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**INTRODUCTION.**

The *Monthly Weather Review* for July, 1905, is based on data from about 3486 stations, classified as follows:
- Weather Bureau stations, regular, telegraph, and mail, 176;
- West Indian Service, cable and mail, 4;
- River and Flood Service, regular 52, special river and rainfall, 363, special rainfall only, 98; cooperative observers, domestic and foreign, 2565;
- total Weather Bureau Service, 3258; Canadian Meteorological Service, by telegraph and mail, 33; Meteorological Service of the Azores, by cable, 2; Meteorological Office, London, by cable, 8; Mexican Telegraph Company, by cable, 3; Army Post Hospital reports, 18; United States Life-Saving Service, 363;

Since December, 1904, the Weather Bureau has received an average of about 1700 reports from as many observers and vessels, giving international simultaneous observations over the Atlantic and Pacific oceans at 12 noon, Greenwich time, or 7 a.m., seventy-fifth meridian time. These are charted, and, with the corresponding land observations, will form the framework for daily weather charts of the globe.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, 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. S.I. Kimball, General Superintendent of the United States Life-Saving Service; Commander H. M. Hodges, Hydrographer, United States Navy; H. Pittier, Director of the Physico-Geographic Institute, San José, Costa Rica; Commandant Francisco S. Chaves, Director of the Meteorological Service of the Azores, Ponta Delgada, St. Michaels Azores; W. N. Shaw, Esq., Secretary, Meteorological Office, London; H. H. Cousins, Chemist, in charge of the Jamaica Weather Office; Señor Enrique A. Del Monte, Director of the Meteorological Service of the Republic of Cuba; Rev. L. Gangoiti, Director of the Meteorological Observatory of Belen College, Havana, Cuba.

Attention is called to the fact that at regular Weather Bureau stations all data intended for the Central Office at Washington are recorded on seventy-fifth meridian or eastern standard time, except that hourly records of wind velocity and direction, temperature, and sunshine are entered on the respective local standards of time. As far as practicable, only the seventy-fifth meridian standard of time, which is exactly five hours behind Greenwich time, is used in the text of the Review. The standards used by the public in the United States and Canada and by the cooperative 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° 30', or 10° 30' west of Greenwich. The Costa Rican standard meridian is that of San José, 5° 30' west of Greenwich.

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.

In conformity with Instructions No. 43, March 29, 1905, the designation "voluntary", as applied to the class of observers performing services under the direction of the Weather Bureau without a stated compensation in money, is discontinued, and the designation "cooperative", will be used instead in all official publications and correspondence.

**FORECASTS AND WARNINGS.**

By Prof. A. J. Henry, temporarily in charge of Forecast Division.

July was free from very destructive storms and hurricanes. Somewhat less than the usual number of atmospheric disturbances passed across the country, and the majority of them reached the Atlantic coast with greatly diminished energy. The first noteworthy disturbance appeared over the Plateau region on the 1st, whence it moved to Nebraska on the morning of the 2d and thence to the region north of Lake Superior, where it apparently dissipated on the 6th. The only storm warnings of the month on the Great Lakes were displayed in connection with this storm. The warnings were generally verified. From the 14th to the 20th a shallow disturbance without rain moved from Assiniboia to the Canadian Maritime Provinces. This disturbance was attended by a hot spell in the north-central and northeastern districts which, although not productive of unusually high temperatures, was the cause of a large number of prostrations and deaths in the densely populated centers of the Middle West, the Middle Atlantic States, and the southern portion of New England. This hot spell was preceded in the New England and Middle Atlantic States by a number of days with southerly winds and high relative humidity. The night temperatures on the 17th, 18th, and 19th, particularly in Boston, New York, Philadelphia, and Chicago, were unusually high, viz, between 72° and 78°. On the afternoon of the 19th the intensity of the hot spell was somewhat reduced by local rains, and temperatures continued to fall during the next 48 hours, passing from one extreme to the other in about three days. The cool spell thus inaugurated was due in part to an area of high pressure that passed eastward over the Lake region on the 21st. The cool weather was experienced mainly in the Dakotas and Nebraska and thence eastward to New England. The close of the hot spell was forecast on the morning of the 19th, as follows:

The outlook for thunderstorms during the next 36 hours in the upper Ohio Valley and thence eastward is fairly good. With the showers there will be more or less fall in temperature Thursday afternoon or night, and it now seems probable that the prevailing high temperatures will be temporarily interrupted by Friday.

From the 20th to the close of the month two shallow depressions drifted across the country from the Rocky Mountains to the Atlantic, both attended by more or less showery weather and moderate temperatures.

A period of unusually high temperature was experienced in the interior valleys of the Pacific coast States, more especially California, from the 4th until the 10th, and again on the 20th, 21st, 22d, and 23d. Except along the immediate Pacific coast the temperatures west of the Rocky Mountains for the month as a whole were not greatly different from the average. The tracks of areas of high pressure were confined mostly to the