

At Toronto, Ont., the June mean temp. was 63° 85', or 1° 93' higher than the mean for the past 47 years, and 2° 95' higher than June, 1886. Max. temp. 89° 5' on 16. This is the highest recorded there in June since 1880, when 89° 9' was registered on 24.

Quebec experienced a very severe thunderstorm on June 29. The lightning struck several places.

Illinois and Arkansas say that the drought is worse than for several years.

There were heavy rains and freshets in British Columbia on June 20th.

May, in New England, according to 149 observers, was an unusually dry and warm month. The deficiency in precipitation was so marked, that it reversed the excess of the previous six months. The dry weather of the first three weeks was, however, followed by enough rain to prevent injury to growing crops.

May 10th was remarkable for its high temperatures in Canada and New England. At Montreal, the maximum was 85° 5'; in the White Mountain Valleys, 89°, and at Berlin Mills, N.H., 94°.

Thousands of dollars damage was done to window glass at St. Paul, Minn., by a hail storm, on the evening of May 1. Some of the stones were three inches in diameter.

Mr. Horne reports from N. H., May, 1887, to have been generally warm for the season. The month entered warm, and went out foggy and rainy. The first five days were hot, as were also the 8-9 and the period between the 14-25. On 28-29 there was a 30 hours rainstorm. June gave an abundance of rain, and a max. temp. of 96°.

Swarms of locusts have appeared in Minnesota. "An insect pest summer."

Mr. Birt's June record (Utica, N.Y.) gives the max. ther. there as 90° on 21 and 29. Min. 34° on 27. Mean, 63° 7'. Max. bar. 29.88, min. 29.22; mean, 29.49. Electrical storm, rain and fresh wind from W. on evening of 21st.

Mr. Redman reports May, in Illinois, as an exceptionally fine month; rains came along so timely, just enough and never too much. The max. ther. at noon was 96° on 21. Min. sunrise temp. 46° on 28. June gave some very high day temperatures, with cold nights and great drought. On 18 days the temp. rose above 90°, on 8 days to 100° and over, the hottest days being the 19-20 when 110° was recorded.

Grayson County, Texas, I learn from Councillor Murray, is likely to have a splendid wheat harvest this year, the average yield to the acre being from thirty to thirty-five bushels. *Corn never looked better*, and cotton is all that can be desired.

Councillor Cole reports from Malone, N.Y., that during several days in May

the ther. registered summer like July heat; notably May 3rd (81°), 10th (87°), 15th (81°), 20th (86°), 21st (84°), and 22nd (83°). Frost on 12th as forecast. Very dry about the middle of the month, "bush fires prevalent" on 15th. June's max. temp. was 86° on 30th.

Terrific thunder storms raged over the Hudson River valley on July 6. Trees and houses were struck by lightning, there were washouts on the railways and the mercury dropped 23° in three hours.

The temp. at New York on June 30 was 95° and on July 1st 91°. On the latter date 170 persons died, the greater number from diarrhoeal diseases.

Mount Washington's minimum May temperature was 16° on the 12th, and its max. 62° on 17th. During June, the mean temp. was 2° 9' in excess of the normal, and the rainfall thirty-nine hundredths of an inch in excess. Snow did not fall there during June.

A town in Hungary was destroyed by a hurricane and waterspout on July 7th.

At Montreal, for June, 1887, the mean temp. was 66° 25' as against 64° 48', the mean for the past 13 years. The max. temperature was 86° 7' on 29; min. 50° 3' on 18, a range of 36° 4'. Rain fell on 12 days to the extent of 2.44 inches as compared with the mean June rainfall of 3.08 inches. The max. barometer reading was 30.342 on 27, and the min. 29.650 on 16, or a range of 0.692 inches.

