

STONYHURST COLLEGE  
OBSERVATORY.

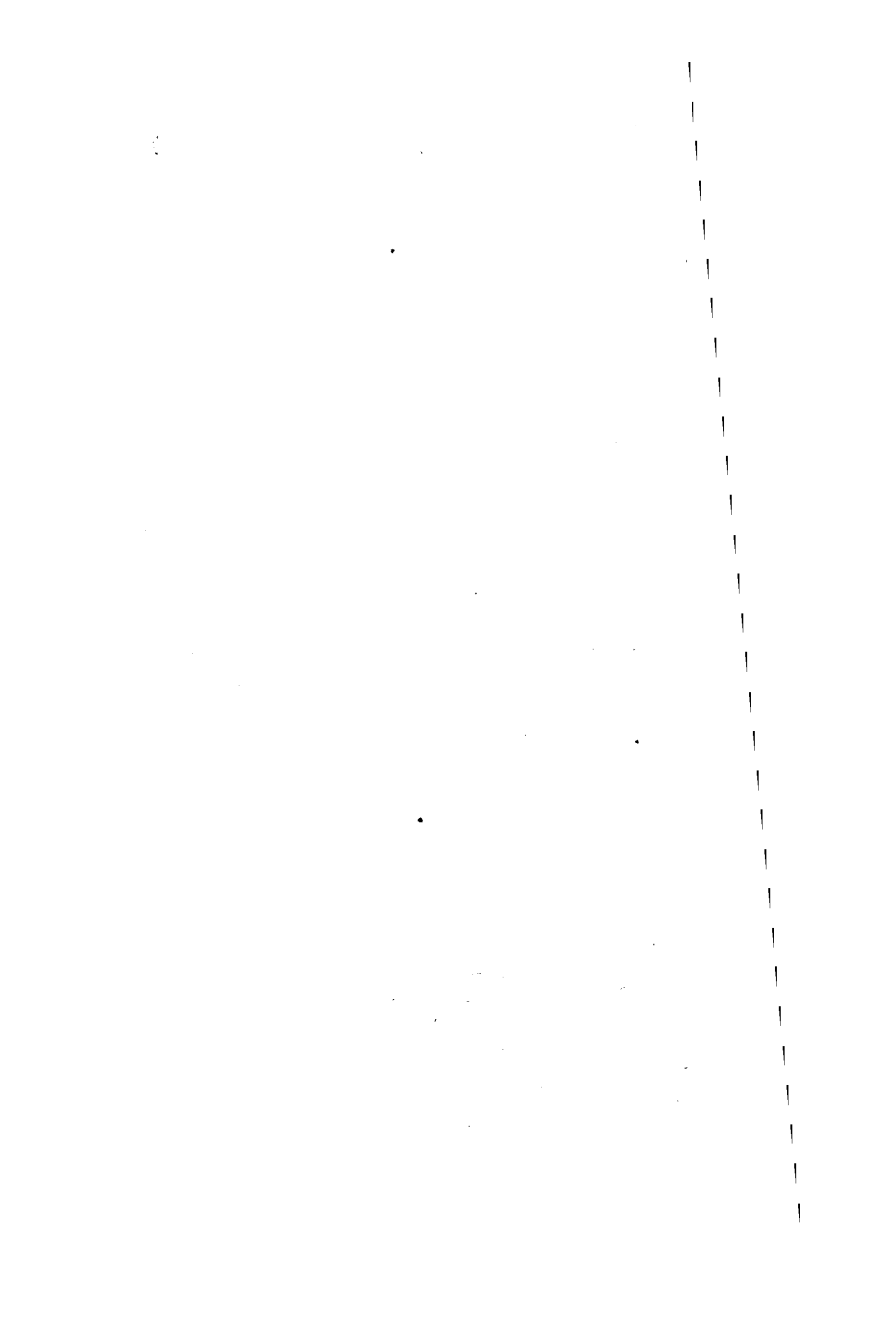
RESULTS  
OF  
METEOROLOGICAL, MAGNETICAL,  
AND  
SOLAR OBSERVATIONS.

BY THE  
REV W. SIDGREAVES, S.J., F.R.A.S.

1896.

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1897.



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## INTRODUCTION.

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THE work of the Meteorological and Magnetical department has been carried on as described in the Introduction 1892. The weekly reports have been sent regularly to the Meteorological Office, and the monthly report to the Registrar General. Occasional special reports have also been supplied to applications.

The continuous photographic records of Meteorological and Magnetical changes have been broken only by occasional troubles with the gas supply.

Tracings of the horizontal magnetic direction and force have been supplied to several applications, in connection with distant earthquakes; but we have found nothing in the movements of the magnets that could be attributed to any but magnetical disturbance. Even the nearer earth tremor of December made no impression on the magnetic curves. The tremor was felt slightly but distinctly by a very few of the residents in our neighbourhood

Over 350 photographs of stellar spectra have been obtained with the compound prism spectrograph in combination with the Perry-Memorial objective. These include some trials with the small dispersion of a single half-prism of aluminium glass, in order to provide the means of learning the condition of the calcium line K, in the spectra of small stars. The length of the spectrum is too small to show a fine line; but it distinguishes well between a broad, medium, and thin line, in stars to the 6th magnitude.

WALTER SIDGREAVES, S.J.

# Stonyhurst Observatory.

Lat 53° 50' 40"N. Long. 9m. 52<sup>s</sup>. 68. W. Height of the Barometer  
above the sea 381 ft.

## METEOROLOGICAL REPORT.

JANUARY, 1896.

Result of Observations taken during the Month.	Mean for the last 49 years	
Mean Reading of the Barometer . . . inches	29·888	29·446
Highest „ on the 9th.. „	30·597	30·286
Lowest „ on the 15th „	28·821	28·590
Range of Barometer Readings .....	1·776	1·696
Highest Reading of a Max. Therm. on the 2nd	54·0	51·5
Lowest Reading of a Min. Therm. on the 20th	25·0	20·4
Range of Thermometer Readings .....	29·0	31·1
Mean of all the Highest Readings .....	45·3	42·2
Mean of all the Lowest Readings .....	35·1	32·4
Mean Daily Range ..	10·2	9·8
Deduced Monthly Mean (from Mean of Max. and Min.) .....	40·0	37·0
Mean Temperature from Dry Bulb.....	40·4	37·0
Adopted Mean Temperature.....	40·2	37·0
Mean Temperature of Evaporation.....	38·9	35·9
Mean Temperature of Dew Point .....	37·2	33·7
Mean elastic force of Vapour .....	0·222 in	0·195 in
Mean weight of Vapour in a cub. ft. of air.....	2·6 gr	2·4 gr
Mean additional weight required for saturation	0·4 gr	0·4 gr
Mean degree of Humidity (saturation 1·00) ..	0·90	0·86
Mean weight of a cubic foot of air .....	554·6 gr	549·7 gr
Fall of Rain .....	3·343 in	4·098 in
Number of days on which Rain fell .....	15	19·7

## JANUARY 1896.

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
	3	2	2	0	4	6	14	0
Mean Velocity in miles per hour	4.8	5.1	3.9	0	6.7	8.2	11.0	0
Total No. of miles for each Direction.	343	245	187	0	646	1179	3682	0

The total No. of miles registered during the month was 6282.

The max. Velocity of the wind was 48 miles per hour, W. on the 15th at 1.0 p.m.

Mean amount of Cloud (an overcast sky being indicated by 10.0) 8.4

In the month of January the highest reading of the Barome-

ter during 49 years, was on the 9th, in 1896, and was.... 30.597

The lowest                   ,,                   26th, 1884                   ,,                   .... 27.803

The highest Temperature                   7th, 1887                   ,,                   .... 59.9

The lowest                   ,,                   15th, 1881                   ,,                   .... 4.6

The highest adopted mean temperature of the month, 1875 42.5

The lowest                   ,,                   ,,                   1881.... 29.2

### TABLES OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure                   ..                   .. + 0.442 inches

Monthly range                   ,,                   ..                   .. + 0.080                   ,,

Mean of highest temperatures                   ..                   .. + 3.1 degrees

Mean of lowest                   ,,                   ..                   .. + 2.7                   ,,

Mean daily range                   ,,                   ..                   .. + 0.4                   ,,

Adopted mean temperature                   ..                   .. + 3.2                   ,,

Total rainfall                   ..                   ..                   ..                   .. — 0.755 inches

The highest reading of the barometer during the last 49 years occurred on the 9th when the mercury stood at 30.597 inches.

Frost on the 5th, 6th, 8th—12th, 14th, 15th, 20th—23rd, 28th and 29th. Hoar Frost on the 21st. Snow on the 9th. Hail on the 13th and 15th. Heavy Rain on the 14th and 24th. Fog on the 7th. Gales of Wind on the 15th and 16th.



## FEBRUARY, 1896.

Results of Observations taken during the Month.	Mean for the last 49 years.	
Mean Reading of the Barometer . . . . . inches	29·868	29·517
Highest                    ,,            on the 3rd    ,,	30·316	30·072
Lowest                    ,,            on the 20th  ,,	29·160	28·708
Range of Barometer Readings . . . . .	1·156	1·869
Highest Reading of a Max. Therm. on the 8th	53·8	52·0
Lowest Reading of a Min. Therm. on the 17th	22·5	22·1
Range of Thermometer Readings . . . . .	31·3	29·9
Mean of all the Highest Readings . . . . .	46·0	44·2
Mean of all the Lowest Readings . . . . .	33·7	33·4
Mean Daily Range . . . . .	12·3	10·8
Deduced Monthly Mean (from Mean of Max and Min.) . . . . .	39·5	38·2
Mean Temperature from Dry Bulb . . . . .	40·1	38·2
Adopted Mean Temperature . . . . .	39·8	38·2
Mean Temperature of Evaporation . . . . .	38·2	36·8
Mean Temperature of Dew Point . . . . .	36·2	34·5
Mean elastic force of Vapour . . . . .	0·213 in	0·192 in
Mean weight of Vapour in a cub. ft. of air . . . . .	2·5gr	2·4gr
Mean additional weight required for saturation	0·5gr	0·4gr
Mean degree of Humidity (saturation 1·00) ..	0·87	0·87
Mean weight of a cubic foot of air . . . . .	554·5gr	549·0gr
Fall of Rain . . . . .	2·691 in	3·477 in
Number of days on which Rain fell . . . . .	13	16·8

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
	1	6	3	3	2	3	11	0
Mean Velocity in miles per hour	1·9	4·4	10·1	6·4	14·9	6·1	10·1	0
Total No. of miles for each Direction	47	632	729	462	713	437	2659	0

The total number of miles registered during the month was 5679. The max. Velocity of the wind was 32 miles per hour, S.S.W., on the 8th at 2 p.m.

## FEBRUARY, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0)				7·8
In the month of February, the highest reading of the Barometer during 49 years, was on the 11th, in 1849, and was ..				30·452
The lowest	,,	6th, 1867	,,	.... 28·208
The highest Temperature	,,	8th, 1877	,,	.... 58·3
The lowest	,,	18th, 1895	,,	.... 8·0
The highest adopted mean temperature of the month, 1869....				44·0
The lowest	,,	,,	1855....	28·6

### TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure	..	..	+	0·351 inches
Monthly range	,,	..	—	0·213 ,,
Mean of highest temperatures	..	..	+	1·8 degrees
Mean of lowest	,,	..	+	0·3 ,,
Mean daily range	,,	..	+	1·5 ,,
Adopted mean temperature	..	..	+	1·6 ,,
Total rainfall	..	..	..	— 0·786 inches

Frost on the 2nd, 4th, 6th, 7th, 13th, 17th—19th, 21st—27th.

Heavy Rain on the 29th. Fog on the 5th, 6th 14th. Lunar Halo on the 24th and 25th.

## MARCH, 1896.

Results of Observations taken during the Month.	Mean for the last 49 years.	
Mean Reading of the Barometer..... inches	29.313	29.466
Highest " on the 10th "	29.880	30.076
Lowest " on the 3rd "	28.180	28.666
Range of Barometer Readings .....	1.700	1.410
Highest Reading of a Max. Therm. on the 25th	58.0	57.2
Lowest Reading of a Min. Ther. on the 30th	28.8	22.5
Range of Thermometer Readings .....	29.2	34.7
Mean of all the Highest Readings .....	50.3	47.3
Mean of all the Lowest Readings .....	35.3	34.1
Mean Daily Range.....	15.0	13.2
Deduced Monthly Mean (from Mean of Max. and Min.) .....	41.8	39.8
Mean Temperature from Dry Bulb .....	42.6	40.0
Adopted Mean Temperature.....	42.2	39.9
Mean Temperature of Evaporation .....	40.0	37.9
Mean Temperature of Dew Point .....	37.3	35.4
Mean elastic force of Vapour .....	0.223 in	0.206 in
Mean weight of Vapour in a cub. ft. of air....	2.6gr	2.4gr
Mean additional weight required for saturation	0.5gr	0.5gr
Mean degree of Humidity (saturation 1.00) ..	0.84	0.85
Mean weight of a cubic foot of air .....	541.6gr	546.5gr
Fall of Rain .....	7.079 in	3.202 in
Number of days on which Rain fell .....	27	17.6

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
		3	1	0	1	2	6	16
Mean Velocity in miles per hour	7.0	5.8	0	6.8	13.8	7.3	16.4	14.1
Total No. of miles for each Direction	505	139	0	162	664	1052	6288	676

The total number of miles registered during the month was 9486.  
 The max. Velocity of the wind was 46 miles per hour, W. by S.,  
 on the 16th at 2-0 p.m.

