

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

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

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DECEMBER, 1941.—Dry; mainly mild; considerable fog at times.

During the greater part of the month mainly anticyclonic conditions prevailed but there were periods of unsettled weather chiefly round the 6th-7th and 9th-16th. Rainfall was decidedly below the average on the whole and there was considerable fog at times.

On the opening day pressure was high eastward of the British Isles, while a complex trough of low pressure lay over and to westward of Ireland. Some rain fell in most districts. Subsequently the Azores anticyclone spread north-east and from the 2nd-4th there was widespread fog, particularly in England; meanwhile Atlantic depressions moved north-east in the neighbourhood of Iceland and caused rain at times in the west and north between the 3rd and 5th. On the 6th and 7th a deep depression northward of Scotland moved east and an associated trough on the Atlantic moved in across the British Isles; widespread gales occurred in the west and north, the force reaching that of a whole gale in the Shetlands on the 6th and at Wick on the 7th. General rain was experienced on the 6th and local wintry precipitation, with a temporary drop in temperature, on the 7th.

From the 9th-16th a series of Atlantic depressions moved north-east to the Icelandic region and a spell of mild, unsettled weather prevailed over the British Isles with occasional rain. Gales were reported at exposed stations in the west and north between the 11th and 16th. The depression which was centred near Iceland on the 14th was exceptionally deep (pressure near centre 940 mb); it remained almost stationary for a while becoming gradually less deep but subsequently it moved away eastward on the 15th and 16th. A secondary associated with this disturbance moved north-east along our north-west seaboard on the 14th giving general rain, heavy in places.

In the rear of this depression pressure rose again over the British Isles and mainly anticyclonic conditions prevailed from about the 17th onwards, though depressions in the far north affected conditions at times, chiefly in the west and north of the country. A good deal of fog was experienced from the 18th-20th. Shallow depressions moved south-east from Iceland between the 26th and 28th; there was local wintry precipitation and on the 27th heavy rainfall occurred in the west and south-west. It was cold from the 26th onwards and considerable fog developed from the 29th-31st.

Pressure and Wind.—Mean pressure considerably exceeded the average the excess being greatest in the south-west. From the information available the deviation at 7h. ranged from +13.5 mb. at St. Mary's, Scilly to +8.4 mb. at Aberdeen. The pressure gradient was thus steeper than usual, particularly over Scotland. Winds from between south-west and north-west predominated and gales occurred frequently at some exposed stations in Scotland, particularly in the north; they were reported on 12 days at Lerwick Observatory and at Stornoway, 11 days at Edinburgh and 10 at Duntulm. The windiest periods were 6th-7th, 11th-15th and 21st-24th. Over most of England except the south-west gales were few. The gale of the 6th-7th was severe in coastal districts of Scotland; a mean hourly velocity of 60 m.p.h. was registered at Stornoway on the 6th and one of 57 m.p.h. at Lerwick on the 7th. Among the highest speeds recorded in gusts were 100 m.p.h. at Sunburgh (Shetlands), 92 m.p.h. at Stornoway, 85 m.p.h. at Kirkwall and 73 m.p.h. at Bell Rock

lighthouse and Edinburgh all on the 6th, 90 m.p.h. at Lerwick on the 7th and 70 m.p.h. at Durham on the 24th.

Temperature.—Mean temperature exceeded the average, the excess being 2.1°F. in Scotland and Northern Ireland and 1.7°F. in England. The excess was least in the south-east, amounting to only 0.3°F. in England, S.E. and 0.7°F. in England, E. The mildest spell occurred on the whole from the 9th-15th but it was mild also from the 23rd-25th and, in the north-west, on the 2nd and 3rd. The coldest spell was from the 26th-31st, though it was cold locally also from the 18th-20th. Severe frosts were registered from the 26th-31st and locally on the 18th and 19th.

The extremes for the month were:—(England and Wales) 60°F. at Skegness on the 15th, 10°F. at Thetford on the 29th; (Scotland) 59°F. at Stonehaven on the 24th, 13°F. at Balmoral on the 28th; (Northern Ireland) 59°F. at Castlerock on the 11th and 21°F. at Aldergrove on the 30th.

Precipitation.—The general precipitation expressed as a percentage of the average for the period 1881-1915 was 53 over England and Wales, 62 over Scotland and 53 over Northern Ireland. In England and Wales and Northern Ireland the deficiency was general; it was greatest in north-east England, where a number of stations recorded less than 20 per cent. of the average. In Northern Ireland the percentages at individual stations ranged from 39 at Aldergrove to 70 at Londonderry. In Scotland the distribution was more variable; over small areas in Sutherland, north Inverness-shire and Ross and Cromarty, as well as in the Shetland Islands somewhat more than the average occurred, whereas locally in a coastal strip from Aberdeen to Berwickshire less than 25 per cent. was registered.

Daily falls of more than one inch were reported locally in Great Britain on the 5th, 6th, 10th, 12th-15th and 26th-28th, while falls of 2.22 in. and 2.05 in. were registered at Bala and Machynlleth (Montgomery) respectively on the 6th.

Snow or sleet occurred locally in England and Northern Ireland on the 7th; it was reported also locally in England between the 26th and 28th. In Scotland, snow was reported from some place or other on 17 days and snow showers were fairly widespread on the 6th and 7th and during the last week.

Thunderstorms were reported locally on the 1st and 14th-15th; thunder was heard locally in Scotland also on the 6th, 12th, 21st, 22nd and 31st.

Sunshine.—Sunshine was variable but very broadly speaking it was above the average on the whole in eastern and some central districts and below the average in western districts.

Fog.—Fog occurred frequently in England; it was recorded at the morning observation on 22 days at Leyland, 19 at Regents Park, London and 17 at Nottingham. The periods of most considerable fog were the 2nd-4th, 18th-21st and 29th-31st.

Miscellaneous Phenomena.—The aurora was observed locally in Scotland (chiefly the Shetland Islands) on 8 nights; it was seen as far south as St. Abb's Head on the 14th. Solar halos were noted at Oxford on eight days.