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JANUARY, 1946.—Large variation of temperature; severe gales

The month was characterised by two, mainly dry, frosty periods with easterly winds and light local snow at the beginning and middle of the month, each followed by a spell of mild wet weather with south-westerly winds which at times reached or exceeded gale force. The second cold spell was the colder and more prolonged. From the 1st to the 3rd an anticyclone moved slowly from Southern Scandinavia to south-east Europe, while the tracks of depressions lay well to the west of Ireland. Under the influence of this high pressure system, fair or fine cold weather, which had characterised the close of 1945, persisted. Winds were light or moderate from an easterly point. Inland night frosts were severe locally and there was some fog. A deterioration of the weather, which had begun in north-west Scotland late on the 3rd extended to the whole of the British Isles, except the extreme south and south-east of England, by the evening of the 4th, as a deepening depression off the west of Ireland, moved north-eastwards. There were high winds and gales in many parts of Scotland on the 3rd and 4th. Until the 11th, deep depressions followed each other in rapid succession, generally travelling north-eastward off the west of Scotland, but occasionally crossing the northern half of the country. The weather became mild, at times very mild, and wet, with winds from between south and west, sometimes of gale force. The period 8th to the 11th was very stormy. On the 8th, a deep depression off the west coast of Ireland, gave rise to severe gales on our north-west seaboard. Another depression on the 9th caused widespread gales and high winds on all coasts and locally inland. Similar conditions prevailed on the 10th and 11th and early on the 12th. On the 12th a rapid improvement to quieter, drier and colder weather took place as a wedge of high pressure developed over Ireland. This became united with an intensifying anticyclone to the north-east of Iceland moving south-eastwards. By the 13th a large and intense anticyclone became centred to the north-east and east of the British Isles. On the 14th and 15th pressure at the centre of the anticyclone exceeded 1048 mb. Winds became easterly and there were widespread frosts. On the 18th, a depression to the south-west of the British Isles began to spread north-eastwards. Very shallow depressions moved north-westward over the British Isles and there were light falls of snow at many places. On the 19th the pressure gradient, while still remaining generally favourable for south-east winds, became very feeble, and widespread mist and fog locally dense, developed. This condition persisted until the 23rd in south-east England. The 21st saw a return to unsettled and milder weather in western Ireland and in the extreme north-west of Scotland as the Scandinavian anticyclone withdrew south-east and deep depressions, travelling northwards in mid-Atlantic, spread towards the British Isles. On the morning of the 23rd a trough of low pressure, moving slowly east, extended from the Hebrides to Scilly. It was associated with snow and sleet in western and central districts. A renewal of wet and rather mild weather with south-westerly winds again became general by the 24th and persisted for the rest of the month. Successive troughs of low pressure and secondaries associated with deep depressions in the Icelandic region crossed the British Isles. An intense secondary moved rapidly eastward across the country from central Ireland during the night of the 29th and 30th. There were severe south-westerly gales both inland and on the coast to the south of the centre; snow and sleet to the north of it. There were local thunderstorms.

Pressure and Wind.—Mean pressure was generally above the average. The deviation at 9 h. varied from +5.0 mb. at Tynemouth to +1.4 mb. at Scilly and -1.0 mb. in south-west Ireland. Winds were from between south and west, except between the 1st and 3rd and from the 14th to 20th, when they were from between east and south-east. In Scotland there were gales on the 3rd and 4th, between

the 8th and 11th and between the 21st and 24th; in England and Wales between the 8th and 12th and from the 28th to 30th. Among the highest speeds recorded in gusts were 99 m.p.h. at Stornoway and 90 m.p.h. at Lerwick on the 8th, 82 m.p.h. at Southport and St. Ann's Head on the 28th and 29th respectively, 86 m.p.h. at Scilly and 78 m.p.h. at Cardington on the 30th, and 66 m.p.h. in Central London (Kingsway) on the 29th. For 10 minutes on the morning of the 8th, the wind speed averaged 73 m.p.h. at Stornoway.

Temperature.—The mean temperature was generally slightly below the average, the deficit being greatest (2.8°F.) in north-west England and least (0.1°F.) in north Scotland. On the 2nd the maximum temperature was 29°F. at Little Rissington, Ashbourne and Renfrew, and on the 20th 23°F. at Dalwhinnie, 25°F. at Honiley and Manchester and 27°F. at Croydon. In southern England it was very mild on the 10th and 11th, the night of the 10th-11th giving a night minimum of 52.4°F. at Kew. The extremes for the month were:—(England and Wales) 59°F. at Peterborough on the 11th, 11°F. at Leeming on the 20th and at Appleby on the 20th and 21st; (Scotland) 57°F. at Prestwich Airfield on the 4th, 7°F. at Braemar on the 21st; (Northern Ireland) 53°F. at Castlerock on the 4th, 18°F. at Garvagh (Moneydig) on the 21st and at Aldergrove on the 20th.

Precipitation.—The general precipitation expressed as a percentage of the average for the period 1881-1915 was 113 over England and Wales, 116 over Scotland, and 157 over Northern Ireland. It was mainly in the western and central districts of Great Britain and in Northern Ireland that rainfall exceeded the average. Values exceeded 150 per cent. in South Wales, from north Wales to Skye and in the east of Northern Ireland. More than 175 per cent. occurred around Bala, in Wigtownshire, and in Tiree. There was less than 75 per cent. in north-east Kent, over most of the Fen district and the coastal regions from Scarborough to Wick, with only 28 per cent. at Gordon Castle and 37 per cent. at Manston.

Among the heaviest falls in 24 hours were:—

4th	2.47 in. at Borrowdale (Cumberland) and 2.22 in. at Glenquoich (Inverness-shire).
5th	3.41 in. at Blaenau Festiniog (Merionethshire) and 2.88 in. at Machynlleth (Montgomeryshire).
9th	2.09 in. at Mull (Gruline).
22nd	2.76 in. at Glenbranter (Argyll) and 2.15 in. at Dunoon (Benmore).
24th	2.41 in. at Blaenau Festiniog.
29th	2.30 in. at West Freugh (Wigtown).
31st	2.30 in. at Machynlleth (Montgomeryshire).

There were no noteworthy falls of snow. From the 16th to the 23rd several localities recorded mainly light falls on one or more of these days. Snow was most widespread in England and Wales on the 18th, in Scotland and Northern Ireland on the 19th. Local thunderstorms occurred on the 8th, 9th, 11th, 23rd, 27th and 30th.

Sunshine.—The percentages of the average were 99 over England and Wales, 108 over Scotland and 133 over Northern Ireland (see Table I). Sunshine was most deficient in north-east England and the west of Central Scotland, while the excess was most marked in northern Scotland and Northern Ireland.

Fog.—Fog (mainly in the early morning, evening and night) occurred at times at most places. Fog was most widespread from the 19th to the 25th. At times it was dense, locally inland, and persisted all day on Clydeside on the 16th, and over the Midlands on the 24th.

Miscellaneous Phenomena.—The Aurora was seen at northern stations in Scotland on 11 nights. Solar halos were noted at Oxford on 10 days.