

# MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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## MAY, 1931. Wet and dull. Severe thunderstorms in the south-west on the 27th.

Unsettled, wet and cloudy weather prevailed throughout most of May. Monthly mean temperatures were about or above normal mainly as a result of mild nights rather than warm days.

During the first two days a complex low pressure system extended from the Faroes to the Western Mediterranean. Slight rain fell locally but in most districts there were considerable fine periods, amongst some notable sunshine records being 13.4 hours at Scarborough, 13.0 hours at Morecambe and 12.7 hours at Blackpool on the 1st and 14.1 hours at Renfrew and 14.0 hours at Dunbar on the 2nd. On the 3rd a depression over northern France caused cold north-easterly winds over most of England and heavy rain in the south-east (28 mm. at Croydon) but in the north-west and in Scotland conditions remained fine with 14.7 hours sunshine at Aberdeen and 13.6 hours at Holyhead. At Holyhead an aggregate of nearly 51 hours sunshine was obtained during the first four days. By the 5th the wind had backed to the south-west and in the south temperature rose above 60° F. on the 6th (67° F. in London). During the period 5th to 7th excellent sunshine records were obtained in several places on one or more days; at Felixstowe the total for the three days was 35.8 hours. A belt of high pressure moved across the British Isles on the 8th and 9th accompanied by bright warm and sunny weather. From then to the 16th, however, a depression was situated off the north-western coasts, temperature was about normal with slight rain at times, but some bright periods. The 11th was a sunny day in Ireland. From the 16th-20th depressions again moved across the country and the weather was dull and cold with rain at times in the east but sunny in the west. After an extension of the high-pressure system over Greenland and Scandinavia had passed across the country on the 20th and 21st, during which the weather was cold and sunny, temperature rose generally above normal and continued warm until the end of the month. The 27th was the warmest day, when 70° F. was exceeded even as far north as Achnashellach and 78° F. was reached in London. Rain occurred in almost all districts on the Saturday and Sunday of the Whitsun holidays (23rd, 24th but on Whit Monday (25th) there was brilliant sunshine at most places, 14.7 hours at Norwich and 14.5 hours at Margate. After this conditions continued unsettled with thunderstorms locally from the 26th to 29th. Severe thunderstorms accompanied locally by torrential rain occurred in the south-west on the 27th. In many places the resulting floods caused much material damage (see section on Precipitation).

**Pressure and Winds.**—One of the outstanding features of the pressure distribution was the persistence of high pressure to the north-west and north of the British Isles. As a result, the centres of depressions instead of skirting the north-west coasts moved eastwards to the south of the British Isles or northwards up the North Sea while a few crossed the country. Owing to the persistent unsettled conditions, monthly mean pressures were below the normal everywhere, the deficit from the normal at 0700h. G.M.T. ranging from 8.1 mb. at Cahirciveen to 3.6 mb. at Yarmouth. The prevailing winds were southerly and often strong in coastal districts. The observer at Southport reports that the month was a very unusually south-easterly and southerly May. Strong winds occurred in the west between the 11th and 14th and in a few places attained gale force on the 11th and 12th; during a gale on the 11th at Tiree the wind in a gust attained a velocity of 63 mi/hr. Strong winds or gales occurred in the Shetlands on the 28th and 29th (63 mi/hr. in a gust at Lerwick on the 29th) and in the south-west of England on the 29th and 30th.

**Temperature.**—Associated with the prevalent wet and cloudy weather was a paucity of warm spells. At many stations the mean maximum temperature for the month was below the normal. Owing, however, to the prevalence of cloudy skies the nights were mild and as a result mean temperatures were from 1° F. to 2° F. above the normal in parts of Scotland and the Midlands and in the east of England and about the normal in most other districts. The warmest days occurred between the 25th and 30th; in London the temperature reached or exceeded 70° F. on the 25th, 26th, 27th and 30th while in most parts of the country 70° F. and over was recorded on the 27th. At most places, however, the highest temperature recorded was lower than that normally reached in May. Thus, at Tynemouth the temperature during May normally attains 68° F., actually the highest temperature recorded during the month was 64° F. At Aberdeen the corresponding deficit was 5° F., at Holyhead 3° F., at Richmond (Kew Observatory) 2° F., and at Yarmouth 1° F. The first five days of the month and the period 17th to 21st were the coldest, the maximum temperature on one or other of these days failing to exceed 50° F. in many places (46° F. at Croydon on the 3rd, 48° F. at Aberdeen on the 3rd and 4th). Ground frost was experienced on some nights but in few districts outside Scotland and the north of England did the number of days with ground frost exceed five.

The extreme temperatures for the month were:—(England and Wales) 78° F. in London (Camden Square) on the 27th, 22° F. at Castleton, Yorks, on the 21st; (Scotland) 75° F. at Ruthwell on the 27th, 25° F. at W. Linton on the 3rd; (Ireland) 71° F. at Dublin (Rathfarnham) on the 26th, 28° F. at Dublin (Phoenix Park) and at Newtownforbes on the 3rd.