## MARCH, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0)	8·4
In the month of March, the highest reading of the Barometer during 49 years, was on the 6th in 1852, and was....	30·401
The lowest	3rd, 1896 .. 28·180
The highest Temperature	25th, 1871 .. 68·0
The lowest	6th, 1886 .. 11·5
The highest adopted mean temperature of the month, 1871..	44·0
The lowest	1855 and 1892 .. 35·6

## TABLES OF DIFFERENCES.

The signs + and - mean respectively above and below the monthly average.

Mean barometric pressure	..	..	-	0·153 inches
Monthly range	..	..	+	0·290 ..
Mean of highest temperature	..	..	+	3·0 degrees
Mean of lowest	..	..	+	1·2 ..
Mean daily range	..	..	+	1·8 ..
Adopted mean temperature	..	..	+	2·3 ..
Total rainfall	..	..	+	3·877 inches

Frost on the 3rd, 9th, 10th, 12th—15th, 18th, 19th, 22nd—24th, 27th, 29th—31st. Hoar Frost on the 10th. Snow on the 3rd, 19th, 26th, 28th. Hail on the 3rd, 4th, 5th, 13th, 28th. Heavy rain on the 3rd, 5th, 7th, 10th, 13th, 25th, 27th. Fog on the 10th. Thunder on the 24th, 25th. Lightning on the 24th. Gales of wind on the 1st, 2nd, 6th, 16th, 20th, 26th.

## APRIL, 1896.

Results of observations taken during the Month.	Mean for the last 49 years.	
Mean Reading of the Barometer .... inches	29.716	29.489
Highest ,, on the 21st ,,	30.088	29.972
Lowest ,, on the 29th ,,	29.174	28.811
Range of Barometer Readings .....	0.914	1.161
Highest Reading of a Max. Therm. on the 24th	64.0	66.1
Lowest Reading of a Min. Therm. on the 30th	30.0	28.1
Range of Thermometer Readings.....	34.0	38.0
Mean of all the Highest Readings.....	56.2	55.9
Mean of all the Lowest Readings.....	39.2	37.8
Mean Daily Range .....	17.0	18.1
Deduced Monthly Mean (from Mean of Max. and Min.) .....	46.2	44.5
Mean Temperature from Dry Bulb .....	47.0	44.6
Adopted Mean Temperature .....	46.6	44.6
Mean Temperature of Evaporation .....	43.7	41.7
Mean Temperature of Dew Point .....	40.4	38.2
Mean elastic force of Vapour .....	0.252 in	0.236 in
Mean weight of Vapour in a cub. ft. of air ....	3.0 gr	2.7 gr
Mean additional weight required for saturation	0.7 gr	0.7 gr
Mean degree of Humidity (saturation 1.00) ..	0.80	0.80
Mean weight of a cubic foot of air .....	544.6 gr	542.1 gr
Fall of Rain .....	3.143 in	2.284 in
Number of days on which Rain fell .....	15	14.6

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
	1	1	2	0	0	0	24	2
Mean Velocity in miles per hour	7.8	3.9	3.0	0	0	0	11.3	5.3
Total No. of miles for each Direction	187	93	142	0	0	0	6487	256

The total number of miles registered during the month was 7165.  
 The max. Velocity of the wind was 38 miles per hour, W., on the 11th, at 9 a.m.

## APRIL, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0)	7·4
In the month of April, the highest reading of the Barometer	
during 49 years, was on the 17th, in 1887, and was.....	30·251
The lowest                   ,,           20th, 1868                   ,,           .....	28·358
The highest Temperature    14th, 1852                   ,,           .....	74·1
The lowest                   ,,           13th, 1892                   ,,           .....	20·8
The highest adopted mean temperature of the month, 1865....	48·5
The lowest                   ,,                                   ,,                                   1879 ....	40·7

## TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure	..	..	+	0·227	inches
Monthly range	,,	..	—	0·247	,,
Mean of highest temperatures	..	..	+	0·3	degrees
Mean of lowest	,,	..	+	1·4	,,
Mean daily range	,,	..	—	1·1	,,
Adopted mean temperature	..	..	+	2·0	,,
Total rainfall	..	..	+	0·859	inches

Frost on the 1st, 2nd, 3rd, 13th, 15th, 18th, 20th—24th, 30th.  
 Hail on the 11th, 12th, 13th, 28th, 29th, 30th. Thunder on the 28th.  
 Lunar Halo on the 18th. Gale of wind on the 11th.

## MAY, 1896.

Results of Observations taken during the Month.		Mean for the last 49 years
Mean Reading of the Barometer . . . . inches	29·860	29 516
Highest „ on the 25th „	30·106	29·953
Lowest „ on the 20th „	29·390	28·956
Range of Barometer Readings..... „	0·716	0·997
Highest Reading of a Max. Therm. on the 12th	76·0	72·2
Lowest Reading of a Min. Therm. on the 3rd	32·0	31·3
Range of Thermometer Readings .....	44·0	40·9
Mean of all the Highest Readings.....	65·2	59 9
Mean of all the Lowest Readings .....	42·6	42·1
Mean Daily Range .....	22 6	17·8
Deduced Monthly Mean (from Mean of Max. and Min. ....)	52·2	49·2
Mean Temperature from Dry Bulb.....	53 6	49·7
Adopted Mean Temperature .....	52 9	49·4
Mean Temperature of Evaporation .....	48 6	46·2
Mean Temperature of Dew Point .....	44 3	42 6
Mean elastic force of Vapour .....	0·292in	0·277in
Mean weight of Vapour in a cub.ft. of air ....	3·3gr	3·1gr
Mean additional weight required for saturation	1·3gr	0·9gr
Mean degree of Humidity (saturation 1·00)..	0·73	0·76
Mean weight of a cubic foot of air .....	539·7gr	537·1gr
Fall of Rain .....	0·760in	2·553in
Number of Days on which rain fell.....	5	15·1

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
	2	8	7	0	0	1	12	1
Mean Velocity in miles per hour	10·6	5·6	7·9	0	0	10·2	7·8	4·5
Total No. of miles for each Direction.	509	1071	1321	0	0	245	2242	108

The total number of miles registered during the month was 5496.  
The max. Velocity of the wind was 30 miles per hour, W. by N. on the 20th at 3 a.m. Also 30 miles per hour, direction W. on the 29th at noon.

## MAY, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0)	5·8
In the month of May, the highest reading of the Barometer during 49 years, was on the 2nd in 1895, and was.....	30·217
The lowest                    ,,                    28th, 1877                    ,,                    .....	28·559
The highest Temperature    19th, 1864                    ,,                    .....	82·5
The lowest                    ,,                    4th, 1855                    ,,                    .....	23·5
The highest adopted mean temperature of the month, 1848	55·1
The lowest                    ,,                    ,,                    1855	45·0

## TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure	..	..	+	0·344 inches
Monthly range                    ,,	..	..	—	0·281   ,,
Mean of highest temperatures	..	..	+	5·3 degrees
Mean of lowest                    ,,	..	..	+	0·5   ,,
Mean daily range                    ,,	..	..	+	4·8   ,,
Adopted Mean temperature	..	..	+	3·5   ,,
Total rainfall                    ..                    ..                    ..	..	..	—	1·793 inches

Frost on the 1st, 3rd, 4th, 21st. Hail on the 20th. Thunder on the 20th.



## JUNE, 1896.

Results of Observations taken during the Month	Mean for the last 49 years.	
Mean Reading of the Barometer ..... inches	29.525	29.543
Highest " on the 29th "	29.828	29.896
Lowest " on the 7th "	29.101	29.037
Range of Barometer Readings..... "	0.727	0.859
Highest Reading of a Max. Ther. on the 14th & 15th	82.7	77.5
Lowest Reading of a Min. Therm. on the 25th	42.7	38.8
Range of Thermometer Readings .....	40.0	38.7
Mean of all the Highest Readings .....	70.8	65.9
Mean of all the Lowest Readings .....	51.2	47.9
Mean Daily Range.....	19.6	18.0
Deduced Monthly Mean (from Mean of Max. and Min.) .....	59.2	55.1
Mean Temperature from Dry Bulb .....	59.3	55.2
Adopted Mean Temperature .....	59.3	55.1
Mean Temperature of Evaporation .....	55.0	52.0
Mean Temperature of Dew Point .....	51.2	48.6
Mean elastic force of Vapour .....	0.377 in	0.354 in
Mean weight of Vapour in a cubic ft. of air..	4.2 gr	3.9 gr
Mean additional weight required for saturation	1.4 gr	0.9 gr
Mean degree of Humidity (saturation 1.00)	0.75	0.79
Mean weight of a cubic foot of air .....	526.6 gr	531.2 gr
Fall of Rain .....	3.613 in	3.618 in
Number of days on which Rain fell.....	15	16.1

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
		1	3	2	1	2	2	17
Mean Velocity in miles per hour	8.1	6.3	5.7	5.5	9.3	6.0	9.9	3.5
Total No. of miles for each Direction	194	454	273	131	447	287	4036	170

The total number of miles registered during the month was 5992.

The max. Velocity of the wind was 35 miles per hour, W.N.W., on the 30th at 1 p.m.

## JUNE, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0)	6·9
In the month of June, the highest reading of the Barometer during 49 years, was on the 15th, in 1874, and was .....	30·219
The lowest                    "                    23rd, 1893                    "                    .....	28·813
The highest Temperature    18th, 1893                    "                    .....	88·7
The lowest                    "                    17th, 1892                    "                    .....	34·1
The highest adopted mean temperature of the month, 1858 ..	59·0
The lowest                    "                    "                    1856 and 1860..	52·2

## TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure	..	..	—	0·018 inches
Monthly range	..	..	—	0·132 "
Mean of highest temperatures	..	..	+	4·9 degrees
Mean of lowest	..	..	+	3·3 "
Mean daily range	..	..	+	1·6 "
Adopted mean temperature	..	..	+	4·2 "
Total rainfall	..	..	—	0·005 inches

Heavy Rain on the 4th and 22nd. Thunder on the 3rd, 4th, 6th, 7th, 8th, and 16th. Lightning on the 6th and 7th.

## JULY 1896.

Results of Observations taken during the Month	Mean for the last 49 years.	
Mean Reading of the Barometer . . . . . inches	29.599	29.502
Highest " on the 17th ,,	29.917	29.879
Lowest " on the 25th ,,	29.192	28.994
Range of Barometer Readings..... ,,	0.725	0.885
Highest Reading of a Max. Therm. on the 13th	77.3	78.7
Lowest Reading of a Min. Therm. on the 27th	40.3	42.1
Range of Thermometer Readings .....	37.0	36.6
Mean of all the Highest Readings .....	69.3	67.9
Mean of all the Lowest Readings .....	50.6	50.7
Mean Daily Range .....	18.7	17.2
Deduced Monthly Mean (from Mean of Max. and Min.) .....	58.9	57.7
Mean Temperature from Dry Bulb.....	58.1	57.7
Adopted Mean Temperature .....	58.5	57.7
Mean Temperature of Evaporation .... ..	54.9	54.7
Mean Temperature of Dew Point .....	51.6	52.1
Mean elastic force of Vapour .....	0.383in	0.389in
Mean weight of Vapour in a cub. ft. of air .....	4.3gr	4.5gr
Mean additional weight required for saturation	1.2gr	1.0gr
Mean degree of Humidity (saturation 1.00) ..	0.78	0.82
Mean weight of a cubic foot of air.....	528.5gr	527.4gr
Fall of Rain .....	2.590in	4.213in
Number of days on which Rain fell .....	16	18.1

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
	3	2	1	1	2	2	18	2
Mean Velocity in miles per hour	6.7	5.7	6.6	15.4	7.9	7.0	7.8	13.8
Total No. of miles for each Direction	480	272	159	370	380	838	3368	660

The total number of miles registered during the month was 6027.  
The max. Velocity of the wind was 30 miles per hour, W.N.W., on the 4th at 4.0 p.m. Also some velocity at 4.30 p.m. on the 25th. Direction S. b E.

## JULY, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0)	7·2
In the month of July, the highest reading of the Barometer during 49 years, was on the 24th, in 1868, and was .....	30·112
The lowest .. 15th, 1877 ..	28·564
The highest Temperature 22nd, 1873 ..	88·2
The lowest .. 1st, 1857 ..	36·0
The highest adopted mean temperature of the month, 1852....	63·0
The lowest .. .. 1888....	54·5

## TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure .. ..	+ 0·097 inches
Monthly Range .. ..	— 0·160 ..
Mean of highest temperatures .. ..	+ 1·4 degrees
Mean of lowest .. ..	— 0·1 ..
Mean daily range .. ..	+ 1·5 ..
Adopted mean temperature .. ..	+ 0·8 ..
Total rainfall .. ..	— 1·623 inches

Thunder and Lightning with Heavy Rain on the 9th.

