

# MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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## APRIL, 1931. Unsettled and Dull. Very Wet in England and Wales.

April was on the whole unsettled and dull with a pronounced excess of precipitation in England and Wales and in the eastern districts of Scotland and Ireland. Apart from a spell of moderately warm weather from about the 8th to the 12th, day maximum temperatures were mostly below the normal, but at night minimum temperatures were frequently above the normal, mean temperatures in consequence being mostly within 1° F. of the normal.

A depression off the south-west coast on the 1st moved slowly eastwards causing heavy rain with local flooding in parts of Ireland and south-west England on the 1st; 48 mm. fell at Seskin and 41 mm. at Newcastle, Wicklow. Snow fell in parts of England and Ireland on the 1st and in Scotland on the 2nd. By the morning of the 3rd the depression was centred over north-east France, persistent rain occurring in the south-east of England on the 2nd and 3rd. In the rear of the depression fine sunny weather was enjoyed in Scotland and Ireland on the 3rd. On the 4th the southern districts came under the influence of an anticyclone and in London and locally in the south-east over 10 hours' sunshine were recorded (10·8 hours at Croydon and 11·3 hours at Tunbridge Wells and Brighton). The improvement was only temporary, however, in the south and in Ireland, cool unsettled conditions prevailing there until about the 7th, while in Scotland and northern and eastern England the weather was mainly fine but cool, excellent sunshine records being recorded on the 5th and 6th (11·0 hours at Morecambe, 11·4 hours at Harrogate, 12 hours at Durham, Kilmarnock and Eskdalemuir on the 5th, and 11·8 hours at Eskdalemuir and Berwick-on-Tweed on the 6th). In the south-east the 5th and 6th (Easter Monday) were dull and wet.

On the 7th, on the approach of a depression, the winds became southerly and there was a welcome change to warm fine weather. 69° F. was recorded as far north as Liberton (Edinburgh) on the 10th and at Attenborough, Sealand and Birmingham on the 11th. The 11th and 13th were amongst the sunniest days of the month with over 11 hours and 12 hours respectively at many places in southern England. By the morning of the 13th the anticyclone was centred off the south-west of Ireland causing north-westerly winds and a decided drop in temperature accompanied by much cloud. From the 15th-19th a low-pressure system passed south-eastwards across the country and cold inclement weather prevailed. Maximum temperatures did not exceed 40° F. at Durham and Harrogate on the 18th. Snow, sleet or hail occurred at most places on the 17th, 18th and 19th, sleet and hail being reported even as far south as Guernsey on the 18th. Thunderstorms also were experienced locally in the eastern half of England on the 17th, 19th, 22nd, and at Durham on the 24th. Precipitation though frequent during this period, was usually slight in amount except in the south-east on the 19th, when persistent rain was associated with a depression over north-east France; 25 mm. were measured at Campsea Ashe (Suffolk) and 20 mm. at Felixstowe. By the 18th the western part of the kingdom was coming under the influence of the anticyclone over the Atlantic, and sunny conditions prevailed in Ireland and west Scotland on the 18th, 19th and 20th. From then until the 30th depressions moved eastwards or south-eastwards across the country, and the weather became slightly milder but continued unsettled though with bright periods. Heavy rain occurred in England and Wales on the 23rd, 24th, 25th and 26th (52 mm. at Roe Wen (Carnarvon) on the 25th, and 49 mm. at Lincomb Lock (Worcester) on the 24th), and sleet in Scotland on the 27th. Good sunshine records were obtained in western Scotland from the 26th to 30th, in the north of Ireland from the 27th to 30th, and in England and Wales on the 29th and 30th; 13·7 hours were recorded at Pembroke and 13·6 at Morecambe on the 29th.

**Pressure and Winds.**—Associated with the unsettled conditions which prevailed during the month, monthly means of pressure were from 1 to 2 millibars below the normal except in the extreme south-west of Ireland where they were slightly above the normal. There was a considerable prevalence of north-westerly to northerly winds over England and Wales. South-easterly to southerly gales occurred in western districts on the 1st in association with a depression to the south-west of the British Isles. On the 17th to 18th a depression centred over the North Sea moved south-south-east and in many parts of the country the northerly to north-easterly winds in its rear reached gale force. At Sealand a gust of 74 mi/hr. was recorded in the afternoon of the 17th. A depression over Northern France was responsible for north-easterly gales in exposed places on the 19th.

**Temperature.**—Associated with the prevalence of northerly winds and deficient sunshine, day maximum temperatures were mostly below the normal especially during a spell of north-easterly winds about the 19th. The general coldness was relieved by a brief spell of warm weather from about the 8th to the 12th, the temperature rising above 65° F. in many parts of the country on the 10th, 11th and 12th. At Camden Square (London) in sunny weather the temperature rose to 67° F. on the 11th and to 66° F. on the 12th. In some places the highest temperature recorded fell short of the value normally recorded in April. Thus, during April the temperature may normally be expected to attain 67° F. at Richmond (Surrey), 69° F. at Cambridge, and 63° F. at Southport; actually, the highest temperatures recorded during the month were 62° F. at Richmond, 68° F. at Cambridge and 62° F. at Southport. Low minimum temperatures were widely recorded on the 1st, in northern district

on the 6th, and in many places on the 18th and 30th. During the night of the 5th to 6th the temperature fell to 22° F. at West Linton, Wolfelee, and at the high level station, Dalwhinnie (1,176 ft.), and to 20° F. at Eskdalemuir. On several nights, however, the screen minimum temperature remained above the normal and as a result mean temperatures were within 1° F. of the normal in almost all districts.

