

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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JUNE, 1921; ABNORMALLY DRY.

THE persistently dry weather which characterised the spring, and must be attributed to the predominating effect of the Atlantic anticyclone, was maintained throughout June. The scarcity of rainfall was common to all districts. As will be seen from the map on page 74, the areas with more than 50mm. of rain were very limited, and in some places round the South Coast the drought was absolute.

Early in the month the anticyclone extended from the region of the Azores across the British Isles to Scandinavia: only the extreme north-west of these islands was under the influence of cyclonic conditions. A shallow depression over France on the 3rd and 4th caused rain in south-east England. On the 8th and for some days subsequently, depressions in the Icelandic region affected the north-western districts, but in the south dry and warm conditions prevailed and under the influence of the anticyclone temperature steadily rose, exceeding 300a at several stations in the South of England on the 17th. On this date, however, a depression near Spitzbergen extended southwards over the Baltic, and under its influence a cold northerly current spread over the British Isles and produced a marked fall of temperature, exceeding 11a at several stations. On the 17th a temperature of 304a was recorded at Ross-on-Wye, but the maximum on the 18th was only 291a. Local thunderstorms occurred at Gorleston and at Croydon on the night of the 17th-18th. The following night minima below 277a were recorded at several stations, 274a at Benson and 275a at South Farnborough. Ground frosts occurred at Benson, Howden, Kew Observatory and Greenwich, the minimum falling as low as 267a at the last station. Although the Baltic depression remained practically stationary for some days, its effect became less marked over the British Isles, and by the 23rd and 24th the anticyclone was re-established over the southern districts. Temperature rose considerably, and on the 25th it reached 304a at Nottingham, 303a at Ross, 301a at Kew, and 300a at Aberdeen. Subsequently the anticyclone travelled slowly eastwards and was succeeded by a trough of low pressure which produced thunderstorms in the southern and midland districts of England. These were accompanied by brilliant lightning displays, but generally the rainfall was small, although Jersey recorded 15mm. and Bournemouth 11mm. On the 26th an anticyclone extending from the north became established to the west of these islands and the weather became fine and settled. Remarkably clear atmospheric conditions prevailed, especially during the latter part of the month. An observer at Deal reported "a degree of visibility hardly ever remembered here by the present generation." At Folkestone on the 19th, the fields and trees on the French coast could be distinguished with the naked eye.

The arid conditions were not confined to this side of the Channel. Following an unusually dry winter the absence of rain caused considerable anxiety to French agriculturists. In Switzerland the rivers were six feet below their normal level. The Atlantic Ice Patrol reported the presence of icebergs over a wide area, and numbers far in excess of the average. The depression which lay over the Baltic on the 18th and following days was associated with heavy rainfall in parts of Sweden. On the 18th, 19th and 20th, Stockholm reported 23mm., 19mm. and 10mm. of rain respectively. On the latter day 26mm. were reported at Berlin and 22mm. at Kronstadt, while a depression over Italy produced a fall of 53mm. at Rome on the same day.

In Scotland the mean pressure for the month was abnormally high: it has been exceeded in June only once in the last 50 years. Temperature varied considerably and was generally lowest on the 6th. About the middle of the month a warm spell prevailed but was of short duration. This was followed by a cold period. On the evening of the 20th a few flakes of sleet were observed at Aberdeen, and at this station the thermometer failed to exceed 283a on the following day. A warm period followed which reached its maximum on the 25th. On this day Wolfelee reported 304a, the highest temperature recorded in Scotland since June, 1914. On the 26th temperature had fallen very considerably, and at many stations the maxima were more than 11a below those of the previous day. As a result of these many fluctuations the mean temperature of the month was about normal. As in England, the month was abnormally dry, and large areas received less than a quarter of the usual rainfall. Moderate falls occurred about the 8th. In the extreme north under the influence of Icelandic depressions the fall was greater, and at Orkney it even exceeded the normal. Elsewhere the dry conditions recalled the June of 1887. The total for the month at Kirkealdy

was 6mm., at Edinburgh 9mm., and at Dumfries 9mm. On the night of the 9th-10th strong gales from the north-west caused damage to crops and shipping at Rothesay. Thunder was reported at West Linton on the 10th and at Eskdalemuir on the 17th and 21st.

