



Weather Front.

July 2023/1923

July 2023

Observers Notes.

Bablake: Dullest June since 2010; July recorded less sunshine than April. July was cooler than June for the first time since 1970.

Desford: Cool, cloudy, and often wet and windy!

Coton-in-the-Elms: A very different July to last year! There was a lack of hot days, only one exceeded 25 C. 8th- After a muggy warm day severe storms to SW affected the area from around 1900 till 2000. 15th- Heavy showers developed, with hail, around 1300. 17th- Thunder heard during the early afternoon.

Ely: The month was not as extreme as in some western parts of the UK, but not very "summery" all the same!

Eastwood: A wet and cold month.

Lowdham: The 11th highest rainfall on record in the Nottingham area since 1840. There have been 27 instances when July rainfall exceeded 100 mm in the Nottingham area since 1840. Of the top 11 wettest Julys' five have occurred since 2002.

Mickleover: Only two days when the maximum temperature exceeded 25 C.

Mountsorrel: A cool, and wet month. Only the 7th was warm and sunny at 27.0 C. On 12 days maxima were below 19.5 C.

Middleton: The wettest July since local records began in 1871.

Derby: A very unsettled month and, for the first time since 1992, July was cooler than June. This reversal of trend has become uncommon of late, but between 1960 and 1970, this has happened six times. The 1970 occurrence gave a reversal of 1.2 C, with 2023 being second place to this, and being 1.0 C cooler than June. July saw the lowest mean pressure for that month in more than 32 years.

Pitsford: Generally unsettled with frequent thundery showers and prolonged spells of heavy rain.ⁱ

Saltfleetby: Thunder heard on the 8th, very warm and humid all day.

UK overview

July was an unsettled month - often cool, dull, windy and with a lot of rainfall, in stark contrast to June. The jet stream was generally shifted much further south than in June, with the weather often rather autumnal in character. Any hints of drier and warmer weather proved short-lived. Through the month, a succession of frontal systems made regular west-to-east progress across the UK. Although there was a brief very warm spell around the 7th-9th, the hottest places just touching 30°C, this soon broke down with thunderstorms. Temperatures were generally below average, particularly daily maximum temperatures, frequently failing to reach above 20°C. Rainfall was above average throughout the UK, with more than 200% of average across the west of Northern Ireland, Lancashire, Merseyside and the Manchester area and parts of Devon, Dorset, and Wiltshire. The UK overall rainfall total was 170% of average overall, making this provisionally the wettest July since 2009 and sixth wettest July in the series. Northern Ireland provisionally recorded its wettest July on record with 207%, just ahead of July 1936. Sunshine was below normal, particularly across southern and western areas with the UK recording 81%. Reference climatology used for calculating anomalies is the period 1991-2020 unless otherwise stated.

Weather impacts

- **Various impacts from the often unseasonably wet and windy weather – mostly flood-related.**

With barely a dry day nation-wide, windy conditions and often rather low temperatures, there were various weather impacts through the month. On the 6th, the Tíre music festival became a victim of the unsettled weather as it was forced to cancel a day before the start due to reported strong winds impacting camp sites and more windy weather forecast. On the 8th, there were various reports of road flooding in parts of north-east Wales and Liverpool. There were also reports of road and surface water flooding around Birmingham and in Matlock, Derbyshire with a number of properties suffering surface water ingress. The 9th saw further thunderstorm activity across Northern Ireland with reports of lightning damage to rail signalling in the evening, whilst in central Scotland heavy rain on the 10th led to localised flooding of the rail line between Glasgow, Lanark, and Edinburgh. Localized intense rainfall on the 11th in the Birmingham area also disrupted rail services. The weekends of the 15th to 16th and 22nd to 23rd brought further reports of disruption as low-pressure centres crossed the UK. Northern Ireland Electricity reported a large-scale fault shortly after midnight on the 15th, lightning being the suspected culprit. Heavy downpours and gusty winds were blamed for multiple reports of flooded roads and downed trees across Northern Ireland, and the Tyne

and Wear metro also suffered flooding. A week later the rainfall was most persistent across Northern Ireland and Northwest England, with further reports of localized flooding. Rail services in Northwest England were affected including the West Coast Main Line. The Garstang flood basin was opened to ease the pressure off local rivers while several properties were flooded with at least two rescues of drivers from stranded vehicles on flooded sections of roads. The final week of the month saw further unsettled weather with localized surface water flooding in Scarborough as the local drains struggled to cope with excess water.

July 1923

Observers Notes.

Copdock: The most remarkable spell of heat which I have ever recorded in any month in my 22-years observation here occurred during the period 4th-23rd. Rainfall considerably below average, sunshine above average.

Southport: one of our warmest Julys, yet exceptionally dull, the warmth being due to a general southerly component in the prevailing westerly winds, instead of the normal summer northerly component. Hence the cloudiness.

