

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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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Excessively wet ; Very dull ; Cool days, warm nights.

It is not uncommon for the month of August to be characterised by weather of a most unseasonable type, frequent rains and high winds occasioning widespread havoc in field, garden and orchard in the midst of harvesting operations. August, 1917, has afforded a striking instance of such inclement conditions, comments made by observers being "Rain a record for August" (Leyland, Lancs.); "The wettest August and the wettest month during 32 years" (Broadford, Clare); "The heaviest August rainfall in about 50 years" (Dublin); "The wettest August on record," in Berwickshire.

The general distribution of pressure presented a marked resemblance to that of the excessively wet August of 1912. During the greater part of the month areas of high barometer were established over the middle region of the Atlantic (about the Azores), and beyond the Arctic Circle (about Greenland and Spitzbergen). Between them was a broad belt, or trough, of low pressure, which formed the breeding ground of numerous depressions, many of them, as will be seen on reference to Map 2, p. 87, moving along irregular paths, mainly North-Easterly, across or near the British Isles, where, and in adjacent countries, they caused much abnormally inclement weather. At the beginning of the month the Azores anticyclone extended northward along our western coasts, the barometer in the Hebrides standing at 1026mb. on the morning of the 1st. The system was then retreating to the Atlantic, and it was not until the 25th, when another spur of the anticyclone stretched north-eastward across France, that the barometer recovered sufficiently to read 1022mb. at Jersey. With these exceptions depressions were the rule.

The shallow disturbance which developed between the Thames Valley and Northern France on July 29 made slow and erratic progress, passing to North-West Germany, retreating as far as the Thames Estuary, then back across the Netherlands, finally returning to the eastern end of the English Channel, where it dispersed on August 5. During the first three days of August strong to high squally North winds were felt in many parts of Britain, a gale (force 8) at Spurn Head on the 1st, the anemometer there registering gusts of 23m/s., those at Alwick and Shields 22m/s. The attendant rainfall, however, was more remarkable than the wind. Over the region south of a line from Exmouth to the Humber there was a general rainstorm on the 1st, nearly all stations registering 25mm. and upwards, heaviest in Kent, Sussex and Surrey, where 40mm. was exceeded, Margate 48mm., Ramsgate 53mm. Subsequent days, continuing rainy, were not nearly so wet, though at Halstead (Essex) 62mm. was measured on the 5th. The excessive wetness of this particular disturbance will be better realised from the fact that for the week ending the 4th a number of stations had totals aggregating from ten to sixteen times the normal, Margate's 144mm. being 1,600 per cent. of the week's usual total. There were scarcely any reports of thunder. While these conditions held in the south-east very fine, bright and warm weather ruled in Scotland, Ireland, North-West England and the extreme South-West of England.

On the collapse of the first disturbance another was indicated out on the Atlantic, and on the evening of the 6th it was off our western coasts. For more than a week it hovered over the British Isles or near the West of Ireland, eventually passing to the North Sea on the 15th, finally disappearing across Finland. It was of no great depth, so that the winds, which showed a complete cyclonic circulation, rarely exceeded the force of a moderate breeze. Frequent and heavy rains were general in all regions, and thunderstorms were of daily occurrence over extensive areas. The heaviest rainfalls of the period were 58mm. at Harrogate on the 8th; 44mm. at Hovingham (N. Riding) on the 9th; 48mm. at Birr Castle (King's Co.), and 64mm. at Kilkenny on the 10th; and 69mm. at Chopwellwood (Durham) on the 13th.

Between the 16th and 20th a shallow slow-moving depression skirted our western and northern, and the Norwegian, coasts, occasioning little wind, much rain in the west and north-west, and thunderstorms, mostly in Ireland. On the 16th and 17th Mealsgate (Cumberland) totalled 62mm. of rain, Lancaster 69mm., Morecambe 70mm., and Beddgelert 107mm. On the 17th Darwen had 46mm., Blundellsands 49mm., and Aberdovey and Aberystwyth 51mm.

Another disturbance following a similar path struck the west of Ireland on the 21st, and dispersed on the Norwegian coast on the 26th. It was rather deeper than the previous ones, and on the 23rd and 24th a West to South-West gale was felt along the Channel and on the Donegal coast, a strong gale (force 9) at Dover, a whole gale (force 10) at Dungeness. Gust velocities of 25m/s. were registered at Brighton and Dover, 28m/s. at Pendennis. There were many thunderstorms, but fewer very large rainfalls, though on the 23rd Ardnadam and Ford in Argyllshire had 52mm. and 62mm. respectively. For some hours in the night of the 22nd there was a remarkable illumination of London and the country round by the reflection of lightning beyond the south-eastern horizon.

