW veering gale and wet weather. The wind blew somewhat stronger from the W during the evening.

In the South a small depression No. III was situated in about 15°, 115°. In Southwest Luzon gentle SW to SE breezes prevailed with cloudy weather. In the North part of the China Sea moderate to fresh E to NE breezes were blowing. On the S and SE coasts, the barometer was falling and gentle ENE to NE breezes with mostly fine weather prevailed. The barque *Aron* about 60 miles NW of the centre had a fresh NNE breeze and showery squally weather with falling barometer while the barque *Dagmar* about 200 miles ESE of the centre had a fresh S breeze. The S.S. *Dafila* 200 miles NE by E of the centre had a moderate E breeze and the S.S. *Diomed* 350 miles SW of the centre had a fresh WSW breeze and high sea. Off the coast of Annam in about 14° Latitude gentle W breezes prevailed with rain.

The following are the noon observations for July 9th :—

COAST STATIONS.

Manila, ...	29.75 + .01	SSW	2	c.	Breaker Point, ...	29.75 − .04	NE	3	c.
Bolinao, ...	.70 − .01	SSE	3	c.	Amoy, ...	.77 − .03	NE	1	c.
Hoihow, ...	.70 − .08	NE	4	c.	Middle Dog, ...	.77 − .02	NE	4	cm.
Hongkong, ...	.72 − .06	ENE	4	c.	North Saddle, ...	.85 + .02	SW	5	cm.
South Cape, ...	.69 − .09	NE	3	c.					

VESSELS.

S.S. *Glenearn*, ...	9°11′	109°21′	29.76	SW	5	o.	high sea.
„ *Diomed*, ...	14 20	112 45	...	SW	5	or.	
„ *Preussen*, ...	15 21	113 07	...	SW	5	oq.	
BK. *Aron*, ...	16 25	114 23	.65	SSE	5	opq.	high sea.
„ *Dagmar*, ...	16 43	117 10	...	SE	5	c.	
S.S. *Deuteros*, ...	17 20	110 38	.52	N	6	orq.	high sea.
„ *Mongkut*, ...	18 17	107 56	.64	N	3	od.	
„ *Dafila*, ...	19 48	115 57	.67	ENE	5		

On the 9th July the barometer was falling on the SE coast and in the Gulf of Tongking. Gentle to moderate E to NE breezes prevailed in these districts and the weather was cloudy but fine. In Luzon the barometer was steady with cloudy weather and light to gentle SW to SE breezes. The mean temperature at Hongkong (83°.9) was 2°.4 in excess of the mean. At Hoihow the mean temperature was 85°, at South Cape 84°, at Middle Dog 82°.

The centre of the depression was situated at noon in 16° 45′, 111° 45′. About 100 miles to the SSE of this position the *Preussen* and *Diomed* had fresh SW breezes and squally wet weather with falling barometer. On board the barque *Aron* now about 100 miles ESE of the centre the wind had veered since the previous day with rising barometer. She now had a fresh SSE breeze with rain squalls and a high sea. The *Deuteros* was about 75 miles WNW of the centre and the barometer was falling rather quickly and the wind had veered from NW since early morning. During the evening it blew a strong NE gale. They had very heavy rain squalls and a high sea throughout the day and the vessel went half speed only after noon.

The following are the observations for noon on the 10th July :—

COAST STATIONS.

Bolinao, ...	29.74 + .04	SSE	3	o.	Breaker Point, ...	29.72 − .03	ENE	5	c.
Hoihow, ...	.65 − .05	ENE	5	oq.	Amoy, ...	.73 − .02	SE	3	b.
Haiphong, ...	.69 − .03	NE	3	c.	Middle Dog, ...	.75 − .02	NE	3	cm.
Pakhoi, ...	.67 − .07	NE	3	c.	North Saddle, ...	.88 + .03	SSW	5	bf.
Hongkong, ...	.68 − .04	E	5	o.					

VESSELS.

SH. *Comet*, ...	5°11′	107°06′	29.90	SSW	5		
S.S. *Kong Beng*, ...	11 51	109 23	...	SSW	2		
„ *Glenearn*, ...	13 01	112 09	.61	SW	4	o.	
„ *Diomed*, ...	17 50	114 27	...	SW	3	c.	high sea.
BK. *Aron*, ...	18 34	114 39	...	SSE	4	b.	do.
S.S. *Deuteros*, ...	19 04	111 47	.56	ENE	9	orq.	do.
„ *Preussen*, ...	20 34	113 46	...	SE	4	orq.	do.
„ *Mongkut*, ...	20 05	109 40	.59	ENE	6	c.	do.

On the 10th July at noon the centre of the depression was in about 17°, 110° 45′. It had moved very slowly towards WNW since the previous day. For lack of observations to the W, the centre is not accurately determined.

In Luzon the barometer was rising with gentle and moderate breezes from SW in the South to SE in the North. The weather was cloudy. On the SE coast of China the barometer was falling slightly and winds were from E to NE veering gentle to fresh breezes with fine weather. At Hongkong the barometer was changing irregularly during the day and the wind was from between E and ENE of force 4 to 6 with some thundershowers during the afternoon. The lower clouds came from ENE the whole day. At Hoihow (Hainan) the barometer was falling and a fresh ENE breeze prevailed throughout the day with showery squally weather (83.2). The mean temperature at Hongkong remained above the mean. Hoihow had mean temperature 83°, South Cape 82° and Middle Dog 82°.

The S.S. *Deuteros* was about 130 miles NNE of the centre. During the morning hours she had a fresh gale from between ESE and ENE and the rain squalls continued but the sea was moderating. The barometer was changing irregularly and it did not rise decidedly until the evening (at midnight 29.59) but the wind decreased in force after noon and became ESE 6 during the evening. The rain

also ceased about noon but the sky remained overcast. About 300 miles to the ENE of the centre moderate S to SE breezes prevailed, and about 250 miles to the SSE of the centre the S.S. *Glenearn* had a moderate SW breeze and sky overcast.

The following observations are for noon on July 11th :—

COAST STATIONS.

Bolinao, ...	29.77 + .03	SSE	2	c.	Hongkong, ...	29.76 + .08	E	5	c.
Hoihow, ...	.66 + .01	ESE	3	op.	Breaker Point, ...	.79 + .07	SE	4	cp.
Pakhoi, ...	.69 + .02	ESE	4	c.	Middle Dog, ...	.81 + .06	NE	2	cm.
Haiphong, ...	.65 — .04	NE	4	oq.					

VESSELS.

SH. *Comet*, ...	7°33′	108°35′	29.81	W	7	rqtl.	
S.S. *Kong Beng*, ...	15 33	110 42	...	SW	4		
„ *Glenearn*, ...	17 20	113 28	.66	SE	4	o.	
„ *Mongkut*, ...	20 19	111 01	.67	ESE	5	oqr.	high sea.
BK. *Aron*, ...	21 05	114 00	...	E	5	pq.	do.
„ *Dagmar*, ...	21 18	114 22	...	ESE	2		
S.S. *Deuteros*, ...	21 19	113 37	.72	SE	6	o.	

On July 11th at noon the centre was in about 18°, 108°.

On July 11th at Haiphong the barometer was still falling and the wind was commencing to veer. During the afternoon and evening it blew from ESE with at times the force of a fresh gale. The weather was wet and very squally. At Hoihow and Pakhoi the barometer had commenced rising and the wind had veered to ESE. At both these stations the weather was squally and showery and at Pakhoi there was some thunder and lightning. At Hongkong the barometer had risen decidedly and during the morning the wind blew with force 6 to 7 from the ESE with some showers. Later in the day the wind decreased to force 4 and the weather improved. The mean temperature at Hongkong was 82°.6 and at Hoihow 82°.

There was no vessel at all near the centre but those to the East of Hainan and South of Hongkong had moderate to fresh E to SE breezes with mostly squally weather and high sea. The S.S. *Kong Beng* about 200 miles SE of the centre had a moderate SW backing breeze with barometer rising.

On the 12th July the centre had entered the coast of Tongking and may have been in 19°, 104°. The barometer had risen 0.15 at Haiphong and read at noon 29.80 with a strong SE breeze and very squally wet weather. At Pakhoi and Hoihow the barometer had risen over 0.1 inch since the previous day and the weather was now fine with light E to SE breezes.

In this depression the lowest barometer reading (29.48) recorded was made on board the *Deuteros* at the time about 100 miles from the centre and no more than a strong gale was observed at any station or on board ship. It is probable that typhoon force was not reached. Winds were stronger in the right than in the left hand semicircle. On an average it blew with force 6 at a distance of 100 miles from the centre with force 5 at 200 and with force 4 at 300 miles.

On July 12th a typhoon (VI) was indicated by the observations to have been situated to the East of Luzon perhaps in 15½°, 116½° but this position for the centre is very uncertain for lack of observations.

In Luzon the barometer was falling rapidly. It was lowest in SE Luzon (Daet 4p. 29.62) and light airs chiefly from W prevailed there. In SW Luzon (Manila 4p. 29.67) gentle breezes from SW prevailed and in N Luzon (Aparri 4p. 29.71) light airs from N. The weather was mostly overcast and showery. On the SE Coast of China the barometer commenced falling again towards evening. At noon Breaker Point had 29.79, South Cape 29.80, Amoy 29.82, Middle Dog 29.83. The weather was fine and winds were chiefly from between E and NE force 2 to 4. At North Saddle the barometer read 29.87 at noon, at Hongkong 29.81. The mean temperature at Hongkong was 83°.6 or about 2° above the normal. At South Cape it was 83°.5 and at Middle Dog 82°.

The following are the observations for the 13th July at noon:—

COAST STATIONS.

Albay, ...	29.56	WSW	2	o.	Breaker Point, ...	29.66 — 13	E	3	b.
Manila, ...	.56 — 20	SW	5	or.	Amoy, ...	.69 — 13	NE	3	b.
Bolinao, ...	.52 — 21	W	3	o.	Turnabout, ...	.75 — 08	NNE	7	cm.
Aparri, ...	.43 — 34	N by E	6	o.	Middle Dog, ...	.76 — 07	NE	4	cm.
South Cape, ...	.60 — 20	NNE	5	c.	North Saddle, ...	.88 + 01	S	4	cm.
Hongkong, ...	.71 — 10	WNW	1	c.					

VESSELS.

S.S. *Ashington*, ...	10°30′	124°30′	29.68	SW	5	oqr.
SH. *Comet*, ...	12 20	112 17	.75	WNW	6	
S.S. *China*, ...	15 40	110 26	.71	NW	2	c.
„ *Carisbrooke*, ...	18 03	111 22	.80	NNE	2	c.

Pressure had decreased very rapidly in Luzon particularly in the north where the change amounted to just over 0.3 inch in 24 hours. In the extreme south of the island the decrease was about half this amount. The weather had become wet and squally. In N Luzon winds were between NNW and NNE mostly gentle breezes but at Aparri a strong breeze. In SW Luzon the wind was from SW and increasing from a moderate breeze to a moderate gale.

As far as can be judged from these observations, which are incomplete, the centre on July 13th at noon seems to have been situated off the E coast of N Luzon in 17°, 123°¼.

At this time the barometer was falling rapidly at S Cape Formosa and at the adjacent channel stations and on the SE coast with increasing NE wind. At S Cape it blew a moderate gale during the evening and the weather became wet and squally. At the N entrance to the Formosa Channel a moderate to fresh NE gale was experienced towards evening. The weather remained fine on the SE coast. At Hongkong fine weather prevailed with light airs and calms. The lower clouds came from between N and NE.

The mean temperature (84°.0) continued above the average at Hongkong. At S Cape it was 83° and at Middle Dog 82°.

The following observations are for noon of July 14th :—

COAST STATIONS.

Manila, ...	29.56	.00	SW	6	og.	Chapel Island,.....	29.39	— .28	NNE	9	om.
Bolinao, ...	.49	— .03	SSW	5	oq.	Amoy, ...	.43	— .26	NE	9	c.
Hoihow, ...	.67	— .11	W	4	b.	Turnabout, ...	.47	— .28	NE	8	cm.
Hongkong, ...	.46	— .25	N	1	c.	Tamsui, ...	.49	— .25	E	6	o.
Canton, ...	.47	— .23	NE	2	c.	Middle Dog, ...	.53	— .23	ENE	6	cm.
Breaker Point, ...	.42	— .24	NNE	2	o.	Wenchow, ...	...	— .07	ESE	2	c.
Swatow, ...	.41	— .27	NNE	2	o.	North Saddle,.....	.84	— .04	E	4	cm.
Lamocks,.....	.37	— .27	NE	7	cm.	Kiukiang, ...	...	— .14	E	4	b.
South Cape, ...	.37	— .23	E	5	gr.	Ichang, ...	...	— .13	ESE	3	b.
Fisher Island,.....	.35	— .27	SSE	1	om.						

VESSELS.

S.S. *Ashington*, ...	11°	50′	122°	50′	...	SSW	5	oqr.
SH. *Comet*,.....	14	37	112	59	29.66	SW	5	
S.S. *Tritos*, ...	15	58	110	32	.63	WNW	3	
„ *China*,.....	18	48	111	55	.54	W	3	c.
„ *Carisbrooke*, ...	20	57	113	27	.59	N	1	o. swell.
„ *Benarty*,.....	21	10	113	04	...	N	2	oq.
„ *Diomed*, ...	22	22	115	06	...	NE	2	o.
„ *Tsinan*, ...	23	01	116	54	.48	NE	4	
„ *Fushun*, ...	24	03	118	31	...	NNE	8	
„ *Ningpo*, ...	24	20	118	00	.45	NE	7	c.
„ *St. Petersburg*, ...	24	22	118	57	.40	NNE	7	of.
„ *Oceanic*, ...	26	19	121	53	.65	E	4	c.
„ *Norden*, ...	28	52	124	16	...	SSE	8	opq. high sea.

The centre of the typhoon on July 14th at noon was situated in 20° 20′, 119° 0′ moving towards WNW. The foregoing information is incomplete in respect of observations from N Luzon which are not available. We have only Bolinao and Manila. At the former station it blew a fresh WSW gale during the morning with hard rain squalls and rising barometer and in the afternoon the wind backed to S and decreased to a gentle breeze. The centre had passed to the south of S Cape during the early morning hours. They had there a moderate NE gale at 3 a. decreasing and veering. At 9 a. the barometer read 29.39 which gives the lowest reading when corrected for daily variation. At 9 p. the barometer had risen to 29.49. The In the evening the wind had veered to SE 5 and weather was showery with detached clouds. The centre was about 150 miles SSW of S Cape at 9 a.

The centre was advancing almost directly upon Hongkong and during the evening the barometer (midnight 29.38) continued falling rather quickly with exceedingly high temperature (at 11 p. 90°.1) and the mean of the 24 hours (86°.3) was 4°.8 above the normal. The humidity was at the same time very low. For the greater part of the day it was almost calm, light airs from between W and N predominating. Late in the evening it freshened a little and blew with force 2 to 3 from N, the sky becoming overcast with R-cum cloud which came from NNE. At Victoria Peak the wind was NNE 4 at 10 p. The mean temperature at Canton (92°) was considerably above the mean.

At Breaker Point and Swatow the wind freshened from the NE during the evening and blew a fresh gale from that direction towards midnight. The barometer was falling rather quickly at Breaker Point (midnight 29.29).

At Lamocks the wind which had been NE 8 during the evening veered to E 8 at midnight (barometer 29.29) and the weather then became showery.

At the stations around the Formosa Channel from Amoy northwards the barometer commenced to rise during the evening (midnight Amoy 29.48, Middle Dog 29.51) and the wind which had blown a moderate to strong NE gale all day decreased in force and veered a little. The weather was cloudy but fine for the most part.

On the East Coast the barometer was falling slowly, the wind moderate SE backing breezes and the weather fine but becoming wet towards evening at the more southern stations of this district.

Along the Yangtze the weather was fine with light to moderate breezes from SE to E. The barometer was falling moderately fast at the most western and slightly at the eastern stations.

There was no vessel near the centre at noon on July 14th whose log has been received but towards evening the *St. Petersburg*, *Metapedia*, *Propontis*, and *Diomed* off the coast between Hongkong and Swatow were experiencing bad weather. The log of the *St. Petersburg* is appended. Those of the others are incomplete no barometer readings having been entered. They had NE gales during the evening with rain squalls and high sea. The centre was situated in 21° 25′, 117° 20′ at midnight on the 14th July.

The following observations are for noon July 15th:—

COAST STATIONS.

Bolinao,	29.72	+ .23	SSE	3	o.	Lamocks,	29.46	+ .09	S	7	omd.
South Cape,	.67	+ .30	SSW	4	c.	Fisher Island,	.58	+ .23	SE	8	cm.
Hoihow,	.52	− .15	WSW	3	or.	Chapel Island,	.54	+ .15	SE	4	cmp.
Pakhoi,	.49	− .11	WNW	3	o.	Middle Dog,	.61	+ .08	SSW	2	cm.
Hongkong,	.23	− .23	NW	3	o.	Wenchow,		+ .02	ENE	5	or.
Canton,	.30	− .17	NE	1	cr.	North Saddle,	.79	− .05	SE	5	cm
Breaker Point,	.39	− .03	S	8	df	Kiukiang,		− .04	NE	2	b.
Swatow,	.39	− .02	ESE	6	or.	Ichang,		− .06	SE	2	b.

VESSELS.

S.S. *Ashington*,	14° 10′	120° 18′	29.75	SW	5	orq.		
„ *P. C. Chom Klao*,	15 15	110 32	.64	S	3	c.		
SH. *Comet*,	17 17	114 09	.65	SSW	5			
S.S. *Tritos*,	19 06	112 10	.52	WSW	5	orq.		
„ *China*,	21 47	113 37	.30	NW		orq.	high sea.	
„ *St. Petersburg*,	21 36	115 20	.25	SSW	11	orq.	heavy confused sea.	
„ *Propontis*,	22 42	116 10		SE	9	orq.	high sea.	
„ *Diomed*,	23 10	117 17		ESE	8	or.		
„ *Metapedia*,				SE	9	orq.	high cross sea.	
„ *Fooksang*,	23 15	116 50	.52	SE	8			
„ *Oceanic*,	23 35	117 55	.51	SSE	7			
„ *Ningpo*,	24 20	118 00	.59	ESE	6			
„ *Hailoong*,	24 27	118 24	.59	ESE	9			
„ *Cassandra*,	24 28	118 49		S	3			
„ *Norden*,	26 41	121 05		ESE	8	opq.	high sea.	

The following are some additional detailed observations for July 15th:—

HOUR.	LAMOCKS.				BREAKER POINT.				HONGKONG.			
	Bar.	Temp.	Wind.	Weather.	Bar.	Temp.	Wind.	Weather	Bar.	Temp.	Wind.	Weather.
3 a.,	29.26	79	ESE 8	odm	29.21	80	ENE 9	pqm	29.35	82	ENE 1	o
6 a.,	.28	79	SE 7	...	.20	80	E 9	...	.31	83	NW by W 2	...
9 a.,	.39	77	SE 7	orm	.26	80	E 8	...	.28	81	W by S 2	or
Noon,	.46	78	S 7	odm	.39	80	S 8	df	.23	82	NW 3	o
3 p.,	.52	79	S 6	...	.44	81	SE 7	om	.22	80	SSW 5	orq
6 p.,	.55	79	SSW 4	om	.49	81	SE 7	...	.29	78	S 5	...
9 p.,	.62	79	ESE 4	...	.59	81	S 6	...	.43	78	S 6	...
Midt.,	.64	79	ESE 4	cm	.73	80	S 6	cm	.52	78	S by W 5	...

HOUR.	MACAO.				CANTON.			
	Bar.	Temp.	Wind.	Weather.	Bar.	Temp.	Wind.	Weather.
3 a.,	29.34	86	ESE 1	cml	29.31	87	E 1	o
6 a.,	.34	87	WNW 2	cv	.33	...	E 1	c
9 a.,	.31	86	WNW 2	cd	.34	90	E 1	...
Noon,	.28	84	WNW 3	cv	.30	...	NE 1	cr
3 p.,	.25	84	WSW 3	cd	.22	85	N 1	cg
6 p.,	.27	84	SSW 3	...	.16	...	N 4	rq
9 p.,	.35	82	SSW 5	cqr	.27	78	ESE 8	...
Midt.,	.43	81	S 4	cd	.41	...	SE 3	...

LOG OF S.S. *ST. PETERSBURG.*

July 14,.....	Noon	24°	22′	118°	58′	29.39	NNE	7	cloudy, foggy horizon.
	Midt.	22	32	116	54	.28	N	5	clouds, wind blowing in puffs.
15,.....	1 a.					.23	NNE	9	" "
	2					.19	N by E	8	" "
	3	22	14	116	20	.12	N	5	" "
	4					.10	N by E	5	" "
	5					.08	N by W	6	" "
	6	21	58	115	47	.07	N by W	9	violent puffs and squalls with rain.
	7					.08	NNW	9	rain and lightning, very heavy sea, swell from N and NNW.
	8					.09	WNW	10	ship rolling 15° to 30°, sky covered by thick clouds Air temperature 79°.
	9	21	44	115	26	.15	WSW	10	a three-masted sailing ship under main top-sail only seen at starboard, very strong rain.
	10					.21	SW by S	11	Terrible shower with strongest wind and enormous swell from SW and W. Very confused sea.
	11					.23	SSW	11	
	Noon	21	36	115	20	.25	...	11	heavy squalls with strong rain.
	3 p.					.33	...	10	squalls with rain, swell from SW.
	6					...	...	7	" "
	9					.50	...	6	" "
	Midt.					.54	S	4	" "
16,.....	Noon	18	55	114	38	.61	S	4	light squalls, swell from S.

The position of the centre at 6 a. on the 15th July was 21° 50′, 116° 10′, at noon 22° 35′, 114° 45′, and at 7.30 p. the centre passed over Canton (22° 07′, 113° 17′).

At 6 a. the centre was just over 20 miles to ESE of the Russian transport *St. Petersburg*. This vessel had run across the path of the typhoon just in front of the centre and she escaped without damage. Her log shows that winds were stronger in rear than in front of the centre, also that little rain was experienced in front while very heavy rain fell in rear of the centre. This was also the case at Hongkong and Canton. The centre was about 35 miles to the ENE of Hongkong at noon and for the next 3 or 4 hours while it was moving to the north of the Colony it preserved about the same distance the barometer varying but little between noon and 4 p. when it commenced rising quickly. The lowest actual reading was 29.22 at 3 p. but allowing for daily variation noon gave the lowest reading. The wind backed from NW by W force 3 at 1 p. to SW by W 3 at 2 p. Thereafter it increased in force and blew a moderate gale from SSW at 8 p. after which hour it backed to south and commenced to decrease in force. No rain fell until 8 a and between that hour and 10 a. 0.14 inch was recorded, but between 1 p. and 3 a. of July 16th 5.24 inches were measured. The mean temperature on the 15th from 1 a. to noon inclusive was 82°.2, from 1 p. to midnight inclusive 78°.7 so that in front of the centre temperature was above, and behind it, below the mean though the high temperature was much more marked on the previous day while the centre was yet at some considerable distance. The lower clouds which came from ENE during the early morning of the 15th backed to N between 7 a. and 10 a. They were from WNW at 1 p., from SW at 4 p., from SSW at 7 p. and from S at midnight. At Canton the lowest reading of the barometer (29.16) was made at 7.30 p. The wind freshened a little during the afternoon, some rain commenced falling and the wind came in puffs. At 7 p. the wind was NNW 3, at 7.30 p. NNW 1, at 8 p. it went to the opposite quarter and blew a fresh gale from SE with heavy rain squalls and the barometer rose 0.05 inch between 7.30 p. and 8 p. After 9 p. the wind gradually decreased in force. Captain LLOYD of the river steamer *Hankow* at anchor at Canton furnishes the following additional information:—

> "Fine weather during afternoon with little motion in clouds and increasing gloomy appearance to NE; 4 p. clouds moving a little faster from the N and sky thickening over with rain commencing; 4.30 p. fresh NE to NNW breeze with puffs and rain; 8 p. lull for a few minutes and then shift to SW, at first moderate breeze, freshening rapidly to a furious squall with torrents of rain. It blew tremendously for about three quarters of an hour and gradually took off, heavy gusts from S continuing until about 2 a. 16th. Some damage was done among the native craft and a small steam launch blown over at the buoy. Many matsheds &c., destroyed."

From the foregoing it is seen that the centre passed over Canton at 7.30 p. There is some disagreement in the wind directions observed at the Custom House and on board the *Hankow* but the observations agree fairly in showing the central calm which possibly may have lasted for a quarter of an hour giving it a diameter of 3 miles as the typhoon was moving at about 12 miles per hour. No partial clearing of the sky was observed. The Canton observations show that the steepest gradient in front of the centre was about 0.05 inch and in rear about 0.15 inch in 15 miles.

At Pakhoi the barometer continued falling during the afternoon of the 15th and in the evening heavy thunder squalls were experienced with wind varying from W to NNE of force 8 in the squalls. After one of these heavy thunder squalls the barometer rose and the wind backed to SW at midnight (barometer 29.46) and continued squally with heavy rain.

On the 16th the barometer had risen greatly on the SE coasts and at Canton and SSE winds light to fresh breezes prevailed in these districts. Canton had at noon barometer 29.62. Hongkong 29.69, Breaker Point 29.73, Amoy 29.80 and Middle Dog 29.78. At Hoihow in Hainan the barometer (29.55) had risen slightly since the previous day and there was a light air from WSW with showery but improving weather. At Pakhoi the barometer (29.52) had risen since the previous evening and the weather is described in the following note:—"8 a., very heavy squalls, wind about SW, very heavy rain: 10 a., settling down into wet weather wind and sea from SW—breaks in squalls to southward." After noon the weather improved. The rain measured at 9 a. on the 16th for the previous 24 hours amounted to 5.38 inches at Pakhoi and at Canton for the same period 8.20 inches.

The centre appears to have moved Westward from Canton and to have passed to the north of Pakhoi on the morning of the 16th. The centre at noon on the 16th July may have been in about 23°½, 108°, but this is only a rough approximation.

In this typhoon (V) the lowest pressure at the centre probably did not exceed 29.0 inches or about 0.6 inch below the normal. The *St. Petersburg* very near the centre at 6 a. on the 15th, had the lowest reading 29.07. After entering the coast it filled up and at Canton over which the centre passed the lowest reading was 29.16. The isobars were nearly circular but on the evening of the 14th and morning of the 15th the isobar of 29.5 inches was bent outwards into a tongue lying over the W part of the Formosa Channel which caused the winds there to be deflected on the E side to the S and on the W side to the N.

The average angle between the direction of the wind and the centre from noon on July 14th to noon on July 15th inclusive and within 250 miles of the centre, the direction of motion of the latter being towards NW by W ½ W, was as follows:—In front of the centre 114°, in the right hand semicircle 112°, in rear 117° and in the left hand semicircle 122°. There were few observations to determine the two latter. Allowing weights the mean of all the angles is 114° *i.e.*, the centre bore 10 points from the wind direction.

AVERAGE WIND FORCES.

Distance.	NE	SE	SW	NW of centre
miles				
75	8.0	7.2	.....	6.2
175	5.4	5.0	5.0	5.5

It was overcast within 180 miles to the NE of the centre, 400 miles to the SE, 300 miles to the SW and 140 miles to the NW. Rain prevailed within 150 miles to the NW and NE and within 250 miles to the SE and SW of the centre. There was a high sea within 200 miles of the centre.

The following observations for each day at noon have reference to a depression (VI) which moved up the Eastern side of the China Sea during the latter part of the period:—

COAST STATIONS.

Station.	July 17th.	July 18th.	July 19th.	July 20th.	July 21st.
Manila, ...	.....	29.78 SW 1 o.	29.75 SW 2 c.	29.74 SSW 4 c.	29.70 SW 7 c.
Bolinao, ...	29.77 SSE 2 c.	.75 SE 2 c.	.73 SSE 2 c.	.70 SE 3 or.	.69 W 3 o.
Hoihow, ...	.74 ESE 1 b.	.80 E 2 b.	.80 var. 1 o.	.76 E 1 b.	.73 NE 2 b.
Hongkong, ...	.81 E 4 c.	.79 calm c.	.76 E 3 b.	.72 W 1 c.	.70 W 1 b.
Lamocks, ...	.79 ENE 2 cm.	.77 NE 1 c.	.73 E 1 cm.	.68 NE 1 c.	.66 NE 1 b.
South Cape, ...	.77 NNE 2 c.	.72 NNE 3 c.	.70 NNE 2 c.	.71 NNE 2 c.	.65 NNE 3 c.
Middle Dog, ...	.83 NE 2 cm.	.83 NE 3 cm.	.78 NE 3 cm.	.73 NE 3 cm.	.69 NE 3 c.

VESSELS.

S.S. *Delcomyn*, ...	July 17,	..... 7°56′	109°59′	...	SW	5	o.
„ *Vorwaerts*, ...	„	.....10 42	109 40	...	SW	5	c.
„ *Cheang Hock Kian*, ...	„	.....16 27	110 04	...	E	6	
„ *Ashington*, ...	„	.....19 51	115 53	29.80	ESE	4	cpq.
„ *Benalder*, ...	„	.....19 43	112 21	...	E	3	c.
„ *Cicero*, ...	„	.....21 27	113 30	.75	E	5	
„ *Glenearn*, ...	„	.....24 19	119 06	.84	NE	4	c.
S.S. *Delcomyn*, ...	July 18,	.....11°16′	111°18′	...	SW	5	orq.
„ *Vorwaerts*, ...	„	.....11 39	113 28	...	SW	4	o.
„ *Cicero*, ...	„	.....18 12	111 08	29.75	E	1	
„ *General Werder*, ...	„	.....23 16	117 39	.78	NE	2	b.
S.S. *Vorwaerts*, ...	July 19,	.....12°54′	116°46′	...	WSW	6	oq.
„ *Cicero*, ...	„	.....14 20	110 03	29.70	W	5	
„ *Delcomyn*, ...	„	.....14 30	113 15	...	N	1	orq.
„ *General Werder*, ...	„	.....25 37	121 32	.79	ENE	5	b.
S.S. *Cicero*, ...	July 20,	.....10°52′	108°36′	29.74	SW	5	
„ *Vorwaerts*, ...	„	.....14 13	120 09	...	SW	5	or.
„ *Delcomyn*, ...	„	.....17 56	114 16	...	N	2	orq.
S.S. *Zafiro*, ...	July 21,	.....14°30′	120°50′	29.68	WSW	6	oqr.

From the foregoing observations it appears that there was on the 17th and 18th July a trough-like depression lying across the China Sea perhaps in about the latitude of 15°. On the 19th there is some slight indication of a small circular depression (VI) having been formed in this area and on the 20th the centre was perhaps in 16°½, 117°. The barometer was falling slowly in Luzon and the S wind was increasing in force with rain. The *Delcomyn* west of this position had squally wet weather with N 2. On the 21st the centre may have been in about 20°, 122°. At S Cape a moderate fall was shown by the barometer with a gentle NNE breeze while in Luzon the wind was veering to the west with showery squally weather and barometer commencing to rise.

The depression was ill defined and the path is therefore dotted.

On the 21st July pressure was commencing to give way in Southern and Western Japan with increasing E to NE winds towards evening. On July 22nd at 6 a. the Japanese weather maps show a depression to be advancing towards the S coast from the southward. The following observations are extracted from the logs of the steamships *General Werder* and *City of Rio de Janeiro*:—

Date and Hour.	*General Werder.*								*City of Rio de Janeiro.*							
July 21, Noon, ...	29°	30′	130°	41′	29.63	ENE	6	cp.	34°	31′	138°	48′	29.84	NE	3	...
4 p., ...					.58	NE	5	...					.76	E by N	5	...
8					.54	...	6	p.					.69	ENE	6	...
Midt., ...					.52	...	6	op.					.54	NE	9	...
22, 4 a., ...					.39	N	7	...					.19	NE 10 / E 10		oqr.
8					.25	NNW	8	...					.23	ESE	10	...
Noon, ...	31	35	134	22	.09	NW / W	10	oq.	33	18	137	13	.32	...	10	...
4 p., ...					.24	SW	8	pq.					.45	SE	9	...
8					.43	SSW / SE	6	cp.					.59	SE by S	9	...
Midt., ...					.51	SE	7	o.					.62	...	7	...
23, 4 a., ...					.52	SSE	7	p.					.60	ESE	7	...
8					.60	...	7	op.					.49	SE by E	8	...
Noon, ...	34	17	139	5	.69	...	7	or.	32	18	138	28	.62	SSE	8	...

"On the 21st, sea beginning to be very rough. On the 22nd, very high sea."

July 21st, 8 p., rough sea from ENE. Midt., heavy confused swell.
„ 22nd, all day vessel hove to, heavy confused sea and swell.
„ 23rd, heavy confused swell from S & SE.

The centre of typhoon VII at noon on the 22nd July was situated in 32° 0′, 135° 30′ and it was moving towards NW. According to the Japanese weather maps it crossed Shikoku during the afternoon and was at 9 p. in the Inland Sea SE of Hiroshima. On the 23rd at 2 p. it was in Corea Straits a little to the East of Fusan. The barometer had fallen 0.26 inch at that station since the previous noon and there was a light NW breeze with gloomy wet weather. Pressure was also decreasing at Chemulpo and at the Shantung Promontory stations with NNE 5 at Chemulpo, NNW 4 at Shantung Promontory and ESE 5 at Yuensan in NE Corea.

The following observations are for noon of the 24th July. The barometer readings are uncorrected:—

Fusan, ...	29.52 + .23	SW	1	c.	Shantung Py., ...	29.60 − .02	NW	5	cm.
Chemulpo, ...	.38 + .04	SW	3	c.	Howki, ...	.58 − .02	W	3	b.
Yuensan, ...	.42 − .21	S	2	c.	Newchwang, ...	.51 − .09	NW	2	cv.

The centre appears to have been situated in 39°½, 136° a little to the W of Yuensan at noon on the 24th it having traversed Corea moving towards the NNW since the previous day at 2 p.

