

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

(Supplement to the Weekly Weather Report.)

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS IN THE UNITED KINGDOM, WITH
A CHART OF RAINFALL CONTRIBUTED BY THE BRITISH RAINFALL ORGANISATION.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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A CLOUDY MONTH, ENDING WITH A SEVERE GALE, SNOW, AND A SHARP FROST.

Pressure, Winds and Weather.—During this month the type of pressure distribution underwent considerable variation, no well-marked set of conditions remaining in existence for more than three or four days at a time. In the opening week the weather was influenced, for the most part, by a large anticyclone which moved south-eastwards from the Iceland—Greenland region to Central Europe, and between the 1st and 3rd, when the central area of the system drifted slowly across the United Kingdom, the barometer in most districts reached its highest level for the month. In Scotland the maximum readings were not much above 30·3 in., but in nearly all the English and Irish districts the mercury rose above 30·4 in., and at some stations in the south of Ireland it exceeded 30·45 in. On the 4th and 5th the anticyclonic conditions were interrupted by the incursion of a shallow depression from the northward, but as this passed away the high pressure system again extended over the country, and on the 7th or 8th the barometer in the south of England rose to as high a level, or even a trifle higher, than on the earlier occasion. With the exception of a couple of days about the middle of the month, when an anticyclone spread in temporarily from the Atlantic, the distribution of pressure for the remainder of the time was cyclonic, and the type usually Westerly or South-Westerly. The lowest pressures occurred very generally on the 26th, when the barometer fell below 29·0 in. over the entire northern half of the kingdom, below 28·5 in. over the whole of Scotland and the North of Ireland, and below 28·0 in. in Caithness, the reading at Wick at 8 p.m. being as low as 27·93 in. Over the southern parts of the kingdom the extreme range of pressure was only moderate (less than 1·5 in.) but in the north, owing to the extremely low readings of the 26th, it was very large ; in the north of Scotland it amounted to nearly 2·5 in. The mean pressure for the month ranged from about 30·1 in. around the mouth of the English Channel to about 29·65 in. in Shetland. Over England and Ireland the values were mostly a trifle above the average, but in Scotland they were below it, and as a result the barometric gradient over our islands was steeper than that shown by the normal chart for November. Over the country generally there was, as might be expected with such a pressure distribution, a large preponderance of breezes from some Westerly quarter (South-West to North-West) but in Ireland the wind was more variable.

Gales and high winds were of frequent occurrence, the most notable storms being those of the 10th to the 12th and the 26th and 27th. In the earlier instance, when the centre of a deep cyclonic disturbance moved in a south-south-easterly direction to Central Europe, the wind increased to a strong gale on all our coasts, at first from the Westward, and afterwards from the North-Westward and Northward. At many of the telegraphic reporting stations an extreme of force 10 by the Beaufort Scale was reported from each quarter, the anemometrical records giving the high velocity in gusts of 61 miles at Pendennis Castle (Falmouth), 62 miles at Scilly, and 75 miles (on the 10th) at Holyhead. Heavy rain occurred at many western stations on the 10th (as much as 1·7 in. at Seathwaite and 1·1 in. at Bettws-y-Coed) and in Lincolnshire on the 12th, 1·2 in. at Holme-on-Spalding, and 1·1 in. at Skegness, and with the cold Northerly winds which prevailed in the rear of the depressions showers of snow occurred in many of the northern and central districts. On the 11th and 12th thunderstorms, or thunder and lightning singly, were reported in various parts of Ireland, Wales, the South-West of England and the Channel Islands.

The second gale of note, that of the 26th and 27th, was due to the movement of a depression which appears to have been originally developed over the upper part of the Atlantic, at some little distance to the southward of Iceland. During the night of the 25th the disturbance increased greatly in intensity and on the 26th, when its centre passed north-eastwards across the west and north of Scotland, the barometer fell to the unusually low level already mentioned. On leaving our coasts the depression began to fill up, and by the 29th, when it had reached Finmark, the system was of very moderate intensity. During its progress across our islands severe gales from South-West and West were experienced on nearly all coasts, while in the rear of the disturbance a gale of equal violence from the North-Westward sprang up in the north of Scotland. In gusts the wind reached an extreme velocity of 70 miles per hour at Holyhead, 75 miles at Aberdeen and