Yet another of the family of disturbances reached Ireland on the 25th, advancing eastward as a "V" shaped system and dispersing over the North Sea on the 27th, when the following one was nearing the Kerry coast. This moved eastward to South Wales, then struck off north-eastward and developed into the deepest summer depression on record. As it crossed the Midland and Northern counties, on the 28th, the barometer dropped to 967mb. at Nottingham and at Meltham in the West Riding. Continuing on its course the system dispersed over Lapland on the 31st. The very unsettled conditions were therefore maintained through the last week of the month. In particular the 27th and 28th were stormy over the country generally. Torrential rains were again experienced, several records on the 27th exceeding 50mm., 56mm. at Princetown and at Ballinacurra (Co. Cork); next day they ranged up to 61mm. at Ardrross (Cromarty) and 77mm. at Beddgelert. There were hardly any reports of thunder. Crops, which had suffered greatly from the previous wet weather, were now more seriously damaged by the combination of gales and flooding rains.

Air Pressure.—Consequent upon the almost entire absence of anticyclones the mean pressure for the month was everywhere well under the normal, by 5mb. in Shetland, 6mb. at Jersey and Scilly, and 8 to 9mb. over southern Scotland and the northern halves of England and Ireland. The Map shows a central space of lowest pressure over western Scotland, instead of in the normal position near Iceland. For August, 1912, the centre was to the east of Scotland. The mean pressure over Scotland was the lowest recorded in August for at least 50 years.

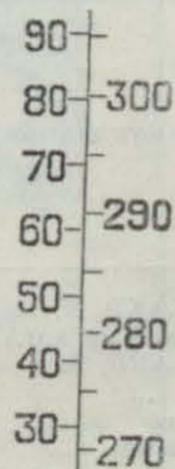
Temperature.—The results for the month show that the temperature in the English Channel District was $\frac{1}{2}$ a. below the normal, and in the south-east and south-west of England normal, all other districts returning an excess of $\frac{1}{2}$ a. and upwards, to 1 $\frac{1}{2}$ a. in Scotland North. As a rule, however, the excess was due to the mildness of the nights, the day readings generally being in defect. In the one weather, in the northern and western districts at the beginning of the month high maxima were registered, many places passing 299a.; on the 5th Kilmarnock touched 309a. and Beddgelert 301a., Nairn reaching 302a. on the 6th. Afterwards there was a marked decline, and maxima above 295a. became uncommon, there being numerous instances below 288a., several as low as 284a. to 286a. On the other hand, there were very few night minima below 278a., while there were many as high as 288a. to 290a. On the average the nights in Scotland were the mildest in any August for at least 50 years, showing at many stations a variation of only 3a. or 4a. throughout the month.

The temperature of the coastal sea water showed no material change on that of July in the west, but in the east it was about 2 $\frac{1}{2}$ a. warmer. Compared with the air temperature on shore the water was nearly everywhere the colder, by about 2a. in the north-east. Between the 3rd and 10th there was much fog on most coasts, afterwards it was reported occasionally in the west and north-east.

Rainfall.—At some stations in Scotland the month's precipitation was less than the normal, 72 per cent. at Kilmarnock, and 74 per cent. at Paisley. Over Scotland generally, however, there was a considerable excess, and over England and Ireland a very large excess, more than double the normal in most districts. Locally the records were more than 250 per cent. of the normal, 276 at Dungeness, 280 at Holyhead, and 282 at Berkhamsted. During the 51 hours ending at 8 p.m. of the 1st there was incessant rain at Isleworth, yielding 93mm., the heaviest continuous fall in a period of 32 years. Precipitation was measured on only 14 days at Deerness, and 15 days at Southend, but generally the frequency was much higher, from 25 to 29 days at numerous stations, 30 at Bradford. Separate measurements for day and night hours disclosed some variability at individual stations, but generally the hourly rate of fall for both periods did not differ materially.

Bright Sunshine.—Although Ireland had double the normal amount of sunshine early in the month, it was more than balanced by the subsequent persistent dulness, except at a few stations. For the whole kingdom there was a marked deficiency, ranging up to 1 $\frac{1}{2}$ hour per day in England North-West, and 1 $\frac{1}{4}$ hour in Scotland East, while at individual stations the loss was 2 $\frac{1}{4}$ hours per day at Aberdeen, Aberdovey and Rousdon, and 2 $\frac{1}{2}$ hours at Aberystwyth.

Auroræ, Solar and Lunar Halos, and Parhelia were observed at various stations on several dates; and on the 25th, during a fog on Dartmoor, an *Earthquake* shock was felt at Princetown, Sheepstor and Tavistock.



Temperature Scales.