$$
\begin{aligned}
& Q C 985.5 \\
& 0664
\end{aligned}
$$

## TOROINTO

## General Meteorological Register

FOR THE YEAR 1894

# REMARKS ON THE METEOROLOGICAL RESULTS AT TORONTO FOR THE YEAR 1894. 

$\qquad$

## TEMPERATURE.

The mean temperature of 1894 was $46^{\circ} \cdot 75$, being $2^{\circ} .59$ warmer than the average of the previous 54 years, and $3^{\circ} 22$ warmer than 1893. It is the warmest year in the whole series with the single exception of 1878, the mean temperature of which was $47^{\circ} \circ 9$.

The mean temperature of the several months was in nine instances above and in three below the average for their respective months, the average excess to the average defect being in the ratio of $3^{\circ}{ }^{\circ} 96$ to $1^{\circ}{ }^{\circ} 52$. On each of 238 days the mean temperature was above the normal of that particular day and below on 127 days. The mean temperature of each month, with the difference from the normal, was: January, $28^{\circ}{ }^{\circ} 50+6^{\circ} 17$; February, $20^{\circ} \cdot 74-1^{\circ} 89$; March, $35^{\circ} .97+7^{\circ} \cdot 28$; Ap.il, $44^{\circ} \cdot 37+3^{\circ} \cdot 51$; May, $52^{\circ} \cdot 56+0^{\circ} \cdot 49$; June, $66^{\circ} 45+4^{\circ} 24$; July, $69^{\circ} \cdot{ }^{\circ}$ IO $+1^{\circ} \cdot 48$; August, $65^{\circ}{ }^{\circ}$,, ,- $0^{\circ} 99$; September,
 $31^{\circ} 18+5^{\circ} \circ 0$. Dividing the year into the ordinary seasons we have for Winter, $28^{\circ}{ }^{\circ} 40$; Spring, $54^{\circ} \cdot 46$; Summer, $65^{\circ} \cdot 55$; Autumn, $38^{\circ} \cdot 59$. The thermic anomalies differ from the normal temperature proper to the latitude : Win ter, $-7^{\circ} \cdot 46$; Spring, $-3^{\circ \cdot} \cdot 17$; Summer, $-0^{\circ} 69$; Autumn, $-5^{\circ} .75$. On three months during the year the observed temperature exceeded the normal value for the latitude, viz: June, $I^{\circ} 85$ (precisely the same as June, 1893) ; July, $0^{\circ} 40$, and September, $\mathrm{o}^{\circ} \cdot 75$. The mean daily range for the year was $16^{\circ} \cdot 27$, the greatest monthly average occurring in July (20.78) and the least in December ( $11^{\circ} 57$ ). The greatest daily range $\left(34^{\circ} \cdot 3\right.$ ) occurred on the Ist May, and the least $\left(4^{\circ} \cdot 2\right)$ on the 13th of December. The warmest month relatively was March, estimated by its excess ( $7^{\circ} \cdot 28$ ) above the normal temperature. The coldest absolutely was February ( $20^{\circ} \cdot 74$ ) ; it was also the coldest relatively, its mean being $\mathrm{I}^{\circ} 89$ below normal.

The climatic difference was $48^{\circ} \cdot 36$, the warmest day was the 28 th of July mean temperature, $78^{\circ} \circ 00$, and the coldest the 24 th of February, $3^{\circ} \cdot 18$ below zero ; but the warmest day relatively was the 5 th of March, it being $19^{\circ} \cdot 4$ above its proper normal and the coldest the 24th of February, which was $27^{\circ} .8$ below the normal. The average temperature of the warmest and coldest days from former years was $77^{\circ} 9^{1}$ and $2^{\circ} 17$ below zero. The highest temperature of the year ( $90^{\circ} \cdot 7$ ) occurred on the 22nd June, the lowest ( $9^{\circ} \cdot 9$ below zero) on the 24th of February. The annual range from these extremes was $100^{\circ} 6$, being $10^{\circ} \cdot 5$ less than in 1893 and $2^{\circ} \cdot 4$ below the average annual range. There were twenty-one instances on which the temperature at the hour of observation was $20^{\circ}$ above the normal and twenty when a defect of equal amount occurred. The most striking deviations from the daily normal curve of temperature have been as follows :-

## IN EXCESS.



IN DEFECT.

| eb. 4, Mean Deviation ${ }^{\circ}$ - 77.5 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| " 12 , | Mean Deviation, | $17{ }^{\circ} 5$ $140^{\circ}$ | May |  | Mean |  |  | 42 |
| " 16, | " | $16^{\circ} 9$ | June |  |  |  |  | $3^{\prime} 2$ |
| " 23. | / | 22.3 | Jut | 7 |  | 4 |  | 20 |
| " 424 , | " | 27.8 | Nov. |  |  | , |  | 3.2 |
| " 25, | " | 14.4 |  | I9, |  |  |  | 5.6 |
| Mar.26, | / | $15^{\prime} 2$ | Dec. | 27, |  |  |  | 74 |
| 27. | , | 12.5 |  | 28, |  |  |  | 9*4 |

