

Monthly Weather Report

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OF THE METEOROLOGICAL OFFICE

Summary of observations compiled from returns of official stations and voluntary observers

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January 1958—Changeable; a week of wintry weather from 18th followed by a very rapid rise of temperature.

During the first eleven days of the month frontal troughs and depressions moved eastward across the British Isles, but from 12th to 16th anticyclonic weather prevailed. A northerly airstream from high latitudes set in on the 18th and began a week of very cold weather with unusually severe night frosts until southerly winds brought a spectacular rise in temperature around the 25th. The month ended with two days of rather cold anticyclonic weather.

The month opened with cold weather in the north associated with a ridge of high pressure extending south-east from an anticyclone over east Greenland. A depression in the South-west Approaches gave mild weather with some rain in the south at first, but the colder weather soon spread southward to all areas. There was snow in parts of the Midlands and North. A depression centred near the Great Lakes of North America on the 1st, moved north-east and deepened, reaching the Iceland area on the 4th, and setting up the typical mobile westerly regime over the British Isles of early January. This depression was associated with an upper westerly jet stream with axis near 50°N. latitude which progressed steadily eastwards giving winds of 140 kt. at 500 mb. and 190 kt. at 250 mb. over southern England on the 6th. Milder south-westerly winds with rain spread across all districts during the 4th, being preceded by snow in Scotland. Subsequently changeable, rather stormy, weather was maintained over the British Isles for about a week by a series of depressions which moved across the northern part of the country on the 6th, 8th and 10th. During the passage of these depressions rain was widespread and heavy locally, and wind often reached gale force, especially on the north and west coasts, but there were brighter showery periods between with local hail and thunder. The depression of the 6th brought very mild air, temperatures reaching the middle fifties over much of southern England. On the 8th several places in Scotland recorded more than 1 in. of rainfall and there was a fall of nearly 3 in. at Dunoon. On the 9th wind reached 81 kt. at Tiree. An upper ridge intensified in mid-Atlantic on 11th/12th. The down wind trough over Europe also intensified and a cut-off upper low formed in it over western Europe on the 12th. Accompanying surface features included a more northerly depression track—across Iceland to the Spitzbergen area—on the western flank of the upper ridge, an unusually pronounced rise of sea level pressure across the British Isles and southern Scandinavia on the 12th/13th to the north of the cut-off upper low, and an anticyclone moving north-east from the Azores to our South-west Approaches. Weather over the British Isles became quieter with fog in many areas and some slight occasional rain or drizzle.

A vigorous depression crossed Iceland on 15th and became slow moving near northern Scandinavia, deepening further on the 16th and 17th, while an unusually intense anticyclone formed over Greenland. Between these two features a northerly airstream from high latitudes brought snow showers to all parts of the British Isles, while shallow polar depressions embedded in the stream gave areas of more general snow. By the 23rd snow had accumulated to a level depth of 3–6 in. over much of Scotland and northern England, and in parts of Wales, south-west England and Kent. Temperature remained below freezing day and night in some districts between 18th and 23rd and there were severe night frosts generally with air temperatures falling below 0°F. at a number of places.

The cold spell was brought to an end by retrogression, during the 18th to 21st, of the upper trough, which had formed over the British Isles. Another upper trough developed at about longitude 20°W. on 23rd/24th and became the dominant feature. A surface low at latitude 55°N., just ahead of the latter upper trough, deepened on the 23rd/24th with only slow northerly movement. Other depressions, forming ahead of the upper trough during the 25th and 26th, moved northwards to the west of Ireland. These developments led to a very mild southerly airstream being established over the country during the 25th/26th, rises in temperature being spectacular: 50°F. was exceeded over the whole of the south-western part of the country on the 26th, and the following day temperature rose above

60°F. at several places in North Wales and west Scotland.

The mild weather, accompanied by rain and hill fog lasted for three or four days, and this coupled with heavier local rain and rapidly melting snow caused floods in many northern areas. Many stations in Scotland and northern England recorded more than 1 in. of rain on both the 24th and 28th.

The southerly winds over the British Isles moderated on the 25th as the depression near Iceland declined and on the 29th an associated cold front moved east across the country giving locally heavy rain. Pressure rose behind the front and on the 30th and 31st an anticyclone became centred over England, and the month ended with colder weather owing to night radiation giving widespread fog which was dense locally and persisted throughout the day in some areas.

Pressure and wind. Pressure was everywhere below the average, the deficit ranging from 4.5 mb. at Lerwick to 2.4 mb. at Stornoway and Tiree. Noteworthy features were the deep depression near Iceland on 4th–7th and the persistent low pressure near Scandinavia on 16th–20th and in the North Sea on 21st–23rd. Winds were light, southerly or variable during the first three days becoming mainly westerly until the 10th, north-westerly on the 11th and 12th and thereafter light and variable again. They freshened from a westerly direction on the 16th, were rather variable but mainly north-westerly from 20th to 23rd, finally becoming between south and south-west until the end of the month: Gales occurred on 19 days and were widespread on the 6th, 8th, 9th, 18th, 19th and 25th; in Scotland they were severe at times causing considerable damage. Wind reached 82 kt. in gusts at Grimsetter on the 17th and 75 kt. at Jersey Airport on 21st.

Temperature. Mean temperature was everywhere below the 1921–50 average, the deficit being 0.9°F. in England and Wales, 1.7°F. in Scotland and 1.1°F. in Northern Ireland. Mean minimum temperature was about 3°F. below the average in north-east England. This was mainly due to a severe cold spell which began on the 18th when temperature fell to –2°F. at Driffield on the 21st, and to –6°F. at Kincaig and –5°F. at Braemar on the 25th.

Extreme temperatures for the month included:—(England and Wales) 61°F. at Llandudno on the 27th, –3°F. at Shawbury on 24th; (Scotland) 62°F. at Onich on the 27th, –7°F. at Grantown-on-Spey on 25th; (Northern Ireland) 56°F. at Ballykelly on the 27th, 9°F. at Aldergrove on the 22nd.

Precipitation. The general precipitation was equal to the 1916–50 average over Scotland and Northern Ireland and 98 per cent. of the average over England and Wales. Amounts were mainly less than the average except over much of the southern and eastern counties of England and locally on the west and east coasts of northern England and Scotland. More than 150 per cent. of the average was recorded in Oxfordshire, over the north-eastern part of Aberdeenshire and in the Hebrides.

Snow and sleet showers were frequent in Scotland and northern England during the first half of the month but in southern England the worst falls occurred from 22nd to 24th and much of the country was snow covered from 20th to 25th. Snow in general accumulated to a depth of 3–6 in. in Scotland and northern England and exceeded 12 in. locally in northern Scotland, Northern Ireland and north-west and eastern England. Snow lay 6–8 in. deep over much of Devon and Cornwall and attained a level depth of 27 in. at Aldergrove on the 20th and 23 in. at Shoeburyness on the 24th and 25th.

Thunder was heard at one place or other on 14 days.

Sunshine. The general sunshine expressed as a percentage of the 1921–50 average was 108 over England and Wales, 110 over Scotland and 128 over Northern Ireland. Sunshine was 150 per cent. of the average at many places in north-east England; at Cockle Park 171 per cent. was recorded. **Fog.** There was a good deal of fog, especially around the 14th–16th and during the last few days of the month.

Miscellaneous Phenomena. The aurora was observed in Scotland on 18 nights.