

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

BRITISH METEOROLOGICAL AND MAGNETIC YEARBOOK. PART II.

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

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## AUGUST, 1921; UNSETTLED.

Conditions were generally unsettled throughout the month with depressions from the Atlantic crossing the British Isles. Temperature was considerably lower than in July.

In the north and west of the British Isles rainfall was large, but in the south-east of England it was again below normal, being much less than might have been expected from the distribution of pressure. Between the 1st and the 5th pressure was lowest near the Farøe Islands and small secondaries moved north-eastward over the British Isles. Heavy rain fell in the western districts on the 1st and again on the 5th, several stations having 20mm. or more. A south-west gale was experienced on parts of the south-west coasts on the night of the 5th. Thunderstorms occurred rather widely on the 2nd and 3rd, associated with a very low temperature in the upper air; the reading at 13,600 ft. at Baldonnel (Dublin) on the evening of the 2nd was 259a, or 10a below the normal, this being accounted for by a cold northerly current over Iceland, which curved round the stationary depression over the Farøe Islands. August 3rd, when thunderstorms occurred in south-east England, was the coolest day in that region since July 5th, yet there had been no thunder during the warm interval except very locally on July 17th. A secondary which brought very heavy rain to the western districts on the 5th developed into an independent centre and moved north-east to the Gulf of Bothnia, but further secondaries continued to cause unsettled weather. A shallow depression moved slowly south-eastward over the British Isles between the 9th and 11th, then passing north-eastward to Denmark. Heavy rain and thunder occurred locally in the British Isles, but no rain fell in south-east England until the 13th. At Pulham (Norfolk) there was a severe thunderstorm during the afternoon of that day in which 75mm. fell in eighty minutes. Lowestoft had 52mm. of rain the same afternoon. An anticyclone, which extended northward from the Azores, caused a temporary improvement in the weather over the British Isles on the 14th and 15th, but a depression developed off the north-west of Ireland on the 16th, renewing unsettled weather. Rain fell generally except in the extreme east of England, being heaviest in the south of Scotland. A ridge of high pressure formed over our islands bringing fine weather on the 18th and 19th; these were the hottest days of the month with temperatures exceeding 300a at several stations. The previous depression, which had passed to the south of France, returned on the 20th with overcast weather, heavy local rain and thunder. From the 25th to the end of the month a westerly type of weather again prevailed, mainly fair in Southern England, but with rain in the northern districts. A depression which formed off the west of Ireland on the 28th moved eastward giving heavy falls of rain along its track, notably in north-east England and south-west Scotland. Howden had 27mm. of rain during a thunderstorm on the 28th, and Tynemouth had 44mm. on the 29th. South-east England practically escaped rain from this depression. A cold northerly current extended in its rear; the screened thermometer fell to 277a at Valencia on the night of the 29th and to 272a at Eskdalemuir and South Farnborough on the night of the 30th. On the 31st a depression off the west of Ireland caused a warmer southerly current, with rain in the western districts.

In London (Camden Square) the conditions were generally fair or fine but with a good deal of cloud and occasional showers. The mean temperature (290.6a) was 0.7a above the average, this being the twelfth successive warm month.

Fog was persistent on the north-east coasts from the 18th to the 23rd extending as far south as Yarmouth at intervals from the 21st to the 24th. The Irish Sea was covered by thick fog on the 19th. Visibility was mainly good everywhere for the remainder of the month.

In Scotland temperature was in general moderate to rather low, with ground frost in various districts at the end of the month. Warm weather was, however, experienced during the first day or two and also from the 18th to the 20th. On the latter day a temperature of 299a was recorded at Ruthwell. At Braemar, Balmoral and West Linton on the night of the 29th and at Eskdalemuir on the night of the 30th the minimum in the screen was only 272a. It is noteworthy that the month was the first in 1921 with a mean temperature below the normal and that so low a mean daily range has seldom been recorded in August. The unsettled conditions which had set in about July 21st persisted throughout August with but slight breaks. There were various rather heavy falls of rain; the heaviest general falls were associated with a thunderstorm type of conditions on the 16th and 20th. On the latter date Grantown-on-Spey had 43mm. The total rainfall was deficient in the north-east and north-west districts, but elsewhere there was an excess, amounting to 50 per cent. or more, e.g., at Perth, Paisley, Kelso and Dumfries. Thunderstorms occurred in many districts on the 16th, 20th, 21st and locally on other dates. Sunshine amounts were generally deficient in all districts, by as much as one hour per day in Edinburgh and Marchmont. Fog and mist were prevalent during the third week.

In Dublin the month was cloudy with frequent showers and fresh westerly and north-westerly winds. The mean temperature was 1.0a below the normal. Rainfall was about 12mm. less than the average but the number of raindays, 23, was large.

