

DETAILS OF THE WEATHER OF THE MONTH IN THE UNITED STATES.

CYCLONES AND ANTICYCLONES.

LOWS.

	Al- berta.	North Pa- cific.	South Pa- cific.	North- ern Rocky Moun- tains.	Colo- rado.	Texas.	East Gulf.	South At- lantic.	Central.	Total.
October, 1920....	6.0	1.0	2.0	0.0	1.0	1.0	0.0	1.0	0.0	12.0
Average num- ber, 1892-1912..	4.2	1.3	0.8	0.5	1.7	0.7	0.4	0.5	0.3	10.3

HIGHS.

	North Pacific.	South Pacific.	Alberta.	Plateau and Rocky Moun- tains region.	Hudson Bay.	Total.
October, 1920.....	3.0	3.0	4.0	0.0	1.0	11.0
Average number, 1892- 1912.....	2.8	1.0	3.0	1.2	0.6	8.5

CYCLONES AND ANTICYCLONES—THE WEATHER ELEMENTS.

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[Weather Bureau, Washington, D. C., Dec. 2, 1920.]

PRESSURE AND WINDS.

The month opened with relatively low pressure in the northeastern and northwestern portions of the country, while elsewhere it was above the seasonal average, especially in the great central valleys. High pressure persisted in the Southeast throughout the month, except for a few days about the middle of the third decade, when a southwestern low area moved eastward and north-eastward across that region; this high being similar to the summer type of pressure over that section. Rather frequent moderately low areas moved across the northern portion of the country during the first half of the month, resulting in pressure being relatively low in that section during much of this period. However, during the latter half of the month much more pronounced low pressure areas moved occasionally from the Far Southwest and West, northeastward and eastward across the country, and were followed by relatively high areas of moderate intensity. The month closed with high pressure over the northern portions of the Great Plains and Rocky Mountain regions and from the Mississippi Valley eastward, except in the far northeast, while elsewhere low pressure obtained.

For the month as a whole, the average pressure was above the normal from the Mississippi Valley and western Gulf States eastward and also in the southern Pacific area; elsewhere it was generally below the seasonal average. The departures from the normal were everywhere small, being in no case greater than 0.14 inch.

The distribution of atmospheric pressure during October resulted in southerly winds throughout the eastern Great Plains, the central valleys, the region of the Great Lakes, and eastward in the northern border States. They were northeasterly in the coastal portion of the south Atlantic States. Elsewhere variable winds prevailed.

TEMPERATURE.

The month opened with temperatures below normal in the middle and south Atlantic and Gulf States, and

with frost as far south as central Louisiana and the northern portions of Mississippi, Alabama, Georgia, and South Carolina, while warmer weather was moving in over the Great Plains. Within the next few days there was a general warming up in all interior districts to readings above the seasonal average, and considerably warmer weather prevailed in the Atlantic coast States. About the middle of the first decade high temperatures for the season prevailed in the northern Great Plains, and on the 6th and 7th readings of 91° were reported from Bismarck, being the highest temperature of record for October for that place. On the other hand, temperatures somewhat below normal were quite general in eastern and southern districts during the latter half of the decade. The first few days of the second decade were marked by temperatures considerably above the normal in the Plains States, the upper Mississippi Valley, and in the region of the Great Lakes, but at the same time much cooler weather prevailed in the far Southwest. Temperature changes were unimportant throughout the second decade, except there was a sharp fall in temperature in the Southwest about the middle of the month. It was unseasonably warm throughout the interior of the country during this period and temperatures above the average persisted in all sections east of the Rocky Mountains. To the westward, however, lower temperatures prevailed, particularly in the Northwest where readings continued below normal. Temperatures continued unseasonably high during much of the third decade in nearly all eastern districts and were considerably below the seasonal average in most western sections. However, toward the latter part of the month much cooler weather overspread the eastern districts and freezing temperatures were experienced as far south as the northern portions of Alabama and Mississippi.

For the month as a whole unseasonably warm weather prevailed over much of the country east of the Rocky Mountains until near the close of the month, but temperatures continued below normal to the westward. In southeastern New England the warmest October in over 40 years was experienced, while in portions of New York and Pennsylvania it was reported as the warmest October in the history of the stations. During the last few days of the month much colder weather overspread all eastern districts, and by the morning of the 30th freezing weather prevailed southward to the northern portion of the cotton belt. In the Ohio and lower Missouri Valleys and from the central Great Plains northward the month averaged from 6° to 9° or more a day above normal, while west of the Rockies, except along the immediate Pacific coast, the temperatures averaged from 4° to 6° below the normal.

PRECIPITATION.