The extreme temperatures for the month were:—(England and Wales) 69° at Attenborough, Birmingham (Sparkhill) and Sealand on the 11th, and 24° at Castleton on the 6th; (Scotland) 69° at Liberton on the 10th, and 20° at Eskdalemuir on the 6th; (Ireland) 68° at Kilkenny on the 10th and 28° at Markree Castle on the 29th.

**Precipitation.**—In contrast to the dryness of March, rainfall totals for April were appreciably above the normal in most parts of the British Isles, the excess being most pronounced in the Midlands and the east of England. The general precipitation for the British Isles, expressed as a percentage of the normal for the period 1881-1915, was 143; the values for the constituent countries were:—England and Wales 173, Scotland 106, Ireland 111. Over England and Wales as a whole the month was the wettest April since 1920.

Except in some coastal areas in the south-west and west rainfall totals were well above the normal in England and Wales, exceeding twice the normal in most parts of the Midlands and the eastern districts. At Reigate (Alvington) three times the normal rainfall fell during the month. London (Westminster) had 274 per cent. of the normal April rainfall and Richmond (Surrey), where the month was the wettest April since 1871, 251 per cent. There were few unusually heavy falls during the month. More remarkable was the duration of the rainfall in the east and south-east of England on the 2nd to 3rd and on the 19th. In the south-east almost continuous rain from the evening of the 2nd to the morning of the 3rd was associated with the slow eastward drift of a complex depression from off the south-west of Ireland to north-east France; in London (South Kensington) rain was continuous for over 12 hours from the evening of the 2nd to the morning of the 3rd and for over 8 hours in the afternoon of the 3rd. The total for the two days, 2nd and 3rd, however, amounted to only 22 mm. London again experienced almost continuous rain from 11h. G.M.T. to midnight on the 19th, associated with a complex depression over northern France and Germany.

In western Scotland rainfall was generally well below the normal, while in northern and eastern Scotland there was an excess which was greatest in the south-east where locally more than one and one-half times the normal precipitation was recorded. Although precipitation was below the normal in the west there were many areas with only two rainless days, the daily rainfall amounts being on the whole small.

Over the south and south-east of Ireland there was a deficiency, while in most other places there was an excess which was greatest in the eastern districts and locally in the midland districts. Amongst some heavy falls may be noted 48 mm. at Seskin and 41 mm. at Newcastle on the 1st.

Snow or sleet was reported from most parts of the British Isles on from one to three days. At stations at high level in Scotland snow occurred more frequently and at Dalwhinnie (1,176 ft.) there were 13 days of snow. At Glencoe there was fresh snow on the hills almost every night. The most general fall of snow or sleet in the north was perhaps that of the 1st to 2nd, 4 inches of snow being reported lying at Duntulm, Skye, on the morning of the 2nd. There were, however, no important falls during the month. Hail occurred on several occasions in northern districts, most frequently between the 17th and 22nd and 26th to 28th. Thunderstorms occurred on from one to three days, mostly in the eastern half of England; the highest number reported was 5 at Norwich.

**Sunshine.**—Associated with the prevalence of cyclonic conditions during the month was a general deficiency of sunshine; in Orkney there was a slight excess of sunshine but in all other parts of the British Isles monthly aggregates were decidedly below the normal. Representative totals for districts, expressed as a percentage of the normal for the period 1881-1915, ranged from 89 per cent. in Scotland West to 62 per cent. in the Midland counties. At many places in England the average daily loss exceeded 2 hours. Monthly totals of bright sunshine, expressed as a percentage of the astronomically possible sunshine, amounted to 16 per cent. at Birmingham, 18 per cent. at Nottingham, and 26 per cent. at Cambridge, as compared with the normal values for April at these stations of 29 per cent., 36 per cent. and 40 per cent. respectively. At Totland Bay (Isle of Wight) so little sunshine has been recorded in April thrice only in 30 years.

At Tiree there was a total of 38 hours for the three days 18th to 20th, and over 39 hours for the three days 27th to 29th.

**Fog.**—Fog was not remarkably prevalent during the month; it occurred most frequently between the 8th and 12th, coastal region being most affected.

**Miscellaneous Phenomena.**—Aurora was observed in Scotland on 8 nights, being reported from Gordon Castle on the 3rd as very bright. An observer at Hastings reports having seen on the 18th a solar halo of 22° with mock sun ring and upper and lower arcs of contact. The upper arc, which was visible first, was brilliantly coloured.