

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

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

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DECEMBER, 1936.—Rather mild; very unsettled at times, particularly during the first three weeks, with some severe gales.

A notable feature of the weather of the month was the marked excess of sunshine enjoyed in the Midlands and the eastern districts of England and Scotland. Rainfall was variable but broadly speaking it was deficient in eastern districts of Great Britain and exceeded the average for the most part in the west and north-west of the British Isles. Gales occurred frequently in the west and north.

A deep depression centred over southern Scandinavia on the 1st caused squally winds from between west and north-west and local gales in the west and north on the 1st. Subsequently this disturbance moved slowly east, while another approached the north of Scotland from the Atlantic. The new depression deepened considerably and moved east and then north-east, while a secondary depression south of Iceland moved south-east to the North Sea. During this period (3rd–6th) unsettled weather prevailed in the British Isles; gales were recorded at many stations chiefly in the west and north and rain, sleet and snow occurred at times. The polar air in the area of the depression over the North Sea brought a fall of temperature on the 5th and 6th and snow was reported as far south as the south-east of England on the 6th. On the 7th a wedge of high pressure moved south-east over Britain; temperature fell still lower and at some places the maximum temperature on that day failed to pass 32°F., while severe frost occurred at many places in the early hours of the 8th. Meanwhile a trough of low pressure was moving east over the British Isles; rain, associated with the trough, froze when it came into contact with the cold surface of the ground and caused a glazed frost in south-east England and the Midlands on the 8th. From the 9th–10th pressure was high over most of England and low near Iceland and on the 11th and 12th a trough of low pressure passed eastward over the British Isles; rain was heavy at times in the west and north.

A period of very unsettled weather ensued, when the British Isles came under the influence of a series of deep Atlantic depressions, which passed to the north of Scotland; widespread gales were reported between the 13th and 20th, especially in the north and west and considerable flooding resulted from the heavy rains of the 13th–15th. Heavy rain was also recorded locally on the 17th and in parts of Scotland on the 19th and 20th.

Subsequently high pressure over central Europe and south-westward of Ireland spread northward and mainly anticyclonic conditions prevailed in the British Isles from the 23rd–27th. Another trough of low pressure caused fairly general rain on the 28th and 29th and an Atlantic depression skirting our north-west seaboard occasioned further gales locally in the west and north on the 30th and 31st.

Pressure and Wind.—Mean pressure exceeded the average except in the extreme north of Scotland, the excess being greatest in the south; the deviation at 7 h. varied from –3.5 mb. at Lerwick in the Shetland Islands to +7.7 mb. at St. Mary's, Scilly. In consequence the mean pressure gradient over the British Isles was greatly increased, westerly winds predominated and gales occurred frequently, particularly in the north and west. Gales were reported on 17 days at Eskdalemuir, 16 days at St. Ann's Head, and 15 days at Lerwick and Stornoway. The main periods of strong winds and gales were the 1st–6th, 13th–20th and 30th–31st; among the highest speeds registered in gusts were 91 m.p.h. at Tiree on the 3rd, 99 m.p.h. at Bell Rock Lighthouse on the 4th, 90 m.p.h. at Point of Ayre on the 6th, 95 m.p.h. at Stornoway and 92 m.p.h. at Tiree on the 16th, 93 m.p.h. at Stornoway and 95 m.p.h. at Tiree on the 17th, and 94 m.p.h. at Lerwick on the 18th.

Temperature.—Mean temperature exceeded the average generally, the excess for districts 1–10 being 1.4°F. A cold spell occurred from the 6th–13th and the 28th was also cold. Temperature in the screen fell to 20°F. or below at many places in Scotland on the 7th and at a number of stations in England on the 7th and 8th. Mild spells included the 2nd–3rd, 17th–21st and 29th–31st; maxima of 55°F. or above were recorded locally during each of these spells.

The night of the 17th–18th was notably mild; for example, the minimum temperature was 54°F. at Attenborough and 53°F. at Cranwell and Ross-on-Wye.

The extremes for the month were:—(England and Wales) 59°F. at Hawarden Bridge and Llandudno on the 17th, 14°F. at Appleby on the 7th and 8th; (Scotland) 58°F. at Stonehaven on the 19th, 11°F. at Dalwhinnie on the 7th; (Ireland) 58°F. at Glasnevin on the 3rd and at Trinity College, Dublin, on the 17th and 25°F. at Ballinacurra on the 13th.

Precipitation.—The general precipitation of the British Isles expressed as a percentage of the average for the period 1881–1915 was 97, the values for the constituent countries being England and Wales 90, Scotland 107 and Ireland 104. In England and Wales rainfall exceeded the average in the north-west, in Wales (except a coastal strip in the south), locally in the western Midlands and in small isolated areas in the south; elsewhere there was a deficiency. In Scotland, rainfall was deficient in the east, in some parts of the south-west and west and locally on the north coast of Sutherland, but an excess occurred over most of the western, central and north-western districts. Less than 50 per cent. of the average was recorded at Gordon Castle (Morayshire) and more than 180 per cent. at Inveraray Castle, Argyllshire. In Ireland, generally speaking, more than the average occurred in the north and west and somewhat less than the average in the south-east.

Rainfall was heavy at times around the middle of the month between the 13th and 20th. Among heavy falls in 24 hours may be mentioned:—

13th. 117 mm. at Treacastle (Brecon), 95 mm. at Oughtershaw (Yorkshire), 73 mm. at Bettws-y-Coed (Denbighshire), 66 mm. at Glenbranter (Argyllshire) and 65 mm. at Brechfa (Carmarthen).

17th. 90 mm. at Holne (Devon) and 67 mm. at Princetown.

19th. 124 mm. at Achnacarry (Inverness-shire), 107 mm. at Glendessary and Kinlochquoich (Inverness-shire), 106 mm. at Ardgour (Argyllshire) and 97 mm. at Fort William.

20th. 114 mm. at Ceannacroc Lodge (Inverness-shire).

In Scotland snow occurred locally daily during the first 22 days except the 9th and 20th; it was widespread during the first week and heaviest between the 4th and 6th, when roads were blocked in the west and north. In England snow or sleet was reported at times chiefly between the 5th and 8th and on the 11th and 12th and in Ireland locally on the 5th, 6th and 12th. Thunderstorms occurred at times; they were experienced locally in north-west and south-west England and south-west Scotland on the 5th, over a wide area in the west and south of Scotland on the 16th, and locally in west Scotland on the 31st.

Sunshine.—A striking feature of the weather of the month was the marked excess of sunshine enjoyed over most of England and east Scotland. In England E. and England S.E. the excess amounted to 50 and 51 per cent. of the average respectively. At a number of stations in south-east England and the south Midlands more than 6 hours' sunshine was registered on as many as 5 days. At Dover, Gorleston and Shoeburyness it was the sunniest December since records were first taken in 1907, 1908 and 1919 respectively. In Ireland and the west and north of Scotland there was on the whole a deficiency, which was very notable in Scotland, W. (See Table I). The contrast between the total sunshine registered in the east and west of Scotland was very remarkable; the totals were 65 hours at Craibstone, 58 hours at Forres and Montrose and 56 hours at Dundee and Dunbar, whereas only 1 hour was recorded at Fort William and 3 hours at Onich.

Fog.—Fog was recorded at times, chiefly from the 8th–13th and 23rd–29th; it was widespread in England on the 9th, 10th and 26th.

Miscellaneous Phenomena.—The aurora was observed at northern stations in Scotland on five nights; solar halos were noted at Oxford on seven days.