

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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MAY, 1921; FINE AND DRY.

THE weather was on the whole fine and dry over the greater part of the country, but unsettled in the extreme north-west. The features which have hitherto characterised the year 1921 were thus maintained. There was continuous fine weather in southern England from the 16th to the 25th.

At the beginning of the month there was a large anticyclone over Iceland and a depression over northern Scandinavia. The weather on the 1st was fine over the British Isles, and warm, except locally on the coast. Temperature was also high in Iceland. A cold northerly current then extended over the British Isles, reaching southern England late in the evening of the 2nd and continuing till the 4th. Cold showery weather was experienced, with snow in the north of Scotland and night frosts in places. Between the 5th and the 10th a deep depression skirted the north-west coast and caused unsettled but milder weather, with some rain, in all districts, though not in large amounts. This depression filled up near the Shetlands on the 10th, and another depression from the Atlantic filled up over England, after causing local thunderstorms on the 12th. The next depression appeared over Iceland and a well-marked secondary skirted the Hebrides on the 14th, causing unsettled weather generally. In southern England the weather was fine until the night of the 14th, when a small secondary brought rain. By the 16th a belt of high pressure was established from the Azores to the Baltic, which persisted till the 25th, causing a spell of brilliantly fine weather over southern England. On the 25th temperature exceeded 297 a at many stations. The northern and north-western districts were affected at times by depressions to the northward. On the 25th a secondary trough of low pressure developed over England and France, and thunderstorms were experienced in eastern England in a few places on the night of the 25th and more widely on the 26th. The secondary trough moved east and a cooler current extended over the country from the north-west. On the 25th and 26th there was a northerly gale and snow over Iceland, so that the cold current was drawn from far to the northward, resulting in low upper air temperatures and local hail and thunder over the British Isles. Between the 29th and 31st a deep depression moved north-eastward across the Hebrides, with strong south-west winds over the British Isles, gale force being reached at a few stations. There was heavy rain in the north-west, and smaller amounts elsewhere. On the 31st the depression moved away northward and filled up rapidly, the anticyclonic belt from the Azores to the Baltic becoming re-established on June 1st.

Sea-fog was experienced on the south-west coasts from the 11th to the 13th, and in the English Channel on the 13th and 14th. Otherwise visibility was good, a feature of the month being an unusually large number of observations of exceptional visibility.

In parts of the Continent there was more rain than in England. The cold current about the 3rd extended over a large area, accompanied by secondary depressions, and there was some rain in eastern France and Central Europe, as is usual when polar currents extend over those regions. Belfort had 54 mm. on the 2nd and 46 mm. on the 4th; while Posen had 60 mm. on the 5th. The total for the month at Belfort was 321 mm., most of the heavy falls probably being of thunderstorm type. Severe thunderstorms and destructive hail were experienced in southern France between the 18th and 25th, whilst the weather was fine over England. About the 25th temperature exceeded 300 a at many Continental stations, reaching 304 a on that date at Paris.

An exceptionally severe frost for so late in the season was experienced in many parts of Scotland, Eastern Ireland, and Northern England on the 5th, and even in the South some very wintry temperatures were registered. Ground frost was general in the London area, the grass minimum for this day being 269 a at Greenwich, 270 a at Kew Observatory and Kensington Palace, and 271 a at Croydon Aerodrome. In contrast with this cold interlude was the warm weather of the 25th, which very generally was the warmest day of the month. At Weymouth a temperature of 300 a was recorded and 299 a at Tunbridge Wells, but locally on the east coast, owing to a cold breeze from the north, the temperature was more than 11 a lower than this, and at Lowestoft, for instance, the maximum for this day was only 289 a although the sun shone continuously. Following this day of warmth a spell of cold weather set in towards the close of the month and under the influence of a wind current from beyond the Arctic Circle low temperatures became general and on the 27th in many northern localities the maximum barely exceeded 283 a, and at Eskdalemuir a minimum of 270 a was recorded, with 268 a on the ground. At Ilfracombe the maximum was only 285 a, and as far south as Ross-on-Wye there was frost on the ground at night.

In Scotland temperature was high on the 1st, but on the 2nd there was a sharp fall, with very cold weather for three or four days. At Nairn a maximum of 292 a on the 1st was followed by one of 280 a on the 2nd, and at Eskdalemuir and West Linton the shade minimum during the night 4th-5th was 267 a. A general recovery was fairly well maintained, with decidedly warm weather around the 25th, but colder thereafter. The distribution of rainfall in Scotland was irregular, but there was a well-defined excess towards the north-west, and a deficiency in most eastern coastal districts. Thus 154 mm. at Fort William (157 per cent. of the normal) compared with 33 mm. (56 per cent.) at Aberdeen. At Rothesay the fall on the 30th (34 mm.) was as much as the total at Aberdeen for the entire month. Wintry weather prevailed on the 3rd and 4th with snow, sleet, or hail somewhat widely,

and at Balmoral on the morning of the 4th the snow lay to a depth of two inches.

