

MONTHLY WEATHER REVIEW,

FEBRUARY, 1876.

WAR DEPARTMENT,

Office of the Chief Signal Officer,

DIVISION OF

TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

INTRODUCTION.

The present review of atmospheric phenomena during February, 1876, is based upon—

FIRST. The simultaneous observations as telegraphed from one hundred and thirty-four stations and charted three times a day at this office for study, and the preparation of the published weather predictions.

SECOND. The reports of means and abstracts from four hundred and forty-two stations, which are classified as Canadian, Naval Hospitals, Army Post Surgeons, Civilian Volunteers, Marine Records, and those of the United States Signal Service.

THIRD. Manuscript and printed documents and reliable newspaper reports.

The principal features of the weather for the month have been: First, the average northerly courses of the areas of low barometer and the formation of barometric troughs and ridges; Second, the high barometer in the Southern States; Third, the high temperature in all districts except the extreme northern stations; Fourth, the gales of February 1, 2 and 15, and the tornadoes in Missouri, Illinois and Indiana of the 13th and 27th.

BAROMETRIC PRESSURE.

In general.—The general distribution of atmospheric pressure during the month is shown by the isobars upon Chart No. II. The general distribution of pressure resembles that of February, 1875, but the barometer has averaged from .05 to .15 of an inch lower in the extreme northern sections of the country, and the area of maximum pressure, (30.20) which, in the past month, covered a large portion of the Gulf States from Louisiana to Georgia, was, in 1875, confined to a very small portion of northern Georgia and Alabama. The isobars for February, 1875 and 1876, show that during these months the area of high barometer over the tropical portion of the Atlantic encroached upon the North American continent to a very much larger extent than in February, 1874. The areas of high barometer have advanced eastward over more extensive regions than in December, 1875, or January, 1876, but have not had the extent recorded in previous winters. The paths of the areas of low barometer differ in many respects from those recorded in February, 1874 and 1875: they have been confined to the northern half of our territory, and have moved eastward rather than northeastward.

In general it would seem that, during the present winter, extensive areas of cold air have pressed outward from the northern and interior portions of the Eastern and Western continents, but, owing to preponderating extent and influence of the former continent, the air over the Atlantic has been pushed westward, so that there has been a tendency towards higher pressures and moister, warmer air in the Southern and Atlantic States, while lower temperatures and higher pressures have prevailed in British America.

Arcas of Low Barometer.—No. I. Average movement, 37 miles per hour. The beginning of this depression was chronicled as area No. XII, in January, which, at midnight of the 31st, appears as a barometric trough, extending from Northern Texas northeastward to the Straits of Mackinaw and possibly still further. During the 1st of February this trough contracted into a well-defined oval area, which moved eastward to Pennsylvania and thence northeastward over Maine and the Gulf of St. Lawrence. The central barometric depressions were: February 1st, 7:35, a. m., 29.65; 4:35, p. m., 29.25; 11, p. m., 29.15; February 2d, 7:35, a. m., 28.75; 4:35, p. m., 28.25, or less. The velocity of the warm southerly winds that prevailed over a large extent of territory, in advance of this storm-center, was no where recorded as higher than 32 miles an hour, but remarkably severe north and northwest winds followed the depression, whose limits may be defined as follows: February 1st, 7:35, a. m., north and northwest winds, of from 25 to 35 miles per hour prevailed over the country between Lake Superior and northern Texas; February 1st, 4:35, p. m., north and northwest winds, from 25 to 40 miles per hour prevailed from central Michigan and Wisconsin, on the north, to the coast of Louisiana and Texas, on the south; February 1st, 11, p. m., north and northwest winds of 25 miles per hour, prevailed from central Michigan and Lake Erie to Tennessee, also, a northerly wind of 30 miles, on the Texas coast and a west or southwest wind, of 30 miles, on the Carolina and middle Atlantic coasts; February 2d, 7:35, a. m., the wind continued north, 30 miles, on the Texas coast and was