

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS IN THE UNITED KINGDOM, AND AT GIBRALTAR AND MALTA, WITH A CHART OF RAINFALL CONTRIBUTED BY THE BRITISH RAINFALL ORGANIZATION.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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Unusually Mild and Very Variable.

Like the three months which preceded it March was notable for its unusual mildness. Throughout the month the weather was of a very varied character, and in fact, "March many weathers" behaved in accordance with its reputation. There was, however, a marked absence of cold, drying winds, for during the greater part of the month there was a preponderance of winds from Westerly or South-Westerly quarters, winds which were, moreover, frequently accompanied by copious precipitation in the form of snow, sleet, hail and rain. During the first half of the month snow and sleet were fairly general, but during the latter half these forms of precipitation were comparatively rare. Occasionally the precipitation was accompanied by a good deal of electrical disturbance, especially in the Western districts and in Ireland, and towards the end of the month thunder was heard in some south-eastern and midland localities. There were one or two very sunny days during the month, but generally speaking the amount of sunshine was moderate. A striking feature of the month was the frequency of the warm days; at Kew Observatory, for instance, the maximum temperature was between 286 a and 292 a on sixteen occasions and fell below the normal on only five days. From the 21st to 23rd there was an unusually fine spell over the greater part of England, and a maximum of 292 a was recorded at Raunds, Worksop, Salisbury and Westminster. These warm days had a marked effect on the mean temperature for the week which ended on the 27th; at Cromer the mean was 4.6 a above the normal, at Norwich and Westminster 4.4 a above, and at Fulbeck 4.2 a above. The coldest weather of the month occurred during the week which ended on the 13th, when the mean temperature was below the normal in all districts. On the 9th at Raunds a minimum of 266 a was recorded, and 267 a on the 8th at Eskdalemuir, Balmoral, Kilmarnock, Cally, Cheadle, and Stonyhurst.

In Scotland the first few days were very mild, but on the night of the 6th with a shift of wind to the North there was a sharp fall of temperature, with wintry conditions until the 9th or 10th. Later, rather low readings around the 15th were followed by a decided recovery, with maxima as a rule on the 17th, 20th, or 22nd. At times the weather was stormy, especially early in the month and around the 12th, 17th and 26th. Snowfalls between the 6th and 8th were rather heavy locally, though some districts had none; but falls around the 14th were more general, though heavy only in hilly districts. Towards the end of the month there were considerable floods.

The following notes supplied by observers illustrate the general character of the month:—*Copdock, Ipswich*.—A fine, warm month and the driest in my record except 1918. The average maximum temperature (285.1 a) and the mean temperature (280.7 a) were both higher than in any previous March at this station during the past 20 years. *Ross-on-Wye*.—A mild, quiet month. Frost occurred only four times in the screen, and all before the 10th. The day temperatures were consistently high, only two maxima being below 280 a. Easterly winds were almost entirely absent. *Southport, Lancs*.—Extremely dull, warm, and wet, and was the fourth successive "open" month with a considerable deficiency of Northerly to Easterly winds, and the tenth with a shortage of due Easterly ones. *Sheepstor, Devon*.—The earliest spring for many years, vegetation quite two months earlier than in 1917. *Dublin, Fitzwilliam Square*.—An open month of South-West winds, with much cloud and frequent though not heavy rainfall.

Air Pressure.—As shown by the map on page 31 the mean monthly trend of the isobars was of a normal South-Westerly type, the gradient being considerably steeper than usual. At the telegraphic reporting stations the departures from the normal varied from -4.9 mb at Stornoway to +1.0 mb at Dover. At 7h. on the 1st a V-shaped depression stretched Southwards from Iceland to the West of Ireland; this system moved across the British Isles to Norway the following day giving rise to dull, showery weather as it passed. On the 3rd a depression moved Southwards from Iceland and became more intense and caused gales in the North and West of Scotland, where also there was rain and snow. In the South of England the day was fine and mild and as many as ten hours of sunshine were recorded. During these three days pressure was highest in a large anticyclone which was spread over the greater part of Western Europe; the pressure at the same time decreased Northwards, so that a South-Westerly current was maintained all over the British Isles. These conditions continued until the morning of the 6th, when a depression situated between Iceland and Scotland, with a trough extending Southwards as far as the North of Spain, caused a quick change in the wind direction from South-West to North-West. This change was accom-

