

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

(Supplement to the Weekly Weather Report.)

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

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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## SUMMARY OF OBSERVATIONS.

**Pressure, Winds and Weather.**—The very unsettled type of atmospheric conditions over the Atlantic and Western Europe, described in the Summary for February, was maintained during the month of March, so that the weather over the British Isles was of an altogether abnormal character throughout the period now under review. As a rule anticyclonic systems occupied the southern half of the ocean, a fact sufficiently indicated by the mean pressure of 30½ in. at the Azores. From the series of daily maps given in the Weekly Weather Report, it will be seen that over the northern region of the Atlantic, practically always down to the 50th parallel, and frequently down to the 40th parallel, there was a succession of cyclonic disturbances, most of them reaching the ocean in the neighbourhood of Newfoundland and following a general easterly or north-easterly course towards and beyond the British Isles and Iceland. In several instances these depressions were deep, the barometer falling below 29 in. at their centres, in some cases below 28½ in. While most of the systems advanced along fairly regular paths, some of them became exceedingly erratic, on nearing our western coasts. Four of the disturbances dispersed in the immediate vicinity of the western and north-western coasts, and one on arriving off the mouth of the English Channel, the centres of three moved in across the south of Ireland or of England and passed on to the North Sea or to Scandinavia. A few secondary irregularities formed over our western districts or the North Sea. During their passage across the land a number of the systems were of considerable depth, the barometer standing below 29 in. at one or more stations on as many as ten days, the lowest values reported being 28.73 in. at Valencia on the 4th, 28.68 in. at Scilly on the 18th, and 28.69 in. at Valencia on the 21st. On the other hand there were few days with readings above 30 in., mainly over the southern districts, touching 30.4 in. at Jersey on the 12th, and 30.41 in. at Jersey and Scilly on the 29th. At Stornoway the mercury never succeeded in mounting quite up to 30 in. Much the same as in February, therefore, the general pressure results for the whole month disclose a vast depression having its central space on the Atlantic, westward of the Hebrides and southward of Iceland, the lowest barometric means being 29.41 in. at the Farøe, and 29.42 in. on the south coast of Iceland. The results were rather above 30 in. over the Spanish Peninsula and along the Mediterranean to South-Eastern and Eastern Europe. Over the British Isles the results ranged from 29.46 in. at Stornoway to 29.83 in. at Jersey, and were everywhere considerably below the average, by 0.3 in. or more in the west and north. Scilly having registered both the highest and the lowest barometer readings of the month returned the greatest range 1.73 in., the values diminishing thence across the Kingdom to about 1.1 in. in the north of Scotland. The resultant pressure gradient was favourable to a decided preponderance of winds between South and West, and its steepness was more marked than usual.

From the 9th to the 17th, although the conditions were of a very unsettled type, under the influence of well-marked depressions skirting the western coasts, there were no records of gales (force 8), and very few instances of the wind exceeding the force of a strong breeze. The other portions of the month were much more disturbed, and high winds or gales were of daily occurrence. During the first four days the observations showed the simultaneous existence of two centres of minimum pressure, respectively to the westward and the northward of these islands, the barometer being below 29 in. in both. A South-Westerly strong gale (force 9) was felt at Pembroke and Newquay on the 1st, at Portland Bill and Nottingham on the 2nd, and at Rosyth the anemometer registered gusts from the Westward at the rate of 62 miles an hour. The period reached its most stormy character on the 4th, when the depression off the west coast moved in across Ireland and the north of England, the barometer descending below 28½ in. at some of the Irish stations. In the course of the night this system, as it crossed the North Sea, absorbed the one which had been in the far north. Severe weather was general, a whole gale (force 10) being felt along the whole length of the English Channel, from Scilly to the Straits of Dover. The gale was associated with the passage of a well-defined line squall across southern England, from Scilly at noon, and reaching the coast of Norfolk in 5½ hours, or at the rate of 69 miles an hour. Violent squalls were experienced in many localities, the gusts attaining a velocity at the rate of 60 miles an hour at Brighton and Kew Observatory, 61 miles at Shoeburyness, 71 miles at Dover, 78 miles at Scilly, and 98 miles at Pendennis Castle. Thunderstorms also broke out over practically the whole of the southern half of Britain, attended by heavy falls of rain and hail, and in some districts snow. There had been heavy rains in the hill regions of Wales and north-west of England on the earlier days, up to 2.3 in. at Seathwaite on the 2nd, but on the 4th there were numerous large falls in the thunderstorm area, more than 1½ in. at

several low level stations, while five stations in Snowdonia registered from 2.4 in. to 2.8 in. Other small disturbances moved up the Channel on the 5th, a strong gale blowing at various stations, a whole gale at Portland Bill, and at Scilly gusts of 64 miles, and at Pendennis of 78 miles an hour were felt, but there was very little precipitation, and hardly any records of thunder. During the less windy middle period there were occasional fairly heavy rainfalls, mainly at the more elevated situations; on the 12th more than 2 in. locally in Snowdonia, and 2.6 in. at Seathwaite.

