

# MONTHLY WEATHER REVIEW.

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## INTRODUCTION.

The REVIEW for February, 1894, is based on reports from 3,139 stations occupied by regular and voluntary observers. These reports are classified as follows: 153 reports from Weather Bureau stations; 41 reports from U. S. Army post surgeons; 2,191 monthly reports from state weather service and voluntary observers; 30 reports from Canadian stations; 221 reports through the Southern Pacific Railway Company; 475 marine reports through the co-operation of the Hydrographic Office, Navy Department, and "New York Herald Weather Service;" 28 weekly reports from 10 U. S.

Life-Saving stations; 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 data is furnished by the Records Division, in charge of Mr. A. J. Henry, acting chief of that division.

## CHARACTERISTICS OF THE WEATHER FOR FEBRUARY, 1894.

### HIGH AREAS.

The most important area of high pressure was No. VII, which passed from Assiniboia and Alberta on the 19th to Wyoming on the 23d and prevailed over the central Rocky Mountain plateau until the 28th. Maximum pressures of 31.04 occurred at Calgary, Alberta, on the 19th, and 31.00 at Cheyenne, Wyo., on the 23d. The lowest temperatures recorded in this connection were, on the 19th, —38, and on the 20th and 21st, —44, at White River, Ont; on the 23d, —20, at Williston, N. Dak., —16, at Moorhead, Minn., —12, at Huron, S. Dak., Bismarck, N. Dak., and Cheyenne, Wyo.

### LOW AREAS.

The lowest pressure recorded during the month was 28.80 at the center of low area No. VII on the 15th at Eastport, Me., attending the severest storm of the month.

### TEMPERATURE.

The temperature of the month was generally below the average, and especially so on the northern, middle, and southern Rocky Mountain slopes, the southern plateau, the west Gulf States, and the Pacific coast.

### PRECIPITATION.

The total precipitation (rain and melted snow) was above the average in the east Gulf, south and middle Atlantic States, and on the north Pacific coast. The snowfall was far above the average for February in the Appalachian range, the Middle and Eastern States.

### AURORAS.

A remarkably extensive and interesting aurora occurred on the 22d and 23d, and reports of its visibility have been received from every State, except Alabama, Arkansas, District of Columbia, Florida, Georgia, Indian Territory, Louisiana, Mississippi, South Carolina, and Texas.

## ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure reduced to sea level for February, 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.

The normal distribution of atmospheric pressure and normal resultant wind direction for the month of February were approximately shown on Chart VIII of the REVIEW for February, 1893, as computed by Prof. H. A. Hazen, and are not now reproduced. As compared with the normal for Febru-

ary, the mean pressure for the current month was deficient from Lake Superior north and west to British Columbia. The greatest deficiency in pressure at Weather Bureau stations was 0.04 at Williston, N. Dak.; pressure was 0.01 below the normal in North Carolina, central Mississippi, and Alabama, and above the normal in all other States. The maximum excesses were 0.11 at Eastport, Me.; 0.10 at Albany, N. Y.; 0.12 at Cheyenne, Wyo.; 0.11 at Salt Lake City, Utah; 0.10 at Eureka, Cal. This belt of average highest excess, therefore, stretches almost continuously from Maine westward to northern California. The principal region of small excess covers the south Atlantic and Gulf States.

As compared with the preceding month of January, 1894, the mean pressure for February fell 0.05 or less throughout the Atlantic and east Gulf States, California, Arizona, and New Mexico; also in Alberta, Saskatchewan, Assiniboia, and Manitoba. Pressure rose from 0.14 to 0.17 over a narrow