

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for October, 1897, is based on 2,864 reports from stations occupied by regular and voluntary observers, classified as follows: 144 from Weather Bureau stations; numerous special river stations; 33 from post surgeons, received through the Surgeon General, United States Army; 2,525 from voluntary observers; 96 received through the Southern Pacific Railway Company; 14 from Life-Saving stations, received through the Superintendent United States Life-Saving Service; 32 from Canadian stations; 20 from Mexican stations; 7 from Jamaica, W. I. 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 Government Survey, Honolulu; Dr. Mariano Bárcena, Director of the Central Meteorological Observatory of Mexico; Mr. Maxwell Hall, Government Meteorologist,

Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; and Commander J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

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 generally conform to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are generally corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

STORM WARNINGS AND WEATHER FORECASTS.

By Lieut. Col. H. H. C. DUNWOODY, Supervising Forecast Official.

Under this head it is proposed to make note of all extreme and injurious weather conditions occurring during the month, and the warnings of the same issued by the Bureau, with instances, as far as reported by observers or the press, in which these warnings were of special public benefit. The signals displayed by the Weather Bureau will be referred to as "information," "storm," "hurricane," "cold wave," and "norther," respectively.

SEVERE STORMS.

The following report on the work of October has been prepared by Mr. H. E. Williams, Chief of Forecast Division:

Storm of October 19-21.—Two tropical storms for which hurricane signals were ordered occurred during October, viz, 19-21 and 23-26. The first was noted on the evening of the 19th as a slight depression east of Florida. It moved rapidly northeast toward the North Carolina coast, and on the morning of the 20th was central south of Hatteras, causing northeast winds of 34 and 26 miles at Hatteras and Henry, respectively. During the day it moved slowly northeast, increasing in intensity, and on the night of the 20th was apparently central off the east North Carolina coast, maximum velocities of 44 south and 60 northeast, occurring at Hatteras and Henry, respectively. Storm southeast signals were hoisted by the observer at Hatteras at 6 a. m. of the 20th, and at 10 a. m. the Central Office ordered storm northeast at Henry, Norfolk,

and in Hampton Roads, and information signals from Breakwater to Nantucket. At 12:10 p. m. these latter were changed to storm northeast, and the same extended to Boston and section. Special reports of the development and progress of the storm were received during the day, and at 11:55 a. m. the observer at Norfolk was warned that the storm was likely to be very severe, and directed to notify all vessels that it would be dangerous to leave port. At 1 p. m. hurricane signals were ordered from Hatteras to Boston section, with the warning that the winds would probably reach hurricane velocity off the south New England and middle Atlantic coasts, and that it was dangerous for vessels to leave port. At 10 p. m. information signals were hoisted at Portland and Eastport, with the warning of severe east gales on the south New England coast Thursday morning (21st), and that winds would be likely to be brisk to high off the north New England coast Thursday. On the morning of the 21st the storm was central off the southeast New England coast, whence it passed during the day northeast beyond the region of observation. Northeast winds of 36 miles at Atlantic City, 38 at New York, 56 at Block Island, and 44 at Nantucket occurred during the night of the 20th and morning of the 21st.

Storm of October 23-26.—The second storm was first observed on the evening of the 23d, the p. m. synopsis of that date stating that "there are some indications of a depression to the east of Florida." Information signals had been ordered during the