**Precipitation.**—May was decidedly wet, the wettest May generally since 1925. Both monthly totals and number of days of precipitation exceeded the normal in almost all districts, the only important exceptions occurring

locally in the north-west of England and in the north-west and south-west of Scotland. The general precipitation of the British Isles, expressed as a percentage of the normal for the period 1881-1915, was 151; the values for the constituent countries were:—England and Wales 150, Scotland 145, Ireland 162.

In England and Wales there was a slight to moderate deficiency of precipitation locally in the north-west but elsewhere an excess generally considerable especially in the south-west where mainly as a result of the heavy rain on the 27th to 28th monthly totals ranged from over one and one-half times the normal in the south-west of England to over twice the normal in central Wales. The largest daily falls were associated with the thunderstorm in the south-west on the 27th; large falls occurred also on the 3rd, 17th, 23rd to 24th, 28th and 30th. Rainfall totals in Scotland were generally well above the normal, the greatest excess occurring in central Perthshire and in the Orkneys, the totals in these areas being greater locally than twice the normal. More than 25 mm. of rain fell in many places on one or more days between the 7th and 14th and again on the 28th and 31st, those between the 7th and 14th occurring mostly in northern and western areas and those of 28th and 31st in eastern and southern areas. At Kinlochquoich 84 mm. fell on the 11th. Snow fell very locally on the 1st and sleet on the 1st, 4th and 30th. In Ireland rainfall totals were everywhere decidedly above the normal, the excess being most pronounced in the south-east where more than twice the normal was recorded; at Roches Point the month's rainfall amounted to 253 per cent. of the normal.

Thunderstorms, frequently associated with heavy rain or hail, occurred on from one to four days in several districts, in Scotland between the 5th and 8th and more widely from the 27th to 29th. Severe storms accompanied by unusually heavy rain and hail occurred in the south-west on the 27th, the areas most affected being central and southern Wales, Isle of Wight and the counties of Devonshire, Somerset and Dorset where in most places the precipitation accompanying the storm exceeded 25 mm. More than 50 mm. fell on high ground in central Wales: (Rhayader, 57 mm.) and at Cardiff (106 mm.), Newport (74 mm.), and Usk (62 mm.). At Cardiff so heavy a fall in 24 hours has not been recorded since 123 mm. were recorded at Lisvane on July 14, 1875, the next comparable fall being 92 mm. on August 15, 1878. Most of the precipitation occurred between 1930h. G.M.T. and 2300h. G.M.T. the record of an autographic rain-gauge indicating a fall of 91 mm. in this period. At Crickhowell, 14 miles south-east of Brecon, 83 mm. rain fell between 2000h. G.M.T. and 0100h. G.M.T. causing considerable material damage. Much damage was also reported from Monmouth. An observer at Dorstone (Hereford) reports that after a hot sultry day, the thunderstorm broke in the evening, attaining its maximum intensity between 2200h. G.M.T. and 2300h. G.M.T. The lightning which was most intense and brilliant was almost incessant from 2000h. G.M.T. to 2300h. G.M.T., the discharges being mostly from cloud to cloud. During the interval 1600h. G.M.T. on the 27th to 0800h. G.M.T. on the 28th 44 mm. were measured, rain still falling steadily at that time. A report from an observer at Watchet (North Somerset) states that a terrific thunderstorm raged there from 1830h. G.M.T. to 2230h. G.M.T. during which 79 mm. rain fell causing roadways and hundreds of dwellings to become flooded. A great deal of damage was sustained through huge hailstones which fell for about 20 minutes about 2100h. G.M.T. Many of the stones were like slabs of ice ranging between 1 and 1½ inches thick and besides damaging crops many windows were broken. Severe floods were also reported from the neighbourhood of Braunton (North Devon). In the Isle of Wight the storm during the night of the 27th-28th was the severest experienced since June, 1910; at Shanklin 44 mm. rain fell between 2200h. and 0100h. G.M.T.

**Sunshine.**—In most districts sunshine aggregates were below the normal, the deficiency being most pronounced in the Shetlands, south Wales and in south-west England; at a few stations, e.g., Lerwick, St. Ann's Head, Bournemouth and Cullompton, the average daily loss exceeded two hours. In general, however, the lack of sunshine relative to the normal was not so marked as in April. A notable exception to the general deficiency occurred round about the Firth of Forth where an appreciable excess of sunshine was recorded; Edinburgh with a mean daily duration of 6.72 hours had an average daily excess of over 1 hour while St. Andrews (Fife) had the highest daily average in the British Isles, viz., 7.05 hours. Representative totals for sunshine for districts, expressed as a percentage of the normal for the period 1881-1915, ranged from 72 per cent. in England, S.W., to 103 per cent. in Scotland, E.

**Fog.**—Fog, which was often dense at coastal places in the south and west, occurred between the 9th and 13th, on the 15th, 23rd, 24th, 27th and 28th. In Scotland dense fog occurred locally on the 7th and 31st.

**Miscellaneous Phenomena.**—Halo phenomena, mostly the halo of 22°, were observed on several days. At Oxford observations of halo phenomena included a solar halo of 22° with a parhelion and contact arc, observed on the 1st, a solar halo with contact arc at times and a sun pillar on the 19th and a solar halo of 22° with contact arc and portions of the halo of 46° on the 26th.