

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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FORTY-FIRST YEAR.

Vol. XXXIII. (New Series)

No. VI.

JUNE, 1916.

[Price 6d., Post free, 7d.]

Abnormally Cold and Dull ; Variable Rainfall.

For the month of June the atmospheric conditions over the British Isles generally were of a most unstable and unseasonable character. With the exception of the 16th and 17th, when an area of high pressure, central somewhere in the Greenland-Iceland region, embraced the whole of our area, the weather was always influenced to a greater or less extent by cyclonic systems, which in the main were very slow moving and following irregular paths. On referring to map 2, p. 63, it will be seen that the depression marked B, which appeared off the Hebrides on the morning of the 4th, occupied several days in its passage across the North Sea, and on arriving over the Baltic, on the morning of the 11th, it suddenly retreated westward to the North Sea again, and finally passed away across the Netherlands and North Germany. Another depression, marked F, which made its appearance on the west coast of Ireland on the evening of the 23rd, spent four days on its eastward path to the mouth of the Elbe, where it changed its course to the north-westward, and at the close of the month it was passing back to the Atlantic in the neighbourhood of the Hebrides (apparently re-curling down to Ireland at the beginning of July). Between them, therefore, these two depressions alone influenced our weather during at least seventeen days of the month.

The map shows further that, with very few exceptions over Ireland and Britain, the centres of the low areas were to the eastward of our coasts, over the North Sea and the Scandinavian region. Consequent upon this persistency the mean pressure for the whole month differed greatly from the normal, the centre of minimum pressure being transferred from about Iceland and the north-east quarter of the Atlantic to Southern Norway, and the region of maximum pressure from the Southern districts of England and Ireland out on to the Atlantic, from Iceland down to and beyond the Azores.

Air Pressure.—Resulting from this extensive transference of the centres of the systems the mean pressure for the month was equal to the normal from the west coast of Ireland down to Scilly, but below it elsewhere, the deficiency increasing in amount from south-west to north-east, so that at Tynemouth it was as much as 4 millibars, and at Aberdeen 4·6 millibars. The mean distribution was thus of a distinctly northerly type, so that winds from points in the northern half of the compass prevailed nearly all through the month, the bulk of them being between North-West and North-East. From 1888 the pressure maps show that June, 1909, presents results very similar in character to those of the period now under notice, and there was also a close resemblance in weather conditions—a cold and dull Northerly type, produced by very slow and irregularly moving depressions. For the Summer Season the range of pressure experienced was rather large. On the morning of the 5th the barometer descended to the low level of 985 millibars on the Firth of Forth, and during the night of the 11th on the west coast of Ireland, and on the 16th in various parts of Scotland it mounted to 1031 millibars, so that there was an extreme range of 46 millibars.

Notwithstanding the fact that our weather was within the influence of disturbances on as many as 28 days out of the 30, the wind very rarely succeeded in attaining the force of a gale on any section of our coasts, though a strong or a high wind (Beaufort force 6 or 7) was experienced daily during the first three weeks, less frequently afterwards. The roughest days were the 12th and 13th, on the return of the depression marked B from the Baltic to the North Sea. A South-Westerly gale (force 8) was felt at Dungeness and Clacton on the 4th, and a strong gale (force 9) from the same quarter at Dungeness on the following day. A Northerly gale was reported at Nairn on the 6th, at Nairn and Malin Head on the 12th, and at Nairn and Yarmouth on the 13th. Considering the great frequency of strong and high winds the anemometrical records disclose comparatively few instances of gusts reaching gale force (exceeding 17 m/s). The highest records were 25 m/s at Dover on the 5th and 13th, while on the 12th, Dyce and Balmakewan registered 25 m/s, Alnwick 26 m/s, and Aberdeen 27 m/s. These, it will be observed, were all on the east coast of Britain.

