

MONTHLY WEATHER REVIEW.

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INTRODUCTION.

The REVIEW for August, 1894, is based on reports from 3,239 stations occupied by regular and voluntary observers. These reports are classified as follows: 149 reports from Weather Bureau stations; 41 reports from U. S. Army post surgeons; 2,284 monthly reports from State Weather Service and voluntary observers; 31 reports from Canadian stations; 246 reports through the Southern Pacific Railway Company; 386 marine reports through the co-operation of the Hydrographic Office, Navy Department, and "New York Herald Weather Service;" monthly reports from 37 U. S.

Life-Saving stations; 65 reports from navigators on the Great Lakes; 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.

The WEATHER REVIEW for this month has been prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the editor, but the statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, acting chief of that division.

CHARACTERISTICS OF THE WEATHER FOR AUGUST, 1894.

The most prominent meteorological features of the month of August were the absence of well developed cyclonic storms over the United States and the adjacent portions of the Atlantic and Pacific oceans; the general prevalence of high pressure and dry, hot weather over the interior of the country; the extensive drought, covering the greater portion of the country, except the south Atlantic and Gulf States;

the excessive precipitation in western Texas and the consequent floods in the Rio Grande; the extensive forest and prairie fires, causing a cloud of smoke that overhung the country from Minnesota southward to Missouri and eastward to the Atlantic; the interesting aurora of August 19 and 20; the low water in the Mississippi River and its tributaries; the extreme southern limit reached by the ocean ice off the Banks of Newfoundland.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure reduced to sea level, as shown by mercurial barometers not reduced to standard gravity and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), during August, 1894, is shown by isobars on Chart II. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border. This Chart also gives the so-called resultant wind directions for this month, based on the data given in Table IX of this REVIEW.

During the current month of August pressures have been highest, 30.08, in southeastern Florida, and nearly as high, 30.06, in the northwestern corner of Washington. The average lowest pressure was 29.81 at Yuma; the region of 29.85, or less, extended from central California southeast into the northwest portion of Mexico. A similar region of low pressure, 29.90, is found on the eastern slope of the Rocky Mountains, extending from western Saskatchewan southward into eastern Montana. In general, it would seem that the low pressure extending from the Gulf of California northward into British America as a trough between the high areas over the Pacific and Atlantic oceans owes its existence to the presence of the

Rocky Mountain, the Andes, and the west coast ranges rather than to the existence of the continent on the east side of these mountains; the heated air of the continent is not so important a factor in the production of low pressures as is the obstruction offered by the mountain ranges to the movements of the atmosphere.

The normal distribution of atmospheric pressure and normal resultant wind direction for the month of August were approximately shown on Chart V of the REVIEW for August, 1893, as computed by Prof. H. A. Hazen, and are not now reproduced. As compared with the normal for August, the mean pressure for the current month was above the normal in Manitoba, Ontario, and Quebec, the maximum excess being 0.07 in Manitoba; pressure was also above the normal from British Columbia southeastward to Texas, the maximum excess being 0.09 at Denver; pressure was above the normal in California and Arizona, but below the normal on the coast of Oregon as also in New Brunswick and Nova Scotia. In general, therefore, except for these small areas of deficit, pressures were everywhere above the normal for August.

As compared with the preceding month of July, the pressures reduced to sea level show a fall of 0.09 on the coast of