Weather Front.

September 2024/1924

September 2024

Observers Notes.

Bablake: The coolest September since 2018 (14.3 C), the wettest since 1883 (139.8 mm), and the dullest since 2008 (110.2 hr).

Mickleover: The third wettest September, and the coolest, since 2018. A thunderstorm, on the 21st, lasted from 1645 to 2140 BST.

Middleton: The coolest September since 2018 together with the earliest ground frost on record, on the 12th. It was the wettest since station records began in 1963, and the wettest locally since 1957. The first half of the month was drier than average, but the second half recorded 165.0 mm of rain, the most in the second half of any month, apart from October 1998. It was the dullest September since sunshine records began in 2000.

Desford: A cool, wet, month with some thunderstorms. There was local flooding by the end of the month after heavy, and persistent, rain.

Derby: Two visual ground frosts observed. The coolest September since 2017.

Ely: The lowest mean maximum, and mean temperatures since 2018, and the lowest mean minimum temperature since 2022. The wettest September since 2001, and the third on the station record. A ground frost on the 13th was the frost in the month since 2003. A daily rainfall total of 28.3 mm on the first of October takes the annual total for 2024 to 100% with three months to go!

Lincoln: A non-instrumental observation of a slight frost was noted on the morning of the 29th; this area is a frost hollow on the eastern side of an old airfield.

Mountsorrel: September 2024 was the wettest September recorded at this station. It was also the wettest month in the entire rainfall record of the station exceeding the previous highest of 152 mm in June 2012. In nearby Hinckley 184.6 mm was recorded for the month breaking all the rainfall records there since 1982. Temperatures were the coolest since 2017. It was s duller month than average with 81% of normal. The first three weeks of the month

were relatively mild, but changed on the 21st when a humid airmass, and falling pressure, produced the wettest week ever recorded in 25 years, nearly 120 mm of rain falling from the 21st onwards in a series of exceptionally heavy downpours, 34 mm falling on the 22nd. Initially the rivers were able to cope but the water table soon rose leading to substantial river flooding, and flash flooding was also evident in Leicester on the 21st and 26th. The rain continued to fall as the month ended and October began.

Lowdham: The 22nd was the wettest September day since 1995, and the 5th wettest on the station record (1991). The running total of rainfall, from January to September, is 655.6 mm and is the 5th wettest in the Nottingham area since 1840.

The sunshine total at Radcliffe-on-Trent is 108.8 hr (79% of the 1991-2020 average).[i]

Coton-in-the-Elms: The coolest September since 2017. The days were quite cool, apart from some warm days early in the month. Nights were very close to average, although a very cold night 12th/13th dipped to -0.7 C, the 3rd coldest September night in over 30 years of recoding. Courgette plants were blackened! The rainfall was twice the average, and it was the wettest September since 2019, but still a long way to go to beat September 1994 (136.6 mm). It is understood that places east, and south, of this site were much wetter! 13th, the coldest night for 34 years. 21st, warm and humid, thundery showers from 1500-1800 BST. 26th, More heavy showers, thundery at times late afternoon, rain overnight.

UK overview

September saw unsettled weather across the UK, with variable temperatures and persistent showers. Northern Ireland and Scotland experienced a relatively dry and sunny month, while central and southern parts of the UK were particularly wet and dull. The month began on a warm note, with above average temperatures across the UK persisting for the first week as successive plumes of warm, humid air were drawn northwards off continental Europe. However, by the 11th the temperatures dropped as Arctic air moved in. The third week saw temperatures again above average, before a return to much cooler conditions in the final week of the month. It was also a very wet month for many: the first few days of September saw heavy, widespread showers across the country as well as thunderstorms in the southwest. On the 13th, generally fair conditions overnight coincided with visible Aurora in northern regions. High pressure to the northeast of the UK brought a period of settled weather on the 16th, but low pressure soon returned and allowed scattered heavy showers and thunderstorms to develop across southern and central England and Wales during the afternoon. Frontal systems brought bands of heavy and often slow-moving rain to parts of southern England, Wales and central England, while scattered showers brought rain to Scotland and Northern Ireland. Overall, September saw below average temperatures, with a provisional mean of 12.7°C (anomaly -0.3°C). Temperatures were slightly lower in Scotland and Northern Ireland than in southern and central England. East Anglia saw mean temperatures around 0.5°C above average, while eastern Scotland recorded temperatures