## AUGUST, 1896.

Results of Observations taken during the month.	Mean for the last 49 years.	
Mean Reading of the Barometer .. inches	29.608	29.489
Highest " on the 10th "	29.896	29.884
Lowest " on the 26th "	29.170	28.949
Range of Barometer Readings .....	0.726	0.935
Highest Reading of a Max Therm. on the 1st	72.5	76.9
Lowest Reading of a Min. Therm. on the 26th	40.0	41.2
Range of Thermometer Readings .....	32.5	35.7
Mean of all the Highest Readings .....	64.7	67.1
Mean of all the Lowest Readings.....	48.7	50.4
Mean Daily Range.....	16.0	16.7
Deduced Monthly Mean (from Mean of Max. and Min.) .....	55.0	57.1
Mean Temperature from Dry Bulb .....	55.3	57.5
Adopted Mean Temperature .....	55.2	57.3
Mean Temperature of Evaporation .....	52.0	54.5
Mean Temperature of Dew Point .....	48.9	51.7
Mean elastic force of Vapour .....	0.347 in	0.387 in
Mean weight of Vapour in a cub. ft. of air ....	3.9 gr	4.3 gr
Mean additional weight required for saturation	1.0 gr	0.9 gr
Mean degree of Humidity (saturation 1.00) ..	0.80	0.82
Mean weight of a cubic foot of air .....	532.0 gr	527.4 gr
Fall of Rain .....	3.300 in	5.036 in
Number of Days on which rain fell .....	19	19.1

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
	5	5	0	0	1	2	15	3
Mean Velocity in miles per hour	4.2	5.8	0	0	14.8	10.8	10.0	8.0
Total No. of miles for each Direction	509	694	0	0	356	517	3593	579

The total number of miles registered during the month was 6248.  
The max. Velocity of the wind was 34 miles per hour, S. b E. on the 30th, at 8.0 a.m.

## AUGUST, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0)	8·7
In the month of August, the highest reading of the Barometer during 49 years, was on the 21st, in 1874, and was	.... 30·114
The lowest	.. 28·555
The highest Temperature	.. 88·0
The lowest	.. 33·4
The highest adopted mean temperature of the month, 1857 & '84	61·0
The lowest	.. 52·5

## TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure	..	..	+	0·119 inches
Monthly range	..	..	—	0·209 ..
Mean of highest temperatures	..	..	—	2·4 degrees
Mean of the lowest	..	..	—	1·7 ..
Mean daily range	..	..	—	0·7 ..
Adopted mean temperature	..	..	—	2·1 ..
Total rainfall	..	..	—	1·736 inches

Heavy Rain on the 23rd and 25th. Thunder on the 19th and 26th. Lightning on the 26th. Solar Halo on the 18th.

## SEPTEMBER, 1896.

Results of Observations taken during the Month.	Mean for the last 49 years.
Mean Reading of the Barometer ..... inches	29 300
Highest                    "                    on the 30th    ,,	30 076
Lowest                    "                    on the 25th    ,,	28 314
Range of Barometer Readings .....	1 762
Highest Reading of a Max. Therm. on the 1st & 10th	70 0
Lowest Reading of a Min. Therm. on the 28th	37 9
Range of Thermometer Readings .....	32 1
Mean of all the Highest Readings .....	62 1
Mean of all the Lowest Readings .....	48 2
Mean Daily Range .....	13 9
Deduced Monthly Mean (from Mean of Max. and Min.) .....	53 9
Mean Temperature from Dry Bulb.....	54 3
Adopted Mean Temperature.....	54 1
Mean Temperature of Evaporation .....	51 4
Mean Temperature of Dew Point .....	48 8
Mean elastic force of Vapour .....	0 343in
Mean weight of Vapour in a cub. ft. of air.....	3 9gr
Mean additional weight required for saturation	0 8gr
Mean degree of Humidity (saturation 1 00) ...	0 81
Mean weight of a cubic foot of air .....	528 1gr
Fall of Rain .....	7 062in
Number of days on which Rain fell .....	25

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
	3	4	4	1	2	4	11	1
Mean Velocity in miles per hour	9 1	7 8	7 0	4 3	11 6	11 9	12 4	6 8
Total No. of miles for each Direction	655	745	670	103	558	1146	3268	163

The total number of miles registered during the month was 7308.  
 The max. Velocity of the wind was 33 miles per hour, on the 14th at 6-0 p. m., 17th at 4-0 p. m., 22nd at noon, and 23rd at 9-0 a. m. Direction being respectively W. by S., S. by W., S. by E. and W.N.W.

## SEPTEMBER, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0) 9·2			
In the month of September, the highest reading of the Barometer during 49 years, was on the 15th, in 1851, and was... 30·274			
The lowest	"	25th, 1896	,, ... 28·314
The highest Temperature		6th, 1868	,, ... 85·0
The lowest	"	25th, 1885, and 30th, 1888...	29·8
The highest adopted mean temperature of the month, 1865 ... 59·1			
The lowest	"	,,	1863 ... 50·9

### TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure	..	..	—	0·217 inches
Monthly range	"	..	+	0·585 "
Mean of highest temperatures	..	..	—	0·2 degrees
Mean of lowest	"	..	+	1·2 "
Mean daily range	"	..	—	1·4 "
Adopted mean temperature	..	..	+	0·3 "
Total rainfall	..	..	+	2·495 inches

Hail on the 27th. Heavy Rain on the 22nd, 24th and 27th. Fog on the 30th. Thunder on the 9th, 11th, 12th, 13th, 16th, 27th and 28th. Lightning on the 9th, 11th, 12th, 18th and 27th.



## OCTOBER, 1896.

Results of Observations taken during the Month.	Mean for the last 49 years	
Mean Reading of the Barometer..... inches	29.295	29.420
Highest ,, on the 1st ,,	30.062	30.019
Lowest ,, on the 19th & 25th ,,	28.696	28.640
Range of Barometer Readings .....	1.366	1.379
Highest Reading of a Max. Therm. on the 2nd	61.0	64.2
Lowest Reading of a Min. Therm. on the 26th	23.0	28.7
Range of Thermometer Readings.....	38.0	35.5
Mean of all the Highest Readings.....	51.0	54.5
Mean of all the Lowest Readings.....	36.6	41.4
Mean Daily Range .....	14.4	13.1
Deduced Monthly Mean (from Mean of Max. and Min.) .....	42.8	47.0
Mean Temperature from Dry Bulb .....	43.5	47.5
Adopted Mean Temperature .....	43.2	47.3
Mean Temperature of Evaporation.....	40.5	45.1
Mean Temperature of Dew Point .....	37.3	42.6
Mean elastic force of Vapour .....	0.223in	0.274in
Mean weight of Vapour in a cub. ft. of air .....	2.6gr	3.1gr
Mean additional weight required for saturation	0.6gr	0.6gr
Mean degree of Humidity (saturation 1.00)...	0.80	0.84
Mean weight of a cubic foot of air.....	540.2gr	537.6gr
Fall of rain .....	4.158in	5.063in
Number of Days on which rain fell .....	18	21.6

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
	11	3	0	0	2	7	5	3
Mean Velocity in miles per hour	7.8	5.2	0	0	22.6	10.6	9.1	4.9
Total No. of miles for each Direction	2050	376	0	0	1085	1786	1097	355

The total No. of miles registered during the month was 6749.

The max. Velocity of the wind was 51 miles per hour, S. by W., on the 8th at 8-0 and 9-0 a.m.

## OCTOBER, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0) 7·7

In the month of October, the highest reading of the Barometer during 49 years, was on the 5th, in 1884, and was . . . . 30·306

The lowest                   ,,                   19th, 1862   ,,                   . . . . 28·139

The highest Temperature                   9th, 1869   ,,                   . . . . 72·8

The lowest                   ,,                   28th, 1895   ,,                   . . . . 17·8

The highest adopted mean temperature of the month, 1861 & 76 51·6

The lowest                   ,,                   ,,                   1895. . . . 42·8

## TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure	..	..	—	0·125 inches
Monthly range	,,	..	—	0·013   ,,
Mean of highest temperatures	..	..	—	3·5 degrees
Mean of lowest	,,	..	—	4·8   ,,
Mean daily range	,,	..	+	1·3   ,,
Adopted mean temperature	..	..	—	4·1   ,,
Total rainfall	..	..	—	0·905 inches

Frost on the 11th—14th, 19th—29th. Hoar frost 27th. Snow 11th, 24th and 25th. Hail 4th, 5th, 11th, and 24th. Fog 28th. Thunder 5th and 10th. Lightning 5th, 8th, 10th and 29th. Gale of wind 8th. Aurora Borealis 12th.

## NOVEMBER, 1896.

Results of Observations taken during the Month.	Mean for the last 49 years	
Mean Reading of the Barometer..... inches	29.735	29.321
Highest                    ,,                    on the 24th   ,,	30.254	30.059
Lowest                    ,,                    on the 14th   ,,	28.777	28.564
Range of Barometer Readings .....	1.477	1.495
Highest Reading of a Max. Therm. on the 12th	52.0	55.7
Lowest Reading of a Min. Therm. on the 5th ...	21.0	25.4
Range of Thermometer Readings .....	31.0	30.3
Mean of all the Highest Readings.....	46.2	47.1
Mean of all the Lowest Readings.....	33.2	36.3
Mean Daily Range .....	13.0	10.8
Deduced Monthly Mean (from Mean of Max. and Min.) .....	39.3	41.3
Mean Temperature from Dry Bulb.....	39.5	41.6
Adopted Mean Temperature .....	39.4	41.5
Mean Temperature of Evaporation .....	38.0	39.2
Mean Temperature of Dew Point.....	36.2	37.9
Mean elastic force of Vapour .....	0.214 in	0.229 in
Mean weight of Vapour in a cub. ft. of air.....	2.5 gr	2.6 gr
Mean additional weight required for saturation	0.4 gr	0.4 gr
Mean degree of Humidity (saturation 1.00)...	0.89	0.87
Mean weight of a cubic foot of air .....	552.4 gr	544.9 gr
Fall of Rain .....	1.536 in	4.214 in
Number of days on which Rain fell.....	12.0	19.4

No. of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
		6	7	2	0	2	3	10
Mean Velocity in miles per hour	6.2	7.4	14.0	0	10.5	6.1	7.1	0
Total No. of miles for each Direction	894	1237	671	0	502	442	1713	0

The total number of miles registered during the month was 5459.  
The max. Velocity of the wind was 34 miles per hour, S. by E.,  
on the 14th at 5 p.m.

## NOVEMBER, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0)	6·6
In the month of November, the highest reading of the Barometer during 49 years was on the 12th, in 1857, and was 30·350	
The lowest	11th, 1891 27·938
The highest Temperature	2nd, 1894 62·0
The lowest	17th, 1861 19·1
The highest adopted mean temperature of the month, 1881	47·0
The lowest	1851 36·7

## TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure	...	...	+	0·404 inches
Monthly range	..	...	—	0·018 ..
Mean of highest temperatures	...	...	—	0·9 degrees
Mean of lowest	..	...	—	3·1 ..
Mean daily range	..	...	+	2·2 ..
Adopted mean temperature	..	...	+	2·1 ..
Total rainfall	...	...	—	2·678 inches

Frost on the 1st—6th, 8th, 9th, 13th—19th, 21st, 25th, 29th, and 30th. Hoar Frost 6th.

## DECEMBER, 1896.

Results of Observations taken during the Month.	Mean for the last 49 years	
Mean Reading of the Barometer .... inches	29.303	29.455
Highest ,, on the 20th & 29th	29.875	30.071
Lowest ,, on the 6th	28.348	28.589
Range of Barometer Readings .....	1.527	1.482
Highest Reading of a Max. Therm. on the 26th	53.0	53.0
Lowest Reading of a Min. Ther. on the 23rd & 28th	24.0	20.2
Range of Thermometer Readings .....	29.0	32.8
Mean of all the Highest Readings .....	43.5	43.0
Mean of all the Lowest Readings .....	33.0	32.9
Mean Daily Range .....	10.5	10.1
Deduced Monthly Mean (from Mean of Max. and Min.) .....	38.3	37.9
Mean Temperature from Dry Bulb .....	39.4	38.6
Adopted Mean Temperature .....	38.9	38.3
Mean Temperature of Evaporation.....	37.3	36.7
Mean Temperature of Dew Point .....	35.2	34.9
Mean elastic force of Vapour .....	0.206 in	0.204 in
Mean weight of Vapour in a cub. ft. of air	2.4gr	2.4gr
Mean additional weight required for saturation	0.5gr	0.4gr
Mean degree of Humidity (saturation 1.00) ..	0.87	0.87
Mean weight of a cubic foot of air .....	545.1gr	548.3gr
Fall of Rain .....	5.388 in	5.275 in
Number of days on which Rain fell .....	22	18.9

No of days in the month on which the prevailing wind was	N	NE	E	SE	S	SW	W	NW
	4	2	6	0	3	6	8	2
Mean Velocity in miles per hour	6.8	4.5	9.5	0	12.1	14.6	9.7	4.7
Total No. of miles for each direction	648	217	1382	0	869	2115	1862	227

The total number of miles registered during the month was 7320.  
The max. Velocity of the wind was 39 miles per hour, S.S.W., on the 30th, at 8.0 p m.

## DECEMBER, 1896.

Mean amount of Cloud (an overcast sky being indicated by 10·0)	8·8
In the Month of December, the highest reading of the Barometer during 49 years, was on the 22nd, in 1849, and was 30·378	
The lowest	8th, 1886    ,,    .... 27·350
The highest Temperature	9th, 1876    ,,    .... 58·1
The lowest	24th, 1860    ,,    .... 6·7
The highest adopted mean temperature of the month 1857..	44·6
The lowest	1878    ,,    .... 30·3

## TABLE OF DIFFERENCES.

The signs + and — mean respectively above and below the monthly average.