In the rear of this storm a secondary depression appears to have been formed which was, according to the Japanese weather maps, situated in the Kii Channel at 2 p. on the 23rd and during the evening it moved northwards into the Sea of Japan.

The following observations are for noon for the 29th and 30th July:—

COAST STATIONS.

Manila, ...	July 29,.....	29.78	SW	1	o.	July 30,.....	29.80	SW	2	o.
South Cape, ...		.61	WNW	3	c.		.67	W	3	c.
Tamsui, ...		.63	WSW	5	c.		.66	SW	4	b.
Steep Island, ...		.61	calm	...	c.		.66	calm	...	c.

VESSELS.

S.S. *Tannadice*, ...	July 29, ...	15° 08′	118° 41′	29.68	WSW	4	b.
„ *Batavia*, ...	„	23 00	117 14	.61	SW	4	c.
BK. *Chapman*, ...	„	26 22	121 39	...	WNW	4	
S.S. *Fushiki Maru*, ...	„	27 39	123 12	.54	W	3	c.
„ *General Werder*, ...	„	33 49	132 41	.45	E	2	b.
H.I.A.M's. Fr. *Fasana*,.....	„	33 49	137 49	.64	SSE	6	
S.S. *Gaelic*, ...	„	34 37	139 01	.89	SSE	5	or.
„ *Fushiki Maru*, ...	July 30, ...	25 23	119 55	.61	SW	5	c.
BK. *Chapman*, ...	„	26 55	121 03	...	WSW	4	
S.S. *Gaelic*, ...	„	32 59	135 53	.83	SSE	6	o.
H.I.A.M's. Fr. *Fasana*,.....	„	33 53	136 14	.80	SE	2	

On the 29th July the observations indicate to some extent a distant depression to the ENE o N Formosa. On the 30th July as seen from the Japanese weather maps a depression (VIII) arrive on the S coast of Kiushu (W Japan) from the southward producing heavy cyclonic gales in W Japan The centre was at noon on that day in 31° 0′, 131° 30′. It subsequently crossed E Kiushu an moved NEward into the Sea of Japan. The *Gaelic* experienced a fresh SSE veering gale a midnight in about 32°, 134°. On the 31st July at noon the centre was in about 37°½, 136°. On th morning of August 1st it appears to have re-entered the *Pacific* after passing through the Tsuga Straits. This depression was preceded by one less defined which passed into the Kiu Channe during the early morning of the 29th July and moved northwards. The Austrian frigate *Fasan* experienced this depression. She had a fresh ENE gale at 10 p. on the 28th in 34° 20′, 138° 15 with falling barometer. At 6 a. on the 29th in 34° 10′, 138° 0′ she had a strong gale from ESE wit the lowest reading of barometer after which hour the wind continued veering and slowly decreasing in force with rising barometer.

The following observations are for August 2nd at noon :—

COAST STATIONS.

Bolinao, ...	29.66 — .05	SE	3	o.	Amoy, ...	29.68 — .07	SE	2	b.
South Cape, ...	.66 — .06	W	1	cv.	Middle Dog, ...	.69 — .02	NE	2	bv.
Hongkong, ...	.70 — .01	W	1	o.	Tamsui, ...	.68 — .04	N	1	b.
Breaker Point, ...	.68 — .05	W	2	c.	Steep Island, ...	.75 — .03	SSE	2	cv.

VESSELS.

S.S. *General Werder*, ...	23°11′	117°18′	29.68	calm	...	c.
BK. *Arcadia*, ...	23 37	116 10	...	NNW	1	
„ *Chapman*, ...	24 33	119 09	...	ENE	5	
S.S. *Metapedia*, ...	27 14	123 14	...	NE	5	
„ *Gaelic*, ...	27 26	124 34	.75	NE	3	c.

On August 2nd the barometer was falling on the SE coast of China and in Formosa and light breezes from N to W prevailed in the Formosa Channel the weather being fine. Vessels NNE of Formosa had moderate NE breezes and falling barometer. The observations indicate a distant low pressure area to the East of Formosa on this day.

The following observations are for August 3rd at noon :—

COAST STATIONS.

Bolinao, ...	29.69 + .03	WSW	2	or.	Tamsui, ...	29.61 — .07	NW	1	c.
Hongkong, ...	.65 — .05	W	2	b.	Middle Dog, ...	.59 — .10	...	2	bv.
Breaker Point, ...	.62 — .06	SE	1	c.	Steep Island, ...	.67 — .08	NE	4	cm.
Amoy, ...	.63 — .05	W	1	c.	Kagoshima, 31° 35′, 130° 33′ (2 p.), ...	.61 — .15	E	6	
South Cape, ...	.47 — .19	WNW	3	cv.					
Anping, ...	.60 — .11	N	4	b.					

VESSELS.

S.S. *Diamante*, ...	16°22′	118°58′	29.70	SW	5		high cross sea.
„ *Afghan*, ...	22 00	118 42	...	N	2	c.	
BK. *Chapman*, ...	23 20	117 50	...	ENE	2		
S.S. *Gaelic*, ...	24 58	119 34	29.70	W	1	c.	
„ *Metapedia*, ...	28 41	125 42	...	N	8		cross sea.
„ *Miike Maru*, ...	30 06	126 37	.12	NE	7		
BK. *Nicoya*, ...	31 00	127 20?	.40?	NE	9		

These observations for August 3rd show the barometer to have been falling on the China Coast, the fall being rapid in the neighbourhood of the Formosa Channel and the East Coast. In Luzon the barometer was rising. In SW Japan pressure was decreasing quickly. Winds were from SW light to strong breezes with rain in Luzon, light to gentle breezes from between W and N with partially clouded sky on the SE coast of China and in Formosa, gentle to fresh breezes from E to NE with fine weather on the East Coast and strong E breezes with rain in SW Japan.

At sea the vessels *Metapedia*, *Miike Maru* and *Nicoya* were experiencing N to NE gales increasing with heavy confused sea, and the observations made on board these vessels indicate the approach of a typhoon (IX) from the SE which may possibly have been at noon in 28°, 128°½ but the absence of observations to the Eastward and Southward makes this position for the centre merely an approximation.

The following observations are for the 4th August at noon :—

COAST STATIONS.

Bolinao, ...	29.78 + .09	S	2	o.	Middle Dog, ...	29.55 — .04	SW	3	cm.
Hoihow, ...	.72 + .03	WNW	3	c.	Tamsui, ...	.58 — .03	WSW	5	c.
Hongkong, ...	.67 + .02	W	1	b.	Steep Island, ...	.57 — .10	N	5	cm.
Breaker Point, ...	.62 .00	SW	4	c.	North Saddle, ...	.57 — .11	NE	5	cm.
South Cape, ...	.55 + .08	WNW	4	cv.	Kagoshima, (2 p.), ...	.45 — .16	SE	6	
Amoy, ...	.61 — .02	S	3	b.					

VESSELS.

BK. *Chapman*, ...	22°30′	117°36′	...	WSW	...	b.
S.S. *Gaelic*, ...	22 37	115 40	29.71	W	3	c.
„ *Kutsang*, ...	23 28	117 42	.64	WNW	2	c.
„ *Miike Maru*, ...	27 24	122 51	.40	NW	9	
„ *Metapedia*, ...	29 30	126 30	...	NNE	9	eq.
BK. *Nicoya*, ...	30 57	127 10?	...	NE	9	
S.S. *Malwa*, ...	33 27	129 34	.66	E	4	

On August 4th the barometer had risen in Luzon and slightly on the S coast of China. At the northern entrance to the Formosa Channel a further slight reduction of pressure had taken place while in the neighbourhood of Shanghai and in SW Japan there was a considerable fall in the barometers. Winds were light to moderate SW breezes in Luzon with overcast weather, moderate breezes from W to SW with sky partially clouded around the northern entrance to the Formosa Channel, moderate increasing breezes from NW to NE with detached clouds on the East Coast and strong SE breezes in SW Japan.

At sea the *Metapedia*, hove to, had a heavy gale from NNE the whole day with squalls of hurricane force. No barometer readings were entered in the log book. The *Miike Maru* had steered to the SW since the previous day and they now had the barometer rising and the wind had backed to NW and was decreasing in force. The *Nicoya* had been hove to since the previous day with barometer steadily falling and wind steady from NE but increasing to a heavy gale with fearfully confused sea. Her commander fearing the centre was directly approaching the vessel wore to WSW at 11 a. under reefed upper fore topsail and goosewing main topsail. They kept the ship scudding with the wind on the starboard quarter and towards midnight the wind veered to N but there was no improvement in the weather or rise of the barometer. The uncorrected reading of the barometer was at 10 a., 29.05, and the same reading was noted at 10 p.

The centre may possibly have been at noon on the 4th August in 28°¾, 128° and it appears that it had scarcely moved since the previous day, but as there are no observations available to the Eastward or Southward this position of the centre is not indicated with any certainty.

The following are the observations for August 5th at noon:—

COAST STATIONS.

Bolinao, ...	29.81	+ .03	WNW	1	o.	Middle Dog, ...	29.58	+ .03	SW	3 cm.
Hoihow, ...	.72	.00	W	3	c.	Tamsui, ...	.58	.00	SW	5 c.
Hongkong, ...	.69	+ .02	W	2	b.	Steep Island, ...	.50	− .07	NW	6 cgm.
Breaker Point, ...	.63	+ .01	SW	3	c.	North Saddle,.....	.50	− .07	N	5 cm.
South Cape, ...	.64	+ .09	W	5	c.	Kagoshima, (2 p.),...	.49	+ .04	SE	6
Amoy, ...	.62	+ .01	SW	3	b.					

VESSELS.

BK. *Chapman*, ...	22°21′	117°18′	...	WSW	4	o.
S.S. *Fushiki Maru*, ...	22 29	115 29	29.61	SW	1	c.
„ *Fokien*, ...	25 10	121 20	.58	WSW	6	b.
„ *Miike Maru*, ...	25 07	120 03	.56	SW	8	
„ *Kutsang*,.....	26 52	120 56	.60	SW	2	c.
BK. *Nicoya*, ...	28 50	125 47	...	W	11	qr.
S.S. *Else*, ...	30 25	125 45	...	NNE	...	opq.
„ *Malwa*, ...	31 42	128 06	.28	ESE	7	o.
„ *Metapedia*, ...	30 54	125 55	...	E	8	oqr.
BK. *Velocity*, ...	32 33	136 20	...	SE	6	b.
S.S. *Dafila*, ...	35 25	122 52	.62	NNE	2	

At noon on the 5th August the centre was in 29°30′, 126°40′ moving very slowly towards WNW. The observations show that some slight increase of pressure had taken place on the SE coast while on the East Coast pressure had decreased nearly 0.1 inch, In SW Japan the barometer had commenced to rise. Gentle to fresh SW breezes prevailed on the SE coast the weather being cloudy but fine. On the East Coast fresh breezes blew from NW to N but at present the weather continued fine though cloudy. In SW Japan strong SE breezes continued with rainy weather.

The *Nicoya* had continued running since the previous day keeping the wind on the starboard quarter and had thus crossed in front of the track of the centre and entered the left hand semicircle but she was too late, had she run at first instead of heaving to for several hours, she would have got clear. During the morning they had the wind veering from NNW at 2 a. to W at 10 a. (barometer 28.95 uncorrected) with very violent squalls and torrents of rain. At 11 a. they hove the vessel to on the port tack. As the ship came to the wind the fore topsail blew to pieces. The bulwarks were gone on both sides from fore to main rigging and the decks were constantly full of water. At midnight they had the wind from WSW (barometer 28.80 uncorrected). This vessel was about 60 miles SW of the centre at noon. The *Else* also crossed the storm's track during the evening and experienced very bad weather with backing wind (WNW at midnight). They used oil to prevent the heavy seas breaking on board. The *Malwa* was hove to at 6 p. and had the barometer falling and the wind increasing to a strong gale from SE by E with heavy squalls of wind and rain. There was a very heavy confused sea which carried away the port life-boat and did much damage to deck fittings.

Observations for August 6th at noon:—

COAST STATIONS.

Bolinao, ...	29.80	− .01	S	2	or.	Wenchow, ...	...	− .04	W	3 o.
Hoihow, ...	.71	− .01	WSW	2	c.	Steep Island, ...	29.31	− .19	NW	8 cgm.
Hongkong, ...	.69	.00	W	1	c.	North Saddle,.....	.37	− .13	N	7 omp.
Breaker Point, ...	.63	.00	SW	4	c.	Wusung, ...	.42	− .05	N	6 c.
South Cape, ...	.65	+ .01	W	4	c.	Chinkiang, ...	...	.00	NNE	2 c.
Amoy, ...	.59	− .03	SW	2	b.	Wuhu, ...	...	.00	N	3 c.
Middle Dog, ...	.55	− .03	SSW	5	cm.	Kagoshima, (2 p.),...	.57	+ .08	S	2
Tamsui, ...	.56	− .02	SW	6	c.					

VESSELS.

S.S. *Fushiki Maru*, ...	24°45′	119°28′	29.52	SW	5	c.
„ *Else*, ...	29 03	125 45	...	SW	12	
BK. *Nicoya*, ...	29 00	126 23?	...	SSW	11	
S.S. *Chi Yune*, ...	29 11	122 56	.36	NW	8	oqr.
„ *Kutsang*, ...	29 50	122 06	.37	WNW	8	oq.
„ *Dafila*, ...	32 41	123 04	.40	NNE	8	
„ *Malwa*, ...	30 32	127 39	.33	SE	9	o.
„ *Metapedia*, ...	32 36	127 33	...	SE	8	
„ *Zambesi*, ...	32 20	133 10	.82	S	8	

The centre at noon on August 6th was situated in 29° 40′, 125° 30′.

On August 6th the barometer had commenced falling slightly again on the SE coast and on the East Coast. At the mouth of the Yangtze it was now falling rapidly. In SW Japan a further rise is shown. Fresh SW breezes with cloudy sky prevailed around the northern entrance to the Formosa Channel with cloudy sky. At the mouth of the Yangtze the N and NW winds had increased in force since the previous day and strong breezes to fresh gales increasing were now felt there with the weather becoming showery. Moderate to strong SE breezes prevailed in SW Japan.

The *Nicoya* had remained hove to since the previous day and at daylight on the 6th the wind was blowing with typhoon force from the SW with a tremendous perpendicular sea from NE and SE. At 7 a. (barometer 28.75 uncorrected) it fell calm for about a minute followed by a violent gust from the same quarter (SW). They determined to scud if possible to the Eastward, as the centre appeared to be near, so they loosed reefed foresail and wore to East. Her commander says: "The wind and sea was now the worst I ever experienced but the vessel scudded on although well nigh overpowered by the heavy confused sea." At noon the vessel having run about 30 miles to ENE a sensible improvement was noted in the weather the barometer rising slowly with the wind at SSW. At midnight they had a SE gale (barometer 29.00 uncorrected). The *Else* had the wind backing during the morning and increasing to typhoon from SW by W at noon. At 4 p. (barometer 29.17) it was SSW and still of typhoon force. Towards evening it decreased a little in force preserving the SSW direction. The barometer (at 8 p. 29.19) rose very slowly. The barometer they had used on board this vessel up to noon was not reliable. Another one was read during the remainder of the day. The centre passed a few miles north of both the *Nicoya* and *Else* during the morning. The *Malwa*, hove to, had during the morning a hard gale from SE with violent squalls and very high confused sea which did much damage about the decks. The barometer was now rising and the wind decreased gradually to a moderate gale from SE at midnight (barometer 29.39). This vessel was at noon about 150 miles NE by E of the centre.

The following observations are for the 7th August at noon:—

COAST STATIONS.

Bolinao, ...	29.74 — .06	SW	2	o.	South Cape, ...	29.59 — .06	W	5	b.
Hoihow, ...	.70 — .01	NNW	2	c.	Amoy, ...	.54 — .05	SW	2	c.
Hongkong, ...	.64 — .05	WSW	2	o.	Middle Dog, ...	.42 — .13	SW	5	bm.
Breaker Point, ...	.58 — .05	SW	5	o.	Wenchow, ...	... — .14	SSW	2	o.

The following detailed observations for August 7th are for some stations near to which the centre passed:—

Stations.	3 a.				9 a.				3 p.				9 p.			
	Bar.	Temp.	Wind.	Weather.	Bar.	Temp.	Wind.	Weather.	Bar.	Temp.	Wind.	Weather.	Bar.	Temp.	Wind.	Weather.
Ningpo, ...	29.17	78	NW 9	odg.	29.11	76	NW 5	odg	29.16	77	SSW 4	or.	29.29	77	SSE 4	o.
Steep Island, ...	.03	75	NW 8	omp.	.10	78	WSW 5	gm.	.28	80	S 5	cgm.	.45	78	SSE 6	cgmp.
North Saddle, ...	.07	77	N 9	omd.	.10	78	ESE 7	om.	.31	77	SE 6	omq.	.46	78	SE 8	omq.
Gutzlaff, ...	.09	75	NNE 10	ogmd.	.02	76	NE 10	fd.	.15	79	SE 5	cgr.	.34	77	SE 12	cgm.
Shaweishan, ...	.12	75	NE 10	omq.	.12	76	ENE 9	omq.	.20	78	SE 8	om.	.36	78	SE 8	om.
Woosung, ...	.26	82	NNE 7	c.	.19	78	ENE 7	omd.	.17	82	ESE 6	om.	.30	79	SE 7	c.
Chinkiang,*	.48	84	E 8	o.	.46	82	NE 8	o.	.41	83	NNE 8	o.	.42	82	NE 8	o.
Wuhu,*	.46	87	N 3	c.	.54	84	NNW 3	c.	.47	90	N 3	c.	.45	89	N 5	cq.
Kiukiang,*	.50	81	NW 1	b.	.52	88	NW 1	b.	.43	96	NW 6	c.	.44	88	NW 4	c.

* Barometric observations are uncorrected for index error and M.S.L.

VESSELS.

S.S. *Fushiki Maru*, ...	27°31′	122°48′	29.37	SSW	9	oq.
„ *Chi Yune*, ...	27 30	121 39	.44	SW	6	orq.
„ *Kwongsang*, ...	28 27	121 51	.20	S	8	orq.
„ *Woosung*, ...	28 30	122 00	.40	WSW	9	orq.
„ *Kutsang*, ...	29 50	122 06	.17	SSW	6	orq.
„ *Else*, ...	29 54	125 37	...	S		
„ *Malwa*, ...	30 09	124 48	.45	SSE	8	
„ *Zambesi*, ...	31 08	131 27	.82	SSE	8	
BK. *Nicoya*, ...	31 15	125 50	...	ESE		
S.S. *Dafila*, ...	33 26	123 16	.51	SE	8	
„ *Tamsui*, ...	36 22	122 48	.72	SE	5	

The centre was situated on the 7th August at 3 a. in 30° 30′, 123° 15′; at 9 a. in 30° 40′, 122° 10′; at 3 p. in 30° 45′, 121° 20′; and at 9 p. in 30° 50′, 120° 20′. It passed a little to the South of Gutzlaff Lighthouse at 9 a. and entered the coast at 3 p. moving Westward.

The following observations are for the 8th August at noon:—

COAST STATIONS.

Bolinao,	29.73 − .01	SSE	2	o.	Ningpo,	29.50 + .36	SSE	6	c.
Hoihow,	.66 − .04	W	2	o.	Steep Island,	.63 + .44	SE	5	cm.
Hongkong,	.57 − .07	W	3	o.	North Saddle,	.64 + .43	SE	8	omq.
Breaker Point,	.53 − .05	SW	5	cm.	Woosung,	.52 + .34	S	6	c.
South Cape,	.64 + .05	W	3	or.	Chinkiang,	.41 − .02	ESE	8	o.
Amoy,	.55 + .01	NE	1	o.	Wuhu,	.44 − .07	E	2	od.
Middle Dog,	.58 + .16	SW	2	omg.	Kiukiang,	.41 − .07	NW	7	o.
Wenchow,	+ .19	SE	1	o.	Hankow,	.44 − .06	NW	4	c.

VESSELS.

S.S. *Malwa*,	28° 10′	123° 08′	29.64	S	5	
„ *Woosung*,	28 49	122 16	...	SW	4	orq.
„ *Kwongsang*,	28 51	122 10	.55	ESE	5	c.
„ *Else*,	29 02	123 47	.63	SE		oq.
„ *Zambesi*,	29 49	127 53	.84	SE	8	
„ *Fushiki Maru*,	30 32	126 24	.78	E	5	
„ *Dafila*,	32 30	123 34	.71	SE	6	om.
„ *Tamsui*,	34 14	122 52	.79	SSE	8	

At noon on the 8th August the centre was to the East of Kiukiang in 30°, 118°.

On the 9th August the low pressure area still existed in the neighbourhood of Hankow and Kiukiang and as the barometer had risen much on the East Coast gradients remained steep and strong SE breezes to fresh gales prevailed on and near that Coast on the 9th but decreasing on the 10th when pressure had increased to some extent at the Yangtze stations.

The following gives the angle between the wind direction and the centre as measured within 250 miles of the latter on the 7th August. The typhoon was at the time moving about W by N and approaching the Coast to South of Shanghai in about 31° latitude:—In front of the centre the average angle was 106°, in rear 124°, in the right hand semicircle 105° and in the left hand 119°, the mean of the whole being 114°. The centre thus bore on an average about 10 points from the wind direction, the angle being nearly two points greater in the rear and in the left hand semicircle than in the front and right hand semicircle.

Full typhoon force was experienced by the *Else* and *Nicoya* at a distance of about 30 miles South of the centre on the 6th August. Force 10 was registered at a distance of 75 miles in front of the centre on the 7th August but it appears that there was an area at a distance of about 60 miles in rear of the centre where the wind decreased to force 5 and 6, the forces again increasing as the centre moved farther away. This is seen from the observations made at the stations at the mouth of the Yangtze. Force 8 blew on an average at a distance of 150 miles.

The *Nicoya* had the lowest barometer reading 28.75 at 7 a. on the 6th but this reading is uncorrected. The vessel was then about 30 miles to the South of the centre. At 9 a. on the 7th the barometer read at Gutzlaff 29.02 the centre at the time being about 20 miles to the South of that station. This would show that the typhoon was filling up between the 6th and 7th if the *Nicoya* observation is accepted as being nearly correct. On the 7th August the isobars which were oval shaped having their longer diameters lying nearly North and South corresponded on an average to the following distances from the centre: 29.0 inches, 15 miles: 29.1 inches, 45 miles: 29.2 inches, 75 miles: 29.3 inches, 90 miles: 29.4 inches, 125 miles.

There was a high cross sea within 200 miles of the centre. It does not appear to have been uniformly overcast on an average at a greater distance than 100 miles from the centre and the rainfall measured at the land stations near to which the centre passed was small in amount.

On the 9th and 10th August a narrow elongated area of slightly diminished pressure lay off the Coast between Hongkong and Amoy. Winds were gentle E to NE breezes to the north of the area and fresh to strong SW breezes to the South of it. On the 11th August the area had entered the Coast moving towards NW. A considerable fall of the barometer was noted at the more Southern and Western of the Yangtze stations with gentle NE breezes while on the SE and E Coasts strong breezes and fresh gales from SW to SE prevailed with very wet squally weather and high sea. On the 12th the barometer had further fallen at Ichang and Hankow with a gentle E breeze at the latter station. On the SE and E Coasts strong breezes and gales from SW to SE still continued. On the 13th the barometer rose generally in Southern and Central China and the strong S winds on the Coast diminished to moderate breezes.

The following observations have reference to a typhoon (X) which was East of Formosa on the 15th August and which entered that island on the 16th, subsequently crossing the Formosa Channel and entering the SE Coast on the early morning of the 17th. It afterwards advanced NNW towards the Yangtze and was near Kiukiang on the morning of the 18th. It then recurved and passed into the Yellow Sea near the Shantung Promontory on the evening of the 19th and subsequently crossed N Corea and entered the Sea of Japan moving towards NE.

Observations for August 15th at noon :—

COAST STATIONS.

Bolinao,	29.82	— .02	WSW	2	o.	Fisher Island,	29.73	— .13	NNE	5	cm.
Hongkong,	.82	+ .04	E	3	c.	Chapel Island,	.79	— .07	NE	2	c.
Breaker Point,	.80	— .02	NE	2	b.	Turnabout,	.81	— .07	NNE	2	cm.
South Cape,	.69	— .16	var.	1	cv.	Tamsui,	.78	— .06	NNE	3	o.
Anping,	.72	— .15	NNE	4	c.	Steep Island,	.91	— .01	SE	2	cv.

Date and Hour. 1888.	SOUTH CAPE.				ANPING.				TAMSUI.			
	Bar.	Temp.	Wind.	Weather	Bar.	Temp.	Wind.	Weather	Bar.	Temp.	Wind.	Weather
August 16, 3 a.,	29.27	78	WNW 8	odq.	29.33	...	N by W 10	...	...	...	...	...
6 a.,	.14	79	NW 8	om.	.22	...	N 8	...	...	...	...	...
9 a.,	.12	78	WNW 3	cmp.	.14	82	N by E 9	ogp.	29.38	81	NE 10	opq.
Noon,	.09	79	WNW 8	opq.	.04	...	N 10	...	...	...	...	...
3 p.,	.04	79	WNW 9	cpq.	28.95	79	N by W 9	od.	.14	79	E 11	...
6 p.,	.15	80	W 9	opq.	.93	...	W 7	...	...	...	...	...
9 p.,	.31	80	SW 9	om.	29.02	79	SW 5	o.	.17	77	E 11	...
Midt.,	.45	77	SW 9	omq.	.20	...	SW 8	rq.	...	...	...	...
August 17, 3 a.,	.48	77	SW 8	oqr.	.33	...	SSW 8	...	...	...	...	...
6 a.,	.52	82	SSW 7	om.	.42	...	SSW 7	...	...	...	...	...
9 a.,	.62	81	S 5	cmp.	.48	78	SSW 8	rq.	.46	79	SE 2	o.
Noon,	.67	81	S 5	...	...	...	...	...	...	...	...	...

Date and Hour. 1888.	MIDDLE DOG.				FOOCHOW.				TURNABOUT.			
	Bar.	Temp.	Wind.	Weather	Bar.	Temp.	Wind.	Weather	Bar.	Temp.	Wind.	Weather
August 16, 3 a.,	29.59	78	N 6	omq.	29.62	81	NE 4	o.	29.56	80	N 8	omq.
6 a.,	.56	78	N 7	omqr.	...	...	...	...	.51	80	N 8	cp.
9 a.,	.48	79	NNE 7	...	.55	80	NE 5	or.	.48	81	NNE 8	cm.
Noon,	.46	80	NNE 8	...	..	...	...	...	.42	82	NNE 10	cmp.
3 p.,	.39	80	NNE 8	...	.45	84	NE 7	o.	.29	83	NNE 10	gm.
6 p.,	.35	78	NE 9	...	...	...	...	...	.21	82	NNE 11	omr.
9 p.,	.28	76	NE 10	...	.36	78	E 8	orq.	.07	80	NNE 12	...
Midt.,	.13	76	NE 10	...	.21	...	ENE 10	orq.	.07	80	NE 12	...
August 17, 3 a.,	.11	76	ESE 8	...	.20	78	E 8	...	.18	80	ENE 10	...
6 a.,	.28	77	SE 7	...	.28	...	E 4	...	.28	80	ESE 10	...
9 a.,	.42	78	SE 6	omr.	.39	76	ESE 5	...	.37	80	SE 10	cm.
Noon,	.47	78	SE 6	...	.44	...	ESE 4	...	.43	81	SE 10	...

Date and Hour. 1888.	OCKSEU.				AMOY.				CHAPEL ISLAND.			
	Bar.	Temp.	Wind.	Weather	Bar.	Temp.	Wind.	Weather	Bar.	Temp.	Wind.	Weather
August 16, 3 a.,	29.52	79	NNE 6	cm.	29.64	83	Calm	c.	29.57	80	NNW 1	c.
6 a.,	.46	78	N 7	omd.	.66	82	NNW 1	...	.59	81	NNW 3	...
9 a.,	.39	81	NNE 7	cm.	.51	80	N 2	...	.52	85	NW 5	...
Noon,	.30	82	NNE 8	...	.41	88	NE 2	...	.38	86	NNW 5	cp.
3 p.,	.15	82	NNE 10	...	.35	90	NE 5	...	.28	87	N 6	cm.
6 p.,	.04	79	NNE 10	omd.	.30	86	NW 5	...	.26	85	N 7	cmp.
9 p.,	28.97	77	NNE 10	...	.30	84	NNW 6	or.	.18	80	NNW 8	omd.
Midt.,	29.08	77	ENE 7	...	.18	82	NNW 5	...	.07	77	NNW 8	...
August 17, 3 a.,	.09	77	ESE 6	omp.	.15	77	W 7	...	.10	76	W 7	...
6 a.,	.24	76	SE 6	...	.17	78	W 8	...	.15	76	SSW 6	...
9 a.,	.28	77	SSE 7	omd.	.27	77	SSW 3	...	.24	77	SSW 6	...
Noon,	.44	78	SSE 7	...	.36	79	S 3	...	.33	76	S 5	...

Date and Hour. 1888.	FISHER ISLAND.				LAMOCKS.				HONGKONG.			
	Bar.	Temp.	Wind.	Weather.	Bar.	Temp.	Wind.	Weather.	Bar.	Temp.	Wind.	Weather.
August 16, 3 a.,	29.40	78	NNW 9	om.	29.59	79	W 3	om.	29.71	78	W 2	c.
6 a.,	.29	79	NNW 10	...	.54	78	NW 4	...	.68	79	W 2	o.
9 a.,	.13	79	NNW 10	...	.52	80	NW 4	cm.	.66	82	NW/W 3	c.
Noon,	.12	80	N 11	...	.42	82	WNW 4	...	.60	85	W 4	b.
3 p.,	.01	80	N 11	omp.	.31	84	W 4	...	.52	86	WSW 4	c.
6 p.,	28.89	78	N 10	...	.30	83	WNW 5	ct.	.47	86	WNW 4	b.
9 p.,	.98	77	NNW 4	cm.	.29	81	WNW 5	...	.53	84	WSW 3	cl.
Midt.,	29.07	76	WNW 8	omd.	.24	80	WNW 6	op.	.49	83	W 4	c.
August 17, 3 a.,	.21	76	SSW 7	omrq.	.24	78	W 5	bm.	.47	84	NW/W 2	b.
6 a.,	.37	76	SSE 5	omr.	.30	78	WSW 4	...	.45	83	WNW 4	c.
9 a.,	.44	78	SE 3	om.	.32	78	SW 6	cm.	.50	85	W/S 3	...
Noon,	.48	80	SE 6	omp.	.41	79	SW 3	...	.49	88	W/S 3	...

The following are some additional observations for noon :—

	August 16th.						*August 17th.*				
Bolinao,	29.71	− .11	WSW	2	o.	Bolinao,	29.76	+ .05	SW	3	o.
Steep Island,	.80	− .11	ESE	3	cm.	Steep Island,	.77	− .08	SE	5	cm.
* Kiukiang,	.61	− .09	NE	1	b.	* Kiukiang,	.48	− .13	ENE	6	oq.
* Hankow,	.60	− .05	Var.	1	b.	* Hankow,	.46	− .14	NE	3	c.
* Wuhu,	.74	− .07	E	3	b.	* Wuhu,	.64	− .10	ENE	5	c.
	August 18th, at Noon.										
Hongkong,	29.73	+ .24	S	1	o.	Foochow,	29.74	+ .32	SSW	2	c.
South Cape,	.87	+ .21	Var.	1	c.	Steep Island,	.80	+ .03	SSE	5	cm.
Fisher Island,	.80	+ .32	SSE	3	cm.	* Chinkiang,	.47	− .08	SE	7	c.
Chapel Island,	.78	+ .43	S	2	cm.	* Wuhu,	.57	− .07	SE	4	c.
Ockseu,	.77	+ .34	S	5	c.	* Kiukiang,	.46	− .02	SSW	4	or.
Turnabout,	.78	+ .35	SE	6	cm.	* Hankow,	.48	+ .02	NW	5	oeq.
	August 19th, at Noon.										
Foochow,	29.87	+ .13	SW	2	c.	* Newchwang,	29.76	− .07	NE	4	od.
Steep Island,	.85	+ .05	SSW	4	bm.	* Taku,	.68	− .12	NNE	2	c.
* Chinkiang,	.55	+ .08	SSE	3	c.	* Howki,	.59	− .16	ENE	4	od.
* Wuhu,	.78	+ .21	W	6	c.	* Chefoo,	.44	− .20	SSE	2	or.
* Kiukiang,	.78	+ .32	W	5	c.	* Shantung Py.,	.70	− .17	SSW	4	cm.
* Hankow,	.74	+ .26	NW	1	b.	* Chemulpo,	.65	− .08	S	5	cm.
	August 20th, at Noon.										
Steep Island,	29.92	+ .07	calm	...	cv.	* Shantung Py.,	29.77	+ .07	NW	4	c.
* Taku,	.71	+ .03	W	2	c.	* Chemulpo,	.55	− .10	SW	6	eq.
* Howki,	.73	+ .14	WNW	3	c.	* Fusan,	.72	− .12	SW	6	c.
* Chefoo,	.60	+ .16	NW	3	c.	* Yuensan,	.71	− .14	SE	2	or.

The barometer readings at the stations marked * are uncorrected.

