

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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SUNNY AND DRY.

THE pressure distribution over north-west Europe underwent some very marked fluctuations during April, and the weather and temperature were in consequence very changeable. Between the 15th and the 20th very cold weather was general, and snow fell in many places in the British Isles and on the Continent. Night frosts were of frequent occurrence during the month, and reports in the press showed that damage was done in many parts of England.

At the beginning of the month a belt of high pressure extending from the Azores to Central Europe maintained fair warm weather over the greater part of the British Isles. Temperature reached 29.4° in the screen at Aberdeen on the 1st, the highest figure yet recorded at that station in the first week in April. After the 3rd depressions moving eastward along the Arctic circle caused cooler and less settled weather, especially in the north. Between the 6th and the 8th an anticyclone moved north-eastward over the British Isles to Scandinavia, and on the 7th and 8th the weather was cloudless over practically the whole of the British Isles, but there was a cold north-east wind and frost at night locally. A depression which was centred off the south-west coast of Italy on the morning of the 8th moved westward to the north-west of Spain by the 11th. A small secondary to this depression also moved west, and caused rain at a few German stations on the 8th and showery weather over England on the 9th. There were hail showers in many places, snow on the high ground in Derbyshire, and a thunderstorm at Sheffield, during which two horses were killed by lightning. In the rear of the secondary fine weather appeared over Poland on the 8th and spread westward, extending from east to west over England during the 10th. At South Farnborough a maximum temperature of 29.3° was recorded on that day. The weather remained fair over the British Isles till the 13th, with warm days inland, but in France there were a few local thunderstorms, and some heavy rain in the extreme south.

At about this time there was a very complete change in the conditions over north-west Europe. The Scandinavian anti-cyclone broke up after the 10th, part of it moving away to the south-east and the remainder passing in a south-westerly direction over the British Isles. A depression from the west reached the North Cape and became much deeper, and by the morning of the 13th there was a powerful northerly current between this depression and an anticyclone over Greenland, which soon spread over the whole of western Europe and caused a spell of very cold weather. At Kew Observatory the maximum temperature was 29.4° on the 13th, 28.3° on the 14th, and 27.8° on the 15th. There was also a large fall in the temperature of the upper air, amounting to 15° at 13,000 feet at Baldonnel (near Dublin) between the mornings of the 13th and 14th, with a further fall of 3° by the 15th, the figure being then 47°. The incursion of the cold air caused a rain-line to advance over the British Isles during the 13th and the ensuing night, but the fall was nowhere very large. At 7 h. on the morning of the 14th there was a practically continuous line of rain from the Scilly Islands to Memel, on the Baltic, which continued to move south-eastward. A secondary depression, which developed near the Farøe Islands on the afternoon of the 13th, moved south-east to Denmark and became much deeper, intensifying the northerly current over the British Isles and causing a gale on our eastern coasts and in the Irish Sea. Snow and hail showers fell very generally over the British Isles from the 14th to the 16th, but the amounts were not large. Frosts were experienced at night over a very large area; on the night of the 15th the screened thermometer fell to 26.5° at Eskdalemuir and to 26.7° at Benson, while at Howden a grass minimum of 26.2° was recorded. Maxima below 27.7° were observed at some northern stations. The Danish depression moved away north-north-east and filled up, but a new depression from Iceland moved in a south-easterly direction over the British Isles to France on the 17th, causing a fall of snow in many places, including London and Paris. Except on high ground the snow melted as it fell. The centre of the depression moved across south-east England during the afternoon, with dull weather and rain or snow in a cold south wind to the east of the centre, and variable skies with hail showers and local thunder in the warmer north-west wind to the west. At 13 h. the temperature was 27.7° at Kew, but 28.2° at South Farnborough. The rainfall during the passage of the depression was general over the British Isles, but did not amount to an inch at any of the telegraphic reporting stations. The heaviest rainfall during the cold period was in eastern France, Belfort receiving a total of 77 mm. (3.1 inches) of rain and melted snow from the 14th to the 17th (inclusive).

In the rear of the depression of the 17th pressure rose decidedly over the British Isles, but the upper air temperature remained very low for a time, and thunderstorms were experienced locally over the British Isles on the 18th, and in eastern England on the 19th. On the evening of the 19th there was a sharp thunderstorm in North London, damage being done by lightning at Edmonton. There was further snowfall in parts of Scotland in the early hours of the 18th, and sharp night frosts were again experienced generally. Meanwhile cold disturbed weather continued further east. A depression moved up from the Adriatic to east Poland on the 17th and 18th, and then turned north-north-west and became very deep, being centred near Stockholm on the morning of the 19th. Severe gales occurred over Sweden, but the depression afterwards filled up quickly.

After the 20th conditions became rather milder over the British Isles, being influenced by two depressions which moved north-east over Iceland. The first of these depressions affected Spitzbergen and caused unusually heavy precipitation, apparently mainly in the form of rain. The measurement was 60 mm. (2.4 inches) on the 22nd and 36 mm. (1.3 inches) on the 20th; the total from the 19th to the 24th being 132 mm. (5.2 inches). A "V"-shaped secondary caused rain in Ireland on the night of the 20th, and then filled up, but another one followed it and caused rain over the whole of the

British Isles, and local thunderstorms in Southern England, on the afternoon of the 23rd.

