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MONTHLY WEATHER REVIEW.

WASHINGTON, D. C., JANUARY, 1883.

INTRODUCTION.

This REVIEW presents a general summary of the meteorological conditions which have prevailed over the United States and adjoining territories during the month of January, 1883, and a brief description of the storms occurring in the north Atlantic ocean.

The following may be mentioned as the special features of the month:—

1st.—The very low mean temperature, which is generally below the normal for all parts of the country, the departures being most marked for the upper lake region, the extreme northwest and the upper Mississippi and Missouri valleys for which the monthly means are from 7° 9 to 11° 5 below the January normal. The month has been generally cold throughout, but the weather was especially severe from the 18th to 25th over the districts for which the departures from the normal are the greatest, causing much suffering to the inhabitants, and considerable loss by freezing stock.

2d.—The excessive rainfall over the south Atlantic and east Gulf states, and the marked deficiency in the rainfall in California.

3d.—The heavy snow-storms in the western sections of the country obstructing railroads and interrupting communication of all kinds.

4th.—The very brilliant meteor which was observed on the evening of the 3d, at many stations in Ohio, Indiana, Illinois, Iowa, Michigan, and Wisconsin.

In the preparation of this REVIEW, the following data received up to February 20th, have been used; viz.: the regular tri-daily weather charts, containing data of simultaneous observations taken at one hundred and thirty-six Signal Service stations and fourteen Canadian stations, as telegraphed to this office; one hundred and seventy-eight monthly journals, and one hundred and seventy-one monthly means from the former, and fourteen monthly means from the latter; two hundred and twenty-four monthly registers from voluntary observers; fifty-six 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 Indiana, Kansas, Nebraska, and Missouri, and of the Central Pacific railway company; trustworthy newspaper extracts; and special reports.

NOTE.

The subject of INTERNATIONAL METEOROLOGY, with accompanying charts, heretofore included in the MONTHLY WEATHER REVIEW, will, hereafter, be found with the SUMMARY OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, and the title of that publication will be: MONTHLY SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS.

Beginning with this number the charts accompanying the REVIEW will be as follows: chart i., tracks of low-barometer areas; chart ii., ocean storm-tracks; chart iii., isobars, isotherms, and winds; chart iv., precipitation. The tables heretofore printed on the charts, will, hereafter, be published in the body of the REVIEW, under their respective headings.

BAROMETRIC PRESSURE.

[Expressed in inches and hundredths.]

The mean barometric pressure for the month of January, 1883, over the United States and Canada, is shown by the isobarometric lines (in black) on chart iii.

The chart shows a region of high barometer covering parts of northern California and Nevada, and southern Oregon and Idaho, to be inclosed by the isobar of 30.3. The isobar of 30.25 includes a region extending from the Pacific coast between the parallels of 35° N. and 47° N., eastward to Wyoming and Utah. A narrow ridge of high barometer also covers a part of the extreme northwest and the Missouri valley; in the former district, a maximum mean pressure of 30.31 is reported from Fort Buford, Dakota, while to the southward the pressure decreases to 30.18 at Fort Bennett, Dakota, and then increases over the lower Missouri valley to 30.24 at Yankton, Dakota, and Leavenworth, Kansas, and 30.25 at Huron, Dakota, and Omaha, Nebraska. Between these regions of high barometer, a small area, including parts of Wyoming, Colorado, Nebraska, and Kansas, is inclosed by an isobar of 30.15. The isobar of 30.2 incloses nearly the whole of the country lying west of the ninety-fifth meridian, and also includes a narrow strip of country extending from the lower Missouri valley southeastward to the south Atlantic coast. A second isobar of 30.2 embraces a small area near the middle Atlantic coast. The regions of least mean pressure are the Canadian Maritime Provinces and the upper lake region. In the latter district, the lowest monthly means reported are: Marquette, 30.05, and Mackinac City, 30.06. In the Canadian Maritime Provinces, the lowest means are: Sydney, Nova Scotia, 30.03; Chatham, New Brunswick, 30.06; Father Point, Province of Quebec, 30.06.

Compared with the means of the previous month (December, 1882,) the mean pressure is from 0.06 to 0.13 higher on the Pacific coast. In the northern and middle slopes, reports from a few of the most northerly stations show a slight increase, but the pressure is generally lower, and at Cheyenne, Wyoming, and on the summit of Pike's Peak, Colorado, the decrease amounts to 0.12. In all other districts a general increase has taken place, being very slight over the interior and southern sections of the country. In the lower lake region and middle Atlantic states the pressure is from 0.01 to 0.09 higher. The most marked increase of the month occurs over New England and the Canadian Maritime Provinces, where the increase ranges from 0.10 to 0.16.

DEPARTURES FROM THE NORMAL VALUES FOR THE MONTH.

Compared with the January means of previous years, the mean barometric pressure is, with the exception of a slight decrease at a few stations, generally above the normal over the entire country. The most marked departures occur on the Pacific coast north of parallel 35° N., where they range from 0.11 to 0.15 above the normal. In the other districts west of the Mississippi river, the departures vary from 0.02 below to