

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

(Supplement to the Weekly Weather Report.)

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

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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SUMMARY OF OBSERVATIONS.

Pressure, Winds and Weather.—After six months of almost continuously unstable atmospheric conditions, the distribution of pressure assumed a much less disturbed character with the arrival of April. Wireless reports from ships showed that over the Atlantic the month as a whole was unsettled, but the low pressure systems kept more to the western side of the ocean, passing thence towards Iceland and away beyond the Arctic Circle. In the early part of the month, however, there were a few instances of the development of depressions over the sea between Scotland and Iceland. These moved eastward to the vicinity of Shetland, and then south-eastward to the Baltic region. By far the most important of the series was the deep one whose centre reached the Orkneys on the morning of the 8th, when the barometer descended to 28.74 in. at Wick, and 28.75 in. at Aberdeen, the lowest records during the month within the United Kingdom. As the system moved across the North Sea it increased in depth, and on the following morning the minimum pressure was about 28½ in. over the southern part of Sweden. With this exception barometric values below 29½ in. were very rarely registered in any part of this country. From the opening day, when the Mid Atlantic anticyclone was advancing towards our western coasts, high pressure systems of varying degrees of intensity were nearly always present, either immediately over the country or in neighbouring regions, mainly to the south-westward through the first half of the month, afterwards to the eastward, north-eastward or north-westward. The maximum intensity was attained near the White Sea on the 21st, when the barometer mounted to close upon 30.9 in. As that anticyclone moved westward from the upper portion of the Atlantic pressure exceeded 30.6 in. over North-East Britain on the 23rd, the highest value reported being 30.64 in. at Lerwick. The only other occasions on which the barometer rose to or passed above 30½ in. were on the 3rd and 13th.

With so few depressions in our neighbourhood the mean pressure for the whole month was everywhere considerably in excess of the normal, by as much as 0.17 in. at Lerwick, and 0.19 in. at Wick, by 0.2 in. and upwards at all other stations, 0.29 in. at Pembroke and Scilly, and 0.31 in. at Roche's Point and Valencia. The mean values ranged from a little above 30.2 in. in the South of Ireland and in Brittany, and thence south-westward to and beyond the Azores, to 30.04 in. in Shetland. Outside the anticyclone pressure was a little below 29.9 in. in Western Iceland, North-Eastern Russia and Southern Italy. The mean distribution was somewhat different from the average, and the gradient being slight and irregular the winds all over these islands were very variable in direction. Due to the passage of the deep cyclonic system of the 8th the range of pressure was fairly large over the north of Scotland, where it exceeded 1½ in., and at Aberdeen it amounted to 1.9 in. Southward the range diminished considerably, to less than an inch in many localities, only 0.7 in. at Roche's Point.

During the early part of the month, with the anticyclone centred over the Bay region and depressions in the vicinity of our northern coasts, the pressure gradient across the country was frequently rather steep, so that high winds or gales, mainly from some Westerly direction, were of daily occurrence in one or more districts. The disturbance which appeared over Ireland on the morning of March 31st had by the morning of April 1st crossed the North Sea to Denmark and North Germany, and in its rear a Northerly gale was felt on many sections of our coasts, a strong gale (force 9) being attained at Malin Head and Spurn Head, and a whole gale (force 10) at Lerwick. Anemometrical records showed gust velocities at the rate of 50 miles per hour at Shoeburyness, and of 63 miles at Pendennis Castle. A depression on the 4th was centred beyond the Arctic Circle, but it caused much wind over this country on that and the following day, a strong gale at Malin Head, and a whole gale at Lerwick, with gusts at the rate of 53 miles an hour at Aberdeen. On the morning of the 6th a short-lived disturbance appeared between the Farøe and Shetland, and by evening it had already dispersed, but its very brief career was marked by high winds and gales over the northern half of the kingdom, a strong gale at Malin Head, a whole gale at Aberdeen, and gust velocities of 61 miles an hour at Shields, 64 miles at Rosyth, and 74 miles at Aberdeen. At Rosyth the mean hourly velocity rose to 56 miles in an hour. But the most general gale was that associated with the passage of the deep cyclonic system of the 8th, gale force occurring as far south as Scilly. A strong gale was experienced at Holyhead, Aberdeen, Nairn and Wick, and a whole gale at Malin Head, Donaghadee, Nottingham and Lerwick. Gust velocities of more than 50 miles per hour were registered in various localities, 62 miles at Holyhead, 71 miles at Deerness, and 75 miles at Rosyth, the mean hourly velocity at the last mentioned station being 67 miles. This gale died down on the 9th, and the remainder of the month was almost entirely free from strong winds.