Another rapid change then took place in the pressure distribution. The depression which lay between Iceland and Greenland on the 23rd filled up rapidly, and an anti-cyclone spread up from the south-west and joined another anticyclone which had formed over Northern Scandinavia, forming a long ridge of high pressure. The "V"-shaped secondary which crossed the British Isles on the 23rd dispersed quickly, its southern extremity being absorbed by another disturbance which moved westward from Poland, secondary to a deeper depression which had formed over the Mediterranean. This secondary depression which moved west caused heavy rain on the Continent on the 23rd (Hamburg, 50 mm., Belfort, 95 mm.), and small amounts in eastern England on the night of the 24th. For the rest of the month the pressure distribution was dominated by a large anticyclone over Scandinavia, which moved slowly westward, being centred near the Farøe on the 30th. There was a general easterly to north-easterly current over western Europe, with mainly fair weather. In the British Isles there was much cloud till 27th, but it then became fair. Local thunderstorms were experienced at a few western and midland stations on the 27th and 28th, and on the south coast on the 30th. Temperature reached 29.4° at several stations in southern England and on the Continent and exceeded 30° in southern France.

Visibility over the British Isles was mainly good during the month, but there was local morning fog on the opening days and on the 26th and 27th. There was also some local sea-fog in the last week, especially on the east coast. Clouds were very low all day in south-east England on the 17th and 24th.

In Scotland mild weather prevailed until the 13th, when the temperature fell decidedly, with wintry conditions during the next few days. From the 19th or 20th the weather was again for the most part mild, with highest readings nearly everywhere during the last few days, and the mean temperature of the month was in general the highest for April since 1914. The month was a very dry one, and a great part of Scotland had less than half the normal rainfall. Most of the month's precipitation occurred between the 12th and 17th, much of it accounted for by snow; but there was rain in some districts around the 3rd and somewhat generally around the 22nd. At Dundee and Edinburgh more than half the month's small total was due to a fall of snow during the night 17th-18th. A severe snowstorm set in towards the North and on the Borders on the 14th, and continued in some districts on the 15th. Another snowstorm on the night 17th-18th was experienced mainly in eastern districts, but the snow quickly disappeared.

Air Pressure. As shown by the map on p. 45 the distribution of pressure was of an anticyclonic type, conditions which were reflected in the small rainfall. The mean monthly air pressure was abnormally high, especially over the northern parts of the Kingdom, and has been exceeded in Scotland in April during the past fifty years only in 1893. At the telegraphic reporting stations the departures from the normal ranged from 9.1 mb. at Castlebay to 5.4 mb. at Dungeness. The highest reading during the month was 1042 mb. at Lerwick on the 9th, and the lowest 988 mb. at Castlebay on the 16th. At Valencia Observatory the mean for the month (1022.5 mb.) equalled the value for 1912, and with the exception of 1896 was the highest mean for April in records extending as far back as 1866.

Temperature. The mean monthly temperature was above the normal in all districts, the excess ranging from 1.2° in Scotland North to 0.4° in the English Channel. The nights however were often very cold, and in most parts of the country the mean minimum was below that for January. Ground frosts also were numerous and at some of the inland stations much damage was done to vegetation and fruit blossoms.

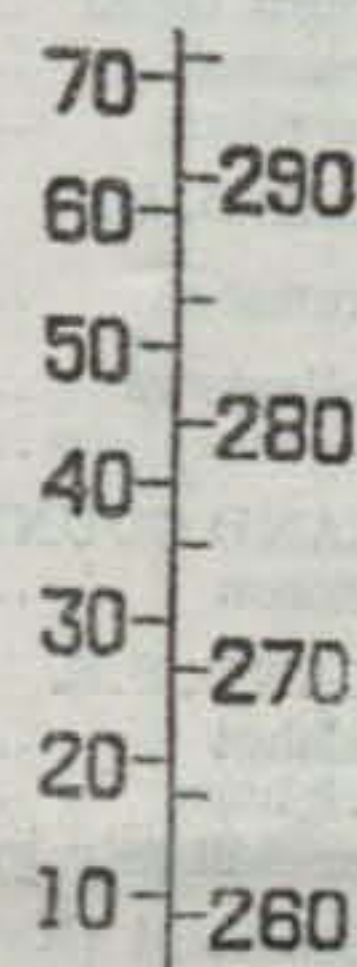
Precipitation. In all Districts (See Table I, p. 44) the total precipitation was below the normal, the deficiency ranging from 46 mm. in Ireland South to 4 mm. in England East. In fact the rainfall appears to have been deficient in all parts of the country, except a portion of East Anglia. The deficiency was greatest in the south-west of England and Wales, the south of Ireland, and the south and centre of Scotland, in all of which areas less than half the normal fell. A narrow strip along the south coast of Ireland received only 25 per cent. of the normal. Considerable areas in the Thames Valley and in the east of Great Britain between Yorkshire and Perthshire, as well as in the south-east of Ireland, had a total of less than 25 mm. Only restricted areas in England, Wales, and Ireland had as much as 50 mm. The West Highlands were, however, rather wetter. The general rainfall expressed as a percentage of the normal was:—England and Wales 59; Scotland 61; Ireland 46; and the British Isles as a whole 56.

Sunshine. An outstanding feature of the month's weather was the abundant sunshine. In all Districts the daily mean was above the normal, the excess ranging from 2.18 hours per day in England South-West to 1.07 hours in England North-East. The Observer at Southport reports that there was during the month a quite remarkable prevalence of clear night skies.

Optical Phenomena. Solar and lunar haloes were occasionally reported with parhelia and paraselenae at one or two stations. A sun pillar was seen at Mayfield on the 18th; and the Zodiacal Light at Stonyhurst on the 2nd, 4th and 7th, and at Tenbury on the 8th, 14th and 15th.

Aurora was observed at Eskdalemuir on the 13th, at Tenbury on the 23rd, and in the Orkneys on the 30th.

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



Temperature Scales.