

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE. Assistant Editor: CLEVELAND ABBE, jr.

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The MONTHLY WEATHER REVIEW summarizes the current manuscript data received from about 3,500 land stations in the United States and about 1,250 ocean vessels; it also gives the general results of the study of daily weather maps based on telegrams or cablegrams from about 200 North American and 40 European, Asiatic, and oceanic stations.

The hearty interest shown by all observers and correspondents is gratefully recognized.

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As far as practicable the time of the seventy-fifth meridian is used in the text of the MONTHLY WEATHER REVIEW.

Barometric pressures, both at land stations and on ocean vessels, whether station pressures or sea-level pressures, are reduced, or assumed to be reduced, to standard gravity, as well as corrected for all instrumental peculiarities, so that they express pressure in the standard international system of measures, namely, by the height of an equivalent column of mercury at 32° Fahrenheit, under the standard force, i. e., apparent gravity at sea level and latitude 45°.

FORECASTS AND WARNINGS.

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

In the United States the opening days of June were unusually warm. In southern Texas and the valleys of California maximum readings were above 100° and at points in the middle and southern Plateau temperatures were higher than previously recorded for the same season of the year.

From the 2d to 6th a barometric disturbance that moved northeastward from the western portion of the Gulf of Mexico caused heavy rain in the Gulf and Atlantic States, and an area of low pressure that covered the Rocky Mountains was attended by showers from the Rockies over the central valleys and Great Lakes. West of the Rockies the rapid melting of a large accumulation of snow in the mountains caused freshets in streams.

The second week in June averaged cool in the Rocky Mountain and Plateau regions and thence over northern districts to the Atlantic coast, and temperature was above normal in the Southern and North Pacific States. At points in the Southwest maximum temperatures were above 100°, and in the interior valleys of California and Oregon they were above 90°.

Disturbances that advanced from the Plateau and Rocky Mountain districts to the St. Lawrence Valley from the 8th to 11th and 11th to 14th were attended by rain generally from the Rockies to the Atlantic, and on the 12th and 13th severe thunder, rain and windstorms caused damage in Virginia and North Carolina. Following the disturbance of the 11-14th minimum temperatures were near the freezing point in the mountain and Plateau districts of the West and in northern New England, and on the morning of the 15th a minimum of 30° and frost, for which warnings had been issued, occurred in the cranberry bogs of Wisconsin.

During the third week of June temperature was high over the Plains States and Northwest and low over the central valleys, Great Lakes, Middle Atlantic and the interior of the New England States.

From the 16th to 18th a disturbance advanced from the Northwest over the northern interior valleys to the Canadian Maritime Provinces attended by heavy rain in the Atlantic

States and snow in eastern Ontario. This disturbance was followed by a cool wave that overspread districts east of the Rocky Mountains, and on the morning of the 19th temperatures as low as previously reported for the time of the year were noted in the upper Ohio Valley and the Middle Atlantic States, and light frost occurred at points in the Rockies, the Lake region, and in the cranberry district of New Jersey.

On June 19 the following special forecast was issued:

Present barometric pressures indicate that as compared with the past week the week beginning Sunday, June 20, will be warmer and drier generally in the great agricultural districts east of the Rockies.

During the week covered by this forecast high barometric pressure over the Southeast and low pressure along the northern border of the country produced prevailing southerly winds, decidedly higher temperatures, and generally clear skies east of the Rocky Mountains. In the Middle Atlantic States maximum temperatures rose each day to 90°, or above, from the 20th to 28th, and at Washington, D. C., this was the longest warm spell on record for June.

The higher upper air conditions that accompanied this warm wave are indicated by Mount Weather records for the 23d and 24th, when at elevations of 7,900 and 16,700 feet, respectively, above the station temperature was 50° on the 23d, and 32° on the 24th, and the rate of decrease in temperature was 3.3° and 2.9° per 1,000 feet. On each day the wind direction aloft and at the surface was west. On the remaining five of the seven days on which upper air observations were taken the kites attained heights that varied from 2,200 feet on the 22d to 5,500 feet on the 6th, and the average rate of temperature fall for the entire period for elevations of one mile, more or less, was 3.5° per 1,000 feet. As the average rate of fall in temperature in free air is about 3° for each 1,000 feet it will be seen that during this warm period there was about an average rate of fall to the mile level and also, on days observations were obtained, to the 1½ and 3-mile levels.

In a record of a balloon ascension made June 26 from Fitchburg, Mass., Charles J. Glidden reports that at an elevation of