The following observations were made at noon on board vessels on the days specified :—

S.S. *Catterthun*,	August	15,	17° 34′	117° 22′	29.84	W	3	c.
„ *Zafiro*,	„		19 51	115 54	...	calm		
„ *Hailoong*,	„		22 48	116 41	...	NNW	2	
„ *Thales*,	„		22 59	120 11	.67	N	4	og.
„ *Cardiganshire*,	„		25 56	120 49	.66	NE	8	
„ *City of New York*,	„		26 52	122 03	.83	NE	6	
Z.M. *Zilveren Kruis*,	„		28 31	122 01	.82	SE	2	
S.S. *Catterthun*,	August	16,	21° 00′	114° 51′	29.63	W	6	c.
„ *Polyhymnia*,	„		22 17	114 42	...	WSW	5	b.
„ *Thales*,	„		22 35	119 00	.13	NNW	10	oq.
„ *Telemachus*,	„		23 32	117 46	...	WNW	6	oqr.
„ *Propontis*,	„		23 40	117 53	.49	NNE	2	
„ *City of New York*,	„		23 45	118 08	.43	N	5	c.
„ *Melbourne*,	„		24 22	118 15	.39	NNE	7	og.
Z.M. *Zilveren Kruis*,	„		26 30	119 30	.51	NNE	6	oq.
S.S. *Cardiganshire*,	„		27 49	123 09	...	E by N	9	
„ *Canton*,	„		28 40	121 35	.71	NE	6	
„ *Fushiki Maru*,	„		28 47	124 32	.71	SE	6	
S.S. *Thales*,	August	17,	23° 25′	119° 38′	29.46	S	6	oqr.
Z.M. *Zilveren Kruis*,	„		26 20	119 42	.40	SSE	7	o.
S.S. *Fushiki Maru*,	„		27 13	122 15	.61	SE	7	
„ *Canton*,	„		28 40	121 35	.67	SE	5	o.
„ *Woosung*,	„		28 42	121 55	...	SE	5	
„ *Port Adelaide*,	„		29 08	124 10	.80	SE	5	c.
S.S. *Fushiki Maru*,	August	18,	25° 44′	120° 05′	29.75	S	4	
Z.M. *Zilveren Kruis*,	„		26 10	119 55	.78	SW	3	o.
S.S. *Canton*,	„		27 31	120 48	.68	S	6	c.
„ *Port Adelaide*,	„		27 02	122 22	.85	S	6	c.
„ *Melbourne*,	„		28 08	121 53	.76	SSE	4	
„ *Victoria*,	„		28 44	124 33	...	SSE	8	

The following positions of the centre have been determined :—

Date and Hour.	Position of Centre.		Date and Hour.	Position of Centre.	
	Latitude.	Longitude.		Latitude.	Longitude.
August 15, noon,	21° 15′	125° 00′	August 17, 3a.,	24° 50′	119° 00′
midt.,	21 50	123 10	6a.,	25 05	118 30
August 16, 6a.,	22 20	122 20	noon,	25 50	117 00
noon,	22 50	121 20	August 18, noon,	31 00	116 15
6p.,	23 30	120 20	August 19, noon,	37 30	121 00
9p.,	23 42	119 55	August 20, noon,	38 45	126 30
midt.,	24 20	119 40			

There is some irregularity in the barometer readings at Anping and Fisher Island when the centre was near those stations. Fisher Island shows the barometric minimun at 5.30 p. on the 16th while Anping has the minimun at 7.30 p. This discrepancy is probably connected with the proximity of the latter station to the mountain range of Formosa and which causes the barometer to read relatively too high at times when the wind is blowing towards the range. Also the typhoon was filling up after it entered Formosa so that the minimum at Fisher Island is shown while the typhoon centre was at a greater distance from that station than it became subsequently. This latter remark also applies to the Ockseu and Turnabout observations which show the minimum at 9 p. although the centre was still approaching. The barometric readings however are not very good at these stations, the barometers in use are not perfectly reliable and the corrections to them are not known with certainty. The following gives the average distance from the centre of the isobars between noon of the 16th and 3 a. of the 17th August: 29.0 inches, 30 miles: 29.1 inches, 70 miles: 29.2 inches, 105 miles: 29.3 inches, 160 miles: 29.4 inches, 200 miles: 29.5 inches, 280 miles.

The following table gives the average wind forces at different distances determined from observations made between August 16th noon and 17th 6 a. inclusive:—

Distance from the Centre.	In front of Centre.	Right hand Semi-circle.	In rear of Centre.	Left hand Semi-circle.
miles.				
50	10	11	6	9
100	9	10	8	8
150	7	9	7	6
250	4	6	7	4

This shows the wind to have been strongest in the right hand semi-circle. In rear there was an area near the centre where only moderate to strong breezes blew but at a distance of 250 miles the wind was stronger in the rear than in any other position.

On the 16th almost constant rain fell within a distance ot 275 miles in the right hand semi-circle. In the left hand semi-circle, in front and in rear of the centre the rain was more intermittent, so that the weather may be called showery within a distance of 100 miles in front of the centre, within a distance of 150 miles in rear of the centre, and within a distance of 175 miles in the left hand semi-circle, and in this semi-circle thunder and lightning were also observed at a distance of about 150 miles from the centre.

The angle between the wind direction and the centre, determined from observations within 250 miles from noon August 16th to 6 a. August 17th was, in front of the centre 123°, in rear 125°, in the right hand semi-circle 125° and in the left hand semi-circle 132°. The mean angle was 126° *i.e.* the centre bore 11 points from the wind, the average latitude of the centre during the period being 24° and its course towards about Northwest by West.

According to the Japanese weather maps a typhoon entered the South Coast of Japan on the evening of August 30th and after moving Northeastward across Central Japan re-entered the Pacific on the evening of August 31st. The following positions of the centre are taken from the weather maps:—

August 30.....2 p.	32°	15′	133°	45′
.....9 p.	33	15	134	30
31.....6 a.	36	30	137	45
.....2 p.	39	15	141	15
.....9 p.	42	00	144	00

A track has been dotted between the 23rd and 29th which is however very uncertain for lack of observations. The observations in Luzon on the 23rd indicate a depression to the Eastward. The barometer had fallen and the winds were light to gentle breezes from between N and W backing on the 24th. The Formosa observations from the 24th and 25th also indicate a depression to the Eastward on those days though the weather was fine and the winds light. On the 26th the S.S. *General Werder* at noon in 26° 56′, 122° 41′ had barometer 29.56 and a fresh NE gale which however quickly backed and moderated. On the same day the S.S. *Red Sea* in 27°, 126° had a strong SSE breeze with heavy squalls of wind and rain and a cross sea. On the 27th the barometer had fallen about 0.1 inch at the stations at the mouth of the Yangtze the wind being from about N a moderate breeze. On the 28th and 29th an area of low barometer is shown by the Japanese weather maps to the Southwest and South of Western Japan.

On the 4th September a small typhoon was encountered by the S.S. *Butuan* while on a voyage from Iloilo to Manila. This vessel was hove to on the evening of the 4th in about 11° 45′, 123° 40′. Early in the evening she had the wind light from N and NNW, at 9 p. it was strong from NW with hard rain squalls. They had a great fall in the barometer between 10 p. and midnight and the

strongest wind from about SW near 1 a. on the 5th, after which hour it quickly moderated and at 8 a. the weather was fine with light S wind. The centre appears to have passed a few miles to the North of this vessel's position. These is no further information available.

On the 2nd September a depression advanced from Northwestern China and entered the Gulf of Pechili passing over N Corea on the 3rd and entering the Sea of Japan. A similar depression entered the Gulf of Pechili on the 6th September passing into the Sea of Japan on the 7th.

The following observations were made on the S.S. *General Werder*:—

Sept. 8,...	Noon	26°02′	122°28′	29.83	E	3	b.	Sept. 10,...	Noon	29°46′	131°07′	29.40	NW	8 qr.
	4 p.	...	...	.83	NE	2	b.		4 p.	...	...	.32	NW	8 qr.
	8 p.	...	...	.86	NNE	3	b.		8 p.	...	...	.31	NW	9 pr.
	Midt.	...	...	.85	N	4	b.		Midt.	...	...	.32	NW	8 qr.
9,...	4 a.	...	...	.79	NNE	6	p.	11,...	4 a.	...	...	.49	SW	8 q.
	8 a.	...	...	.77	NE	6	pq.		8 a.	...	...	.54	SSW	7 p.
	Noon	27°28′	127°07′	.74	N	6	rp.		Noon	32°31′	135°14′	.66	SSW	7 q.
	4 p.	...	...	.66	N	6	p.		4 p.	...	...	.64	SSE	7 p.
	8 p.	...	...	.65	N	5	c.		8 p.	...	...	.74	SSE	7 p.
	Midt.	...	...	.62	N	5	c.		Midt.	...	...	.69	SSE	7 c.
10,...	4 a.	...	...	.61	N	6	p.	12,...	4 a.	...	...	.67	S	6 c.
	8 a.	...	...	.42	N	6	c.		8 a.	...	...	.66	S	4 b.
									Noon	34°51′	139°19′	.71	S	4 m.

The bad weather on board this vessel was caused by a typhoon (XII) which had its centre on the 9th September at noon in 26°, 134°½ and on the 10th at noon in 29°½, 134°. It entered Japan on the 11th and its track may be further traced by aid of the Japanese weather maps. It was at noon on the 11th in 32° 15′, 131° 45′ and at noon on the 12th in 39°, 139°. It passed again into the Pacific the same evening moving towards NE but it had then almost ceased to exist.

The following observations for noon have reference to a typhoon (XIII) which crossed the China Sea in about 12° latitude. The centre was N of Palawan on the 9th September and it entered the Annam Coast on the afternoon of the 11th. The Bangkok Times gives an account of a gale which was felt in the neighbourhood of Bangkok on the 13th of September which it appears caused great damage to property and some loss of life. Many native boats were sunk on the river and their crews drowned and hundreds of betel, durian, plantain and mango trees levelled to the ground and in some instances carried yards away by the violence of the blast. It appears probable that the gale in Bangkok was the remains of the typhoon in the China Sea and which entered the Annam Coast in about 13° latitude moving about WNW :—

COAST STATIONS.

Manila, ...	Sept. 9,...	29.74	−.03	E	2	c.	Sept. 10,...	29.84	+.10	S	2	cf.	Sept. 11,...	29.86	+.02	SW	2 cf.
Bolinao, ...		.77	.00	ENE	3	b.		.80	+.03	Var.	2	b.		.86	+.06	Var.	2 c.
Hongkong, .		.88	+.03	E	4	o.		.90	+.02	E	3	c.		.93	+.03	E	2 o.
Hoikow,.....		.87	−.01	ENE	3	c.		.91	+.04	NE	3	c.		.90	−.01	ENE	4 c.

VESSELS.

S.S. *Cheang Hye Teng*, ...	September 9,...	8° 05′	108° 21′	...	WSW	3	orq.
BK. *Fortune*, ...	„ ...	10 33	110 25	29.81	WNW	4	o.
S.S. *China*, ...	„ 10,...	5° 14′	108° 59′	29.80	SSW	4	
„ *Frigga*, ...	„ ...	10 07	109 05	.77	W	2	
„ *Cheang Hye Teng*, ...	„ ...	11 01	110 07	...	NW	4	oq.
BK. *Fortune*, ...	„ ...	11 44	111 45?	.68?	NW	8	oqr.
S.S. *Deccan*, ...	„ ...	14 19	112 32	.74?	NE	4	oqr.
BK. *Penshaw*, ...	„ ...	16 19	118 19	...	calm	...	c.
S.S. *China*, ...	„ 11,...	8° 33′	109° 00′	29.71	SW	4	oqr.
„ *Almora*, ...	„ ...	11 23	109 19	.60	SW	5	cpq.
„ *Deccan*, ...	„ ...	11 17	110 44	.70?	SSW	6	oq.
„ *Frigga*, ...	„ ...	12 50	110 05	.58	SSW	6	opq.
„ *Cheang Hye Teng*, ...	„ ...	12 31	110 00	.33?	ENE	10	
BK. *Fortune*, ...	„ ...	12 39	113 20	.79?	S	4	o.
„ *Penshaw*, ...	„ ...	17 25	117 35	...	SE	3	c.
S.S. *China*, ...	„ 12,...	11° 36′	109° 45′	29.79	S	4	oqr.
BK. *Fortune*, ...	„ ...	14 16	114 02	.81?	ESE	4	c.
S.S. *Almora*, ...	„ ...	14 36	109 58	.79	SE	4	cpq.
„ *Cheang Hye Teng*, ...	„ ...	14 59	110 12	...	ESE	4	op.
„ *Frigga*, ...	„ ...	15 44	110 34	.83	SE	3	or.

The position of the centre on the 9th September was 11°½, 118° but this is only approximate. At noon on the 10th it was in 11° 45′, 114° 45′; at 8 p. in 12° 0′, 113° 0′; at 3 a. on the 11th it was in 12° 15′, 111° 30′; at noon in 12° 40′, 109° 40′. At noon on the 12th it was inland perhaps in 14°, 105°.

The bark *Fortune* was very near the centre at 8 p. on the 10th and had experienced NW 8 up to 6 p. At this time, and before, she ought to have run with the wind on the starboard quarter. At 8 p. they had typhoon force from the SW with a tremendous confused sea and the foretopsail and foretop-mast stay sail blew away. At 10 p. they had SSW 12 after which hour it moderated to a strong gale at midnight from the same direction—continuous rain fell the whole day. This vessel's position as given for noon of the 10th is from dead reckoning, and subsequent observations on the 11th show, that she was some 60 miles further to the Eastward.

The *Deccan* steering on the 10th S 30° W had the barometer falling quickly during the afternoon and the wind gradually increasing from the NE with rain squalls. Many shore birds and dragon flies were seen about the vessel. During the early part of the evening lightning was observed to the Southward. Towards midnight the wind backed to N and blew a moderate gale with furious squalls and the sky became completely overcast (barometer 29.50 uncorrected). At 2 a. 11th (barometer 29.43) the wind decreased to force 4 to 5 from the NNW, at 3 a. it was from NW (barometer 29.40 lowest). Many gulls were at this time flying around the vessel and vivid lightning was seen to the Southward. At 4 a. they had the wind from the SW force 10 to 11 with barometer 29.48 rising, very heavy rain and a high confused sea. By 6 a. they had only a fresh SW gale (barometer 29.58) and the weather thereafter quickly improved. This vessel had kept her course since noon of the 10th and thus ran across the typhoon track just in front of the centre.

The *Cheang Hye Teng* on the 10th September had the wind veering from SW to NW of force 4 increasing towards evening. The weather was overcast and squally and they had a N swell. Unusual visibility was noted and they were able to see the Cochin China Coast distant 60 miles. No entries of barometer readings had been made in the log book until 2 p. but during the evening the barometer fell rapidly (at 4 p. 29.60, at midnight 29.41). On the morning of the 11th the barometer continued falling (2 a. 29.35, 8 a. 29.26) with a fresh to strong N gale blowing with hard squalls and sky overcast. The vessel was kept head to sea after 4 a. At 9 a. it fell calm there was a heavy confused sea and flocks of birds hovered around the vessel. At 9.30 a. it started to blow again with terrific squalls the wind veering towards E and barometer rising. "The water looked like smoke the way it was lashed in the air by the wind." The vessel shipped a heavy sea, on the starboard side, amidships, which lifted up the starboat lifeboat and threw it againt the bridge house damaging the boat and carrying away forward boat skin and bridge rails. The cargo shifted at the same time. The vessel was put on her course towards N at 4 p. the barometer rising (4 p. 29.41) and the wind ESE 7 decreasing.

This vessel passed from the manageable into the dangerous semi-circle on the 10th although the wind veering towards NW and the barometer falling rapidly gave a distinct warning. The vessel ought to have been steered to the Southward at noon on the 10th where they would have been in a position to have set their course to the Eastward and to have sailed round the typhoon thus avoiding the bad weather.

The *Frigga* was found to be also passing into the dangerous semi-circle on the early morning of the 11th. They had a moderate but increasing NNW breeze at 4 a. The vessel was steered towards SW for a short time but afterwards again put on her course towards N by E half speed. At 8 a. they had W 8 and at 9 a. SSW 9. They then ran S by W half speed for 2 hours and at noon had a strong SSW breeze only.

It will be noticed that the noon positions of this vessel and the *Cheang Hye Teng* do not agree with the observed winds with regard to the centre. Evidently the *Frigga* was a little South of the centre at 9 a. and the *Cheang Hye Teng* on the northern edge of the central calm at the same hour. Probably the *Frigga* was to the Southward of her given position owing to a northerly current setting down the Annam Coast.

This typhoon appears to have been of very small area and typhoon force of wind was only just reached. The area in which gales blew did not much exceed a radius of 50 miles. There was an area of calm and moderate breezes at the centre which perhaps corresponded to a diameter of 15 miles with force 9 just outside this area in front and force 11 in rear of the centre. On an average force 8 was felt at a distance of 50 miles, force 6 at 100 miles and force 5 at 150 miles in front and also in rear of the centre. There was a high cross sea within 100 miles of the centre and showery weather extended to about the same distance. The barometer readings are not good the corrections to be applied to them being unknown in some cases but it appears the depression at the centre did not exceed 0.7 inch below the normal.

On the 15th September a slight depression which had advanced from the interior of China was situated at the mouth of the Yangtze. It then moved away to the Eastward. This was followed by another depression moving from the same direction and which passed to the North of Shanghai on the 19th September and subsequently on the 20th moved across the Sea of Japan where it attained considerable violence as seen from the Japanese weather maps.

The following observations for each day at noon have reference to a typhoon (XIV) which advanced from the *Pacific* and whose centre was situated to the East of Luzon on the 25th September. It subsequently passed a little to the North of Luzon and entered the China Sea on the morning of the 27th September. Pursuing a course a little to the South of West it passed across the China Sea in an average latitude of 18°½ N and on the morning of September 30th it crossed the Southern entrance to the Gulf of Tongking and entered the Annam Coast near Dong Hoi:—

COAST STATIONS.

Station.	September 25th.				September 26th.				September 27th.			
Manila,	29.81	86	WSW 3	c.	29.69	85	W 4	f.	29.64	84	SW 4	o.
Bolinao,	.83	84	N 3	c.	.72	84	NW 6	o.	.53	78	SE 3	or.
Aparri,	.87	84	NNW 2	c.	.38	...	NW 9	o.	.62	...	SE 3	o.
South Cape,	.92	83	N 3	c.	.68	82	NNE 5	cq.	.59	82	NE 7	opq.
Fisher Island,	.90	79	NNE 7	cm.	.72	79	NNE 7	om.	.62	89	NNE 6	cm.
Lamocks,	.94	80	NE 6	cm.	.83	81	NE 2	cm.	.61	84	NE 7	cm.
Breaker Point,	.98	80	NE 5	b.	.84	84	NE 3	c.	.66	87	NE 2	cm.
Hongkong,	30.00	82	ESE 3	c.	.87	87	NE 1	b.	.71	87	N 2	o.
Hoihow,	29.97	85	E 2	c.	.93	84	E 1	c.	.80	85	NW 3	c.
Pakhoi,	30.00	90	E 2	c.	.93	89	var. 2	c.	.84	92	N 4	c.
Haiphong,	30.03	82	SSE 2	od.	30.00	91	NW 5	o.	.90	92	WNW 2	c.
Dong Hoi,	...	...	...	...	...	...	...	...	...	...	...	...

Station.	September 28th.				September 29th.				September 30th.			
Manila,	29.72	89	S 2	c.	29.75	83	SW 2	c.	29.83	80	SW 1	o.
Bolinao,	.68	79	SSE 3	od.	.73	79	SSE 2	o.	.80	84	S 3	cp.
Aparri,	...	...	...	...	...	...	...	...	.89	81	NE 2	o.
South Cape,	.73	82	ENE 4	op.	.78	80	NE 2	cv.	.88	81	NE 6	c.
Fisher Island,	.71	79	NNE 1	cm.	.79	78	NNE 7	cm.	.93	77	NNE 7	cm.
Lamocks,	.71	80	NE 6	om.	.77	77	NE 7	om.	.92	78	NE 7	om.
Breaker Point,	.69	80	NE 7	om.	.79	76	NE 7	om.	.94	79	NE 7	c.
Hongkong,	.65	78	NE 5	or.	.74	78	ENE 7	or.	.92	75	N 2	o.
Hoikow,	.68	83	NNE 5	c.	.49	80	NE 10	oqr.	.79	79	ENE 8	oqr.
Pakhoi,	.79	86	N 5	c.	.75	78	N 6	op.	.85	75	N 6	op.
Haiphong,	.84	88	NNW 3	od.	.83	83	NNW 7	o.	.86	72	N 6	oq.
Dong Hoi,	.84	...	NW	...	.65	...	NW	...	...	...	...	...

N.B.—The temperature entered for Manila, Bolinao and Aparri is for 4p., Haiphong is for 1.30p. and those for Hoihow and Pakhoi are the maxima of the day.

VESSELS.

September 25th.

S.S.	*Ghazee,*	7°28′	107°58′	30.01	NW	3	c.
„	*Benvenue,*	10 03	110 16	30.01	NNW	2	
„	*Venetia,*	10 54	110 24	30.00	NNE	2	c.
BK.	*Figaro,*	11 55	111 41	...	WNW	3	c.
S.S.	*Dafila,*	12 05	109 47	29.91	N	4	
„	*Flintshire,*	13 27	117 40	...	NNE	...	oqr.
„	*Namkiang,*	16 01	110 54	...	N	2	c.
BK.	*Dione,*	19 31	121 00	29.65	NNE	6	oq.
K.K.F.	*Fusana,*	25 48	120 30	30.05	N	4	

September 26th.

S.S.	*Japan,*	3°51′	105°53′	29.99	NW	5	c.
BG.	*Foochow,*	9 05	108 36	...	WSW	5	
S.S.	*Ghazee,*	10 56	109 39	30.02	NW	3	c.
BK.	*Figaro,*	12 24	112 23	...	W	3	oq.
S.S.	*Benvenue,*	13 47	112 19	29.94	NNW	4	c.
„	*Venetia,*	14 53	112 15	29.94	N	4	c.
„	*Dafila,*	14 57	110 17	29.93	N	3	c.
„	*Namkiang,*	18 43	111 53	...	NE	6	o.
BK.	*Dione,*	19 36	121 07	29.48	NE	11	

September 27th.

S.S.	*Japan,*	7°30′	107°49′	29.93	W	6	oq.
„	*Priam,*	7 37	107 50	...	W	5	oqr.
BG.	*Foochow,*	10 12	111 13	...	SW	6	
BK.	*Figaro,*	13 29	113 25	29.66	W	5	o.
S.S.	*Ghazee,*	14 20	110 14	29.85	NNW	4	o.
„	*Benvenue,*	17 09	113 20	29.74	NW	6	or.
„	*Falkenburg,*	17 43	111 14	29.77	NW	3	
„	*Dafila,*	18 01	111 07	29.77	WNW	4	c.

S.S.	*Vorwaerts,*	18°00′	108°09′	...	NW	4	
„	*Venetia,*	18 18	113 29	29.77	NNW	5	o.
„	*Tetartos,*	19 32	112 06	...	NW	5	oq.
BK.	*Dione,*	19 04	120 28	28.74	SE	12	
S.S.	*Namkiang,*	21 29	113 21	29.76	(W)?	6	o.
„	*Braunschweig,*	22 07	114 21	29.64	NW	4	
„	*Metapedia,*	24 56	119 13	...	NNE	8	

September 28th.

S.S.	*Phra Chom Klao,*	10°17′	107°56′	29.70	W	5	op.
„	*Priam,*	10 44	109 54	...	W	6	oq.
„	*Japan,*	11 00	110 24	29.77	WSW	5	c.
„	*Carisbrooke,*	11 08	109 02	29.69?	W	5	or.
BG.	*Foochow,*	11 54	113 19	29.73	SW	6	oq.
S.S.	*Zambesi,*	12 18	109 30	29.69	WNW	4	o.
BK.	*Figaro,*	14 35	113 50	29.53	WSW	3	oq.
S.S.	*Don Juan,*	15 16	119 42	29.67	SSE	5	
„	*Zafiro,*	15 53	119 13	29.63	SSW	5	oq.
„	*Melbourne,*	17 30	110 55	29.62	NNW	5	o.

S.S.	*Ghazee,*	17°31′	111°01′	29.63	NW	6	oq.
„	*Marie,*	17 48	109 52	29.68	NW	7	o.
„	*Braunschweig,*	17 57	111 29	29.54	NW	8	op.
„	*Benvenue,*	18 25	113 30	28.94	N	12	oqr.
U.S. Cr.	*Juniata,*	18 51	111 40	29.45	NW	7	opq.
S.S.	*Falkenburg,*	19 36	112 28	29.61	NW	10	
BK.	*Dione,*	19 44	120 00	29.37?	E	6	or.
S.S.	*Dafila,*	19 57	112 12	29.51	N	9	oq.
„	*Vorwaerts,*	20 00	110 00	...	NNW	6	o.
„	*Venetia,*	21 07	114 00	29.53	NNE	9	orq.

September 29th.

SH.	*J. M. Blaikie,*	8°52′	109°52′	...	WSW	6	oq.
S.S.	*Kong Beng,*	8 49	106 12	29.77	W	5	o.
„	*Melbourne,*	11 47	109 20	29.66	W	4	c.
„	*Braunschweig,*	12 50	110 18	29.54	WSW	5	o.
BG.	*Foochow,*	12 53	115 30	29.83	SW	...	oqr.
S.S.	*Phra Chom Klao,*	13 05	109 47	29.48	W	6	
„	*Carisbrooke,*	13 02	109 20	29.43?	W	9	oq.
„	*Priam,*	14 02	110 11	29.40	W	6	oq.
„	*Japan,*	14 14	112 52	29.66	SSW	5	o.
BK.	*Figaro,*	15 14	113 53	29.57?	S	5	c.

S.S.	*Duburg,*	15°19′	109°55′	29.49	SW	6	o.
„	*Zambesi,*	15 17	110 09	29.46	WSW	9	
„	*Marie,*	(17 03	110 14)?	29.24	W	11	oqr.
„	*Falkenburg,*	(18 10	110 10)?	27.76	NE	12	oqr.
U.S. Cr.	*Juniata,*	(18 15	110 42)?	28.25	WSW	12	oqr.
S.S.	*Ghazee,*	(18 21	110 43)?	28.03	calm?	...	oqr.
„	*Don Juan,*	18 24	116 50	29.71	ESE	4	
„	*Zafiro,*	19 09	116 40	29.68	ENE	4	c.
„	*Dafila,*	(20 08	112 01)?	29.23	NE	9	oqr.
„	*Venetia,*	21 40	114 04	...	ENE	9	oqr.

September 30th.

S.S.	*Nanshan,*	9°09′	103°33′	29.77	WSW	6	c.
„	*Braunschweig,*	9 18	109 44	29.78	SW	5	
„	*Kong Beng,*	11 30	109 14	29.72	SW	5	
SH.	*J. M. Blaikie,*	12 32	110 48	...	SW	5	c.
BG.	*Foochow,*	14 24	116 36	29.91	SW	...	
S.S.	*Carisbrooke,*	14 30	109 30	29.60	SSW	5	
„	*Phra Chom Klao,*	16 04	110 43	29.61	S	5	c.
U.S. Cr.	*Juniata,*	16 36	110 19	29.62	SE	4	c.
S.S.	*Duburg,*	16 44	110 18	29.63	SE	5	o.

S.S.	*Marie,*	17°12′	110°52′	29.65	SE	6	o.
„	*Priam,*	17 20	110 50	...	ESE	4	c.
„	*Zambesi,*	17 31	110 31	29.62	SE	6	
BK.	*Figaro,*	17 41	114 22	29.74	E	5	o.
S.S.	*Ghazee,*	(18 02	110 43)?	29.18	NE	5	c.
„	*Japan,*	18 07	114 02	29.81	SE	5	opq.
„	*Dafila,*	(19 03	111 50)?	29.74	ESE	5	o.
„	*Frejr,*	20 40	107 05	...	N	9	

The following very complete observations were made on board the United States Corvette *Juniata* on September 29th :—

Hour.	Bar. corrd.	Wind. Dir.	Wind. Force.	Weather.	Temperature. Air Dry.	Temperature. Air Damp.	Temperature. Sea Surface.	Sea.	Hour.	Bar. corrd.	Wind. Dir.	Wind. Force.	Weather.	Temperature. Dry bulb.	Temperature. Damp bulb.	Sea.	
1a.,.....	29.42	NW	8–10	oqp.	80	80	84	Broken, long and rough.	1p., ...	28.47	W/S	10–12	opq.	78	78	Rough.	Position at Noon, Lat. 18° 16′ N, Long. 110° 42′ E.
2a.,.....	.36	„	8–10	oq.	80	80	84		2p., ...	.54	„	10–12	„	78	78		
3a.,.....	.31	„	8–10	„	80	80	82		3p., ...	.67	WSW	9–11	„	78	78		
4a.,.....	.26	„	8–10	oqr.	80	80	82		4p., ...	.87	„	8–10	oqm.	79	78		
5a.,.....	.06	„	8–10	„	80	80	82		5p., ...	.97	„	10	oq.	79	78		
6a.,.....	28.96	WNW	8–10	„	80	80	82		6p., ...	29.02	SW	9	„	78	77		
7a.,.....	.99	W/N	8–10	„	80	80	82		7p., ...	.07	„	7– 9	„	78	77		
8a.,.....	.96	„	8–10	„	80	80	82		8p., ...	.17	S/W	4– 6	„	78	77		
9a.,.....	.76	„	9–10	„	78	78	82		9p., ...	.27	„	7– 8	„	78	76		
10a.,.....	.61	W	9–11	„	78	78	80		10p., ...	.34	„	7– 8	„	77	76		
11a.,.....	.51	W/S	9–12	„	78	78	80		11p., ...	.47	S	7	oqr.	77	76		
Noon, ...	.26	WSW	9–12	„	78	78	80	Rough, heavy and choppy.	Midt.....	.47	„	7	„	79	76		

On the 22nd and 23rd September the brig *Swan* lying at the Pelew Islands (7° 20′, 134° 40′) experienced a fresh to strong W breeze with squally weather. On these two days pressure was increasing over China and a moderate NE monsoon was blowing along the coast. On the 24th and 25th the *Swan* had a gale from SW accompanied by heavy rain squalls with thunder and lightning but moderating on the 26th. On the 24th pressure was still increasing over China particularly in the North where the barometer had become very high. A fresh and increasing NE monsoon blew on the coast and light N and NW breezes prevailed over the Western side of the China Sea as far South as 5° latitude. In Luzon the barometer had commenced to fall and light variable airs and breezes prevailed. The observations made on board the *Swan* indicate that the typhoon was advancing Westward from a point to the North and East of her position on the 22nd and 23rd and that by the 24th and 25th it was situated to the North and West of this vessel but at what distance cannot be stated particularly as they made no barometric observations.

The foregoing tables of observations for the period September 25th to 30th inclusive show the conditions prevailing on those days in and around the China Sea but some more details of the experiences of vessels who encountered the hurricane winds near the centre are now given.

On board the Norwegian bark *Dione* near the Balingtang Channel they had the wind increasing from the NNE on the 25th September and towards evening they had a strong gale from NE with the barometer beginning to fall rather quickly (midnight 29.79). On the 26th, the vessel being in about the same position, the wind continued increasing in violence from the NE and the barometer was falling very rapidly. At 4 p. (barometer 29.33) they had typhoon force—probably overestimated—of wind from the NNW, the vessel being situated about 100 miles WNW of the centre, and there was a frightful sea running which did great damage on board. The wind continued to blow fiercely from NNW during the evening (barometer midnight 28.94). At 2 a. on the 27th the main mast carried away. They were unable to clear it and for ten hours it was bumping against the vessel's side in which it eventually knocked a hole. At 4 a. the wind was N 12, barometer 28.35, at 7 a. NNW 12, 28.27. About this time it fell almost calm and remained so until 8 a. when the wind came with typhoon force from SE. The barometer had in the meantime risen to 28.74. The estimated position of the vessel at this time was 19° 12′, 120° 52′. No blue sky was seen but it became somewhat lighter in appearance. The sea was very confused. The wind continued to blow with typhoon force until about 2 p. when it commenced to abate somewhat. During the evening (barometer 8 p. 28.86) the wind backed to E and continued to blow a whole gale from the same quarter until the early morning of the 28th (barometer 4 a. 28.98) when it gradually decreased to a strong breeze. No lightning was seen by those on board this vessel. The Captain states that the sea was the most terrible he has ever encountered. The vessel sustained great damage. In addition to loss of mainmast, the fore and mizzen topmasts and the jibboom were carried away and great damage done about the decks and it was only by constant use of the pumps that the vessel was enabled to reach Hongkong. It appears likely that this vessel after passing through the centre, was for some hours carried along in the NE quadrant of the inner storm area. The barometer rose so very slowly, though it appears the instrument did not act properly, and the E wind continued to blow strongly.

After being encountered by the *Dione* on the 27th at 8 a. the typhoon entered the China Sea moving about W ½ S at an average rate of nearly 12 miles per hour. There were many vessels on the Western side of the China Sea but no vessel was in the immediate neighbourhood of the centre until next morning, the 28th, when the S.S. *Benvenue* began to experience very bad weather. This vessel on the 27th in 17° 9′, 113° 20′ already had a strong NW breeze with heavy head sea and the barometer had fallen 0.2 inch since the previous day and was still falling rather quickly. This vessel was bound to Hongkong and should have been steered at this time to the Southward the barometer and increasing NW wind and sea distinctly indicating a storm to the Eastward. As it was the vessel continued on her course towards the dangerous semi-circle and at midnight they had a moderate N

gale with blinding rain and increasing sea necessitating the engines being reduced to half speed. The vessel was about 200 miles to the WNW of the centre at this time. During the early morning of the 28th the wind continued increasing in force from N with heavy squalls of wind and rain. The following observations of the barometer were recorded: 1 a. 29.57, 4 a. 29.47, 8 a. 29.29, 11 a. 29.09, and noon 28.94. At the latter hour they had typhoon force of wind from N with a mountainous sea. During the afternoon the barometer was falling rapidly (4 p. 27.87) and the wind which was from N to NNW continued to blow with typhoon force, the sea being terrible and causing frightful damage about the decks. At 8 p. the barometer read 26.77 the wind being NNW 12 and it then fell calm and remained so for ten minutes and then the wind came from SE with typhoon force. In the calm centre there was a downpour of rain the whole time. Immediately after the passage of the calm centre vivid lightning was seen in the SW. The barometer read 27.95 at midnight gradually rising thereafter and the wind is said to have gradually backed from SE to NE but no more observations were recorded. The approximate position of the vessel when in the central calm is given as 18° 33′, 113° 30′. The extremely low reading of the marine barometer recorded at the centre must be received with caution. An aneroid gave the reading 26.9, but the scale of the instrument was only graduated to 27.8 and the reading was therefore an estimation by aid of a pair of compasses. The correction found at 29.9 for this instrument was—0.19 inches. The corrections to barometer and aneroid found here were determined at about a pressure of 29.9 inches and the corrections to be applied at 27.0 inches may of course be widely different especially in the case of the aneroid. This vessel was very badly damaged. The after wheelhouse was lifted from its fastenings and carried overboard the settees on the poop, hencoops, safe and binnacle also went the same way. The after skylight, in attempting to secure which the Chief Officer and two men were disabled, was eventually carried away and water thus admitted to the saloon which was subsequently reduced to a complete wreck, the whole of its contents together with the staterooms being entirely demolished. The port and starboard boats amidships were stove in and much damage done to deck fittings.

