

○ ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean atmospheric pressure for May, 1891, as determined from observations taken daily at 8 a. m. and 8 p. m. (75th meridian time), is shown on Chart II by isobars. The departure of the mean pressure for May, 1891, obtained from observations taken twice daily at the hours named, from that determined from hourly observations, varied at the stations named below, as follows:

Station.	Departure.	Station.	Departure.
Cleveland, Ohio	+ .002	Saint Louis, Mo	-.001
Chicago, Ill	+ .002	Saint Paul, Minn	-.001
Duluth, Minn	+ .002	Memphis, Tenn	-.002
Key West, Fla	+ .005	Moorhead, Minn	-.005
Washington City	+ .005	Denver, Colo	-.005
Atlanta, Ga	+ .005	Dodge City, Kans	-.005
Lynchburgh, Va	+ .007	Salt Lake City, Utah	-.009
New York City	+ .008	Abilene, Tex	-.010
Eastport, Me	+ .010	Santa Fe, N. Mex	-.010
Jacksonville, Fla	+ .010	Fort Assiniboine, Mont	-.012
Wilmington, N. C	+ .012	San Francisco, Cal	-.014
Boston, Mass	+ .013	Portland, Oregon	-.015
Pittsburg, Pa	+ .013	El Paso, Tex	-.015
Albany, N. Y	+ .014	Yuma, Ariz	-.023

The mean pressure was highest from the upper Mississippi valley to the west part of the lower lake region, where it was above 30.10, and was lowest over the west part of the southern plateau region, where it fell to 29.78 at Keeler, Cal. The highest mean pressure for May generally occurs along the middle and south Atlantic coasts and on the north Pacific coast, where it was above 30.10 in 1876, 1879, and 1880, and the current month was the first May in the history of the Signal Service for which the mean pressure was 30.10 or above over the interior of the country.

A comparison of the pressure chart for May, 1891, with that of the preceding month shows that there was an increase in mean pressure, save over the Rocky Mountain and plateau regions, on the Pacific coast south of the 45th parallel, and over the south Atlantic and east Gulf states. The greatest increase in mean pressure occurred in the upper Mississippi valley, where it was .10, and the most marked decrease was noted over the west part of the plateau region, and over the middle Pacific and immediate south Atlantic coasts, where it was .05 or more. The highest mean pressure for the preceding month was shown on the immediate middle Pacific coast, and over the region lying east of the Mississippi and south of the Ohio rivers, where it was above 30.05, and the lowest mean pressure occurred over the Canadian Maritime Provinces, over the British Possessions north of west Montana, and over the west part of the southern plateau, where it was below 29.90.

In May the mean pressure was above the normal, except along the coast of the Gulf of Saint Lawrence, over the west part of the plateau region, and on the middle and north Pacific coasts. The greatest departure above the normal pressure occurred over the central and north-central parts of the country, where it was more than .10, and the most marked departure below the normal was noted on the north Pacific coast, where it was more than .05.

○ HIGH AREAS AND STORMS, MAY, 1891.

The more marked general weather conditions of the past month have been as follows:

Air pressure above the normal for the whole country, except slightly below in the middle and north Pacific states. The departure was +.17 at La Crosse, Wis., and +.15 at Davenport, Iowa.

Temperature below normal for nearly the whole country, reaching -5° at Cincinnati, Ohio.

Rainfall below normal, except in the interior of the middle Atlantic states and in the Rocky Mountain region.

These general conditions have been induced by a rather remarkable movement of high areas and storms. An examination of Chart I will show that the storms have been confined

to the north border of the country and the immediate Atlantic coast. There is an enormous area extending from the west border of the Atlantic states to the Rocky Mountains where no storms are found. In the Mississippi Valley there were two beginnings of storms, which, however, were extremely indefinite and continued only a few hours.

The paths of the high areas, on the other hand, were very much farther south than is ordinarily the case, and these dominated the weather over almost the whole country during the month.

A tabular statement of the principal points relating to high areas and storms will be found at the close of this section, and the following resumé of their movements is here given:

HIGH AREAS.

I.—During the first 3 days of the month this high area appeared in the N. W. T., nearly stationary. It then moved in a nearly sse. course, reaching the middle Gulf region on the 10th. It had the slowest motion of any high area during the month, 14 miles per hour.

II.—On the 8th a high pressure area appeared off the north Pacific coast. It moved rather rapidly east and southeast, reaching Ind. T. on 11th. It then moved a little north of east and reached the Massachusetts coast on 14th.

III.—While II was in the lower lake region there appeared high area III in Manitoba. Its motion was somewhat retarded by II, but it passed off the Nova Scotia coast in a path almost due east on 16th.

IV.—This high area began on the 12th, like the last, off the north Pacific coast. Its path was almost east, passing off the Nova Scotia coast on 20th.

V.—This began on 18th off the north Pacific coast, as II and IV had already done. It moved first due east, reaching Lake Superior on 22d, thence it moved ese., reaching the middle Atlantic coast on 24th.

VI.—Began in Alberta, 23d, and moved ese., reaching Michigan on 26th, thence its path was due east to the Nova Scotia coast, which it reached on 29th.

VIII.—This high area began in Alberta, 28th, and moved during its whole course north of this country, reaching Nova Scotia on 31st. As has been noted before in the case of high areas moving so far north, its velocity was the greatest of the month, 35 miles per hour. The connection between these high areas and storms will be noted under the next heading.

STORMS.

An examination of the storm tracks of previous years in May shows them exceedingly infrequent along the Gulf coast, and this peculiarity was specially marked during the month. This may be in part due to the fact that in this month the land areas are rapidly heating up while the Gulf area continues cool on account of the water surface. The number of storms and their average velocity are given in the accompanying table:

Year.	Number.	Velocity.	Year.	Number.	Velocity.
1873	3	25.0	1883	9	30.0
1874	6	23.0	1884	9	27.0
1875	8	30.0	1885	7	24.0
1876	9	25.0	1886	11	25.0
1877	7	27.0	1887	10	18.0
1878	7	18.0	1888	10	27.0
1879	7	25.0	1889	9	21.0
1880	6	25.0	1890	12	31.0
1881	5	32.0	1891	8	22.0
1882	4	22.0	Mean	8	25.0

During the first three days of the month there was a stationary disturbed condition of the atmosphere in the southwest, but without a definite storm movement.

I.—On the afternoon of 4th a storm of slight intensity approached the middle Atlantic coast. This was traced southward 1½ day to the coast of Florida. This unusual direction was induced by the onward progress of high area I which ~~comf~~

