

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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FEBRUARY, 1929. Unusually cold. Dry in Great Britain.

The outstanding feature of the weather of February, 1929, was the intense cold which prevailed in England from the 11th to the 17th. While conditions in Scotland and Ireland during this period were unusually cold, they were generally less extreme than in England. The month was dry over Great Britain, where the general precipitation amounted to only about one-half of the normal.

The month opened with rather unsettled mild weather, with slight precipitation. On the 3rd the eastern districts of England were overrun by south-easterly winds from off the Continent where severe cold prevailed and in consequence day temperatures were moderate to rather low with severe night frosts. Much sunshine was recorded in the south-east and east of England on the 3rd and in several districts on the 4th. Following some rain in Scotland and in the west and south-west of England during the night of the 5th-6th and on the 6th, the weather continued unsettled and rather dull with much local mist or fog and night frosts. Except in the western districts where conditions were rather mild, temperatures were generally moderate to rather low. There was frequent precipitation, but amounts were not, as a rule, remarkable. In several districts the precipitation on the 9th and 10th took the form of snow or sleet.

Meanwhile, an unusually intense anticyclone over northern Europe moved south-westwards and on the 11th the greater part of Great Britain came under its influence while a trough of low pressure associated with a deep depression centred south of Iceland, extended over Ireland. South-easterly wind spread over Great Britain and by the 12th the intense cold which was being experienced on the Continent had extended to practically all districts. Snow fell in many places on the 11th and over high ground and in mountainous districts in the west of England, Wales and Scotland the falls were heavy and in exposed places were accompanied by strong south-easterly winds or gales. Over a large part of Great Britain frost continued day and night until the 17th, unusually low temperatures being recorded in the screen and on the ground on the mornings of the 13th, 14th, 15th and 16th (see Temperature Section). Bright periods occurred in several districts on the 12th, 13th and 14th. After the 14th there was a gradual rise in temperature in the south-west and following heavy snow on the 15th and 16th, day temperatures generally rose above freezing point on the 17th. Subsequently there was a rapid rise in temperature in the eastern districts on the 20th, and from the 21st to the 23rd mild conditions prevailed generally by day with considerable fine periods in the south-east. Ground frost, however, continued to occur frequently at night and was severe in many districts.

There was a renewal of east winds and a return to wintry conditions on the 24th, although the cold was less intense than it had been. Showers of sleet and snow occurred frequently, but on the 27th and 28th fine periods were enjoyed in many districts. Glazed frost on the 27th was reported from a few stations, the observer at Princetown, Dartmoor, stating that branches of trees, telegraph poles and wires, were broken with the weight of ice.

Pressure and Winds.—Over most of Great Britain, conditions were mainly anticyclonic during the month and pressure generally was above the normal. The isobars trended roughly from south to north and the prevailing winds were from between south and east. Strong winds were frequently experienced in northern and western districts. Southerly to south-easterly gales on the 11th-12th affected most of Great Britain, the wind attaining a velocity in a gust of 67 mi/hr. at Tiree and 62 mi/hr. at Liverpool on the 11th. Gales occurred in the south-west of England on the 26th-27th, a gust of 69 mi/hr. being recorded at St. Mary's, Scilly, on the 27th. At Cahirciveen a gust of 70 mi/hr. was recorded on the 19th.

Temperature.—The outstanding feature of the weather of February, 1929, was the intense cold of the second week, the severest experienced generally in Great Britain since February, 1895. The representative mean temperature for each of the eastern districts of England and for the Midland Counties of England for the week commencing February 10th, was from 13° F. to 15° F. below the normal. At Ross-on-Wye the mean temperature for the same week was 16·8° F. below the normal. Temperatures remained continuously below freezing point from the 11th to 17th over large areas of Great Britain and in some eastern districts from the 11th to the 20th. At Richmond (Surrey) the temperature remained continuously below 32° F. from 22 h. on the 10th until shortly after mid-day on the 17th, a period of just over 158 hours. At Manston (near Margate) more severe conditions prevailed, the temperature remaining below 32° F. from 23 h. on the 10th till 9 h. on the 20th, a period of no less than 226 hours' continuous frost. Screen minima below 10° F. were fairly numerous from the 12th to the 16th and in a few places grass minimum temperatures below zero were recorded. At Ross-on-Wye the temperature fell to -1° F. in the screen and to -8° F. on the grass on the 14th. A screen minimum temperature of -1° F. was also recorded at Usk on the 14th, and at Houghall on the 17th. Amongst the lowest grass minima recorded were -1° F. at Birmingham, -3° F. at Rhayader, 2° F. at Leafield, 3° F. at Aberdeen on the 14th, and 2° F. at Birmingham, -1° F. at Rhayader and South Farnborough on the 15th, and 0° F. at Oxford on the 16th. At Hampstead (London) the temperature on the grass fell to -2° F. on the 15th, the lowest recorded there since March 4th, 1909, when 4° F. was recorded. At Kentchurch Rectory (Herefordshire) a minimum