Dwyran (Anglesey), 83 miles at Pendennis Castle and 85 miles at Rosyth. Owing to the brisk movement of the depression the accompanying rainfall was as a rule not heavy, but on the 26th as much as 1·9 in. was recorded at Stornoway and 1·1 in. at Lerwick. The passage of two line squalls across England on the 25th and 26th was attended in each case by showers of rain and hail of considerable severity. At Ridlington (Rutland) the observer estimated the fall at 2 p.m. on the 25th as being equal to 0·16 in. in less than 2 minutes ; and at New Malden on the 26th 0·20 in. fell at about 6·15 p.m. in the space of 8 minutes.

On the last four days of the month, when the weather was influenced by small barometrical depressions which advanced eastwards across our southern districts, snow occurred in nearly all parts of the country. In the south of England the fall was slight and partial, but farther to the northward it was much heavier, and was prolonged in some cases over at least two days. In many parts of North Britain the depth on the ground amounted to between 6 and 7 inches.

In addition to the instances already noted heavy falls of rain were experienced in North Wales and the north-west of England on the 4th, in the same districts and in the west of Scotland on the 23rd and 24th and in South Wales and the south-west of England on the 28th. On the 4th 1·7 in. was recorded at Lancaster and Graythwaite, 1·8 in. at Kirkby Lonsdale, between 2 and 3 ins. in Snowdonia, and as much as 3·7 in. at Seathwaite.

The mean temperature of the month was below the average in the south-east of England and also in the north and east of Scotland, but above it in most other districts. The departure from the normal was nowhere very large. Shade maxima of 55 and upwards were recorded on several occasions in nearly all districts, the highest readings occurring as a rule between the 7th and 9th, when the thermometer rose to 60° and upwards at several of the western stations, to 65° at Glasnevin, 66° at Dublin (Trinity College) and Kingstown, and 67° at Newcastle, Co. Wicklow. Sharp night frosts were observed between the 1st and 4th, the 12th and 14th and the 17th and 19th, but no really severe weather set in until very nearly the close of the month, when the northern half of the Kingdom experienced a frost of unusual intensity, which was continued into the opening days of December. On the 29th or 30th the thermometer in the screen fell below 10° in many parts of Scotland and the northwest of England, the lowest readings reported being 1° at West Linton 3° at Scaleby, and Allan's Green (Northumberland), 4° at Ardross Castle, and 6° at Balmoral, Kilmarnock and Ruthwell. On each day there were many places in the northern and central parts of Great Britain in which temperature remained below the freezing point all day ; at West Linton on the 29th it did not exceed 24°, and at Kilmarnock it did not exceed 20°.

The temperature of the sea water showed a further decrease on that of October, amounting in most districts to between 3° and 5°.

Compared with that of the air on shore it was in most places at least 2° or 3° warmer, and off the north of Scotland it was from 5° to 7° warmer.

Fog was somewhat rare for the time of year and was much less prevalent than in October. In the London district the number of foggy days in the two months was respectively 5 and 14.

Rainfall was not infrequent but many of the falls were slight, and although considerable local variations were shown the total amount was in most districts well below the average. In the North of Scotland there was however a rather large excess. The aggregates ranged from 15·6 in. at Seathwaite, 14·7 in. (163 per cent. of the average) at Glencarron, 14·3 in. at Llanberis 9·0 in. (109 per cent.) at Fort William and 8·6 in. at Ardnadam to 1·3 in. (36 per cent. of the average) at Rousdon, and also at Ross, 1·2 in. at South Kensington, 1·1 in. at Newcastle (Co. Wicklow) and 0·9 in. at Kingstown.

Bright Sunshine was very deficient over the country generally and especially so in Ireland. At Armagh the total duration amounted to only 54 per cent. of the normal, at Valencia to 52 per cent., at Birr Castle to 48 per cent., and at Markree Castle to 44 per cent. The nearest approach to the average occurred in the north and east of Scotland, at Aberdeen as much as 84 per cent. of the average duration was recorded, and at Stornoway and Marchmont 81 per cent.