

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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JANUARY, 1930. Mild and wet. Violent gales 1st to 3rd and on 12th.

The weather during January was characterised by persistent unsettled conditions, frequent gales during the first fortnight and a pronounced excess of precipitation. The predominating winds were southerly to south-westerly and in almost all districts the mean temperature for the month exceeded the normal, markedly so in the east and south-east of England. There were, however, frequent fair intervals, especially in northern districts where sunshine aggregates in general exceeded the normal.

From the 1st to the 15th depressions with associated secondaries moved eastwards or north-eastwards along our north-western or northern coasts and occasionally across the country. Gales occurred in the north during the first three days, while moderately heavy rain fell generally on the 3rd to 5th (24 mm. at South Farnborough, 20 mm. at Worthy Down, 18 mm. at Cahirciveen, 14 mm. at Aberdeen on the 4th). From the 7th to the 14th there was again considerable precipitation, often in the form of snow. On the 12th a violent gale in which hundreds of trees were felled and much structural damage done, swept the greater part of England and Wales and to a less extent southern Ireland (see Pressure and Wind Section). Day temperatures were above the normal or moderate during this period except on the 11th and 12th when they were mostly below 40° F. Snow or sleet fell widely on the 11th and in the north on the 12th. Screen minima were about or above the normal, but severe ground frost occurred in several districts on the mornings of the 6th, 9th and 12th. During this period there were many fine intervals and good sunshine records were obtained in various places on the 2nd, 6th and 15th.

On the morning of the 16th a wedge of high pressure extended from northern Germany over the greater part of Great Britain. Fog occurred widely and in some places persisted throughout the day. In the south little or no rain occurred during the next few days but in other districts rainy conditions persisted. On the 17th south-westerly winds associated with low pressure to the south of Iceland were renewed and on the 19th the temperature reached an unusually high level for the time of year, maximum temperatures exceeding 55° F. in several places in England and Wales while sunshine records were also good (6.3 hr. at Birmingham and 6.2 hr. at South Farnborough and Richmond, Kew Observatory).

On the 20th a wedge of high pressure crossed the British Isles and on the morning of the 21st severe frost occurred locally and dense fog prevailed in parts of south-east England. This was dissipated by a southerly wind and unsettled weather was renewed in the eastern districts, moderately heavy falls of rain occurring in most districts on the 22nd, 23rd and 24th. On the 26th, a deep depression off north-west Spain moved north-eastwards and gave continuous rain in southern England and northerly gales in the mouth of the Channel. Easterly to north-easterly winds associated with the depression caused a fall in temperature and maxima, except in the south, were generally below 40° F. during the period 26th-28th. Severe ground frost occurred on the mornings of the 26th and 28th. There was a renewal of southerly winds on the 29th and temperature rose to normal or above.

In Ireland much sunshine was recorded on the 27th, Cahirciveen reporting over 7 hours on that day. Good sunshine records were more widely reported on the 30th. Heavy rain and gales were associated with a depression which moved up the English Channel on the 31st; 81 mm. rain fell at Fofanny (Down), 30 mm. at Plymouth and 27 mm. at Falmouth.

Pressure and Winds.—Cyclonic conditions persisted throughout almost the entire month and in all districts monthly means of atmospheric pressure were decidedly below the normal, the deficiency ranging from 15 m.b. at Stornoway to 8 m.b. at Yarmouth. The prevailing winds were southerly to south-westerly and frequently strong, especially during the first fortnight. Severe gales were associated with depressions which moved eastwards to the north of the British Isles on the 1st to 3rd and another depression which crossed the British Isles on the 12th* (Tracks D and G). Gusts exceeding 75 mi/hr. were recorded at several northern stations on the 1st, 2nd and 3rd; 83 mi/hr. was recorded at Dunfanaghy (Donegal) on the 1st, 91 mi/hr. at Liverpool and 80 mi/hr. at Eskdalemuir on the 2nd and 79 mi/hr. at Butt of Lewis and 77 mi/hr. at Lerwick on the 3rd. Higher velocities were recorded on the 12th when during the afternoon and evening of that day the greater part of England and Wales, and to a lesser extent southern Ireland, were swept by an unusually severe gale. Amongst the highest wind speeds in gusts reported were 102 mi/hr. at Pendennis and 97 mi/hr. at Scilly. A gust velocity of 83 mi/hr. at Worthy Down and Shoeburyness on the 12th was the highest recorded at these stations since records began there in 1926 and 1902 respectively. At Eskdalemuir the mean hourly velocity of 57 mi/hr. recorded on the morning of the 2nd was the highest reported there since records began in 1911.