The S.S. *Venetia* bound for Hongkong was about 160 miles NNW of the centre at noon on the 28th. This vessel also passed into the right hand semi-circle on the 27th. They had during the evening of that day the wind veering from NNW force 6 gradually increasing. The whole of the 28th they had the wind from NNE with hard rain squalls and about noon it was blowing a whole gale which continued for the remainder of the day. The lowest reading of the barometer was made at 4 p. 29.50 but the wind did not veer until the morning of the 29th when it became ENE force 9. This vessel was about 70 miles ahead of the *Benvenue* at noon on the 27th and they escaped the full fury of the storm but, nevertheless, they lost a boat and sustained some other damage about the decks.

On September 27th the French Mail Steamer *Melbourne*, the German Mail Steamer *Braunschweig* and the U. S. Corvette *Juniata* left Hongkong, the former at noon and the two latter an hour or two earlier. The *Melbourne* was bound to Saigon, the *Braunschweig* and *Juniata* for Singapore. They all ran across the path of the typhoon in front of the centre, *i.e.* they passed, in this case, from the dangerous into the manageable semi-circle. The *Melbourne* which steamed the fastest of the three had the wind backing from NNW on the early morning of the 28th to WNW the same evening and on the 29th they had the wind from W still backing. They had a heavy sea but the highest wind force recorded was force 6. The *Braunschweig* whose course was a little to the Eastward of that of the *Melbourne* had a moderate gale from NW on the morning of the 28th backing to a fresh WNW gale in the evening with a heavy sea. Next morning (29th) the wind quickly decreased and further backed to WSW, a fresh breeze. The *Juniata* who steamed rather slowly was too late and she became involved in the hurricane winds near the centre as shown by her log for September 29th, printed elsewhere, and she was very badly damaged.

The S.S. *Ghazee* bound from Singapore to Hongkong prepared for bad weather on the evening of the 27th. They had then NW 4 with heavy sea and barometer falling (at midnight 29.70). Next morning (28th) they had NW 6 increasing (barometer 4 a. 29.63). At this time they ought to have steered to the Southward but they kept their course and at 4 p. the wind had backed to W and blew a fresh increasing gale with fast falling barometer. At 9 p. the engines were slowed the course being NE by N ½ N. The following barometer readings were made 4 p. 29.48, 8 p. 29.38, midnight 29.23.

The following barometric observations were made on board this vessel on September 29th:—

1a., ...29.03	10a., ...28.08	6p., ...28.03
4a., ...28.83	Noon, ...28.03	8p., ...28.63
6a., ...28.63	2p., ...27.86	Midt., ...28.83
8a., ...28.18	4p., ...27.93	

The wind observations were not well recorded but it appears that during the early morning of this day it increased to typhoon force from WNW with terrific rain squalls and a mountainous sea. There was between noon and 2 p. a lull in the storm, but whether it was nearly or quite calm and for how long, is not known. There was a heavy confused sea and constant rain during the time. The estimated position of the vessel at noon was 18° 21′, 110° 43′. At 2 p. the wind came again from SE and blew with, if possible, greater fury than before until about 6 p. when it began to moderate and next day they had strong NE winds.

This vessel sustained great damage. Already on the evening of the 28th the sails were blown to pieces and on the morning of the 29th the terrible seas breaking on board were sweeping the decks. At 4 a. the vessel was thrown on her beam ends and heavy seas broke on board carrying away boats, sheep pens, bridge ladders, gangway ladders &c., besides smashing in the engine room skylights thus allowing water to get into the engine room. The pumps became choked through coal being washed from the bunkers and about 8 a. an A.B. was washed overboard but it was impossible to lower a boat to save him. The starboard side of the vessel was constantly buried in water and the lid of one of the starboard coal bunkers was torn off. A great quantity of water thus got below and put out the fires of the starboard boilers. At great risk the bunker lid was fortunately again secured. During the afternoon the port fires went out owing to the fearful rolling of the vessel with so great a quantity of water in the engine room. The engines now being stopped the vessel fell off into the trough of the sea where she lay helpless. The lee side was constantly under water, there was ten feet of water in the stokehole and the pumps were all choked. Towards 6 p. the weather began to moderate and all hands started to bale the water out of the engine room with buckets. On the 30th the water had been as far reduced that an attempt was made to light the port fires but owing to the rolling of the vessel they were soon put out again and it was not until next day, October 1st, that they were successful and by aid of wood and the burning of cargo as fuel, steam was made and the vessel got into Touron on October 2nd.

The S.S. *Falkenburg* was another vessel which became involved in the central area on the 29th September. She was at noon on the 28th in 19° 36′, 112° 28′. They had the barometer falling quickly (8 p. 29.34, midnight 29.10) and the wind veering to NE and increasing to storm force with a very heavy cross sea. During the evening the rudder was smashed and a blade or blades of her propeller broken off. They appear afterwards to have gradually drifted towards the centre of the typhoon.

The following readings of the barometer were taken on the 29th :—4 a. 28.83, 8 a. 28.24, 11 a. to 3 p. 27.76, 4 p. 28.08. 8 p. 28.43 and midnight 28.71. The wind blew from the NE with storm force until 11 a. when it was blowing with full typhoon force from the same quarter. At 4 a. they noted hail as well as rain but as the vessel had drifted close to the Hainan Coast it may possibly have been sand instead of hail. At 4 p. the wind suddenly flew to SW 12 with lulls of two minutes duration now and again. It continued to blow hard from SW during the evening but began to moderate towards midnight.

The estimated position of this vessel is given as 18° 10′, 110° 10′ at noon on the 29th but it is probable that she was a few miles to the ENE of this position at that time judging by the wind direction they had and the observations on board the *Ghazee* and *Juniata*. The two latter vessels were within 6 miles of each other and the centre at noon on this day has been placed a few miles to the ENE of the *Ghazee's* position which then agrees very well with the observations which were carefully made on board the *Juniata*.

The *Falkenburg* sustained a great deal of damage in addition to that already mentioned losing two boats swept overboard and two others smashed in, besides having great damage done to deck fittings. Many of the crew sustained serious injuries and in the midst of the storm (at 6 p.) the Captain of the vessel died from heart disease.

Already on the evening of the 27th September an increasing NW wind and falling barometer gave indications of a typhoon advancing from the Eastward and had this vessel then run to the Southward she would have escaped the worst of the storm.

This was done by the S.S. *Marie*. At noon on the 28th September she was in 17° 48′, 109° 52′ bound for Hongkong. On the evening of this day with barometer falling and the wind a moderate gale from the NW with high confused sea they ran to S/W from 9.30 p. 28th until 6 p. of the 29th. They thus escaped the full fury of the storm though they had a whole gale from W and WNW but had they taken the step of running S a few hours earlier they would have had much better weather.

The S.S. *Kildare* a vessel of nearly 3000 tons on a voyage from Java to Hongkong and loaded with sugar was abandoned and foundered at sea on October 4th in consequence of damage sustained in the typhoon on the 29th September. The ship's company was rescued by the S.S. *Iphigenia* and taken on to Singapore and the following particulars are gleaned from an account of the experiences of the *Kildare* printed in the Straits Times.

It appears the vessel was at noon on the 28th September in 17° N, 110° 50′ E with a gale commencing from WNW and barometer (29.65 uncorrected) falling. They went dead slow to Northward for four hours the barometer showing 29.52. They made everything fast and went full speed to SW until 8 p. (barometer 29.33) when the gale increased in fury from WNW and they had to heave her to. At midnight the barometer read 29.10 with wind and sea increasing the whole time. The starboard rail was under water and the vessel continually buried in the heavy seas. At 3.40 a. on the 29th (barometer 28.80) the steering gear gave way. The hand gear was then shipped but it only lasted until 5 a. when it was smashed and the rudder cast adrift. During the next few hours fearful damage was done. At 7 a. two seamen were washed overboard while attempting to secure the rudder with chains and another seaman and the Chief Officer each had a leg broken at the same time. The third Officer who had taken refuge in the main rigging had his clothes blown off by the force of the

wind and the pelting of the spray flayed the skin entirely from his back. They lost all their boats (8) the wheelhouse was stove in and much damage done to deck gear while several other men sustained injuries. At 10 a. (barometer 28.10) the engine room skylight was stove in admitting a large quantity of water to the engine room and stokehole which put out the starboard fires. At 10.30 a. the barometer read 28.05 with the wind remaining at West. Shortly before this a glint of clear sky appeared overhead for a moment. The pumps were choked through coal being washed out of the weather bunkers and pumping was thus stopped. During the afternoon the carpenter was washed overboard and lost while trying to fix a wedge in one of the hatches which had become loose. At midnight the barometer read 28.45. Next morning the 30th September the weather slowly improved and all hands started to bale the water from the stokehole. On October 1st at noon, in 17° N, 109° 35′ E barometer 29.80 wind N and weather fine they managed to get steam on the weather boiler and the vessel was headed for Touron. She had a heavy list but was going 6 knots. During the evening a heavy sea got up, the boiler fires were put out and the vessel was helpless again. On the 2nd October they kept on baling but all their efforts to get the pumps to work were unavailing and both officers and crew were rapidly becoming exhausted. On October 3rd they constructed a raft their situation now having become critical. On the 4th October at 9 a. they were rescued by the *Iphigenia* and it was thought the vessel would founder in about 8 hours.

The vessel it appears—like all the others who were coming up from the Southward and who subsequently became involved in the inner area of the typhoon—kept her course too long. The barometer was evidently falling fast on the morning of the 28th and they should have run to the Southward earlier.

The following table gives the position of the centre at the hours named. The positions are approximate only for September 24th, 25th and 26th at noon :—

Date and Hour.	Latitude North.	Longitude East.	Date and Hour.	Latitude North.	Longitude East.
September 24 noon, ...	15°	132°	September 28 4p., ...	18° 30′	114° 05′
25 noon, ...	17°	128½°	8p., ...	18 30	113 30
26 noon, ...	18¾°	124°	midt., ...	18 30	112 50
8p., ...	19 05	122 15	29 4a., ...	18 25	112 05
27 8a., ...	19 10	120 50	8a., ...	18 25	111 20
noon, ...	19 05	119 50	noon, ...	18 20	110 45
4p., ...	19 05	119 05	4p., ...	18 15	110 05
8p., ...	18 45	118 10	8p., ...	18 05	109 25
midt., ...	18 30	117 15	midt., ...	17 50	108 30
28 4a., ...	18 25	116 20	30 4a., ...	17 30	107 30
8a., ...	18 30	115 25	8a., ...	17 10	106 20
noon, ...	18 30	114 45	noon, ...	16 55	105 20

The average isobars were disposed as follows determined from four-hourly observations made from September 26th midnight to September 29th 8 p. inclusive :—

Barometer.	N of centre.	NE	E	SE	S	SW	W	NW
inches.	*miles.*	*miles.*	*miles.*	*miles.*	*miles.*	*miles.*	*miles.*	*miles.*
28.9	...	...	35	...	...	...	55	45
29.0	...	...	...	...	...	...	75	...
29.1	...	...	...	...	...	...	90	...
29.2	...	...	80	...	...	...	100	90
29.3	100	...	...	...	...	...	105	100
29.4	...	...	...	...	...	...	130	120
29.5	130	150	140	140	170	170	165	140
29.6	225	220	240	275	300	275	250	240
29.7	270	300	330	370	370	400	370	300

The above figures are incomplete for this reason. The *Ghazee* and *Falkenburg* were drifting with the typhoon so that it is difficult to assign a position for them with reference to the centre after it had passed over these vessels. On board the *Benvenue* they made scarcely any observations after the passage of the centre and on board the *Dione* the barometer appears to have become out of order.

The following barometric observations were made at the centre :—On board the *Dione* 28.27 between 7 a. and 8 a. on the 27th, on the *Benvenue* 26.77 at 8 p. on 28th, on the *Ghazee* 27.86 at 2 p. on the 29th and on the *Falkenburg* 27.76 between 11 a. and 3 p. on the 29th. If the *Benvenue* observation is accepted it is seen that the typhoon increased in violence between the 27th and 28th and was decreasing again on the 29th. The steepest gradient found was 0.75 inch in 15 miles. The following gives some average gradients with corresponding wind forces 0.03 inch force 7 ; 0.04, 8 ; 0.06, 9 ; 0.08, 10 ; 0.10, 11 ; and with gradients over 0.10 inch in 15 miles, there was typhoon force of wind.

The central calm as observed on board the *Dione* lasted for 1 hour. The average speed, which however was not well determined at this time was then about 9 miles per hour which would thus be the diameter of the central calm in an East and West direction. When the *Benvenue* encountered it there was 10 minutes calm which gives the calm area a diameter of between 1½ and 2 miles East and West. The information from the *Ghazee* and *Falkenburg* is not complete enough to allow of any estimate of the diameter of the calm area being made.

The speed with which the typhoon moved on the 27th, 28th and 29th September was on the average 11 miles per hour, the average direction being W 7° S. On the 30th its course was directed somewhat more to the Southward no doubt owing to the strong N winds blowing out of the Gulf of Tongking and its rate of progress was accelerated at the same time.

While the typhoon was crossing the China Sea pressure was very high over central and northern China and it is seen that the wind direction in the right hand semi-circle at perhaps from 150 to 200 miles distance was for a short time only affected by the wind circulation directly due to the typhoon. And the strong N and NE monsoon blowing at the time doubtless was the cause of the typhoon moving to a point S of W.

Those vessels who were near the centre quickly had the wind backing towards NE and moderate to strong NE gales blew over the N part of the China Sea until the 3rd October, when pressure began to decrease over China. It appears that after the passage of the typhoon a trough of somewhat low pressure remained over that portion of the China Sea which the centre had lately traversed.

The following table gives the average wind forces from September 26th midnight to September 30th noon inclusive:—

Distance from centre.	Wind Forces.				
	In front.	In right hand semi-circle.	In rear.	In left hand semi-circle.	
miles.					
50	12	12	12	12	It appears to have blown with typhoon force within a distance of 50 miles all round the centre.
100	10	10	10	9½	
150	8	9	8	7½	
200	7	8½	6½	6½	It is seen that the winds were somewhat stronger in the right hand semi-circle than elsewhere, while in the left hand they were, on the whole, weakest.
250	6	7	6	6	
300	5	6½	5½	5	
400	5	6	4	5	

The following table gives the angle between the wind direction and the centre at different distances:—

Distance from centre.	In front.	In right hand semi-circle.	In rear.	In left hand semi-circle.	Mean.
miles.	°	°	°	°	°
0–100	114	134	129	138	129
100–200	127	145	137	134	136
200–300	131	148	138	120	134

The average angle at all distances was thus 133° or almost 12 points. It was somewhat smaller in front of the centre and about a point larger in the right hand semi-circle, except near the centre. Temperature in this typhoon is roughly seen from the following table. There were only two or three ships on board of which the air temperature was observed and the figures are therefore not well determined, except at a distance to the N and NE of the centre where the observations made at the land stations are available. At a distance it is seen however, that temperature was highest in front of the centre and lowest NE of the centre where the rain area spread out the farthest. At and near the centre the temperature was 78°:—

Distance from centre.	N	NE	E	SE	S	SW	W	NW
miles.	°	°	°	°	°	°	°	°
100	80	...	79	...	...	...	82	...
150	...	...	80	78	78	...	82	...
200	...	80	82	...	...	83	...	84
250	81	...	82	84	84	83	...	...
300	...	79	...	...	...	...	...	86
350	...	...	...	...	...	86	...	...

On an average it was completely overcast within 250 miles of the centre and showery weather extended to about the same distance. In front and rear heavy rain fell within 100 miles of the centre, in the left hand semi-circle it rained heavily within 150 miles, and in the right hand semi-circle within 200 miles. The heavy continuous rain extended much farther to the NE of the centre than in any other direction.

Lightning was observed at a distance of about 250 miles to the WNW, NNE and SSW of the centre. On board the *Benvenue* they saw vivid lightning towards SW immediately after the passage of the central calm.

There was a high confused sea within 250 miles of the centre and it appears to have been of exceptional severity.

During the passage of the typhoon across the China Sea strong currents prevailed. For this reason and the fact that some vessels had no sights for two or three days, some discrepancies appear in the observations relative to the centre, particularly on the 29th September. Probably the position of some of these vessels was not known within 50 miles and it is apparent that it is impossible to place the centre with extreme accuracy from observations made under these circumstances. In the right hand semi-circle a set of between two and three knots per hour towards WSW and SW was experienced by several vessels. Fortunately for those vessels who were rendered helpless this current carried them clear of all dangers. The *Falkenburg* however appears to have drifted perilously near to SE coast of Hainan. The proximity of the Paracels constituted a great danger to several vessels had the current been more northerly.

OCTOBER.

On the 17th and 18th October the brig *Swan* lying at Yap had strong NW winds and squally weather and on the 19th the wind backed to W and SW continuing to blow strongly.

Between the 18th and 21st the S.S. *Augers* from Brisbane to Hongkong experienced fresh NW winds in 7° North latitude and off the Coast of Luzon, with heavy northerly swell.

The observations on board the *Swan* indicate a typhoon (No. XV) in the Pacific but there are no other data available for laying down the track.

During the greater part of October more particularly towards the end of the month very strong NE monsoon prevailed in the North part of the China Sea where NE gales blew continuously for several days.

NOVEMBER.

The following observations made on board the S.S. *Glencoe* refer to a small typhoon (No. XVI) which had moved Northward on the Eastern side of the China Sea on the 18th November:—

S.S. *GLENCOE.*

Nov. 18,...Noon	22°46′	119°12′	29.93	E	2	c.	Nov. 19,...2.15 a.	20°20′	119°20′	29.50	S	7	or.
4 p.	...	...	.85	ESE	3	o.	3.20 a.	...	...	.38	SSE	7	
8 p.	...	...	.84	ESE	4	o.	4.15 a.	...	...	.22	...		
Midt.	...	...	.76	ESE	5	or.	5.15 a.	...	...	.43	NNW	8	
19,...1.15 a.	...	...	.68	SE	5	or.	7.00 a.	...	...	.65	N	7	
							8.00 a.	...	...	.61	N	6	

Barometer readings are uncorrected.

They had smooth sea at noon on the 18th but during the evening the sea got up and at midnight it was confused with high Southerly swell. At 4 a. on the 19th the wind which had been a heavy gale from S suddenly decreased and the rain ceased the sea becoming very high and confused. At 4.10 a. the wind was S 2 only. They had light variable airs for a few minutes but at 4.15 a. the wind came strong from NW increasing to typhoon force, at 4.30 a. with heavy rain and a very high sea. The wind rapidly decreased and at 6.30 a. they were able to set the fore top-sail. At 8 a. they had fine clear weather a Southerly swell being the only indication of a typhoon in the neighbourhood.

This typhoon was felt at the Formosa stations during the day to some extent. At S. Cape the wind gradually increased from NNE during the morning hours. At 9 a. they had the lowest reading of the barometer (29.51) with N 7 rain, thunder and lightning. The wind quickly decreased to a fresh breeze and backed to NW with rising barometer (3 p. 29.67). The barometer was lowest in North Formosa towards evening with light to moderate NNE breezes and wet weather.

Next day (November 20th) light westerly airs and breezes prevailed around the northern entrance to the Formosa Channel and the barometer at the East Coast stations had fallen. It was lowest about 9 a. at the stations near the mouth of the Yangtze where gentle to fresh breezes from N to NW prevailed with rain at some stations. In SW Japan the barometer was falling with strong increasing breezes from E.

The following observations were made at sea :—

S.S. *TANNADICE.*

Nov. 20,...	4 a.	...	...	29.78	E	6	oq.
	8 a.	...	...	.65	SE/E	8	oqr.
	Noon	29°37′	130°30′	.48	SE	8	oqr.
	4 p.	...	...	.46	SE	6	
	8 p.	...	...	.49	SW/W	9	
	Midt.	...	...	.62	WNW	9	

S.S. *GENERAL WERDER.*

Nov. 20,...	4 a.	...	...	29.97	SE	4	o.
	7 a.	...	...	.91	SE	6	or.
	10 a.	...	...	.71	ENE	6	or.
	Noon	30°05′	126°25′	...	...		
	1 p.	...	...	.53	NNE	6	or.
	4 p.	...	...	.53	NNE	7	o.

S.S. *DEVAWONGSE.*

Nov. 20,...Noon	32°41′	133°40′	29.84	E	...	
4 p.	...	...	.81	SE	...	
10 p.	...	...	.60	SE	9	
21,... 2 a.	...	...	...	SSE	12	

Nov. 21,...	4 a.	...	...	29.40	SSE	12
	8 a.	...	...	.40	SSW	...
	Noon	...	...	.45	SSW	...
	1 p.	at Kobe		...	...	...

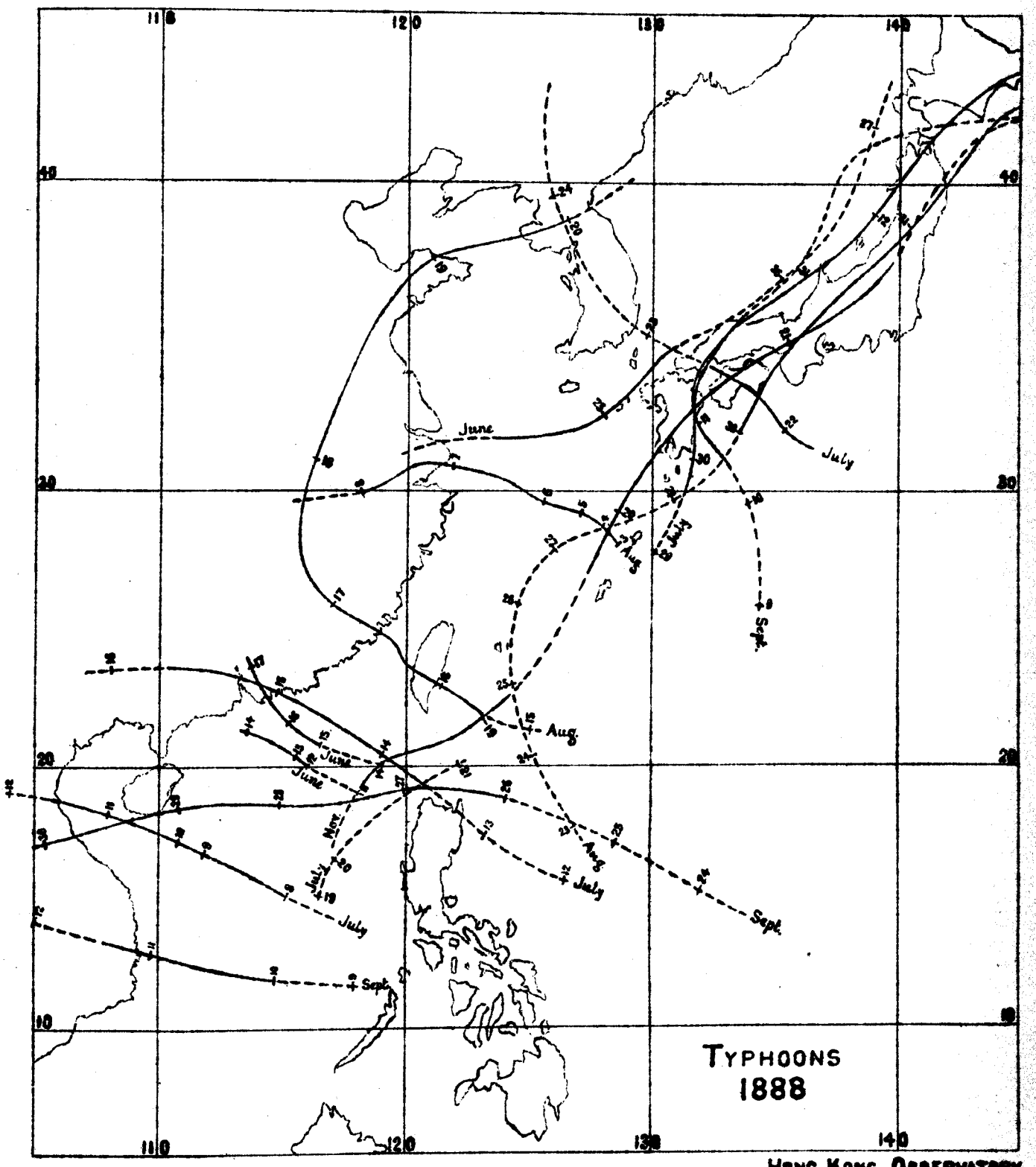
The barometer readings made on board the *Devawongse* are uncorrected.

The position of the centre is given for 4 a., on the 19th November by the *Glencoe* observations her position given for 2.15 a. being almost unchanged at 4 a. At noon on the 19th the centre was in about 21°½. 123° and in 29° 15′, 128° 45′ at noon on the 20th. The path is uncertain between these two days. The Japanese Weather Maps show that it moved NEward across Japan on the 21st and entered the Pacific again on the morning of the 22nd. The centre at noon on the 21st was in about 34°¾, 135°½.

On the evening of the 29th November a small depression was situated near Nagasaki (Japan) which was experienced by the S.S. *Verona.* It passed to the Eastward and afterwards very heavy N to NW gales prevailed at sea between Japan and the East Coast of China which were experienced by the Steamships *Verona*, *Devawongse* and *Pathan* on the 30th November in about 31°, 127°. Fresh NE gales also prevailed in the Formosa Channel and in the northern part of the China Sea. These gales were in the nature of a "Norther" and were associated with a quickly rising barometer and great decrease of temperature.

DECEMBER.

The German Bark *F. H. Drews* on a voyage from Vancouver to Shanghai experienced a typhoon (No. XVII) on the 15th December in 16° 1′, 158° 50′. All the way from the Sandwich Islands the NE trade blew stronger than usual on the parallel of 18° North. On the 13th it blew hard from N and in the evening the aneroid fell two tenths (to 29.75 uncorrected) and remained so for more than a day during which time very little change was noticed. On the morning of the 15th she had to take in all the reefed sail. From 10 a. to 11 a. the aneroid fell at once down to its lowest point *i.e.* below 26 inches. Half an hour after it began to rise, but slowly. At 10 a. the wind was NNW and backed quickly round through W. For 24 hours the aneroid continued rising and the wind backing to S and then it became calm. Captain ROTHBART states that he passed close to the S of the centre of the typhoon which appeared to move NNW or NW. During the greatest fury of the wind they could not see a yard before them, and topmasts, jib-boom, all the sail, which were securely fastened "blew" over board. The vessel was very stiff having a good deal of ballast in her bottom. The hull of the vessel went to pieces. In the Island of Saipan it blew strong from N at the same time, and at Guam the barometer was low and it blew a strong breeze. Captain ROTHBART and his crew took to their best boat after staying in the vessel as long as possible and set sail for the Marianas 850 miles away. They had a very small supply of food and water, being unable to get them out of the ship, whose decks were flush with the water. Sailing from island to island, where the natives treated them well, they at last reached Guam.


TYPHOONS
1888
HONG KONG OBSERVATORY.

TYPHOONS IN 1889

By W. Doberck and F. G. Figg.

JUNE.

On the 6th of June the barometer began to fall in Formosa and Luzon. On the 10th it rose again in the former island and already on the 8th in the latter. The ship *Charger* in the Pacific encountered overcast and squally weather, and strong SW winds, which were strongest on the 11th and 12th in 21°, 127½°. Next day the weather cleared up, but there was a cross sea. On the 9th the bark *Omega* in 28°, 136° had also a fresh SW gale and wet weather. These phenomena were evidently due to typhoon I.

JULY.

On the 9th the barometer fell in Southern Japan with light E winds chiefly. The bark *Omega* in 27° 50′, 136° 10′ encountered typhoon II. At noon it blew SE 9 with rain and high sea (barometer 29.74 uncorrected). At 4.30 p. the wind, blowing in fierce squalls, began to veer to S. The lowest barometer 29.30 was registered at 6 p. Then it blew still harder. At midnight barometer 29.63, and 29.80 at noon on the 10th with SW 4 and rain. At 9 p. on the 10th the centre was in 38°, 141°, but it was only a slight depression then.

Typhoon III. made its appearance in the Pacific on the 14th July, when the barometer began to fall in Formosa and Luzon. Light N breezes prevailed in the former and light SW breezes in the latter island.

At noon on the 15th the centre may have been in about 20¾°, 122¾°, but it was still a small disturbance. We have the following observations at noon: Turnabout 29.65, NNE 6, c. Fisher Island 29.53 NNE 6 com. Hongkong 29.60, E 4, b. South Cape 29.51 N 3 c. Hoihow 29.68, N 3, c. Bolinao 29.64 SSE 2 or. Vessels: S.S. *General Werder*, 24° 57′, 119° 42′, 29.63 NNE 6 cf, bk. *Fortune*, 16° 24′, 114° 06′, 29.57 NW, S.S. *Phra Chom Klao*, 12° 07′, 101° 09′, 29.79 W 5 c.—At South Cape the following observations were registered: 3 p. 29.46 N 6 c, 6 p. 29.43 NE 5 om, 9 p. 29.49 ESE 6 clp, midt. 29.54 ESE 5 c, and on the 16th: 3a. 29.54 SE 5 c.—In Luzon it blew only gentle breezes with overcast skies as far as we are aware.

At noon on the 16th the centre appears to have been in about 18¼°, 115¾°. We have the following observations at noon: Breaker Point 29.55 NE 4 c, Hongkong 29.51 E 4 o, South Cape 29.58 NE 5 c, Hoihow 29.61 NNW 3 o, Pakhoi 29.57 WNW 2 c, Bolinao 29.58 SSE 4 or. Vessels: bk. *Fortune* 17° 12′, 114° 37′, 29.44 W 5 q, S.S. *Arratoon Apcar*, 15° 31′, 112° 55′, 29.47 SW q, high sea, S.S. *Lombardy*, 18° 00′, 114° 18′, 29.46 (?) N (?) 6, high sea, S.S. *Nanshan*, 7° 29′, 107° 58′, 29.70 (?) W 5 a, S.S. *Mongkut*, 18° 24′, 107° 17′, 29.58 NNE 2 b.—The *Lombardy* had the wind backing. At 4 p. NW 29.24. At 5 p. WNW 29.00. At 5.30 p. W 28.80. At 6 p. shift to SE by E 28.60. Then it began to rise. During the following two days it blew a strong S gale. This steamer ran across the path in front of the centre carrying the wind well on the starboard quarter. The weather moderated when they were to the south of the Paracels. It blew in terrific gusts at 6 p., with a high cross sea, blinding rain and incessant sheet lightning. The ship lost one quarter boat, but sustained no other damage.

At noon on the 17th the centre appears to have been in about 18¼°, 111°. The following are some of the observations: Breaker Point 29.63 ESE 4 om, Hongkong 29.54 SE 4 or, Hoihow 29.40 NE 4 og, Pakhoi 29.46 N 6 c, Bolinao 29.77 S 2 o. Vessels: bg. *Foochow* 14° 15′, 116° 55′, 29.54 (?) SSW 4 o, S.S. *Velox* 13° 28′, 120° 00′, 29.78 SE 6 q, bk. *Fortune* 17° 38′, 114° 40′, 29.52 SSW 7 q, S.S. *Nanshan* 10° 53′, 109° 15′, 29.59 (?) SW 5, S.S. *Mongkut* 14° 49′, 109° 03′, 29.50 SSW 4. They all experienced high sea and swell.—At Hoihow the barometer registered 29.35 at 3 p. with NE 3 veering to SE 5 in the evening. On the 17th the weather was very bad and several very heavy squalls of wind and rain passed over the town.—At Pakhoi there was a heavy thunderstorm at 5 p. on the 16th with heavy rain, which lasted about two hours. On the morning of the 17th it blew N 7, shifting suddenly to E about noon. Violent squalls with rain soon passed with falling barometer. The gale was at its highest about 8 p. and continued to 1 a. on the 18th, when the glass commenced to rise after which the weather was still cloudy and squally.

At Haiphong the wind rose on the 17th at midnight and at 2 a. on the 18th it blew furiously from N with typhoon force. The wind veered and the barometer fell to 28.90 (?) at 5.30 a, when the wind calmed down for some minutes, after which it blew again from W. The centre passed a few miles to the SW of Haiphong and did considerable damage in the neighbourhood. At 7.30 a. SW 8 was registered. This typhoon evidently increased in violence and in dimensions up to the morning of the 18th.

At noon on the 18th we have the following observations: Pakhoi 29.64 ESE 5 c, Hoihow 29.70 SSE 3 c, Bolinao 29.86 SSW 2 o. Vessels: bk. *Fortune* 18° 11′, 114° 15′, 29.69 S 6 oqr, S.S. *Glücksburg* 12° 57′, 109° 37′, 29.73 (?) S 5 c, S.S. *Else* 20° 35′, 111° 00′, 29.76 SE 5 and high sea. The centre was in about 22°, 104¾°.

On the 19th the barometer fell in Formosa (South Cape 3 a. 29.81, and 3 a. on 18th 29.70) and rose again on the 21st. In Northern Formosa the winds were light from SW (about force 1). At South Cape it blew gentle to strong NW breezes with cloudy weather. We have no evidence that this fall in the barometer was caused by a typhoon.