## BAROMETRIC PRESSURE.

The mean height of the Barometer was 29.6246 inches, being 0.0057 inches in excess of the average. The month which showed the greatest deviation from the normal was October, o 109 in defect; June showing the least, 0.003 in defect. Average deviation without reference to sign was small, heing only o.o30. The highest reading was 30.516 inches at 11 a.m. of February 24th, and the lowest $29^{\circ} 035$ at 6 a.m. of June 2nd giving a range of pressure of $1 \cdot 48 \mathrm{I}$ inches.

The number of days of large abnormal variation in which the average pressure differed by two tenths and upwards from the normal was 60 , the greatest number (14) occuring in January, and least (I) in August.

## HUMIDITY.

The mean humidity of the year was 76 , being 1 per cent below the average, the greatest monthly humidity was $8 \mathbf{I}$, in January, and the least, 65 , in April. There were 23 cases of complete saturation at the hour of observation; 3 in January, 5 in February, 1 in March, 2 in May, 3 in September, 4 in October, 1 in November, 4 in December. The least humidity of the year at the hour of observation was 21, on the 7th of May, at 4 p.m.

## CLOUDS.

The extent of the sky clouded was on the average of the year six-tenths of the whole. July was the clearest month and November the most
cloudy. During the year there were 43 days completely clouded, being 27 less than the average (1893-79), the greatest number (12) occuring in December, none being registered in the months, July and September.

## WIND.

The resultant direction of the wind was $\mathrm{N} .78^{\circ} \mathrm{W}$., showing $12^{\circ}$ more northing than 1893 and $10^{\circ}$ more northing than the 15 years to 1889 . The mean velocity of the wind without reference to direction was 5.67 miles. The most windy months were February and November, with an average of 7.86 miles per hour, and the least windy was June, with an average of $3^{\prime} \mathrm{IO}$ miles. The windiest day was February, 8th, average velocity $36^{\prime \prime}$ Io miles per hour, and the day of least velocity July 15 th, average velocity o ${ }^{\prime} 92$ per hour, The highest velocity in one hour was 58 miles 6 to $7 \mathrm{p} . \mathrm{m}$. of the 12 th of February.

## RAIN AND SNOW.

The total depth of rain that fell during the year was 25785 inches, being I. 666 inches less than the average, and 5360 less than the rainfall of 1893 . The depth of snow, 37.8 inches, was 31.4 inches less than the average, $47^{\circ} 9$ inches less than the snowfall of 1893 . May was the most rainy month as to quantity ( $9^{\circ} 365$ ), and also with reterence to the number of rainy days. November was the least rainy month, less than two-tenths having fallen, or about one-fourteenth of the usual quantity for that month.

The heavy rainfall in May has only been exceeded once in any month. during the whole series (September 1843, $9^{\circ} 760 \mathrm{in}$.) and was principally caused by a severe disturbance which remained almost stationary for some days, $6^{\circ} 540$ in., having fallen from the 17 th to the 2 Ist.

The day of greatest rainfall was the 2Ist of May, when 2.695 inches fell. There was only one other day during the year on which over one inch fell: the 2nd of September, when r 69 inches fell.

The heaviest fall of snow in one day was 6.5 inches, on the 12th of February. Rain fell on 144 days, being 30 more than the average number and 16 more than 1893 . Snow fell on 53 days, being i4 less than the average and 38 less than 1893. There were 179 days on which neither rain nor snow fell ; in 1893 the number was 156 . The rain occupied 502 hours, and the snow 179 hours in its fall, giving a total of 681 hours, or 28 days and 9 hours when rain or snow was actually falling.

## THUNDER-STORMS.

Of the 36 thunder-storms occuring during the year, the first was on the 19th of April, and the latest on October 3 rd, I was recorded in April, 7 in May, 8 in June, 7 in July, 5 in August, 7 in September and I in October. The most severe storms were on the 25th and 27th of May, 12th, 18th and 23 rd of June, 6th July, 2nd of August, and 2nd and 13 th of September.

Lightning alone was observed on 2 occasions.

## AURORA.

Auroral displays were more numerous than in the previous year. Of the 23 observed, 5 were of the first class, 4 of the second class, 3 of the third class, and II of the fourth class. There were 199 nights favourable for observation, the most brilliant displays occuring on the 3rd of January, 22nd, 23rd, 24th February, 3 th March, 12 th April, gth of June and 14th of September.

