

THE WEATHER OF THE MONTH.

By ALFRED J. HENRY, Professor of Meteorology.

CHARACTERISTICS OF THE WEATHER FOR MAY.

May, 1901, was in some respects like the preceding month. The few areas of low pressure which appeared within the field of observation moved slowly, and in one or two cases followed an erratic course. It was also like the preceding month, in that monthly mean pressure was decidedly low in the South Atlantic States and relatively high in the Lake region. In consequence of this distribution of pressure heavy rains fell east of the Appalachians and also in the Southwest, particularly in Oklahoma, northern Texas, and northeastern New Mexico. In the Mississippi, Missouri, and lower Ohio valleys, and the Lake region the rainfall was below the seasonal average. Temperature, on the other hand, was markedly above the normal from the upper Lake region west and southwest to the middle Rocky Mountain districts, and northward to the Canadian boundary. As in the previous month, the number of thunderstorms and violent local winds was remarkably small.

The most striking characteristic of the month was the diminution in monthly mean pressure over the South Atlantic States.

PRESSURE.

The distribution of monthly mean pressure is graphically shown on Chart IV and the numerical values are given in Tables I and VI.

As stated in the preceding paragraph, pressure was relatively high over the upper Lake region and on the Pacific coast. It was relatively low over the South Atlantic States and in the Plateau region of the west. As compared with the preceding month there was a marked fall in all regions, especially in the St. Lawrence Valley and the Lake districts. Pressure was below the normal everywhere, except on the north Pacific coast and eastern Manitoba, including the Valley of the Red River of the North.

Pressure has been below the normal in the South Atlantic States continuously since and including January of the current year. The tendency of the areas of low pressure to skirt the South Atlantic coast States was especially pronounced in the preceding as well as the current month. In the latter month, moreover, there was an absence of areas of high pressure which, in a normal month, move southeasterly from the upper Mississippi Valley and merge with the permanent area of high pressure over the middle Atlantic.

TEMPERATURE OF THE AIR.

The distribution of monthly mean surface temperature, as deduced from the records of about 1,000 stations, is shown on Chart VI.

Temperature continued about normal or below the seasonal average in the South Atlantic States; also in southern New England, the Ohio Valley, and in portions of the Southwest. The greatest positive departures were recorded mainly in the Rocky Mountain districts north of the thirty-fifth parallel

and in the upper Missouri and upper Mississippi valleys. Over this great region temperature was almost continuously above the seasonal average. It is worthy of mention that temperature has been unusually high in this region almost continuously since the first of the year. Maximum temperatures of 100° and over were registered in the Rio Grande Valley and elsewhere in western Texas; also in eastern Montana and in the interior valleys of California and Arizona. In portions of the Lake region and in northern New England maximum temperatures as high as 80° were not recorded. Minimum temperatures as low as the freezing point were observed in northern Michigan, northern Minnesota, and quite generally in North Dakota, portions of South Dakota, and throughout the Rocky Mountain region.

The average temperature for the several geographic districts and the departures from the normal values are shown in the following table:

Average temperatures and departures from the normal.

| Districts. | Number of stations. | Average temperatures for the current month. | Departures for the current month. | Accumulated departures since January 1. | Average departures since January 1. |
|---------------------------------|---------------------|---|-----------------------------------|---|-------------------------------------|
| New England | 10 | 52.4 | - 1.5 | - 4.8 | - 1.0 |
| Middle Atlantic | 12 | 60.3 | - 1.3 | - 5.3 | - 1.1 |
| South Atlantic | 10 | 70.2 | 0.0 | -11.0 | - 2.2 |
| Florida Peninsula | 7 | 75.8 | 0.2 | -12.3 | - 2.5 |
| East Gulf | 7 | 72.3 | - 0.4 | -10.4 | - 2.1 |
| West Gulf | 7 | 72.5 | - 0.1 | + 0.4 | + 0.1 |
| Ohio Valley and Tennessee | 12 | 63.9 | - 1.3 | -10.0 | - 2.0 |
| Lower Lake | 8 | 55.7 | - 1.0 | - 5.8 | - 1.2 |
| Upper Lake | 8 | 52.2 | + 0.8 | + 3.2 | + 0.6 |
| North Dakota | 8 | 60.6 | + 7.2 | +23.0 | + 4.6 |
| Upper Mississippi Valley | 11 | 62.2 | + 0.8 | + 2.7 | + 0.5 |
| Missouri Valley | 10 | 62.3 | + 2.2 | +12.7 | + 2.5 |
| Northern Slope | 7 | 59.3 | + 5.9 | +14.6 | + 2.9 |
| Middle Slope | 6 | 62.7 | + 0.7 | + 1.4 | + 0.3 |
| Southern Slope | 6 | 67.3 | - 1.6 | - 0.5 | - 0.1 |
| Southern Plateau | 15 | 62.4 | - 1.4 | + 4.2 | + 0.8 |
| Middle Plateau | 9 | 58.2 | + 2.4 | +10.7 | + 2.1 |
| Northern Plateau | 10 | 57.7 | + 3.4 | +10.0 | + 2.0 |
| North Pacific | 5 | 53.1 | - 1.3 | - 2.5 | - 0.5 |
| Middle Pacific | 5 | 56.9 | - 1.5 | - 0.2 | 0.0 |
| South Pacific | 4 | 61.0 | - 1.4 | + 4.0 | + 0.8 |

In Canada Prof. R. F. Stupart says:

The temperature was higher than normal by between 6° and 10° in Manitoba and the eastern portions of the Northwest Territories; the positive departure diminishing both westward and eastward, 3° in excess in Alberta, lessening to either just average or 1° below on Vancouver Island. In New Ontario and northern Quebec the positive departure from average was about 4°, which difference lessened southward, until in southern Ontario, near Lake Erie, the mean was just equal to average, as was also the case in southern Nova Scotia. In Manitoba unusually high temperature was maintained throughout the month, but in Ontario an unusually high temperature during the first half was succeeded by a fortnight of temperatures nearly as much below normal as before they had been above.

PRECIPITATION.

Rainfall was greatly above the average in a number of districts and correspondingly deficient in others. The greatest deficiency occurred in the lower Missouri Valley, where negative departures of 3 inches were recorded. There was a large deficiency also in the Ohio Valley, Lake region, upper Mississippi Valley, and throughout the Dakotas. Rainfall was decidedly above the average in Montana and also in New Mexico, northern Texas, and elsewhere west of the one hundred and fifth meridian.

The area of deficient rainfall included practically all of the spring wheat region, as well as much territory to the east-