At noon on the 25th we have the following observations: Swatow 29.81 S 2 o, Hongkong 29.81 S 2 o, South Cape 29.86 SW 1 c, Bolinao 29.84 SSW 2 b. Vessels: bk. *Omega* 20° 58′, 119° 44′ NNE 5. S.S. *Cicero* in Cebu had overcast wet and squally weather, SW breezes and thunderstorms.

At noon on the 26th typhoon IV. appears to have formed in about 20°, 120°. The following are some observations made at that time: Swatow 29.81 ESE 1 c, Hongkong 29.82 SW 1 c, South Cape 29.79 NE 4 omp, Aparri 29.74 SSW 4 o, Albay 29 82 SSE 1 o, Bolinao 29.81 SSW 2 o. Vessels: S.S. *Gwalior* 18° 13′, 114° 12′, 29.77 NNW 2 b, bk. *Omega* 20° 40′, 119° 00′, 29.90 (?) NE 4 o, (E swell).

The Captain of the bk. *Omega* states that he had a small typhoon (?) in the evening. The sunset was a very bright yellow. At 8 p. NNW 6 pql. Then the wind veered from NE to SE. The lowest reading of the barometer was 29.66. About 11 p. ENE 10 with very heavy sea and lightning.

The following observations are for noon on the 27th July: Hoihow 29.84 NW 1 o, Hongkong 29.77 NE 6 c, Swatow 29.83 ESE 3 b, South Cape 29.85 NE 3 c, Bolinao 29 85 SSW 2 c. At Hongkong the lowest reading of the barometer, 29.70, was made at 7 p. and it blew then a fresh E gale which however quickly moderated and veered. At midnight 29.79 SE 5 was registered. The weather was wet and squally during the afternoon and evening, lightning being noted at the latter time. At Macao the lowest barometer reading, 29.70, occurred about 10 p. and the wind was then from ENE it having veered from NNE since the morning. At 4 a. on the 28th it was from S and the barometer had risen to 29.76. The wind force was not recorded the anemometer being out of order. The weather was showery. At Hoihow light airs and calms prevailed with overcast sky and a slight decrease of pressure, at 9 p. 29.81. At Canton there had been light E airs with partially clouded sky during the day, but at 9 p. they had 29.80 SE 4 o. At 3 a. on the 28th 29.78 SSE 3 o.

The S.S. *Whampoa* left Hongkong about 5 p. on the 26th bound for Australia and passed through the centre during the morning of the 27th. At 4 a. they had 29.66 NE 4 oqr; 5 a. 29.64 wind increasing with every appearance of a typhoon; 6 a. 29.24; 6.30 a. 28.74 wind blowing with terrific force with high dangerous sea causing damage about decks; 7.30 a. 28.58 passed through the central calm with high confused sea; 8 a. the wind burst out from SW with hurricane force accompanied by a mountainous cross sea; 9 a. 29.04 wind taking off a little and sea more regular; 9.30 a. 29.34 heavy SW gale with high sea; 10 a 29 54; noon 20° 23′, 115° 30′, 29.69 SW 8 full speed ahead towards SE by S; 4 p. 29.75 SW moderating. The S.S. *Phra Chula Chom Klao* left Swatow at 4 a. on the 26th bound for Singapore and had hot and sultry weather and no signs of a typhoon. On the 27th the wind increased to a fresh ENE gale at 9 a. At noon in 21° 24′, 115° 04′ they had typhoon force from ESE with the lowest reading of the barometer 29.60 uncorrected. The wind gradually decreased and veered with rising barometer. At 5 p. 29.70 SSE 8; at 6 p. 29.75 SW 6. The vessel sustained some damage. The S.S. *Chingwo* at noon in 21° 22′, 114° 07′, bound for Singapore, had 29.68 NE 7 cd; at 2 p. 29.33 NW 11 rq; at 3 p. WNW; at 4 p. 29.40 crq; at 5 p. W, wind and sea decreasing and weather clearing up; at 6 p. 29.59 SW 8 fine and clear. There was a high confused sea during the day. This vessel ran across the path just in front of the centre and passed from the right hand or dangerous into the left hand or manageable semicircle. The steam yacht *Monsoon* was bound from Singapore to Hongkong, and at noon in 20° 14′, 115° 00′ on the 27th had the wind freshening from the W at 9 a. They close reefed the foresail and made all secure about the decks. At noon barometer 29.39 (?) wind WSW blowing very hard, hove the vessel to on the port tack being in the left hand semicircle; 3 p. blowing a regular hurricane, damage about decks; 4 p. 29.27 (?) wind SW straining and labouring heavily; 8 p. wind moderating and sea getting smoother. The S.S. *Pekin* bound for Singapore was at 4 p. in about 21° 40′, 113° 55′, barometer 29.54 falling, NE to ENE wind squally with rain and a heavy sea, weather looking very threatening, brought ship's head to sea (SE) and reduced speed to dead slow; 5 p. 29.34 furious squalls and a high sea wind E by N and veering to eastward, sky enveloped in misty kind of clouds not unlike fog or the haze in a dust storm. At intervals it broke for a few seconds and a bright blue sky was visible overhead, no hard edged clouds seen during the storm; 6 p. 29.34 similar weather, wind veering to E by S; 6.15 p. put ship on starboard tack heading E by N, being in the right hand semicircle; 7 p. barometer jumping from 29.29 to 29.34, furious gusts from SE, spray or rain flying all over the ship, impossible to stand on bridge without holding on with both hands, boats at davits shaken like leaves on a tree, heaviest part of storm from 6.30 to 7.30 p., incessant quick flashes of lightning all that time and a furious sea; 7.30 p. 29.41, gusts decreasing in violence wind SSE to S, patches of blue sky visible at times; 8 p. 29.54 SSW

moderate gale sea rapidly going down, peculiar haze before mentioned disappeared and sky resumed its natural appearance; 8.30 p. 29 60 SSW 7, resumed course (South) half speed; 9 p. 29.66 SSW 7, considerable head sea but decreasing, some stars visible, occasional showers of rain. About this time a black mass of cloud, indistinct about its edges, was visible from SW to W but gradually faded away: 11 p. 29 75 SSW to SW 6 cd. The S.S. *Glenlyon* at noon in 19° 51′, 113° 43′ had 29.71 WSW strong wind with rain. Lightning was noted during the evening towards NW.

According to the position given by the *Whampoa* the centre at 7.30 a. was in 20° 30′, 115° 30′. At noon it was in 21° 0′, 114° 50′ about 20 miles to the SSW of the *Phra Chula Chom Klao*, and about 50 miles to the north of the yacht *Monsoon* which appears to have drifted afterwards towards the centre while hove to. Between 5 p. and 7 p. it passed from S to W of, and within 20 miles of the *Pekin's* position and entered the coast perhaps a little to the east of the St. John's Island about midnight.

This typhoon was of very small dimensions and gave but short notice of its approach and it is fortunate that typhoons of this character are seldom met with, otherwise it would be extremely difficult to prepare for them. Gradients were excessively steep in a small area within a radius of 20 miles of the centre and it was within this area only that winds of full typhoon force were experienced. From the observations made on board the *Whampoa* which show a reduction of pressure of 0.5 inch between 6 a. and 6.30 a. a gradient of 1.5 inch in 15 miles is obtained the advance of the disturbance at that time being at the rate of about 10 miles per hour. This gradient is, it would appear, open to considerable doubt. From observations made on the same vessel the central calm apparently had a diameter of about 5 miles.

The area over which fresh gales were experienced scarcely exceeded a distance of 50 miles from the centre.

On the evening of July 30th an irregular depression appears to have existed off the West Coast of Formosa between Fisher Island and Tamsui. Moderate NE breezes prevailed at the North entrance to the Formosa Channel, gentle SE breezes in N. Formosa, light NW breezes in S. Formosa, light SW breezes in the neighbourhood of Swatow and variable airs and calms near Amoy, the weather being fine at all stations. At 9 p. Foochow had the barometer reading 29 86, Tamsui 29.75 (?), S. Cape 29.84, Lamocks 29.83, Amoy 29.84 and Fisher Island 29.78. Pressure was decreasing at the whole of these stations, but more particularly at Fisher Island and Tamsui.

The following are the observations for July 31st and August 1st:—

Station.	July 31st.			August 1st.		
	9 a.	3 p.	9 p.	3 a.	9 a.	3 p.
Foochow.	29.79 NE 3 or	29.74 ENE 4 o	29.74 NE 6 g	29.72 NE 5 oq	29.63 NE 6 o	29.60 SE 6 opq
Middle Dog,	.79 NE 3 c	.73 NE 3 b	.70 NE 4 c	.63 ENE 4 c	.57 E 4 c	.57 SSE 4 or
Turnabout,	.76 NNE 4 c	.71 NNE 4 c	.70 NNE 4 b	.55 E 6 b	.62 SSE 2 c	.52 ESE 8 cqd
Ockseu,	.79 N 3 c	.76 NE 3 c	.71 NE 4 b	.57 NNE 4 bl	.64 ESE 3 c	.64 calm omg
Tamsui,	.67 SE 6	.62 SE 5	.64 SE 5	...	.66 SE 6 oqr	.63 NNE 2 o
Amoy,	.76 NW 2 b	.69 SE 3 b	.70 calm c	.63 NW 4 b	.62 SW 3 b	.55 SW 3 c
Chapel Island,	.74 NNE 1	.66 ENE 2	.67 ENE 1	.59 WNW 2 c	.61 WSW 3 c	.58 SW 3 c
Fisher Island,	.72 SSW 1 c	.66 W 1 b	.64 calm b	.59 NW 4 c	.63 WSW 4 cd	.62 SSE 4 c
Anping,	.79 W 1 c	.74 SW 2 r	.73 WNW 2 c	.58 NNW 2 o	.65 S 4 r	.75 S 2 r
Takow,	.76 SSE 2 o	.67 SW 2 op	.63 WSW 4 op	...	.71 SSE 2 r	.71 SSE 2 p
S. Cape,	.75 NNW 4 or	.65 W 6 or	.64 W 4 or	.68 W 6 r	.75 W 3 r	.70 SW 3 r
Swatow,	.79 NW 1 b	.69 S 2 b	.64 S 2 b	.65 SW 1 b	.65 E 1 b	.59 SW 3 o
Lamocks,	.77 W 1 b	.69 SW 2 b	.70 SW 2 b	.65 SW 1 c	.65 SW 1 c	.59 SW 1 c
Breaker Point,	.77 WSW 2 c	.67 SW 4 c	.65 SW 4 b	.63 SW 2 c	.61 WSW 2 c	.57 SSW 3 c

The observations for July 31st at 9 a. and 3 p. still show a slight depression lying between Fisher Island and Tamsui, the wind circulation being, however, feeble and irregular on its southern side. The wind observations at S. Cape for this day are not in accord with a depression lying to the north of the station but, in fact, indicate a depression advancing from the south-east and passing to the eastward of that station, about noon, moving towards NW. The wind steadily backed from N 2 in the early morning to W 6 at 3 p. the barometer falling and attaining a minimum at 6 p. (29.61). Rain was falling the whole day.

AUGUST.

At 3 a. on August 1st, a distinct centre is seen to exist in about 24¼°, 120½° which, apparently quickly moved across the Formosa Channel passing to the South of Ockseu about 6 a. and entering the coast shortly afterwards moving westward.

The depression indicated by the South Cape observations appears to have moved towards the area of low pressure already lying in the Channel on the 30th between Fisher Island and Tamsui, but the observations show several irregularities both in regard to pressure and wind direction. The corrections to be applied to the barometers are not very accurately known in some instances which, in dealing with a depression of so slight intensity, renders it difficult to give the track of the centre with accuracy and it is therefore dotted. Turnabout where they had ESE 8 for a short time at 3 p. on the 1st was the only station reporting a gale. The 3 p. barometer reading at this station appears to have been read 0.1 inch too low which would easily cause anybody to fall into the error of assuming that there were two different typhoons. At this hour Ockseu to the Southwest and Middle Dog to the North both show an increase of pressure since 9 a. when daily variation is allowed for.

On the 3rd August moderate to strong E and NE breezes blew on the SE coast with quickly rising barometer. At noon Foochow had 29.87 NE 6 o, Amoy 29.84 ENE 3 b, Swatow 29.79 E 5 cr, Hongkong 29.69 E 4 o, Hoihow 29.70 ENE 2 c. Over the China Sea S to SW winds were blowing. The S.S. *Ganges* in 13° 26′, 112° 26′ had 29.75 SSW 4 o; the S.S. *Ashington* in 16° 31′, 116° 20′, 29.73 S or; the S.S. *Orion* in 19° 20′, 113° 56′, 29.66 SSW 2.

On the 4th at noon we have the following observations. Foochow 29.93 ENE 4 o, Amoy 29.92 N 1 or, Swatow 29.84 E 2 o, Hongkong 29.79 E 7 or, and Hoihow 29.73 E 1 ogr. The barometer was rising at all these stations. At Hongkong it blew a moderate gale from E between noon and 7 p. which is very unusual at this time of year in the absence of a typhoon in the neighbourhood. At sea the S.S. *Cicero* at noon in 21° 29′, 115° 01′ had 29.75 SE 5 o, and at 4 p. near Hongkong 29.75 ESE 6 and high sea, the weather presenting a very threatening appearance; the S.S. *Menmuir* in 18° 25′, 116° 55′ SE 4 o; the S.S. *Ashington* in 18° 57′, 115° 05′, 29.75 S 4 op; the S.S. *Ganges* in 17° 32′, 114° 21′, 29.76 S 2 o, and at midnight in 19° 50′, 114° 13′ (approx.) 29.76 SW 2. At noon on the 5th in 22° 8′, 114° 05′, they had 29.81 NE 5 orq, so that since midnight of the 4th they had passed through an area of slightly low pressure to the south of which light SW breezes blew and to the north of which fresh NE breezes prevailed.

On the 5th at noon we have the following observations:—Foochow 29.88 E 3 o, Amoy 29.91 NE 3 c, Swatow 29.84 E 3 b, Hongkong 29.81 E 5 o, and Hoihow 29.81 SE 2 o. There is no information from vessels at sea on this day except from the S.S. *Ganges* mentioned above.

From the foregoing observations it appears that there was no circular but rather a troughlike depression lying to the South of Hongkong in about 20° to 21° latitude on the 3rd, 4th and 5th and which appears to have been formed by the rather rapid increase of pressure on the S and SE coast of China on the 3rd.

The following are some observations for noon each day at stations on the northern and eastern shores of the China Sea:—

Station.	August 6th.	7th.	8th.	9th.	10th	11th.
Hoihow,	29.86 SE 2 o	29.95 ESE 1 c	29.95 ESE 2 c	29.89 WSW 2 b	29.86 ESE 1 c	29.84 NNE 2 c
Hongkong,	.89 E 2 o	.93 E 3 o	.93 E 2 c	.85 ESE 1 o	.84 E 2 c	.84 E 3 o
South Cape,	.88 NNE 2 c	.93 NNE 1 c	.89 NE 2 c	.83 ENE 1 c	.83 ENE 2 c	.87 ENE 2 c
Bolinao,	.85 ENE 1 b	.88 ENE 2 b	.86 NNW 3 c	.80 S 2 c	.81 S 2 c	.84 SSE 2 c

At sea on the 10th and 11th August we have the following noon observations:—

10TH AUGUST.

S.S. *Monghut*,	19° 21′	108° 04′	29.79	ESE	2	b
BK. *R. S. Bernard*,	18 57	125 02	...	SSW	4	
„ *Kitty*,	12 17	126 54	...	S	5	
„ *Goliat*,	11 50	111 16	...	SW	4	or
S.S. *Devawongse*,	10 29	108 10	29.81	W	3	o

11TH AUGUST.

BK. *R. S. Bernard*,	19° 23′	122° 42′	...	S	4	
S.S. *Memnon*,	19 15	115 40	...	E	2	
„ *Devawongse*,	14 06	110 01	29.80	var.	1	b
BK. *Goliat*,	12 54	112 22	...	W	4	or
S.S. *Hesperia*,	11 59	109 26	...	SW	5	
„ *Irrawaddy*,	10 39	108 18	29.84	WSW	1	c

These observations for August 10th and 11th indicate the existence of a low pressure trough lying across the China Sea between the NE coast of Annam and the N coast of Luzon.

From the Coast Stations we have the following observations for noon on the 12th:—

Foochow,	29.85	+ .01	S	2	c	Hoihow,	29.84	.00	NE	2	c
Amoy,	.86	+ .02	ENE	2	b	Aparri,	.92	+ .05	S	2	o
Swatow,	.83	.00	E	4	b	Bolinao,	.94	+ .10	S	3	or
Hongkong,	.84	.00	E	4	c	Manila,	.95	+ .06	WSW	1	f
South Cape,	.90	+ .03	E	2	c	Pt. Santiago,	.94	+ .04	SW	3	o

and from vessels at sea the following:—

BK. *R. S. Bernard*,	20° 35′	121° 32′	...	S	3	
S.S. *Devawongse*,	18 02	111 22	29.81	NE	4	b
BK. *Valkyrien*,	16 56	114 26	...	S	5	or
S.S. *Memnon*,	16 38	117 11	29.98	SSW	7	oqr
„ *Irrawaddy*,	15 38	110 31	.79	WSW	2	c
„ *Hesperia*,	15 46	110 20	...	SW	4	
BK. *Goliat*,	15 04	113 48	...	SW	5	or
S.S. *Fidelio*,	13 45	111 35	29.96(?)	SW	5	
„ *Nestor*,	10 14	110 01	...	SSW	4	cp
„ *Northern*,	9 12	108 03	...	SSW	3	oq

These observations show that pressure was but little changed since the previous day on the S coast of China but that a considerable increase had taken place in Luzon and also in the China Sea to the south of 16° latitude. The E winds had increased somewhat in force on the S coast of China, and in the China Sea the SW winds had advanced as far north as 17° latitude and had increased in force, considerably, accompanied by heavy rain.

It does not appear that any decided cyclonic depression had been formed at noon on the 12th but rather that the SW winds were advancing and the NE winds receding northwards so that the trough of low pressure is thus found to exist in a somewhat higher latitude than on the 11th. All the vessels whose logs we have with exception of the *Fidelio* were bound for Hongkong and the only vessel to the northward of the troughlike depression, the *Decawongse*, still, at midnight, had the wind from NE force 4 weather fine and barometer 29.78 showing a slight fall since noon. The vessels to the southward also continued to experience SW winds at midnight so that little apparent change had taken place since noon.

Observations for noon on August 13th :—

COAST STATIONS.

Foochow,	29.75	— .10	SW	2	b	South Cape,	29.83	— .07	WSW	2	c
Amoy,	.79	— .07	SSE	3	b	Aparri,	.89	— .03	SE	1	c
Swatow,	.74	— .09	SE	2	c	Bolinao,	.88	— .06	SSE	3	o
Hongkong,	.67	— .17	ENE	4	o	Manila,	.92	— .03	WSW	1	c
Hoihow,	.75	— .09	NW	2	cp	Pt. Santiago,	.94	.00	SW	4	o

VESSELS.

S.S. *Decawongse*,	21°25′	113°35′	29.62	NE 6	orq
„ *Mongkut*,	21 46	113 24	.64	NNE 6	orq
BK. *R. S. Bernard*,	21 10	120 17	...	SSW 4	
S.S. *Irrawaddy*,	20 41	112 57	.60	N 5	cq
BK. *Alicia*,	20 14	113 36	.45(?)	SW 6	oq
„ *Valkyrien*,	19 55	114 20	...	SW 6	orq
S.S. *Hesperia*,	19 15	112 23	...	SW 8	or
BK. *Goliat*,	17 44	114 57	...	SW 7	oq
S.S. *Nestor*,	13 22	112 28	...	SSW 6	b
„ *Northern*,	12 05	110 21	...	SW 5	o

The observations for August 13th show that a decrease of pressure had taken place since the previous day over China and also in Luzon. In the latter district the decrease was moderate, but in China it was considerable, particularly in the neighbourhood of Hongkong. Southerly winds had advanced up the Formosa Channel, but at Hongkong the wind was increasing from ENE with wet weather. At Hoihow the wind had backed from NE to NW and the weather had become showery.

The *Irrawaddy* approaching Hongkong had the wind changing from SW 2 at midnight of the 12th to NW 3 increasing at 6 a. on the 13th the wind direction gradually veering to ENE 6 at 6 p. (barometer 29.49) and increasing to a moderate gale from E at 8 p. just before the vessel's arrival at Hongkong. The observations made on board this vessel show that a small circular depression had now been formed and that the vessel passed from the W quadrant into the N quadrant during the day. The S.S. *Alvine* left Hoihow for Hongkong at 2 a. having a moderate E breeze at the time. At 8.30 a. when off the North Bank the wind shifted in a hard rain squall from E to NW. At 3 p. the wind veered to N with hard squalls and high increasing NE sea, barometer 29.61. The barometer was steadily falling and at midnight read 29.51 and the wind, having further veered, was now from NE. This vessel also passed from the W to the N quadrant during the day. On board the barks *Alicia* and *Valkyrien*, in the lefthand semicircle, they had the wind increasing to a SW gale with rain squalls during the evening, when they were very properly hove to in time. The barometer reading given for the former vessel is uncorrected, but it appears that at noon the centre of the depression (VI.) was in 20° 40′, 113° 40′ and about 25 miles to the north of this vessel's position.

The disturbance was apparently almost stationary or moving slowly at this time but its intensity was increasing.

Observations for noon on August 14th :—

COAST STATIONS.

Foochow,	29.73	— .02	WSW	2	b	Hoihow,	29.62	— .13	W	3	or
Amoy,	.73	— .06	SE	2	o	Pakhoi,	.72		NNW	2	c
Swatow,	.65	— .09	SE	2	og	South Cape,	.79	— .04	SW	4	om
Hongkong,	.54	— .13	SE	6	or	Bolinao,	.84	— .04	SSE	2	c
Macao, (1 p.),	.49	— .16	ENE		cd	Manila,	.85	— .07	SSW	2	o

VESSELS.

S.S. *Hesperia*,	22°03′	114°21′	...	S 7	or	
BK. *R. S. Bernard*,	21 32	117 03	...	SW 7	q	
„ *Valkyrien*,	20 22	113 29	...	SW 8	or	
„ *Alicia*,	20 14	113 20	29.43(?)	SSW 9	or	
„ *Goliat*,	19 28	114 02	...	SW 9	orq	
S.S. *Nestor*,	17 08	113 53	...	SW 6	c	
„ *Northern*,	15 54	111 04	...	SW 6	g	
„ *Fidelio*,	11 52	110 49	...	SW 6		

Between the 13th and 14th a further general decrease of pressure had taken place on the China Coast and in Luzon, the fall being very considerable at Hongkong and Hoihow. At Hongkong wet and squally weather prevailed and a moderate gale from between E and ESE was blowing until 9 a. when the direction veered to SE and it continued to blow with force 7 to 8 for the remainder of the day. There was very little change in the barometric readings, when daily variation is allowed for, between 6 a. and midnight, but on the whole the lowest readings were made between 5 a. and 10 a. At Macao the lowest barometer reading appears to have occurred about 4 p. (29.43) the wind being from ENE the whole day. The force was not noted.

The S.S. *Alwine* bound for Hongkong put into Namo Harbour (21° 35′, 112° 34′) on the morning of the 14th for shelter. During the morning they had a NE storm with high NE sea, hard rain squalls and falling barometer (at 1.45 p. 29.29). At 6 p. (barometer 29.18) the wind shifted to E in a hard rain squall and thereafter quickly to SE, S and SW with rising barometer and decreasing wind. This vessel was in the right hand posterior quadrant during the afternoon but became right behind the centre later in the evening, the centre passing at a short distance to the west of her position moving towards NW. The S.S. *Johann* appears to have left the Hainan Straits for Hongkong on the early morning of the 14th but this is not certain and her position is not known therefore. She was evidently, however, to the SW of the centre and had a W gale increasing during the morning with high sea, at 2 p. barometer 29.55, at 6 p. 29.53. At 10 p. they had a W by S whole gale. The vessel was hove to, but the engines broke down and she drifted towards NE. The barks *Goliat*, *Valkyrien* and *Alicia* now right behind the centre and hove to, still had strong SW gales with high sea and continuous heavy rain. In the case of the *Alicia* the wind backed to S during the evening. Further south a strong SW monsoon with high sea prevailed.

The centre at noon on the 14th August was in 21° 15′, 112° 40′ moving towards NW very slowly and the disturbance had increased considerably in intensity since the previous day.

Observations for noon on August 15th :—

COAST STATIONS.

Foochow,	29.76	+ .03	SW	1	o	Canton,	29.54	.00	ESE	2	ogr
Amoy,	.78	+ .05	SE	2	c	Hoihow,	.61	− .01	SW	2	or
Swatow,	.72	+ .07	S	2	or	Pakhoi,	.57	− .15	W	2	or
Hongkong,	.61	+ .07	SSE	4	o	South Cape,	.80	+ .01	SW	3	o
Macao, (1 p.),	.57	+ .08	SE		cd	Bolinao,	.84	.00	SE	2	o

VESSELS.

BK. *Valkyrien*,	21°18′	112°29′	...	S		
S.S. *Nestor*,	20 55	114 12	...	SW	4	b
BK. *Alicia*,	20 05	114 34	29.52(?)	SSE	6	
„ *Goliat*,	20 00	113 48	...	SSW	4	c
S.S. *Northern*,	18 46	111 58	...	S	5	o

Pressure had increased since the previous day generally on the SE coast and particularly at Hongkong. At Pakhoi, a considerable decrease had taken place. At Hongkong, the wind preserved a SSE direction with little variation the whole day and blew with force 6 in the early morning and with force 4 to 5 during the remainder of the day. Showery weather prevailed 2.09 inches of rain falling during the 24 hours of this day. At Canton they had E 5 at 3 a. with rain squalls barometer 29.50. After 9 a. the barometer was rising the wind being from between E and SE force 2 to 3. It rained almost continuously. Much rain fell also at Pakhoi with a light W breeze.

The S.S. *Alwine* remained at anchor in Namo harbour until 3.30 p. when she started for Hongkong. They had strong SW winds with rain squalls and rising barometer 29.37 to 29.61, times of observation not given, and after leaving they had a high SW sea with E swell and at 9 p. decreasing wind and sea and wind backing to S. The S.S. *Johann* off the coast between Hoihow and Hongkong, position unknown, had a W and WSW gale with high cross sea decreasing with rising barometer towards evening.

The centre which was now inland was situated at noon in about 22° 15′, 111° 30′ and it still moved slowly.

The following observations are for noon on August 16 :—

Hongkong,	29.74	+ .13	S	2	o	Hoihow,	29.69	+ .08	SW	1	o
Canton,	.68	+ .14	SSE	3	ort	Pakhoi,	.57	.00	W	2	or

S.S. *Northern*, ...21°40′ 114°05′ ... S 5

The barometer remained low at Pakhoi and very wet weather continued to prevail there.

The centre at noon on August 16th was, perhaps, in 23°, 110°.

Next day, August 17th, Pakhoi had 29.66, SSW 2 o at noon, so that the barometer had risen, the wind backed and the weather somewhat improved.

The disturbance thus appears to have passed to the north of Pakhoi moving westward between the 16th and 17th.

The highest wind force recorded (11) was observed on board the S.S. *Alwine* on the 14th the centre passing within a few miles of her position, and on this day fresh gales were experienced with high seas and much rain at a distance of, at least, 150 miles in rear of the centre.

The Japanese Weather Maps for August 18th show a typhoon (VII), advancing upon the coast of Shikoku from the southward. The centre at noon was in 32° 30′, 133° 45′ moving slowly northwards. On the 19th it crossed Shikoku and the Inland Sea, the centre being at noon in 34° 0′, 133° 45′. Winds of typhoon force were felt at Kochi (33° 34′, 133° 34′) and heavy cyclonic gales in the surrounding districts. On the 20th the disturbance entered the Sea of Japan moving about NE, but it appears to have filled up to some extent while crossing the land area on the previous day. The centre was, perhaps, in 36½°, 136° at noon on the 20th and on the 21st in 42°, 139°.

The steam-ships *Benlarig* and *General Werder* both experienced the bad weather due to this typhoon. The *Benlarig* put into shelter (33° 43′, 135° 24′)? at noon on the 18th. On this day they had strong E winds with heavy rain and rapidly falling barometer. On the 19th, the vessel remaining at anchor and being in the right hand semicircle, they had the wind veering to SE and increasing in violence with much rain. The lowest reading of the barometer was made at 10 a. with the wind S, blowing in heavy gusts, and at midnight SW winds, strong gusts and weather improving. On the 20th, at noon (in 33°30′, 136° 15′)? steering for Yokohama, they had strong SW winds, and heavy E sea. The *General Werder* was at noon on the 18th in 34° 58′, 139° 30′ bound for Kobe. They had the wind increasing from E during the afternoon and at 10 p. it was blowing a strong gale from that quarter with barometer 29.70, falling, heavy rain, and a very high S swell. At 2 a. on the 19th in the right hand semicircle they had the wind veering to ESE force 10, 29.64 with high irregular sea and at 10 a. 29.59 SE 9. At noon the vessel was hove to in 33° 30′, 136° 02′. During the afternoon the wind further veered to S and decreased in force towards evening (at 7 p. 29.67 S 6). On the 20th at noon in 34° 6′, 136° 44′ they had S 6 with barometer at 1 p. 29.64 rising slowly.

On the 19th and 20th August pressure was decreasing generally in China and Luzon with chiefly light SW breezes in Southern China and Luzon on the 19th and on the 20th, SW winds force increasing in Luzon, S to SW light breezes on the SE coast of China, gentle NNE breezes on the E coast, and light airs and breezes from NE to NW in Formosa.

On the 21st at noon we have the following observations:—

North Saddle,	29.76	+ .02	SE	3	c	South Cape,	29.63	− .06	NE	1	c
Ningpo,	.63	+ .06	NE	2	o	Amoy,	.65	.00	ENE	2	c
Wenchow,	.70	+ .01	NNE	3	orq	Swatow,	.61	− .07	ESE	2	o
Foochow,	.68	+ .04	E	1	c	Hongkong,	.62	− .08	W	1	c
Tamsui,	.68	.00	NNW	2	or	Bolinao,	.69	− .02	SSE	3	or
Anping,	.67	− .03	NW	2	c	Manila,	.75	.00	SSW	5	o

VESSELS.

S.S. *Yangtsze*,	30°50′	122°15′	29.73	SE	5 o
„ *Hesperia*,	26 01	121 38	...	N	4 o
„ *Ingraban*,	24 20	118 55	.67	E	1 c
„ *Shanghai*,	24 22	118 54	.69	S	1 c
„ *Rohilla*,	23 54	118 13	.61	...	c
„ *Fushun*,	23 15	117 18	.62	S	1 o

The barometer had thus risen slightly since the 20th on the E coast from Foochow northwards while a considerable fall had taken place in S. Formosa and on the S coast. Light variable airs and breezes prevailed in the S part of the Formosa Channel and on the S coast while in Formosa and on the E coast light breezes between NE and NW prevailed. At Tamsui, however, they had NW 4 to 5 with rain squalls and barometer 29.65 at 9 p. A strong SW monsoon blew in S. Luzon.

The observations rather point to the existence of a disturbance (typhoon VIII) to the East of Formosa on this day, but pressure was generally low on the S coast at the time.

Observations for noon on August 22nd:—

COAST STATIONS.

Hankow,	...	+ .05	N	4	b	Tamsui,	29.63	− .05	SW	3	or
Kiukiang,	...	− .01	NNW	3	c	Anping,	.59	− .08	W	2	c
Woosung,	29.66	− .04	E	5	c	S. Cape,	.63	.00	SSW	3	omr
North Saddle,	.73	− .03	SE	4	b	Amoy,	.59	− .06	ENE	3	c
Steep Island,	.71	− .06	ENE	5	cq	Swatow,	.58	− .03	calm		b
Ningpo,	.56	− .07	NE	6	o	Hongkong,	.63	+ .01	E	2	o
Wenchow,	.51	− .19	NW	4	or	Bolinao,	.69	.00	S	3	or
Foochow,	.54	− .14	NW	1	o	Manila,	.75	.00	S	4	c

VESSELS.

S.S. *Telamon*,	30°26′	126°03′	...	SE	6	
„ *Haechang*,	White Rock		29.56 (?)	N	5	oqr
„ *Pollux*,	28°04′	124°01′	.61 (?)	NE		
„ *Yangtze*,	(28 00	121 45)?	.41	N	10	orq
„ *Shanghai*,	27 21	121 28	.34	NW	9	orq
„ *Ingraban*,	27 05	120 22	.51	NW	8	
„ *Fushun*,	27 0	120 40	.38	WSW	2	o
„ *Rohilla*,	26 42	121 12	.45	NW	6	o
„ *Hesperia*,	26 30	123 21	.06	SSW	10	crq
„ *Meefoo*,	26 15	120 20	.57 (?)	WSW	5	q

At the northern entrance to the Formosa Channel and at the adjacent stations, the barometer was falling the whole day and the wind which was light in force backed from about NW in the morning to SW in the afternoon. The weather was cloudy and some rain fell at Tamsui where also the wind backed earlier than at the other stations. At 9 p. Middle Dog had 29.46 SSW 3 o; Tamsui, 29.48 W 2 o. At Wenchow the wind blew steadily from NW gradually increasing from force 2 at 9 a. to 8 at 9 p. and the barometer fell during the same interval from 29.64 to 29.14. At the latter hour the centre was situated about 30 miles to the eastward of the station and the weather was very threatening with rain and lightning. At midnight the barometer had fallen to 28.90 and at 1 a. 23rd to 28.89. The observer made the following notes "at 1 a.m. lowest reading blowing terrifically. At 1.30 a. barometer rising and wind lulling." These observations are very meagre, but from information furnished by the S.S. *Haeliang*, it appears that the centre must have passed very near and perhaps a little to the north of the town at 1 a. 23rd. At Ningpo the barometer fell quickly during the day with wind veering from NE 6 at 3 p. to SSE 9 29.43 at 9 p. with heavy rain at the latter hour. At the lighthouse stations around the mouth of the Yangtze the barometer fell slowly and the weather was fine with moderate to fresh breezes from ENE. chiefly, veering a little towards evening. It may be mentioned that on this day a depression was situated in the Yellow Sea off the Shantung Promontory.