Torquay: The month was consistently warm and dry throughout, and although the total sunshine was below average the days were generally sunny and free from cloud.

Walton-on-Naze: A great absence of easterly winds, with extremes of temperature and low rainfall. Insect pests were abnormal.

Arisaig: An unusually dark, wet, and gloomy month.

Jardington (near Dumfries): July was a month of remarkable vegetable growths.

Dublin: The weather was exceptionally fine and warm until the last few days which were cool and unsettled.ⁱⁱ

Derby/Burton-on-Trent: This was a very wet July, with a wide variety of totals, suggesting localised heavy/torrential outbreaks during the month. All, except one, site exceeded 100 mm (the "driest" had 90.4 mm in the Derby area), with another Derby gauge receiving 133.4 mm, and Byrkley Gardens, near Burton, having 166.9 mm. At the last mentioned, 88.9 mm was attributable to the 15th. It was a warmer than normal July, with a mean temperature around 18 C at Burton-on-Trent. The extreme maxima were between 29 C and 32 C, with the 6th, 7th, 12th and 13th marked as the warmest dates. The lowest minima were around 8 C or 9 C, on the 2nd. The 13th had a high minimum of 18 C.ⁱⁱⁱ

Overview of July 1923

During the first few weeks the weather was mainly overcast skies, temperature slightly below average, both associated with a westerly airstream. After the 4th the European anticyclone spread north-west introducing fine, sunny days, high day time temperatures and warm nights; maxima in excess of 90 F [32 C] were recorded. Thunderstorms, which developed in the north and west around the 6th, continued at various times throughout the following week. On the 8th flooding occurred at Carrbridge (Inverness), which was associated with a severe thunderstorm, and caused considerable damage. On the 9th/10th thunderstorms were reported in London, and the Home Counties, which moved north during the morning of the 10th. Heavy rain was associated with these storms. After the middle of the month Atlantic depressions moved south over the country producing cooler, cloudier weather, much rain, and strong westerly winds along exposed coasts.

Temperatures were generally above average, ranging from + 4.0 F [+2 C] in eastern England to + 1.5 F [+0.7 C] in northern and eastern Scotland and the Channel Isles. On the 7th maxima exceeding 90 F [32 C] were recorded; 92 F [33 C] at Camden Square, 91 F [32.8 C] at Lincoln and Raunds, and 88 F [31 C] at Brocklesby [Lincolnshire Wolds].^{iv} The 12 and 13th were generally the hottest days with maxima exceeding 90 F at most stations in eastern and south-eastern England and the Midland counties. Several records were established. The maxima of 95 F [35 C] at Isleworth on the 12th and 13th were the highest since August 1911, 91 F [33 C] at Tenbury on the 12th was the highest temperature in 23-years of observations, and 87 F [30 C] at Torquay, again on the 12th, was the highest recorded since the station opened. The maximum of 92 F [33 C] recorded at Cullompton (Devon) on the 12th was a record, as was that of 85 F [29 C] at Falmouth on the same day. At Copdock (Suffolk) the maximum temperature exceeded 90 F [32 C] on three days, and 80 F [27 C] on ten days. During the spell of hot weather the nights were very warm. From the 6th to the 16th the minimum fell only once below 60 F [15 C], and on the night of the 12th/13th the minimum was as high as 68 F [20 C]. Similar minima were recorded at Tavistock and Lympne on the same night.

Rainfall was above average in northern and western Scotland, eastern and north-western England, and in the Midlands. Elsewhere rainfall was below average. There was however considerable variation at different places within the same areas, mainly due to thunderstorms. At Eastbourne, where heavy rain accompanied the thunderstorm overnight of the 9th/10th, 146% of average for the month was recorded, however, at Tenterden, in Kent, 26 miles away, only 27% was noted with no rain recorded for the night of the 9th/10th. At Mickleover (Derbyshire) 251% was recorded, and at Fort William 178%. Very heavy falls occurred on the night of the night 9th/10th in south-eastern England.

The first group of thunderstorms began on the night of the 6th/7th progressing eastwards, with the greatest intensity being reached in the north of England and Scotland. Considerable damage was done to bridges and railway embankments in the Carrbridge (Inverness) area

from, to quote the Meteorological Magazine, “what is popularly known as a “cloud-burst” on the afternoon of the 8th”.^v