## SUNSHINE.

The total duration of bright sunshine during the year was 20177 hours; number of hours the sun was above the horizon, $4463^{\circ} 3$; ratio of registered to possible, 0.45 hours.

Latitude $43^{\circ} 39^{\prime} 4 \mathrm{~N}$. Logitude, $5 \mathrm{~h} .17 \mathrm{~m} .34^{\prime} 65 \mathrm{~W}$. Elevation

|  | Jan. | Feb. | Mar. | ApriL. | M ${ }_{\text {ay }}$. | June. | July. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Average temperature $\qquad$ <br> Difference from average (54 years) <br> Thermic anomaly (Lat. $43^{\circ} 40^{\prime}$ ) | $\begin{gathered} 28.50 \\ \because 6.17 \\ -4.30 \end{gathered}$ | $\begin{array}{r} 20.74 \\ -1899 \\ -13.96 \end{array}$ | $\begin{array}{r} 35997 \\ +7.98 \\ -4.13 \end{array}$ | $\begin{array}{r} 49.37 \\ +3.51 \\ +5.83 \end{array}$ | $\begin{array}{r} 52.56 \\ +0.49 \\ -\quad 5.54 \end{array}$ | $\begin{array}{r} 6645 \\ +4.4 \\ +185 \end{array}$ | $\begin{array}{r} 69.10 \\ +1.48 \\ +0.40 \end{array}$ |
| Highest temperature Lowest temperature <br> Monthly and annual ranges............ <br> Average maximum temperature Average minimum temperature.. Average daily range.................. Greatest daily range.............. | $\begin{aligned} & 47.3 \\ & 10.3 \\ & 37.0 \\ & 34.53 \\ & 22.06 \\ & 12.47 \\ & 23 \cdot 5 \end{aligned}$ | $\begin{array}{r} 43.1 \\ -99.9 \\ 3.0 \\ 28.01 \\ 12.44 \\ 15.56 \\ 30.8 \end{array}$ | $\begin{aligned} & 63.4 \\ & 14.1 \\ & 49.3 \\ & 43.10 \\ & 28.25 \\ & 14.85 \\ & 31.3 \end{aligned}$ |  | $\begin{aligned} & 75 \cdot 6 \\ & 35.1 \\ & 40.5 \\ & 61.45 \\ & 43.40 \\ & 18.05 \\ & 34.3 \end{aligned}$ | $\begin{aligned} & 90 \cdot 7 \\ & 379 \\ & 52.8 \\ & 76.37 \\ & 56.87 \\ & 19.05 \\ & 29.8 \end{aligned}$ | $\begin{aligned} & 89 \cdot 9 \\ & 46.6 \\ & 43.3 \\ & 79.48 \\ & 58.70 \\ & 20.78 \\ & 28 \cdot 0 \end{aligned}$ |
| Average height of bur. at $32^{\circ} \mathrm{Fah} . .$. Difference from average (53 years) | $\begin{array}{r} 29 \cdot 6818 \\ +0 \cdot 0329 \end{array}$ | $\begin{aligned} & 18.69 \cdot 6997 \\ & 29.0587 \end{aligned}$ | $\begin{array}{l\|l\|} 97 \\ 39 \cdot 62.5 \\ +0 \cdot 0208 \end{array}$ | $\begin{array}{l\|l} 5 & 29 \cdot 6582 \\ 8+0^{\circ} \cdot 0628 \end{array}$ | $\begin{array}{c\|c} 29.5420 \\ 8 & -0.0332 \end{array}$ | - 29.5666 | $\begin{gathered} 69.5981 \\ 11^{2}+0^{0} \cdot 0102 \end{gathered}$ |
| Highest barometer. Lowest barometer. Monthly and annual ranges.......... | $\begin{gathered} 30 \cdot 270 \\ 29 \cdot 188 \\ y_{1} \cdot 182 \end{gathered}$ | $\begin{array}{r} 30 \cdot 516 \\ 29 \cdot 058 \\ 1 \cdot 458 \end{array}$ |  | $\begin{array}{c\|c} 6 & 30 \cdot 077 \\ 6 & 29 \cdot 171 \\ 0 & 0 \cdot 906 \end{array}$ | $\begin{array}{r} 30 \cdot 034 \\ 2 \cdot 083 \\ 0 \cdot 951 \end{array}$ | $\begin{gathered} 29 \cdot 865 \\ 29 \cdot 035 \\ 0 \cdot 830 \end{gathered}$ | $\begin{array}{r} 29.875 \\ 29.302 \\ 0.573 \\ \hline \end{array}$ |
| Average humidity of the air........... Difference from the average ........ | -81 | 80 | 76 -2 | -65 | 73 +3 | 75 +2 | 69 -3 |