around 0.7°C below average. Rainfall for the UK overall was slightly above average (provisional anomaly 125%), but there was strong regional variation, with southern England provisionally recording 233% of their average rainfall while Scotland recorded just 63%. Several counties including Bedfordshire, Gloucestershire and Oxfordshire provisionally recorded their wettest September on record, with over 300% of the average September rainfall. Southern England recorded its third wettest September on record, and its wettest since 1918. Several stations including Woburn (Bedfordshire) and Shawbury (Shropshire) provisionally experienced new record daily rainfall accumulations. Sunshine duration was below average for the UK overall for September (anomaly 96%), although Scotland and Northern Ireland both experienced above average sunshine durations. Wales and southern England recorded around 80% of the average sunshine duration in September. Reference climatology used for calculating anomalies is the period 1991-2020 unless otherwise stated.

Weather impacts

- **Thunderstorms at the start of the month caused flooding and travel disruptions in England and Wales.**

- **Later in the month, heavy and persistent rainfall in central and southern parts of England led to surface water flooding, power outages, and travel disruptions.**

September saw a big contrast in weather fortunes across the UK, with Scotland and Northern Ireland experiencing a relatively dry and sunny month while central and southern parts of the UK were wet and dull. The first eight days of September saw successive plumes of warm, humid air drawn northwards off continental Europe into the UK, with southern parts of England and Wales the most affected. Surface water flooding along the rail line between Shrewsbury and Machynlleth on the 2nd led to travel disruption, and there were reports of road and property flooding in the Midlands and Herefordshire. From the 5th to the 8th, low pressure sat just to the south of the UK and the focus for the heavy downpours and impacts was across southern Wales and southern England as bands of heavy, thundery rain moved westwards. On the 5th there was localised flooding in Hampshire, while the 6th saw reports of surface water flooding on roads around Newport. The overnight period between the 6th and 7th was particularly busy for firefighters around Swansea, Port Talbot, Cardiff and Newport with reports of road and property flooding. The Victoria Park observatory in Swansea recorded more than its entire September average rainfall on the 6th alone with 87 mm falling, 44 mm of which fell in a single hour. Localised power outages were also reported in Port Talbot. On the 8th, further widespread downpours and thunderstorms developed with surface water flooding reported from several locations including Shrewsbury and the Isle of Wight, where a pony was killed by a lightning bolt. In Surrey, power outages from lightning strikes were reported as impacting the water supply to as many as 1300 properties. The week from the 12th to the 19th saw high pressure across the UK and largely settled, warm conditions. However, a change began on the 20th as pressure began to fall across southern areas, although high pressure retained its influence further north. Heavy showers and

thunderstorms first developed on the 20th and then more widely on the succeeding days with a spell of more persistent and often heavy rain affecting parts of the Midlands and southern England on the 23rd. On the 20th, surface water flooding was reported from Sussex to Gloucestershire, with some leisure centres, schools and recycling centres forced to close due to flooding. A section of Cheltenham General Hospital reported water pouring through the ceiling after a torrential downpour. Activity on the 21st was focussed more across the north and east Midlands with houses in Stoke-on-Trent and Derby reportedly struck by lightning. Across Nottinghamshire and Leicestershire, the storms caused significant power outages, and several Nottinghamshire motorists were reportedly rescued from their vehicles after becoming trapped in floodwater. Southern Midlands and southern England bore the brunt of the impacts on the 22nd, with Dunstable High Street reported flooded, at least two properties in Northamptonshire reportedly struck by lightning, and numerous incidents of surface water flooding as well as the first reports of river flooding from Bedfordshire. After the persistent rain on the 23rd, it was reported that around 250 properties were reported to have been flooded, the majority of these within Hertfordshire, Bedfordshire, and Northamptonshire. Numerous flood warnings were issued with several sites recording in excess of 100mm of rain just on the 23rd alone. The Billing Aquadrome caravan park in Northamptonshire was reported to have been precautionarily evacuated with around 1000 people involved, and the A421 in Bedfordshire was closed for an extended period due to the conditions. On the 25th and 26th, another bout of widespread rainfall and some thunderstorms affected England, Wales and Northern Ireland. The West Midlands saw various impacts including surface water flooding closing major roads as well as reports of a flooded care home in Shropshire. On the 27th, a stretch of the M5 was closed due to flooding, and the village of Narborough in Leicestershire was reported as badly affected by road flooding. By the 28th, the Environment Agency was reporting that around 800 properties had suffered flood damage, with a further 11,000 under protective measures. More rain fell on the 30th across Northern Ireland and northern England, which had been spared the worst of the earlier rain, resulting in more muted impacts. However, there were still reports of road flooding and disrupted traffic, especially across Merseyside.

