

MONTHLY WEATHER REVIEW

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for June, 1904, is based on data from about 3300 stations, classified as follows:

Weather Bureau stations, regular, telegraph, and mail, 167; West Indian Service, cable and mail, 4; River and Flood Service, regular 43, special river and rainfall, 190, special rainfall only, 56; voluntary observers, domestic and foreign, 2565; total Weather Bureau Service, 3025; Canadian Meteorological Service, by telegraph and mail, 20, by mail only, 13; 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, 9; Southern Pacific Company, 96; Hawaiian Meteorological Service, 75; Jamaica Weather Service, 130; Costa Rican Meteorological Service, 25; The New Panama Canal Company, 5; Central Meteorological Observatory of Mexico, 20 station summaries, also printed daily bulletins and charts, based on simultaneous observations at about 40 stations; Mexican Federal Telegraph Service, printed daily charts, based on about 30 stations.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. R. C. Lydecker, Territorial Meteorologist, Honolulu, Hawaii; 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 H. M. Hodges, Hydrographer, United States Navy; H. Pitier, 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; Rev. José Algué, S. J., Director, Philippine Weather Service; and 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.

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 meridian is that of San José, $5^{\text{h}} 36^{\text{m}}$ 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.

The severest storm of the month over the eastern Atlantic crossed the British Isles during the 15th and 16th, with lowest reported barometric pressure, 29.04 inches, at Stornoway, Scotland, on the latter date. A disturbance of moderate strength advanced from the southward over France and England during the 9th and 10th, and the barometer was relatively low over the British Isles from the 24th to 26th and on the 30th.

High barometric pressure prevailed in the vicinity of the Azores, except from the 8th to 11th, the lowest barometer and the maximum wind velocity of the month, 52 miles an hour from the southwest, occurring at Horta on the 8th.

From the 10th to 15th the barometer continued low over Cuba and, while no marked cyclonic disturbance appeared, torrential rains occurred over the eastern part of the island from the 10th to 13th.

The general disturbances that appeared over the United States were not severe in character, and no well-defined storm traversed the middle and south Atlantic, Gulf, or Pacific coasts.

Severe local storms were reported in Nebraska on the 1st, from the middle Mississippi and lower Missouri valleys to Oklahoma and Indian Territories on the 3d, in the Middle Atlantic States on the 5th, and in eastern New York on the 26th.

The termination of the warm wave of the third decade of the month was announced on the morning of the 25th by the following special forecast:

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The present warm wave will be broken in the lower Ohio Valley and the western Lake region to-night, in the upper Ohio Valley and the eastern Lake region Sunday, and in the Middle Atlantic States and western New England by Sunday night, and will be followed by two or three days of moderate temperature.

Early in the month floods became general in the streams of Kansas, and in rivers draining to the southward farm lands and railway tracks were submerged. Flood conditions also set in in the Arkansas and Red rivers during the first decade of the month. The Red River continued to rise at Shreveport until the 24th, when 28.5 feet was shown on the gage. For two weeks the Weather Bureau had sent out warnings that a stage of about 29 feet, the danger line, would be reached at Shreveport by the 25th.

On the 5th warning of a 27-foot stage in the Arkansas River at Little Rock was issued. The crest of the flood reached Little Rock on the 11th, when a stage of 27.8 feet, 4.8 feet above the danger line, was reached.

NEW ENGLAND FORECAST DISTRICT.

There were no violent storms along the coast. The monthly precipitation was below normal and unevenly distributed. Heavy frosts were reported in northern, and heavy to light frosts in southern sections, during the first decade of the month.—*J. W. Smith, District Forecaster.*

WEST GULF FORECAST DISTRICT.

No general storm occurred, temperature changes were slight, and showers frequent.—*I. M. Cline, District Forecaster.*

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