| Average elasticity of aqueous vapour. temperature of Dew Point. | $\begin{gathered} 0 \cdot 132 \\ 23 \cdot 2 \end{gathered}$ | $\begin{gathered} 0.100 \\ 15.6 \end{gathered}$ | $\begin{gathered} 0.167 \\ 28 \cdot 8 \end{gathered}$ | $\begin{gathered} 0 \cdot 194 \\ 32 \cdot 2 \end{gathered}$ | $\begin{gathered} 0 \cdot 289 \\ 44 \cdot 5 \end{gathered}$ | $\begin{gathered} 0 \cdot 500 \\ 57 \cdot 6 \end{gathered}$ | ${ }_{57}{ }^{\circ} \cdot 892$ |
| Average of cloudiness .................. Difference from average (40 years).. | ${ }^{0} 0.70$ | $\begin{array}{r}0.58 \\ -\quad 11 \\ \hline\end{array}$ | $\begin{array}{r}0.65 \\ +\quad 02 \\ \hline\end{array}$ | $\begin{array}{r}0.49 \\ -\quad 10 \\ \hline\end{array}$ | $\begin{array}{r}0.64 \\ +0.7 \\ \hline\end{array}$ | 0.51 -0.2 | $\begin{array}{r}0.45 \\ -\quad 04 \\ \hline\end{array}$ |
| Resultant direction of wind........... |  |  |  |  |  | S 70 W |  |
| Average velocity (miles per hour)..... <br> Difference from average ( 17 years). | $\begin{gathered} 1 \cdot 78 \\ 1.68 \\ \cdots \end{gathered}$ | $\left\|\begin{array}{r} \mathrm{N} \\ \hline 2.33 \\ 7.86 \\ \end{array}\right\|$ | $\begin{array}{r} 1 \\ 1.63 \\ 6.11 \end{array}$ | $\left\lvert\, \begin{gathered} \mathrm{N} 22 .{ }^{\mathrm{E}} \\ 15.86 \\ \cdots \\ \hline . \end{gathered}\right.$ | $\begin{aligned} & 12.7 \\ & { }^{12} 72 \\ & 5.78 \end{aligned}$ | $\begin{aligned} & 0.77 \\ & 3 \cdot 10 \end{aligned}$ | $\begin{array}{r} \text { S } 73 . W \\ 0.49 \\ 3.11 \end{array}$ |
| Total amount of rain in inches........ Difference from average (54 years)., Number of days of rain ............. | $\begin{gathered} 0.960 \\ -0.210 \\ 10 \end{gathered}$ | $\begin{gathered} 0.650 \\ 0.276 \\ 5 \end{gathered}$ | $\begin{aligned} & 1 \cdot 225 \\ & 0 \cdot 210 \\ & 13 \end{aligned}$ | $\begin{aligned} & 0.620 \\ & 1.610 \\ & { }_{8} \end{aligned}$ | $\begin{array}{r} 9 \cdot 365 \\ +6427 \\ +\quad 41 \end{array}$ | $\begin{aligned} & 1.080 \\ & -1.872 \\ & 15 \end{aligned}$ | $\left\lvert\, \begin{gathered} 1.610 \\ -1.391 \\ 13 \end{gathered}\right.$ |
| Total amount of snow in inches. Difference from average (54 years). Number of days of snow............ | $\begin{array}{r} 7 \cdot 1 \\ -10 \cdot 11 \\ 10 \end{array}$ | $\begin{array}{r} 16 \cdot 2 \\ -1.08 \\ -11 \end{array}$ | $\left\|\begin{array}{c} 1 \cdot 0 \\ -11 \cdot 62 \\ 8 \end{array}\right\|+$ | $\begin{array}{r} 71 \\ +4 \cdot 71 \\ \hline \end{array}$ | - ${ }_{-1}$ | … $\cdots$ | …. $\cdots$ |
| Number of fair days. Number of days completely clouded.. | ${ }^{14} 8$ | ${ }_{2}^{13}$ | ${ }_{3}^{12}$ | 21 2 | 10 7 | 15 1 | ${ }_{0}^{17}$ |
| Number of auroras observed Possible to see aurora (No. of nights) | 12 | 14 | ${ }_{17}^{2}$ | $2{ }_{21}^{4}$ | 17 | 19 | ${ }_{23}^{3}$ |
| Number of thunder storms. Number of fogs | ${ }_{1}^{0}$ | $0$ | 0 3 | ${ }_{0}^{1}$ | 7 2 | 8 1 | 7 |
| Number of hours of bright sunshine. Number of hcurs of possible sunshine. | ${ }^{985} \cdot 7$ | $\begin{array}{l\|l} 143.5 \\ 291 \cdot 4 & 1 \\ \hline \end{array}$ | 1469.9 369 | ${ }_{4}^{223} \cdot 6$ | ${ }_{46171}^{17} 1$ | ${ }_{465}^{26 \cdot} \cdot 2$ | $\begin{array}{r} 266.0 \\ 470 \cdot 9 \end{array}$ |