The tropical storm which was moving northward in the eastern part of the country at the close of September reached New England by the morning of the 1st. It caused heavy rainfall in nearly all Atlantic coast districts and was attended by shifting gales. Elsewhere little or no rain fell during the first several days of the month, except for showers in the Lake region and in the far Northwest. Shortly after the middle of the first decade precipitation was general from central California northward and in the northern Rocky Mountains; elsewhere little rain fell during this period. The beginning of the second decade was marked by rain in the northern

Rocky Mountain and Plateau regions. Fair weather was the rule in the Eastern States during the decade, but toward the middle of the period general rains fell in the West Gulf States, over the central and southern Great Plains, in the Mississippi Valley, and the western Lake region. The falls were heavy in Texas and the lower Missouri and upper Mississippi Valleys. At Taylor, Tex., 7.52 inches of rain fell within a period of 4 hours and 57 minutes; being the greatest 24-hour rainfall ever recorded during October at Taylor, and with the exception of April, 1915, the greatest 24-hour fall of record at that station. Rainfall was rather frequent in the far northwestern States, and toward the latter part of the decade rain had extended southward over the Pacific coast districts to central California, and during the last 48 hours of this period rain occurred in practically all districts west of the Rockies, and showers were received in most districts from the west Gulf region northward. Elsewhere fair weather prevailed, except for local widely scattered showers. During the first half of the third decade, rainfall was rather frequent in the western upper Lake region, the upper Mississippi Valley, and in the West Gulf district, with considerable snow in the higher elevations of the Rockies; the rainfall being heavy in Oklahoma. East of the Mississippi River fair weather was the rule, except for frequent rains in portions of the Florida Peninsula, and by the middle of the decade rain prevailed eastward to Georgia, eastern Tennessee, and central Ohio, the falls being heavy along the East Gulf coast. During the next few days precipitation occurred in all districts from the Mississippi Valley eastward, except in portions of the Florida Peninsula, the falls being heavy in the Ohio Valley and locally in the Atlantic coast States. The month closed with snow falling over the Plateau and northern Rocky Mountain districts.

For the month as a whole, the precipitation was light in most sections east of the Mississippi River, where large areas received less than 1 inch. At Mobile, Ala., the only precipitation during the month occurred from the 22d to 27th, nearly all falling within 24 hours; while at Montgomery, Ala., no rain fell from September 26 to October 24, being the longest period without rain in the history of that station; and Sault Ste Marie, Mich., had the least precipitation for October since the establishment of that station, and except for March, 1917, the least for any month of record for that place. Likewise Tampa, Fla., reports the month to have been the driest October in the history of that station. Moderate to fairly heavy amounts of precipitation were received from the west Gulf region northward to the lower Missouri Valley and central Great

Plains, where many localities received from 4 to 8 inches. The amounts ranged from 1.5 to 2.5 inches in much of the Rocky Mountain and Plateau area, while along the immediate Pacific coast the monthly totals ranged from less than half an inch in southern California to about 14 inches at points in western Washington.

Considerable snow fell in the higher elevations of the central and northern Rocky Mountain States; at Lander, Wyo., 34.5 inches of snow fell during the month, the heaviest of record for October. Heavy falls were also reported in portions of Colorado, Nebraska, and the Dakotas, and unusually early snowfall occurred in the mountains of southern California and western Arizona.

RELATIVE HUMIDITY.

From the west Gulf region northward to the lower Missouri Valley and to the westward and northwestward nearly to the Pacific, the relative humidity was generally higher than the normal, which would naturally be the case with the fairly heavy precipitation received over much of that region. In most sections east of the Mississippi River the dry conditions existing during the month were indicated by the relative humidity being generally below the seasonal average, although in many instances excesses occurred. This was notably the case in portions of the Lake region and in the New England States, where despite the small amount of rainfall the relative humidity averaged above the normal.

SEVERE STORMS.

Severe storms were relatively infrequent. Six were reported, as follows:

Stevens Point, Wis., 11th: Property damage estimated at thousands of dollars was caused at this place by a terrific wind storm accompanied by hail.

Tyler, Tex., 14th: Four persons were killed and two injured when their home was destroyed by a severe wind-storm about two miles from this place.

Winnsboro, Tex., 14th: A small tornado passed over this town, causing about \$75,000 property damage.

Mexico City, Tex., 19th: A severe storm wrecked the "Marist Brothers' School" building, located about 6 miles from San Antonio.

Meridian, Wis., 20th: A tornado demolished many farm buildings, blew down a schoolhouse, and uprooted many trees in this vicinity.

Smithfield, Tex., 27th: Buildings and fruit trees were blown down and sugar-cane crop damaged by a severe wind and rain storm.