Mean barometric pressure	..	..	—	0·152 inches
Monthly range	..	..	+	0·045    ,,
Mean of highest temperatures	..	..	+	0·5 degrees
Mean of lowest	..	..	+	0·1    ,,
Mean daily range	..	..	+	0·4    ,,
Adopted mean temperatures	..	..	+	0·6    ,,
Total rainfall	..	..	+	0·113 inches

Frost 1st, 6th, 12th—15th, 28th, 29th. Hoar Frost 23rd. Snow 15th, 16th, 17th, 18th, and 22nd. Heavy rain, 24th, 25th, and 27th. Fog 11th, 16th, and 23rd. Gales of wind 28th and 30th.

## Summary of Observations FOR 1896

Results of Observations taken during the Year.	Mean for the last 49 years.	
Mean Reading of the Barometer . . . . inches	29·584	29·491
Highest           ,,           on January 9th ,,	30·597	30·284
Lowest           ,,           on March 3rd ,,	28·180	28·264
Range of Barometer Readings . . . . . ,,	2·417	2·020
Highest Reading of a Max. Ther. on June 14th and 15th.....	82·7	81·6
Lowest Reading of a Min Therm. on Nov. 5th	21·0	15·3
Range of Thermometer Readings . . . . .	61·7	66·3
Mean of all the Highest Readings . . . . .	55·9	54·8
Mean of all the Lowest Readings . . . . .	40·6	40·6
Mean Daily Range.....	15·3	14·2
Deduced yearly Mean (from Mean of Max. and Min.).....	47·3	46·8
Mean Temperature from dry bulb .....	47·8	46·7
Adopted Mean Temperature . . . . .	47·5	46·8
Mean Temperature of Evaporation . . . . .	44·9	44·5
Mean Temperature of Dew Point . . . . .	42·1	42·1
Mean elastic force of Vapour . . . . .	0·275 in	0·273 in
Mean weight of Vapour in a cub. ft. of air . . . .	3·2gr	3·3gr
Mean additional weight required for saturation	0·8gr	0·7gr
Mean degree of Humidity (saturation 1·00)..	0·82	0·84
Mean weight of a cubic foot of air . . . . .	540·7gr	539·2gr
Total fall of rain in the year.....	44·693 in	47·171 in
Number of days per month on which rain fell	16·8	18·0

The Maximum monthly mean height of the Barometer was  
in February, 1891, and was ..... inches 29·997

The Minimum   ,,   ,,   in December, 1868, and was 28·984

The Maximum yearly mean height of the Barometer was in  
1896, and was ..... 29·584

The Minimum   ,,   ,,   in 1866, and was ..... 29·389

## SUMMARY, 1896.

The greatest monthly range of the Barometer was in January, 1884, and was .....	inches	2·409
The least ,, ,, in July, 1852, and was.....	,,	0·505
The highest reading of the Barometer during 49 years was on January 9th, 1896, and was .....	inches	30·597
The lowest ,, ,, on December 8th, 1886, and was		27·350
Extreme range .....	inches	3·247
The highest temperature was on June 18th, 1893, and was..		88·7
The lowest ,, ,, January 15th, 1881.....		4·6
The highest adopted mean temperature of a month, July, 1868 .....		62·4
The lowest ,, ,, ,, February, 1855, ..		28·6
The highest adopted mean temperatures of a year 1868..		49·1
The lowest ,, ,, ,, 187 <del>5</del> <sup>9</sup> ..		44·1
The greatest monthly mean weight of vapour } in a cubic foot of air .....	} July, 1852 ..	5·1gr
The least ,, ,, February, 1855 and 1895		1·4gr
The greatest fall of rain in a month, was in October, 1870, and was .....		13·437in
The least ,, ,, ,, March, 1852		0·047
The greatest number of days on which } rain fell in one month .....	} July, 1861. Dec. 1868	31
The least ,, ,, ,, March, 1852		3

## SUMMARY OF WIND.

No of days in the year on which the prevailing wind was .....	N	NE	E	SE	S	SW	W	NW
	43	44	29	7	22	42	161	18
Mean Velocity in miles per hour .....	6·8	5·8	8·0	7·3	11·8	9·5	10·4	7·4
Total No. of miles for each Direction .....	7021	6175	5534	1228	6220	9544	40295	3194

The total No. of miles registered during the year was 79211.

The max. Velocity of the wind was 51 miles per hour. S. by W.,  
at 8-0 and 9-0 a.m., on October 8th.



# DATES OF OCCASIONAL PHENOMENA.

1896.	Frost.	Hoar Frost.	Snow.	Hail.	Gales of Wind.
January	5, 6, 8-12, 14, 15, 20-23, 28, 29	21	9	13, 15	15, 16
February	2, 4, 6, 7, 13, 17-19, 21-27				
March	3, 9, 10, 12-15, 18, 19, 22-24, 27, 29-31	10	3, 19, 26, 28	3, 4, 5, 13, 28	1, 2, 6, 16, 20, 26
April	1-3, 13, 15, 18, 22-24, 30			11, 12, 13, 28, 29, 30	11
May	1, 3, 4, 21			20	
June					
July					
August					
September	11-14, 19-29	27		27	
October	1-6, 8, 9, 13-19, 21, 25, 29, 30	6	11, 24, 25	4, 5, 11, 24	8
November	1, 6, 12-25, 28, 29	23	15, 16, 17, 18, 22		
December					28, 30

# DATES OF OCCASIONAL PHENOMENA.

(Continued.)

1896	Heavy Rain	Fog	Thunder	Lightning	Lunar Halo	Solar Halo
January	14, 24	7				
February	29	5, 6, 14	24, 25	24	24, 25	
March	3, 5, 7, 10, 13, 25, 27	10	28			
April			20		18	
May	4, 22		3, 4, 6, 7, 8, 16	6, 7		
June	9		9	9		
July	23, 25		19, 26	26		
August	22, 24, 27	30	9, 11, 12, 13, 16, 27, 28	9, 11, 12, 18, 27		
September		28	5, 10	5, 8, 10, 29		
October						18
November	24, 25, 27	11, 16, 23				
December						

Aurora Borealis on October 12th, at 6-30 p.m.

# SUMMARY OF SOLAR OBSERVATIONS.

Number of days of Observation in each Month.

1896.	Recorded Sunshine.	Amount of Sunshine expressed in hours.	Number of Sun Drawings 10 $\frac{1}{4}$ inches to diameter.	Solar Spectrum Photographs.
January .....	10	24.6	5	4
February .....	14	33.8	7	1
March .....	26	96.0	8	2
April .....	28	166.6	16	15
May .....	29	239.0	21	40
June .....	30	210.6	13	25
July .....	30	191.1	19	26
August .....	30	114.7	2	27
September ...	25	62.9	7	7
October .....	24	81.8	9	16
November ...	19	60.0	10	1
December ...	11	17.8	8	
<b>Totals .....</b>	<b>276</b>	<b>1298.9</b>	<b>125</b>	<b>139</b>



## TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.

MONTH.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January	0	0	0	0	0	0	0	1.6	0	1.0	0	0	0.3	2.8	0.7	0	0
February	0	0	0	0	0.2	0.1	1.8	0	6.2	0	1.2	0	0.5	1.3	0	0	0
March	4.5	0.1	3.7	4.2	3.7	0	0	0	1.8	0.5	2.8	7.3	0	4.8	2.1	2.8	1.9
April	6.7	9.6	1.2	0	2.2	4.4	3.5	1.1	5.8	9.6	5.8	8.4	10.2	0	11.2	0.8	8.8
May	7.3	0.1	5.2	7.0	10.2	14.0	9.4	13.8	13.4	14.3	13.9	13.3	10.7	10.2	3.0	0	7.5
June	10.8	4.9	1.3	2.3	8.6	4.2	1.4	3.8	3.8	4.5	8.8	3.1	9.2	12.4	12.3	8.2	2.4
July	5.3	7.4	2.6	2.0	13.6	10.8	5.2	1.5	0	8.0	7.9	11.1	12.7	5.5	2.2	14.2	8.4
August	9.2	1.2	3.5	0.6	3.0	10.2	3.7	4.5	2.2	6.0	4.4	0.7	1.4	3.4	6.7	10.2	3.6
September	5.4	0.4	0.8	0.1	0	0	2.4	2.7	0	3.6	0.6	0	2.2	0.3	0.8	2.0	2.4
October	0	0	0.4	0.5	4.3	0	0	4.8	7.2	0.6	0.3	9.3	8.0	6.2	0.7	3.3	3.3
November	1.3	3.0	6.3	5.4	3.2	4.8	0	6.2	7.0	0	0	1.0	0	0	1.9	0.5	4.2
December	0	0	0.4	0	0	0	0	0	0	0	1.2	0	1.0	0	0	0	2.4

(Continued.)

**TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.**

MONTH.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Monthly Total.	Per centage each month.
January	2.8	4.5	0	0	3.2	0	0	0	0	0	5.5	2.2	0	0	24.6	9.5
February	0	0.8	0	2.8	2.2	8.8	4.0	0	3.5	0	0.4	0	0	0	33.8	11.7
March	1.2	0	4.0	3.9	0.8	7.4	2.7	0.5	3.0	8.7	4.9	9.7	8.6	0.4	96.0	26.2
April	10.9	5.0	0.9	6.4	4.2	5.6	9.2	6.9	6.1	1.5	6.6	9.2	4.8	0	166.6	40.1
May	2.3	9.0	5.8	9.5	0	3.9	6.6	6.8	7.0	9.0	9.4	4.2	4.8	7.4	239.0	49.6
June	11.4	12.3	7.4	10.6	12.2	5.0	9.4	3.8	11.7	0.3	11.0	7.3	6.2	0	210.6	42.6
July	0.4	11.8	11.7	6.7	7.0	7.4	0.2	0.3	3.7	3.3	10.7	1.6	1.5	6.4	191.1	38.5
August	8.2	3.9	1.5	5.8	1.5	0.3	5.4	5.6	2.7	0.5	0.2	1.8	2.8	0	114.7	25.6
September	1.3	7.7	8.2	3.1	0.2	0.2	2.1	0.6	0	0.5	8.2	1.8	5.3	0	62.9	16.7
October	0.9	0	7.6	7.5	0.4	3.8	0.7	0	0.8	0	1.4	2.0	5.8	2.0	81.8	24.8
November	0.7	3.8	3.7	0	0	0	0	0	2.0	0.1	0	2.1	2.8	0	60.0	22.8
December	1.1	4.9	1.0	1.5	0	0	0	0.2	0	3.8	0.3	0	0	0	17.8	7.4

MONTHLY TABLES FOR EACH HOUR OF RECORDED SUNSHINE

Local apparent time.	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9
January	0	0	0	0	0	2.0	3.8	5.0	5.3	5.0	2.5	1.0	0	0	0	0	0
February	0	0	0	0.5	1.0	2.9	4.0	4.9	5.8	5.4	5.5	3.4	0.4	0	0	0	0
March	0	0	1.7	5.3	9.5	11.5	10.4	11.2	9.5	8.9	10.1	8.7	6.9	2.3	0	0	0
April	0	0	4.6	10.3	12.5	15.1	15.7	15.5	14.3	16.1	17.2	15.7	16.9	11.1	1.6	0	0
May	0.4	8.9	12.6	16.8	19.4	20.3	17.3	19.0	19.8	19.6	20.6	17.7	17.4	15.4	12.0	1.8	0
June	0.9	6.6	10.9	12.8	15.0	16.6	17.7	17.9	19.0	18.0	17.0	16.5	15.4	12.7	10.7	2.9	0
July	0.8	7.2	13.0	12.9	14.5	12.9	13.4	15.2	15.0	16.6	14.4	14.0	13.3	13.6	10.5	3.8	0
August	0	0.4	3.9	7.4	7.4	7.6	7.2	6.1	11.5	12.5	11.5	13.0	11.5	10.5	3.9	0.3	0
September	0	0	0	3.6	5.4	4.5	9.0	8.6	7.3	5.8	6.4	6.5	4.7	1.1	0	0	0
October	0	0	0	1.5	6.5	8.9	8.9	10.3	10.6	11.4	11.3	8.5	3.9	0	0	0	0
November	0	0	0	0.3	1.5	5.0	11.1	11.8	10.6	9.7	6.5	3.5	0	0	0	0	0
December	0	0	0	0	0	1.7	4.2	2.9	2.1	3.9	3.0	0	0	0	0	0	0
Total	2.1	23.1	46.7	71.4	92.7	109.0	122.7	128.4	130.8	132.9	126.0	108.5	90.4	66.7	38.7	8.8	0

## OBSERVATIONS OF UPPER CLOUDS (CIRRUS.)

Date. 1896.	G. M. T.	Cloud.		Wind.		Direction of Lower Clouds	
		Direction	Velocity (0-6).	Direction.	Force. (0-12)		
January	19	10am	SW	2	WSW	1	
"	20	10am	NW	2	N b W	0	
"	29	10am	SW b S	3	W b S	0	SW b W
February	7	2pm	W b N	2	SSW	2	SW
"	11	Noon	SE b S	3	W b S	3	W
"	13	9am	SE b S	2	NE b N	1	NW
"	14	1-30pm	E b S	2	W	3	W
"	24	9-10am	N b W	2	E b N	1	
"	26	Noon	N	3	SE	0	
March	5	9am	NW b N	3	WNW	4	W
"	12	9am	E b S	2	ENE	1	NE
"	22	9-10am	N b W	2	W	0	S
"	23	9 15am	NNW	2	SW b W	2	SW
"	27	10-55am	WNW	2	WNW	5	NW
"	30	7-45am	N b W	2	NNE	1	
April	2	10am	N	2	N	1	NNE
"	3	5-20pm	N	3	ENE	1	
"	6	4pm	NW	1	W	3	W
"	9	9-30am	N b W	2	WSW	2	W
"	13	9am	NW	2	NW b W	3	NW b W
"	17	6-30pm	W	3	W	3	SW b W
"	18	10am	WNW	2	ESE	0	NW
"	24	4pm	NW b W	2	W	2	SW
"	27	4-30pm	W	3	W b S	4	SW b W
May	5	1-45pm	NW	3	WNW	2	W
"	6	8-30am	NNE	2	ENE	2	
"	7	5-45pm	NNW	3	ENE	2	W
"	8	9-30am	NE b N	2	E b N	2	
"	13	10 50am	SE	2	WSW	2	W
"	16	9-15am	W b N	2	NE b E	0	W
"	19	7-30am	W b S	3	WNW	2	W
"	20	Noon	SE b S	3	N b W	5	NW
"	21	7-30am	N b E	2	N b W	1	NW
"	27	7-15am	SE b E	3	NE b E	1	NE
"	28	10-30am	WNW	2	E	1	NE
"	29	11-45am	NW	3	NW	5	W
June	1	5-30pm	NW	3	NNW	0	W
"	2	9am	W	2	NNE	1	
"	6	8-30am	E b S	2	SSE	1	SE
"	8	4pm	S	3	N	1	NW



OBSERVATIONS OF UPPER CLOUDS (*Continued*).