Temperature.—Apart from rather low readings in northern districts, chiefly in Scotland, on the 11th, 12th, 26th, 27th and 28th, day temperatures were mostly above the normal and attained an unusually high level for the time

of year on the 19th when maximum temperatures in the neighbourhood of 60° F. were recorded in several parts of England; amongst the highest reported were 61° F. at Chester, 60° F. at Bath, 59° F. at Greenwich and 58° F. at Oxford. The maximum temperatures recorded at Greenwich and Oxford are the highest recorded in January at these places since at least 1841 and 1871 respectively. Screen minima were occasionally low while ground frosts were frequent and often severe. Amongst the lowest grass minimum temperature reported were 13° F. at Birr Castle on the 26th and 7° F. at Logie Coldstone, 8° F. at Balmoral and 12° F. at West Linton on the 28th. In all districts, except locally in Ireland, the mean temperature for the month exceeded the normal, the excess being in general greatest in the east and south-east of England. The mean temperature at Richmond (Kew Observatory) has only twice been higher in January, namely in 1916 and 1921.

The extreme temperatures for the month were:—(England and Wales) 61° F. at Sealand (near Chester) and Hawarden Bridge on the 19th, 19° F. at Castleton (Yorks, N. Riding) on the 16th. (Scotland) 57° F. at Gordon Castle on the 7th, 11° F. at Logie Coldstone on the 28th. (Ireland) 57° F. at Hazel-hatch (Dublin) on the 17th and 19th, 19° F. at Armagh on the 16th.

Precipitation.—There was a pronounced excess of precipitation in all districts, except along the east coast of Scotland and in some coastal districts in Lincolnshire and East Anglia where there was a slight to moderate deficiency. In parts of the south and west of England, Wales, southern Scotland and south-west Ireland more than twice the normal was recorded. Thus, Eskdalemuir had 201 per cent. of the normal, Newton Rigg 200 per cent., Ross-on-Wye 227 per cent., Birmingham 247 per cent. and Hereford 297 per cent. The month's total was the highest at Ross-on-Wye since 1869 and at Cahirciveen the highest in January since before 1871.

Precipitation was most widespread on the 3rd and 4th, from the 7th to the 14th, from the 22nd to the 24th and on the 29th and 31st. Over the greater part of England rainfall was slight during the period 15th to the 22nd but in the west of Ireland wet conditions persisted, and heavy falls were recorded on one or two days during this period (53 mm. at Blacksod on the 13th and 18 mm. at Cahirciveen on the 21st). In Scotland there was a marked contrast between the total rainfall recorded in the west, which received about or more than one and a half times the normal, and that recorded in the east, where rainfall totals only slightly exceeded four-fifths of the normal. When actual totals are considered the contrast is even more striking; Glenbranter, for example, reported 396 mm. and Banff 30 mm. There were 25 days with falls of 1 mm. or more at Glenbranter and 6 at Banff.

Amongst the heaviest falls were 62 mm. at Rosthwaite (Cumberland) on the 1st, 51 mm. and 64 mm. at Glenquoich on the 1st and 6th respectively, 65 mm. at Ardkinglass and 59 mm. at Tynywaun (Glamorgan) on the 10th, 67 mm. at Princetown on the 22nd and 81 mm. at Fofanny (Co. Down) on the 31st.

Snow occurred in most districts, especially in northern districts; the most widespread falls were reported from about the 9th to the 16th and again from the 26th to the 31st. In general the heaviest falls were reported from places in Scotland. On the 11th snow lay to a depth of 3 in. at Crieff and Monksfoot, 4 in. at Strathpeffer and Bendamph, 6 in. at Fort Augustus and 8 in. at Glenbranter; over 4 in. lay at Glenorchy on the 12th, and 2 in. at Marchmont, 3 in. at Milnathort and 4 in. at West Linton on the 27th. Hail occurred with considerable frequency in the north-west of the British Isles. Thunderstorms occurred locally on the 1st to 4th, 8th to 11th, 13th, 15th and 26th to 28th.

The general precipitation of the British Isles expressed as a percentage of the normal for the period 1881-1915 was 157; the values for the constituent countries were England and Wales 170, Scotland 131, Ireland 152.

Sunshine.—Sunshine aggregates exceeded the normal in the north and east of Scotland, the northern districts of England and Wales, northern Ireland and the Channel Isles and were deficient in southern and eastern England. Representative totals for districts expressed as a percentage of the normal ranged from 128 per cent. in Scotland E. to 91 per cent. in England S.W. and 90 per cent. in England E. More than 5 hours sunshine was recorded in several districts on the 2nd, 6th, and 15th, in south-east England on the 19th, and in many places outside eastern England on the 20th and 25th; equally sunny days occurred also in Ireland on the 27th, in the western districts of England on the 29th and widely on the 30th.

Fog.—Fog occurred in many inland and eastern districts of Great Britain on the 16th and 21st and locally between the 26th and 30th. Much fog was reported in the Clyde area during the month.

Miscellaneous Phenomena.—Aurora was reported from northern districts in Scotland on the 3rd, 4th, 5th, 6th, 7th, and 20th.

* See Meteorological Magazine, February, p. 1.