With the appearance of one of the deepest cyclonic systems of the month at the mouth of the English Channel on the morning of the 18th the weather resumed its stormy character, a strong gale (gusts of 65 miles an hour) being felt at Scilly on that date, and at Blacksod Point and Lerwick on the 19th. An equally deep depression struck the Irish coast on the morning of the 21st, and in the course of the night it crossed England to the North Sea. Its passage was marked by a strong South-Westerly gale at Newquay, Jersey and Portland Bill, a strong South-Easterly gale at Malin Head and Spurn Head, by squalls at the rate of 59 miles an hour at Dover, 63 miles at Scilly and 77 miles at Pendennis, and by thunderstorms over the whole of southern England, with rain and hail, and here and there snow. At Camden Square the hailstones were a quarter of an inch in diameter. In the preceding night a sharp but brief snow storm swept across the southern counties, a depth of 3½ in. being measured at Warlingham, but the snow soon disappeared, being followed immediately by rain. During the remainder of the month the highest winds were strong South-Westerly gales at Malin Head on the 26th also, and at Lerwick on the 28th, when Rosyth had squalls at the rate of 63 miles an hour; on the 29th a strong gale at Spurn Head, and a whole gale at Malin Head; on the 30th a strong gale at Malin Head and Nottingham; and on the 31st from North at Wick and Lerwick. A thunderstorm was pretty general over northern England and southern Scotland on the 29th. A thunderstorm was reported in Southern England on the 11th. Southern England had little or no rain after the 23rd, some places having seven or eight rainless days in succession; but in other districts there were considerable falls, the heaviest on the 27th, 1.6 in. at Seathwaite, and 2½ in. in Snowdonia. In many places hail fell.

With such a great preponderance of South-Westerly winds and frequent rain the month was exceptionally mild, in some districts the mildest during 40 years of observations, the mean temperature being more than 4° above the average at many stations. This was due largely to the almost entire absence of night frosts, there being comparatively few shade temperatures below 30°. On the 16th Eskdalemuir touched 22°, and Balmoral 21°; and on the 23rd Seathwaite and West Linton 23°, and Eskdalemuir again 22°. Afternoon maxima of 60° and upwards occurred in various neighbourhoods about the 13th and the 25th, on the former date 65° at Limerick, and on the latter 64° at Chelmsford. Maxima as low as 40° were uncommonly rare.

Aurora was observed at Baltasound on the 15th, and at the same place and at Fort William on the 21st.

Generally there was much less fog than in the preceding two months, but it was rather prevalent on all coasts from the 11th to the 14th, and on the western and southern coasts on the 24th and 25th.

The coastal sea water was increasing in temperature, 3° or 4° warmer than in February in some localities, 5° off Margate. As a rule the water was rather warmer than the air on shore, but down the east coast of England it was a little colder.

**Rainfall.**—At several stations in the north-east of Britain there was a deficiency of precipitation, but over the Kingdom generally the totals were far in excess of the normal, in many places more than double. Cockle Park had 82%, Nairn 84%, Braemar 87%, and Alnwick Castle 88%; while Salisbury had 273%, Gogerddan near Aberystwyth (9 in.) 296%, Swarraton 300%, Culmpton 305%, and Woolacombe 344%. Some north-eastern localities had less than 2 in. for the month, 1.4 in. at Stonehaven and Fortrose, and 1.5 in. at Nairn, but many western stations had more than 10 in., as much as 21½ in. at Seathwaite, 19 in. and upwards round Snowdon, 26½ in. at Copper Mill. The frequency ranged from 16 days here and there to 30 or 31 days in many localities.

**Bright Sunshine.**—Excepting in the north of Scotland there was deficiency of insolation. Stonyhurst had only 53% of the normal, Culmpton 60%, Jersey 65%, York 69%, and Geldeston and Woolacombe 70%; but Armagh, Stornoway and Strathpeffer had 108%, Fort Augustus 114%, and Deerness 121%. The average daily duration ranged from 1.2 hr. at Cheltenham, 1.6 hr. at Darwen, 1.7 hr. at Burnley and Whitworth Park (Manchester), 1.8 hr. at Stonyhurst and Manchester, and 1.9 hr. at Lancaster, to 4.1 hr. at Ballinacurra, Deerness and Fortrose, and 4.2 hr. at Kingstown.