

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

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

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**DECEMBER, 1939.—Dry; cold during the latter half of the month.**

The weather of the month was dry, with a mean temperature below the average. There was considerable fog in England and Ireland from 22nd–25th.

Unsettled weather prevailed during the first ten days. On the 1st and 2nd a depression over the Hebrides moved across Scotland to the Skagerak; on the 3rd a vigorous trough of low pressure west of Ireland moved quickly eastward over the country and on the 4th and 5th a depression moved east-south-east from a position off the Hebrides to the Netherlands. Local gales were reported on each of the first five days; while occasional rain (heavy locally) occurred from the 1st–4th and showers on the 5th. There were, however, considerable periods of bright sunshine in some places. A short spell of mainly fair weather was experienced on the 6th when a wedge of high pressure moved south-east over the country. On the 7th and 8th pressure was low near Iceland, while vigorous secondary depressions passed north-east across the British Isles; rain fell generally and was heavy locally and gales were reported in the north of Scotland. On the 9th a deep depression off north-west Ireland moved north-east to the Hebrides and subsequently it moved south-east and filled up. Gales were reported in the west and north on the 9th and 10th, while rain occurred generally on the 9th and in the west and north on the 10th, but many places in the eastern half of England enjoyed a fair day on the 10th. On the 12th a ridge of high pressure developed over the British Isles and dull but mainly dry weather prevailed, but on the 13th a trough of low pressure, associated with a depression north-west of Iceland, moved eastward over the country, giving rain chiefly in the west on the 13th and mainly slight, scattered rain on the 14th.

Subsequently the anticyclone over southern Scandinavia moved south and extended its influence westward, while Icelandic depressions moved east and pressure was also low to the south of the British Isles. A period of mainly dry and dull, cold weather ensued. On the 19th the highest pressure was over Greenland with a wedge extending south to the west of Ireland. This wedge moved east and then south-east and was followed by another high pressure system. Thereafter anticyclonic conditions persisted for the most part over the British Isles until the end of the month. The last four days were unusually cold.

**Pressure and Wind.**—Mean pressure appreciably exceeded the average, the excess at 7h. ranging from 3.3 mb. at Kew Observatory to 8.8 mb. at Stornoway. Gales were reported locally on each of the first ten days, in the north of Scotland on the 13th and 14th, and at Lerwick on a number of days in the latter half of the month also. At Lerwick (the Knab) gales were reported on as many as ten days during the month. Among the highest speeds recorded in gusts were 68 m.p.h. at Bidston Observatory on the 2nd and 78 m.p.h. at Lympne, 67 m.p.h. at Valentia Observatory and 66 m.p.h. at St. Mary's, Scilly on the 3rd.

**Temperature.**—Mean temperature was below the average on the whole, the deviations for the districts ranging from  $-0.2^{\circ}\text{F}$ . in Scotland, N. to  $-3.2^{\circ}\text{F}$ . in England, S.E. At individual stations in the south the deficiency amounted to  $4^{\circ}\text{F}$ . or more. The 1st was mild generally and it was mild from about the 8th–10th. Temperature fell on the 12th and remained low for the most part until the

end of the month although rather mild conditions prevailed in the north around the 24th; the last few days were very cold in most places. Some notably low minima were registered from the 29th–31st. At a large number of stations temperature in the screen fell to  $15^{\circ}\text{F}$ . or below, while  $6^{\circ}\text{F}$ . was registered at Newport (Shropshire) and  $8^{\circ}\text{F}$ . at Barton (Manchester) on the 29th,  $8^{\circ}\text{F}$ . at Droitwich and  $10^{\circ}\text{F}$ . at South Farnborough on the 30th and  $10^{\circ}\text{F}$ . at West Linton on the 31st.

The extremes for the month were:—(England and Wales)  $60^{\circ}\text{F}$ . at Hawarden Bridge, Sealand and Colwyn Bay on the 1st,  $6^{\circ}\text{F}$ . at Newport (Shropshire) on the 29th; (Scotland)  $58^{\circ}\text{F}$ . at Dunfermline, Liberton, Dunbar and Ayr on the 1st and at Oban on the 10th,  $10^{\circ}\text{F}$ . at West Linton on the 31st; (Ireland)  $59^{\circ}\text{F}$ . at Glasnevin, Dublin, on the 1st and at Trinity College, Dublin, on the 9th and  $17^{\circ}\text{F}$ . at Markree Castle on the 29th.

**Precipitation.**—The general precipitation of the British Isles expressed as a percentage of the average for the period 1881–1915 was 63, the values for the constituent countries being England and Wales 63, Scotland 58 and Ireland 72. The deficiency was almost general, an excess occurring only in a small area in the extreme north-east of Scotland, a few places in north-east England and locally in Merioneth. Less than 50 per cent. of the average occurred over part of east and south-east England, a small area in the south-west Midlands, a large area in southern Scotland and northern England and locally in Ross and Cromarty, Inverness-shire and Argyllshire. In Ireland the deficiency was general but not so marked.

Among the heavier falls of rain in 24 hours were:—

- 1st 4.02 in. near Blaenau Festiniog (Merioneth), 2.52 in. at Middlefell (Westmorland) and 2.25 in. at Borrowdale (Cumberland).
- 7th 2.20 in. at Maesteg (Glamorgan) and 2.14 in. at Princetown.
- 9th 2.10 in. at Arnadam (Argyllshire).

Thunderstorms were reported at a few places between the 3rd and 6th. Some snow or sleet was recorded on the 2nd, 4th and 5th, from the 13th–20th and 24th–31st; it was rather widespread on the 4th and 5th and between the 27th and 30th, but the falls were not heavy.

**Sunshine.**—Sunshine was variable but on the whole somewhat deficient. The percentages of the average for the districts ranged from 70 in Scotland, E. to 104 in England, N.E. and 115 in the Channel Islands. The excess in the Channel Islands was due to the large excess registered at St. Heliers, Jersey.

**Fog.**—Fog was reported fairly frequently, mainly on the 4th, 6th–9th, 11th, 13th, 15th, 16th, 18th–26th and 28th–31st. There was considerable fog on the 7th, 11th, 22nd–25th (in England and Ireland), and 31st.

**Miscellaneous Phenomena.**—The aurora was observed in Scotland on the 2nd, 5th–8th, 12th, 28th and 29th. Solar halos were noted at Oxford on seven days.