MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for October, 1903, is based on data from about 3300 stations, classified as follows:

Weather Bureau stations, regular, telegraph and mail, 166; West Indian Service, cable and mail, 15; River and Flood Service, 52, river and rainfall, 177, rainfall only, 62; voluntary observers, domestic and foreign, 2565; total Weather Bureau Service, 2962; 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. Curtis J. Lyons, Territorial Meteorologist, and Mr. R. C. Lydecker, Acting Territorial Meteorologist, Honolulu, H. I.; 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 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. Josef 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° 30′, or $10^h\ 30^m$ west of Greenwich. The Costa Rican standard of time is that of San José, $0^h\ 36^m\ 13^s$ slower than seventy-fifth meridian time, corresponding to $5^h\ 36^m$ 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.

Stormy weather prevailed over the eastern Atlantic and British Isles from the 1st to the 6th, 11th to the 17, and 20th to the 31st. Over the western Atlantic the weather was quiet from the 1st to the 7th. During the 8th a barometric depression moved eastward over the Atlantic coast of the United States, and during the succeeding three days a storm of great violence occupied the ocean between Bermuda and the American coast. During the 12th and 13th the center of this storm moved northeastward over the Canadian Maritime Provinces. From the 16th to the 18th a disturbance moved from the Gulf of Mexico northeastward over the Atlantic seaboard of the United States. On the 23d a disturbance of moderate intensity appeared over the Bahamas. Increasing in strength this storm moved northward to a position off the North Carolina coast during the 24th, and passed thence northeastward toward Nova Scotia during the 25th, attended by winds that exceeded 50 miles an hour on the North Carolina coast. During the 26th the center of disturbance moved northeastward over Newfoundland. From the 27th until the close of the month the weather of the western Atlantic was dominated by an area of high barometric pressure that remained nearly stationary over the middle-eastern districts of the United States. No important disturbance appeared over the Caribbean Sea.

The first important storm of the month in the United States advanced from the north Pacific to the Atlantic coasts from the 5th to the 8th, attended by general rains in the northern, eastern, and southeastern districts, by high winds on the north Pacific coast and the Great Lakes, and by gales of exceptional severity off the Atlantic coast. During the 8th, when the center of this storm was north of the east end of Lake Superior, a secondary disturbance of great strength developed in the southern end of a trough of low barometric pressure that extended from the Lake region to the middle Atlantic coast. This trough shifted position over eastern New York and New Jersey, and caused torrential rains in the Hudson Valley and New Jersey during the 8th and 9th, and high and increasing winds on the middle Atlantic and southern New England coasts, with maximum reported velocities ranging above 70 miles an hour on the Virginia coast on the 10th. During the northeast movement of the storm center on the 11th and 12th wind velocities of 60 miles an hour were reported on the southeast coast of New England. Storm warnings and advices were issued well in advance of this storm at all points in its course from the Pacific to the Atlantic.

The following comments regarding the work of the Weather Bureau in connection with this storm were made by the American Syren and Shipping, New York, October 17, 1903:

If any certification of the value of the forecast warnings of the Weather Bureau were required, the tributes paid to this service during the past few days by shipowners and shipmasters would be more than sufficient