

MONTHLY WEATHER REVIEW.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for August, 1902, is based on reports from about 3,100 stations furnished by employees and voluntary observers, classified as follows: Regular stations of the Weather Bureau, 160; West Indian service stations, 17; special river stations, 132; special rainfall stations, 48; voluntary observers of the Weather Bureau, 2,562; Army post hospital reports, 18; United States Life-Saving Service, 9; Southern Pacific Company, 96; Hawaiian Government Survey, 75; Canadian Meteorological Service, 33; Jamaica Weather Office, 130; Mexican Telegraph Service, 20; Mexican voluntary stations, 7; Mexican Telegraph Company, 3; Costa Rican Service, 7. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Señor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Camilo A. Gonzales, Director-General of Mexican Telegraphs; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; Lieut. Commander W. H. H. Southerland, Hydrographer, United States Navy; H. Pittier, Director of the Physico-Geographic Institute, San Jose, Costa Rica; Capt. François S. Chaves, Director of

the Meteorological Observatory, Ponta Delgada, St. Michaels, Azores; W. M. Shaw, Esq., Secretary, Meteorological Office, London; and Rev. Josef Algué, S. J., Director, Philippine Weather Service.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to conform generally to the modern international system of standard meridians, one hour apart, beginning with Greenwich. The Hawaiian standard meridian is $157^{\circ} 30'$, or $10^{\text{h}} 30^{\text{m}}$ west of Greenwich. The Costa Rican standard of time is that of San Jose, $0^{\text{h}} 36^{\text{m}} 13^{\text{s}}$ slower than seventy-fifth meridian time, corresponding to $5^{\text{h}} 36^{\text{m}}$ west of Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local standard is mentioned.

Barometric pressures, whether "station pressures" or "sea-level pressures," are now reduced to standard gravity, so that they express pressure in a standard system of absolute measures.

FORECASTS AND WARNINGS.

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

In its general character the weather of August, 1902, corresponded with that of the preceding month. Moderate temperatures and frequent rains prevailed in the Northern States, and continued dry and warm weather in the middle and west Gulf States. West of the Rocky Mountains the first decade of the month was warm, the second decade cool, and after the 20th temperatures averaged about normal. In the Plateau and Pacific coast districts dry weather prevailed, except in New Mexico and Arizona, where frequent showers were reported. No severe general storms occurred on the coasts or the Great Lakes, nor in the West Indies.

Special warnings to vessels eastward bound from American ports were not required. On the 13th a disturbance of moderate strength moved eastward over Newfoundland, and during the succeeding forty-eight hours the barometer fell rapidly over the North Atlantic Ocean as far south as the Azores. On the morning of the 16th reports from the west coast of Ireland indicated the approach of a disturbance from the west. During the 17th and 18th this disturbance increased in intensity, and by the 19th had apparently crossed the British Isles to the North Sea. The severest disturbance of the month over the western Atlantic crossed Newfoundland from the southwest on the 17th, and apparently passed thence far to the north of the steamer routes. During the closing days of the month the barometer was low over the British Isles and western Europe.

BOSTON FORECAST DISTRICT.

No storm warnings were issued during the month and no storms or destructive winds passed over the district. The weather of the month was characteristic of the season and uneventful.—*J. W. Smith, Forecast Official.*

CHICAGO FORECAST DISTRICT.

In this district the month was not characterized by any unusual atmospheric disturbances, and no severe storms occurred on the upper lakes.—*H. J. Cox, Professor.*

NEW ORLEANS FORECAST DISTRICT.

No general storms occurred in this district during the month, and no special warnings were issued.—*I. M. Cline, Forecast Official.*

DENVER FORECAST DISTRICT.

No special warnings were issued during August.—*F. H. Brandenburg, Forecast Official.*

SAN FRANCISCO FORECAST DISTRICT.

The month was unmarked by any noteworthy disturbance.—*A. G. McAdie, Professor.*

PORTLAND, OREG., FORECAST DISTRICT.

The month was, as a whole, uneventful, and no storm warn-