The following notes by observers illustrate the general character of the month:—*Copdock (Ipswich)*.—Over the series of years covered by the observations at this station, May has proved to be the most dependable of the months in this locality, and has proved no exception this year. It has been a beautiful month in every sense of the word, the rainfall during the first few days and again at the end of the month redeeming what would otherwise have been a very serious drought. From the 9th to 25th inclusive a brilliant spell of weather yielded an abundant amount of sunshine, nearly 200 hours of the total occurring in that period. *Lenton Fields (Notts)*.—Owing to drought some leaves were falling off the trees at the end of the month, their tint was quite yellow as if it were autumn. *Tenbury (Worcester)*.—Night frosts on the 16th, 18th, 21st and 28th caused much damage to fruit and vegetables. *Southport (Lancs)*.—An exceedingly fine month, very sunny, with sea-breezes almost every afternoon, and a marked deficiency of the northerly to easterly winds of Spring. A light rainfall, but well spread. Relative humidity decidedly below, and evaporation somewhat above, normal. Ground water level becoming low. *Sheepstor (Dartmoor)*.—From March 24th to May 5th this station escaped ground frost on three nights only. Potatoes severely cut down and red currants and gooseberries much damaged. The may and lilac had hardly any bloom except in sheltered places, the persistent frosts having destroyed the first shoots. *Dublin (Fitzwilliam Square)*.—In general terms the month may be described as favourable. It opened and closed with cold spells of some intensity. In the middle and second third of the month, on the other hand, quiet dry, bright, and warm weather prevailed, insolation being particularly powerful.

Air Pressure. As shown by the map on p. 59 the mean monthly trend of the isopleths was of a normal type, but the mean pressure was lower than usual and the gradient from the English Midlands northwards was steeper. At the telegraphic reporting stations the departures from the normal varied from -4.5 mb. at Wick to -0.4 mb. at Yarmouth and St. Ann's Head. The shape of the isobars indicates a tendency to high pressure round the coast and to lower pressure inland. The highest reading recorded during the month was 1032 mb. at Renfrew on the 1st and the lowest 983 mb. at the same station on the 30th.

Temperature. Except in Ireland North which was 0.2 a below the normal and in Ireland South which was normal, the mean temperature for the month was above the normal in all Districts. The excess ranged from 1.6 a in England North-east to 0.1 a in Scotland West.

Precipitation Except in Scotland West which was normal and in Scotland North, where there was an excess of 12 mm., the total precipitation for the month was below the normal, the deficiency ranging from 19 mm. in England east to 6 mm. in Scotland East and in England South-west. (See Table I, p. 58). Less than 25 mm. fell during the month over part of the east coast and as much as 50 mm. fell only extremely locally in any part of the east. The fall over the rainy areas of Wales was nearly everywhere below 100 mm., but more than 150 mm. fell in the central Lake District and over much of the West Highlands. In Ireland the fall was more moderate, varying from rather more than 100 mm. to rather less than 50 mm. in the east. May was the fourth successive month with a general rainfall below the normal in England. The area which experienced a defective fall in each of the four months comprised a very broad belt of country extending from Devonshire and Sussex in the south, across England to Haddingtonshire. At Totland Bay (Isle of Wight) the total fall was lower than in any previous four spring months except during the great spring drought of 1893. The general rainfall (see map, p. 60) expressed as a percentage of the normal was:—England and Wales, 79; Scotland, 108; Ireland, 90; and the British Isles as a whole, 91.

Sunshine. In Ireland north the mean daily amount of sunshine was 0.59 hr. below the normal, and in Ireland south there was a deficiency of 0.93 hr. In all other Districts there was an excess which ranged from 1.57 hour per day in England north-east to 0.28 hr. in the English Channel. The daily mean in Scotland North was only 5.90 hr. compared with 8.06 hr. in the latter District. At Aberdeen, where the mean was 7.52 hr., it was the sunniest May since 1882.

The mean temperature for the Spring season (13 weeks from February 27th) was above the normal in all parts of the British Isles. In each of the three Eastern Districts of England 10 weeks out of the 13 have been classed as unusually warm for the time of year. Rainfall for the same period was decidedly less than the normal except in Scotland North and West. The sunshine was in excess of the normal in all Districts except Ireland South.

Aurora was seen on the 13th at numerous stations and as far south as Okehampton (Devon); on the 15th at Aberdeen and Durham; on the 17th at Eskdalemuir; on the 20th at Aberdeen; and on the 31st at Tenbury.

Halo observations were numerous during the month and a sun pillar was seen at Bexley Heath on the 3rd.

Note. The article by Captain C. K. M. Douglas in the Meteorological Magazine for June has been utilised in the preparation of these notes.