July's first hot wave at Montreal proved another sufficient verification of my forecast of "seas, ocean's of heat" and "humanity will suffer severely." Numerous sunstrokes were reported. The max. temperatures were: June 28th, 82°; 29th, 86° 7'; 30th, 86° 3'; July 1st, 87° 5'; 2nd, 89° 1'; 3rd, 82°; 4th, 90° 4'; 5th, 85° 2'; 6th, 86°; 7th, 82° 5'; 8th, 86° 5'; and 9th 87°. July's max. mean for 12 years is 77°.

Mr. Barnard writes from Springfield, Vt. "Cold, harsh, wintry winds held full sway up to May Day, then, presto! a change. The mercury went up into the seventies and eighties, and drying, sultry winds from the S.E. continued uninterrupted until the 25th. Since which date there was continued rain up to June 1. A drought of uncommon severity was fairly inaugurated, but the rain has filled the springs and streams again to overflowing. The forest trees were in half leaf about the 15th and in full leaf on the 22nd, on which date fruit trees were in full bloom. Snow drifts remained in sight as late as the 13th. Clover and June grass in bloom on the 30th."

Mr. Wood reports from Shawano, Wis., that the mean temperature for May compared with previous years at the noon record was as follows:—1887, 76° 21'; 1886, 70° 7'; 1885, 66° 6'; and 1884,

66° 6'. Max. 90° on 20, min. 54° on 3. There were 25 fair and clear days. Total precipitation 1 and $\frac{3}{16}$ inches as against $\frac{1}{2}$ inch in 1886, and 3 inches on 17-18 in 1884. No frosts to affect vegetation. The three last days were cold, raw and windy, threatening rain, with ther. below 50° in early mornings. But on the whole, the month, as predicted in *ASTRONOMY AND METEOROLOGY*, was "fine, more like June than May." Crops, especially pastures, are suffering for rain.

The average temperature of the three spring months (March, April and May), according to the report of the U. S. Signal Service for May, 1887, was generally above the normal; ranging from normal to 2° above in the Pacific States; from 3° to 5° in Utah, Wyoming and Colorado, from 3° to 4° in the Missouri valley; from 1° to 4° in the upper and central Mississippi valleys, and from normal to 1° above in the upper Lake region.

May was generally a droughty month in the United States, the deficiency ranging from 0.1 inch in the N.W. portion of Penn. and N.Y. States to 3.6 inches at Omaha, Neb.

Yet there were streaks of too much rain as forecast. These I said were "most likely in parts of the North-West, and parts of the South and South-West." What says the Signal Service report? "The rainfall (May, 1887) is above the average in western Washington Terr., 3.2 inches; 2.4 inches in North-western Oregon; 1.4 inches at Helena, Mont., and St. Vincent, Minn.; 1.2 inches at Duluth, Minn.; 7.1 inches at Marquette, Mich.; from 0.2 to 0.7 inches in southern and eastern Texas, north-western Louisiana, central Arkansas and Memphis, Tenn.; 1.3 inches at St. Louis, Mo.; 0.2 inches at Cleveland, Ohio; 3.0 inches at Pittsburgh, Pa.; 0.3 inches at Lynchburg, Va.; 1.2 to 2.6 inches in eastern Tennessee; 1.2 inches at Wilmington, N.C.; and 3.1 inches at Jacksonville, Fla."

During June, July and August this year, a special study of the sea-breeze on the eastern Massachusetts coast has been undertaken by the observers of the New England Meteorological Society, with the assistance of the Signal Service and Harvard College Observatory. The object is to discover the conditions favorable to the development of the sea-breeze, the area and rate of its extension inland and its effect on the temperature.

April in New England gave an average temperature below normal. The precipitation was in excess, its marked feature being the excessive fall of snow. The snowstorms of 2nd and 18th were unusually heavy for April. Readers will notice that my forecast in *ASTRONOMY AND METEOROLOGY* as well as in the *Planetary Almanac* called for "snow" on both dates. On the 9-10 the temperature was high, rising to 84° in