September 1924

Observers notes.[ii]

Berwick-on-Tweed: Windy and wet.

Copdock (Suffolk): Another wretched month, dull and very wet. Temperature not far from normal. Corn crops much damaged by persistent rain.

Hodsock Priory (Notts.): The feature of the month was the warm nights. The mean minimum temperature was equally high in September 1880 but has never been higher in this month. Harvest late but secured in fairly good condition.

Isleworth: A cool equable month, but most unfortunate for the fruit harvest, 30 to 40% of the crop being spoilt.

Lerwick: The period from the 8th onwards, characterised by heavy rains and high winds, proved a disastrous one for the crops in Shetland.

Morwenstow: A very wet month. Rain very frequent and persistent.

Newport (IOW): an exceptionally wet and windy month.

Torquay: Generally unsettled, abundance of rain and deficient in sunshine.

Walton-on-Naze: An abnormal month, unusually overcast.

St Andrews: A few very fine days, but wet and chilly on the whole. Harvest very late.

Ullapool (Ross and Cromarty): A month of little sunshine, few dry days, and days of heavy rain.

Cork (University College): The wettest September in 41 years, excepting 1901 and 1908.

Dublin: A cool month of heavy rains.

Derby/Burton-on-Trent:[iii] A fairly normal crop of rainfall totals; Deby observers had 65-75 mm while those of Burton had 55-65 mm. Temperatures varied between a minimum of around 1 C on the 28th, at Byrkley Gardens, and maxima around 21 C on the 8th. Overall, the mean temperature was 14.5 C.

Louth (Westgate): Rainfall 77.0 mm (150%).

Skegness (Estate Office): Rainfall 55.4 mm (120%).

Mickleover (Clyde House): Rainfall 78.5 mm (173%).

Buxton (Devon Hospital): Rainfall 134.4 mm (163%).

(NB. These averages are based on the period 1891-1920.)

Brocklesby: 10 Day Mean Temperatures.

Date	Max	Min	Mean
1-10	65	52	59
11-20	64	49	56
1-20	64	50	57
21-31	61	46	53

Overview of the UK and Ireland.[iv]

During the greater part of the month unsettled weather, with heavy rain, predominated, although there were some fine periods. From the 2nd to the 6th there were some sunny periods, mainly in the north of the British Isles, due to an anticyclone centred near southern Norway and extending across Scotland. In the south however the weather was cloudy, with rain falling on most days, amounts being moderate or light. A change occurred on the 6th when a depression, approaching from the Atlantic, crossed the country from the south-west and produced heavy rain from the 6th to the 8th, with thunderstorms occurring in England between the 7th and 8th. From the 10th to the 19th depressions were generally located to the north-west of the country, producing a south-westerly flow, strong at times, and with frequent heavy rain. There were some bright days; 13 hours of bright sunshine at Crathes (Kincardineshire) on the 4th, and 12.9 hour at Lerwick on the 5th, while between the 14th and 18th several stations in England reported around 11 hours of bright sunshine. After the 19th depressions further south produced high winds, or gales, at times around the coast, particularly on the night of 20th/21st. From the 19th to 25th sunshine and heavy rain alternated. In the rear of this depression a ridge of high pressure crossed England, giving fair weather for a day or two, but a depression near Iceland produced heavy rain in Ireland and Scotland on the evening of the 28th and, eventually, more wet weather in England.

