

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

(Supplement to Weekly Weather Report.)

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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PERSISTENT EAST and NORTH-EAST WINDS.

Very dry except in the South and South-East; bright except in the extreme South-West.

Very few depressions passed directly over these Islands. On the 1st a small and very shallow disturbance travelled east north-eastward from the north of Ireland, but although it was too slight to affect materially the winds and weather over this country generally it caused more than 25 mm. of rain at some Welsh stations, and increased greatly in depth as it continued its course over the Baltic on the 2nd. A depression lying over the Bay region while an anticyclone was centred over the North Sea on the 3rd and 4th gave rain in many parts of these Islands, and the accompanying Easterly wind blew a gale on the east coast of England, and reached the force of a gale in gusts at Kew, Pendennis Castle, Scilly, and Southport. The Easterly wind again rose to gale force in gusts on the south coast of England on the 8th and 9th, the highest velocity being 23 m/s at Plymouth on the 9th. A shallow depression that travelled east south-eastward on the night of the 11th, marked B on the map, brought a considerable quantity of rain to nearly all parts of the Kingdom, and as this disappeared on the Continent a more important disturbance, track C, began to encroach on our south-west coasts. The centre of the system moved eastward over the south of England, and the rain during its progress, with the wind between South-East and North-East, was heavy. The fall began on the 12th in southern England and continued during most of the 13th. Over a very large area the measurement for the 24 hours ending at 9 p.m. on the 13th exceeded 25 mm., and in several localities was more than 35 mm. At Kew, Eltham, Hastings, and Hemel Hempstead the value was 39 mm., at Dover and Tunbridge Wells 41 mm., at several other southern stations 43 mm., at Newick 48 mm., and at Heathfield 50 mm. At various places in the midlands and north a small part of the precipitation came in the form of snow. The North-Easterly wind blew a gale at Great Yarmouth, while the velocity in the gusts reached 20 m/s at Shoeburyness. On the 14th in the rear of the centre a Northerly gale was experienced in gusts at Gorleston. Another depression, track D, followed on a similar course between the 16th and 18th, and the second heavy fall of rain, again with an Easterly wind, occurred over the southern counties of England. A large number of stations reported measurements exceeding 25 mm.; at King's Somborne the figure was 46 mm., Tunbridge Wells 51 mm., and at Matfield 55 mm. The general force of the Easterly wind was fresh or strong, but occasional gusts of gale force were recorded on exposed parts of the Channel and south-east coasts. On the 19th and 20th a depression centred on the Atlantic extended somewhat over the United Kingdom and brought a considerable quantity of rain, with the wind between South and South-East, to the western districts, but after it had disappeared to the westward on the 22nd pressure again became highest in the north of these Islands, the Northerly to North-Easterly wind current reassumed its predominance, and scarcely any rain fell in any part of the Kingdom until nearly the end of the month, when a depression over the North Sea brought showers to our most eastern districts. The force of the North-Easterly wind was sometimes strong locally; on the 27th 21 m/s was recorded in gusts at Dover.

Barometer.—The mean pressure distribution was abnormal. (See map 1, page 51.) For the first time since the publication of the monthly mean chart in 1884 the mean isobars for May were favourable for an Easterly wind current over the whole of England and Ireland. The mean height of the barometer was above the normal except in the English Channel region, the excess being very marked in the north, and the gradient over the southern districts was rather steep. Over England the average range of pressure for May is only about 1 millibar, but on this occasion it was as much as 4 millibars. The highest readings of the month occurred with the anticyclone which extended over the Kingdom from the northward on the 9th, the mercury rising to 1,035 millibars or above in Scotland and northern England. Pressure touched its lowest point, 997 millibars, in the south-west of England and the Channel with the depression of the 13th, but fell almost as low in the south of Ireland during the passage of the following depression.

