DETAILS OF THE WEATHER IN THE UNITED STATES.

By A. J. HENRY, Meteorologist.

The larger features of the weather of the current month were (1) relatively low atmospheric pressure except in the extreme southeast and the extreme northwest; (2) a return to the type of temperature distribution which prevailed in the early summer months; (3) torrential rains in southwestern Texas, very generous rains over Missouri, eastern Iowa, northwestern Illinois and southwestern Wisconsin, and about normal rains in Washington and Oregon. In other parts of the country drought prevailed, though not especially marked except in the Florida peninsula.

CYCLONES AND ANTICYCLONES.

By W. P. DAY, Observer.

The number of low-pressure areas plotted considerably exceeded the normal, but they moved, as a rule, in high latitudes. Indifferent air pressure within the Tropics resulted in the formation of three hurricanes, not included in the tables, but plotted on Chart III and numbered V, VI, and IX, respectively. These storms were of small diameter, but of the greatest intensity.

High-pressure areas, budding off from the north Pacific high, were three times as frequent as the normal, while the two highs originating in the interior north of Alberta, though reinforced, were not important in reducing the temperature except in the northern Rocky Mountain region. The movement and character of the highs and lows were favorable for warm weather over eastern districts.

Tables showing the number of highs and lows by type follow:

<table>
<thead>
<tr>
<th>LOWS</th>
<th>Alberta</th>
<th>North Pacific</th>
<th>South Pacific</th>
<th>North-</th>
<th>Rocky</th>
<th>Colorado</th>
<th>Texas</th>
<th>East Gulf</th>
<th>South Atlantic</th>
<th>Central</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept., 1921</td>
<td>5.0</td>
<td>1.0</td>
<td>5.0</td>
<td>2.0</td>
<td>4.0</td>
<td>17.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg. num. 1920-1921, inclusive</td>
<td>4.1</td>
<td>1.1</td>
<td>0.4</td>
<td>6.6</td>
<td>0.7</td>
<td>0.3</td>
<td>0.4</td>
<td>0.2</td>
<td>0.7</td>
<td>8.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HIGHS</th>
<th>North Pacific</th>
<th>South Pacific</th>
<th>Alberta</th>
<th>Plateau</th>
<th>Rocky Mountain region</th>
<th>Hudson Bay</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept., 1921</td>
<td>6.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>12.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg. num. 1920-1921, inclusive</td>
<td>2.1</td>
<td>1.0</td>
<td>3.0</td>
<td>0.7</td>
<td>0.6</td>
<td>7.2</td>
<td></td>
</tr>
</tbody>
</table>

THE WEATHER ELEMENTS.

By P. C. DAY, Climatologist and Chief of Division.

[Weather Bureau, Washington, Nov. 1, 1921.]

PRESSURE AND WINDS.

As has been the case for a number of months past, pressure changes were usually moderate in degree and a general stagnation of the atmospheric circulation existed during long periods over the southeastern districts, where the pressure continued somewhat higher than normal.

Along the northern border cyclonic areas were noted at frequent intervals, though in most cases they affected rather small areas.

Anticyclones entered the country mostly from the north Pacific coast and, drifting slowly eastward over the central and southern districts, produced, as is usually the case, no important temperature changes. In two instances, however, anticyclones entered the United States from the Canadian Northwest and in their movement southward brought the most important temperature changes of the month. The first, about the 10th to 13th, overspread the western mountain and Plateau districts, and the second, a combination north Pacific and Canadian high area, materially lowered the temperatures over most western and central districts on the last two days of the month.

The average pressure for the month was slightly above 30.05 inches over the Southeastern States and a small area having similar pressure existed in the extreme Northwest. Average pressure was below 29.05 inches along the northern border from Montana eastward.

Save over the Southeastern States and locally along the Pacific coast, and in the far Northwest, pressure was below normal in all portions of the United States and in Canada also, as far as observations disclose.

The diminishing pressure from the southeastern districts toward the northern border favored a continuation of southerly winds over practically all districts from the Rocky Mountains eastward, which conditions have been noted so prominently during much of the present year.

The principal period with high winds over an extended area was on the last day of the month, in connection with the movement of a cyclonic area of considerable force over the Great Lakes. At Buffalo, N.Y., a velocity of 78 miles per hour was registered on that date, the second highest velocity ever recorded at that station in September. In other portions of the country high winds were local and usually occurred in connection with thunderstorms.

TEMPERATURE.

The outstanding feature of the weather of the month was a continuation of the abnormal warmth that has prevailed to such an unusual extent over much of the country east of the Rocky Mountains during the present year, and over considerable areas unusual warmth has prevailed even farther back into the latter part of the preceding year. In fact portions of the upper Mississippi Valley and Great Lakes regions have had monthly mean temperatures constantly above normal for the past 13 months. The high monthly means of temperature were due to continued warmth throughout the month and not to periods of unusually high temperatures, some portions of Southeastern States having daily temperatures above the normal throughout the entire month.

No portion of the month had outstanding temperatures that marked the culmination of a heated period, but the maximum temperatures were distributed through all the periods in some portion of the country, although the first few days were warmest over most central and eastern districts.

While protracted heat dominated the eastern two-thirds of the country, a marked reaction to cooler weather existed in the far West, particularly in the northern Plateau and Rocky Mountain sections, where the month was nearly as continuously cool as it was warm in the more eastern districts.