

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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FEBRUARY, 1930. Preponderance of winds between north and east. Cold, dry and quiet with much sunshine in the north and west.

Following five or six days of unsettled weather at the beginning of the month, conditions during the remainder of the month were anti-cyclonic, apart from brief interruptions on the 14th and 15th and from the 24th to 26th. There was a preponderance of north-easterly to easterly winds except in the north and west of Scotland where light winds from a northerly or westerly point predominated. The weather on the whole was mainly fair, quiet and cold with a pronounced deficiency of rainfall, especially in the west of Scotland, and plentiful sunshine in the north and west.

Unsettled dull weather prevailed generally during the first few days with moderate precipitation in southern England and Ireland (23 mm. at Pendennis on the 4th). Snow fell locally in the east and south-east on the 6th and 7th. During the period 7th to 10th, the temperature did not exceed 40° F. over the greater part of the country. At Leafield the temperature on the 7th did not rise above 33° F. Good sunshine records were obtained in the west on the 6th and 7th.

Meanwhile an anticyclone moved south-eastwards from Iceland and by the 8th covered the British Isles. Apart from a temporary interruption on the 14th and 15th anticyclonic conditions persisted until the 25th. Winds were north-easterly to easterly over England and Wales and either variable or from a westerly or northerly point over the north and west of Scotland. Day temperatures were rather low while severe ground frost occurred frequently in most places and in some northern districts low screen minimum temperatures were recorded. There was occasional slight precipitation in eastern districts, mainly in the form of showers of rain, sleet or snow. Good sunshine records were obtained over a wide area on the 9th, in the west up to the 11th and in Scotland up to the 13th.

Under the influence of southerly to south-westerly winds, associated with a trough of low pressure, the temperature rose generally to 50° F. on the 14th. As the trough passed across the country, it occasioned widespread rain on the 14th and 15th, and in its rear cold northerly winds, bright periods and showers of sleet or snow. Anticyclonic conditions were again established and dry and rather cold but bright weather prevailed in most districts. Between 8 and 9 hours' sunshine were recorded in several districts on the 16th and 17th. During the period 15th to the 22nd the temperature in the screen frequently fell to or below freezing point at night while severe ground frost occurred in most districts.

On the 24th a depression off south-east Ireland moved slowly south-eastwards and rain or snow was experienced generally on the 24th, 25th and 26th, the largest falls occurring in the south-west and in southern Ireland on the 25th (16 mm. at Roches Point and 12 mm. at Plymouth).

On the 27th and 28th conditions again became anticyclonic and temperature rose above 50°, reaching 57° F. at Canterbury on the 27th and 59° F. at Keswick on the 28th. Between 8 and 9 hours' sunshine were recorded in many districts on the 27th and 28th (8.9 hours at Inverness on the 27th, 9.4 hours at Pendennis and 9.2 hours at Holyhead on the 28th).

Pressure and Winds.—Anticyclonic conditions prevailed throughout the month apart from unsettled conditions during the first few days and on the 25th and 26th, associated with depressions most of which followed tracks to the south of the British Isles, and on the 14th when a trough of low pressure crossed the country. There was a complete reversal of the normal pressure distribution, mean pressure increasing from south to north. In all districts the mean pressure for the month exceeded the normal, the excess ranging from 15 mb. at Lerwick to 2 mb. at Dungeness. In the north and west of Scotland, winds were variable or westerly, whilst over southern Scotland, England and Wales and Ireland the prevailing winds were easterly. Winds were generally light to moderate, gales being reported from only one or two places in the extreme north of Scotland on the 1st, 6th, 14th and 20th, from Falmouth on the 9th and 10th, and from Spurn Head on the 14th. At Southport, the duration in hours of winds between south and west (180° to 270°) was only 7, and of winds between north and east (0° to 90°), 419, or about 1 per cent. and 62 per cent. respectively of the total duration of calms and winds from all directions. The observer states that north-easterly winds were more prevalent than in any previous month of any name, and

easterly winds more prevalent than in any previous February since at least 1871. The month was also the calmest February at Southport Observatory since its establishment in 1871.

