

Monthly Weather Report

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

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December, 1948—Very mild and unsettled 1st–15th, then cold and dry becoming unsettled towards the end.

The first half of the month was unsettled and notably mild. Subsequently anticyclonic conditions were established and weather was dry and cold. Unsettled weather was re-established in the west on the 26th and became general on the 28th. The month was sunny on the whole.

Broadly speaking, from the 1st–15th, a complex area of low pressure was situated in the north-east Atlantic, while secondary disturbances developed near the Azores and, after moving quickly east, turned north-north-east or north-east along the western seaboard or over the western districts of the British Isles. The air-flow over the British Isles was drawn from the neighbourhood of the Azores and temperature was exceptionally high for the time of year. Rain occurred frequently and was heavy locally at times, particularly in the west, while thunderstorms were recorded locally from the 6th–9th, and were widespread in the southern half of England on the 13th and 14th. Winds were often strong and gale force was reached at exposed stations on numerous occasions.

By the 15th an anticyclone was situated near the Azores, with a wedge extending northward towards Iceland. This system moved slowly north-east and subsequently high pressure was established on the continent with a ridge extending westward over the British Isles. Temperature fell and there was little or no rainfall. By the morning of the 21st pressure was highest in a new anticyclone centred near Thorshavn; this anticyclone moved south-south-east to combine with high pressure over central and south-east Europe. Weather continued dry and cold, the 26th and 27th being particularly cold in parts of England and south Scotland.

Unsettled conditions were renewed in the west on the 26th and 27th. On the 28th a trough of low pressure, associated with a very deep depression moving north-east across Iceland, passed over the British Isles giving strong winds, local gales and appreciable rainfall. On the 30th a secondary depression moving south-south-east over southern England then east to north-east France was associated with considerable snow from Wales to the Humber, amounting to 12 in. at Wirksworth, Derbyshire, and 8 in. at Mansfield, Notts., and heavy rain a little further south. On the last day a depression developed on the Atlantic and moved rapidly eastward, deepening as it moved, and by midnight pressure had fallen to the extremely low level of 957 mb. in north-west Ireland and was still falling.

Pressure and Wind.—Mean pressure exceeded the average generally, the excess being greatest in the east; at 9h. the deviation from the average ranged from +1.4 mb. at Scilly to +7.1 mb. at Spurn Head and Gorleston. The gradient was thus more southerly than usual and in Scotland there was an eight days' excess of southerly winds, while at Southport south-easterly winds predominated. Strong winds and local gales were frequent at exposed stations during the first half of the month and from the 26th onwards. A mean hourly velocity of 59 m.p.h. was registered at Stornoway on the 2nd and one of 55 m.p.h. at Bell Rock and St. Ann's Head on the 7th. Among the highest speeds recorded in gusts were 86 m.p.h. at Stornoway on the 2nd and 93 m.p.h. at St. Ann's Head and 80 m.p.h. at Holyhead on the 7th.

Temperature.—Mean temperature exceeded the average by 2.0°F. in England and Wales, 2.1°F. in Scotland and 1.5°F. in Northern Ireland. The first half of the month was exceptionally mild; temperature rose to 60°F. or above locally in Scotland and Northern Ireland on the 2nd and locally in western districts of England and Wales on the 2nd and 3rd. At Achnashellach, in north-west Scotland, 65°F. was registered on the 2nd; this was the highest temperature recorded in Scotland in December since 1888. At Oxford the maximum, 59°F., on the 3rd was the highest on record for December. The latter half of the month was mainly cold; temperatures in the screen fell to 15°F. or below locally in Scotland on the

23rd and 24th and locally in England on the 26th and 27th. Temperature remained continuously below freezing point locally in England on the 26th and 27th.

The extremes for the month were:—(England and Wales) 62°F. at Aber and Llandudno on the 2nd and at Hawarden Bridge on the 3rd, 13°F. at Goudhurst on the 26th; (Scotland) 65°F. at Achnashellach on the 2nd, 14°F. at Braemar on the 23rd; (Northern Ireland) 62°F. at Ballykelly on the 2nd, 22°F. at Ballykelly and Garvagh on the 20th.

Precipitation.—The general precipitation expressed as a percentage of the average for the period 1881–1915 was 114 over England and Wales, 112 over Scotland and 146 over Northern Ireland. In Scotland less than the average rainfall occurred over much of the north-west and part of the north-east as well as in the south-east south of the Firth of Forth. More than the average occurred in most places elsewhere and more than 150 per cent. over most of the Grampians, while more than 175 per cent. was registered in the Dalwhinnie-Braemar area. In England and Wales less than the average occurred over most of the country north of a line from Southport to the Humber except in the extreme north-west as well as to the east of an irregular line from the Wash to Sussex and in one or two isolated places elsewhere. On the other hand more than 150 per cent. was received in a strip across south Devon to Hampshire and in a large area across south Wales to east of Birmingham. More than 175 per cent. was measured in smaller areas in south Wales, Hereford and around Birmingham. In Northern Ireland an excess was general, percentages of the average at individual stations ranging from 128 at Ballymena to 159 at Newtownbutler.

Falls of more than 2 inches occurred on the 2nd, 5th, 8th, 11th, 13th, 28th, 30th and 31st. Among the heaviest falls in 24 hours were:—

- 2nd 3.81 in. at Llyn-y-fan Fach (Carmarthen), 3.74 in. at Trecastle (Brecon) and 3.22 in. at Treherbert (Glamorgan).
- 5th 2.97 in. at Gruline (Mull) and Inverailort Castle (Inverness-shire).
- 11th 2.75 in. at Watendlath (Cumberland).

Local thunderstorms occurred rather frequently for the time of year, mainly on the 6th–9th, 13th–14th and 27th–30th.

Snow or sleet showers were widely reported in Scotland, particularly during the last five days. On the 30th considerable snow fell from Wales to the Humber; snow was 12 in. deep at Wirksworth, Derbyshire, 8 in. at Mansfield, Notts, and 6 in. at Shawbury (Shropshire).

Sunshine.—The general sunshine expressed as a percentage of the average for the period 1906–1935 was 134 in England and Wales, 103 in Scotland and 123 in Northern Ireland. In England and Wales the excess was almost general, though a few places in the north Midlands had considerably less than the average. In Scotland less than the average was registered in the Shetlands and at a number of places in the north-west, but in the east and south there was, on the whole, an appreciable excess. At Ross-on-Wye and North Berwick it was the sunniest December on record while at West Kirby it was the sunniest since 1929 and at Turnberry and Carlisle since 1938.

Fog.—Fog occurred at times mainly on the 1st, 2nd, 4th, 5th, 12th, 13th, 17th–20th and 22nd–28th. The fog was thick and persistent inland in the southern half of England on the 26th and a ship ran aground off Kintyre in thick fog on the night of the 25th.

Miscellaneous Phenomena.—The aurora was observed from northern stations in Scotland on 12 nights. Solar halos were noted at Oxford on 11 days. A copious deposit of rime was observed in parts of southern England on the 26th.