

MONTHLY WEATHER REVIEW.

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INTRODUCTION.

The REVIEW for March, 1894, is based on reports from 3,252 stations occupied by regular and voluntary observers. These reports are classified as follows: 152 reports from Weather Bureau stations; 42 reports from U. S. Army post surgeons; 2,238 monthly reports from State weather service and voluntary observers; 30 reports from Canadian stations; 221 reports through the Southern Pacific Railway Company; 565 marine reports through the co-operation of the Hydrographic Office, Navy Department, and "New York Herald Weather Service;" 5 weekly reports from 1 U. S. Life-Saving station; no reports from navigators on the Great Lakes; monthly reports from local services established in all States and Territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

The WEATHER REVIEW for this month has been prepared under the general editorial supervision of Prof. Cleveland Abbe. The statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, acting chief of that division.

CHARACTERISTICS OF THE WEATHER FOR MARCH, 1894.

HIGH AREAS.

The most important areas of high pressure were Nos. XVII and XVIII, which passed from Alberta on the 23d and 27th to the south Atlantic coast on the 28th and 31st, respectively. Coming as they did after several weeks of warm weather they brought disastrous frosts and freezes to the tender vegetation in the Mississippi Valley, Gulf, and south Atlantic States. The mean temperatures for the week preceding their advent and for the week following presented a remarkable contrast, so that many places have during this month experienced both the highest and lowest temperatures on record.

COLD WAVES.

The great cold wave of the 22d-27th, passing over Wyoming, caused a continuous blizzard of seventy hours at Buffalo, in that State, which, so far as known, was never approached in severity by any other storm in that locality.

LOW AREAS.

Several storms that have passed over the Lake region and New England have been quite severe, notably that of the 11th and 12th, but those off the coasts of Washington and Oregon and that of the 23d in the Atlantic Ocean, which passed from New England on the 22d, were among the severest on record.

PRECIPITATION.

A special area of heavy rainfall occurred during the 15th and 21st in Arkansas and Louisiana and a notable snowfall over the Appalachian Range and New England on the 25-30th.

RIVER FLOODS.

Notable floods or high waters were reported from Baker City, Oreg., as also from Arkansas and Louisiana.

AURORAS.

A brilliant and interesting aurora occurred on the 30th, accompanied by a remarkable magnetic storm; both of these phenomena were also observed in Europe on that date.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure reduced to sea level for March, 1894, as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), is shown by isobars on Chart II, which also gives the so-called resultant wind direction for this month; these resultants are also given numerically in Tables VIII and IX of the present REVIEW. The pressures here charted are those shown by mercurial barometers uncorrected for the effect of the variation of gravity with latitude; this correction is shown by the numbers printed on the border of Chart II; it should be applied and new isobars drawn by those engaged in special researches.

During March the pressures at sea level have been highest, 30.20, in southeastern Georgia and northern Florida; a minor region of maximum pressure, 30.11, existed off the coast of

northern California. The regions of minimum pressure were 29.90, or less, in British Columbia; 29.93 over Lake Superior and eastward; 29.94 over the Gulf of California and northward to southern Nevada.

The normal distribution of atmospheric pressure and normal resultant wind direction for the month of March were approximately shown on Chart VIII of the REVIEW for March, 1893, as computed by Prof. H. A. Hazen, and are not now reproduced. As compared with the normal for March, the mean pressure for the current month was in excess in the Atlantic and Gulf States, lower Lake region, and Ohio Valley; also slightly in excess in northern California, but deficient throughout the interior of the country. The line of no departure passes from eastern Texas through Arkansas, Indiana, and southern Michigan northeast toward Labrador.