Temperature.—In consequence of the prevalence of northerly and easterly winds, temperatures were generally below the normal, except during the first five or six days and on the 14th, when day temperatures were moderate, and during the last three days when the temperatures rose to 50° F. or above in several southern districts. Screen minimum temperatures below 30° F. were recorded in many districts on the mornings of the 9th to 13th and 16th to 22nd; at Eskdalemuir the screen minimum temperature fell to 20° F. or below on four consecutive mornings, the 10th to 13th, and again on five consecutive mornings, the 17th to 21st. At Braemar the temperature in the screen fell to 4° F. on the 9th and to 5° F. on the 18th and at Balmoral to 7° F. on the 18th. With only one or two exceptions the mean temperature for the month was everywhere below the normal, especially in the western districts of Great Britain and in Ireland.

Ground frost was very frequent, widespread and often severe. The grass minimum fell to 2° F. at Balmoral and to 0° F. at Braemar on the 9th and to 1° F. at Balmoral and 3° F. at Braemar on the 18th.

The extreme temperatures for the month were: (England and Wales) 59° F. at Keswick on the 28th, 17° F. at Rhayader on the 17th; (Scotland): 56° F. at Ruthwell and Cargen on the 28th and 4° F. at Braemar on the 9th; (Ireland): 52° F. at Cork on the 28th and 17° F. at Markree Castle on the 10th.

Precipitation.—The persistence of anticyclonic conditions and the abnormal prevalence of north-easterly winds were associated with a widespread deficiency of precipitation which was most pronounced in the west of Scotland. The general precipitation over the British Isles, expressed as a percentage of the normal for the period 1881–1915, was 39, the lowest value recorded since 1921. The corresponding values for each of the constituent countries were as follows:—England and Wales 46 (the lowest recorded in February since 1924); Scotland 32 (the lowest recorded in February since before 1881) and Ireland 28 (the lowest recorded in February since 1895).

Precipitation exceeded the normal locally in Durham, elsewhere in England and over Wales, there was a deficiency, especially in the north-west and in western Wales. Large areas in the west and south-west of Scotland received less than 10 per cent. of the normal precipitation and only locally elsewhere did monthly totals exceed 50 per cent. of the normal. In the Edinburgh area the month was the driest February since 1895, and at Lerwick and Rothesay the driest February for over half a century. At Glenafton 28 mm. fell on the 5th and 32 mm. at Pearsie on the 3rd but large falls were rare. About half the normal precipitation was recorded locally in the east and south-east of Ireland but over large areas in the north and west less than one-fifth of the normal was recorded.

Snow, sleet or hail fell in many districts, principally during the first ten days, and about the 16th and 25th, but falls were generally light. On high ground the snow tended to lie, and at Balmoral and Braemar, for instance, lay throughout the 28 days while out of the 28 days it lay 27 at Logie Coldstone and 24 at West Linton. On the 6th snow lay 10 inches deep at Braemar and between 7 and 8 inches at Balmoral.

Sunshine.—Sunshine aggregates for the month exceeded the normal in Scotland, Ireland and the west of England and Wales and were generally below the normal in the east and midland districts of England. Representative totals for Districts expressed as a percentage of the normal for the period 1881–1915, ranged from 150 per cent. in Scotland N. to 58 per cent. in England N.E. There were frequent sunny periods, more than 8 hours sunshine being recorded locally on the 9th, 10th, 16th, 17th and 28th and in the north on the 18th to 20th.

Fog.—Under the quiet anticyclonic conditions which prevailed during the greater part of the month, much fog was experienced locally during the month, especially during the first few days, from the 11th to 14th, the 17th to 22nd and on the 27th and 28th.

Miscellaneous Phenomena.—Aurora was reported from northern districts in Scotland on the 3rd, 5th, 12th, 15th, 16th, 17th, 18th, 20th and 21st, that of the 15th being seen as far south as Leuchars. A lunar halo of 46° was observed at Fort Augustus on the 11th. The Zodiacal Light was seen at Oxford on the 17th.