DETAILS OF WEATHER OF THE MONTH IN THE UNITED STATES.

CYCLONES AND ANTICYCLONES.

By A. J. Henry.

Rather more than the usual number of cyclones (15) appeared on the daily weather charts of September. While the predominating movement was eastward from the Canadian Northwest, there was a small number of secondary developments over the Plateau and Rocky Mountain regions and also over the middle portion of the North Atlantic, so that as a whole the movement was somewhat diversified. A single destructive tropical cyclone (Track No. IV, Chart III) moved into the field of observations. (See pp. 664–673, this REVIEW.) The second disturbance (see Track No. XVII) of apparent tropical origin at no time, so far as known, possessed the characteristics of a tropical cyclone. The feature of outstanding interest in connection with the movement of the severe tropical cyclone of the 6th–15th was the fact that it did not recurve to the northwest over the Gulf of Mexico. Evidently it skirted the southern border of the area of high pressure that encircles the globe in the vicinity of north latitude 30°, and was dissipated over northern Mexico. Anticyclones.—Eight anticyclones have been plotted on Chart II, the majority of which first appeared over the Canadian Northwest or the Pacific off the California and Oregon coasts. The movement was eastward with a considerable southerly component in all cases.

THE WEATHER ELEMENTS.

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

[Dated: Weather Bureau, Washington, Nov. 1, 1919]

PRESSURE.

During the greater part of the first decade, pressure was moderately high over most eastern districts, and comparatively low from the Rocky Mountains to the Pacific. Normal pressures followed, except over the Gulf of Mexico, where the large and severe West Indian hurricane was. The remains of this storm moved into New Mexico September 14–17.

During the latter part of the second decade a low pressure area developed in the central Plains region and moved thence to the Great Lakes. This was followed by another early in the last decade. At the same time a wide area of high barometric pressure moved into the far Northwest and gradually overspread the central and eastern districts, reaching the Atlantic coast by the end of the decade.

At the end of the month there were indications of a storm of some intensity off the south Atlantic coast.

The average pressure for the month (Chart VII, Tables I and III) was everywhere near the normal, but mostly below. Over most of the area east of the Mississippi and south of the Ohio Rivers the pressure was slightly higher than normal, save along the immediate Gulf Coast where the low pressure attending the tropical storm materially affected the average. From the Missouri Valley northward into Canada there was likewise an area with average pressure above the normal.

The prevailing winds (Chart VII, Tables I and III) were mostly from the south over the plains area from Texas to near the northern boundary, and in portions of the Mississippi valley and the Great Lake region. They were mostly from the northeast over the South Atlantic and east Gulf States, and from the northwest along the Pacific coast.

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TEMPERATURE.

At the beginning of the month cool weather for the period of the year prevailed over the eastern portions of the country, and in the far West, but in the Rocky Mountain region temperatures were much higher than normal. By the 3d, temperatures in the far Southwest had risen to considerably above normal, the maximum day temperatures at numerous points in Arizona and New Mexico ranging from 100° to 112° F. From the 5th to the 10th the highest readings of the month were recorded in all districts east of the Rocky Mountains, save over the Southeastern States where the highest temperatures occurred at the beginning of the second decade. In portions of the Lake region maximum temperatures about the 8th were the highest ever recorded in September. During this period temperatures remained moderately low in the far West, particularly in the central valleys of California where serious concern was felt over the slow ripening and drying of fruit.

The second decade opened with a general fall in temperature over the Missouri Valley, which gradually extended eastward, with the greatest changes over the more northern districts. By the middle of the decade temperatures in nearly all portions of the country had returned to near the normal for the season and remained so, with minor exception, throughout the remainder of the decade, save about the 15th, when sharp falls were observed in the northeastern districts and light to heavy frosts occurred at exposed points in New York and New England.

At the beginning of the third decade a strong high-pressure area was advancing into the North Pacific States and by the morning of the 22d had overspread the northern Rocky Mountain and adjacent districts, accompanied by the coldest weather of the month. Freezing temperatures prevailed over considerable areas, and the first severe frosts of the season were reported at exposed points from Montana and Wyoming to the eastern portions of Oregon and Washington. At the same time, summer temperatures were prevailing east of the Mississippi and much warmer weather had set in over the interior portions of California. With the eastward movement of the cold area the lowest temperatures of the month were very generally observed. Frosts or freezing temperatures were confined to limited areas over the more northern districts. Much needed warmth continued to prevail over the eastern portion of the decade in the large fruit districts of California. The maximum temperatures were frequently near 100° and the drying of prunes and raisins progressed under the most favorable conditions.

At the close of the month there had been a considerable drop in temperature over portions of the Great Lakes and in the far West, but elsewhere temperatures were near the seasonal normal.

Maximum temperatures for the month as high as 112° were reported from points in California and Arizona, and they ranged from 100° to 109° locally in practically all States from the Appalachian Mountains west to the Pacific. In the Lake region and generally over the northeastern States the maxima were slightly below 100° F.
Minimum temperatures were below freezing toward the end of the month over the more northern States, and in portions of the western mountains they were below 20° F., notably 9° and 3° F. in Wyoming and Montana, respectively.

For the month as a whole the average temperature was above normal practically throughout the country, and, while the departures from the normal were not generally large (see Chart IV), some sections had the warmest September in many years, notably in portions of the Atlantic seaboard, and with local rains in the central Rocky Mountains and portions of the Missouri and upper Mississippi Valleys. However, the greater part of the region September was the sixth consecutive month with precipitation above the normal. Generally speaking, temperatures were below freezing toward the end of the month over the more northern States, and in portions of the western mountains they were below 20° F., notably 9° and 3° F. in Wyoming and Montana, respectively.

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**PRECIPITATION.**

The month opened with showery weather along the Atlantic seaboard, and with local rains in the central Rocky Mountain and Plateau areas. During the following few days showers occurred in the extreme northeast and southeast sections, and also in the central Rocky Mountains and portions of the Missouri and upper Mississippi Valleys. Generally, however, the greater part of the region September was the sixth consecutive month with precipitation above the normal. Generally speaking, temperatures were below freezing toward the end of the month over the more northern States, and in portions of the western mountains they were below 20° F., notably 9° and 3° F. in Wyoming and Montana, respectively.

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