

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

BRITISH METEOROLOGICAL AND MAGNETIC YEARBOOK. PART II.

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

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NOVEMBER, 1921; Cold, Dry and Foggy in Great Britain. Rather Mild in Ireland.

November brought to a close the long succession of months with a mean temperature above the normal. With the exception of Scotland and Ireland this feature had characterized each month since the beginning of the year. The long series of months in south-eastern England with precipitation below the normal, however, continued unbroken.

The Icelandic depression which had caused unsettled weather in the extreme northern and north-western parts of the Kingdom at the end of October passed rapidly away, and at 7h. on November 1st was situated over Scandinavia. It was accompanied by severe gales, hail and snow showers. The severity was most marked in the region of the Baltic and North Sea. A wind of force 11 on the Beaufort Scale was reported from the Island of Bornholm, off the south coast of Sweden. It is stated to have blown continuously for a period of twelve hours. The severe gales caused wrecks and loss of life in the North Sea. Phenomenally high tides occurred in the Thames Estuary. In the rear of this depression a complicated distribution of pressure prevailed, accompanied by generally unsettled weather in all parts of the British Isles. Between the 2nd and 5th over 30mm. of rain were registered at Kew Observatory, an amount equal to more than half the average of the month. A depression which appeared off the north-west of Ireland on the 5th travelled rapidly across the centre of England on the succeeding night (see Map, track E). It deepened considerably and at 7h. on the 6th was situated off the east Anglian coast. Gales accompanied by heavy rain prevailed over a wide area and local thunderstorms occurred. Cross-Channel services and telegraphic communications were interrupted. Several wrecks occurred in the North Sea and English Channel. The Northerly winds which prevailed in the rear of this depression were associated with showers of hail, sleet or snow. Cold weather continued over England until the middle of the month. In some places snow lay on the ground several inches deep. Frosts occurred for many nights in succession and were particularly severe on the 8th when a screen minimum of 26.2a was recorded at Shotwick, near Chester. On the 10th and 13th, 26.9a was registered at Kew, a value without precedent as early as November 10th at this station. During this period the extreme north and west were influenced by an Atlantic depression which affected those districts early on the 9th. A typically winter distribution of temperature prevailed over the British Isles for some days, the isotherms running north and south. The south-westerly current in the western districts caused very mild conditions with temperatures above 28.5a. On the other hand in the south-eastern districts which were dominated by a continental anticyclone situated over north Germany and the Baltic region easterly winds and frost prevailed. Skating was enjoyed in many parts of England. After the 13th the whole of the Kingdom came under the influence of an Atlantic depression. From the 13th to 17th small disturbances caused considerable rain and strong winds in the south-west of the British Isles. A well-marked secondary which lay in the region of the Scilly Isles on the 14th and 15th was accompanied by heavy rain over a wide area. Subsequently a large anticyclone, the centre of which lay over northern Scandinavia, extended its influence over the whole of the British Isles, causing an easterly type of weather. A good deal of cloud prevailed with rain on our eastern coasts. During the remainder of the month the western districts were largely under the influence of Atlantic depressions, but in the east the anticyclonic conditions continued with dry, cold and generally fair weather. Thick fog prevailed locally, especially in industrial areas. London suffered severely, especially on the 27th and 28th. The fog proved to be one of the thickest and most persistent of recent years. Vehicular traffic was very much dislocated and considerable inconvenience was caused. In marked contrast to the London area, brilliantly sunny weather prevailed on the south-east coast during this period.

In Scotland the weather of the month was rather variable. The wintry weather which followed in the rear of the depression situated over Scandinavia on the 1st of the month proved to be less intense and less prolonged than in England. Snow fell in various districts on the 3rd, and again in the north-east from the 6th to 8th. At Greenock 28mm. of rain fell on the 22nd. Aggregates were everywhere below the normal, especially towards the north-east, where an extensive area received less than half the normal amount. At Glencarron it was the driest November on record. The lowest temperature recorded anywhere during the month was 26.1a at Logie Coldstone on the 27th and 28th. Fog was rather prevalent, especially towards the end of the month.

In Ireland the month was generally rather mild. Sunshine was deficient, especially in the south. Rainfall was in excess of the normal over most of

the eastern half of the country. In Co. Down the rainfall was 50 per cent. above the average. Over a large area, however, there was a deficiency. The area over which 200mm. fell was much smaller than usual, and was confined entirely to Kerry and Connemara. In Dublin the weather was variable. The opening days of the month were mild, but on the 6th a sudden change occurred, and snow fell on the early morning of the 8th. After the 9th the weather again became mild and unsettled. Fog was prevalent and occurred on several days.