The mean temperature for the whole country was exactly normal, although six areas were below average and six above. The greatest excess was +1.3 F [+0.7 C] in eastern England, while the largest deficiency was -1.2 F [-0.7 C] in eastern Scotland. The week 21st to 27th was the coldest, all areas being below average, and the first week of the month the warmest. During the first week the nights were warm, and, at some stations, screen minima did not fall below 55 F [12.8 C]. Once again, the mean daily range was comparatively small. Seven or eight days of ground frosts were experienced at some Scottish stations, but generally the frequency was much smaller, and many places submitted a nil return.

Rainfall was generally above average; the only area below was eastern Kent and Sussex. Over 200% of rain was reported in south-eastern Ireland, a large area of southern England and Wales, and three small areas of Scotland: one on the north coast, one on the east coast, and one on the south coast. Small areas of England and Ireland exceeded 250% of average while, at Birr Castle and Waterford, nearly 300% was achieved.

The first week of the month was driest and the second the wettest. After the 6th rainfall was above average everywhere, the heaviest falls occurring on the 7th, 16th, and 19th to 25th; many daily totals exceeding 50 mm. On the 16th 91 mm was noted at Caernarfon, and 75 mm at Dungeon Ghyll (Westmoreland, now Cumbria). On the 25th 88 mm fell at Beaulieu. Also, on the 25th a total of 53 mm, at Selsey, was the largest since January 1908. The monthly total at Teignmouth was a record for September. On the 9th serious flooding was reported in northern parts of Scotland; the observer at Forglen Castle (Banff) noted that the River Deveron had

risen to within four inches [100 mm] of the level reached "in the historic Moray floods of August 1829". Snow fell on many of the higher Scottish mountains on the 9th and 10th.

While several stations reported 4 days of thunder, and Worksop 5, thunder in England was not generally reported, and many stations gave a nil report. However, thunderstorms occurred over considerable parts of Scotland on the17th and 23rd and, during a thunderstorm in the early hours of the 8th, accompanied by high winds, several oak trees in the vicinity of Tunbridge Wells had their tops completely twisted off by the force of the wind.

Apart from northern and eastern Scotland, sunshine duration was below average everywhere. The largest mean daily excess was +0.65 hours in eastern Scotland, and the largest deficit was -1.20 hours in eastern England. The week 21st to 27th was the brightest, the duration being above average in most areas. During the rest of the month sunshine was mainly below normal.

Fog was infrequent at most stations, and many had a nil return at the morning hour of observation, although Aberystwyth had 9 days, Manchester (Whitworth Park) 7 days, and Billingham (Northumberland) 6 days.

Windy and very wet. Dull, except in Scotland.

Rest of the World.[v]

The weather in north-west and western Europe was generally unsettled, with mainly south-westerly winds, considerable rain, many gales, and mean temperatures above normal. In Switzerland the temperature was around average and rainfall generally local. Heavy rain had caused a landslide which destroyed the village of Someo, in the Canton of Ticino but, at Zurich, the rainfall was less than average. In France, and parts of Switzerland, the continuing wet weather had destroyed the wheat crop, and a poor yield of flour was being anticipated. In the Mediterranean more favourable weather was being experienced, the maximum temperature, on the 10th, at Malta was 102 F [38.9 C], the previous September record for the period 1853 to 1923 being 100 F [37.8 C]. On the 11th a severe storm passed over Denmark, damaging the fruit crop, and driving several ships ashore. On the 23rd serious flooding was reported in Leningrad [St Petersburg]. It is understood that newspaper reports referred to a "tidal wave". While there were strong westerly winds in the Gulf of Finland there was no information, at the time, as to whether the River Neva was in flood above Leningrad.