REGISTER FOR THE YEAR 1894.
TORONTO, ONTARIO.
above Lake Ontario, 108 feet. Elevation above the Sea, 350 teet.

| Ave. | Skpr. | Ocr. | Nov. | गкс. | . 1894. | 1893. | 1892. | 1891. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{r} 69.29 \\ -\quad 6.99 \\ -3.22 \end{array}$ | $\begin{array}{r} +3.72 \\ +0.75 \end{array}$ | $\begin{array}{r} 50.14 \\ +35.79 \\ -3.66 \end{array}$ | $\begin{array}{r} 39.4 \\ -1.48 \\ -8.76 \end{array}$ | $\begin{array}{r} 31.18 \\ +5.10 \\ -4.82 \end{array}$ |  |  | $\begin{array}{r} 49.61 \\ +0.64 \\ -6.45 \end{array}$ | $\begin{array}{ll} 1 & 44^{\circ} 87 \\ 5 & +181 \\ 1 & 1 \\ \hline \end{array}$ | $\begin{gathered} 45.02 \\ +0.86 \\ -600 \end{gathered}$ |  |  |
| $85 \cdot 1$ 46.3 38.8 75.45 55.69 19.76 $30 \cdot 0$ |  | $\begin{aligned} & 67 \cdot 3 \\ & 33.3 \\ & 34.0 \\ & 57.3 \\ & 57 \\ & 43.31 \\ & 14.02 \\ & 23.3 \end{aligned}$ | $\begin{aligned} & 54 \cdot 8 \\ & 10.0 \\ & 44.8 \\ & 40.68 \\ & 27.55 \\ & 17.13 \\ & 24.18 \end{aligned}$ | $\begin{aligned} & 49 \cdot 8 \\ & -\mathbf{c}^{5} .0 \\ & 54.3 \\ & 57.15 \\ & 25.58 \\ & 25.58 \\ & 24 \cdot 67 \end{aligned}$ |  |  | $\begin{gathered} 93.5 \\ -10.2 \\ 10.7 \\ \ldots .7 \\ \ldots 5 . \\ 15.58 \\ 38.6 \end{gathered}$ | $\begin{array}{r} 91 \cdot 9 \\ -92.9 \\ -93.9 \\ \ldots \ldots \\ \hline i 6.45 \\ 37.8 \end{array}$ |  |  |  |
| 29.6273 +0.0083 | ${ }_{2}^{296654}$ | ${ }^{29} 0.53678$ |  | 29.6654 <br> +0.0154 | 54. 29.6246 | ${ }^{46}{ }_{-}^{29 \cdot 5906}$ | 6. 29.632 |  |  |  |  |
| $\begin{aligned} & 29 \cdot 873 \\ & 29.835 \\ & 0.5685 \\ & 0.565 \end{aligned}$ | $\begin{aligned} & 30 \cdot 075 \\ & 20 \cdot 2059 \\ & 0 \cdot 816 \end{aligned}$ |  | $\begin{gathered} 30.398 \\ 29.114 \\ 29.924 \end{gathered}$ |  | 30.516 |  | 7 $\begin{aligned} & 30 \cdot 356 \\ & 28.816 \\ & 1 \\ & 1\end{aligned}$ |  | 30:334 | $3{ }^{\circ}$ | 32 |
| -66 | 78 +1 | ${ }_{0}^{79}$ | -73 | -74 | - ${ }_{76}{ }^{1}$ | 77 | ${ }_{0}^{77}$ | $\begin{array}{r}75 \\ -2 \\ \hline\end{array}$ | $\begin{array}{r}78 \\ +1 \\ \hline\end{array}$ | ${ }_{0}^{77}$ | 74 |
| \%2.411 | ${ }^{0} 5 \cdot 749$ | ${ }^{42} 2^{08}$ | ${ }_{26}{ }^{0} \cdot 194$ | 25.143 |  | $7{ }^{4} 8.262$ | ${ }_{4}{ }^{0} \cdot 5^{272}$ | ${ }_{4}{ }_{2} 0^{267}$ | ${ }^{0}{ }^{0} 2.272$ | ${ }_{42}^{0.271}$ | 9.53 |
| 07 | $+$ | $\begin{array}{r}0.66 \\ + \\ \hline 04 \\ \hline\end{array}$ | - $\begin{array}{r}0.73 \\ -02\end{array}$ | ${ }^{69}$ | - $\begin{array}{r}0.60 \\ -01\end{array}$ | - $\begin{array}{r}0.59 \\ -122 \\ \hline\end{array}$ | 8. 00 | - $0 \cdot 5$ | 0.62 | $\begin{array}{r}0: 63 \\ +02 \\ \hline\end{array}$ | $\begin{array}{r}0.63 \\ +02 \\ \hline\end{array}$ |
