

Monthly Weather Report

OF THE METEOROLOGICAL OFFICE

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

VOL. 66 No. 12

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE
PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

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December, 1949 - Mainly unsettled and mild; very wet in the west and north.

The month was mainly mild and unsettled with rather frequent gales; it was very wet in the west and north but dry in England and Wales south of an irregular line from the Humber to Pembrokeshire and in a coastal belt in east Scotland.

During the opening days depressions moved north-east or east off the north of Scotland, while troughs or secondary depressions crossed the British Isles. The secondary which moved across north Ireland and north England on the 3rd was associated with gales, severe locally, and heavy rain in the north-west and west. On the 6th a depression in mid Atlantic rapidly approached the Hebrides and on the 7th it moved to north of the Shetlands and thence to north-west Norway; rain fell generally on the 6th, being heavy in the north-west, while strong winds and gales occurred at exposed stations on the 7th. In the rear of this depression, on the 8th, a small polar disturbance formed off the north of Scotland in a strong northerly air-stream and subsequently moved south and later south-east over our western districts giving widespread sleet and snow; there was heavy drifting in the Scottish Highlands and on the Welsh hills. The polar air caused a considerable fall in temperature and the period 8th-11th or 12th was cold. Thereafter a wedge associated with the Azores anticyclone moved south over the British Isles; mainly fair weather prevailed over most of England and Wales but moderate rain occurred in north-west Scotland on the 11th and in Scotland and the north of Ireland on the 12th. On the 13th a trough moving south-east over the British Isles gave rain in most parts. Subsequently a mild, unsettled, south-westerly type was renewed; on the 14th and 15th a secondary depression moved across Scotland giving rain on the 14th and showers on the 15th, while on the 16th and 17th showery conditions prevailed as troughs to a depression near Iceland crossed the country; thunderstorms were rather widely reported on the 17th. On the 18th and 19th a very deep depression moved from mid Atlantic across the north of Scotland; rainfall was general and heavy locally and there were widespread gales, severe in places, from the 17th-19th. On the 22nd an Atlantic depression moved north-east to Iceland where it remained, becoming less deep, until the 25th. Meanwhile an anticyclone over the Bay of Biscay moved east-north-east to central Europe. A very mild air-stream covered the British Isles; slight rain occurred generally on the 22nd but on the following days it was mainly dry in the south and east though rainfall was heavy at times in the north-west, notably so on the 24th and 25th. On the 26th yet another Atlantic depression moved north-east to the Shetlands causing further rain in the north-west and west. Subsequently pressure was high over France and low to the north of the British Isles; dry weather prevailed for the most part in England and Wales but rain fell at times in Scotland and Ireland. During the closing days a deep depression off Portugal moved north off our western seaboard and gave some rain in the extreme south-west of the British Isles, while feeble fronts caused rain locally in Scotland and north Ireland.

Pressure and Wind.—Mean pressure somewhat exceeded the average in southern districts of England and was below the average elsewhere, the deviation at 9h. ranging from -6.6 mb. at Lerwick to +2.5 mb. at Portland Bill. The gradient for westerly winds was thus increased, south-westerly to westerly winds predominated and in some areas the month was windier than usual; at Southport it was the windiest December for 20 years. Gales occurred frequently at exposed stations, mainly on the 2nd-5th, 7th-10th, 17th-20th, 23rd, 25th-28th, 30th and 31st. The gales of the 17th-20th and the one in the extreme north of Scotland on the 27th were severe. Among the highest gusts registered in knots were 70 at Scilly on the 10th, 81 at Bell Rock lighthouse, 75 at Tiree, 73 at Eskdalemuir and 70 at Renfrew on the 19th and 78 at Lerwick on the 27th.

Temperature.—Mean temperature exceeded the 1906-35 average by 2.2°F. in England and Wales, 0.2°F. in Scotland and 1.0°F. in

Northern Ireland, the deviations for the districts ranging from -0.7°F. in the north of Scotland to +2.5°F. in east England. A cold spell occurred from the 8th or 9th-12th and it was rather cold from the 20th-22nd. It was very mild on the whole for the time of year during the first week and over the Christmas holidays.

The extremes for the month were:—(England and Wales) 58°F. at Halstead on the 3rd, Pontefract on the 7th, and at Sidmouth on the 4th and 6th, 18°F. at Newton Rigg, Rhayader and Welshpool on the 11th and at Newton Rigg on the 12th; (Scotland) 55°F. at Kelso on the 2nd and Dunoon, Benmore, on the 2nd and 3rd, 16°F. at Dalwhinnie and Glenlivet on the 11th; (Northern Ireland) 54°F. at Ballykelly on the 3rd and 6th and at Lisburn on the 7th, 22°F. at Ballykelly on the 9th.

Precipitation.—The general precipitation expressed as a percentage of the average for the period 1881-1915 was 87 over England and Wales, 147 over Scotland and 136 over Northern Ireland. Less than the average occurred in England and Wales south of an irregular line drawn from the Humber to the borders of Pembrokeshire and Cardiganshire and in a coastal belt in the east of Scotland. Less than half the average was received over much of south-east and south-west England, in a small area in the south-west Midlands and locally in Aberdeenshire. On the other hand more than 150 per cent. of the average was registered in a large area extending from the north of Scotland to south Lancashire, over an inland area in north Wales and over part of County Tyrone. More than 200 per cent. occurred over an area covering part of Sutherland, the Dornoch Firth and the north-east part of Inverness-shire and more than 250 per cent. at Inverness, where it was the wettest December since recording began about 60 years ago. The heavy rains in Scotland on the 24th and 25th caused flooding and damage at widely separated places.

Among the heavy falls in 24 hours were:—

- 2nd 2.20 in. at Blaenau Festiniog (Merioneth).
- 3rd 2.26 in. at Borrowdale (Cumberland).
- 19th 6.04 in. at Glenshiel (Ross-shire) and 3.26 in. at Kingairloch (Argyllshire).
- 24th 4.10 in. at Conaglen (Argyllshire) and 3.44 in. at Achnacary (Inverness-shire).
- 25th 3.95 in. at Inverinan (Argyllshire).

Thunderstorms occurred locally frequently for December, for example, on the 1st, 3rd-6th, 8th-11th, 14th, 16th-19th, 21st and 25th.

Snow or sleet occurred at times, mainly on the 2nd, 5th, 8th-12th and 17th-20th. The most considerable and widespread fall occurred from the 8th-10th or 11th. Level snow was 3-6 in. deep in parts of north-east Scotland, on Deeside and in Argyll, 6½ in. deep at Lake Vyrnwy, 6 in. at Cantref and 5 in. at Bellingham. There was heavy drifting in the Scottish Highlands and the Welsh hills.

Sunshine.—Broadly speaking it was dull in the west and north-west and sunny in the east and south. The percentages of the average for the districts ranged from 79 in Northern Ireland and 81 in west Scotland to 136 in south-east England and 140 in the Midlands. The mean daily duration in hours ranged from 0.5 or less over north-west and central Scotland and in an area from south-east Lancashire to Buxton to 2.0 or more at many places in a coastal strip from Paignton to Dover and thence to Lowestoft as well as at some stations in the south Midlands and in the neighbourhood of Craibstone and Aberdeen.

Fog.—On the whole there was rather less fog than is usual in December. It occurred at times, however, chiefly on the 6th, 9th-13th, 16th, 21st-25th and 29th-31st.

Miscellaneous Phenomena.—The aurora was observed in Scotland on five nights. Solar halos were noted at Oxford on 11 days.