Among the vessels the S.S. *Hesperia* (in 26° 44′, 123° 15′ at midnight of the 21st) bound for Yokohama, had the wind increasing to a fresh gale from NE at 1 a. on the 22nd with barometer 29.41 falling rapidly. At 2.30 a. the wind being a strong gale from NNE they turned the vessel round and steered SW for half an hour. She was then hove to until 4 a. the wind being from N force 9 barometer 29.26. As the wind was backing and it was now tolerably certain that they were in the left hand semicircle they rightly ran full speed towards SW until 6 a. when the wind had further backed to NW and was blowing with full typhoon force barometer 29.10. They then hove the vessel to on the port tack under storm staysail as they were in the left hand semicircle and she rode easy with the wind a little abaft the beam and her head stemming a high NE sea. At 7.30 a. the wind had backed to SW 12, barometer 28.68 and at 8 a. to SSW 12, 28.67 to 28.71. The rain was torrential, the sea very much confused and the vessel was literally buried in spray and rain. After 8 a. the barometer commenced rising, at 9 a. they had 28.82 SSW 12, at 9.30 a. 28.90 SSW 11. At the latter hour the wind had decreased in force slightly but the sea was more confused than before. There was very heavy continuous rain, but the sky was somewhat lighter in appearance. At 11 a. with 29.07, S by W 10 and the rain almost unbearable they tried to scud before the wind but the vessel would not obey the helm. A second attempt at 1 p. also resulted in failure, the sea being too confused. At 2 p., however, with 29.30, SSW 8 and very heavy rain they stood on their course and had the wind decreasing with less rain. At 3 p. they had 29.39, S by W 6 with rain squalls.

This vessel had the centre, which was moving towards NW, passing probably within 10 miles to the north of her position at 7.30 a. so that the centre was in 26° 40′, 123° 20′ at this time. Next day, the 23rd at noon, they found they had experienced a set to N 16° W of 49 miles this being a difference between the current which she probably experienced to the southward in front of the centre and that which carried her to the northward in rear of the centre. It is not very likely, however, that her position at 6 a. on the 22nd was much affected and no correction has therefore been applied.

The S.S. *Shanghai* off the East Coast bound for Shanghai had the wind increasing from N with a tendency to back on the morning of the 22nd the barometer at the same time falling quickly. The weather was thick, rainy and squally. At 10 a. with 29.40 NNW 8, and a threatening appearance towards E they wisely ran to the southward in the left hand semicircle, but it appears that this step might well have been taken earlier. At noon in 27° 21′, 121° 28′ they had 29.34, NW 9 rq with heavy E swell. At 2 p. with wind W 8, 29.28 they hove her to and the wind had backed to SW 8, at 6 p. barometer 29.19, and thereafter to SSW and S during the evening with rising barometer (10 p. 29.36). At noon, this vessel was about 70 miles to the west of the centre which subsequently during the evening passed some 50 miles to the north of her position.

The S.S. *Rohilla* at 8 a. in 26° 56′, 121° 13′ bound for Shanghai had 29.56 falling with NNE 6 or. They had prepared for bad weather at 5 a. and as it was thought their course was taking them nearer to the centre and the wind was inclined to back they very properly turned the ship's head to the southward at 9 a., going easy with wind backing to N by W force 7 in the left hand semicircle. They stood on their course again at noon, but at 2.30 p. the barometer (29.33) having fallen again since noon and the wind being W 8 with hard squalls, they stood to the southward again until 6 p. The wind having backed, then, to SW by S 6 with better weather they proceeded slowly north again, but they found that the barometer still had a slightly downward tendency. At 8 p. in 27° 1′, 121° 17′ they had 29.32, SSW 6 orq. and it was not until 10 p. that the barometer rose. At midnight in 27° 34′, 121° 42′ they had 29.51 SSW 6 orq. At noon this vessel was about 90 miles WSW of the centre which during the evening passed some 60 miles to the north of her. They manœuvred the vessel making good use of the indications of the barometer and they were thus not unnecessarily delayed.

The S.S. *Meifoo* off the Tae Islands at 4 a., bound South had 29.60 (uncorrected) NNE 5 rq with heavy swell from E. They hauled in for the coast with wind backing to NNW at 6 a. and to W at 10 a. At 3 p., off the White Dogs, they had the wind S by W barometer 29.55 with decreasing

E swell. This vessel ran across the path in front of the centre at a distance of about 150 miles, passing from the right hand, the dangerous, semicircle into the left hand, the manageable, semicircle.

The S.S. *Yangtze* also ran across the path in front of the centre. Her noon position is not given for the 22nd August, but as she was between Shanghai and Gutzlaff at noon on the 21st bound for Hongkong 28° 00′, 121° 45′ appears to be a suitable approximation for noon on the 22nd. At 4 a. on this day they had barometer 29.69 (falling) wind NNE 6 increasing with a high SE sea which had already caused some damage on board. At 9 a. they had N 9 with heavy rain squalls and much water on board causing further damage. At 11 a. with barometer 29.45 and with increasing wind and sea they hove the vessel to. At 2.30 p. (barometer 29.32) they ran towards S by W with wind NNW, that is with the wind on the starboard quarter three points from the stern as recommended. They had the lowest barometer reading 29.27 at 4 p. and at 5 p. the wind backed to WNW 9 with barometer 29.32 rising. At 6 p. the wind was WSW 9 with squalls of typhoon force and much rain. At midnight the wind had decreased to force 7 from SW with barometer 29.44. This vessel crossed right in front of the centre between 2 p. and 5 p. and probably within a distance of 40 miles from the centre.

The S.S. *Ingraban* went into shelter—position as stated for noon—during the morning hours and at midnight they had a strong gale from WSW at a distance of about 60 miles to the S of the centre.

The log of the S.S. *Pollux* was not available and the only information obtained is given in the noon observations, but the vessel sustained great damage.

The S.S. *Haechang* from Shanghai to Wenchow was off Crate Island (28° 36′, 121° 52′) at 4 a. and had 29.70, N 4. At 11.45 a. they came to anchor in 7 fathoms off the White Rock at the entrance to the Wenchow river. They made the following observations which are taken from the *North China Daily News*:—

Aug. 22,	1 p.	29.52	...		oqr
	2	.47	NNW	5	
	3	.40	NW	6	oqr
	4	.33	NW	6	
	6	.14	WNW	6	
	7	.00	WNW	7	
	8	28.70	...	8	oqr high sea.
	9	.48	WNW	9	
Aug. 22,	9.30 p.	...	...		Temporary lull.
	10	28.72	SW		
	11	.90	SSW		increasing, terrific gusts,
	Midt.	29.10	...		[heavy rain.
Aug. 23,	1 a.	.22	SSW	9	oqr
	2	.34	...	8	
	2.45	...	...		Wind and sea abated.
	5	.55	SW	6	

The barometer readings are uncorrected.

From the above observations it is seen that the centre passed over this vessel at 9.30 p. Probably the vessel was on the southern side of the central calm area which may possibly have had a diameter east and west of about 5 miles.

The position found for the centre at noon on 22nd August is 27° 10′, 122° 50′ the average speed being at the rate of nearly 12 miles per hour during this day. Full typhoon force of wind does not appear to have extended beyond 20 miles from the centre. On an average force 8 was felt at a distance of 75 miles from the centre. It was greater, by about one unit of Beaufort's Scale, in front and in the right hand semicircle than in rear and in the left hand semicircle. Force 5 blew at a distance of 120 miles in front of the centre and at 200 miles in the right hand semicircle, while force 3 only was felt at 150 miles distance in the left hand semicircle.

The steepest gradient found was 0.38 inch in 15 nautical miles.

The following are observations for noon on August 23rd:—

COAST STATIONS.

Hankow,	...	+ .02	NNE	5	o	Wenchow,	29.56	+ .05	ENE	3	or
Kiukiang,	...	− .02	NE	5	cg	Foochow,	.52	− .02	SW	1	o
Wuhu,	...	− .01	NE	5	orq	Turnabout,	.59	+ .02	SSW	3	o
Chinkiang,	...	+ .02	ENE	7	orq	Amoy,	.54	− .05	S	2	b
Wusung,	29.69	+ .03	NE	6	omd	Swatow,	.54	− 04	SW	3	o
North Saddle,	.73	.00	ESE	3	o	Hongkong,	.65	+ .02	W	2	c
Steep Island,	.71	.00	ESE	5	c	South Cape,	.66	+ .03	WNW	3	c
Ningpo,	.44	− .12	SE	5	o	Bolinao,	.79	+ .10	SSW	3	or

VESSELS.

S.S. *General Werder*,	33° 52′	131° 12′	29.87	E	2	c
„ *Propontis*,	30 03	125 56	.77	SE	4	q
„ *Shanghai*,	29 40	122 33	.69	ESE	4	o
„ *Rohilla*,	29 36	122 35	.67	E	4	om
„ *Telamon*,	27 50	122 46	...	SE	5	
„ *Ingraban*,	27 05	120 22	29.55	SW	6	
„ *Yangtze*,	26 23	120 40	.57	S	6	

The typhoon evidently filled up rapidly after striking the Coast on the evening of the 22nd and although on the 23rd the barometer did not fall to any appreciable extent at the Yangtze stations the wind increased from the NE with threatening squally weather and rain at some stations. The barometer rose during the evening at Kiukiang, but remained practically steady at the other stations. At the stations around the mouth of the Yangtze the barometer had changed but little since the previous day, the weather was showery with moderate and fresh breezes from between E and SE. At

Ningpo, the barometer remained low, at about the same level as on the previous evening at 9 p., and the wind was from SE the whole day decreasing from force 6 in the morning to force 1 in the evening the weather being showery. At Wenchow, the barometer had risen to the extent of 0.65 inch between 1 a. and 9 a. the wind being NE 4 at the latter hour veering to E by S 2 at 3 p. Wet weather prevailed there. On board the S.S. *Haechang* at anchor at the river mouth they observed SSW wind at 1 p. The wind observations made at Wenchow do not agree with the most probable position of the centre on this day. On the SE coast the barometer remained low and did not rise appreciably until the evening. Winds were from S and SW in this district, mostly gentle breezes but it blew stronger in the Formosa Channel. The depression in the Yellow Sea had moved Eastward and an increase of pressure of nearly 0.2 inch had taken place in North China.

The centre appears to have moved in the direction of Kiukiang. The corrections to be applied to the barometer readings at the Yangtze stations are unknown, however, and there is a difficulty in fixing the position of the centre with accuracy. The apparent lowest reading of the barometer is given by the Ningpo observations and the centre was perhaps in 29½°, 119½° that is between Ningpo and Kiukiang at noon on the 23rd.

The following observations are for August 24th at noon :—

COAST STATIONS.

Hankow,	...	+ .14	NNE	5	b	Steep Island,	29.65	− .06	SSE	3	c
Kiukiang,	...	+ .17	NE	3	c	Ningpo,	.43	− .01	ESE	2	o
Wuhu,	...	+ .12	NE	4	o	Wenchow,	.57	+ .01	NW	2	or
Chinkiang,	...	+ .06	NE	5	oq	Foochow,	.60	+ .08	SW	1	o
Wusung,	29.65	− .04	NNE	7	omq	Turnabout,	.68	+ .09	SSW	5	c
North Saddle,	.66	− .07	ENE	4	omr	Amoy,	.66	+ .12	WSW	2	c

VESSELS.

S.S. *Yokohama Maru*,	34°02′	130°43′	29.92?	ESE	5	o
„ *Ingraban*,	29 49	123 01	.64?	NE	5	
„ *Propontis*,	27 48	123 20	.65	SW	6	
„ *Telamon*,	25 24	120 04	...	SSW	4	c

The barometer had risen considerably at the Yangtze stations since the previous day particularly at Kiukiang, but the NE winds continued to blow freshly with the weather becoming fine in the latter part of the day. At the stations around the mouth of the Yangtze the barometer fell slowly the whole day with wind backing to NE and N and increasing to a moderate gale in the evening with wet squally weather. At Ningpo, very little change of pressure took place, the barometer remaining low and the wind was a gentle breeze from SE in the morning backing to E in the afternoon. At 9 p., however, they had force 11 from NE and thereafter wind backing and decreasing slowly in force. Showery weather prevailed during the day and thunder was heard, but in the evening they had very hard squalls and heavy rain. The centre which had recurved on the mainland passed out to sea again just to the south of the station about 9 p. At Wenchow, the wind increased to NW 4 at 9 p. with rain and rising barometer. In and around the Formosa Channel the barometer was rising and gentle to fresh breezes from SW blew in the Channel during the day with showers at some places. At Tamsui, there was a strong W breeze during the evening with rain and thunder.

At sea the S.S. *Propontis* bound for Hongkong had high sea with the wind backing to W force 7 at midnight.

At noon on the 24th the centre appears to have been situated in the neighbourhood of Ningpo probably to the WSW of the station in about 29½°, 121° and it had therefore moved very slowly since the previous day.

The following observations refer to August 25th at noon :—

COAST STATIONS.

Fushan,	29.54	− .16	NNE	5	cq	Wenchow,	29.78	+ .21	NW	2	c
Wusung,	.72	+ .07	NW	5	cq	Foochow,	.73	+ .13	NNW	4	c
North Saddle,	.72	+ .06	N	5	c	Turnabout,	.74	+ .06	calm		c
Steep Island,	.73	+ .08	NW	6	c	Tamsui,	.73	+ .05	W	2	or
Ningpo,	.63	+ .20	NW	3	c						

VESSELS.

S.S. *Ingraban*,	32°17′	123°17′	29.68	NNW	7
„ *General Werder*,	30 57	126 10	.60	NNW	4
„ *Propontis*,	26 36	121 38	.67	NNW	4

Pressure had thus increased on the China Coast particularly in the neighbourhood of Ningpo and Wenchow. At Ningpo, the wind had backed to NW 9 at 3 a., but afterwards quickly decreased in force. At the stations around the mouth of the Yangtze the wind direction had also backed towards NW. At Fusan in S. Korea a considerable decrease of pressure had taken place and the barometer was also falling in W. Japan. The following are some observations made at 2 p. in the latter district :— Kagoshima, 29.53 calm, r., Nagasaki, 29.49 calm, r., Akamagaseki, 29.57 E 4, r.

The S.S. *General Werder* on leaving Nagasaki bound for Hongkong on the evening of the 24th had the wind S 5 with falling barometer. Next morning (25th) the wind was light from W, but during the day it veered to NW and increased to a gale from NNW during the evening with rising barometer. This vessel would thus appear to have passed to the south of the centre during the morning which at noon appears to have been situated between this vessel's position and the shores of W. Japan. It was possibly in 32°, 129° at this time and must in consequence have moved very rapidly since regaining the sea on the evening of the 24th.

The Japanese Weather Maps for August 26th show an irregular depression of no great intensity lying over Central Japan which had entered W. Japan on the afternoon of the preceding day.

SEPTEMBER.

On August 31st the stations in N. China became under the influence of a depression advancing from the interior of China. On September 1st this depression passed between Shantung and the mouth of the Yangtze moving towards the east, without, however, giving occasion to any strong winds in those districts. It subsequently traversed S. Korea and entered the Sea of Japan on the morning of the 2nd Towards evening it was found off the W. coast of Hokkaido causing gales to blow in N. Japan. Passing then across Hokkaido it entered the Pacific on the early morning of the 3rd.

This was followed by another depression of much greater intensity advancing from the same direction on the 4th September when a considerable reduction of pressure took place in Shantung and in the neighbourhood of Shanghai. This depression passed to the south of the Shantung Promontory moving eastward on the early morning of the 5th. On the 4th gales from SE and E with rain were felt in the neighbourhood of Chefoo and at the SE Shantung Promontory where it blew a whole gale from SE at 9 p. on the 4th. The lowest reading of the barometer was made at 3 a. on the 5th at this station with wind backing towards ENE and decreasing. At the stations around the mouth of the Yangtze winds were gentle to moderate breezes from SE on the morning of the 4th veering towards S. in the evening and further veering to NW on the morning of the 5th. On the afternoon of the 5th the depression passed to the south of Chemulpo (Korea) where they had the lowest barometer reading at 3 p. with NE 4, the wind having backed from SE 5 since the early morning. Wet weather prevailed there. On the 6th the centre passed over central Nippon (Japan) and entered the Pacific in the evening but on this day it appears to have been a very feeble depression.

On the 11th September typhoon (IX) arrived on the coast of Japan from the southward. Although the previous path of this typhoon cannot be laid down with any certainty the following observations for noon made in Luzon and Formosa on the 8th and 9th indicate the existence of a distant disturbance to the eastward in the Pacific:—

8th September.

Tamsui,	29.87 – .05	ESE	2	o
S. Cape,	.80 – .03	NE	2	cv
Bolinao,	.82 – .02	WNW	3	b
Manila,	.81 – .03	WSW	2	b
Albay,	.78	WNW	3	o
S.S. *General Werder*,...28°22′ 127°00′	29.78	NNE	5	c

9th September.

Tamsui,	29.84 – .03	NE	4	c
S. Cape,	.74 – .06	NE	4	c
Bolinao,	.75 – .07	NNW	2	c
Manila,	.75 – .06	SW	2	c
Albay,	.76 – .02	SW	2	o
S.S. *General Werder*,...30°18′ 131°46′	29.73	NE	6	o

On the 10th September the Japanese weather maps indicate the approach of the typhoon toward Kiushu (SW Japan), in addition, we have the following observations at sea for noon:—

S.S. *General Werder*,	33°01′	136°01′	29.78	E 2	o
„ *Hesperia*,	32 36	133 05	.70	NE 5	orq

The *Hesperia* steering towards SSW had the barometer falling rapidly towards the evening (29.42) and increasing wind from NNE with a tendency to back. The centre at noon on the 10th September was possibly in about 28½°, 133°.

On the 11th September the Japanese weather map for 2 p. shows the centre approaching the coast near the Kii Channel. The following gives the noon observations made on board vessels at sea on this day:—

S.S. *Port Augusta*,	36°25′	142°27′	...	SE	6	
„ *Arabic*,	34 23	138 39	29.64	SE	7	orq
„ *Thales*,	33 15	135 30	28.75	E	12	
„ *Hesperia*,	31 04	132 42	29.12	NW	10	
„ *Nestor*,	30 14	126 17	...	NE	7	c

Of these vessels the S.S. *Hesperia*—which was apparently hove to about midnight—had 29.24 N 10 with heavy rain squalls at 4 a., 29.00 N 10 at 8 a. Towards noon the wind had backed to NW, the vessel being in the left-hand semicircle, with rising barometer. At 4 p. 29.34 WSW 10. Thereafter the barometer continued rising with the wind varying between W and NW and decreasing slowly in force. The centre would appear to have passed about 100 miles to the eastward of this vessel at 8 a.

The S.S. *Thales* encountered the centre at 1.30 p. on the 11th. She left Kobe for Yokohama on the afternoon of the 10th. In the evening they had the barometer falling with wind increasing from the SE, heavy rain squalls and high sea with S. swell. It appears that the vessel was hove to about midnight, Itsiye Point being then abeam. The following is an extract from the log book for September 11th :—

2a.	29.57	E	og	heavy gale, high sea.
4a.	.47	E	rq	
6a.	.44	E		
8a.	.40 ?	E		heavy hurricane; high sea; boats washed away.
9a.	28.88	E		
Noon.	.75	E		terrific hurricane and tremendous sea washed away port gangway.
1p.	.15	E		
1.30p.				fell light, passed through centre of typhoon; terrific hurricane and
2p.	.10	W		fearful sea; boats smashed and other damage.
3p.	.40	W		
4p.	.80	W		
6p.	.80	W		
8p.	29.05	SW		
10p.	.32	SW		
Midt.	.45	SW		Weather moderating, still a heavy confused sea.

N.B.—Barometer readings are uncorrected, but from indirect comparison the error, if any, is believed to be small. In response to enquiry Captain HUNTER of the *Thales* gives the following supplementary information :—

> "Position of ship during passage of centre, as near as I can say, 33° 15', 135° 30'. The calm lasted about 20 to 30 minutes, the sky was clear overhead and the sun shone out for a few minutes, the sea was very heavy and cross from SE and SW. I did not notice the clouds, in fact it was impossible to do so, the atmosphere being too dense. After the centre had passed the wind broke out in greater fury from the westward rapidly hauling to SW and WSW."

The above is an instance, seldom observed, of the sun shining out during the passage of the calm area. The rate of translation at this time is tolerably well known the centre passing over Tsu 100 miles NNE of the *Thales* position at 6.40 p. (barometric minimum 28.23) which gives the speed as 20 miles per hour between the two points, and allowing 25 minutes as the duration of the calm observed on board *Thales* this would give a diameter of between 8 and 9 miles for the central calm area in a north and south direction at that time. From the Japanese weather map for 6 a. on this day and the observations made on board the *Hesperia* the average hourly speed would appear to be about 22 miles between 8 a. and 6.40 p. the position of the centre at 8 a. not, however, being known with great accuracy.

The S.S. *Arabic* left Yokohama for Hongkong on the morning of the 11th and had the wind veering from E to SE increasing in force. At 2 p. the barometer had fallen to 29.42 and the wind had increased to force 10 from the SE. The vessel was hove to at this time. At 4 p. they had typhoon force with barometer 29.23. The barometer reached the lowest point at 6 p. 29.09 the wind having then veered to S. 12. A terrific sea was running and they lost a boat and sustained other damage. Typhoon force from S. continued until after 8 p. (29.19) the squalls being of 10 minutes' duration. At 10 p. the wind force had decreased to 11 and at midnight to 10 the direction having veered to SW at the latter hour with barometer 29.47. This vessel in the right-hand semicircle passed from the anterior into the posterior quadrant during the 24 hours. At 6 p. she was about 100 miles E of the centre.

After passing Tsu on the shores of Owari Bay the typhoon continued moving NNE across Nippon but with greatly accelerated velocity. The Japanese weather map for 9 p. on the 11th gives the position of the centre in about 36°, 137¼° and thereafter it quickly traversed the NW coast of Nippon maintaining its course towards NNE until passing Akita (39° 44', 140° 05') when it turned more to the eastward passing into the Pacific again early on the morning of the 12th. At 6 a. on this day the centre is shown in 40°¾, 142° to the SE of Shiriyasaki moving away towards ENE. During its course over Nippon between Tsu and the point where it re-entered the Pacific the typhoon moved at the great speed of about 45 miles per hour.

After the passage northward of the preceding typhoon the NE monsoon became established on the China Coast and blew freshly in the north part of the China Sea as far south as 18° until the 19th September. At the same time a general low pressure appears to have existed across the China Sea a little south of this latitude and vessels arriving from the Southward reported light S and SW winds to the Paracels thence to Hongkong fresh NE winds and squally weather. It does not appear, however, that any cyclonic depression was formed during this period. On the 19th a depression passing north of Shanghai moving eastward temporarily interrupted the strength of the monsoon, but on the 22nd it increased again and blew freshly on the China Coast, the more so as a considerable reduction of pressure had taken place in the Philippines since the previous day.

The following observations are for noon on the 22nd September:—

Woosung,	30.06	− .02	NE	3	omd	S. Cape,	29.92	− .04	NNE	5	c
Foochow,	.02	+ .03	ENE	4	omq	Laoag,	.80	...	NE	1	o
Amoy,	29.97	+ .02	NE	1	c	Bolinao,	.75	− .11	WNW	2	o
Swatow,	.93	− .01	E	4	b	Manila,	.79	− .10	WSW	2	c
Hongkong,	.97	− .01	ESE	4	o	Pt. Santiago,	.79	...	SW	4	o
Hoihow,	.96	− .01	NE	3	c	Albay,	.82	...	E	1	o

These observations apparently indicate a disturbance to the E of Luzon. In N Luzon light airs from NE prevailed while in S Luzon they had light to fresh breezes from SW. At Bolinao the wind which had been from W force 3 during the afternoon, became SE 2 barometer 29.68 at 6 p. the weather being very wet. Whether the weather at Bolinao and in Luzon was due to a shallow cyclonic depression crossing the island and passing into the China Sea near Bolinao or to an elongated area of low pressure lying about WSW to ENE in the SE part of the China Sea and stretching over Luzon the data available are insufficient to show.

It may be mentioned, however, that on the western side of the China Sea off the Annam coast fresh NE winds prevailed on this day.

The following observations are for September 23rd at noon:—

Woosung,	30.00	− .06	WNW	1	o	S. Cape,	29.82	− .10	NE	4	c
Foochow,	29.92	− .10	NE	2	og	Laoag,	.79	− .01	S	1	o
Amoy,	.87	− .10	ENE	2	c	Bolinao,	.76	+ .01	SE	2	o
Swatow,	.84	− .09	ENE	3	b	Manila,	.76	− .03	S	1	c
Hongkong,	.83	− .14	E	4	c	Pt. Santiago,	.77	− .02	SSW	2	o
Hoihow,	.88	− .08	NE	3	b	Albay,	.80	− .02	SSW	2	o

VESSELS.

S.S. *General Werder,*	23°28′	117°48′	29.88	NE	5	o
„ *Falkenburg,*	21 39	113 44	...	E	3	
„ *Glucksburg,*	17 13	110 48	29.70?	NNE	2	
„ *Ingraban,*	14 57	110 06	.78?	NNE	4	o

The above observations show that a decrease of pressure amounting to 0.1 inch had taken place on the China coast winds being from NE light to fresh breezes the weather being fine. In Luzon the S winds had extended to the northern part of the island and the direction in the south had backed somewhat, but the barometer did not rise until the evening.

The S.S. *Falkenburg* steering SW by S had at midnight the wind backing to NE 4 with barometer falling. The weather was fine and clear during the evening. The S.S. *Glucksburg* was steaming NE against an increasing NNE wind and sea and the barometer was falling. They noted a very red sunset and the sky wore a threatening aspect and they expected bad weather. Between 8 p. and midnight (barometer 29.63) the wind from NNE and sea continued increasing accompanied by heavy rain squalls. The absence of observations from the S.S. *Ingraban* between noon of the 23rd and 24th is unfortunate as they would have been valuable in this instance, but it appears clear that the centre of typhoon X was advancing towards the *Glucksburg* from the SE on the evening of the 23rd and at noon was possibly in about 15°½, 114°½.

The following are the observations for noon on September 24th:—

COAST STATIONS.

Foochow,	29.87	− .05	NE	5	opq	Haiphong,	29.83	− .08	NW	2	c
Amoy,	.81	− .06	NE	2	c	Hoihow,	.72	− .16	ENE	4	og
Swatow,	.82	− .02	E	3	b	S. Cape,	.77	− .05	NNE	3	o
Hongkong,	.79	− .04	E	4	o	Bolinao,	.78	+ .02	SE	3	or
Pakhoi,	.74	− .11	NE	2	od	Manila,	.83	+ .07	SW	1	o

VESSELS.

S.S. *Glucksburg,*	18°46′	112°06′	29.62?	SE	4	b
„ *Ingraban,*	16 28	110 11	29.53?	W	9	or

The decrease of pressure on the China coast had continued since the 23rd it being most marked around the Gulf of Tongking particularly at Hoihow. Winds were light to fresh breezes from E and around the Gulf of Tongking particularly at Hoihow. Winds were light to fresh breezes from E and NE on the S and SE coasts of China and light breezes chiefly from S and SW in Luzon where the barometer was now rising quickly.

The S.S. *Glucksburg* was in the right-hand semicircle and the centre passed probably about 50 miles to the south of her position a little before 8 a. At 2 a. they had "a heavy gale from NNE with rain and very high sea, 4 a. 29.46 wind veering towards E but still increasing in force, 6 a. 29.43 ENE; 8 a. barometer commenced rising wind going through E to S. At noon fine clear weather, wind steady at SE."

On board the S.S. *Falkenburg* they made the following observations on September 24th :—

4a.	29.59	NE	4			1p.	29.01	SE	9		
8a.	.47	NE/E	6			2p.	.17	S	8		
9a.	.41	NE	7			3p.	.29	SW	7		
10a.	.37	NE	8			4p.	.39	SW	6		
11a.	.19	ENE	9			8p.	.59	SW	4		
Noon.	28.97	E/S	12	18°39′	111°21′	Midt.	.69	SW	2	18°36′	110°20′

These observations show that the centre must have passed within a few miles to the S of the vessel about noon moving towards NW. This vessel appears to have kept her course towards SW by S since noon of the 23rd and thus to have run directly towards the track of the centre. From their observations it appears the weather did not become bad until 8 a. nor did the barometer fall at all quickly until after 4 a. although it was already low. The inner area of strong winds in the right-hand semicircle seems to have been therefore of small diameter and gales were probably not blowing at a greater distance than 50 miles from the centre. In the left-hand semicircle the S.S. *Ingraban*, about 100 miles SSW of the centre, had W 9 at noon with the barometer (29.53?) at its lowest. At midnight this vessel having progressed perhaps 60 miles towards NE by N had 29.76 SSE 5.

The centre at noon on September 24th was in 18° 15′, 111° 00′ moving towards NW and it entered Hainan during the afternoon. At Hoihow the wind veered to E 5 at 3 p. with barometer 29.65. At 9 p. the barometer had risen to 29.73 and the wind had backed to NE 4 again so that it appears that on entering the coast of Hainan the typhoon filled up rapidly. The observations made on board the *Falkenburg* confirm this. This vessel had progressed some 60 miles to the westward since noon and at midnight was off the coast of Hainan and she had then a light breeze from SW with barometer 29.69.

On the 25th September at noon we have the following observations :—

Hongkong,	29.82 + .03	E	4	o	Haiphong,	29.80 − .03	E	4	o
Pakhoi,	.79 + .05	E	2	o	Hoihow,	.84 + .12	ENE	2	o

S.S. *Ingraban* 18° 37′, 111° 45°, 29.82 ? SE 4.

A trace of the disturbance is still seen from these observations. The wind had veered at Haiphong since the previous day with a slight fall in the barometer and what remained of the disturbance appears to have inclined more to the westward and to have crossed the Gulf of Tongking to the southward of Haiphong on the morning of the 25th.

OCTOBER.

On the 9th October a depression appears to have been in course of formation in the China Sea to the West of Luzon. The following observations are for noon on this day :—

COAST STATIONS.

Foochow,	30.07 + .04	ENE	2	c	South Cape,	29.88 − .08	E	4	op
Amoy,	29.95 − .04	NE	3	b	Laoag,	.88 − .06	NE	1	c
Swatow,	.94 − .02	E	3	b	Bolinao,	.82 − .06	SSW	2	o
Hongkong,	.97 − .03	ESE	3	b	Manila,	.85 − .03	S	1	c
Hoihow,	.99 − .02	NE	2	b	Pt. Santiago,	.87 − .06	SSE	2	c

VESSELS.

BK. *Penpont*,	20°24′	114°10′	...	NNW	5 o
S.S. *Pakshan*,	17 02	113 35	29.92	NE	6 b

These observations show pressure to be decreasing slightly on the S coast of China and moderately fast in S Formosa and Luzon. The NE monsoon had freshened slightly since the previous day on the S and SE coast of China. In Luzon, where light breezes from NE and E had prevailed for the two or three previous days, light S breezes were now blowing except in the extreme north of the island. Vessels arriving at Hongkong from the southward reported light variable winds and fine weather to Macclesfield Bank (16°, 114°) thence to Hongkong fresh NE winds. It seems therefore probable that a trough of low pressure was lying WSW to ENE in the China Sea and across Luzon on this day and that no cyclonic depression then existed. It may be remarked that in similar cases it is seen that while the NE winds have a tendency to advance southward on the western side of the China Sea the SW winds show a tendency to advance northward on the eastern side.

The following observations are for October 10th at noon :—

COAST STATIONS.

Foochow,	29.98 − .09	NE	3	b	Hoihow,	29.98 − .01	ENE	2	c
Amoy,	.91 − .04	NE	3	b	South Cape,	.81 − .07	NNE	5	c
Swatow,	.90 − .04	ENE	3	b	Bolinao,	.80 − .02	SE	1	o
Hongkong,	.94 − .03	W	1	b	Manila,	.84 − .01	S	1	c

VESSELS.

S.S. *Fokien*,	22°58′	120°10′	29.79?	NNE	5	o
BK. *Penpont*,	21 02	114 10	...	NNE	1	q
S.S. *Pakshan*,	20 35	113 51	29.97	NE	4	op
SH. *Columbus*,	18 44	133 55	.96?	NNW	2	c

Pressure had decreased in S China particularly at S. Cape but in Luzon it had changed but slightly since the previous day. In the N part of the Formosa Channel strong breezes to fresh gales from NNE and NE prevailed and in the evening a moderate gale from NNE blew at South Cape with the weather becoming showery. The barometer was falling quickly at all stations in S China during the day, but the weather remained fine.

There is no information available from vessels in the middle of the China Sea on this day but it seems unlikely that any definite cyclonic depression had been formed. The low pressure was, however, spreading northward on the eastern side of the China Sea towards South Cape.

The following observations are for noon on October 11th :—

COAST STATIONS.

Woosung,	30.08 – .02	E	4	o	Hoihow,	29.96 – .02	NW	1	c
Foochow,	29.91 – .07	NE	5	oq	South Cape,	.65 – .16	ENE	6	od
Amoy,	.80 – .11	NE	5	b	Bolinao,	.71 – .09	SE	3	or
Fisher Island,	.68 – .16	NNE	7	om	Manila,	.81 – .03	SSW	3	or
Swatow,	.77 – .13	NW	2	c	Pt. Santiago,	.89	SW	6	o
Hongkong,	.84 – .10	NW	2	b					

VESSELS.

