

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

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

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VOL. 50. No. 10.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE

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## OCTOBER, 1933.—Mild until the 25th; dull, except in south-eastern districts

Anticyclonic conditions prevailed for the most part over the British Isles for the first six days. There was slight occasional rain or drizzle locally and much mist or fog, but good sunshine records were also obtained at times. With the northward movement of a depression over Portugal rain fell, more especially in southern districts, on the night of the 6th to 7th. On the 7th this depression moved north-east and another centred south-east of Greenland moved south-east; rain fell in all districts and was heavy in many parts during the night of the 7th to 8th. Subsequently the centre south of Iceland deepened considerably and moved slowly north-east, while an associated secondary moved rapidly north-east and a very unsettled period ensued from the 8th–11th with widespread strong winds or gales and heavy rain. After the 12th, conditions continued rather unsettled with depressions moving east or south-east off our northern seaboard, but an anticyclone over the Bay of Biscay and a wedge over the British Isles moving east gave a mainly fair day on the 17th and in eastern districts on the 18th and 19th also. In western districts rain on the 18th and 19th was associated with a trough of low pressure westward of Ireland. A period of easterly winds followed with a depression over the Bay of Biscay and an extension to the north of Scotland of the Russian anticyclone. Subsequently the depression over the Bay moved slowly east and then north-east to Denmark, while an anticyclone over east Greenland moved south-east and then south. Conditions became much colder after the 24th with strong northerly winds and local gales and squally wintry showers. Further depressions moved south in the northerly current to the North Sea and northerly or north-westerly gales were widespread on the 27th and 28th. A depression centred north of Iceland on the 30th moving south-east cut off the main polar current and temperature rose somewhat.

**Pressure and Wind.**—Broadly speaking, mean pressure for the month was above the normal in the west and north and below in the south and east, the deviation from the normal at 7h. ranging from  $-1.1$  mb. at Yarmouth and Kew Observatory to  $+1.8$  mb. at Stornoway,  $+2.0$  mb. at Malin Head and  $+2.2$  mb. at Valentia Observatory. The normal south-westerly trend of the isobars was therefore interrupted and, on the whole, there was an unusual prevalence of winds from between north-west and north-east. Strong winds and gales were most widespread from the 9th to 11th and 25th to 28th. They also occurred, mainly in the north-west and north, from the 16th to the 19th. Among the highest velocities recorded in gusts were 87 m.p.h. at Butt of Lewis on the 27th., 69 m.p.h. at Spurn Head on the 26th and at Cahirciveen on the 9th and 66 m.p.h. at Bell Rock and Tiree on the 28th and at Eskdalemuir on the 9th.

**Temperature.**—For the eighth successive month, mean temperature was above the normal in all districts of the British Isles, the excess varying from  $1.0^{\circ}$  F. in Scotland, N. to  $2.1^{\circ}$  F. in Ireland, N. and the Channel Islands. The first 24 days were on the whole mild, but it was during the first ten days that the highest temperatures were recorded. For example,  $72^{\circ}$  F. was reached at Jersey on the 1st and  $70^{\circ}$  F. at Huddersfield and Tunbridge Wells on the 6th and at Newport, Isle of Wight, on the 7th, while  $68^{\circ}$  F. was recorded at several places in Scotland on the 4th. The nights were unusually warm at times during this period and minimum temperatures of  $60^{\circ}$  F. or slightly above were registered locally in southern England on the 1st, 2nd, 6th, 7th, 8th, 10th and 11th. Northerly air was responsible for the cold spell from the 26th to 29th; maxima below  $45^{\circ}$  F. were registered at many stations and in the neighbourhood of  $40^{\circ}$  F. at some. On the 27th a maximum of  $39^{\circ}$  F. was recorded at Buxton, Stornoway and Eskdalemuir and  $36^{\circ}$  F. at Dalwhinnie. The lowest minima occurred on the 3rd, 13th, 18th and from the 26th to 28th.

The extremes for the month were:—(England and Wales)  $70^{\circ}$  F. at Huddersfield and Tunbridge Wells on the 6th and at Newport (Isle of Wight) on the 7th,  $23^{\circ}$  F. at Cantref on the 28th; (Scotland),  $68^{\circ}$  F. at Arbroath, Montrose and Perth on the 4th and at Onich on the 8th,  $26^{\circ}$  F. at Dalwhinnie on the 3rd; (Ireland)  $67^{\circ}$  F. at Cork on the 5th,  $27^{\circ}$  F. at Hazelhatch on the 26th.

**Precipitation.**—The general precipitation of the British Isles expressed as a percentage of the normal for the period 1881–1915 was 100, the values for the constituent countries being England and Wales 103, Scotland 107 and Ireland 83. Rainfall was deficient in the south and west of Scotland, most of Ireland except the extreme north and east and in the south and south-east of England. In parts of Kent, Sussex and Hampshire, less than 50 per cent. was recorded. Elsewhere rainfall was generally above the normal and it exceeded 150 per cent. locally in Cornwall, South Wales, the Midlands, northern England and north-east Scotland. At Gordon Castle more than 200 per cent. was recorded.

Widespread heavy rain occurred on the 9th and 10th and resulted in serious local flooding, particularly in Wales. On these two days 194 mm. were measured at Llyn Fawr (Glamorgan) 185 mm. at Tynywaun (Rhondda Valley) 168 mm. at Cantref (Brecknock) and 159 mm. at Ystalyfera (Glamorgan). Heavy rain also fell in western districts on the 18th and 19th, when 132 mm. were registered at Fofanny, Co. Down, during the 48 hours. Among heavy falls in 24 hours are included 79 mm. at Oakmoor (Staffs.), 77 mm. at Trecastle (Breconshire), 74 mm. at Princetown and Abergavenny on the 10th, 72 mm. at Tairbull School (Brecon) on the 9th and 70 mm. at Clunes (Inverness-shire) on the 13th. Local thunderstorms occurred on the 8th, 9th, 16th, 22nd and at times between the 25th and 29th. In Scotland snow fell on 8 days, reports being most frequent between the 25th and 27th: on the latter day it lay to a depth of 1 inch at Balmoral. During the cold spell from the 26th to 28th, sleet and snow were more widespread and extended, mainly in the form of scattered showers, over the whole country. At Princetown snow lay to a depth of 2 inches on the 28th.

**Sunshine.**—Except in the south-east, sunshine totals were generally below the normal, the greatest deficiency occurring in Scotland, N., and Ireland, N. The mean daily sunshine varied from about 4 hours along the coast of south-east England and in the Channel Islands to less than 1.5 hours over a large part of northern Scotland and the extreme north of Ireland. At Jersey as much as 4.7 hours a day was recorded. The total for the month at Cranwell, 81 hours, is the lowest for October since records were started in 1921, while at Stornoway less than half the normal for the month was recorded. Some good daily records were obtained, particularly round the 4th, 5th and 12th.

**Fog.**—Fog occurred locally during both the anticyclonic period at the beginning of the month and the mild unsettled weather which followed: fog was most widespread at this time between the 4th and 7th, but it occurred in places until the 10th. Some fog was reported also on the 14th, 15th, 17th and 18th and again from the 22nd to 24th: it was widespread and thick locally in England on the 23rd.

**Miscellaneous Phenomena.**—A great shower of meteors was observed at Eskdalemuir and Armagh Observatories and at Mallaranny on the night of the 9th (see *Meteorological Magazine*, vol. 68, p. 235). The aurora was observed in Scotland on the nights of the 1st, 10th, 11th, 13th, 24th, 25th, 26th and 29th. At Oxford solar haloes were noted on 12 days.