

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS

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MARCH, 1931. Cold, Dry and Sunny.

March was on the whole cold, and, except in south-east Ireland and the south-west of England, dry and sunny. There was an unusual prevalence of south-easterly to north-easterly winds, whilst other noteworthy features were the spell of wintry weather between the 6th and 10th and the unusually mild weather around about the 20th and on the 26th and 27th.

The strong northerly winds which had set in on the 28th February in the rear of a depression prevailed widely on the 1st and in places in the north and west attained gale force. The northerly winds were accompanied by snow, heavy in the north, during the night of the 28th February to 1st March, on the 1st and in Scotland on the 2nd. Low temperatures were recorded in the screen and on the ground on the mornings of the 1st and 2nd (10° F. in the screen and 3° F. on the ground at Dalwhinnie on the 2nd). A trough of low pressure off our south-west coasts caused heavy rain in the south-west on the 3rd (37mm. at Falmouth). Meanwhile between the 2nd and 4th an anti-cyclone over Greenland moved east and extended south forming a ridge of high pressure over the North Sea and eastern Scotland. Severe cold and frost occurred in many parts of Great Britain, especially in Scotland (see temperature section). Easterly winds on the 4th were associated with a trough of low pressure over the southern half of the British Isles and in the south-west some heavy rain occurred during the night of the 4th to 5th and on the 5th (53 mm. at Cork and 52 mm. at Ballinacurra). With high pressure between Iceland and Scandinavia and a belt of low pressure to the south of the British Isles cold easterly winds had become established by the 6th over the whole country. Cold weather and wintry precipitation were general during the next few days. As the anticyclone moved westwards the winds backed to the north-east and on the 9th and 10th heavy snow fell in Wales and the Midlands and North of England, some roads remaining impassable in these districts until the 12th or 13th. On the 9th London experienced its heaviest snowfall this winter when from 3 inches to 4 inches of snow fell. Harrogate reported 7 inches of snow and Yarmouth 4 inches on the 10th. The 9th was unusually cold in the south-east, followed at night by very severe frost (see temperature section). After the 10th there was an appreciable rise in temperature, although the weather was still cold, as the winds backed to the north. On the 13th a depression off the north-west of Ireland caused south-westerly to westerly winds over the country except in Scotland, and at Richmond the day maximum on the 14th exceeded the normal for the first time in the month. By the 16th mild weather had become general under the influence of southerly winds which prevailed up to the 21st. Maximum temperatures exceeding 60° F. were recorded locally from the 19th to the 21st. Temperature was highest on the 20th when 69° F. was reached at Camden Square (London) and at Cardington. Good sunshine records were obtained on the 15th, 17th and 18th.

By the 23rd an anticyclone had moved south-eastwards over the British Isles and a period of quiet mainly dry weather followed with fairly warm days but cold nights and much sunshine from the 25th to 27th.

On the 28th an anticyclone over Iceland caused northerly to easterly winds over Scotland. By the 30th the high pressure had become centred over Scandinavia and over most of Great Britain the cold weather was renewed. The extreme south-west, however, came under the influence of a depression to the south-west of the British Isles on the 27th and unsettled conditions prevailed there with much rain at times; 40 mm. fell at Cahirciveen and 36 mm. fell at Redruth on the 31st. |

Pressure and Winds.—The mean pressure distribution for the month differed markedly from the normal. In the south-west monthly means of pressure were below the normal, the deficit amounting to 4 mb. at Cahirciveen and 3 mb. at Scilly. Pressure increased towards the east and north and at Lerwick the mean pressure for the month at 0700h. G.M.T. was 10 mb. above the normal. As a result winds between south-east and north-east were unusually prevalent. Strong winds accompanied by snow occurred widely on the 1st in the rear of a depression over Northern Germany. In the north and west gale force was attained, Lerwick reporting a wind velocity in a gust of 70 miles per hour. The onset of the cold spell which formed such a notable feature of the weather of the month was marked by strong easterly winds reaching gale force in exposed places on the 6th and 7th. At Pendennis castle the wind reached a mean hourly velocity of 55 miles per hour with a gust of 72 miles per hour on the 6th. The month on the whole, however, was quiet; at Edinburgh the month was the calmest March since records commenced.

Temperature.—In consequence of the prevalence of cold winds between north-east and south-east during the first half of the month and during the last few days, monthly mean temperatures were below the normal, the only exceptions occurring in the extreme south-west of England and in the west and south-west of Ireland. In most parts of the country the month was the coldest March experienced since 1924. Between the 2nd and 4th most of Great Britain came under the influence of a ridge of high pressure which extended southwards from an anti-cyclone between Greenland and Scandinavia. In Scotland some remarkably low temperatures were recorded during this period. 1° F. was recorded at Braemar on the 3rd, 4° F. at Logie Coldstone on the 3rd and 4th and 5° F. at Dalwhinnie on the 3rd. At Dalwhinnie the temperature failed to rise above 26° F. on the 3rd. At Deerness the screen minimum of 20° F. on the 3rd was the lowest recorded there since January 14th, 1918, when it was 17° F. Outstanding low temperatures recorded by the