panied by falls of snow, hail, and rain in Scotland, Ireland, and the North of England, and line squalls and thunderstorms were also experienced. At the rear of the depression the temperature fell rapidly on the 7th and minima of 272 a were recorded at Birr Castle, and Aberdeen, while in Scotland maxima below 277 a were experienced, Castlebay and Wick reaching only 274 a. Snow and hail also accompanied these low temperatures. During the following days until the 14th the weather of the British Isles was dominated by V-shaped depressions and secondaries, the general atmospheric conditions being very variable. There were gales in many places between the 11th and 14th, especially in the West and North; and showers of snow, hail, sleet, or rain, with thunderstorms occasionally, were also frequent. An outstanding feature on the month's weather was the passage Eastwards across England on the 14th and 15th of a deep secondary depression connected with a low pressure area between Iceland and Scotland. In London at 3h. on the 15th the barometer fell to 967.5 mb. (28.57 in.), after having fallen continuously for 51 hours since midnight of the 12th, and at 7h., when the depression was centred over the Humber, the barometer reading at Spurn Head was as low as 965.4 mb. (28.51 in.). The passage of this system caused an unsettled type of weather in most parts of the British Isles, and on both the 14th and 15th showers of snow, sleet, hail, and rain were common, with gales in many places. In parts of Lincoln, Nottingham, and Northants the snow fell to a depth of a foot. A secondary depression crossed the British Isles during the night of the 17th-18th, but thereafter until the morning of the 23rd the weather over the United Kingdom was dominated by an anticyclone in the English Channel region, the resulting weather being generally fine, quiet, and warm, the temperature at some of the English stations on the 21st and 22nd rising as high as 291 a. On some days, however, there was much coastal fog and mist. During the next few days the weather was of a South-Westerly type, and there was a good deal of rain all over the country, as much as 28 mm. being recorded at Holyhead on the 26th, and 36 mm. at Eskdalemuir. On the 28th a secondary brought rain to all districts, with a thunderstorm in parts of London. During the last three days of the month cyclonic conditions prevailed and showers of rain were frequent.

Temperature.—The mean temperature of the month was above the normal in all districts, the excess ranging from 2.3 a in England East to 0.5 a in Ireland South. These conditions were in great contrast with those experienced during March 1919, when the mean temperature was everywhere below the normal. In Scotland East last year the mean for March was as much as 2.4 a below the normal, but this year there was an excess of 1.4 a. This excess was largely due to the fact that the nights in Scotland were especially mild, the extreme range of temperature (290 a at Crathes on the 22nd and 266 a at Leadhills on the 9th) being moderate for the month of March.

Precipitation.—Monthly aggregates of rainfall were very varied and ranged from 160 mm in Scotland North to 30 mm in England East, the departures from the normal varying from +53 mm in England North-West to -13 mm in England East. In parts of the West Highlands the amounts were less than in 1913, but at Glenquoich (Inverness), where the total was 400 mm, a wetter March has occurred during the last 50 years only in 1903 (533 mm). The general rainfall expressed as a percentage of the normal was:—England and Wales 150; Scotland 137; Ireland 129; and British Isles as a whole 139.

Sunshine.—The mean daily amount of sunshine varied considerably and was as much as 4.66 hrs. per day in England East, but only 2.42 hrs. in Scotland West. In the latter district there was a deficiency of 1.09 hrs. per day, compared with an excess of 0.79 hrs. in the former.

Optical Phenomena.—Solar and lunar halos were occasionally reported but were not very numerous. The Zodiacal Light was seen on several days at Oxford, Raunds, Ross-on-Wye, Tenbury, Jersey (St. Louis Observatory), and Valencia Observatory.

Aurora.—A very widely seen aurora occurred on the 22nd and was accompanied by a magnetic storm. (For notes on the latter see "Nature," 3rd April, 1920.)