| $\begin{gathered} 31 . \mathrm{Y} \\ 0.53 \\ 0.59 \\ \hline .29 \end{gathered}$ | $\left\lvert\, \begin{gathered} 560 \mathrm{w} \\ 0.43 \\ 4.91 \\ .7 .9 \end{gathered}\right.$ | $\begin{aligned} & 0.95 \\ & 5 \cdot 63 \end{aligned}$ | $\begin{gathered} 29 \\ \hline 286 \end{gathered}$ | $\begin{aligned} & 75 \\ & \cdots \end{aligned}$ | $\left[\begin{array}{c} 1010 \\ 5 \cdots 67 \\ \cdots \cdots \\ \hline 10 \end{array}\right.$ |  | $\begin{gathered} 1.81 \\ 8.17 \\ \cdots \\ \cdots \end{gathered}$ |  | $\left.\begin{array}{r} \mathrm{N} .9 . \mathrm{W} \\ 1.80 \\ 9.19 \\ -0.45 \end{array} \right\rvert\,$ |  | $\left(\begin{array}{c} \mathrm{N} 59 \mathrm{~W} \\ 2.67 \\ 9.71 \\ +0.07 \end{array}\right.$ |
| $-2.5$ |  |  | $\left[\begin{array}{c} 0.199 \\ -2 \cdot 497 \\ 12 \end{array}+\right.$ |  |  | $128$ | ${ }_{134}^{-2166}$ | $-1.7$ | $\begin{aligned} & 33 \cdot 110 \\ & -4.659 \\ & 145 \\ & \hline 150 \end{aligned}$ |  | $\begin{aligned} & 22.819 \\ & \hdashline \\ & \hline 133 \\ & \hline 183 \end{aligned}$ |
| …: | …. | -0.67 | $\begin{gathered} 4.2 \\ -0.43 \\ 14 \end{gathered}$ | $-12 \cdot 0$ | $\left\lvert\, \begin{gathered} 37 \cdot 8 \\ -31: 85 \\ 53 \\ 53 \end{gathered}\right.$ | $\begin{gathered} +16 \cdot 55 \\ 91 \end{gathered}$ | $\begin{aligned} & 42 \cdot 2 \\ & -20.95 \\ & -83 \end{aligned}$ | $\begin{gathered} -21 \cdot 35 \\ 70 \end{gathered}$ | $\left\|\begin{array}{c} 52 \cdot 6 \\ -9.55 \\ -81 \\ 81 \end{array}\right\|$ |  | $\begin{gathered} 34 \cdot 6 \\ -34 \cdot 65 \\ \hline 83 \end{gathered}$ |
| ${ }_{2}^{26}$ | ${ }_{0}^{16}$ | ${ }_{1}^{14}$ | 7 | ${ }_{12}^{14}$ | 179 43 | ${ }_{1}^{156}$ | ${ }^{165}$ | ${ }_{60}^{193}$ | ${ }_{159} 6$ | 187 79 | ${ }^{175}$ |
| 14 | ${ }_{22}^{2}$ | ${ }_{13}^{0}$ | ${ }_{14}^{0}$ | ${ }^{13}$ | 23 199 | 18 208 | 33 195 | ${ }_{212}^{18}$ | 186 | 169 | 183 |
| ${ }_{0}^{5}$ | 7 | ${ }_{9}^{1}$ | ${ }_{1}^{0}$ | ${ }_{4}^{0}$ | ${ }_{30}^{36}$ | ${ }_{31}^{41}$ | ${ }_{3 i}^{40}$ | ${ }_{38}^{19}$ | ${ }_{43}^{21}$ | ${ }_{34}^{24}$ | 23 26 |
| 1 | ${ }_{376}^{19} \cdot 3$ | $\begin{aligned} & 133 \cdot 6 \cdot 6 \\ & 340 \cdot 2 \end{aligned}$ | $71 \cdot 2$ 286 | 274 | $\begin{array}{ll} 20177 \\ \hline 463.3 & 206 \\ 464 \end{array}$ | $2052 \cdot 4$ <br> 463.3 <br> 14 | 2054.4 | $2065: 4$  <br> 463  <br> 14  | 19776 | $1999 \cdot 2$ $463^{3} 3$ | $\begin{gathered} 2433 \\ 4474 \end{gathered}$ |