temperature on the ground of -11° F. was recorded on the 14th. The thermometer in this case was freely exposed on a small box, the top of which was level with the surrounding surface which was covered with snow. The extreme temperatures for the month were:—England and Wales, 57° F. at Biggin Hill on the 22nd and at Teignmouth on the 1st, and -1° F. at Ross-on-Wye, Houghall and Usk on the 14th. Scotland, 53° F. at Achnashellach and Fort Augustus on the 3rd, Arbroath and Montrose on the 4th, and 0° F. at Wolfelee on the 16th. Ireland, 56° F. at Phoenix Park (Dublin) and Newcastle (Wicklow) on the 2nd, at Foynes on the 21st, at Killarney on the 3rd, and at Cork (University College) on the 1st and 2nd, and 21° F. at Mallarany on the 17th. In many parts of Great Britain rivers became frozen and ice breakers were used in the Thames in an endeavour to keep the water open for traffic. This was not, however, entirely successful, many of the upper reaches being frozen over for considerable stretches. Canals and lakes were also generally frozen over, and it is reported that on Lake Windermere there were as many as 50,000 people on the ice at one time. Skating has not been so frequent since at least 1895 and at the end of the month was still in progress in many parts of the country. Thousands of homes were affected throughout the country through their domestic water supplies becoming frozen and some deaths were reported through the bursting of kitchen boilers. There was a recurrence of the cold weather during the last few days of the month, but the cold was not so intense.

Over the eastern half of England the mean temperature for the month was below 32° F. and decidedly below the normal. Westwards the mean temperature increased, the isotherms of mean temperature running roughly from north to south. The mean temperature of 45° F. at Cahirciveen on the south-west coast of Ireland contrasted with a mean temperature of 32° F. or slightly below on the coast of East Anglia. The month was not so cold in Ireland, where in the south the mean temperature was slightly above the normal.

Precipitation.—February, 1929, was the third consecutive month in which the general precipitation over England and Wales and Scotland and over the British Isles as a whole was below the normal. Monthly totals of precipitation were decidedly deficient in Great Britain, except around the estuary of the Tay, and in the extreme south-west of England where there was a slight excess. Over large areas less than one-third of the normal precipitation was recorded and in the north-west of Scotland less than one-quarter; Achnashellach had 19 per cent. of the normal, Inverness 16 per cent., and Strathpeffer 21 per cent. In central, eastern and south-eastern districts of England the number of days of precipitation was below the normal. Daily amounts of precipitation in Great Britain were not as a rule remarkable, the only outstanding daily amount being 65 mm. at Dean Prior on the 16th.

In Ireland monthly totals of precipitation exceeded the normal, except in the north-west, more than twice the normal being recorded along the east and south-east coasts. Heavy falls occurred in the south-east on the 20th. At Longraigue, Foulks Mills (Wexford), 67 mm. of rain fell during the 24 hours commencing 9 h. on the 20th, the highest amount in 24 hours on record in that district. Other large falls on the same day were 58 mm. at Waterford and 43 mm. at Seskin. At Cork the month was, with the exception of February, 1923, the wettest February in the past 46 years.

Snow fell frequently in Great Britain during the period 10th-18th and 25th-28th. The south-easterly gales on the 11th-12th were accompanied by heavy falls of snow in the south-west of England, Wales, and Scotland. Further heavy snow occurred in Scotland and the western districts of England and Wales on the 15th to 16th. The frozen state of the ground, combined with drifting, rendered many roads impassable, and in some districts they remained closed to traffic until the 23rd. In central and eastern Scotland roads were again blocked with snow around the 26th.

The general precipitation of the British Isles expressed as a percentage of the normal for the period 1881-1915 was 67; the values for the constituent countries were:—England and Wales, 49; Scotland, 54; Ireland, 129.

Sunshine.—A slight to moderate excess of bright sunshine was recorded locally, chiefly in the north of Scotland and on or near the south-east coast of England, but in general, monthly aggregates were deficient. Representative totals for Districts, excluding the Channel Isles, expressed as a percentage of the normal for the period 1881-1915 ranged from 97 per cent. in Scotland W. to 43 per cent. in England N.E. Much sunshine was recorded on the 3rd and 4th in the south-east of England, from the 12th-14th and on the 17th in many districts, on the 21st and 22nd in the south-east of England, and widely on the 27th and 28th.

Fog.—Fog during the night and in the early morning was of frequent occurrence in districts in Great Britain during the first week, from about the 14th to 19th and from about the 21st to 25th.

Miscellaneous Phenomena.—Aurora was observed in Scotland on the 8th, 9th, 10th, 17th, 18th, 26th, 27th and 28th. The display on the 27th was brilliant and widely observed, and was visible as far south as Newton Abbot (Devon). The Zodiacal Light was observed at Oxford on the 28th. A line squall accompanied by sleet and snow occurred at Armagh on the 9th.