The rainfall in India, for the week ending the 24th, was said to be "scanty" in the Bay Islands, Lower Burma [Myanma], East Central India, and north-west India. In the Peninsula [Malaysia], the monsoon was still strong. Heavy rain was recorded in the Punjab between Delhi and the Kumaon region, in the Indian state of Uttarakhand [north of Delhi], during the last week of the month. At Mussooree [Mussoorie], [a hill station in the foothills of the Garhwal Himalayan range, 180 miles north of New Delhi], 15 in [381 mm] of rain were recorded in two days, while at Naim Tal [Nainital], the administrative centre f Kumaon, 18 in [457 mm] of rain

were recorded in 3 days. In the suburbs of Delhi, and in parts of the Punjab, over 40 villages were submerged, and many more flooded. The Ramganga, a tributary of the Ganges, breached its banks causing significant problems to the rail network.

On the 7th significant damage was caused, by a typhoon, to the port of Taihoku [Tai-Bei], Formosa [Taiwan]. There were over 300 casualties, 60 vessels in the port were sunk, and over 100 bridges destroyed.

At the end there was extensive flooding in the Eastern United States which caused extensive damage. Many rivers were in flood, and Oneida Creek, New York, normally 50 ft [approx. 50 m] wide, was half a mile [approx. 800 m] wide. A gale in New York City produced an inch [25.4 mm] of rain. The weather was so bad that RMS Olympic had difficulty entering harbour. Floods were also reported in Quebec, the town of Baie St Paul was under threat. A schooner was wrecked on the St Pierre Archipelago, Newfoundland, on the 4th, with the loss of 24 lives.

It is understood that a returning Oxford University Expedition to Spitsbergen reported that the season had been the worst for 15 years due to northerly gales, blizzards, and sea ice.

In Brazil, the rainfall was significantly below average, being 40 mm, 27 mm, and 59 mm below normal in the northern, central, and southern districts respectively. The crops in the southern and central areas were badly affected by the lack of rain during critical periods. It is understood that the general circulation was less active than previously.

Central England Data.[vi] September 1924 (Averaging period is 1891 to 1920.)

Mean Maximum Temperature: 16.2 C. Average: 17.1 C.

Mean Minimum Temperature: 10.5 C. Average: 11.3 C.

Mean Temperature: 13.3 C. Average: 13.1 C.

England and Wales Rainfall: 114.6 mm. Average: 64.3 mm.

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

Midlands Mean Maximum Temperature: 16.4 C. Average: 17.1 C.

Midlands Mean Minimum Temperature: 9.4 C. Average: 7.9 C.

Midlands Mean Temperature: 12.9 C. Average: 12.5 C.

Midlands Rainfall: 93.4 mm. Average: 55.2 mm.

Central England Data September 2024 (Provisional) (Averaging period is 1991-2020).

Mean Maximum Temperature: 17.8 C. Average: 18.3 C.

Mean Minimum Temperature: 10.3 C. Average: 10.1 C.

Mean Temperature: 14.0 C. Average: 14.2 C.

England and Wales Rainfall: 153.8 mm. Average: 76.0 mm.

Midlands Data.

Mean Maximum Temperature: 17.4 C. Average: 18.1 C.

Mean Minimum Temperature: 9.7 C. Average: 9.4 C.

Mean Temperature: 13.6 C. Average: 13.8 C.

Midlands Rainfall: 157.4 mm. Average: 64.5 mm.

Sunshine: 110.4 hours. Average: 136.3 hours.

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[i] Courtesy T Scholey, by email 11 October 2024.
[ii] Monthly Weather Report, September 1924, Meteorological Office, HMSO, October 1924, p. 113.
[iii] D J Stanier, by email, 6 October 2024.
[iv] Monthly Weather Report, September 1924, Meteorological office, HMSO, November 1924, p. 113, and Meteorological Magazine, October 1924, Meteorological Office, HMSO, November 1924, pp 223-224.
[v] Meteorological Magazine, October 1924, Meteorological Office, HMSO, November 1924, pp. 224-225.
[vi] Hadley Centre, Central England and Midlands, Meteorological Office.