

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS.

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AUGUST, 1922: DULL, COOL AND UNSETTLED.

The cool and unsettled conditions which had prevailed since the middle of June were maintained throughout the greater part of August. Temperature was much below the normal, and maxima above 70°F. were comparatively rare. Rainfall was excessive over most of England and Wales, but was below normal in Scotland.

On the first day of the month a depression was situated to the east of Iceland, and an extensive anticyclone stretched from the Azores to France. The Icelandic depression moved north-eastward and was accompanied by squally and showery weather over the British Isles. At the same time the Azores anticyclone spread towards the north-east; by the morning of the 2nd it included the southern half of England, and by the 4th it lay over Central Europe and pressure had also become high over Iceland. The Atlantic depressions now took a more southerly course. A depression which had been heralded by the fall of the barometer in the west of Ireland on the evening of the 2nd lay off the mouth of the English Channel on the 3rd and 4th, causing generally unsettled conditions over the British Isles. By the morning of the 5th, this depression had almost completely filled up, but on the 6th a new depression appeared over the mouth of the English Channel and moved north-eastward across England. This was followed by the appearance of a second disturbance off the south-west coasts, which also moved north-eastward and joined up with the first centre over the North Sea. These disturbances caused thunderstorms and notably heavy rain in England, particularly in the Midlands and the North, where extensive floods caused much damage. More than 50mm. fell on the 6th over a strip extending from Swanage to Worksop, and on the 7th in the south of Yorkshire. Between midnight and 16h. on August 7th 99mm. of rain fell at Sheffield. At Strelley Hall, Nottinghamshire, 82 mm. of rain fell in 21 hours, while Harrogate had 123 mm. in three days. At Hodsock Priory, near Worksop, 125 mm. fell between 23h. on August 6th and 3h. on the 8th, including 50 mm. between 9h. and 11h. 15m. on the 7th.

As these disturbances moved eastward, a ridge of high pressure spread over the British Isles from the Atlantic, and by the 11th this was stretching from the Azores to Spitsbergen. This split up into two highs, one over the Spitsbergen region and one over the Azores. Some low temperatures were recorded about this time, including 30°F. at Balmoral on the 12th. A new depression appeared in the vicinity of Iceland and moved eastward on the 13th, keeping north of the British Isles. This type of distribution continued for some days with depressions passing to the north of Britain and maintaining generally unsettled weather. Some heavy falls of rain were experienced in Scotland, reaching 41 mm. at Ardgour on the 15th. On the 19th the anticyclone which had persisted off our south-west coasts moved north-eastwards and occasioned warmer weather temporarily throughout the greater part of the country. Maxima on that day exceeded 70°F. at many stations, including some in the east of Scotland, 73°F. being recorded at Aberdeen, and 75°F. at Logie (Fife). On the 20th, temperature fell somewhat in Scotland, but continued fairly high on the eastern and southern districts of England. The warmest weather of the month occurred about this time, 76°F. being recorded at Southend on the 20th, 77°F. at Jersey and 78°F. at Greenwich (Glaisher Stand) on the 21st. On the 22nd, however, a depression moved in a south-easterly direction from Iceland, and by the 23rd was situated over Denmark. This caused a renewal of very unsettled weather over west and north-west Europe, and under the influence of north-westerly winds much lower temperatures prevailed. From Denmark, the depression moved northwards and gradually filled up, but further disturbances advanced from the Atlantic and by the 28th a trough of low pressure had developed extending from Iceland to

Spain. Unsettled conditions were maintained until the end of the month.

The following notes by observers illustrate the generally cold and unsettled character of the month:—Hodsock Priory (Nottingham),—The month was cool and rather showery with an absence of warm weather. Tenbury (Worcester),—Showery, cold and sunless month. Alfriston (Sussex),—A very cold, wet month. Torquay (Devonshire),—The climatic conditions during the past month were again disappointing. Heavy cloud, a rather low temperature, intermittent rain and absence of long periods of sunshine were the main characteristics. Cargen (Kirkeudbright),—A dull, damp, disappointing month. Dublin,—The chief and outstanding characteristics of August were its clouded skies, lack of sunshine, and resulting absence of summer warmth by day. Carrigoran (Co. Clare),—We have had an exceedingly gloomy, cold, wet month.

Air Pressure.—The general trend of the isobars was in accordance with the normal. The mean pressure, however, was slightly deficient, being about 1 mb. below the normal over the British Isles generally. The number of depressions which affected these islands was large, and the tracks of many passed directly across the country. At the telegraphic reporting stations the departure of the monthly means of pressure from the normal varied from +0.7mb. at Scilly to -2.0mb. at Nairn. The highest reading recorded during the month was 1028mb. at Scilly on the 18th, and at Falmouth (Pendennis Castle) on the 19th; and the lowest 991mb. at St. Ann's Head on the 30th.

Temperature.—Temperature was everywhere deficient. Maxima exceeding 70°F. were rare, and very few readings exceeding 75°F. were recorded. Scotland has only once (in 1912) experienced an appreciably colder August in the past sixty years. The departure of the monthly means from the normal ranged from -1.7°F. in Scotland north to -3.1°F. in England, south-west.

Precipitation.—The distribution of total rainfall, which was determined principally by the heavy rains of the 6th and 7th, was irregular. The greatest amounts, exceeding 100mm. and reaching 150mm. in places, fell over a broad belt extending from Cornwall to Cumberland through the Midlands, many places in the latter district having more than twice the normal fall for the month. Rainfall was also above normal locally in the centre and south of Ireland, but in eastern England and still more in Scotland the fall was somewhat below normal. Less than 50mm. fell in East Anglia and the Fen District and less than 25mm. locally in Essex. Less than 50mm. also fell in the neighbourhood of the Firth of Forth, Moray Firth and in parts of Perthshire, and in parts of the Lothians and the lower Tay Valley less than half the normal was experienced. In the west and north of Scotland the falls were generally less than 150mm., and exceeded the normal only at a few isolated places. The general rainfall expressed as a percentage of the average was:—England and Wales, 132; Scotland, 78; Ireland, 104; British Isles as a whole, 109.

Sunshine.—The month was very cloudy as a whole, and sunshine was deficient nearly everywhere, especially in southern England and in Ireland. The total duration of sunshine at Kew Observatory amounted to about 70 per cent. of the average. The departure from the normal ranged from +0.68 hr. per day in Scotland north to -1.96 hrs. per day in England south-west.

Optical Phenomena.—Solar halos were frequently observed in different parts of the country. A lunar halo was observed at Oxford on the 5th. A solar halo with a brilliant circumzenithal arc was observed at Clapham Common on the 29th.

NOTE.—The article by Mr. W. C. Kaye in the *Meteorological Magazine* for September has been utilised in the preparation of this Summary.