The second group began with a storm that affected London, parts of Sussex, and adjacent counties, during the night of the 9th/10th. This storm was particularly remarkable for the high frequency of lightning flashes that continued for a period of between 6 and 8 hours. It is understood that nearly seven thousand flashes were recorded at Chelsea in the six hour period from 2200 on the 9th to 0400 on the 10th. At Wadhurst, in Sussex, the frequency of lightning flashes, at the height of the storm, was between 1600 and 1700. Heavy rainfall was recorded in the area of Brighton, the greatest fall was 103 mm at Seaford, while in London 65 mm was recorded at Hampstead. The observer at Alfriston, in Sussex, noted, “that a man 97 years old with an excellent memory stated that no such terrible storm had occurred in that neighbourhood during his lifetime”.^{vi} The storm moved north into the Midlands during the 10th. Brocklesby Weather Diary noted a total rainfall for that day of 16.8 mm. Thunder had been heard during the night, but the storm had commenced around 0700 on the 10th and finished around 1030. Thunder continued to be heard for the rest of the day.^{vii}

The third series of storms began on the 12th and affected, mainly south-east England and the West Midlands, although, once again, the observer at Brocklesby noted that thunder was heard on both the 12th and 13th, the expression “storms about” was used on both days. Generally, the damage resulting from the storm was not excessive and there were no hailstorms of any note.

Finally, Brocklesby reported lightning seen on the 28th, and a thunderstorm between 0700 and 0800 on the 31st, accompanied by 9.4 mm of rain.

Sunshine was above average in the south-east, east, and north-east England, and in northern Scotland; elsewhere sunshine was below average. The range was +1.14 hours in south-east England to -1.23 hours in the South West.

Sea fog was observed on the northern coasts of Devon and Cornwall, but elsewhere fog was “infrequent”.

Europe and the Rest of the World^{viii}

The first half of the month a “heat wave” dominated western Europe. In Holland, where the heat lasted nearly a fortnight, 150 deaths were recorded, while in several parts of Italy wild fires were recorded due to the high temperatures. Between the 14th and 16th thunderstorms were reported in Switzerland, which caused considerable damage to crops, floods occurred in several cantons, and some casualties, due to lightning strikes, were reported. However, the wheat harvest in France was reported to be very good, and the yield in Greece was said to be excellent, in some parts exceeding that of the previous year by 130%. The crop in Rumania was said to be satisfactory!

Rainfall in the mountains of the Yemen and south-western Arabia was reported to be plentiful.

At the beginning of the month there was considerable anxiety with regard to the crops in India as there had been break in the monsoon. However, during the following few days torrential rain was reported in Bombay [Mumbai], the greatest fall being 12 in [304 mm] in 24 hours. By the 18th sufficient rain had fallen in western India and the cotton and rice crops were expected to be good. The grain crop was late and a satisfactory yield was in doubt. Considerable damage from flooding was reported from Mysore during the second week.

Rainfall was above normal in Western Australia, Queensland, and Tasmania, but below normal in South Australia, New South Wales, and Victoria.

A violent storm was reported from Uruguay around the middle of the month, five lives were lost, and considerable damage was done in Montevideo. Rainfall in the south of Brazil was 20 mm above average, but irregular and, generally, below average in the north, and "scanty" in central districts. The temperature was generally below average, with mild frost being reported in the south, causing considerable damage to the coffee crop.

Central England Data.^{ix} (Averaging period is 1891 to 1920.)

Mean Maximum Temperature: 21.7 C. Average: 20.7 C.

Mean Minimum Temperature: 13.3 C. Average: 11.4 C.

Mean Temperature: 17.5 C. Average: 15.7 C.

England and Wales Rainfall: 79.4 mm. Average: 72.6 mm. 109%.

Midlands Data. (Averaging period is 1911 to 1920).

Midlands Mean Maximum Temperature: 21.7 C. Average: 19.7 C.

Midlands Mean Minimum Temperature: 12.4 C. Average: 10.2 C.

Midlands Mean Temperature: 17.1 C. Average: 14.9 C.

Midlands Rainfall: 87.7 mm. Average: 75.6 mm. 116%

2023 (Provisional)

Central England (Averaging period is 1991-2020).

Mean Maximum Temperature: 20.1 C. Average: 21.4 C.

Mean Minimum Temperature: 12.1 C. Average: 12.2 C.

Mean Temperature: 16.1 C. Average: 16.8 C.

England and Wales Rainfall: 121.3 mm. Average: 72.0 mm. 168%.

ⁱ Monthly Weather Report, July 1923, Pitsford Weather Centre, August 1923, pp. 5 and 6.

ⁱⁱ Monthly Weather Report, July 1923, Meteorological Office, HMSO, September 1923, p. 86.

ⁱⁱⁱ D J Stanier, by email, 2 August 2023.

^{iv} Lincoln Record Office, YARB 14/2, July 1923.

^v Meteorological Magazine, August 1923, Meteorological Office, HMSO, August 1923, p. 150.

^{vi} Monthly Weather Report, July 1923, Meteorological Office, HMSO, September 1923, p. 86.

^{vii} LRO, YARB 14/2, July 1923, 10th July 1923.

^{viii} Meteorological Magazine, August 1923, Meteorological Office, HMSO, August 1923, p. 169

^{ix} Hadley Centre, Central England and Midlands, Meteorological Office.