terrestrial radiation thermometer were —1° F. at Braemar, 0° F. at Dalwhinnie, 1° F. at Balmoral and 2° F. at Logie Coldstone on the 3rd. Unusually low temperatures both by day and night were recorded widely during the spell of easterly to northerly winds between the 6th and 10th. In many parts of the east and south east of England the temperature remained below freezing point on the 9th and at Richmond (Kew Observatory) the maximum temperature, 31° F., was the lowest on record for March. At Ross-on-Wye the temperature on the 9th failed to exceed 33° F., the lowest maximum with one exception, 31° F. on March 12th, 1928, since records were commenced there in 1869. Severe frost occurred at night and in the south-east of England some remarkably low screen minimum were recorded during the night of the 9th to 10th., eg., 5° F. at Rickmansworth, 13° F. at South Farnborough, 14° F. at Bournemouth and Dungeness and 15° F. at Winchester. Amongst the lowest temperatures recorded by the terrestrial radiation thermometer during the same night were —3° F. at Rickmansworth (ground snow-covered) —1° F. at Lympne, 1° F. at South Farnborough and 4° F. at Kew and Shoeburyness. After the 10th the cold became less severe and by the 13th south-westerly winds spread over the southern half of the country. From the 16th to about the 22nd a cyclonic system to the west of Ireland caused southerly winds and day temperatures were everywhere above the normal, a maximum of 69° F. being recorded at Camden Square (London) and Cardington and 66° F. at South Farnborough and Kew on the 20th. The range in temperature during the month was noteworthy; at Braemar the temperature ranged from 1° F. on the 3rd to 60° F. on the 26th and at Rickmansworth from 5° F. on the 10th to 68° F. on the 20th.

The extreme temperatures for the month were:—(England and Wales) 69° at Cardington and London (Camden Square) on the 20th and 5° F. at Rickmansworth on the 10th. (Scotland) 65° F. at Ruthwell on the 20th and 1° F. at Braemar on the 3rd. (Ireland) 62° F. at Rathfarnham on the 27th and 18° F. at Hazelhatch on the 10th.

Precipitation.—A prominent feature of the weather of the month was its dryness in Great Britain. The general precipitation for the month, expressed as a percentage of the normal for the period 1881–1915, was:—England and Wales 36, Scotland 42, Ireland 101, British Isles 51.

With only a few exceptions, chiefly in Cornwall, monthly totals of precipitation were decidedly below the normal in England and Wales. The deficiency was most pronounced in the Midlands where less than 10 per cent. of the normal was recorded in many places. In some places the month was almost rainless; at Luton there was only one day on which measurable precipitation occurred. Rothamsted had 2 days of measurable precipitation, the total for the month amounting to only 4 per cent. of the normal. At Coventry the month's total precipitation amounted to 6 per cent. and at Woburn to 5 per cent. The month was the driest March for more than 50 years at Meltham and for at least 60 years at Southport.

Rainfall totals in Scotland were everywhere below the average and it was over large areas probably one of the driest months of the name on record. At Achnashellach there was less than 10 per cent. of the normal, whilst over most of the country there was less than 50 per cent. Most of the precipitation measurements were due to falls of sleet or snow, snow being prevalent during the first fortnight and again towards the end of the month. At Glenquoich since at least 1876 there has only been one drier March, namely, 1924.

In Ireland precipitation was markedly deficient in the north and west but exceeded the normal in the east and south; at Cork the month was actually the wettest March in 48 years.

Precipitation in the form of snow occurred frequently during the first half of the month. Between the 1st and 2nd, in the rear of a depression which moved eastwards, heavy snow fell in northern districts, the depth in the Orkneys being about 18 inches. Harrogate recorded 4 inches of snow and Croydon over 3 inches on the 1st. On the 1st at Arbroath there were drifts to about 3 feet. Other heavy falls occurred in Scotland between the 8th and 14th and widely on the 9th and 10th as a result of which many roads were blocked for several days. At Braemar snow lay on 24 days, at Balmoral for 23 days and at Dalwhinnie 21 days. In London, 2 to 3 inches of snow fell on the 9th. At Newquay a fall of 3 inches of snow on the 10th was the greatest fall recorded there since 15th–16th January, 1917. With these exceptions the falls were in most places slight. |

Sunshine.—Sunshine aggregates for March were below the normal in the extreme south-west of England and in most parts of Ireland, elsewhere they exceeded the normal, especially in the east of England where most sunshine was recorded. At Copdock (Suffolk) the month was the sunniest March since 1907. Representative sunshine total for districts expressed as a percentage of the normal for the period 1881–1915 ranged from 77 in Ireland S. to 130 in Scotland N. Some outstanding daily records were 11.0 hours at Morecambe and Douglas on the 25th, 11.7 hours at Aberstwyth on the 26th and 11.3 hours at Felixstowe on the 31st.

Fog.—Fog was rather prevalent during the month; it was most widely reported from the 2nd to the 5th, on the 10th, from the 12th to the 16th 18th to 23rd, 26th to 28th, and on the 30th.

Miscellaneous Phenomena.—The Zodiacal light was observed at Oxford on the 8th, 9th and 20th. Auróra was observed in Scotland on six nights.