S.S. *Fokien*,	23°56′	118°00′	29.79	NE	6	o
BK. *Penpont*,	21 16	114 38	...	NW	2	
SH. *Columbus*,	18 58	130 08	29.88?	NNW	4	c
S.S. *Whampoa*,	16 07	125 50	.79	SSW	4	b

Pressure had thus decreased considerably on the S and SE coasts of China particularly in and around the Formosa Channel and it continued to give way rather quickly during the evening of this day except at South Cape where the fall was moderate. In Hainan the barometer fell slowly but at Bolinao (Luzon) it had fallen nearly 0.1 inch since noon of the previous day. Winds were light breezes from NW between Hainan and Swatow with fine weather, moderate to fresh gales steady from NNE at the lighthouse stations in the northern part of the Formosa Channel with showery weather at some of these stations and at South Cape moderate to strong breezes from ENE and NE with showery weather. At Bolinao during the morning they had a gentle breeze from S to SE the lower clouds coming moderately fast from the S with light rain. At 2 p. the barometer had fallen to 29.62 and the wind had veered to SW 5 the clouds coming fast from the same direction. At 4 p. they had SW 8 with barometer 29.67 now rising and at 6 p. 29.71 SW 2 o. Heavy rain fell between 1 p. and 5 p.

In N Luzon light breezes from S to SW prevailed and in SW Luzon fresh SW breezes.

Taken alone the Bolinao observations would appear to indicate a depression moving northward to the West of that station but this is not borne out by the observations at the other stations on the W coast of N Luzon. It appears rather that the area of lowest pressure was at noon on the 11th situated about midway between Bolinao and South Cape in perhaps 19°, 120°. We have unfortunately no observations from vessels in the middle of the China Sea but it is doubtful as to whether the depression was perfectly cyclonic at this time.

This depression was notified from the Hongkong Observatory as being West of Luzon on the morning of the 11th.

The ship *Columbus* in the Pacific appears to have been under the influence of another depression (XII) to the east of her position.

The following are the observations for noon of October 12th :—

COAST STATIONS.

Woosung,	30.07 – .01	NE	6	c	Hoihow,	29.90 – .06	NE	1	c
Foochow,	29.81 – .10	NE	6	c	Fisher Island,	.66 – .02	NNE	5	cp
Amoy,	.67 – .13	NE	6	c	South Cape,	.62 – .03	ESE	4	or
Swatow,	.72 – .05	NNW	3	o	Bolinao,	.74 + .03	S	2	or
Hongkong,	.78 – .06	N	3	c	Manila,	.79 – .02	SW	2	c

VESSELS.

S.S. *Canton*,	28°00′	121°40′	...	NE	5	
„ *Fokien*,	22 59	116 45	29.73	NNW	4	o
BK. *Penpont*,	21 32	115 15	...	NNE	6	o
SH. *Columbus*,	19 00	128 31	29.76	WNW	6	cg
S.S. *Whampoa*,	18 22	122 08	.63	SSW	4	
„ *Activa*,	13 43	120 40	.75	calm		b

These observations show a general decrease of pressure on the China coast the greatest decrease having taken place off the SE coast particularly between Lamocks and Foochow. In Luzon there was little change. An increase of wind force is to be remarked on the China coast the direction

being much the same as on the previous day. At the lighthouse stations at the N entrance to the Formosa Channel it blew a fresh gale the direction being steady at NNE the whole day, the strength of the NE monsoon evidently being much increased by the low pressure existing to the Southward. Showery weather prevailed in Luzon but it was fine on the SE coast of China. At South Cape the wind gradually veered during the morning hours from NE to ESE the force being about 4, but at 11 a. it commenced backing quickly and gained a NNE direction at 2 p. which it maintained for the remainder of the day blowing with force 7. A great deal of rain was falling and the barometer showed a slight rise at midnight (29.68).

The S.S. *Whampoa* off the N coast of Luzon at midnight had then 29.63 W 5 the direction having veered from SW since the morning. Heavy showers of rain fell at intervals and lightning was observed in the S and E.

No data for N Luzon are available, neither have any observations been received from vessels in the middle part of the China Sea. In the absence of such it is not possible to assign a position for the centre at noon on the 12th. The disturbance appears to have been of a very irregular character at this time and it is doubtful whether any well defined centre was then in existence although the area of lowest pressure would appear to have been situated between the north coast of Luzon and South Cape.

On the morning of the 12th the depression was notified from Hongkong Observatory as follows:— "The centre appears to be situated near South Formosa."

The ship *Columbus* was apparently hove to in about 19°, 128°½ and at midnight the barometer had fallen to 29.65 with W 7 and rain squalls. Lightning was noted in the W. Depression XII had thus advanced somewhat nearer to this vessel and it appears to have been moving about WNW at the time. A rough estimation places the centre in 19°½, 133° at noon.

The following observations are for noon on October 13th:—

COAST STATIONS.

Wusung,	30.04	− .03	ENE	6	omd	Hoihow,	29.86	− .04	NE	3	o
Foochow,	29.82	+ .01	NE	3	or	Fisher Island,	.67	+ .01	NNE	2	cm
Amoy,	.72	+ .05	NNE	6	c	South Cape,	.68	+ .06	NNE	5	od
Swatow,	.71	− .01	N	1	o	Bolinao,	.75	+ .01	SW	2	or
Hongkong,	.74	− .04	NNW	2	c	Manila,	.78	− .01	SSW	3	cf

VESSELS.

S.S. *Kutsang,*	25°00′	119°35′	29.78	NE	6	or
„ *Zafiro,*	23 23	116 48	.71	NE	4	
BK. *Penpont,*	21 24	114 18		NNW	2	
S.S. *Whampoa,*	19 30	119 42	.56	SSW	9	oq
SH. *Columbus,*	19 08	128 42	.65	W	7	or
S.S. *Activa,*	16 17	118 36	.67	SW	5	c

Pressure had increased in Formosa and at the stations around the N part of the Formosa Channel but had decreased slightly along the S. coast of China while in Luzon there was little change. The most noticeable feature with regard to the wind was the decrease of force at the stations in the north part of the Formosa Channel where the weather had also become wet. The wind directions at all the coast stations was, however, practically the same as on the previous day. A great deal of rain continued to fall at S. Cape but on the S. coast of China the weather remained fine. At Hongkong both upper and lower clouds came from N and a lunar halo was noted.

The S.S. *Whampoa* steering for Hongkong had bad weather the whole day. The wind backed from SW in the morning to S by E at midnight blowing with force 9 in the morning and force 10 in the evening with hard squalls and a high cross sea. At midnight the barometer had fallen to 29.48. These observations show that the vessel was in the rear of a circular depression and as the barometer was falling and wind increasing that she was becoming nearer to the centre. It would have been well, therefore, had the vessel been hove to.

The S.S. *Activa* steering NW½ N for Hongkong had increasing SW wind towards evening with very high sea from NNW and W and slightly falling barometer (midnight 29.65).

The centre of depression XI was at noon in about 20°¼, 118°½ moving very slowly WNW.

On board the ship *Columbus* hove to in the Pacific to the south of depression XII very bad weather was experienced. During the afternoon of the 13th the wind backed to SW by S and blew a whole gale from that quarter during the remainder of the day with a high cross sea and continuous heavy rain with thunder and lightning. They had the lowest barometer reading at 6 a. 29.57 WNW 9 and at midnight it had risen to 29.67. The centre of depression XII was possibly in 21°, 130° moving northwards at noon but this is but a rough approximation.

On the 15th and 16th a depression moving NEward passed to the south of Japan. This may have been depression XII as experienced by the *Columbus* recurving to the NE but no observations are available to connect the two in the meantime.

The following observations are for noon on October 14th :—

COAST STATIONS.

Wusung,	29.94	− .10	E	6	omr	Hoihow,	29.86	.00	WNW	2	b
Foochow,	.81	− .01	ENE	4	or	Fisher Island,	.75	+ .08	SSE	2	cm
Amoy,	.75	+ .03	NE	3	c	South Cape,	.78	+ .10	NE	2	o
Swatow,	.72	+ .01	NE	3	o	Bolinao,	.81	+ .06	SSE	2	o
Hongkong,	.74	.00	N	1	o	Manila,	.81	+ .03	SSW	3	o

VESSELS.

S.S. *Palamed*,	27° 51′	122° 43′	29.86	E 6	
„ *Ningchow*,	24 55	119 32	.70	NE 3	om
„ *Pakshan*,	22 15	114 25	.73	NNW 6	
BK. *Penpont*,	21 44	114 03	...	NNW 5	og
S.S. *Whampoa*,	21 16	117 42	.49	E 10	
SH. *Columbus*,	19 55	129 02	.78	SW 7	ep
S.S. *Activa*,	18 28	116 35	.62	WSW 8	
„ *Apenrade*,	16 16	110 50	.68	NNW 2	b

While the barometer had fallen 0.1 inch on the E coast it was rising slowly around the N part of the Formosa Channel. Gradients had therefore decreased on this part of the coast and the weather improved the NE winds decreasing to force 3 the direction having on the whole veered slightly since the preceding day. A considerable increase of pressure had also taken place in S Formosa with the weather becoming fine and the wind light. In Luzon the barometer was also rising with improving weather the wind being from about S and light in force. In the Swatow district the barometer remained practically steady the wind veering steadily from N 3 at 3 a. to NE 7 at midnight the sky being overcast. At Hongkong the barometer remained steady the whole day the wind being from between N and NNW with average force 1 only. The sky was partially clouded with sm-cum. and cum. coming from NNE.

The S.S. *Pakshan* en route from Hongkong to Swatow and passing into the right hand semicircle had barometer falling with wind veering to NNE 9 at midnight (29.65) with very heavy sea and E swell. The S.S. *Activa* in the left hand semicircle steering NW½N for Hongkong had the wind increasing to a gale from SW in the evening with rain and high cross sea. The barometer was falling slightly (midnight 29.59).

The following is an extract from the log of the S.S. *Whampoa* for October 14th :—

2a.	29.47	SSE	10	mountainous sea, terrific squalls.	
4a.	.44	SSE			
5a.	.40	...		(lowest).	
7.30a.		...		rudder carried away in 20° 54′	117° 34′
10a.	29.44	...			
Noon.	.49	E	10	21° 16′	117° 42′
2p.	.47	...			
4p.	.45	ESE	10		
8p.	.52	...			
Midt.		SSE		moderating.	

The above observations indicate that this vessel was in rear and on the E edge of the centre in the early morning and that she was carried round the centre into the right hand semicircle between 4 a. and noon and thus became on the NE edge, the ship being unmanageable owing to loss of steering gear. During the evening she appears to have been left behind and the wind moderated and veered again. The centre at noon on the 14th may be placed a few miles to the SSW of the *Whampoa's* position in 21° 00′, 117° 30′ which agrees very well with all the other observations. It was moving very slowly towards NW by W and had only covered a distance of 70 miles during the previous 24 hours. This slow rate of advance is not unusual with depressions originating in a troughlike area of low pressure as this one appears to have done. They generally move very slowly at first, the increased speed usually being coincident with greater development. On this day the disturbance as a definite depression was lost sight of at the Hongkong Observatory but the morning notification stated that "the barometer appeared to remain low in Formosa."

The following are the observations for October 15th at noon :—

COAST STATIONS.

Wusung,	29.91	− .03	NE	4	omd	Hoihow,	29.81	− .05	N	2	b
Foochow,	.85	+ .04	calm		cm	Fisher Island,	.81	+ .06	ENE	1	c
Amoy,	.80	+ .05	NE	4	c	Takow,	.84	+ .08	SSE	3	opq
Swatow,	.71	− .01	NE	5	or	South Cape,	.83	+ .05	ENE	1	c
Breaker Point,	.65	− .05	NE	8	omd	Bolinao,	.83	+ .02	S	2	c
Hongkong,	.72	− .02	NNW	3	or	Manila,	.88	+ .07	S	3	b

VESSELS.

S.S. *Palamed*,	24° 34′	119° 27′	29.82	E 2	
„ *Pakshan*,	(22 50	116 25)?	.62	ENE 9	
„ *Ningchow*,	(22 30	115 50)?	.39	NNE 8	orq
„ *Whampoa*,	22 00	117 50	.66	ESE 7	
„ *Zafiro*,	21 37	118 37	.75	S 5	o
BK. *Penpont*,	21 42	114 26		NW 7	
SH. *Columbus*,	20 54	127 41	29.85	WSW 5	c
S.S. *Activa*,	19 44	116 12	.60	S 8	
„ *Apenrade*,	19 12	112 23	.65	NW 3	b

Around the N part of the Formosa Channel the barometer had risen and continued rising during the day with light breezes chiefly from NE and fine weather. In S Formosa the barometer was almost steady the wind being light from SE to SW with fine weather. At Lamocks the wind increased in force from NE 4 at 3 a. to NE 7 at noon. It had veered to E 8 at 3 p. (29.69) and to SE 7 at 6 p. decreasing to SE 4 at midnight (29.75). The weather was overcast and showery the whole day. At Breaker Point the wind was steady at NE force 7 to 8 the whole day up to 9 p. but veered to E 7 at midnight (29.69). The weather was overcast with rain. At Hongkong the barometer remained practically steady until after 1 p. when it began to fall. At 4 p. 29.63, 8 p. 29.63, and midnight 29.56. During the afternoon the Hongkong Observatory notified "Depression SE of Hongkong." The NNW wind increased to force 5 at 4 p. and force 6 at 8 p. and the direction then commenced backing and was from NW force 7 at midnight. The sky was overcast, and up to 4 p. the lower clouds came from NE and ENE, later the direction could not be obtained. Rain fell during the afternoon and again towards midnight.

At sea the S.S. *Pakshan* off the coast in the neighbourhood of Breaker Point had the lowest barometer 29.61 at 4 a. with NNE 9 very hard rain squalls and heavy cross sea. At noon the wind had veered to ENE 9 the vessel being in the right hand semicircle, and on entering the Swatow river at midnight the wind had decreased to ENE 4 with barometer 29.71 rising.

The S.S. *Ningchow* off the coast between Breaker Point and Pedro Blanco, was making for Hongkong and they had the wind increasing from a fresh breeze at 8 a. to a fresh gale at noon from about NE with rain. At 3.47 p. Pedro Blanco (22° 18′, 115° 06′) being then abeam they had NE by E force 9 to 10 with high sea and very hard rain squalls. At 8 p., the vessel being hove to about 20 miles to the S of Pedro Blanco, they had NNW 12 with the lowest barometer reading 29.28. There was a heavy confused sea, which did some slight damage on board, and very heavy rain squalls. At 10 p. the barometer had risen to 29.37 with wind backing towards W. At 11 p. the wind was moderating and still decreasing at midnight, the barometer having risen to 29.52 at the latter hour.

This vessel had run across the path just in front of the centre which must have passed a little to the E of her position at 8 p. It appears that the disturbance had increased in violence during the previous 24 hours and since encountered by the *Whampoa* but the depression at the centre was probably very moderate even now.

The S.S. *Zafiro* en route Amoy to Manila passed from the right-hand posterior semicircle towards the rear of the storm during the day at a distance of about 120 miles. They had however no more wind than a fresh breeze which veered from ESE in the morning to S at midday and towards evening they had only S 2 with clear sky. A high confused sea prevailed during the day chiefly from S.

The S.S. *Activa* on a NW course in the left-hand semicircle had been obliged to heave to between the evening of the 14th and morning of the 15th the sea being very high and irregular and the wind blowing a strong gale from between S and WSW so that they were unable to steer the ship. The barometer was rising and during the evening the wind and sea decreased somewhat and the sky partially cleared. This vessel was about 100 miles to the South of the centre at noon.

The centre was at noon on October 15th in 21° 35′, 116° 00′, and it passed probably within 15 miles to the eastward of the *Ningchow* at 8 p. moving very nearly NNW at about 6 miles per hour. Its speed had therefore increased since the previous day but it still moved slowly. Fully developed typhoons usually travel much more quickly in this latitude.

The following observations are for noon on October 16th:—

COAST STATIONS.

Wusung,	29.96	+ .05	NNE	3	c	Canton,	29.73	− .03	NNW	1	ogr
Kiukiang,		− .04	NE	1	og	Hongkong,	.70	− .02	W	6	or
Foochow,	.94	+ .10	NE	3	or	Fisher Island,	.85	+ .04	SE	2	c
Amoy,	.85	+ .05	NE	3	or	South Cape,	.86	+ .03	NE	2	c
Swatow,	.74	+ .03	SSE	3	o	Bolinao,	.85	+ .02	SSW	2	b
Breaker Point,	.77	+ .12	SE	5	om	Manila,	.88	.00	SW	1	b

VESSELS.

S.S. *Palamed*,	22° 45′	116° 23′	29.79	ESE	
„ *Activa*,	21 28	114 39	.75	SW	5
BK. *Penpont*,	22 06	114 49	...	WSW	6
S.S. *Zafiro*,	17 44	119 20	29 84	S	2 c

Pressure had increased generally along the SE coast of China between Breaker Point and Foochow but the barometer began to fall again towards evening around the N part of the Formosa Channel where winds were light from NE, with a tendency to veer, and the weather showery.

In the Swatow district the wind veered steadily during the day with rising barometer and showery weather.

At Breaker Point they had SE 7, 29.68 at 3 a. and at 9 p. SSW 3 29.79 with fine weather. At Hongkong the barometer attained its lowest point, 29.50, at 4 a. with WNW 8. The strongest wind was at 6 a., W by N 9 to 10, and after that hour the mercury rose quickly and at 9 a. read 29.66, wind W 9. At 3 p. the wind had decreased to force 4 and had backed to WSW with barometer 29.72. Later there was some veering of the wind direction which was at 8 p. NW 1 barometer 29.78. Rain fell almost continuously between 1 a. and 5 p. ceasing, however, at the latter hour. During this period 3.47 inches was registered.

The centre entered the coast about 40 miles to the ENE of the Colony at 4 a. moving towards NNW. At noon it was in 23° 00′, 114° 40′ and passed perhaps 75 miles to the E of Canton at 3 p., where they, however, had the lowest recorded reading of the barometer 29.58 at 3 a. with wind NE 2. At 3 p. they had 29.70, NNW 1, with very wet gloomy weather. The barometer had therefore risen since 3 a. although the centre had become somewhat nearer to Canton. We may therefore conclude that the disturbance at once commenced to fill up on entering the coast. At 9 p. they had 29.78, NW 1, gr.

The bark *Penpont*, in the left-hand semicircle, apparently hove to a few miles to the SE and ESE of Hongkong, had the wind backing on the evening of the 15th and at 4 a. on the 16th they had typhoon force from SW with very hard rain and a tremendous sea. The vessel was perhaps 30 miles to the South of the centre at this time. They unfortunately made no barometric observations.

The following observations are for noon on October 17th :—

COAST STATIONS.

Wusung,	29.93	− .03	ESE	3	omd	Amoy,	29.81	− .04	SE	2	c
Wuhu,	...	− .08	E	2	c	Swatow,	.80	+ .06	SSW	3	c
Kiukiang,	...	− .09	calm		or	Breaker Point,	.83	+ .06	S	4	c
Hankow,	...	− .09	N	1	o	Hongkong,	.83	+ .13	WNW	1	o
Foochow,	29.88	− .06	NNE	2	or	Canton,	.84	+ .11	calm		c

Pressure had increased on the S coast particularly at Hongkong and Canton while it had decreased between Amoy and Foochow and along the Yangtzekiang.

The depression appears to have recurved towards NE and is faintly indicated in about 25°½, 115°½ at noon on the 17th.

As far as can be judged, in the absence of observations from the China Sea this depression (XI) was irregular and lacked concentration at any rate until the 13th, the area of comparatively low pressure embracing a large area. On the 14th it appears from the observations made on board the S.S. *Whampoa* that the depression near the centre was inconsiderable and that the strength of the wind did not exceed force 10. On the 15th further development had taken place and typhoon force of wind was felt near the centre and force 8 within a distance of 75 miles all round the centre. The depression at the centre amounted to at least 0.8 inch below normal on this day. The rate of advance increased with development. During the 24 hours from noon on the 13th to noon on the 14th the distance traversed was 70 miles, 14th to 15th, 90 miles and 15th to 16th, 125 miles roughly corresponding to 3, 4 and 5 miles per hour respectively.

On the 18th and 19th October, a considerable decrease of pressure took place in Luzon owing to a small depression which appears to have been off the coast near Bolinao on the latter day. We have the following observations for noon on the 19th :—

Hongkong,	29.89	+ .03	E	1	b	Bolinao,	29.71	− .12	E	3	o
South Cape,	.89	+ .05	NE	3	c	Manila,	.77	− .05	calm		f

S.S. *Almora*,	14°10′	112°46′	29.86	N	2 b
„ *Ashington*,	13 36	110 12	.94	N	2 b

At Bolinao the wind veered to SE and S during the day, but the force was 3 only. The barometer rose in the afternoon and the weather was showery.

On the 20th at noon we have the following observations :—

Hongkong,	29.89	.00	E	4	c	Bolinao,	29.83	+ .12	S	2	b
Hoihow,	.90	+ .01	NE	2	c	Manila,	.86	+ .09	SE	1	b

S.S. *Almora*,	17°19′	113°56′	29.68	SE	7 orq
„ *Ashington*,	17 01	111 17	.86	NW	6 or

The barometer had risen quickly in Luzon and the weather had become fine. At Hongkong, the barometer remained steady but the wind increased to force 6 to 7 from E at 6 p. At Hoihow, the barometer fell to 29.86 at 9 p. with NE 4 and wet squally weather.

Both the *Ashington* and *Almora* were steering for Hongkong. The latter had the wind veering from N 6 (29.70) at 4 a. to SE 7 at 8 a. with the lowest reading of the barometer (29.67) at the latter hour. The weather was wet and squally with considerable sea. After noon the SE wind decreased gradually in force with quickly rising barometer and improving weather. At midnight they had 29.85 SE 4, overcast with sea moderating. The vessel was in the right hand semicircle and depression XIII, which was of insignificant dimensions, had passed a short distance to the South of their position between 4 a. and 8 a. The *Ashington*, towards which the centre was advancing at noon, progressed towards NNE and passed into the right hand semicircle—a dangerous proceeding as a rule, but on this occasion of no importance owing to the disturbance being of no great intensity. At midnight the barometer had fallen to 29.79 and the wind had veered to NE blowing strongly with very high sea and overcast weather. The centre was passing probably within 50 miles to the south of the vessel's position. At noon the centre of depression XIII was in 17° 0′, 113° 15′ moving towards WNW.

On the 21st at noon we have the following observations :—

Hongkong,	29.93	+ .04	E	4	o	Pakhoi,	29.88	+ .03	ENE	4	op
Hoihow,	.88	− .02	E	3	o	Haiphong,	.84	− .01	ENE	3	o

S.S. *Almora*,	21°18′	113°43′	29.88	ENE	3 c
„ *Ashington*,	19 48	112 18	.97?	E	5 b

The wind had veered at Hoihow and the barometer was rising with improving weather. The depression appears to have passed into the S. entrance to the Gulf of Tongking.

On the morning of the 20th a depression of considerable intensity arriving from the interior of N. China entered the Gulf of Pechili moving eastward. It passed to the north of Taku during the early morning and between 9 a. and 3 p. the centre appears to have passed almost over Howki (near Chefoo) the wind direction changing from SE 5 at the former to WNW at the latter hour. Continuing its course towards E it passed north of the NE Shantung Promontory lighthouse during the evening and to the north of Chemulpo (Korea) during the early morning of the 21st, SW 10 being felt there at 9 p. on the 20th changing to WNW 8 at 3 a. on the 21st. Later the depression passed into the Sea of Japan and according to the Japanese weather maps the centre was off the W coast of Hokkaido at 2 p. and cyclonic gales from SE in the extreme north to W in the extreme west blew over the whole of Japan at this time. The depression had also become much deeper, the corrected reading of the barometer being as low as 28.86 at 2 p. near the centre, while on the 20th, when the depression was situated in the Pechili Straits, the lowest pressure appears to have exceeded this by about 0.5 inch.

This depression caused a break in the NE monsoon on the East coast of China between Foochow and Shanghai, gentle breezes from S. being felt at the mouth of the Yangtze and calms in the neighbourhood of Foochow on the 20th but owing to the great and rapid increase of pressure in rear of the depression, strong winds from NW, amounting to gales in some places, suddenly sprang up a considerable fall of temperature occurring simultaneously. This change occurred about midday on the 20th along the Yangtze and in the evening at the mouth of that river. Next day, the 21st, the change came in the neighbourhood of Foochow about 9 a. moderate to fresh NE gales spreading down to the S. entrance of the Formosa Channel during the evening. The NE monsoon blew strongly on the China Coast during the next two or three days.

On the 26th and 27th October the NE monsoon was again interrupted by a similar depression to the foregoing which was, however, moving eastward in a somewhat higher latitude than the preceding one. The centre passed north of Newchwang during the early morning of the 28th. On this day also the stations in Luzon were under the influence of a typhoon advancing from the Pacific.

The following observations are for noon on October 28th :—

COAST STATIONS.

Newchwang,		+ .37	N	8	bm	Swatow,	29.90	− .09	SSW	2	bf
Chefoo,		+ .19	NNW	9	b	Hongkong,	.93	.00	WSW	1	b
Yuensan,		− .30	WSW	5	cq	Hoihow,	.97	+ .06	NW	1	c
Chemulpo,		− .28	SW	5	orf	South Cape,	.91	− .04	SW	2	c
Wusung,	29.94	+ .06	NW	4	c	Bolinao,	.88	− .05	NE	3	c
Kiukiang,		+ .09	W	3	or	Manila,	.87	− .07	NW	1	c
Foochow,	.88	− .08	NNW	3	cq	Tayabas,	.86	− .08	NNE	2	o
Amoy,	.91	− .07	SE	2	b	N. Caceres,	.80		NE	3	c

VESSELS.

SH. *Bengale*,	18°02′	116°31′		ESE	1 c
BK. *Darra*,	13 38	119 50		NNW	2
S.S. *Camorta*,	12 50	109 41	29.96	Var.	2

As the depression in the N moved eastward the moderate SW breezes gave place to fresh and strong gales from N and NW with rapidly rising barometer at the N China stations on the morning of the 28th. This rapid rise of the barometer and shift of wind to NW was also experienced at the East coast stations, the wind however being less strong and towards the evening of the 28th the stations on the SE coast had the barometer rising rapidly and the wind increasing quickly from NE.

In Luzon the barometer was falling quickly and the wind increasing from the N in S Luzon, the typhoon (XIV) being apparently near the SE coast of that island.

The following observations are for noon on October 29th :—

COAST STATIONS.

Newchwang,		+ .24	NW	3	c	Amoy,	30.11	+ .20	NE	5	c
Chefoo,		+ .28	NW	6	cv	Swatow,	.14	+ .14	NE	2	or
Yuensan,		+ .52	NW	6	bq	Hongkong,	.00	+ .07	N	3	o
Chemulpo,		+ .54	NW	5	c	Hoihow,	.00	+ .03	NE	3	o
Wusung,	30.31	+ .37	NW	6	c	S. Cape,	29.88	− .03	NE	8	cq
Kiukiang,		+ .27	NE	6	c	Bolinao,	.69	− .19	NNE	7	o
Foochow,	.20	+ .32	NE	3	o	Manila,	.64	− .23	NNE	7	o
						Tayabas,	.59	− .27	ESE	2	o

VESSELS.

S.S. *Zafiro*,	21°09′	118°38′	29.90	NE	6
SH. *Bengale*,	18 14	116 45		N	1 c
BK. *Darra*,	14 8	119 28		NNW	9 rq
S.S. *Camorta*,	16 10	110 37	.95	N	2 c

The depression in the north had moved across the Sea of Japan and was off the extreme N of Japan on this day. Pressure had continued increasing over China where gradients were now steep and a heavy monsoon blew off the coast of the strength of a strong gale in the Formosa Channel. In Luzon the barometer had fallen very quickly. The centre of the typhoon was moving along the southern coast and winds of typhoon force were experienced at Tayabas. At Manila they had the wind veering from N 9 (29.67) at 10 a. to E 3 (29.58) at 4 p.

The Bark *Darra* was hove to and had the wind rapidly increasing from NNW on the morning of the 29th. The direction remained at NNW a heavy gale with rainsqualls and high sea, causing damage on board, until 8 p. when it commenced to back to NW. At midnight the storm was at its height the direction of the wind being W. Shortly after this the wind fell calm for a few minutes and then the wind came again from SE with vivid lightning. At midnight they entered the only barometric reading (29.20 uncorrected) in the log book.

The centre advanced from the ESE and passed over this vessel just after midnight.

In the absence of detailed observations from the S Luzon provinces the centre may be placed in 13° 15′, 121° 15′ moving WNW at noon on the 29th October.

The following observations are for noon on the 30th October :—

COAST STATIONS.

Wusung,	30.17	− .14	SSW	2	b	Hoihow,	30.01	+ .01	NE	3	or
Kiukiang,		− .15	NNW	1	b	S. Cape,	29.89	+ .01	NE	7	c
Foochow,	.12	− .08	NE	3	o	Bolinao,	.75	+ .06	SSE	3	b
Amoy,	.05	− .06	NE	5	b	Manila,	.80	+ .16	SE	1	c
Swatow,	.01	− .03	E	2	c	Tayabas,	.81	+ .22	S	2	o
Hongkong,	.01	+ .01	E	1	c						

VESSELS.

S.S. *Bellona*,	21°19′	113°17′		NE	5	o
„ *Camorta*,	18 44	111 36	29.92	NNE	7	oq
SH. *Bengale*,	18 41	117 26		NNE	6	o
S.S. *Zafiro*,	17 09	119 11	.78	S	2	o
BK. *Darra*,	14 21	119 30	.50?	SE	7	
S.S. *Phra Chom Klao*,	10 08	107 51	.83	NW	2	b
„ *Gwalior*,	7 44	108 51	.98	NW	2	oqr
„ *Moray*,	7 15	107 55		W	4	og

Owing to another depression in the extreme north pressure had decreased in N China the E and SE coasts being similarly affected but in a lesser degree. Gradients were less steep on the China coast in consequence but a fresh NE monsoon was still blowing along the SE coast. On the S coast pressure was little changed but in S Luzon a great increase was noted in rear of the typhoon. Winds there had also become light from S and SE.

At sea off the Cochin-China coast light NW breezes were blowing and across the China Sea along the parallel of 19° N, moderate gales from NNE. The bark *Darra* now in the right-hand posterior quadrant had a moderate decreasing gale from SE with high confused sea.

The centre at noon on the 30th October was probably about 100 miles to the West of the *Darra* situated in 14° 15′, 117° 30′. There are no observations available to the west of the centre except at considerable distances.

The following observations are for noon on October 31st and November 1st and 2nd :—

October 31st.

COAST STATIONS.

Wusung,	30.19	+ .02	NW	2	c	Hongkong,	29.94	− .07	NE	3	o
Kiukiang,		+ .08	NE	2	b	Hoihow,		.98 − .03	NE	4	og
Foochow,	.11	− .01	NE	2	o	South Cape,		.86 − .03	NE	5	eq
Amoy,	.01	− .04	NE	4	c	Bolinao,		.81 + .06	SSW	3	c
Swatow,	29.96	− .05	ENE	3	b	Manila,		.81 + .01	NE	2	c

VESSELS.

S.S. *Camorta*,	20°52′	114°12′	29.90	NNE	6	
„ *Natal*,	17 42	111 09	.80	NE	6	oq
„ *Bellona*,	17 22	110 34		NNE	7	o
BK. *Darra*,	16 53	119 03		ENE	3	c
S.S. *Fidelio*,	13 50	109 28		NNW	7	or
„ *Phra Chom Klao*,	12 53	109 49	29.80?	NW	9	or
„ *Gwalior*,	11 07	111 10	.77	NW	5	or
„ *China*,	10 55	111 07	.73?	SW	6	og
„ *Moray*,	10 19	110 06	.90?	WSW	8	
„ *Glenfalloch*,	8 10	108 40		NW	5	oqr

November 1st.

COAST STATIONS.

Wusung,	30.30	+ .11	NW	2	b	Hongkong,	30.04	+ .10	NNE	2	o
Kiukiang,		+ .06	NE	2	b	Haiphong,	.02	− .01	NE	3	c
Foochow,	.34	+ .13	NE	4	o	Hoihow,	29.98	.00	NE	5	or
Amoy,	.15	+ .14	NE	4	o	South Cape,	.94	+ .08	NE	7	c
Swatow,	.09	+ .13	NNE	2	o	Bolinao,	.88	+ .07	SE	3	b

VESSELS.

S.S. *Hangchow*,	19°42′	118°41′	29.90	NE	9	or
BK. *Darra*,	17 36	119 12		N	4	
S.S. *Bellona*,	(14 48	110 10)?		E	10	oq
„ *Natal*,	(14 40	110 28)?	.37	S	8	orq
„ *Fidelio*,	14 01	109 09		S	11	orq
„ *China*,	13 18	112 47	.71	SE	7	
„ *Moray*,	12 55	113 36		SSE	6	
„ *Phra Chom Klao*,	12 50	110 34	.63	S	6	
„ *Gwalior*,	12 43	111 51	.69	SSE	6	oq
„ *Glenfalloch*,	11 34	110 49	.70	S	6	c

November 2nd.

COAST STATIONS.

Wusung,	30.30	.00	E	3	c	Hongkong,	30.05	+ .01	NE	3	o
Kiukiang,		− .02	NE	4	c	Haiphong,	29.96	− .06	NNW	4	o
Foochow,	.22	− .02	ENE	4	o	Hoihow,	.99	+ .01	NE	6	or
Amoy,	.14	− .01	NE	5	c	South Cape,	.94	.00	NNE	7	eq
Swatow,	.07	− .02	NE	2	c	Bolinao,	.86	− .02	SW	2	b

VESSELS.