TEMPERATURE.

|  | 1894. | Average of 54 years. | Extr | EMES. |
| :---: | :---: | :---: | :---: | :---: |
| Average temperature of the year............... | $\circ$$46 \cdot 75$July$69^{\prime} 10$ | $\begin{gathered} \circ \\ 44^{\prime} 16 \end{gathered}$ | $47^{\circ} 09 \mathrm{in} 1878$ |  |
|  |  |  |  |  |
| Warmest month............................ |  | July | July, 1868 | Aug., 1860 |
| Average temperat | ${ }_{\text {February }}{ }^{69}$ | January | Feb., 1875 | $64 \cdot 46$ Feb. 1848 |
| Average temperature of the coldest month | 20.74 | 2233 | $10 \cdot 16$ | 2600 |
| Difference between the temperature of the \} warmest and coldest month. | $48 \cdot 36$ | $45 * 29$ | 10 |  |
| Average of deviations of monthiy means from their respective averages of 54 years, signs of deviations being disregarded | $3 \cdot 35$ | 2*65 | $3 * 62$ | $\ldots$ |
| Month of greatest deviation without regard to sign................................... | March | January | Feb., 1875 | .... |
| Corresponding magnitude of deviation.......... | $7 \cdot 28$ | 4.09 | $12 \cdot 53$ |  |
| Warmest day................................ | ${ }^{28} 78.00$ | $\because 7 \% 9$ | July 14 , '68 | July 31, '44 |
| Coldest day. | 24 Feb . | $\ldots$.... | Feb. 6, 1855 | \} Dec.22,'42 |
| Average temperature of the coldest day........ | $-3 \cdot 18$ | -2 17 | -14.33 |  |
| Date of the highest temperature................. | 22 June |  | Aug. 24, '54 | Aug. 19, '40 |
| Highest temperature.......... Date of lowest temperature. | ${ }^{90}{ }^{\circ} 7$ | 90.87 | - $99 \cdot 2$, |  |
| Lowest tomperature........ | ${ }_{-9} 4^{\text {Feb }}{ }^{\text {a }}$ | -12*16 |  |  |
| Range of the year. | $100 \cdot 6$ | $103^{*} 03$ | 118.2 | 87.0 |

BAROMETER.

|  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |

RELATIVE HUMIDITY.


EXTENT OF SKY CLOUDED.

|  | 1894. | Average of 41 years. | Extremes. |  |
| :---: | :---: | :---: | :---: | :---: |
| Average cloudiness of the year................ | $0 \times 60$ | $0 \cdot 61$ | $0 \times 66$ in '69'76 | $0 \cdot 57$ in 1856 |
| Most oloudy month........................... | Nov. | Dec. | . $0.80{ }^{\text {a }}$ | '..7.' |
| Least cloudy month........................... | ${ }^{0}$ July | 0.76 July. | 0.89 | 073 |
| Least monthly average of cloudiness............ | ${ }_{0}$ | ${ }_{0}{ }^{\text {J4\% }}$. | $0 \% 29$ | $\cdots$ |

WIND.

|  | 1894. | Average. of 17 years. | Extr | EMES. |
| :---: | :---: | :---: | :---: | :---: |
| Resultant direction............................... | $\begin{gathered} \mathrm{N} .78^{\circ} \mathrm{W} . \\ 1.11 \\ 5.67 \end{gathered}$ | N. $61{ }^{\circ} \mathrm{W}$. |  |  |
| Resultant velocity in miles . ..................... |  | ${ }_{9}^{2} 56$ |  |  |
| Average velocity without regard to direction..Month of greatest a |  |  | 10, $5 \cdot \cdots$ |  |
|  | Feby Nov | March | 10.54 in' 80 | $8 \cdot 32$ in '78 |
| Greatest monthly average velocity............. | June | $11 * 49$ July | A pril, '80 | Dee. 1875 |
| Least monthly average velocity.................. | ${ }^{\text {June }}$ | July | July, ${ }^{178}$ |  |
| Day of greatest average velocity.................... Greatest daily average velocity Day of least average velocity Least daily average velocity. | Feby. 8 | 1 | 593 | July 813 |
|  | July 15 | 28.98 | Nov. ${ }_{41}{ }^{17}{ }^{\prime \prime} 70$ | Feb. 10.9 '85 |
|  | 0.92 |  |  |  |
| Hour of greatest absolute velocity........... $\{$ Greatest velocity. | $\begin{gathered} \text { Feby } 12 \\ 6 \text { to } 7 \\ \text { p.m. } \\ 58 \cdot 0 \end{gathered}$ | $\}_{\substack{\cdots \cdots \\ \cdots 5^{\prime} 67}}$ | April 20 th, | n. 17 , ${ }^{\text {, }}$ |
|  |  |  | ${ }_{60}$ to $_{60} \mathrm{a}^{\text {a.m. }}$ | $\begin{aligned} & \text { to } 11 \text { a.m. } \\ & 39^{\circ} 0 \end{aligned}$ |

Nots-During the year 1894, the wind has been obtained from the records of the anemograph at the observatory at a lesser elevation than formerly, and no comparison has been made with the result of former years. The windiest day and hour are from the Island anemograph.