The following notes by observers illustrate the general character of the month. TOTLAND BAY (*Isle of Wight*).—The June rainfall here was only 4mm., the driest June on record. June is the fifth month in succession below average. TAVISTOCK (*Devonshire*).—The driest month since July, 1913, when 6mm. fell. Many plants and shrubs are showing the effect of the drought. VALENCIA OBSERVATORY.—The total rainfall recorded at Valencia Observatory was only 2.6mm. being the lowest fall in any calendar month since the record was started in 1869. The nearest approach to it occurred in May, 1896, when 5.9mm. was recorded. COPDOCK (*Ipswich*).—The driest month in my 20 years' records. HUDDERSFIELD (*Yorkshire*).—3.8mm. Smallest total monthly rainfall on record here for 50 years. BELPER (*Derby*).—The driest June in the writer's record from 1877. TENBURY (*Worcester*).—Driest June on record. Hay crops very light. Pasture burnt and brown. Keep for cattle scarce. ARDINGLY (*Sussex*).—Lowest rainfall recorded here. BLUNDELLSANDS (*Lancashire*).—The driest June in this district since records were started in 1876. SOUTHPORT (*Lancashire*).—This was the driest June in the 50 years over which our record now extends. DUBLIN.—Scanty rainfall—the lowest for June since 1887. ISLEWORTH (*Middlesex*).—Raspberry and strawberry crops utterly ruined by drought. Driest June for 35 years. BARNSTAPLE (*Devonshire*).—A very dry month. The lowest rainfall for many years. MELTHAM (*Yorkshire*).—The driest month since the commencement of the record in December, 1880. The effect of the dry weather is scarcely noticeable except on the lawns and grass fields; all other vegetation has as yet suffered much less than in several other years.

Air Pressure. The distribution of pressure was of a very unusual type and was everywhere much above the normal. The British Isles lay in the right hand section of a semicircle of high pressure, the centre of which was to the west of Ireland. With the exception of a depression which travelled from the Mediterranean to Scandinavia in the early part of the month, and of a few secondaries, the tracks of all cyclones lay to the north or north-east and had little influence over the weather of these islands. At the telegraphic stations the departure of the monthly means from the normal varied from +4.5mb. at Jersey to +8.8mb. at Valencia Observatory.

Temperature. The mean temperature of the month was above the normal in all districts with the exception of Scotland East where there was a slight deficiency (0.1a). The excess ranged from 0.3a in Scotland North, England East, Scotland West and England North-West to 1.4a in England South-West, Ireland South and the English Channel.

Precipitation. In all Districts there was a great deficiency of rainfall which was most marked in the Southern parts of the Kingdom. Every District received less than half the normal amount and in England South-east only about 6 per cent. In parts of Sussex no rainfall was recorded during the month, and a large area received less than 6mm. More than 25mm. fell in Central Wales, in the Lake District, and the north and north-west of Scotland. Following on exceptional dryness of the preceding months, the deficiency reached serious proportions. The general rainfall expressed as a percentage of the normal was:—England and Wales 17; Scotland 40; Ireland 24; and the British Isles as a whole 26.

Sunshine. There was an excess of insolation in all Districts with the exception of Scotland North, where the mean daily amount of sunshine was 0.55 hr. below normal, and in England East, where the average amount was recorded. The excess ranged from 0.63 h. per day in England South-east to 2.55 hr. per day in Ireland South.

Optical Phenomena. Solar and lunar halos were frequently observed in different parts of the Kingdom. Remarkable sunsets and afterglows were seen on many occasions.

Note. The article by Mr. W. C. Kaye in the *Meteorological Magazine* for June has been utilized in the preparation of this summary.