Date. 1896.	G. M. T.	Cloud.		Wind.		Direction of Lower Clouds.	
		Direction.	Velocity (0-6).	Direction.	Force. (0-12)		
June	9	9am	SW b S	2	NE b E	1	NE
"	10	3-30pm	NNW	2	N b W	2	N
"	12	7am	SW	3	NW b W	0	
"	13	7-45am	S	2	NW	0	SW
"	14	9-30am	S b W	2	E b N	0	NW
"	16	Noon	SW b W	3	ESE	2	W
"	18	2pm	SW	3	w b S	3	W
"	19	4pm	W	3	W	3	W b S
"	22	9am	NW	3	WNW	2	W
"	28	Noon	W	3	WNW	4	SW
"	30	5-20pm	NW	2	WNW	4	W
July	2	Noon	NW b W	3	W	2	NW
"	5	10am	NW b W	2	W b S	3	W
"	6	9am	S	2	W	1	SW
"	7	9am	S b W	2	WSW	1	SW
"	12	5pm	W	2	WNW	2	W
"	13	8-30am	NW	2	NNE	0	S b E
"	14	2pm	SSE	2	W	2	SW
"	16	3pm	NE	2	NE	1	SW
"	17	5-30pm	NW	2	W b N	1	
"	19	2pm	NW	2	W	3	SE
"	23	2pm	SW	3	W b S	4	SW
August	6	2pm	SW	2	W	3	W
"	9	5pm	SW	3	NE	1	NW
"	10	7-30pm	NE	3	NE b E	1	W
"	11	5pm	NW	2	W	3	W
"	12	5pm	NW	3	W b N	3	W
"	15	6-30pm	W b N	3	NW	1	NW
"	16	9am	NW b N	2	WSW	2	W
"	17	5pm	N b W	3	SW b W	1	S
"	18	3pm	S	2	W	3	W
"	20	7pm	NE	3	SW b W	1	SW
"	24	4 30pm	NW	1	W b S	3	W
Sept.	1	7-30am	ESE	2	N b E	0	N b W
"	1	Noon	F b S	2	NW b N	1	NW
"	9	4pm	NW	2	ENE	1	NE
"	10	4pm	NNW	2	ESE	1	NE
"	15	4pm	W b S	3	S	2	SW
"	18	9am	W	2	SW b W	2	SW
"	18	10am	SW b W	2	WSW	2	SW
"	18	10 30am	SW	3	WSW	2	SW
"	23	5-45pm	NW	2	WNW	6	W

OBSERVATIONS OF UPPER CLOUDS (*Continued*).

Date. 1896.	G M. T.	Cloud.		Wind.		Direction of Lower Clouds.	
		Direction.	Velocity (0-6.)	Direction.	Force. (0-12.)		
Sept.	24	5-50pm	W	3	SW b W	1	SW
"	30	Noon	N	3	WSW	1	W
Oct.	7	7am	NW	3	SW	1	SW
"	12	7-30am	NNW	3	N	2	NE
"	17	8-30am	NE b W	3	NNE	1	
"	21	8am	NW b W	2	NNE	1	NE
"	22	8am	N b W	3	S b E	0	SW
"	26	2pm	W b S	3	NW b N	1	NW
"	28	9am	NW b W	2	NW b W	0	
"	28	2pm	NW	2	SW b W	1	NE
"	29	8-30am	ENE	2	ENE	0	NE
Nov.	2	7-30am	NW	3	N b E	1	
"	3	8am	WNW	3	NNE	1	NE b N
"	4	9am	N b W	2	NNW	1	NW
"	6	10am	N	2	NNE	0	NE
"	11	4pm	N	2	WSW	2	WSW
"	17	Noon	NW b N	2	NE b N	0	NE
"	17	2pm	N	3	NE b N	0	NE
"	19	Noon	NNW	2	SW	1	SW
"	27	8-30am	E	2	ENE	1	NE
Dec.	1	9-15am	E	3	E b N	2	NE
"	3	2am	NW	3	S b E	3	S
"	14	10am	W b S	2	N b E	0	NE
"	17	8-30am	SW	2	WNW	1	W
"	29	9-15am	NW b W	2	NW b W	0	

## OBSERVATIONS OF EARTH-MAGNETISM.

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ABSOLUTE measures of Horizontal Magnetic Force have been made once each month, by the method of Vibration and Deflection.

In these observations the same Magnet has been employed from the beginning of the series in March, 1863. The weight of the Magnet with its stirrup is 825 grains, and its length 3.94 inches nearly. Its moment of inertia, measured by the method of vibrations, with and without a known increase of the moment, is 5.27303 to the English foot—second—grain units, at the temperature 35° Fahr., and its rate of increase is 0.00073 for increase of 10°

The temperature corrections have been obtained from the formula  $q(t^\circ - 32^\circ) + q'(t^\circ - 32^\circ)^2$ , where  $t^\circ$  is the observed temperature and 32° Fahr. the adopted standard temperature. The values of the co-efficient  $q$  and  $q'$  are respectively 0.0001128 and 0.000000436.

The induction co-efficient  $\mu$  is 0.000244.

The correction for error of graduation of the Deflection bar at 1.0 foot is + 0.00004ft. at 1.3 + 0.000064 ft.

The observed times of vibration are entered in the Table without corrections.

The time of one vibration has been obtained each month from the mean of twelve determinations of the time of 100 vibrations.

The angles of deflection are each the mean of two sets or readings.

In deducing from these observations the ratio and product of the magnetic moment  $m$  of the magnet, and the earth's horizontal magnetic intensity  $X$ , the induction and temperature corrections have always been applied, and the observed time of vibration has been corrected for the effect of torsion of the suspending thread; but no correction has been required for the rate of the chronometer, or for the arc of vibration, the former having been always under 1.5s and the latter never over 50'.

The average deflection of the magnet caused by a twist of the torsion circle through 90° has been about 12'.2 of arc.

In the calculations of the ratio  $\frac{m}{X}$ , the third and subsequent

terms of the series  $1 + \frac{P}{r^2} + \frac{Q}{r^4} + \&c.$ , have always been omitted.

The value of the constant P was found to be  $-0.00055$ .

The Vertical and Total Forces are deduced from the measures of the Horizontal Force, and the Angle of Inclination or Dip.

All the computations are in English foot—second—grain units ; and in the final table the results are given also in C. G. S. units, in parallel columns.

The Dip, or angle between the direction of total force, and that of its horizontal component, has been measured with Barrow's Circle, once each month by two needles, always when possible on the days of vibration and deflection observations.

The Declination has been observed at the beginning of each week, usually on Mondays at 4 p.m. and is quoted as the angle between the horizontal direction of force and the Astronomical Meridian, measured from the North Point.

The Differential Instruments, or Photo-Magnetographs, are of the same pattern as those at the Kew Observatory, except that the radial distances between the centres of the magnets and the surfaces of the respective cylinders are shorter, and the clock is not provided with an automatic light-cut-off, for the time scale. The "cut-offs" are made by hand at the hours 0, 2, 20, and 22 of the astronomical day, to furnish two time marks at each end of the day's curves, the changes being made between 10.30 and 11 a.m., civil time.

The scale value of the Bifilar horizontal force torsion balance, has remained very constant at 0.00051 C. G. S. for one centimetre, during the last five years

The scale value of the Unifilar Declination Magnet is 11'.28 arc per centimetre.

The corrections for diurnal range, employed in the tables, are taken from the Kew Reports 1891-95.

## OBSERVATIONS OF DECLINATION AND DIP.

1896 MONTH	G.M.T. CIVIL DAY	WEST DECLINATION		Needle	MAGNETIC DIP.	
		Observations.	Monthly Mean.		Dip.	G.M.T. CIVIL DAY
	D. H. M.	° ' "	° ' "		° ' "	D. H. M.
Jan.	6 16 10	18 29 7	18 31·9	1	68 55·3	20 11 48
	13 16 8	18 31·2				
	20 16 0	18 33·7		3	69 3·4	,, 12 15
	27 16 0	18 33·0				
Feb.	4 16 0	18 37·0	18 33·5	1	68 56·1	25 15 43
	10 16 0	18 28·9				
	17 16 0	18 33·7		3	69 2·1	,, 16 20
	24 16 0	18 34·4				
March	2 16 0	18 34·2	18 34·5	1	68 54·1	20 10 55
	9 16 0	18 34·7				
	16 16 0	18 31·2		3	69 2·6	,, 11 28
	26 16 0	18 36·5				
	30 16 0	18 36·1				
April	6 16 0	18 33·4	18 33·9	1	68 53·4	15 15 55
	13 16 0	18 33·4				
	20 16 0	18 35·4		3	69 1·9	,, 16 28
	27 16 0	18 33·2				
May	4 16 0	18 33·7	18 34·3	1	68 53·8	16 11 10
	11 16 0	18 38·1				
	18 16 0	18 34·2		3	68 58·6	,, 11 44
	25 16 0	18 31·1				
June	1 16 0	18 30·4	18 32·0	1	68 53·8	15 10 30
	8 16 0	18 34·4				
	15 16 0	18 31·3		3	69 0·0	,, 11 18
	23 16 0	18 31·7				
July	6 16 0	18 33·4	18 31·6	1	68 53·8	15 11 15
	13 16 0	18 33·3				
	20 16 0	18 26·2		3	68 58·6	,, 11 45
	27 16 0	18 33·5				

## OBSERVATIONS OF DECLINATION AND DIP.

(Continued.)

1896 MONTH	G.M.T. CIVIL DAY	WEST DECLINATION		MAGNETIC DIP.		
		Observations.	Monthly Mean.	Needle	DIP.	G.M.T. CIVIL DAY
	D. H. M.	° ' "	° ' "		° ' "	D. H. M.
Aug.	3 16 0	18 31.1	18 30.3	1	68 53.4	26 11 0
	10 16 0	18 30.3				
	17 16 0	18 30.0				
	24 16 0	18 29.6				
Sept.	1 16 0	18 26.9	18 29.7	1	68 52.9	17 11 30
	7 16 5	18 28.3				
	14 16 0	18 29.6				
	21 16 5	18 33.5				
	28 16 0	18 30.4				
Oct.	5 16 5	18 30.6	18 28.2	1	68 52.5	19 8 5
	12 16 0	18 27.5				
	20 16 0	18 26.8				
	26 16 5	18 27.9				
Nov.	2 16 0	18 29.0	18 28.1	1	68 57.6	17 11 23
	9 16 0	18 26.8				
	16 16 5	18 33.2				
	23 16 0	18 24.1				
30 16 0	18 27.5			3	69 1.5	„ 11 50
Dec.	7 16 0	18 23.7	18 26.1	1	68 57.5	14 11 15
	14 16 0	18 28.2				
	21 16 15	18 27.2				
	29 16 0	18 25.2				
Yearly Mean			18 31.2		68 57.7	

OBSERVATIONS OF VIBRATIONS AND DEFLECTIONS  
FOR ABSOLUTE MEASURE OF MAGNETIC FORCE.