## RAIN.

|  | 1894. | Average. of 54 years. | Extr | gemes. |
| :---: | :---: | :---: | :---: | :---: |
| Total depth of rain in inches..................Number of days on which rain feli.......... | $\begin{gathered} 25785 \\ 1 \cdot 44 \\ \text { May } \\ 9365 \end{gathered}$ | 27.451114 | $43 \cdot 555$ in '43 | $17.574 \text { in } 74$ |
|  |  |  |  |  |
| Month on which the greatest depth of rain fell. |  | Sept. | Sept., 1843 | June, 1887 |
| Month in which the days of rain were most frequent |  | 3248 |  |  |
| Greatest number of rainy days in one month | May | ${ }_{13}{ }^{\text {ct. }}$ | O-ct.3 |  |
| Day on which the greatest amount of rain fell. Greatest amount of rain in one day............... | $\underset{2 \cdot 695}{\text { May }_{2}} 21$ | 1793 | $\underset{3 \cdot 455}{\text { Sept. } 14, ~ ' 43}$ | Sept. 14, ${ }_{1} \mathbf{1 4} 000$ |

SNOW.


## SUNSHINE.

|  | 1894. | $\begin{gathered} \text { Average } \\ 1882 \\ \text { to } 1893 . \end{gathered}$ |
| :---: | :---: | :---: |
| Total duration of bright sunshine in hours... |  |  |
| Ratio to possible amount. ........................................ | 2017 0.45 | 2030.3 0.45 |
| Months of greatest relative amount........................... | June-July. | July. |
| Month of least relative amount. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 0.56 November. | ( $\begin{gathered}0.61 \\ \text { December }\end{gathered}$ |
| Ratio to possible amount....................................... | November. | $\underset{0}{\text { December }}$. |
| Number of days completely clouded.......................... |  | ${ }^{0} 19$ |
| Day or to possible amount............................................ | $\underset{0 \cdot 91}{\text { October }} 18 .$ | $\overline{0.91}$ |

DIFFERENCES OF CERTAIN METEOROLOGICAL ELEMENTS FOR 1894 FROM THE NORMAL VALUES FOR EACH QUARTER AND YEAR.

|  | Bar. | Tem. | Rain. | Days Rain. | Snow. | Days Snow. | Clouded Sky. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | in. ${ }_{+}$ |  | - in. ${ }_{0}$ | $11 \cdot$ | $\mathrm{in}_{-22} .81$ |  | -p.c. ${ }_{0}$ |
| Winter.. Spring $\qquad$ | + 0.0088 | + 2.75+1. | + 2.945 | + 9.74 |  |  |  |
|  | +.0088 |  |  |  | + 4.58 | - 1.01 | 0.02 |
| Autumn. | + 0050 | +1.40 | -1694 | -1.79 | 0.00 | - | 0.02 |
| Year. | - | $+2 \cdot 59$ | -1.666 | $+30 \cdot 39$ | $-31 \cdot 35$ | -13.54 | $\begin{aligned} & 0.02 \\ & 0.01 \end{aligned}$ |

## PERIODICAL OR OCCASIONAL EVENTS, 1894.



January....... 3 Sudden and beautiful display of red aurora. 18th, Robin seen.

February


March.......... ${ }^{28}$

September..... 6
October.

## H1

m in bloom ; Whip-poor-will; strawberries in bloom; cherry in bloom. 5th, Almonds in bloom; japonica in bloom ; peach trees in Apploom. 6th, Orioles numerous.

12th bloom. 10th, Pears in bloom; Humming bird; ground lark Lilac in bloom; Horse chestnut in bloom; Night hawks.
Robins fledged.
Large hail fell during thunderstorm.
Sun very hot; highest temperature of year, $90^{\circ} \cdot 7$.
Leaves falling off the trees from the drouth; ground cracking; pastures burnt up.
Fine display of halos and parhelia 22, 23 and 25 , large turbance and magnificent auroral displays.
Wild Duck flying N.W. Geege flying N.
Bluebirds, sap running freely, maple in bloom. 11th, Bay clear of ice,
Oriole seen. 14th, Crows numerous. 18th, Song sparrows, Bluebirds very numerous. 19th, Blackbirds.
Grey Birds, Hawks, Butterflies, Plovers, Bees, Juncos
Soft maple in bloom. 26th, Meadow larks.
Phoebes. Wax Wings.
Last snow. 13th, Frogs piping. Hypatica in bloom.
Wutus in bloom. 17th, Last ice formed. 18th, Swallows arrived White butterflies. 19th, House wren, Flicker; Hard maple in bloom first thunder. 20th, Chipping sparrows.
ast thunderstorm of year. 5th, Duck passing S .
Gese passing S. W. 14th, First snow of season.
irst frost; First ice.
measurable snow of year.
Bay frozen over.

