

# MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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## INTRODUCTION.

The MONTHLY WEATHER REVIEW for December, 1900, is based on reports from about 3,100 stations furnished by employees and voluntary observers, classified as follows: regular stations of the Weather Bureau, 159; West Indian service stations, 13; 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 Railway Company, 96; Canadian Meteorological Service, 32; Mexican Telegraph Service, 20; Mexican voluntary stations, 7; Mexican Telegraph Company, 3. 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; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service;

Commander Chapman C. Todd, Hydrographer, United States Navy; H. Pittier, Director of the Physico-Geographic Institute, San Jose, Costa Rica; Captain François S. Chaves, Director of the Meteorological Observatory, Ponta Delgada, St. Michaels, Azores, and W. M. Shaw, Esq., Secretary, Meteorological Office, London.

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. 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.

## FORECASTS AND WARNINGS.

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

Exceptionally severe weather prevailed along the steamer routes of the Atlantic and Pacific oceans during December, 1900; and from the 20th until the close of the month disastrous storms visited the British Isles and the middle-western and northwestern coasts of continental Europe.

The most important storm of the month along the Atlantic coast of the United States appeared over the west Gulf States on the 3d, reached North Carolina by the morning of the 4th, passed thence, with a marked increase in intensity, to a position off the New England coast by the morning of the 5th, and disappeared east of Newfoundland during the 6th. Storm warnings were displayed from Hatteras, N. C., to Boston, Mass., the morning of the 4th, and the displays were extended to Eastport, Me., the afternoon of the 4th. On the morning of the 5th Atlantic coast ports from Norfolk, Va., to Portland, Me., were advised as follows:

Severe southerly gales will shift to northwest off Nova Scotia this afternoon and off Newfoundland to-night. Hard gales on transatlantic tracks to midocean during Thursday.

A notable storm appeared over the west part of the Gulf of Mexico on the 12th, reached the extreme lower Mississippi Valley the morning of the 13th, and passed eastward off the northern Florida coast during the early morning of the 14th. After leaving the coast the storm moved northeastward and acquired great intensity, and on the 16th the steamship *Trini-*

*dad*, bound from New York to Bermuda, experienced a gale of hurricane force.

A third storm of marked strength prevailed along the North Carolina and Virginia coasts during the 21st. This storm also first appeared in the western Gulf district and advanced to the Atlantic coast. On the 20th, when the center of disturbance was crossing Alabama, storm warnings were displayed along the Atlantic coast from Savannah, Ga., to Norfolk and Westport, Va., and on the morning of the 21st, when the storm center was off Hatteras, N. C., the following message was telegraphed to Atlantic coast ports from Norfolk, Va., to Portland, Me.

Storm off Hatteras moving northeast. Easterly shifting to northwest gales off north Atlantic and Nova Scotia coasts to-night and off Newfoundland Saturday.

On the Great Lakes high winds occurred from the 7th to the 12th, and on the 23d. During the early morning of the 11th the iron ore barge *Charles Foster* foundered off Erie, Pa., and 8 persons were drowned. Ample warning was given to lake marine interests of the gales of the period December 7 to 12. The display of storm warnings was discontinued for the season on Lake Superior on the 12th, and on Lakes Michigan, Huron, Erie, and Ontario, on the 15th.

On the Pacific coast gales occurred at intervals from the 12th to the 21st, and on the 24th and 25th. On the 14th a heavy storm of wind and rain prevailed in California, and at