1896 Month.	G. M. T. (Civil Day).	Temp.	Time of one vibration	G. M. T.	Temp.	Observed Deflection at 1·0 ft. at 1·3 ft.	Value of m
	D. H. M.	°		D. H. M.	°	° /	
Jan.	20 9 49	42·5	5·9854	20 { 10 45 10 44	42·0 42·0	12 2·0 5 27·0	0·38897
Feb.	25 9 56	34·0	5·9707	25 { 11 50 11 49	35·0 35·0	12 1·1 5 26·6	0·38891
Mar.	18 9 26	41·8	5·9793	18 { 10 40 10 44	44·0 44·0	12 0·3 5 26·3	0·38874
Apr.	15 10 7	45·5	5·9788	15 { 10 13 10 19	47·6 47·8	11 59·2 5 25·6	0·38858
May	16 9 18	52·6	5·9805	16 { 10 14 10 14	56·0 56·0	11 59·7 5 25·5	0·38900
June	15 8 20	63·2	5·9886	15 { 9 41 9 43	68·2 68·4	11 58·9 5 25·1	0·38915
July	15 9 33	63·0	5·9864	15 { 10 23 10 32	64·0 64·0	11 59·0 5 25·1	0·38914
Aug.	26 8 40	51·1	5·9839	26 { 10 0 9 58	53·0 53·0	11 59·0 5 25·8	0·38863
Sept.	17 9 20	59·1	5·9918	17 { 10 14 10 15	60·5 60·9	11 59·6 5 25·8	0·38880
Oct.	17 10 57	55·3	5·9867	17 { 11 47 11 45	56·0 56·0	11 58·1 5 25·5	0·38851
Nov.	17 9 20	40·0	5·9765	17 { 10 33 10 34	43·0 43·0	11 57·0 5 24·8	0·38795
Dec.	14 9 30	39·0	5·9844	14 { 10 20 10 20	39·5 39·7	11 57·9 5 24·8	0·38762

## MAGNETIC INTENSITY.

BRITISH UNITS.				C. G. S. UNITS.		
1896	Horizontal force.	Vertical force.	Total Force.	Horizontal Force.	Vertical Force.	Total Force.
Jan. ..	3·7246	9·6974	10·3880	0·1717	0·4471	0·4790
Feb. ..	3·7324	9·7161	10·4084	0·1721	0·4480	0·4799
Mar. ..	3·7302	9·7036	10·3959	0·1720	0·4474	0·4793
April ..	3·7325	9·7036	10·3966	0·1721	0·4474	0·4794
May ..	3·7301	9·6853	10·3787	0·1720	0·4466	0·4785
June ..	3·7283	9·6864	10·3792	0·1719	0·4466	0·4786
July ..	3·7303	9·6857	10·3792	0·1720	0·4466	0·4786
Aug. ..	3·7301	9·6973	10·3900	0·1720	0·4471	0·4791
Sept. ..	3·7249	9·6828	10·3746	0·1718	0·4465	0·4784
Oct. ..	3·7313	9·6882	10·3818	0·1720	0·4467	0·4788
Nov. ..	3·7397	9·7385	10·4318	0·1724	0·4490	0·4810
Dec. ..	3·7350	9·7172	10·4102	0·1722	0·4480	0·4800
Means	3·7308	9·7002	10·3929	0·1720	0·4473	0·4792



# HORIZONTAL MAGNETIC DIRECTION.

Horizontal Magnetic Direction, west of north, (from daily measures of the continuous curves.)

	Mean of the highest daily readings. (a)	Mean of the lowest daily readings. (b)	Means of $\alpha$ and $\beta$ . (c)	Means of daily readings at 4a.m. & 4p.m. (d)	Differences $d-c$ .	Difference of $\alpha$ and $\beta$ , or Mean daily range.	Highest reading of the month.	Lowest reading of the month.	Monthly range.
1896.	18° +								
January	33.4	14.4	23.9	27.5	3.6	19.0	40.9	4.6	45.5
February	34.8	14.6	24.7	27.1	2.4	20.2	46.7	6.6	53.3
March	39.3	20.6	30.0	30.8	0.8	18.7	49.0	3.9	45.1
April	39.4	22.3	30.9	31.4	0.5	17.1	45.4	11.4	34.0
May	38.3	22.0	30.2	31.1	0.9	16.3	66.0	2.8	63.2
June	35.6	22.5	29.1	29.6	0.5	13.1	43.4	8.9	34.5
July	36.3	21.7	29.0	29.6	0.6	14.6	43.7	14.4	29.3
August	36.5	20.5	28.5	28.9	0.4	16.0	47.4	10.4	37.0
September	36.2	19.7	28.0	28.2	0.2	16.5	48.7	9.6	58.3
October	35.8	20.9	28.4	28.6	0.2	14.9	50.4	5.4	45.0
November	32.5	20.3	26.4	27.7	1.3	12.2	40.9	2.1	43.0
December	32.5	19.5	26.0	27.8	1.8	13.0	40.9	22.6	63.5
Means	35.9	19.9	27.9	29.0	1.1	16.0	47.0	1.0	46.0
Correction for diurnal range									
—·3									
Mean for the year									
18° 28' ·7									

# HORIZONTAL MAGNETIC FORCE.

Horizontal Magnetic Force in C. G. S. units (from daily measures of the continuous curves.)

The figures in the columns are entered to the unit 10<sup>-5</sup> C. G. S.

1896.	Mean of the highest daily readings.	Mean of the lowest daily readings.	Means of $a$ and $b$ .	Means of daily readings 4a m. & 4p.m.	Differences of $a$ and $b$ or Mean daily Range.	Highest reading of the Month.	Lowest reading of the Month.	Monthly Range.
	(a)	(b)	(c)	(d)	$d-c$			
		17000 +			0 +	17000 +		0 +
January -	257	181	219	225	6	320	129	191
February -	270	187	229	227	-2	337	136	201
March -	266	191	229	235	6	317	101	216
April -	272	191	232	239	7	351	159	192
May -	273	172	223	231	8	471	-14	485
June -	269	196	233	233	0	387	174	213
July -	268	180	224	225	1	419	151	268
August -	250	163	207	220	13	301	91	210
September -	250	158	204	216	12	340	-49	389
October -	251	185	218	220	2	353	139	214
November -	245	198	222	226	4	271	131	140
December -	246	204	225	227	2	268	121	147
Means -	260	184	222	227	5	344	106	238

Correction for diurnal range

-4

Mean Horizontal Force for the year 0.17223 CG.S. units.

## DATES OF MAGNETIC DISTURBANCES, 1896.

The disturbances are divided generally into three classes, *small*, *moderate*, and *greater*; these are indicated by the initial letters of the classes, and the letter *c* denotes *calm*. Very great disturbances are marked *vg*. The days are reckoned astronomically from noon to noon. The asterisk signifies that the record was partly or wholly lost, according as it stands with or without an initial letter.

Month.	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	
Day 1	c	m	s	s	s	c	s	m	c	m	c	s	
2	m	m	s	s	vg	c	c	m	s	s	c	c	
3	m	m	s	s	vg	s	m	m	m	s	c	m	
4	m	m	g	s	s	s	m	c	s	s	m	s	
5	m	s	s	s	s	s	m	s	s	s	s	s	
6	m	s	m	c	s	s	m	m	s	s	m	s	
7	m	s	m	c	s	s	m*	m	s	c	m	c	
8	s	s	s	s	s	m	s	m	s	m	m	c	
9	m	s	s	s	s	m	c	m	s	m	m	c	
10	s	s	s	s	s	s	s	s*	s	m	s	s	
11	s	s	s	s	s	s	m	s*	s	g	c	s	
12	s	s	m	s	m	s	s	s	s	g	s*	s	
13	s	m	m	c	s	s	s	s	s	m	c	m	
14	s	m	s	s	s	m	s	c	s	s	s	s	
15	s	s	s	s	s	c	s	s	s	s	s	m	
16	s	s	s	c	s	m	s	c	s	s	s	c	
17	m	s	c	s	H	s	s	m	vg	c	s	s	
18	s	s	c	s	H	s	s	s	vg	s	s	c	
19	m	s	c	c	H	s	s	s	s	s	s	c	
20	m	c	s	s	H	s	s	m	m	s	s	c	
21	s	s	s	m	H	s	c	s	s	s	s	c	
22	s	s	s	m	H	s	s	s	s	s	c	c	
23	s	s	c	m	H	s	m	s	s	s	c	c	
24	c	s	s	m	s	c	m	s	s	s	c	c	
25	s	s	s	m	s	s	m	s	s	s	c	s	
26	s	m	m	s	s	s	s	s	s	c	s	s	
27	m	m	m	s	c	s	s	c	s	c	s	m	
28	c	g	m	s	c	s	c	c	s	c	s	s	
29	s	m	s	c	s	s	s	m	s	s	c	s	
30	m		s	s	s	s	s	s	s	s	s	c	
31	m		m		c		s	s		c		c	
Totals	c	3	1	4	6	3	5	4	5	1	6	10	14
	s	16	18	18	19	18	21	18	15	25	18	15	12
	m	12	9	8	5	8	4	9	10	5	5	5	5
	g	0	1	1	0	0	0	0	0	0	2	0	0
	vg	0	0	0	0	2	0	0	0	2	0	0	0

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APPENDIX

RESULTS

OF

METEOROLOGICAL OBSERVATIONS

TAKEN AT

ST. IGNATIUS' COLLEGE, MALTA

BY THE

REV. J. F. DOBSON, S.J.

1896.

# ST. IGNATIUS' COLLEGE, MALTA.

Lat 35° 55' N.      Long. 14° 29' E.      Barometer Readings  
reduced to 32° F. at sea level.

## METEOROLOGICAL REPORT. JANUARY, 1896.

Result of Observations taken during the Month.	Mean for the last 13 years	
Mean Reading of the Barometer . . . inches	30·081	30·030
Highest                    „                    on the 30th . . . „	30·597	30·408
Lowest                    „                    on the 10th    „	29·718	29·559
Range of Barometer Readings                    „	0·879	0·849
Highest Reading of a Max. Therm. on the 1st	64·0	65·1
Lowest Reading of a Min. Therm. on the 21st	40·1	41·4
Range of Thermometer Readings                    „	23·9	23·7
Greatest Range in 24 hours on the 4th        „	18·8	18·4
Mean of all the Highest Readings                    „	58·3	59·0
Mean of all the Lowest Readings                    „	48·0	48·3
Mean Daily Range ..                    „	10·3	10·7
Mean Temperature (deduced from Max. & Min.)	52·4	53·0
Mean Temperature (deduced from Dry Bulb)	51·8	52·7
Adopted Mean Temperature.....	52·1	52·9
Mean Temperature of Evaporation.....	46·6	48·5
Mean Temperature of Dew Point ..	41·5	45·4
Mean elastic force of Vapour                    inches	0·262	0·304
Mean weight of Vapour in a cub. ft. of air grains	3·1	3·5
Mean additional weight required for saturation	1·0	0·9
Mean degree of Humidity                    „	75	80
Mean weight of a cubic foot of air . . . grains	544·2	542·2
Fall of Rain                    „	3·050	3·730
Number of days on which Rain fell                    „	15	14
Mean amount of Cloud (an overcast sky=10)	6·2	5·3
Total number of miles of Wind indicated....	9205	8384
Mean Velocity of Wind per hour                    miles	12·4	11·2

## FEBRUARY, 1896.

Results of Observations taken during the Month.	Mean for the last 13 years.	
Mean Reading of the Barometer . . . . . inches	30.183	30.020
Highest           ,,           on the 18th   ,,	30.488	30.317
Lowest           ,,           on the 25th   ,,	29.633	29.630
Range of Barometer Readings.....   ,,	0.855	0.687
Highest Reading of a Max. Ther. on the 15th & 27th	63.8	67.3
Lowest Reading of a Min. Therm. on the 18th	40.1	41.2
Range of Thermometer Readings . . . . .	23.7	26.1
Greatest Range in 24 hours on the 27th.....	20.2	19.4
Mean of all the Highest Readings . . . . .	60.2	60.2
Mean of all the Lowest Readings . . . . .	51.3	49.1
Mean Daily Range . . . . .	8.9	1.1
Mean Temperature (deduced from Max. & Min )	54.7	53.7
Mean Temperature (deduced from Dry Bulb)	53.4	54.0
Adopted Mean Temperature . . . . .	54.1	53.9
Mean Temperature of Evaporation . . . . .	49.3	49.6
Mean Temperature of Dew Point . . . . .	46.8	46.7
Mean elastic force of Vapour . . . . . inches	0.321	0.320
Mean weight of Vapour in a cub. ft. of air grains	3.6	3.6
Mean additional weight required for saturation,,	0.7	0.8
Mean degree of Humidity.....	84	82
Mean weight of a cubic foot of air .... grains	544.4	540.6
Fall, of Rain.....           . . . . . inches	1.907	2.163
Number of days on which Rain fell . . . . .	9	9
Mean amount of Cloud (an overcast sky=10)	6.3	4.9
Total number of miles of Wind indicated.....	6607	7920
Mean Velocity of Wind per hour . . . . . miles	9.5	11.7



## MARCH, 1896.

Results of Observations taken during the Month.	Mean for the last 13 years.	
Mean Reading of the Barometer..... inches	29.991	29.995
Highest            "            on the 17th    ,,	30.317	30.351
Lowest            "            on the 30th    ,,	29.645	29.526
Range of Barometer Readings .....	0.672	0.725
Highest Reading of a Max. Therm. on the 29th	68.7	74.1
Lowest Reading of a Min. Therm. on the 13th	46.2	42.8
Range of Thermometer Readings .....	22.5	21.3
Greatest Range in 24 hours on the 3rd .....	21.4	22.8
Mean of all the Highest Readings .....	63.6	63.1
Mean of all the Lowest Readings .....	54.1	50.7
Mean Daily Range.....	9.5	12.4
Mean Temperature (deduced from Max. & Min.)	58.1	56.1
Mean Temperature deduced from Dry Bulb)	55.9	55.2
Adopted Mean Temperature.....	57.0	55.7
Mean Temperature of Evaporation .....	52.8	51.6
Mean Temperature of Dew Point .....	50.1	48.3
Mean elastic force of Vapour .....	0.362	0.340
Mean weight of Vapour in a cub.ft. of air grains	4.1	3.8
Mean additional weight required for saturation,,	0.9	1.1
Mean degree of Humidity .....	82	78
Mean weight of a cubic foot of air .... grains	536.6	537.4
Fall of Rain .....	1.026	1.040
Number of days on which Rain fell .....	8	7
Mean amount of Cloud (an overcast sky = 10)..	6.3	4.5
Total number of miles of Wind indicated ..	8967	8087
Mean Velocity of Wind per hour..... miles	12.1	11.7

