

MONTHLY WEATHER REVIEW.

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INTRODUCTION.

This REVIEW contains a general summary of the meteorological conditions which prevailed over the United States and Canada during August, 1885, based upon the reports from the regular and voluntary observers of the Signal Service and from co-operating state weather services.

Descriptions of the storms which occurred over the north Atlantic Ocean during the month are also given, and their approximate paths shown on chart i.

The number of "cyclonic areas" traced on chart i for August, 1885, is seven, the average number for August during the last twelve years being 10.2. That traced as number vi was a tropical hurricane, and caused great damage on the south Atlantic coast. It was most destructive in the vicinity of Charleston, South Carolina, where the damage is estimated at more than \$1,500,000.

The most severe and destructive local storms of the month were those which occurred in the middle Atlantic states and New England on the 2d and 3d, during the prevalence of "cyclonic area" charted as number i.

The mean temperature for the month was decidedly below the normal throughout the northern part of the country to the eastward of Idaho; in the south Atlantic and Gulf states it was nearly normal; over the southwestern districts and portions of the plateau and Pacific coast regions it was above the normal.

The precipitation was unusually heavy over the country from Kansas and Nebraska eastward to New England, and on the coasts of South Carolina and Georgia. It was below the average in the extreme northwest; from southern Missouri and Arkansas eastward to the Atlantic coast, and from the east Gulf states westward to the Pacific coast.

Referring to the ice-region of the north Atlantic, reports show that icebergs have drifted farther to the eastward than in the preceding month, while the southern limit is about 1° to the northward of that for July. The small number of icebergs observed, however, indicates that they are rapidly disappearing from the route of trans-Atlantic steamers.

In the preparation of this REVIEW the following data, received up to September 20, 1885, have been used, viz., the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and twenty-nine Signal Service stations and sixteen Canadian stations, as telegraphed to this office; one hundred and sixty-eight monthly journals and one hundred and sixty-three monthly means from the former, and sixteen monthly means from the latter; two hundred and eighty-three monthly registers from voluntary observers; reports from 1,430 special tornado observers; forty-five 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 Dakota, Indiana, Iowa, Minnesota, Missouri, Nebraska, Ohio, and Tennessee, and of the Central Pacific Railway Company; trustworthy newspaper extracts, and special reports.

ATMOSPHERIC PRESSURE.

[Expressed in inches and hundredths.]

The mean atmospheric pressure for August, 1885, determined from the tri-daily telegraphic observations of the Signal Service, is shown by the isobarometric lines on chart ii.

The mean pressure for the month is least over the central and southern Rocky Mountain districts; it is greatest in the north Pacific coast region and in the districts bordering on the Atlantic and Gulf coasts. The barometric means range from 29.78 to 29.85 in the districts embraced in the area of least pressure, and the highest monthly mean readings, 30.02, are reported from stations in Washington Territory. East of the Mississippi River the mean pressure in all districts ranges from 29.95 to 30.0, except in Minnesota, Wisconsin, and the upper Michigan peninsula, where they are slightly below 29.95.

Compared with the mean pressure for the preceding month, there has been an increase in the northern portions of the country from Idaho eastward to the Atlantic coast, while to the south of latitude 37° N. there has been a decrease in all districts. The increase is most marked from the upper lake region to Montana, where it ranges from .05 to .15. In the districts where a decrease is shown the deficiency ranges from .01 to .05, except along the Gulf coast and in the middle Pacific coast region, where it is somewhat greater.

The departures from the normal pressure at various Signal Service stations are given in the tables of miscellaneous meteorological data, and on chart iv they are exhibited by lines connecting stations of equal departure. A normal line, on the chart named, is traced from the northern boundary of Minnesota southwestward to El Paso, Texas, and thence eastward to Key West, Florida, the departure at the latter station being +.02. To the northward and eastward of this line the departures are below the normal; to the westward they are slightly above the normal, except on the Pacific coast, where a slight deficiency is shown. The greatest deficiencies (from .05 to .08) occur in the lake region, southern New England, middle Atlantic states, and in portions of the Ohio, Mississippi and Arkansas Valleys. The departures above the normal exceed .05 at but two stations, viz., Santa Fé, New Mexico, +.07, and Winnemucca, Nevada, +.06.

MONTHLY BAROMETRIC RANGES.

The monthly barometric ranges at the various Signal Service stations are also given in the table of miscellaneous meteorological data. Except at Charleston, South Carolina, the monthly ranges were greatest in the lake region, where they varied from .68 to .88; they were least in Arizona, the lower Rio Grande Valley and in southern Florida, the smallest being as follows: Fort Grant, Arizona, .13; Fort Apache, Arizona, and Brownsville, Texas, .18; Key West, Florida, .20. The unusually large monthly range (1.44) of pressure at Charleston is due to the hurricane which prevailed there on the 25th, when the barometer fell to 28.73.