Rainfall.—The total precipitation for the month was much below the average over Ireland and Scotland, and a little below it over a considerable area in the north of England. In all the more southern districts of England, however, there was, owing almost entirely to the heavy falls of the 12th–13th and the 17th, a very large excess. Most parts of the Kingdom experienced many consecutive days without rain, especially during the second week and after the 19th. Over large tracts in Scotland the percentage of the normal was less than 50. At Glencarron it was 29, and at Deerness, Wick, and Fort William 28. A few localities in Ireland were equally dry. At Blacksod Point the percentage was as low as 32, while at Birr Castle it was only 21. At many places in the south-east of England, on the other hand, the percentage exceeded 200. In London, at Westminster and Camden Square, it was 214, at Dungeness 242, Eastbourne 249, and Tunbridge Wells 252. In

spite of the large total excess of rain in the south and south-east of England, the rainless far outnumbered the rainy days. At Southend-on-Sea, where the rainfall was nearly twice the normal, rain fell on 5 days only, and over the greater portion of the metropolitan area there were only 7 days with rain. At 7 stations reporting measurements for the 12 hours ending 9 p.m. the mean fall was only 85 per cent. of that which fell at the same stations during the 12 hours ending at 9 a.m.

The level of the underground water at Kew Observatory varied between 269 cm. above Mean Sea Level on the 24th and 238 cm. on the 13th.

Thunderstorms.—Although electrical disturbances were not of frequent occurrence they were experienced at times over a very large area. On the 5th many places in the eastern and central parts of Britain were affected, and on the 6th and 7th thunderstorms were much more general. The accompanying rainfall was not, as a rule, at all heavy, and at many stations very slight, but a striking exception occurred in the metropolis on the 6th. On that occasion, while the rainfall was scarcely measurable in some of the southern districts, it was abnormally heavy in the more central and northern districts, over a considerable area it exceeded 50 mm. and between the City and King's Cross it reached or exceeded 75 mm. After the 7th there was no electrical disturbance, except very locally, until the 21st or 22nd, when the thunderstorms passed over various places in England and Wales, and again on the 25th, 26th, or 27th, but on these last dates they were confined to the most south-western parts of the Kingdom.

Temperature was below the average except in the southern districts of England and Ireland. In Scotland North and East the divergence was about 2°, but elsewhere it was slight. Many and considerable fluctuations occurred, and with the North-Easterly wind current the thermometer was sometimes very low in spite of much sunshine. The coldest period was the second week, when the mean was below 50° except in the English Channel, but many of the absolute minima were recorded earlier or later in the month. Frost was experienced at least once in every district except the English Channel, and in several Scottish localities it was severe. At Braemar and Balmoral the respective minimum readings on the 14th were 20° and 21°, and at Kingussie and Lednathie 21° was registered on the 13th. Over England, Ireland, and a considerable portion of Scotland the frost was less severe. A sharp frost on the night of the 13th, however, did much damage to farm and market garden produce in the north-west of England. At Leyland the thermometer fell to 20° on the grass and to 25° in the screen. At many stations in central and southern England the lowest readings occurred on the 30th or 31st, and in several places the frost was severe enough to injure tender vegetation. The warmest periods were between the 6th and 8th and between the 21st and 26th. On one or other of the latter dates readings of 80° were recorded in Scotland North and East and also at Wilton (Salisbury), and 82° was registered at Camden Square, London, in a Glaisher screen. The lowest maximum readings of the month were those of the 12th or 13th, when the thermometer failed to rise to 45° over a large part of England. At Sparkhill on the 13th the value was 40°, and a similar reading which occurred at Meltham on the 12th was the lowest May maximum at that station during the past 37 years except 39°·7 on the same day of the month in 1886.

The mean temperature of the water of the river Derwent, at Belper, was 55·4°, and the mean temperature of the air 51·0°.

On most parts of the coast the temperature of the sea surface water was a little lower than the temperature of the air, and coastal fog was very prevalent until the 26th. On no day was it absent from some part of the western or south-western seaboard, and during the greater part of the month it was experienced at a large proportion of the observing stations. On the south and east coasts it was far less frequent, the chief days of its appearance in the south being between the 1st and 5th and the 17th and 21st, and on the east coast between the 6th and 11th and the 19th and 26th.

Bright Sunshine.—In almost all parts of the Kingdom sunshine was abundant, a considerable excess on the average being recorded except locally on the south-west coasts, where the duration was much reduced by the prevalence of sea fog and mist. Thus at Scilly the percentage of the average was only 83, at Falmouth 87, and at Valencia 86. Over the country generally the percentage varied between 110 and 120, and in some parts of Scotland, North Wales, and central and north-western England it exceeded 130. At Fort Augustus the figure was 135, Hoylake 130, Blackpool 131, and Birmingham 136. One of the brightest spots, relative to its average, in the south east of England was Westminster, with a percentage of 124.