

Astro-Meteorology had bidden me expect to find a decrease in temperature. So I did. Of the twenty positions, 18 gave a fall, sometimes amounting to as much as 18° in the minimum and 16° in the maximum record. The lowest reading of the Winter of 1887 at Montreal, was on Jan. 9, the date of Saturn's opposition.

Meteorology.

Montreal recorded its first thunder storm this season on May 24.

The snow was exceptionally deep over Northern New England at the end of March this year.

At West Milan, N.H., on March 4-5, the thermometer fell from 38° to — 33°, or 71° in 24 hours!

The maximum wind velocity at Mount Washington, this March, was 116 miles per hour on 25. The total movement for 25½ days was 23,285 miles.

The first Robins seen in New England this season were noticed at Voluntown, Conn., on March 19th.

March, in Ontario and Quebec, gave an average temperature below the normal.

Canada's minimum thermometer reading during March, 1887, was — 42° below zero at Selkirk, Man., and Savanne, Ont., on 4th. The maximum reading of the month was 64° on the 22nd, at Quamichan, B.C. The highest reading east of the Rockies, was 58° at two stations in Assiniboia, on the 10th and 28th respectively.

Newfoundland (St. John's) reports an average temperature for March of 27° 9', or 1° 5' above the normal. The maximum temperature of the month was 46° on 30, and min. — 7° below zero on 6.

In Ontario and Quebec the precipitation for March was below the average. This was also the case in Nova Scotia and Prince Edward Island. In New Brunswick and Manitoba the precipitation was above the average.

The month of April, 1887, gave temperatures above the normal in the Mississippi Valley, and westward over the Rockies to the Pacific. The comparatively warmer regions were the Central Mississippi and Lower Missouri Valleys, with an average from 3° to 6° above the mean.

April gave temperatures slightly above the normal in Tennessee and Kentucky.

The Atlantic Coast, Upper Ohio Valley and Lower Lake Region, gave mean temperatures this April from 1° to 4° below the normal.

Oshkosh, Wis., reports three coincident solar circles which formed almost instantaneously on the morning of May 4.

St. Louis, Mo., reported a mean temperature for April of 6° above the normal. Omaha, Neb., 4°.

The damage by floods this season in the Chateauguay Valley, Que., alone, is estimated at \$50,000. This flood is ascribed to the denudation of the forests of the Adirondack region.

A slight shock of earthquake is said to have been felt at Iberville, St. Johns, and St. Luke, Que., about 10 p.m. on April 28.

Lake Champlain waters were higher this spring than they have been for fifteen years.

At Albany, N.Y., the mean temperature for April was 3° below the normal.

April at Montreal gave 18 days with readings below freezing, the lowest being 8° on 1. Highest reading 56° 4 on 28, and the mean 35° 46 as against 39° 50 for the past 13 years. Snow fell on 1 day and rain on 11, the former being inappreciable in quantity and the latter to the amount of 3.02 inches. The maximum barometer reading was 30.616 on 8; lowest 29.195 on 29. The prevailing wind blow from the S. W.

Mr. Horne reports snow or rain on 9 days during April in his section of New Hampshire. The month entered cold and went out rainy. Warmest day was the 10th, ther. 60°. Lake Winnepesaukee was not clear of ice until 8 days later than in 1886.

Drought continued throughout April in Southern Texas, and there was also a deficiency of rain from the Missouri valley eastward over Iowa, Northern Illinois, Southern Missouri, Southern Michigan and Northern Indiana. "Gradually spreading North and East, over most of the settled portions of this continent East of the Rockies," as forecast in No. 2 of ASTRONOMY AND METEOROLOGY. There were also slight deficiencies reported from Northern Minnesota and Dakota.

The following places report the April rainfall less than usual: Vicksburg, Shreveport, Montgomery, Little Rock, New Orleans, Mobile, Pensacola, Memphis, Atlanta, Fort Smith, Galveston and Chicago.

A few places, "Suffered from excessive rains." Amongst these being Portland, Me.; St. Paul, Minn.; Huron, Dak.; etc.

April, in Wisconsin, Mr. Wood reports the coldest for the past three years; the noon record giving the following means: 1887, 53°.12; 1886, 57°.24; 1885, 62°.07, and 1884, 51°.04. The max. of April, 1887, at Shawano was 79° on 9 and min. 20° on 4. He also furnishes the

following interesting comparisons of the temp. of the first and last days of the month: 1887, first day, 50°; last day, 58°; 1886, first day, 35°, last day, 66°; 1885, first day, 36°; last day, 56°; and 1884, first day, 34°, last day, 68°. Precipitation was extremely light. Light snow on 4 and 23. No prevailing winds.

The Minnesota *Signal Service Report* for April, sent me by Mr. Brandenburg, of St. Paul, is very complete. From it, I learn that April 1887 was notable there for its heavy gales, a temperature slightly above the normal, and severe thunder storms. In Southern Minnesota the seeding of small grains was generally finished by the close. Vegetation was however severely checked by cold on 25 — 26. Seeding by this time was well advanced in the Northern counties. The mean temperature was 44°.1' or 3°.4' below that of April 1886, but 1°.5' above April 1885. The lowest temperature, was 3°.6' below zero at St. Vincent on the 4th. The highest temperature was 88° at Sherburne on the 30th. The average precipitation was 2.23 inches, or 1.43 less than April, 1886. The verifications of the probabilities sent out, amounted to 86 per cent for weather and 78 per cent for temperature.

At Worcester, Mass., on May 15th, according to Mr. J. B. Hall, the season was about three weeks late. On Friday morning, May 13, there was a slight frost, bearing out my forecast for that date of "Local frosts, fine."

As an instance of the difference of temperature prevailing at places almost "next door to one another," the following is of interest:—The Hampshire (Mass.) Natural History Society recently established a number of thermometer stations in Northampton, at points about one-fourth of a mile apart, and all within the radius of one mile from the Post Office. The stations were 9 in number, with altitudes ranging from 125 to 285 feet above the sea. The highest gave a mean of 29° and the two lowest means of 27° and 29°! The third highest (182 feet) gave the highest mean (30°.2'). The minimum readings ranged from — 3° below zero to 7° above, and were not all on the same date! The maximums ranged from 47° to 52°, the lowest being recorded at one of the least elevated stations.

Mr. Birt sends the following summary of his observations for the first three months of 1887 from Utica, N.Y.: January, max. therm. 47°, min. — 20° below zero; mean, 20° 9'. Max. bar. 30.22; min. 29.75; mean, 29.79. February, max. therm. 41°; min. — 5° below zero, mean, 22° 1. Max. bar. 30.22, min. 28.40; mean 29.28. March, max. therm. 54°, min. 0°; mean, 23° 1. Max. bar. 29.94; min. 28.50; mean, 29.30.