The following remarks by observers illustrate the generally cold and dry character of the month, and the unusual prevalence of easterly winds. Lenton Fields (Nottingham).—Extraordinary lack of south-west winds. Hodsock Priory (Nottingham).—The first cold month after thirteen continuous warm ones: much easterly wind. Leyland (Lancashire).—Rainfall below average. A cold month. Southport (Lancashire).—South-easterly winds more frequent than in any previous November during 51 years' observations. Ipswich (Suffolk).—The minimum temperature on the night of the 27th-28th, 26.7a in the screen and 26.3a on the grass, are the lowest I have ever recorded in November. Bude (Cornwall).—Remarkable for prevailing wind to be east. Carrigoran (Co. Clare).—We have had a remarkable continuation of winds from easterly points.

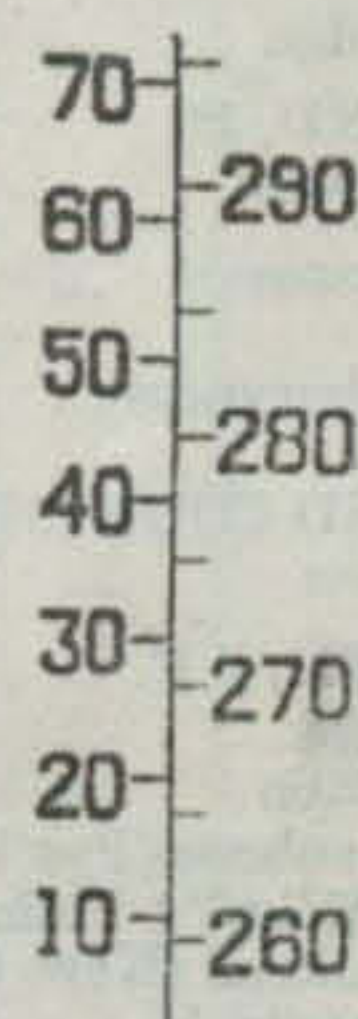
Air Pressure.—Pressure was everywhere in excess of the normal. The general distribution was of an unusual type, the trend of the isobars being north and south. Pressure was high in the east and low in the west, the monthly averages reflecting the conditions during the month; anticyclonic round the North Sea and cyclonic over the Atlantic. The general conditions are illustrated by the temperature and sunshine maps. Ireland and the extreme west of Great Britain were largely influenced by warm air currents from the Atlantic. The central and eastern districts were fed by cold air from the Continent. The formation of a local area of high pressure south of Lincolnshire, indicated by broken lines on the pressure map, is of interest, and may be compared with a corresponding area of low temperatures in the same region. At the telegraphic stations the excess of the monthly means of pressure from the normal ranged from 9.9mb. at Lerwick to 0.9mb. at Valencia. The highest reading recorded during the month was 1038mb. at Felixstowe on the 10th, and the lowest 982mb. at Lerwick on the 6th.

Temperature.—The mean temperature of the month was below the normal in all districts with the exception of Ireland north and south and the English Channel. The departure from the normal ranged from +1.5a in Ireland south to -1.7a in England east.

Precipitation.—Precipitation was generally deficient in all districts with the exception of Ireland south, and added yet another month to the series of consecutive months since January with a deficiency in south-eastern England. There was an excess, however, along the coasts of Durham and Northumberland, in a narrow strip from Cheshire to Worcestershire, in a region near Sidmouth, over the eastern half of Ireland, and the extreme west of South Wales. The areas with a deficiency were much more extensive. In the north-west of Scotland less than half the normal fall was recorded. In England there was less than 60 per cent. locally along the south-east coast. Seathwaite in Cumberland recorded only 42 per cent. of the normal. Less than 25mm. fell locally in the neighbourhood of the Wash and the Moray Firth. The general rainfall for November expressed as a percentage of the average was:—England and Wales 75; Scotland 55; Ireland 106; British Isles 75.

Sunshine.—Insolation varied considerably in different districts, and was largely affected by the prevalence of fog, particularly in the vicinity of large towns. This is well illustrated by reference to the sunshine map. The most striking example is in the London area where there is a remarkably steep gradient on the south-eastern side. The departure of the daily mean duration of sunshine from the normal ranged from +0.40 hrs. per day in England north-west to -0.78 hrs. per day in Ireland south.

Optical Phenomena.—Solar and lunar halos were observed at various stations during the month. A lunar corona was seen at Dublin on the 8th. On the 14th a parhelion, sun pillar, paraselena and lunar corona were seen at Oxford. A sun pillar was also seen at Aberdeen on the 9th. Aurora was observed in Scotland, at Fort William on the 6th, Gordon Castle on the 25th and Paisley on the 6th, 7th and 8th.



Temperature Scales.

The article by Mr. R. A. WATSON in the *Meteorological Magazine* for DECEMBER has been utilised in the preparation of this summary.