was in the Irish Channel. End of gale, p. m. of 28th. Highest force of wind, 55 miles an hour. Shift of wind on 28th, W. to WNW. It was in this gale that three American mine sweepers and one naval tug were wrecked near the coast of France with considerable loss of life." (See account of snowstorm in British Isles, below.)

On the 29th the Dutch steamship *Maasdijk* reported a southeasterly gale of over 50 miles an hour near latitude 37°, longitude 48°, although a number of other vessels not far from that locality encountered winds of only moderate force.

NOTES ON WEATHER IN OTHER PARTS OF THE WORLD.

BRITISH ISLES.

April was the fourth month in succession with the mean temperature over the country generally appreciably below normal. The distribution of rainfall was irregular. The general rainfall expressed as a percentage of the normal was: England and Wales, 124; Scotland, 138; Ireland, 72.—*Symons's Meteorological Magazine, May, 1919, p. 45.*

A snowstorm of unusual severity for so late in the season occurred generally over the British Isles on Sunday, April 27, and in the southeast of England the storm was particularly severe. On the morning of Sunday a subsidiary disturbance was developing over the northern portion of the kingdom, and it afterwards moved southward and eastward, over England, the parent disturbance being centered over Denmark. By the evening the subsidiary had assumed more serious proportions than the primary to the northeastward, and was now centered over London and the southeast of England. Snow or hail fell in all districts of the United Kingdom. A region of high barometer extended from Iceland to the Azores which caused strong northerly winds in the rear of the disturbance, and gale force was reached in all districts, while at Holyhead the wind force attained the velocity of 70 miles per hour during Sunday night. In London snow commenced at about 1 p. m. after somewhat heavy rain, and it thoroughly covered the ground by 3 p. m. The depth of snow by the early morning of April 28 in the north of London was 12 to 15 inches and the total precipitation in the 24 hours was 1.6 inches at Camden Square and 1.7 inches at Hampstead. The snowfall occasioned much dislocation of the telegraph and telephone services, and the rapid melting of the snow caused floods in many parts. Temperature on April 27 was abnormally low for so late in the season, the thermometer in London during the afternoon standing at about freezing point. Agriculturists and fruit-growers have suffered somewhat badly.—*Nature (London), May 1, 1919, p. 171.*

DETAILS OF THE WEATHER IN THE UNITED STATES, APRIL, 1919.

CYCLONES AND ANTICYCLONES.

By A. J. HENRY, Meteorologist.

Cyclones.—Six principal, and the same number of secondary, cyclones have been plotted on Chart III. None of these was severe in character and the movement was in no wise exceptional. A majority of the secondaries developed over the southern plateau and Rocky Mountain region and their movement to the northeastward over the great interior valleys was attended by abundant precipitation.

Anticyclones.—Nine anticyclones, the majority of which first appeared over Saskatchewan, have been plotted on Chart II. The general direction of movement was toward the southeast.

THE WEATHER ELEMENTS.

P. C. DAY, Climatologist and Chief of Division.

[Dated: Weather Bureau, Washington, June 2, 1919.]

PRESSURE AND WINDS.

The distribution of the mean atmospheric pressure over the United States and Canada, and the prevailing direction of the winds for April, 1919, are graphically shown on Chart VII, while the means at the several stations, with the departures from the normal, are shown in Tables I and III.

Pressure was decidedly low over the central valleys during the latter part of the first decade, and moderately low about the middle of the second decade over most central and eastern districts where rains were widespread and heavy. During the early part of the third decade pressure was unusually high over the Dakotas and thence southeastward to the lake region, but otherwise the variations were small, this being particularly true in the district west of the Rocky Mountains.

The average pressure for the month was above normal in practically all portions of the United States, except in the far Southwest, where it was slightly below. In Canada, the region of the Great Lakes and portions of the far western Provinces had monthly averages slightly below normal; however, in no case was the departure from the seasonal average greater than 0.10 inch.

The distribution of atmospheric pressure favored southerly winds in most sections from the Rock Mountains eastward, except near the Canadian border, where they were frequently from the North. West of the Rocky Mountains the winds were variable but frequently between Northwest and Southwest points.

TEMPERATURE.

April opened with unseasonably cold weather from the Mississippi Valley eastward, the line of freezing temperature extending as far south as the northern portion of the east Gulf States; and light frosts occurred in the interior of Florida. In the far West the weather was moderately warm for the season. Slowly rising temperature followed in the East, so that by the middle of the first decade moderately warm weather prevailed in nearly all districts. During the latter part of the decade decidedly lower temperature overspread the Central Plains States, but, otherwise, moderately warm weather continued.