S.S. *Hangchow*,	21°06′	115°06′	29.98	NE	8	
„ *China*,	18 44	113 35	.89	ENE	8	oqr
BK. *Darra*,	18 32	118 28		NE	7	
S.S. *Moray*,	16 20	114 12		NE	4	
„ *Gwalior*,	15 48	114 28	.94	NE	2	b
„ *Phra Chom Klao*,	15 29	113 05	.93?	ESE	4	b
„ *Fidelio*,	15 42	109 51		S	4	
„ *Glenfalloch*,	14 59	113 07	.84	E	2	b
„ *Natal*,	14 10	110 15	.68	S	5	
„ *Bellona*,	11 57	109 28		S	4	o

October 31st.—The barometer was rising over N China but had fallen on the S and SE coasts where a strong NE monsoon prevailed. In Luzon pressure continued to increase slowly with light variable winds. At sea moderate gales from NE, backing, prevailed off the SE coast of Hainan, NW gales off the Annam Coast and moderate gales from about W in 11°, 111°.

The centre at noon on this day was situated in 14° 15′, 113° 30′ moving westward.

NOVEMBER.

November 1st.—In N China a further increase of pressure had taken place and on the SE coast the barometer had risen to the extent of about 0.1 inch or more since the previous day. Around the Gulf of Tongking pressure had scarcely changed but a further rise of the barometer had occurred in Luzon. Strong NE monsoon prevailed on the China Coast and gentle breezes from SE, chiefly, in Luzon. At sea moderate gales from S to SE prevailed in latitude 12°½ and longitude 111° to 114° and typhoon force during the early morning near the centre which was at noon on the Annam Coast in 14° 45′, 109° 00′. The centre passed to the N of Quinhon and to the S of Touron more damage being experienced at the former than at the latter place. At Quinhon they had the wind backing from NW to SW and blowing hardest on the morning of the 1st with great rain. At Touron the wind was from N veering to NE at 3 p. with the lowest reading of the barometer and hard rain squalls.

November 2nd.—Pressure had further increased over N China, but on the E and SE coasts and in Luzon there was a little change since the previous day. At Haiphong in the Gulf of Tongking a moderate decrease had, however, taken place. A very strong NE monsoon blew on the China Coast and in the N. portion of the China Sea and NE winds were evidently advancing to the southward. Off the Annam coast moderate S breezes still prevailed in rear of the typhoon which had apparently moved towards WNW over the land area.

Between October 31st and November 1st several vessels became involved in the bad weather due to this typhoon.

The French Mail steamer *Natal* was *en route* from Hongkong to Saigon and encountered the centre at 7.15 a. on the 1st. They made the following observations :—

Oct.	31,...	Noon, ..	29.80	NE	17°42′	111°09′	Nov.	1,...	6a.	28.36	N	
		2p.	.64						6.30a....	.23	N	
		7p.	.64	NNE					7a.	.11	N	
		10p.	.53						8a.	.31	S	
		Midt. ...	.41	N	14 40	110 28			8.30a....	.46	S	
Nov.	1,...	1a.	.41	N					9a.	.82	S	
		2a.	.21	N					10a.	29.09	S	
		3a.	28.86	N					11a.	.25	S	
		4a.	.72	N					Noon, ...	.37	S	14°40′ 110°28′
		5a.	.58	N								

The wind which had been a strong breeze from NE at noon on the 31st increased in force with frequent heavy squalls from NNE and N during the evening and a violent sea. At midnight it blew with typhoon force from N with rain and the decks were constantly covered with water. At this time the steering gear became disabled but the supplementary gear was fixed with difficulty and the Commander increased the speed of the vessel in the hope of being able to run across the track in front of the centre and thus pass into the manageable semicircle. In this he would have succeeded but unfortunately the supplementary steering gear was soon broken in its turn and all effort to refix it were unavailing. The vessel then fell off with wind abeam and the heavy seas breaking on board rendered all work impossible. The wind continued to increase in force with furious squalls and sea until just after 7 a. when the minimum reading of the barometer (28.11) was attained and the wind fell calm. The calm lasted for about 15 minutes thus giving the calm area a diameter of about 2½ miles in an east and west direction if a speed of 10 miles per hour be accepted as the rate of translation. Lightning was at this time observed in the south and the sea broke on board from all directions. The wind passing through W came to S blowing with great violence and frightful squalls, tearing the sails and awnings to pieces and smashing the top-gallant-masts and yards. The rain was torrential and sea mountainous the latter breaking on board particularly on the after part of the vessel doing much damage. The saloon skylights were smashed and a heavy stream of water poured into the saloon demolishing the partitions. The port whale boat was carried away and two boats smashed at starboard. The barometer was now rising but the situation of the vessel remained critical for about one hour when the wind and sea began to diminish somewhat in force and at 10 a. the weather had so far improved that they were able to look to the damage and begin to take measures for its repair, but it was not until noon of the 2nd that they were able to proceed on their course.

From the barometric observations made on board we find the steepest gradient in front of the centre was equal to 0.52 inch, and in rear, to 1.08 inch in 15 miles, the average gradient in 15 miles within 60 miles in front of the centre corresponding, however, more nearly to 0.3 inch and to 0.4 inch within 40 miles in rear. The gradients were therefore as usual steepest in rear of the centre and the wind most violent there. But these enormous gradients were found at a greater distance in front than in rear and the wind appears to have been in accord with them, the limit of typhoon force being at a distance of about 70 miles in front and at about 30 miles in rear of the centre.

The S.S. *Bellona* was about 30 miles to the west of the *Natal* at noon on October 31st *en route* to Singapore. During the evening they had the barometer falling and the wind increasing to a NNE gale at midnight (29.60 uncorrected) with high confused sea and rain squalls. At 4 a. on November 1st the vessel being in the right-hand semicircle was hove to on the port tack which was the wrong tack for a vessel in that position. At 9 a. they had the lowest barometer reading (29.30) with wind NE by E blowing with furious squalls and veering towards E with rising barometer. At 4 p. the wind was from SE decreasing and towards evening from SSE force 6. The noon positions on October 31st and November 1st are from dead reckoning.

The S.S. *Fidelio* was on October 31st in 13° 50′, 109° 28′ bound for Hoihow. They appear to have hove the vessel to at this time the vessel being in the left-hand anterior quadrant. The barometer was falling rapidly and the wind increasing to a strong W gale at midnight (29.65 uncorrected) with hard squalls and high sea. On November 1st the barometer attained its minimum reading at 10 a. 29.30. The wind had backed gradually from W since midnight blowing with force 10 to 12 with fierce rain squalls and very high sea from N and NE. The barometer rose quickly (11 a. 29.54 2 p. 29.70) with S 8 decreasing at the latter hour. The centre had passed about 40 miles to the N of this vessel's position leaving them in the left-hand posterior quadrant. Comparing these observations with those made on board the *Natal* a discrepancy appears and we have to assume either that the *Natal* was considerably to the west of her given position or that the *Fidelio* was farther east. As the observations made on board the latter vessel are confirmed by those made on the *Phra Chom Klao* to the south of the centre, and also by some rough observations made at the town of Quinhon (13° 50′, 109° 10′) where they had typhoon force from W to SW on the morning of the 1st the position of the *Natal* may be fairly placed a few miles to the westward of the longitude given.

In most cases where vessels become involved in the strong winds, sea and currents within the inner area of a typhoon there is considerable doubt as to the accuracy of their dead reckoning and in

consequence, unless many observations are available, it appears that an error of 50 miles in placing the position of the centre may not be uncommon. It is, at least, quite certain that vessels are frequently found to be out of their reckoning to that extent after being under the above mentioned influences.

The S.S. *Phra Chom Klao* was also in the left-hand anterior quadrant at noon on the 31st. The vessel was hove to until 9 a. on the 1st and during this interval encountered very severe weather. At midnight they had W 10 with high cross sea and furious rain squalls. At 4 a. on the 1st the wind had backed to SW 12 with the lowest reading of the barometer 29.50 uncorrected, at 6 a. SSW 29.52, at 8 a. SSW 29.54 wind and sea rapidly decreasing. During the afternoon and evening they had strong S to SSE winds (8 p. SSE 5 29.82 fine). Both this vessel and the *Fidelio* should have run to the southward on the 31st at noon when the barometer had already commenced falling quickly.

The S.S. *China* and *Gwalior* in the left-hand anterior quadrant and about 250 miles from the centre at noon on October 31st were both very properly hove to at 4 p. on that day, the barometer falling quickly and the weather becoming bad with high cross sea. At midnight they had the wind backing to W 7 with hard rain squalls. At 2 a. on the 1st they had the lowest reading of the barometer 29.54 on board the *China* with wind SW 8 and they then went slow ahead course NE by N, with wind backing to S and decreasing in force slowly, rising barometer and high confused sea. The *Gwalior* had the lowest barometer reading 29.55 at 4 a. with wind SW 7. They stood on their course at 6 a. with rising barometer, wind backing to S decreasing slowly in force, and high confused sea. The centre passed about 150 miles to the northward of these two vessels leaving them in the left-hand posterior quadrant.

The S.S. *Moray* was about 300 miles SW of the centre at noon on the 31st October steering NE by E. They kept their course and had an increasing gale from SW with tremendous swell from N and NW and falling barometer. At 1 a. on the 1st the wind backed to S 9 with hard rain squalls. At 4 a. the barometer commenced rising with wind SSE decreasing and there was a very heavy confused sea. This vessel passed from the left-hand anterior into the left-hand posterior quadrant the centre passing at about a distance of 150 miles to the northward so that by steering a course well to the eastward they had suffered no delay and had brought the vessel into a safe position to the rear of the centre.

This typhoon had gained considerably in intensity during its passage across the China Sea and since it was encountered by the bark *Darra* on the 29th October at midnight.

The following table gives some average wind forces as determined for the period October 31st noon to November 1st noon inclusive :—

Distance from Centre.	In front.	In rear.	Right-hand Semicircle.	Left-hand Semicircle.	
miles.					
50	12	10	12	11	These figures are possibly not strictly accurate at the shorter distances owing to the doubtful positions of those vessels near the centre.
100	10	8	10	10	
150	9	...	9	8	
250	7	6	7	6	

High seas prevailed all over the China Sea to the north of 10° latitude and there was a heavy confused sea within 250 miles of the centre. The area of heavy rainfall included about the same distance in front of the centre but in rear it does not appear to have extended beyond 150 miles.

During its passage across the China Sea the average speed of the typhoon was 10 miles per hour between midnight of October 29th and noon of November 1st the rate being somewhat less than this on the 30th October and rather greater on the 1st November. Its course was westward with a slight inclination to north.

On the 3rd of November typhoon XV made its appearance near SE Luzon.

The following observations are for noon on this day :—

COAST STATIONS.

Wusung,	30.30 + .00	ENE	4	c	South Cape,	29.91 — .03	NNE	5	cv
Foochow,	.17 — .05	NE	3	o	Laoag,	.88	NNE	2	o
Amoy,	.11 — .03	NE	2	c	Bolinao,	.77 — .09	NE	3	o
Swatow,	.02 — .05	ENE	2	b	Manila,	.78 — .07	N	1	o
Hongkong,	.03 — .02	E	2	b	Antimoran,	.71	NW	3	o
Hoihow,	.00 + .01	NE	4	or	Pt. Santiago,	.80	NE	2	o

VESSELS.

BK. *Aron*,	20°10′	123°56′		NE	6	orq
„ *Darra*,	20 04	116 35		NE	9	
S.S. *Gwalior*,	19 14	114 34	29.99	ENE	6	
„ *Phra Chom Klao*,	18 12	113 47		NNE	6	
„ *Fidelio*,	17 39	107 53		NW	5	c
„ *Activa*,	17 31	118 40	.73	NE	6	oq
„ *Zafiro*,	15 53	119 11	.77	NNE	2	
„ *Benledi*,	12 23	111 39		NE	2	

Pressure was decreasing slowly in Formosa and in S. China and rather quickly in Luzon. Strong NE monsoon prevailed on the China Coast and in the China Sea with high seas and in S. Luzon the wind was freshening from the N and NW with overcast skies. The centre appears to have been situated near SE Luzon but the data are insufficient to give the position of the centre of typhoon XV with accuracy.

Observations at noon on November 4th :—

COAST STATIONS.

Wusung,	30.25	− .05	NE	5	c	South Cape,	29.86	− .05	NNE	7	cgd
Foochow,	.14	− .03	NE	3	o	Laoag,	.76	− .12	N	7	o
Amoy,	.01	− .10	NE	5	b	Bolinao,	.58	− .19	NNE	5	oq
Swatow,	29.98	− .04	E	3	b	Manila,	.58	− .20	N	2	oq
Hongkong,	.99	− .04	ENE	1	b	Antimoran,	.59	− .12	SE	1	o
Hoihow,	30.02	+ .02	NE	3	c	Pt. Santiago,	.59	− .21	E	7	o

VESSELS.

BK. *Darra*,	21°45′	115°04′		NE	7	
S.S. *Phra Chom Klao*,	20 36	113 25		NNE	5	o
„ *Activa*,	19 47	117 16	29.82	NE	6	o
„ *Fidelio*,	19 33	108 34		NE	5	c
BK. *Aron*,	20 31	120 06		NNE	7	
S.S. *Zafiro*,	18 39	117 04	.80	NE	9	
„ *Benledi*,	15 11	113 43		NNE	6	q
„ *Ingraban*,	12 06	109 23	.85?	N	6	

Pressure had continued to give way on the China Coast where strong NE monsoon prevailed with fine weather. In Luzon the barometer had fallen rapidly particularly in the south during the preceding 24 hours. At the most southern stations the wind had veered since the previous day. At Bolinao the lowest reading of the barometer occurred at noon and at 2 p. the wind veered to NE 4 and subsequently became light from SSE. In the absence of detailed observations from the S. Luzon stations the centre would appear to have passed to the S. of Point Santiago during the morning and to have been to the SW of that station at noon but as no data are available to the southward of the centre we have very little idea as to the intensity of the disturbance but apparently this was inconsiderable.

The Steamship *Zafiro* and *Activa* in the right-hand front quadrant both steering NW towards Hongkong had the barometer rising very slowly with wind increasing from the NE, between the 3rd and 4th a high cross sea also prevailing. The S.S. *Benledi* also in the right hand front quadrant was steering NNE for Hongkong and towards evening the wind increased to a strong gale from NNE with a tremendous head sea. They entered no barometric observations in the log book. The S.S. *Ingraban* off the Annam Coast at noon steering northward had the wind increasing to N 9 at midnight with barometer (29.78 ?) falling. These observations show that winds were increasing in violence in the China Sea.

Observations for noon on November 5th :—

COAST STATIONS.

Wusung,	30.25	.00	N	6	c	South Cape,	29.85	− .01	NNE	5	ogd
Foochow,	.14	.00	NNE	4	o	Bolinao,	.68	+ .10	SE	3	o
Amoy,	29.97	− .04	NE	3	b	Manila,	.70	+ .12	SE	1	o
Swatow,	.99	+ .01	NNE	2	o	Pt. Santiago,	.72	+ .14	SSE	5	c
Hongkong,	.94	− .05	N	4	o	Antimonan,	.68	+ .09	SSE	1	c
Hoihow,	30.00	− .02	NE	3	o						

VESSELS.

BK. *Aron*,	21°15′	118°02′		NNE	9	q
S.S. *Zafiro*,	21 06	115 02	29.82	NE	8	
„ *Activa*,	20 46	115 30	.87	NE	9	
„ *Benledi*,	16 49	114 40		ENE	9	orq
„ *Polyhymnia*,	(15 40	110 00)?	.76	NW	8	
„ *Ingraban*,	13 40	109 20	.65?	NNW	11	
„ *Congo*,	12 49	110 17	.88	N		
„ *Pakshan*,	10 42	108 36	.78	NNW	2	

These observations show a slight decrease of pressure on the S coast of China and a considerable increase in Luzon, strong NE monsoon prevailed on the China coast and light winds from SE in Luzon except at Point Santiago where there was a fresh breeze. Strong NE gales prevailed in the N

part of the China Sea and NW gales off the Annam coast, high seas prevailing generally over these areas. The observations do not admit of the centre being given for noon with accuracy but its approximate position may be given as 13°¾, 116°¾.

The S. S. *Benledi* was 200 miles NW by N of this position. Unfortunately they made no barometric observations but they had a very heavy gale the whole of the day from NNE except for a short time near noon when the wind was from ENE. There was a tremendous head sea causing damage to boats and they found it necessary to jettison some deck cargo and slow the engines during the morning. Rain fell in deluges and lightning was noted during the night.

The S. S. *Ingraban* put into Quinhon Bay for shelter and there at midnight they had W by N 10. The wind forces observed on board this vessel appear to be over estimated. The S. S. *Congo* steering for Hongkong had the barometer falling to 29.73 at 1.30 p. with wind backing to NW. Her Commander, suspecting a typhoon towards NE, altered his course and wisely ran to the SE, the wind backing slowly. At midnight in 11° 32′, 112° 9′ they had the wind from W and barometer 29.65 with a falling tendency still. They then hove the vessel to.

The position of the *Polyhymnia* is very doubtful and they were apparently making very slow progress to the northward and had barometer practically steady with a NNW gale, high confused sea and thick rain.

The sea observations show that gales were blowing at a distance of 400 miles in front of the centre and at the same distance in the right-hand semicircle, the prevailing monsoon wind being thus considerably augmented in force.

Observations at noon on November 6th, 7th and 8th :—

November 6th.

COAST STATIONS.

Wusung,	30.28	+ .03	NE	4	b	Haiphong,	29.97	− .04	N	2	c
Foochow,	.14	.00	NE	5	o	Hoihow,	.96	− .04	NNE	2	cr
Amoy,	.02	+ .05	NE	4	o	South Cape,	.90	+ .05	NE	4	cd
Swatow,	29.98	− .01	NE	4	o	Bolinao,	.77	+ .09	S	3	o
Hongkong,	.94	.00	N	3	o	Manila,	.82	+ .12	S	2	c

VESSELS.

S.S. *Propontis*,	24°10′	118°34′		NNE	8	c
„ *Activa*,	21 17	114 32	29.87	ENE	5	
BK. *Aron*,	20 48	118 12		NNE	9	q
S.S. *Kong Beng*,	18 32	111 40	.76	NE	8	oqr
„ *Benledi*,	18 00	114 23		NE	8	
„ *Polyhymnia*,	(15 50	110 00)?	.57	NNW	9	or
„ *Ingraban*,	13 47	109 11		WNW	10	or
„ *Pakshan*,	12 26	109 37	.63	WNW	5	or
„ *Congo*,	11 54	112 11	.59	WSW		
„ *Japan*,	10 20	111 47	.81	W	6	oq

November 7th.

COAST STATIONS.

Wusung,	30.17	− .11	ESE	4	b	Haiphong,	29.90	− .07	N	1	o
Foochow,	.11	− .03	NE	3	o	Hoihow,	.86	− .10	NE	7	or
Amoy,	.03	+ .01	NE	5	o	South Cape,	.91	+ .01	NE	4	c
Swatow,	29.95	− .03	ENE	3	o	Bolinao,	.84	+ .07	SE	3	or
Hongkong,	.94	.00	NE	4	o	Manila,	.86	+ .04	SSW	1	c

VESSELS.

S.S. *Activa*,	21°53′	113°22′	29.95	NE	4	c
BK. *Aron*,	21 18	116 59		NNE	8	o
S.S. *Benledi*,	20 50	114 23		ENE	9	orq
„ *Polyhymnia*,	16 17	109 42	.44	NE	10	or
„ *Kong Beng*,	14 36	110 36	.47	SW	12	or
„ *Ingraban*,	14 19	109 23	.53	SW	9	or
„ *Japan*,	13 36	112 42	.74	ESE	1	b
„ *Pakshan*,	13 22	109 52	.56	WSW	9	

November 8th.

COAST STATIONS.

Wusung,	30.05	− .12	ENE	3	od	Pakhoi,	29.89	− .03	N	3	o
Foochow,	.01	− .10	NE	3	o	Haiphong,	.88	− .02	WNW	2	b
Amoy,	29.98	− .05	NE	3	b	Hoihow,	.88	+ .02	NE	2	or
Hongkong,	.95	+ .01	ENE	5	c	Bolinao,	.85	+ .01	SE	2	o

VESSELS.

S.S. *Polyhymnia*,	18°27′	110°55′	29.76	SE	5	
„ *Japan*,	17 20	113 48	.84	E	4	b
„ *Ingraban*,	16 44	110 48	.75	ESE	5	c

November 6th.—Pressure was but little changed on the China Coast except around the Gulf of Tongking where a decided decrease had commenced to take place. In Luzon the barometer continued to rise. Strong NE monsoon reigned on the China Coast the weather being fine except at Hoihow where rain had set in. In Luzon light S breezes prevailed. The centre at noon was situated in 14°½, 113°¼ but there was no vessel within 150 miles of this position at this time. The sea observations show that cyclonic gales were blowing at a distance of about 200 miles to the N, W and S of this position.

November 7th.—Pressure was decreasing over N. China owing to an inland depression which was moving eastward across Mongolia. This depression also affected the SE coast to some extent and around the Gulf of Tongking pressure was decreasing owing to the typhoon which was advancing towards the southern entrance to the gulf. In Luzon, a further rise of the barometer had taken place. Gradients had decreased and the NE monsoon moderated somewhat on the E and SE coasts of China, but an increase of wind force is to be remarked at Hoihow in Hainan where it blew a moderate gale from NE with rain the whole day.

The centre at noon was situated in 15° 30′, 110° 00′, the sea observations showing that heavy gales were blowing within 60 miles of this position.

November 8th.—A further considerable reduction of pressure had taken place over N China and on the SE coast in the neighbourhood of Foochow between the 7th and 8th owing to the depression in the extreme north, which was now, however, passing away to the eastward to the north of Wladiwostok. Gradients had become slight on the E and SE coasts of China in consequence and the NE monsoon very moderate. At Hoihow the barometer was rising and the wind had decreased to a light NE breeze but rain was still falling.

The observations made on board the vessels *Ingraban* and *Polyhymnia* continue to indicate a low pressure to the westward of their positions but the typhoon probably passed into Northern Annam during the evening of the 7th and had perhaps broken up. The observations made at Haiphong fail to indicate any trace of the disturbance except a very slight fall in the barometer but the centre would not have passed within 250 miles of that station presuming it continued to move towards WNW.

Of the vessels encountering bad weather due to this typhoon on the 6th and 7th the S.S. *Benledi* at noon on the 6th, about 200 miles NNE of the centre, had during the early morning of that day the wind veering to NE and blowing a terrific gale with rain squalls and a tremendously high sea. There was some moderating of the wind and sea during the middle of the day but towards evening both wind and sea increased again. The cargo shifted and the vessel had a list to port. On the 7th at noon they were 400 miles NE by N of the centre but still had a heavy gale from ENE to NE with very high sea. This vessel was at no time nearer to the centre than 175 miles and her log thus shows the severity of the wind and sea at great distances in the right-hand semicircle.

The S.S. *Kong Beng* was at noon on the 6th in the right-hand front quadrant at a distance of 250 miles to the NNW of the centre. They were steering S 24° W at between 11 and 12 knots per hour and had the barometer steadily falling from 29.84 at 2 a. to 29.60 at midnight with wind an increasing gale from NE. They had occasional rain squalls and increasing sea which became dangerously high during the evening.

On the 7th they made the following observations :—

	Course true.	*Knots per hour.*	*Barometer.*	
2 a., ...	S 8° W	10.4	29.57	strong NNE gale, dangerous confused sea from NE and NW, thick weather.
4 a., ...	...	10.4	.51	wind backing North, weather threatening.
6.30 a., ...	S	10.4	.47	wind North, weather threatening.
8 a., ...	S 10° E	10.4	.45	do. do.
10 a., ...	...	10.0	.47	wind backed suddenly to W by N and blew with typhoon force.
11 a., ...	S 36° E	...	...	
Noon, ...	S 45° E	...	.47	wind backing southward do.
2 p., ...	S 80° E	8.0	.48	"
4 p., ...	E	8.0	.52	wind and sea moderating, hove ship to heading the sea.
5 p., ...	S 10° W	7.0	..	
6 p., ...	...	...	.55	
8 p., ...	...	6.0	.59	
10 p., ...	...	6.0	.63	SW wind and blowing strong.
Midt., ...	S 20° W	7.0	.72	weather moderating.

Position at noon from dead reckoning 14° 36′, 110° 36′.

The *Kong Beng* ran across the path in front of the centre passing from the right hand front quadrant into the left hand front and subsequently into the left hand rear quadrant but they made the mistake of running across the path with the wind on the port instead of the starboard quarter and in consequence their course took them very nearly into the centre which passed to the northward and probably within 30 miles of the ship between 8 a. and noon on the 7th. The position of the vessel at noon is rather doubtful and the centre has been placed somewhat more to the westward than their

observations imply and more in accordance with the observations made on board the steamships *Ingraban* and *Polyhymnia*, the former vessel having left Quinhon during the morning and the position of the latter being from observation.

The S.S. *Polyhymnia* apparently hove to about 200 miles to the WNW of the centre at noon on the 6th had a strong gale from NNW with high cross sea and falling barometer. At midnight the wind veered to N by E barometer 29.49. During the morning of the 7th the sky cleared somewhat with wind veering to NNE and barometer still falling (4 a. 29.46). The lowest recorded barometer reading 29.44 was made at noon and during the afternoon the wind had further veered to NE by E blowing a heavy storm with rain. At 6 p. they had 29.50 with wind E by N and at midnight 29.69 with wind ESE decreasing. During this day the vessel passed from the right hand front into right-hand rear quadrant the centre apparently passing about 50 miles to the southward at noon.

The S.S. *Congo* which after running to the SE on the 5th had been hove to at midnight, resumed her course towards NNE at 9 a. (29.65 W 8) on the 6th. At noon she was about 175 miles to the SSW of the centre and had a fresh WSW gale and very high cross sea. The barometer fell slightly again as she rapidly progressed and at 8 p. they had 29.57, SW 8. At midnight in 14° 8′, 113° 22′ they had 29.67 SSW 7. At 8 a. on the 7th in 15° 32′, 113° 41′ the barometer had risen to 29.76 with S 5 and high sea. Their manœuvre on the 5th had thus been very successful and they were able to run northward with favourable winds in rear of the centre.

The S.S. *Ingraban* had sheltered in Quinhon Bay (13° 57′, 109° 11′) on the 5th. They had a strong gale from WNW all day on the 6th with barometer at midnight 29.63. Leaving Quinhon on the morning of the 7th and steering northward they were at noon about 75 miles SSW of the centre and had a strong SW gale with rain and the lowest recorded reading of the barometer. At midnight the barometer had risen to 29.63 and the wind had backed and decreased to a strong S breeze.

The S.S. *Pakshan* was steering slowly northward along the Annam Coast on 6th with a strong WNW breeze backing and increasing to a strong gale with high sea and rain and slowly falling barometer. At noon they were about 250 miles SW by W of the centre. At midnight they had WSW 9 29.59. At noon on the 7th they were about 100 miles to the S of the centre with 29.56 WSW 9 and high cross sea. At midnight the barometer had risen to 29.62 and the wind decreased to SW 4 with fine weather.

The S.S. *Japan* was 275 miles to the SSW of the centre on the 6th. They had strong W breezes showery weather and high cross sea. Their course towards NNE was however taking them well to the rear of the centre and the barometer fell slowly while the wind backed and decreased to WSW 5 on the morning of the 7th.

Typhoon XV moved WNW across the China Sea with an average speed of about 8 miles per hour following very nearly the track of the preceding typhoon at an interval of about 6 days. No vessel encountered the actual centre but this typhoon appears to have been of less intensity than its predecessor. The lowest recorded reading of the barometer was made on board the *Polyhymnia* to the north of the centre at a distance of about 50 miles with wind force 11. The most prominent feature of the storm was the strength of the winds at a distance from the centre, in front and in the right-hand semicircle, the prevailing monsoon thus being considerably augmented in force.

The following table gives the average wind forces from observations made at sea between November 5th at noon and November 7th at midnight:—

Distance from centre.	*In front.*	*Right-hand semicircle.*	*In rear.*	*Left-hand semicircle.*
50	10	11	...	11
150	9	10	6	8
250	8	9	4	6
350	7	8	...	...
450	6	8	...	4

This table shows that winds were considerably stronger, at a distance from the centre, in front and in the right-hand semicircle than in rear and in the left-hand semicircle, the difference between the front and rear being particularly marked.

The following average angles between the wind direction and the centre have been determined from observations made within 300 miles of the centre. In front, 135°: right-hand semicircle, 119°: in rear. 119° and in the left-hand semicircle 114°, corresponding to 12, 10½, 10½ and 10 points respectively. The incurvature was therefore about 2 points greater in front than elsewhere. These figures are however derived from but few observations.

When a typhoon during the NE monsoon crosses the China Sea in say 15° N the angle near the centre between wind and centre appears to be nearly 8 points. The winds blowing out of the Tongking Gulf are sometimes directed nearly straight towards the centre at a distance.

A high cross sea prevailed within 250 miles of the centre and high sea was general all over the northern portion of the China Sea.

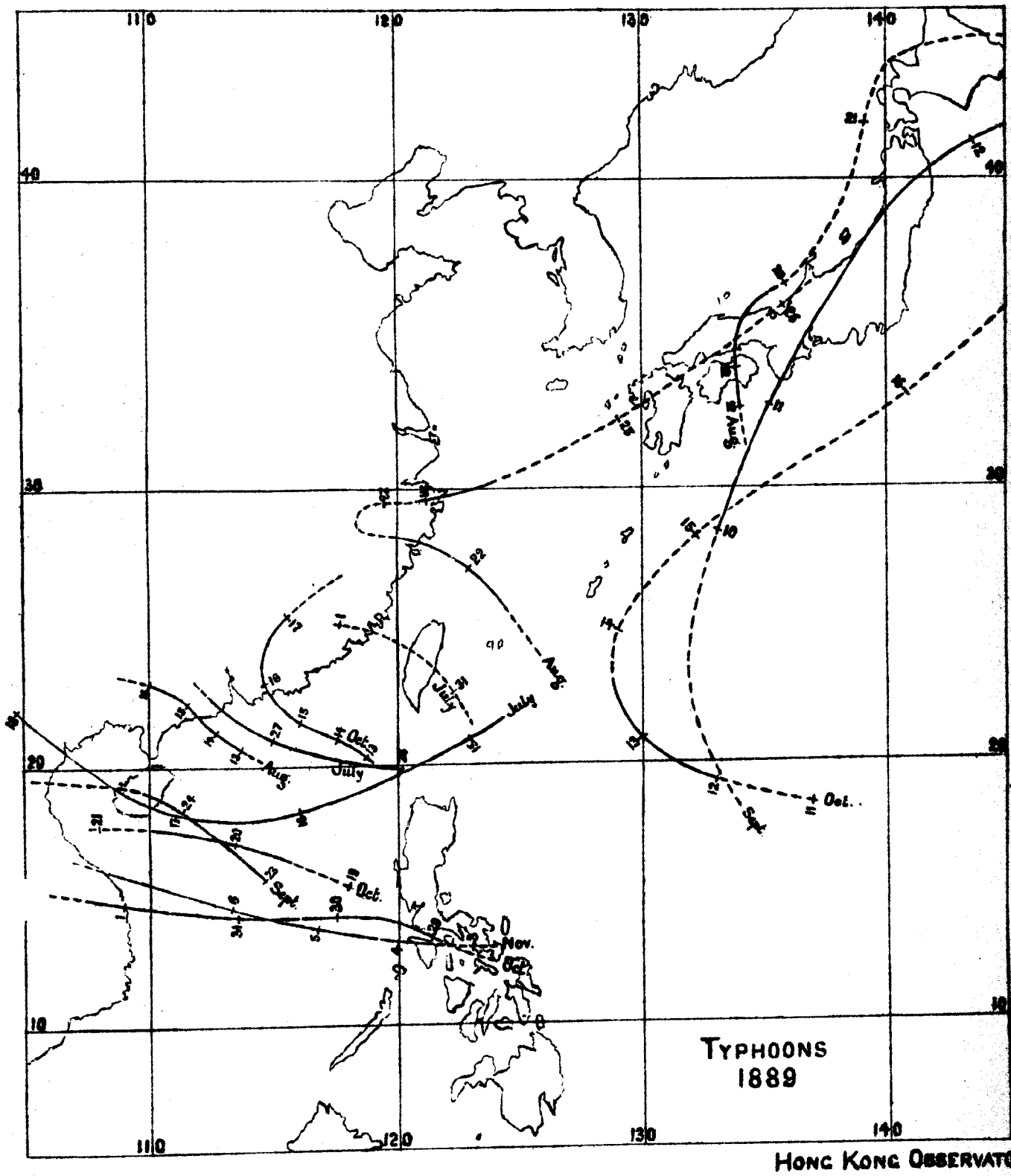
The rain area extended to 300 miles in front of the centre and in the right-hand semicircle to about the same distance, but it does not appear to have reached beyond 150 miles from the centre in the rear and in the left-hand semicircle.

During the period November 29th to December 5th, Luzon was under the influence of what appears to have been either an extensive area of general low pressure or a typhoon advancing towards SE Luzon, but sharply recurving on the 5th while yet to the eastward of that district.

At Bolinao, the barometer fell from 29.92 on November 29th (Hongkong 30.02, South Cape 29.96) to 29.74 on December 2nd, (Hongkong 30.14, South Cape 29.99) and 29.69 on December 4th, (Hongkong 30.12, South Cape 29.92) when it commenced to rise. Winds at Bolinao were light breezes from N up to the 1st December increasing then in force from the same direction until the 4th when it blew a strong N gale. Between the 2nd and 4th heavy rains fell in Luzon. Moderate to strong NE monsoon prevailed on the China Coast during this period and N to NE gales in the China Sea to the north of 13° latitude to the south of which however winds were light and variable.

At Bolinao on the 5th, the barometer had risen to 29.80 with a gentle N breeze and fine weather. At Tayabas, in the southern provinces, the barometer still remained as low as 29.56 with a light N air on this day, but on the 6th it had risen to 29.89 with NNE 3. In the China Sea the NE monsoon was spreading to the southward of 13° latitude on these latter days.

There is no information available to show that any cyclonic storm passed into the China Sea to the South of Luzon and the Luzon observations do not clearly indicate that a typhoon advanced towards and then recurved to the east of that island.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