

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS IN THE UNITED KINGDOM, AND AT GIBRALTAR AND MALTA, WITH A CHART OF RAINFALL CONTRIBUTED BY THE BRITISH RAINFALL ORGANIZATION.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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## Abnormal and Persistent Cold.

The wintry type of atmospheric conditions, which set in towards the close of last November, was maintained, with only a few comparatively unimportant interruptions, until nearly the end of the month now under review, so that the winter may be said to have lasted for the exceptionally long period of five months.

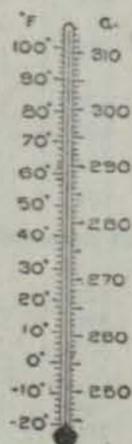
For close upon three weeks, from the 1st to the 19th of April, the distribution of pressure over the British Isles was of an exceedingly unsettled type. The more stable features of the map were anticyclones situated one over the Atlantic south-west of Ireland, and the other about Greenland, Iceland and Spitzbergen. The intermediate region was under the influence of a long succession of depressions from the North Atlantic, their centres moving as shown on map 2, page 39, along irregular paths across this country or immediately beyond our northern coasts. On several days these disturbances were of considerable depth, the barometer frequently descending below 990 mb., and as low as 979 mb. in Shetland on the morning of the 9th. The south-western anticyclone moved up and became established over these islands in the course of the 20th, and it maintained its position with but little variation until the 28th, when it withdrew to the south-west, making way for a northern depression to pass on to Scandinavia and the Baltic. During the anticyclonic spell pressure exceeded 1035 mb. at a number of stations, reaching 1040 mb. at Castlebay on the 25th.

**Air Pressure.**—Taking the month as a whole the pressure distribution, map 1, page 39, differed greatly from the normal, the lowest values being indicated to the eastward of the Shetlands, instead of towards Iceland, and the highest beyond the south-west of Ireland instead of over the Channel and France. Of the pressure maps for the twenty-nine Aprils, 1888–1916, that for 1910 alone shows any resemblance to the 1917 one, but the general weather conditions in 1910 and 1917 were different.

In accordance with the distribution of pressure Northerly to North-Westerly winds prevailed over the whole country and accounted for the unusual excess of cold.

Notwithstanding the numerous disturbances the month does not deserve to be classed as of a stormy character, there being no instance of a general gale. While on its passage from the Atlantic to the North Sea, depression A occasioned a North-East gale (force 8) at Blacksod, a Southerly gale at Dungeness and Clacton, a North-West strong gale (force 9) at Scilly on the 2nd, and a North-East gale at Glasgow and Leith next morning, the highest speeds registered in gusts being 28 m/s. at Scilly, and 29 m/s. at Cahirciveen (Valencia Obs.). The progress of depression E, the deepest of the month, was marked by a North-Westerly gale at Malin Head and Holyhead, and a whole gale (force 10) at Blacksod on the 9th or 10th, the gust velocities ranging up to 27 m/s. at Holyhead, and 28 m/s. at Quilty. On the 11th depression F brought a gale from between South and West to the southern parts of England, Scilly reporting the force of a strong gale, the strongest gusts being 28 m/s. at Pendennis, 29 m/s. at Plymouth, and 31 m/s. at Scilly. During the remainder of the month there were only a few isolated instances of gale force being attained, and of gusts exceeding 20 m/s.

**Temperature.**—The exceptionally cold character of the greater part of April, 1917, is sufficiently indicated in the following extracts from various reports: The Meteorological Office, Edinburgh—“Extremely cold and inclement weather prevailed over Scotland until the 17th or 18th. The thermometer in the screen fell to 25.8<sup>a</sup> at Eskdalemuir on the night of the 1st–2nd, and to 24.9<sup>a</sup> at Braemar on the night of the 10th–11th. These are the lowest readings on record for April since observations were organised in 1856. During the last ten days, temperature was above the normal, with fairly high readings on 22nd, but the month as a whole ranks as the coldest April on record for Scotland, and has been approached in severity during the last 60 years only in 1879 and 1877.” Meltham—“Coldest April in 38 years' records, the minimum (26.1<sup>a</sup>) on the 2nd by far the lowest.” Isleworth—“Coldest April for 27 years, and most snow for 34 years. Garden work retarded. The late spring fer at least 23 years.” Southport—minimum (26.5<sup>a</sup>) on 3rd, “lowest recorded in April since observations commenced 46 years ago.” Totland Bay—“Lowest April mean temperature during my 31 years' record.” At Gordon Castle the mean temperature was the lowest since 1812 (105 years). For nearly three weeks this severe weather was maintained all over the country, few afternoon temperatures as high as 28.3<sup>a</sup> being registered. Frost was of nightly occurrence, there being numerous minima below 26<sup>a</sup>. The cold was at its greatest intensity on the 1st and 2nd, a number of stations in England and Ireland returning maxima as low as 27.1<sup>a</sup> to 27.3<sup>a</sup>, while minima from 25.8<sup>a</sup> to 26.0<sup>a</sup> were registered at Newton Rigg, Garforth, Rounton, Hodsock, Buxton, Glen (Peebles) and Giggleswick.



