



# MONTHLY WEATHER REVIEW.

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BOARD OF EDITORS { Mr. Horace E. Smith, Chief Clerk of Weather Bureau,  
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## INTRODUCTION.

This REVIEW is based on reports for February, 1893, from 2,889 regular and voluntary observers. These reports are classified as follows: 164 reports from Weather Bureau stations; 45 reports from United States Army post surgeons; 2,122 monthly reports from state weather service and voluntary observers; 221 reports through the Southern Pacific

Railway Company; 311 marine reports through the co-operation of the Hydrographic Office, Navy Department; 26 reports from Canadian stations; marine reports through the "New York Herald Weather Service"; 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.

## CHARACTERISTICS OF THE WEATHER FOR FEBRUARY, 1893.

The month was unusually cold over the greater part of the country. On the 1st stations in the Dakotas, Montana, and eastern Washington reported the lowest temperature on record for February. On that date a severe norther was attended by a fall in temperature of 40° to 60° in the Western and Southwestern States; the temperature fell 20° to 30° in one hour in northern Texas; and the line of zero temperature was carried to central Missouri. In Montana the cold of the first four days of February was unprecedented; at regular stations of the Weather Bureau the temperature ranged 28° to 45° below zero; and along the line of the Great Northern Railroad in western Montana temperature 50° to 60° below zero was reported. A second severe cold wave overspread the West and Southwest on the 6th, with a fall in temperature of 40° to 50° from the middle Mississippi valley to Oklahoma, and zero temperature to southern Missouri. Frost was reported in the interior of Florida as far south as Jupiter on the 23d, to the middle Gulf coast on the 8th, 13th, 20th, and 23d, and near Corpus Christi and San Antonio, Tex., on the 8th.

### PRECIPITATION.

The monthly precipitation was generally in excess of the average amount for February over the eastern and extreme northwestern parts of the country and from Lake Superior over the middle and southern Rocky Mountain and plateau regions; elsewhere less than the usual amount of precipitation fell. At points in the upper Ohio valley, the Atlantic States, the middle and southern Rocky Mountain regions, and Washington the monthly precipitation was the greatest, and at stations in the Southwest it was the least ever noted for February. Over a great part of New England the snowfall was exceptionally heavy. In parts of the interior of New England the total depth of snowfall for the month was 40 to 60 inches, and in the mountain districts a depth of 70 to 80 inches was reported. In large areas in the Western States the snowfall was insufficient to afford protection to crops.

### STORMS.

A notable thunderstorm, with sleet, snow, and temperature 18° below the freezing point, occurred at Saint Louis, Mo., the evening of the 1st. On the 5th and 6th a heavy snowstorm extended from Iowa over Minnesota, Wisconsin, and western Lower Michigan. A heavy snowstorm extended from central New England over New Hampshire and western Maine during the 13th and 14th. On the 17th and 18th gales and heavy snow prevailed from southern New England over eastern Pennsylvania. The storm continued over New York, Pennsylvania, and Maryland during the 19th, with thunderstorms in southern Pennsylvania and Maryland. On the 20th the snowstorm extended over New England, and heavy gales prevailed north of Hatteras, N. C. On the 21st destructive thunderstorms occurred in Alabama, Louisiana, and Texas. Heavy snow, with high winds, prevailed in New England, New York, and Pennsylvania on the 22d. On the 27th heavy snow, with thunderstorms, was reported in northern Iowa, and snow fell in Minnesota. On the 28th the snowstorm overspread Wisconsin and Upper Michigan, with destructive gales over Lake Michigan.

### NAVIGATION.

Navigation on the Great Lakes and in the rivers of the middle and northern districts was practically closed throughout the month. In the middle Mississippi and Ohio rivers and tributaries, and in rivers and streams of the middle Atlantic states considerable damage was caused by ice gorges. In harbors and bays of the middle Atlantic and New England coasts heavy ice interfered with navigation.

### FLOODS.

Floods were reported in streams of eastern Ohio, Pennsylvania, and New York the early part of the month. The night of the 9th floods occurred along the San Joaquin River and tributaries. The Ohio River passed above the danger-line from Parkersburg, W. Va., to Cairo, Ill., during the second decade of the month. At the close of the month the Ohio River was above the danger-line from Evansville, Ind., to Cairo. High water was reported in rivers and streams of Alabama, Georgia, and Tennessee.