

MONTHLY WEATHER REVIEW.

VOL. XI.

WASHINGTON, D. C., MAY, 1883.

No. 5.

INTRODUCTION.

In this REVIEW are shown the general meteorological conditions which prevailed over the United States during May, 1883. The tracks of the storms which have occurred in the north Atlantic ocean during the month, are approximately shown on chart ii., and are described under the heading "North Atlantic Storms." On this chart are also shown the limits within which ice was observed in the north Atlantic ocean.

The following are the special meteorological features of the month:

1st.—The mean temperature, which has been below the normal in nearly all parts of the country; the departures being most marked in the extreme northwest, upper Mississippi and Missouri valleys, where they have averaged $6^{\circ}.5$. As a noteworthy feature, in this connection may be mentioned, that over a large extent of country where marked departures below the normal temperature have occurred, the mean atmospheric pressure has also been below the normal.

2d.—The large excess over the average rainfall in the lower lake region, Missouri valley, south Atlantic states, and in California. In the latter state the rainfall for the month has been more than four times as great as the average for May.

3d.—The violent and destructive local storms which occurred on the 13th, in Kansas and Missouri; and on the 18th, in Wisconsin, Illinois and Indiana.

4th.—The heavy frosts which occurred on the 22d, in the western states, resulting in serious injury to various kinds of vegetation, especially in the states of Illinois and Missouri.

In the preparation of this REVIEW, the following data, received up to June 20th, have been used; viz.: the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and thirty-one Signal-Service stations and fourteen Canadian stations, as telegraphed to this office; one hundred and sixty-nine monthly journals, and one hundred and sixty-eight monthly means from the former, and fourteen monthly means from the latter; two hundred and thirty-three monthly registers from voluntary observers; fifty monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports, through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the local weather services of Illinois, Indiana, Iowa, Nebraska, New Jersey and Tennessee, and of the Central Pacific railway company; trustworthy newspaper extracts; and special reports.

BAROMETRIC PRESSURE.

[Expressed in inches and hundredths.]

The distribution of mean atmospheric pressure for the month of May, 1883, determined from the tri-daily telegraphic obser-

vations of the Signal Service, is shown by the isobarometric lines, in red, on chart iii.

The area of least mean pressure is inclosed by the isobar of 29.85 and occupies about the same position as that of the preceding month. It is, however, more extended than the low area of April, and embraces a region stretching southwestward from southeastern Wyoming, and the western portions of Nebraska and Kansas, to beyond the limits of the Signal-Service stations.

The regions of greatest mean pressure are the north Pacific coast region; along the immediate California coast; over the south Atlantic and east Gulf states, and in eastern Nova Scotia. In these districts the monthly barometric means exceed 30.0, the maximum mean pressure for the month occurring over the south Atlantic and east Gulf states, and in the north Pacific coast region. The mean pressure of May, compared with that of April, shows an increase over the northern plateau and north Pacific coast regions, varying from .01 to .04. The pressure is also greater in Nova Scotia, the Gulf states, Tennessee, and in the lower Missouri valley. In these districts the increase is generally less than .05, the only exceptions being .06 at Galveston and Indianola, Texas, and .07 at Sydney, Nova Scotia. In all other districts the mean pressure is below that of April. The largest deficiencies occur in central California, and in the lower lake region. At Sacramento, California, a decrease of .11 has taken place; at other stations where deficiencies have occurred they are less marked.

DEPARTURES FROM THE NORMAL VALUES FOR THE MONTH.

The mean pressure of May is slightly above the normal over the southwestern part of the country, from the Mississippi river to the Pacific coast. It is also above the normal in Florida, the upper Missouri valley, northern slope, and middle plateau. In these districts the deficiencies are uniformly slight, except in the upper Missouri valley, at Forts Buford and Stevenson, Dakota, where they are .12 and .09, respectively. In the north Pacific coast region, middle slope, lower Missouri valley, and in all districts east of the Mississippi river, except in Florida, the pressure is below the normal. The deficiencies are greatest in the lake region and in the middle and south Atlantic states, where they are generally from .06 to .09.

BAROMETRIC RANGES.

The monthly barometric ranges have been greatest between the ninety-fifth and one-hundred and fifth meridians north of the thirty-seventh parallel of latitude, where they have exceeded 1.00, the largest, 1.19, being reported from Huron, Dakota.

The smallest monthly ranges occurred in southern California and in Arizona, 0.27 being reported from San Diego, California, and 0.31 from Fort Grant, Arizona, and Los Angeles, California.

In the several districts the monthly ranges have varied as follows:

New England.—From 0.74 on the summit of Mount Washington, New Hampshire, to 0.95 at Eastport, Maine.

Middle Atlantic states.—From 0.83 at Albany, New York, to 0.99 at Baltimore, Maryland, and Washington, District of Columbia.

South Atlantic states.—From 0.64 at Jacksonville, Florida, to 0.87 at Wilmington, North Carolina.

Florida peninsula.—From 0.41 at Key West, to 0.61 at Sanford.