## Frequent Snow, then Drought.

With the approach of the anticyclonic system from the south-west a distinct improvement set in very generally, a considerable increase taking place in the day and the night temperatures in all districts. From the 19th to the 22nd, and on the 29th and 30th afternoon maxima above 24.8<sup>a</sup> were numerous. 29.2<sup>a</sup> was reached at Canterbury and Reading on the 30th, and 29.2<sup>a</sup> at Crathes on the 22nd. There were a number of night minima from 28.1<sup>a</sup> to 28.2<sup>a</sup>. For the entire month the mean temperature was everywhere below the normal, at some individual stations by as much as 5<sup>a</sup> to 6<sup>a</sup>, and for the country generally by from 2<sup>a</sup> to 2.4<sup>a</sup>. The results for the five consecutive cold months, December to April, show that the deficiency over Scotland was 1.4<sup>a</sup>, over Ireland 1.8<sup>a</sup>, and over England 2.1<sup>a</sup>.

**Sea Temperature.**—Compared with the March results the temperature of the inshore sea water round our coasts shows a slight increase. On the coast of Sussex the water was rather colder than the air on shore; along the east of England the west of Ireland and the south coast of Cornwall the water and the air were about the same; but in other localities the water was from 1<sup>a</sup> to 2<sup>a</sup> warmer than the air. Sea fog became rather frequent on the western coasts after the middle of the month; elsewhere they were rarely reported.

**Precipitation.**—Associated with the abnormally cold conditions the precipitation generally was in the form of snow, sleet or hail, which was experienced practically every day until between the 15th and 19th, when a very dry spell set in, the **Drought** in some localities remaining unbroken until about the middle of May. Though gales were not numerous, high winds were frequent during the disturbed period, so that much of the snow reported failed to find its way into the gauges while great drifts were being piled up all round. In many cases, therefore, the “rainfall” (melted snow) measurement must have been considerably less than the actual fall. Over Scotland some very severe snowstorms, often with squally winds, occurred. Heavy falls on the night of the 2nd, as much as a foot or more in exposed districts, were followed by a rapid thaw. Around the 5th, 9th, 11th, 14th and 16th there were falls of considerable depths in many districts, more especially towards the Borders. At Dumfries on the 11th snow lay to the depth of a foot. There was “a big snowstorm” at Allans Green, Northumberland, on the 1st, followed by others on subsequent days, so that the gauge could not be reached until the morning of the 6th, when it yielded only 26mm., while Cockle Park had 39mm. on the 2nd. For the first six days the Allans Green observer notes “hundreds of lambs and sheep have died and been lost in the storm.” Western and Southern Ireland had a more remarkable experience than Britain during the opening days of the month. At Blacksod, within an hour and a half of the commencement of the snowstorm on the 1st the drifts were from 8 to 10ft. deep, the storm continuing throughout the day, then resumed in a similar violent form next morning and lasting several hours. Broadford, Clare, was cut off from the outside world for two days, and two lives were lost. Owing to the great drifts at Templemore, Tipperary, the rain gauge was inaccessible for two days. At Fethard-on-Sea, Wexford, the storm was “phenomenal for this mild coast, probably the greatest for 50 years.” The observers state that in their several localities no one living had seen such depths of snow before. As at Allans Green, flockmasters in many parts of the British Isles had great losses. In many places thunderstorms occurred between the 1st and the 17th, in some cases violent, and on the 11th, at Holsworthy, Devon, destructive. There were, however, very few instances in the course of the month of the gauges yielding as much as 25mm. of water, the Cockle Park record, mentioned above, being the largest.

For the whole month the distribution of precipitation was irregular, ranging from 52 per cent. of the normal over Ireland South to 126 over England South-East, and 127 per cent. over England East. At Cahirciveen it was as low as 28 per cent., and at Cockle Park as high as 196 per cent. The results of the separated day and night records are conflicting. At the stations on the south-west coast the mean rate of rainfall at night was double that for the daytime, but in other parts of the country the distribution was more even.

**Bright Sunshine.**—There was a marked deficiency of insolation in nearly all districts. In England North-East the daily average was 1.2 hour below the normal. England South-West, however, had an excess of an hour, and the English Channel of 1.4 hour per day. The duration at Markree Castle was two hours a day below the normal; at Scilly, on the other hand, it was 2.4 hours per day above.

**Auroræ and Solar and Lunar Halos** were reported in various localities on several days. On the 3rd a solar halo and three mock suns were observed at Deerness, and a solar halo and corona at Castlebay; on the 11th St. Elmo's Fire was seen at Eskdalemuir.