During the first ten days of the month the weather in France and Germany was mainly fine and hot, but there were heavy local thunderstorm rains on the night of the 3rd, Berlin having 80mm. Forest fires and the destruction of mills and farms in France were still being reported daily, the largest being

that of the forest of Vorey-sur-Azon, which at one time threatened the towns of Vorey and Bellevu. Great heat was also experienced in Italy. A tornado swept over the Montreux district (Lake of Geneva) on the evening of the 3rd. The shallow depression which lay over the British Isles on the 10th expanded over a large area and cooler unsettled weather became general, with heavy rain and thunder in many places. Temperature remained high in Poland until the 12th, reaching 310a in Warsaw on that date. It was colder subsequently, the maximum at Warsaw on the 14th being only 289a. A fresh centre of low pressure developed over this area on the 12th and moved northwards to the Baltic after which it turned westward and grew deeper, being centred over the Skagerrak on the 15th. There were gales in the Baltic and north-east part of the North Sea, also heavy rain near the centre. The disturbance filled up rapidly on the 16th. Hailstorms of exceptional violence occurred on that day in Bavaria and Württemberg, doing extensive damage. On the same day a violent storm damaged Doua Wireless Station near Lyons, suspending communication with America and the Far East. Snow fell on the mountains in Savoy on the 15th. Heavy rains and thunderstorms were renewed in France and Switzerland between the 17th and the 24th. On the 18th there were 94mm. at Perpignan, on the south coast of France, and 98mm. at Sanguinaire in Corsica. On the 22nd there were 135mm. at Lugano in Switzerland. Snow also fell in various parts of the Alps. There was fine weather in France and Central Europe at the end of the month.

The weather in the British Isles has presented few outstanding features during the month. Notes by observers which formed an important feature on the returns received in the preceding months were few and might well be summed up in the remarks of one observer "There has been nothing extraordinary."

**Air Pressure.**—The general distribution of pressure was in accordance with the normal, ranging from 1010mb. in the north of the kingdom to 1015mb. in the south. Two depressions which appeared off the north-west of the British Isles on the 9th and 16th respectively, subsequently pursued remarkably erratic paths. The former (see Map track D) passed across the south of Scotland on the 10th to Southern Scandinavia and after many fluctuations eventually travelled away to the north. The latter (see Map track F) which appeared off the north-west of Ireland on the 16th passed from north to south across Ireland to northern Spain. Subsequently it travelled back to eastern England where it dispersed on the 23rd of the month. At the telegraphic reporting stations the departure of the monthly means from the normal varied from +1.0mb. at Nairn to -1.9mb. at Nottingham. The highest reading recorded during the month was 1026mb. at Blacksod Point on the 18th, and the lowest 993mb. at Nairn on the 6th, at Blacksod Point on the 16th, and at Aberdeen on the 27th.

**Temperature.**—The mean temperature of the month was above the normal in all districts in England and Wales with the exception of England North-west which did not differ from the normal. In all districts in Scotland and Ireland the mean temperature was below the normal. The difference ranged from +1.2a in England East to -0.8a in Scotland East.

**Precipitation.**—In the south-east of England generally the deficiency of rain which characterized the spring and summer months continued throughout August. Precipitation was also below the normal over the northern half of Scotland, and in the north and centre of Ireland. The area with deficiency over the British Isles was approximately equal to that with excess. More than twice the average occurred locally near Newcastle, where the heavy rainfall of 50mm. on the 29th was the heaviest recorded in one day since 1913. Small areas in the south-east of England received less than 25mm. of rain during the month. Areas with less than 75mm. were confined to the south-east of a line from Cardiff to Boston, locally in the east of Scotland, and in the neighbourhood of Dublin. There was an unusually large area with rainfall exceeding 150mm. This comprised the greater part of Wales, the south-western half of Scotland, considerable areas in the north of England, and mountainous regions in the west of Ireland. More than 250mm. fell in the usually wet areas of the kingdom, as much as 635mm. in the Lake District. Several heavy falls in short periods were recorded during the numerous thunderstorms which occurred. During a remarkably heavy fall at Milton, near Peterborough, 49mm. fell in 65 minutes. The general rainfall of August, expressed as a percentage of the normal, was: England and Wales 115; Scotland 106; Ireland 108; British Isles 110.

**Sunshine.**—With the exception of Scotland North, where there was a slight excess (0.09 hr.), insolation was below the normal in all districts. The deficiency ranged from 0.18 hr. per day in England East to 1.25 hr. per day in England South-west.

**Optical Phenomena.**—Solar halos were frequently observed at various stations. The phenomenon was most widespread on the 4th. Lunar halos were observed at Ross-on-Wye on the 16th and 20th and at Oxford on the 22nd. A parhelion was observed at Aberdeen on the 8th. Aurora was observed at Baltasound on the 12th.

**Note.**—The article by Capt. C. K. M. Douglas in the Meteorological Magazine for September has been utilized in the preparation of this summary.

