

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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VOL. 39, No. 4.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

Price 6d. Net, Post free, 7d.

APRIL, 1922. Cold and unsettled.

Throughout the greater part of April the temperature continued low, the only really warm day of the month being the 14th. The total amount of rain was above the normal in most districts. Over a great part of Scotland and in some parts of Central and Southern England there was a large excess.

During the first two weeks of the month the dominating feature of the pressure distribution was the existence of two large anticyclones, one lying between Iceland and Spitzbergen, and the other over Madeira and Southern Spain. Between these two systems a succession of depressions travelled across the British Isles or their vicinity and caused generally unsettled weather. On the 3rd day of the month a deep depression travelled up the English Channel. It was accompanied by heavy precipitation and a low temperature, particularly in the southern and midland districts of England, where there was continuous rain, sleet or snow. The maximum temperature for the day was 33°F. at Malvern, 34°F. at Ross-on-Wye and 35°F. at Hampstead. The weather continued unsettled until the 14th. This proved to be much the warmest day of the month, the supply of warm air being associated with a depression centred to the south of Ireland. Temperature rose to above 60°F. in many districts and reached 67°F. at Kew Observatory. On the succeeding night the wind increased to gale force on many parts of the coast, and remained high during the greater part of the 15th, as the depression travelled across the British Isles. The full force of the gale was experienced in the Channel and resulted in considerable structural damage. Heavy rain occurred in many places. Under the influence of a northerly wind in the rear of this depression there was a marked fall of temperature accompanied by showers of rain or hail. The maximum temperature at Kew on the 16th was only 50°F., and on the 17th the temperature failed to exceed 45°F. in many parts of Scotland. The northerly current gradually decreased as an anticyclone spread in from the west. By the 18th this anticyclone extended from the Azores to Scandinavia. It continued as a ridge of high pressure for several days, but gradually decreased in intensity. It was accompanied by generally fair or fine weather with sharp frost at night in many localities. In Scotland, however, the 20th proved to be the warmest day of the month, when 63°F. was recorded at Helensburgh, 61°F. at Renfrew and 60°F. at Eskdalemuir. A shallow depression formed over the south-east of England on the 22nd and caused a renewal of unsettled conditions. On the 23rd a depression which had appeared in the Icelandic region grew deeper and travelled in a south-easterly direction. It was situated over the North Sea by the evening of the 24th, and caused rain over a large area. It was succeeded by another depression from the Atlantic which developed into a large low pressure system embracing a considerable area around the British Isles. Within this system were several well-marked centres accompanied by variable weather. On the morning of the 26th the centre of this low pressure system was situated over the southern part of the North Sea, travelling towards Denmark and Scandinavia. Northerly winds then set in, and until the end of the month there were showers of hail or rain and local thunder.

The following notes by observers illustrate the cold characteristic of the month:—Worksop (Nottingham).—A wet and cold month. Meltham (Yorkshire).—Temperature almost as low as in 1917, and with that exception it was the coldest April in 44 years. Tenbury (Worcester).—Cold unsettled month. Trees and vegetation generally very backward. Raunds (Northampton).—Vegetation extraordinarily backward. Bolton (Lancashire).—The month was certainly the coldest and most uncongenial April we have had since 1887. Leyland (Lancashire).—Rainfall above the average. A very cold month. Redruth (Cornwall).—Mean temperature 2.7°F. below average of 20 years. Carrigoran

(Co. Clare).—The nights have been cold throughout the month, and the thermometer has fallen to freezing point or below on eleven nights. Dublin.—The coldest April experienced in Dublin for over half a century. The mean temperature was 5.1°F. below the average for 35 years. On many occasions during the month the Wicklow mountains were covered with snow to a considerable depth.

Air Pressure.—A large proportion of the daily charts show low pressure over the North Sea and north winds over the British Isles. Accordingly in the map representing average pressure the general trend of the isobars is abnormal, pressure being deficient everywhere, but especially in the east. In other words, the normal shallow south-westerly type of pressure distribution was replaced by a shallow northerly type. At the telegraphic reporting stations the departure of the monthly means of pressure from the normal varied from -2.7 mb. at Stornoway and Valencia to -6.7 mb. at Bath. The highest reading recorded during the month was 1037 mb., which occurred over a large area stretching from Holyhead to Aberdeen on the 18th, and the lowest 969 mb. at Roche's Point on the 14th.

Temperature.—The mean temperature of the month was everywhere very low, the mean minimum being almost the same as that for last January. At night the thermometer fell repeatedly below the freezing point. Ground frost was recorded no less than twenty-four times at Renfrew. At Edinburgh the highest reading was only 52°F. The departure of the monthly means from the normal ranged -2.1°F. in the English Channel to -4.0 in Ireland north.

Precipitation.—Precipitation was above the normal over the greater part of the British Isles, but there were areas with a deficiency in the Western Highlands and in parts of Fifeshire and Forfarshire. At Valencia also, the total for the month was below the normal. Isolated areas in Cornwall, Northamptonshire and Morayshire recorded more than twice the usual amount. At Grantown-on-Spey it was the wettest April on record and the rainfall, 128 mm., was twice that recorded at Fort William, a complete reversal of the normal relation between these two places. Areas with less than 50 mm. were confined mainly to the east coast of Great Britain between the Wash and Montrose, and to a few stations in the central plain of Scotland. There were large areas with a total amount exceeding 100 mm. Snow was reported in various districts of Scotland on the 1st, 8th, 14th and 26th, and at the end of the month roads at high level were completely blocked. A severe thunderstorm was reported in parts of Aberdeenshire and Banffshire on the morning of the 8th. The total rainfall in the south-east of England for the four months January to April was approximately 50 per cent above the normal. The general rainfall for April expressed as a percentage of the normal was:—England and Wales 155; Scotland 126; Ireland 136; and the British Isles as a whole 141.

Sunshine.—Insolation was above the normal in most parts of the British Isles, especially in the north and north-west. The departure of the mean daily duration ranged from -0.51 hr. per day in the English Channel to +1.51 hrs. per day in Scotland north.

Optical Phenomena.—Solar and lunar halos were frequently observed at various stations during the month. The Zodiacal Light was observed on several dates at Oxford and Ross-on-Wye; also at Tenbury on the 22nd. A sun pillar was seen at Oxford on the 17th and parhelia on the 25th. Aurora was observed at Baltasound on the 12th and at Deerness on the 26th.

NOTE:—The article by Mr. W. C. Kaye in the *Meteorological Magazine* for May has been utilised in the preparation of this summary.