An interesting feature of the disturbed period was the all but complete absence of rain over the greater part of the kingdom, while within a comparatively small region of Western and Northern Scotland rain descended in torrents. Falls exceeding an inch were registered at Cruachan, Fort William

and Glencarron on the 3rd, when the rainstorm extended down to Seathwaite, Cumberland, where 2 in. fell, the only considerable fall of the month at that exceptionally wet station. On the 4th the downpour was tremendous, the largest records being 2.1 in. at Ford, 2.2 in. at Fort William, 2.5 in. at Inverary, 2.6 in. at Ardnadam, 2.7 in. at Glencarron, and 4.3 in. at Cruachan. Next day Cruachan exceeded an inch, and Glencarron had nearly 2 in. There was a marked decrease in the precipitation on the 6th, but on the 7th the storm was renewed, and the amounts registered ranged up to 2 in. at Fort William, and 2.6 in. at Glencarron. In five consecutive days, the 3rd to the 7th, Fort William totalled 6.4 in., Cruachan 7.7 in., and Glencarron 8.6 in. These torrential rains were not accompanied by thunderstorms, and a short distance away Eastern Scotland was outside the rainstorm area. The high level district in Wales was affected only to a slight extent on the 9th, when some of the stations in Snowdonia received ½ in. of rain. With the exception of the severe northern rainstorms the heaviest rainfalls of the month were on the 20th and 21st, in Ireland and the Hebrides, but the only amounts just over an inch were at Dunfanaghy and Killarney. Sporadic thunderstorms from the 25th to the 27th in various parts of the British Isles were in most cases attended by little rain, but Dunfanaghy received ½ in. on the 26th, the storm lasting 2½ hours.

With the exception of the very limited area mentioned above the weather over the country generally was abnormally fine, bright and dry, the sunshine records being unusual, and the drought in many districts of unprecedented severity for the time of year. As was noted in the March Summary the dry weather set in over Southern England on March 24th. With April it expanded in all directions, until finally the whole kingdom was affected. Large numbers of stations had no measurable quantity of rain after the 9th. The longest durations of absolute drought within the month were 29 days at Wisley, and 30 days at Dungeness, Preston (Sussex), Watlington, Tottenham and Montrose, but at Dungeness the last 8 days of March were rainless, making 34 days down to April 30th, while the opening days of May were also rainless in many places, so that the total duration of the drought must be given in the Summary for May.

Temperature was in excess of the normal all over the country, by as much as 3° in places, 3.2° at Cheadle and Glasgow, and 3.6° at Foynes. As a rule there was no great variation, the only marked exceptions being afternoon maxima of 70° or a little above from the 20th to the 22nd, 73° at Camden Square and Ruthwell, and night minima of 25° and under early on the 12th, 20° at Balmoral and West Linton, and 19° at Eskdalemuir and Wokingham. The 11th was a cold day, with maxima below 40° in some localities; and the nights of the 4th and 5th, and of the 20th to 22nd were very mild, with minima as high as 52° to 54°.

During the progress of the Solar Eclipse on the 17th a fall of temperature was noted pretty generally, 4° or more in many places, 7° at Canterbury and Kensal Green. At the Royal Observatory, Greenwich, the shade temperature fell 6°, and solar radiation 47°. At Camden Square the shade temperature fell 5°, the grass minimum 24°, and the solar radiation 39°. At Tottenham the solar radiation maximum for the day was 101°, but during the Eclipse it went down to 53°. At Belper it had touched 94° before the Eclipse, dropped to 61° during the Eclipse, and rose to 103° immediately after it was over. Over the southern districts the insolation record was interrupted for about ½ hour, at Kew Observatory about 35 minutes. Northward the duration of the break diminished; at Egremont the interruption could scarcely be detected, while immediately to the northward the record formed a continuous very fine line at Aspatria and Eskdalemuir.

There was a good deal of fog on the western coasts from the 2nd to the 7th, and from the 14th; about the Channel Islands from the 2nd to the 8th; and on the East coast of Britain from the 17th to the 25th.

The coastal water was warmer than in March, by 3° or 4° in places; but the difference between the water and the air was very variable, the water being from 3° warmer to 3° colder than the air on shore.

Rainfall.—There was a decided excess of precipitation over Northern Scotland, Glencarron showing 206% of the average, Fort William 189%, and Fort Augustus 180%. Over a large part of the country, however, the aggregates were less than 5%, only 1% at Brighton, Oxford, Westminster and other places, while Dungeness and other stations already mentioned above had none. The largest totals were 9.3 in. at Cruachan, and 11 in. at Glencarron. Stornoway had 20 days with rain, and some other northern stations 15 to 18 days, whereas many stations elsewhere had 2 days or less.

Bright Sunshine.—Stornoway had 88% of the usual sunshine record, and Deerness 93%, but the country generally had a marked excess, up to 160% at Rothamsted, Cirencester and Llandudno, 163% at Tunbridge Wells, and 190% at Westminster. From 4.6 hours per day at Deerness, 4.7 hours at Stornoway, and 4.9 hours at Fort Augustus, the records ranged up to just over 9 hours at Sandown, Folkestone and Felixstowe, 9.1 hours at Portsmouth, and 9.2 hours at Dover.