## APRIL, 1896.

Results of observations taken during the Month.	Mean for the last 13 years.
Mean Reading of the Barometer . . . . inches	30·010 29·942
Highest „ „ on the 18th „	30·219 30·254
Lowest „ „ on the 2nd „	29·662 29·533
Range of Barometer Readings . . . . . „	0·557 0·721
Highest Reading of a Max. Therm. on the 21st	67·2 77·0
Lowest Reading of a Min. Therm. on the 9th	44·6 48·1
Range of Thermometer Readings . . . . .	22·6 28·9
Greatest Range in 24 hours on the 21st . . . .	20·2 21·9
Mean of all the Highest Readings . . . . .	63·0 67·5
Mean of all the Lowest Readings . . . . .	51·2 54·3
Mean Daily Range . . . . .	11·8 13·2
Mean Temperature (deduced from Max. & Min.)	56·1 60·0
Mean Temperature (deduced from Dry Bulb)	56·3 59·7
Adopted Mean Temperature . . . . .	56·2 59·8
Mean Temperature of Evaporation . . . . .	52·3 55·8
Mean Temperature of Dew Point . . . . .	48·5 52·4
Mean elastic force of Vapour . . . . . inches	0·342 0·394
Mean weight of Vapour in a cub. ft. of air grains	3·9 4·4
Mean additional weight required for saturation „	1·2 1·3
Mean degree of Humidity . . . . .	75 78
Mean weight of a cubic foot of air grains	536·3 531·4
Fall of Rain . . . . . inches	3·342 0·735
Number of days on which Rain fell . . . . .	11 5
Mean amount of Cloud (an overcast sky=10)	6·5 4·4
Total number of miles of Wind indicated . . . .	9430 8186
Mean Velocity of Wind per hour . . . . . miles	13·1 11·4

## MAY, 1896.

Results of Observations taken during the Month.	Mean for the last 13 years.	
Mean Reading of the Barometer .... inches	29.937	29.990
Highest ,, on the 11th ,,	30.145	30.184
Lowest ,, on the 19th ,,	29.717	29.626
Range of Barometer Readings.....	0.428	0.558
Highest Reading of a Max. Therm. on the 22nd †	77.5	82.1
Lowest Reading of a Min. Therm. on the 14th	52.3	53.6
Range of Thermometer Readings .....	25.2	28.5
Greatest Range in 24 hours on the 16th.....	22.2	23.6
Mean of all the Highest Readings..... †	69.7	72.7
Mean of all the Lowest Readings .....	57.0	58.6
Mean Daily Range .....	12.7	14.1
Mean Temperature (deduced from Max. & Min)	62.4	64.5
Mean Temperature (deduced from Dry Bulb)	61.7	64.0
Adopted Mean Temperature .....	62.1	64.3
Mean Temperature of Evaporation .....	58.5	60.2
Mean Temperature of Dew Point .....	55.2	56.6
Mean elastic force of Vapour ..... inches	0.436	0.460
Mean weight of Vapour in a cub. ft. of air grains	4.9	5.0
Mean additional weight required for saturation,,	1.4	1.7
Mean degree of Humidity.....	78	76
Mean weight of a cubic foot of air.... grains	528.3	526.8
Fall of Rain..... inches	1.021	0.637
Number of days on which Rain fell .....	7 †	3
Mean amount of Cloud (an overcast sky=10) †	6.1	3.9
Total number of miles of wind indicated ....	8073	7306
Mean Velocity of Wind per hour ..... miles	10.8	9.8
† Lowest reading. ‡ Highest reading yet recorded for this month.		

## JUNE, 1896.

Results of Observations taken during the Month	Mean for the last 13 years.	
Mean Reading of the Barometer ..... inches	30·020	30·015
Highest ,, on the 12th ,,	30·095	30·181
Lowest ,, on the 28th ,,	29·619	29·818
Range of Barometer Readings..... ,,	0·476	0·363
Highest Reading of a Max. Ther. on the 25th ..	89·5	90·3
Lowest Reading of a Min. Therm. on the 3rd	56·0	58·8
Range of Thermometer Readings .....	33·5	31·5
Greatest Range in 24 hours on the 13th ...	27·1	25·3
Mean of all the Highest Readings .....	82·8	80·4
Mean of all the Lowest Readings .....	66·1	64·7
Mean Daily Range..... ..	16·7	15·7
Mean Temperature(deduced from Max.& Min.)	73·8	71·8
Mean Temperature (deduced from Dry Bulb)	72·8	71·1
Adopted Mean Temperature .....	73·3	71·5
Mean Temperature of Evaporation .....	68·0	65·9
Mean Temperature of Dew Point .....	64·2	61·7
Mean elastic force of Vapour ..... inches	0·601	0·551
Mean weight of Vapour in a cubic ft. of air grains	5·6	6·0
Mean additional weight required for saturation.,	2·3	2·4
Mean degree of Humidity .....	78	72
Mean weight of a cubic foot of air ..... grains	517·6	519·8
Fall of Rain ..... inches	0·0	0·074
Number of days on which Rain fell.....	0	1
Mean amount of Cloud (an overcast sky=10)	3·7	2·1
Total number of miles of Wind indicated ..	6105	6279
Mean Velocity of Wind per hour..... miles	8·5	8·8
* Highest Reading yet recorded for June.		

## JULY 1896.

Results of Observations taken during the Month	Mean for the last 13 years.
Mean Reading of the Barometer . . . . . inches 30 026	30·007
Highest „ on the 9th „ .30 162	30·146
Lowest „ on the 30th „ 29 865	29·834
Range of Barometer Readings . . . . . „ 0·297	0·312
Highest Reading of a Max. Therm. on the 19th 103·0	97·5
Lowest Reading of a Min. Therm. on the 1st 63·3	64·7
Range of Thermometer Readings . . . . . 39·7	32·8
Greatest Range in 24 hours on the 10th . . . . 31·1	26·9
Mean of all the Highest Readings . . . . . 87·7	86·9
Mean of all the Lowest Readings . . . . . 69·0	69·8
Mean Daily Range . . . . . 18·7	17·1
Mean Temperature (deduced from Max. & Min.) 77·9	77·9
Mean Temperature (deduced from Dry Bulb) 77·3	77·0
Adopted Mean Temperature . . . . . 77·6	77·5
Mean Temperature of Evaporation . . . . . 70·6	70·4
Mean Temperature of Dew Point . . . . . 65·6	65·8
Mean elastic force of Vapour . . . . . inches 0·630	0·635
Mean weight of Vapour in a cub. ft. of air grains 6·8	6·7
Mean additional weight required for saturation,, 3·4	3·4
Mean degree of Humidity . . . . . 66	67
Mean weight of a cubic foot of air . . . . . grains 513·2	513·4
Fall of Rain . . . . . inches 0	0·035
Number of days on which Rain fell . . . . . 0	0
Mean amount of Cloud (an overcast sky=10) 1·5	0·8
Total number of miles of Wind indicated . . . . 5244	5514
Mean Velocity of Wind per hour . . . . . miles 7·0	7·5

## AUGUST, 1896.

Results of Observations taken during the month.	Mean for the last 13 years.
Mean Reading of the Barometer .. inches	30·003
Highest           "           on the 31st   ,"	30·153
Lowest           "           on the 6th   ,"	29·889
Range of Barometer Readings .....	0·264
Highest Reading of a Max Therm. on the 11th*	104·8
Lowest Reading of a Min. Therm. on the 31st†	59·4
Range of Thermometer Readings .....	45·4
Greatest Range in 24 hours on the 11th .....	24·9
Mean of all the Highest Readings .....	86·6
Mean of all the Lowest Readings.....	71·0
Mean Daily Range.....	15·6
Mean Temperature (deduced from Max & Min)	78·0
Mean Temperature (deduced from Dry Bulb)	77·4
Adopted Mean Temperature .....	77·7
Mean Temperature of Evaporation .....	70·9
Mean Temperature of Dew Point .....	66·2
Mean elastic force of Vapour..... inches	0·644
Mean weight of Vapour in a cub. ft. of air grains	7·0
Mean additional weight required for saturation ,,	3·2
Mean degree of Humidity.....	68
Mean weight of a cubic foot of air .... grains	512·8
Fall of Rain .....	0
Number of Days on which rain fell .....	0
Mean amount of Cloud (an overcast sky=10)†	2·2
Total number of miles of Wind indicated ....	7008
Mean Velocity of Wind per hour.....miles	9·4

\* Absolute Highest Reading of 13 years.  
† Lowest Reading for August.  
‡ Highest Reading for August.

## SEPTEMBER, 1896.

Results of Observations taken during the Month.	Mean for the last 13 years.	
Mean Reading of the Barometer ..... inches	30.010	30.067
Highest                    ,,                    on the 16th   ,,	30.173	30.256
Lowest                     ,,                     on the 26th   ,,	29.627	29.857
Range of Barometer Readings .....	0.546	0.359
Highest Reading of a Max. Therm. on the 5th & 21st	91.1	92.8
Lowest Reading of a Min. Therm. on the 29th	60.6	62.9
Range of Thermometer Readings .....	30.5	29.9
Greatest Range in 24 hours on the 5th .....	24.7	24.0
Mean of all the Highest Readings .....	82.7	83.5
Mean of all the Lowest Readings .....	68.6	68.9
Mean Daily Range .....	14.1	14.6
Mean Temperature (deduced from Max. & Min.)	74.7	75.3
Mean Temperature (deduced from Dry Bulb)	74.6	74.9
Adopted Mean Temperature.....	74.7	75.1
Mean Temperature of Evaporation.....	69.7	69.3
Mean Temperature of Dew Point .....	66.0	65.6
Mean elastic force of Vapour .....inches	0.639	0.624
Mean weight of Vapour in a cub. ft. of air grains	6.9	6.7
Mean additional weight required for saturation,,	2.4	2.7
Mean degree of Humidity.. .....	74	72
Mean weight of a cubic foot of air .....grains	515.9	516.8
Fall of Rain .....	0	1.085
Number of days on which Rain fell .....	0	4
Mean amount of Cloud (an overcast sky=10)	3.8	2.3
Total number of miles of Wind indicated ....	6227	5550
Mean Velocity of Wind per hour .....miles	8.6	7.7

## OCTOBER, 1896.

Results of Observations taken during the Month.	Mean for the last 13 years	
Mean Reading of the Barometer..... inches	30·036	30·047
Highest                    ,,                    on the 16th   ,,	30·249	30·262
Lowest                    ,,                    on the 2nd   ,,	29·794	29·743
Range of Barometer Readings .....	0·455	0·529
Highest Reading of a Max. Therm.on the 2nd	84·1	88·2
Lowest Reading of a Min. Therm. on the 27th	56·6	55·9
Range of Thermometer Readings.....	27·5	32·3
Greatest Range in 24 hours on the 1st .....	18·1	20·0
Mean of all the Highest Readings.....	76·5	77·5
Mean of all the Lowest Readings.....	62·7	64·8
Mean Daily Range .....	13·8	12·7
Mean Temperature(deduced from Max.& Min.)	68·7	70·0
Mean Temperature(deduced from Dry Bulb)	69·4	68·9
Adopted Mean Temperature .....	69·1	69·5
Mean Temperature of Evaporation.....	65·9	64·7
Mean Temperature of Dew Point .....	63·2	61·2
Mean elastic force of Vapour .....	0·580	0·543
Mean weight of Vapour in a cub.ft.of air grains	6·4	5·9
Mean additional weight required for saturation,,	1·5	1·8
Mean degree of Humidity.....	81	76
Mean weight of a cubic foot of air.... grains	522·0	523·0
Fall of rain .....	2·502	2·787
Number of Days on which rain fell .....	4	7
Mean amount of Cloud (an overcast sky=10)*	6·5	4·2
Total number of miles of Wind indicated ..	5933	6688
Mean Velocity of Wind per hour .... miles	8·0	9·0
* Highest Reading yet recorded for October.		



## NOVEMBER, 1896.

Results of Observations taken during the Month.	Mean for the last 13 years
Mean Reading of the Barometer..... inches*29.956	30.076
Highest           "           on the 6th   ,, 30.191	30.325
Lowest           "           on the 16th ,, 29.603	29.714
Range of Barometer Readings .....	0.588      0.611
Highest Reading of a Max. Therm. on the 1st† 83.0	76.7
Lowest Reading of a Min. Therm. on the 23rd... 49.4	50.1
Range of Thermometer Readings .....	33.6      26.6
Greatest Range in 24 hours on the 11th and 23rd*14.8	18.4
Mean of all the Highest Readings.....	69.2      68.9
Mean of all the Lowest Readings.....	58.8      57.7
Mean Daily Range .....	10.4      11.2
Mean Temperature (deduced from Max. & Min.) 62.9	62.4
Mean Temperature (deduced from Dry Bulb) 62.5	61.8
Adopted Mean Temperature .....	62.7      62.1
Mean Temperature of Evaporation.....	58.3      57.6
Mean Temperature of Dew Point.....	55.2      54.2
Mean elastic force of Vapour .....inches 0.436	0.420
Mean weight of Vapour in a cub.ft. of air grains 4.8	4.8
Mean additional weight required for saturation,, 1.3	1.3
Mean degree of Humidity .....	79      79
Mean weight of a cubic foot of air.....grains 529.1	531.9
Fall of Rain .....	5.115      3.293
Number of days on which Rain fell.....† 14.0	10
Mean amount of Cloud (an overcast sky=10)† 7.1	5.2
Total number of miles of Wind indicated ... 7767	6638
Mean Velocity of Wind per hour.....miles 10.8	9.2
* Lowest.	
† Highest yet recorded for November.	

