

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE. Assistant Editor: HERBERT C. HUNTER.

VOL. XXXV.

SEPTEMBER, 1907.

No. 9.

The MONTHLY WEATHER REVIEW is based on data from about 3500 land stations and many ocean reports from vessels taking the international simultaneous observation at Greenwich noon.

Special acknowledgment is made of the data furnished by the kindness of cooperative observers, and by R. F. Stupart, Esq., Director of the Meteorological Service of the Dominion of Canada; Señor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Camilo A. Gonzales, Director-General of Mexican Telegraphs; Capt. I. S. Kimball, General Superintendent of the United States Life-Saving Service; Commandant Francisco S. Chaves, Director of the Meteorological Service of the Azores, Ponta Delgada, St. Michaels, Azores; W. N. Shaw, Esq., Director Meteorological Office, London; Maxwell Hall, Esq., Government Meteorologist, Kingston, Jamaica; Rev. L. Gangoit, Director of the Meteorological Observatory of Belen College, Havana, Cuba.

As far as practicable the time of the seventy-fifth meridian is used in the text of the MONTHLY WEATHER REVIEW.

Barometric pressures, both at land stations and on ocean vessels, whether station pressures or sea-level pressures, are reduced, or assumed to be reduced, to standard gravity, as well as corrected for all instrumental peculiarities, so that they express pressure in the standard international system of measures, namely, by the height of an equivalent column of mercury at 32° Fahrenheit, under the standard force, i. e., apparent gravity at sea level and latitude 45°.

Barometric pressures, both at land stations and on ocean vessels, whether station pressures or sea-level pressures, are reduced, or assumed to be reduced, to standard gravity, as well as corrected for all instrumental peculiarities, so that they express pressure in the standard international system of measures, namely, by the height of an equivalent column of mercury at 32° Fahrenheit, under the standard force, i. e., apparent gravity at sea level and latitude 45°.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

IN GENERAL.

In September the distribution of atmospheric pressure over the globe undergoes marked changes. The continents of the Northern Hemisphere begin to cool and the flow of atmospheric tides from the oceans to the continents begins. It is a month of increasing storm activity. The West Indian hurricane season is at its height. The latter part of the month usually marks the beginning of the rainy season on the Pacific coast of the United States. Over the Florida Peninsula September generally shows the maximum monthly rainfall of the year.

September, 1907, conformed rather closely to the seasonal average. During the early portion of the month barometric pressure was low over the tropical regions of the Atlantic and eastern Pacific, and averaged high over the more northern parts of the oceans. Over the continents the barometric fluctuations of this portion of the month were frequent, but not marked, and the more severe disturbances were of a local character. The third decade of the month was stormy. Two disturbances of tropical origin advanced from the Gulf of Mexico northeastward, attended by heavy rains and high winds along the Atlantic seaboard, and past eastward over the Atlantic to the British Isles, where barometric pressure continued low after the 23d. The first of these storms apparently moved southeastward from the British Isles and united with a disturbance that had caused exceptionally heavy rains over southwestern Europe. During the early part of this decade the first severe autumnal storm of the season crossed the Great Lakes. Following the passage of this storm the first heavy frost of the season occurred in the States of the upper Mississippi and middle Missouri valleys and the western Lake region, and the first light frost of the season in the Ohio Valley and the Middle Atlantic States. On the 15th and 16th the first well-marked storm of the season visited the north Pacific coast.

The following dispatch from Kingstown, Island of St. Vincent, British West Indies, dated September 20, 1907, indicates the character of disturbances that occurred in that section during the prevalence of low barometric pressure over the tropical regions of the oceans:

Recent advices from the Weather Bureau at Washington were verified in a remarkable manner. A disturbance east of the Windward Islands, which had been announced as probable, developed yesterday into a thunderstorm of great severity. Exceedingly low thunderclouds hung over

St. Vincent, and the lightning was fearfully vivid. Several casualties occurred. Similar storms have been experienced in the northern islands.

BOSTON FORECAST DISTRICT.*

[New England.]

The average rainfall exceeded that of any September since 1888. Thunderstorms were unusually prevalent, and were severe in parts of New Hampshire and Vermont on the 11th and 30th, and in Massachusetts on the 21st. Temperature averaged above normal. Killing frost occurred in the interior of Maine on the 19th, and a heavy frost was general, except in coast sections, on the 27th. Heavy rain from the 2d to 5th relieved the severe drought that had prevailed in southern New England during the preceding two months. On the 29th easterly gales caused more or less damage to shipping. Storm warnings were issued on the 23d and 29th, and there were no storms without warnings.—*J. W. Smith, District Forecaster.*

NEW ORLEANS FORECAST DISTRICT.*

[Louisiana, Texas, Oklahoma, and Arkansas.]

The month was unusually warm and dry, and no frost occurred. Storm warnings were displayed on the Louisiana and Mississippi coasts on the 21st and 28th on account of a disturbance in the central Gulf, but no gales occurred on those coasts.—*I. M. Cline, District Forecaster.*

LOUISVILLE FORECAST DISTRICT.*

[Kentucky and Tennessee.]

Temperature was, on the whole, seasonable, and rainfall was below the normal, except in eastern Tennessee, where heavy rain fell on the 21st and 22d. The first light frost of the season occurred over a large portion of Kentucky on the 26th. Hailstorms caused considerable damage in Kentucky on the 2d and 7th.—*F. J. Walz, District Forecaster.*

CHICAGO FORECAST DISTRICT.*

[Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas, and Montana.]

Two storms of moderate energy crossed the Lake region during the third decade of the month. Warnings were ordered well in advance of these storms, and no damage to shipping was reported. Frost occurred in the Northwest early in the month. The coldest weather of the month attended an area of high barometer that appeared on the northeastern Rocky Mountain slope on the morning of the 24th. By the morning of the 25th the frost line had extended southward to central Illinois