Weather of a very mixed character was produced by the disturbances. It was somewhat remarkable that under such pressure conditions at this time of the year very heavy rainstorms were singularly uncommon in their occurrence. Yet thunderstorms were experienced over extensive areas on the 2nd, daily from the 5th to the 12th, on the 23rd and 24th, and sporadic storms on the remaining days. As a general rule these were accompanied by very little precipitation—mere passing showers. One observer described them as “dry thunderstorms.” Of the heavy downpours of the period the great majority were measured at stations in the more hilly or mountainous districts. On the 1st from 26 mm. to 42 mm. fell on the slopes of Snowdon, and 39 mm.

at Leadhills. Again on the 4th Snowdon had from 29 mm. to 83 mm., Bolton, Darwen and Princetown registering 30 mm., and Macclesfield 35 mm. Through nearly three weeks afterwards there was an almost entire absence of falls of as much as 20 mm. in a day, the period from the 7th to the 22nd being rainless or nearly so at numerous stations, mostly in England and Ireland. At Holyhead and Dorchester there were 14 consecutive rainless days (8th–21st), and at Pembroke 15 (6th–20th). In the 18 days 6th–23rd Belper had only one shower. Other localities had similar conditions. During a line squall at Southport, on the 23rd, nearly 10 mm. fell in 10 minutes. Next day there were heavy falls in the north, the largest 30 mm. at Dyce and Lathallan, 33 mm. at Gordon Castle, 35 mm. at Nairn, and 36 mm. at Aberdeen. On the 27th Cardiff measured 31 mm., and on the 29th Princetown 28 mm. Hail fell locally on several days.

Temperature.—The most striking feature of the month was the very unusual persistency of cool to cold days, the nights being affected to a much less extent. At Dyce the month was “Remarkable for cold wind, rain, and want of sun. The effect of the cold wind has been to wither the leaves of trees exposed to the north. Chestnuts are quite brown, and beeches look like they do in September.” Isleworth “Not so cold as 1909, but my 35 years’ records give no June with so few days of 294° A. (70° F.) max.” Hodsock, “Coldest June in at least 40 years, although mean temperature in 1909 was substantially the same. From 4th to 14th inclusive the maximum remained below 60°.” Dublin “The coldest June on record within the past 50 years.” Afternoon temperatures above 294° A. were of rare occurrence in isolated situations, but 297° A. (75° F.) was reached on the 15th at Killarney, on the 17th at Mountmellick, and on the 25th at Little Massingham. In the first fortnight the maxima were exceptionally low, 283° A. (50° F.) in London and at numbers of other stations, as low as 281° A. (46° F.) at Balmoral on the 5th, Norwich on the 12th, Harrogate on the 13th, and below 280° A. (44° F.) at Lerwick on the 2nd. The night records were more variable, frost occurring in the shade at some stations, with a screen reading of 271½° A. (29° F.) at Garforth on the 17th. Up to this date considerable destruction was occasioned by ground frosts, the grass minimum registering as low as 267½° A. (22° F.) at Tavistock on the 8th. Later the nights became much milder, with many shade minima from 286° to 288° A. (55° to 58° F.), mostly on the 23rd.

Sea Surface Temperature and Coastal Fog.—On the East coast of Britain, from the Orkneys, down to the Thames, the sea water was about 1° A. (2° F.) colder than the air on shore; on the eastern half of the English Channel and off the west and north of Ireland it was warmer to the same extent; but on the western half of the Channel and up to the Irish Sea the two elements were at about the same temperature. Fog was much less prevalent than under warmer weather conditions, but fairly wide areas on the western coasts were affected on the 1st, 15th–17th, 21st–23rd, and 26th.

At Belper the water of the Derwent had a mean temperature of 286° A. (55°·4 F.); the air 284°·4 A. (52°·5 F.).

Rainfall.—The distribution of precipitation was very varied. It was normal over England North-West, elsewhere it ranged from 61 per cent. in the Channel Islands and 72 per cent. in Scotland West to 124 per cent. in England East, and 171 per cent. in Scotland East. Similarly at individual stations, the percentage of the normal ranged from 40 at Hereford, and 49 at Hawarden Bridge and Fort William to 246 at Aberdeen, and 285 at Gordon Castle. From records at 25 stations the rainfall during the daytime was appreciably heavier than that in the night.

At Kew the underground water level varied from 261 cm. above M.S.L. on the 1st to 232 cm. on the 30th.

Bright Sunshine.—Ireland and Western Scotland had about the average duration of sunshine, dulness predominating in other districts, Scotland North returning 63 per cent. of the average sunshine, and Scotland East 60 per cent. The mean daily duration ranged from 2·6 hours at Gordon Castle, and under 3 hours at some other stations to 7·5 hours at Douglas, 7·6 hours at Haverfordwest, and 7·8 hours at Scilly.

Aurora was seen at Holyhead on the 1st; a **Sun Pillar** at Oxford on the 8th; and on several days many localities reported **Visibility**, which was well marked over Southern England on the 7th and 8th, from Scilly to Brighton and London.