## DECEMBER, 1896.

Results of Observations taken during the Month.	Mean for the last 13 years.	
Mean Reading of the Barometer .... inches	29·970	30·041
Highest ,, on the 9th	30·333	30·384
Lowest ,, on the 21st	29·499	29·580
Range of Barometer Readings .....	0·834	0·804
Highest Reading of a Max. Therm. on the 7th	68·6	68·7
Lowest Reading of a Min. Ther. on the 2nd ...	43·6	43·7
Range of Thermometer Readings .....	25·0	25·0
Greatest Range in 24 hours on the 2nd .....	19·9	17·4
Mean of all the Highest Readings .....	62·3	61·8
Mean of all the Lowest Readings .....	52·3	52·3
Mean Daily Range .....	10·0	9·5
Mean Temperature (deduced from Max & Min)	56·8	56·4
Mean Temperature (deduced from Dry Bulb)	56·2	56·1
Adopted Mean Temperature .....	56·5	56·3
Mean Temperature of Evaporation.....	52·6	51·9
Mean Temperature of Dew Point .....	50·1	48·6
Mean elastic force of Vapour ..... inches	0·362	0·342
Mean weight of Vapour in a cub. ft. of air grains	4·0	3·9
Mean additional weight required for saturation,,	0·9	1·1
Mean degree of Humidity .....	82	79
Mean weight of a cubic foot of air .... grains	536·5	538·4
Fall of Rain .....	3·989	4·209
Number of days on which Rain fell .....	11	15
Mean amount of Cloud (an overcast sky=10)	6·8	5·7
Total number of miles of wind indicated .....	8506	8269
Mean Velocity of ind per hour ... ..miles	11·4	11·2

## Summary of Observations FOR 1896

Results of Observations taken during the Year.	Mean for the last 13 years.	
Mean Reading of the Barometer .... inches	30 018	30-022
Highest ,, on January 30th ,,	30-597	30-486
Lowest ,, on Decem. 21st ,,	29-499	29-372
Range of Barometer Readings .....	1-098	1-114
Highest Reading of Max. Ther. on Aug. 11	104-8	99-4
Lowest Reading of a Min. Therm. on Jan. 21st*	40-1	40-3
Range of Thermometer Readings .....	64-7	59-1
Greatest Range in 24 hours on July 10th....	31-1	28-7
Mean of all the Highest Readings .....	71-9	72-5
Mean of all the Lowest Readings .....	59-2	59-3
Mean Daily Range.....	12-7	13-2
Mean Temperature (deduced from Max. & Min.)	64-7	65-0
Mean Temperature (deduced from dry bulb)	64-1	64-5
Adopted Mean Temperature .....	64-4	64-8
Mean Temperature of Evaporation .....	69-6	59-8
Mean Temperature of Dew Point .....	56-0	56-2
Mean elastic force of Vapour .....inches	0-468	0-455
Mean weight of Vapour in a cub. ft. of air grains	5-1	5-1
Mean additional weight required for saturation,,	1-7	1-8
Mean degree of Humidity.....	77	76
Mean weight of a cubic foot of air grains....	529-7	527-8
Fall of rain .....inches	21-952	19-528
Number of Days on which rain fell.....	79	77
Mean amount of Cloud (an overcast sky=10)	5-2	3-7
Total Number of Miles of Wind indicated ...	89072	83988
Mean Velocity of Wind per hour .....miles	10-1	9-6

\* And 18th February.

SINCE MAY, 1883.

The Maximum monthly mean height of the Barometer was  
in November, 1889, and was ..... inches 30-249  
The Minimum ,, ,, in January, 1886, and was 29-844

The Maximum yearly mean height of the Barometer was in 1884, and was .....	inches	30·057
The Minimum ,, ,, in 1890, and was .....		29·996
The greatest monthly range of the Barometer was in January, 1886, and was .....		1·201
The least ,, ,, in August, 1883, and was .....		0·188
The highest reading of the Barometer was on January 26th, 1887, and was .....		30·627
The lowest ,, ,, on January 17th, 1886, and was .....		29·155
Extreme range .....	inches	1·472
The highest temperature was on August 11th, 1896, and was ..		104·8
The lowest ,, ,, February 19th, 1895 .....		34·2
The highest mean temperature of a month, was in August, 1888, and was .....		83·2
The lowest ,, ,, ,, February, 1891, ..		49·8
The greatest monthly mean weight of vapour } in a cubic foot of air .....	} August, 1885	7·9
The least ,, ,, January and February, 1891, and was grs		3·0
The highest observed Dew point was on August 30th, 1885, and was .....		78·7
The lowest ,, ,, February 19th, 1895, and was ..		27·9
The greatest fall of rain in a month, was in December, 1889, and was .....	inches	8·952
The greatest number of days on which } rain fell in one month .....	} January, 1889 ..	24
The greatest fall of rain in a year was in 1889 and was inches		26·044
The smallest ,, ,, ,, 1895 ,, ,,		11·384
The greatest number of rainy days in a year was in 1894 and was		90
The least ,, ,, ,, 1888 ,,		59
The highest temperature registered in sunshine was on the 5th July, 1895, and was .....		159·0
The lowest temperature registered on ground was on the 19th February, 1895, and was .....		31·7
The highest observed sea temperature was on the 5th August, 1887, and was .....		85·0
The lowest ,, ,, 30th January, 1895, and was ..		55·5
The smallest mean amount of cloud observed in one month was in August, 1890, and was .....		0·0
The greatest ,, ,, in January, 1894, and was ..		7·2

## NOTES FOR THE SEPARATE MONTHS.

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### JANUARY.

THE Dew point ranged between  $54\cdot9^{\circ}$  on the 1st, and  $32\cdot2^{\circ}$  on the 8th.

In Sunshine, the highest reading was  $114\cdot4^{\circ}$  on the 5th.

On Ground, the lowest reading was  $33\cdot0^{\circ}$  on the 21st.

The Sea has fallen to  $58\cdot0^{\circ}$ , averaging  $59\cdot6^{\circ}$ .

Thunderstorms passed on the 25th and 26th.

Hail fell on the 7th, 8th, and 25th.

Total Rainfall since last June 10·027 inches ; the average of 13 years, 15·250 inches.

### FEBRUARY.

The Dew-Point ranged between  $35\cdot3^{\circ}$  on the 17th and  $56\cdot9^{\circ}$  on the 24th.

In Sunshine, the highest reading was  $119\cdot1^{\circ}$  on the 15th.

On Ground, the lowest reading was  $33\cdot2^{\circ}$  on the 18th.

The Sea has risen to  $59\cdot8$ , averaging  $59\cdot5$ .

Thunderstorms passed on the 24th.

Hail fell on the 16th and 17th.

Total Rainfall since last June, 11·934 inches ; the average of 13 years, 17·413 inches.

## MARCH.

The Dew-point ranged between  $56.3^{\circ}$  on the 24th; and  $42.0^{\circ}$  on the 30th.

In Sunshine, the highest reading was  $132.3^{\circ}$  on the 2nd.

On Ground, the lowest reading was  $40.0^{\circ}$  on the 13th.

The Sea has averaged  $59.0^{\circ}$ .

Thunderstorms passed on the 3rd.

Lightning was seen on the 30th.

Total Rainfall since last June 12.960 inches ; the average of 13 years, 18.453 inches.

## APRIL.

The Dew-point ranged between  $40.4^{\circ}$  on the 14th, and  $56.5^{\circ}$  on the 23rd.

In Sunshine, the highest reading was  $134.7^{\circ}$  on the 30th.

On Ground, the lowest reading was  $37.2^{\circ}$  on the 4th.

The Sea has averaged  $60.0^{\circ}$

Thunderstorms passed on the 8th, 10th, and 28th.

Lightning was seen on the 4th and 6th.

Hail fell on the 8th.

Total Rainfall since last June 16.302 inches ; the average of 13 years, 19.188 inches.

Mean temperature for the month, highest reading of Max. Ther., and lowest reading of Min. Ther. are the lowest yet recorded for April ; whilst total rainfall and mean amount of cloud give notably the highest readings.

## MAY.

The Dew-point ranged between  $47.3^{\circ}$  on the 2nd and  $60.8^{\circ}$  on the 29th.

In Sunshine, the highest reading was  $129.7^{\circ}$  on the 22nd

On Ground, the lowest reading was  $44.8^{\circ}$  on the 3rd.

The Sea has risen to  $67.0^{\circ}$ , averaging  $63.2^{\circ}$ .

Thunderstorms passed on the 12th.

Lightning was seen on the 23rd.

Total Rainfall since last June 17.323 inches ; the average of 13 years, 19.825 inches.

## JUNE.

The Dew-point ranged between  $50.2^{\circ}$  on the 11th and  $67.8^{\circ}$  on the 27th.

In Sunshine, the highest reading was  $146.6^{\circ}$  on the 28th.

On Ground, the lowest reading was  $50.0^{\circ}$  on the 3rd and 8th.

The Sea has risen to  $71.5^{\circ}$ , averaging  $68.3^{\circ}$ .

Lightning was seen on the 1st and 16th.

Total Rainfall since last June  $17.323$  inches; the average of 13 years  $19.899$  inches.

## JULY.

The Dew-point ranged between  $55.8^{\circ}$  on the 4th, and  $73.9^{\circ}$  on the 16th.

In Sunshine, the highest reading was  $150.7^{\circ}$  on the 19th.

On Ground, the lowest reading was  $58.1^{\circ}$  on the 10th.

The Sea has risen to  $80.0^{\circ}$ , averaging  $77.3$ .

Thunderstorms passed on the 13th.

Lightning was seen on the 21st.

## AUGUST.

The Dew-point ranged between  $76.0^{\circ}$  on the 6th, and  $53.3^{\circ}$  on the 29th.

In Sunshine the highest reading was  $152.0^{\circ}$  on the 11th.

On Ground the lowest reading was  $52.9$  on the 31st.

The Sea has fallen to  $76.2^{\circ}$ , averaging  $79.0^{\circ}$ .

Thunderstorms passed on the 28th.

## SEPTEMBER.

The Dew-point ranged between  $74.01$  on the 10th, and  $53.5^{\circ}$  on the 26th.

In Sunshine the highest reading was  $143.7^{\circ}$  on the 10th.

On Ground, the lowest reading was  $55.3^{\circ}$  on the 29th.

The Sea has fallen to  $74.6^{\circ}$ , averaging  $77.0^{\circ}$ .

Thunderstorms passed on the 14th.

Lightning was seen on the 17th and 18th.

Total Rainfall since last June — inches; the average of 13 years, 1.231 inches.

#### OCTOBER.

The Dew-Point ranged between  $71.6^{\circ}$  on the 14th and  $47.3^{\circ}$  on the 16th.

In Sunshine, the highest reading was  $134.8^{\circ}$  on the 12th.

On Ground, the lowest reading was  $50.3^{\circ}$  on the 27th.

The Sea has fallen to  $72.0^{\circ}$ , averaging  $73.5$ .

Thunderstorms passed on the 1st, 2nd, 3rd, and 5th.

Lightning was seen on the 4th, 12th, 13th, 24th, and 25th.

Hail fell on the 3rd.

Total Rainfall since last June 2.502 inches; the average of 13 years, 4.018 inches.

#### NOVEMBER.

The Dew-point ranged between  $68.5$  on the 6th, and  $44.1^{\circ}$  on the 30th.

In Sunshine, the highest reading was  $124.7^{\circ}$  on the 16th.

On Ground, the lowest reading was  $44.4^{\circ}$  on the 23rd.

The Sea has fallen to  $65.5^{\circ}$ , averaging  $69.8^{\circ}$ .

Thunderstorms passed on the 16th, 24th, 25th.

Lightning was seen on the 1st, 6th, 9th, 11th, 13th, 14th, 17th, 22nd, 23rd, 29th.

Hail fell on the 16th, 26th.

Total Rainfall since last June 7.617 inches; the average of 13 years, 7.311 inches

#### DECEMBER.

The Dew-point ranged between  $40.1^{\circ}$  on the 1st, and  $58.1^{\circ}$  on the 20th.

In Sunshine, the highest reading was  $117.2^{\circ}$  on the 7th.

On Ground, the lowest reading was  $38.0^{\circ}$  on the 2nd.

The Sea has fallen to  $59.5^{\circ}$ , averaging  $62.5$ .

Thunderstorms passed on the 20th.

Hail fell on the 20th.

Total Rainfall since last June, 11.604 inches; the average of 13 years, 11.520 inches.



## NOTES FOR THE YEAR.

The Dew-point ranged between  $32\cdot2^{\circ}$  on January 8th, and  $76\cdot0^{\circ}$  on August 6th.

In Sunshine, the highest reading was  $152\cdot0^{\circ}$  on August 11th.

On Ground, the lowest reading was  $33\cdot0^{\circ}$  on January 21st.

The Sea has ranged from  $58\cdot0^{\circ}$  on January 30th, to  $81\cdot8^{\circ}$  on August 5th.

Thunderstorms passed on 19 days.

Lightning was seen on 23 days.

Hail fell on 10 days.

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 CORRIGENDUM.

In the Summary for 1895, the lowest mean temperature of a month was given "February 1891, and was  $49\cdot5^{\circ}$ ," should be

" " "  $49\cdot8^{\circ}$ .