

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.

The movements of barometric areas over the continents of the Northern Hemisphere were more irregular than during the preceding month. Over the Pacific Ocean pressure fluctuations were frequent in the Bering Sea region and the barometer continued comparatively high over the Hawaiian Islands until the close of the month, when readings were slightly below 30.00 inches. Over the Atlantic Ocean pressure was high in northern and low in southern latitudes during the first two decades of the month. This distribution of pressure over the Atlantic gave during the period named prevailing northerly winds over the continental areas that bordered on the middle latitudes of the ocean. On the middle and northern Atlantic coasts of the United States the winds were northeasterly and on the western European coasts they were mostly northwesterly. From the 21st until the close of the month lower pressure in northern and higher pressure over southern latitudes of the Atlantic caused a shift of winds to warmer southerly and westerly over the eastern American and western European coastal regions.

In the United States the month opened with rain in the middle Atlantic and New England States, snow in the upper Lake region and upper Mississippi and Ohio valleys, freezing temperature north of a line traced from the upper Lake region to southeastern New Mexico and killing frosts in the States of the Ohio, upper Mississippi and lower Missouri valleys and the middle and southern Rocky Mountain districts. The morning of the second light to heavy frost was reported in northern portions of the middle and east Gulf States and western portions of the south Atlantic States, and a minimum of 37° was noted at Washington, D. C., the lowest recorded temperature for May at that station being 33° on May 11, 1906. During this cool period in central and eastern districts summer temperature prevailed in the extreme Southwest, with maximum readings 96° at Yuma, Ariz.

The Fort Worth, Tex., Record, of May 5, refers editorially as follows to action taken by Colorado fruit growers to protect their crops from the cold wave of April 30—May 1:

There was an illustration in Colorado last week of how man's ingenuity combats the elements and sometimes thwarts the full workings of nature. Colorado fruit growers had been warned of the coming of the cold wave which, there was every evidence to believe, would blast the fruit crop. The fruit crop in the threatened Grand Valley is estimated to be worth \$3,000,000. Fruit growers immediately got busy with the smudge pot. These oil heaters performed the miracle of heating the whole out of doors. The danger-point to the fruit crop is 28° and the smudge pots pushed the thermometer register up to 32°. The orchards were saved. The cost of equipment was an average of \$25 an acre, the cost of running \$5 a night, and the estimate is that not more than three nights a year would such precautions be necessary; hence at a cost of \$40 there was saved each acre's crop, the value of which runs from \$300 to \$2,000.

From the 2d to 7th a depression of slight intensity advanced from the north Pacific coast to the Canadian Maritime Provinces, preceded by rapidly rising temperature, attended by showers in middle and northern districts east of the Rocky Mountains and followed by a decided fall in temperature that carried the frost line over the upper Mississippi Valley.

An important disturbance advanced from the middle Plateau to New England from the 7th to 11th, attended by severe local storms in Oklahoma and Missouri on the 8th and in the Ohio Valley and Tennessee on the 9th. The rains attending this disturbance were moderate to heavy in practically all sections from the Mississippi Valley to the Atlantic coast, and a cool wave that followed its passage was attended by freezing temperature in the upper Lake region and northern New England and carried the frost line over the lower Missouri, upper Mississippi and Ohio valleys, Kentucky, and the mountain districts of the south Atlantic States.

From the 10th to 15th, and 14th to 17th, respectively, disturbances advanced from the plateau over the central valleys, and from the southern Rockies to the St. Lawrence Valley. Preceding these disturbances temperature rose rapidly and the highest readings of the present year, 90°, were noted on the 15th in the middle Atlantic States. From the 13th to 15th heavy local rains occurred from the northern Rocky Mountains and middle Plains States over the upper Mississippi and Ohio val-