

July 2022

The averaging period used for the following assessment was 1991-2020.

The weather during July was dominated by dry spells and generally above-average temperatures. The south-east was particularly dry. Record-breaking temperatures were recorded on the 18th and 19th.

The provisional UK mean temperature was 16.6 °C, which is 1.3 °C above the long-term average. Temperatures were highest relative to average in eastern areas, particularly for maxima which were 3 °C above average in East Anglia. It was provisionally the UK's seventh warmest July in a series from 1884, and very similar to 2021. Rainfall was slightly above average in parts of north-west Scotland, but other areas had a drier than average month, with less than a quarter of the average south-east of a line from Lincolnshire to Cornwall; the UK had 56% of average. It was a sunnier than average month in the south and south-east, but north-western parts of the UK were rather dull, with an overall figure of 103% of average.

The UK monthly extremes were as follows: A maximum temperature of 40.3 °C was recorded at Coningsby (Lincolnshire) on the 19th. A minimum temperature of 2.3 °C was recorded at Tyndrum (Perthshire) on the 27th. In the 24 hours ending at 0900 UTC on the 24th, 70.4 mm of rain fell at Magilligan (Londonderry). A wind gust of 51 knots (59 mph) was recorded at Loch Glascarnoch (Ross & Cromarty) on the 11th.

Weather impacts

There were two stand-out features of July's weather, firstly the unprecedented heatwave of the 18th/19th which saw new record high temperatures recorded across England, Wales and Scotland; secondly, the exceptionally dry conditions across southern and eastern England.

After a quiet start to the month, the heatwave coming on the 18th and 19th was foreseen with amber warnings six days ahead and red warnings closer to the event. Pre-emptive actions were reported on the rail network, including the closure of the East Coast Main Line between London and York on the 19th. Impacts to travel, particularly rail services, began to be reported more widely with speed restrictions and service cancellations due to overhead line damage, track deformation and signalling equipment failure. The heat also damaged the runway surfaces at both Luton and RAF Brize Norton, causing the suspension of flights.

The 19th saw the peak of the heatwave and widespread associated impacts. Thousands of homes in Yorkshire, Lincolnshire and NE England lost power after key infrastructure components overheated. On the roads sand was spread in several counties to counter melting surfaces. The rail network saw further service cancellations and, after several trackside incidents, Avanti West Coast ceased all operations on the West Coast Main Line between London and Scotland. Reports of wildfires began to emerge across large parts of England, particularly Greater London and the south-east. Many of the fires started on open land then spread to nearby properties. Several fire and rescue services had record-breaking numbers of calls. Amongst the most serious incidents was a fire that destroyed as many as 19 homes in Wennington, East London, also damaging a further 56 properties. London Fire Brigade had its busiest day since World War II. There was also a spike in open water-related deaths attributed mainly to the very high temperatures. Reports indicated a significant spike in health-related 999 calls over the 18th and 19th.

The closing days saw some heavy rain/thunderstorm activity, mainly across parts of Northern Ireland and Scotland. Torrential downpours affected north-western parts of Northern Ireland on the 23rd, with numerous flooding incidents in and around Derry City and Strabane, including

dozens of properties and the basement of a local hospital. The 25th saw localised heavy downpours affecting NE England, with rail services suspended in the Newcastle/Sunderland area.

England diary of highlights

The month began rather cool with a few showers, but within a week it was settled and became increasingly warm. Temperatures exceeded 30 °C in a few places on the 10th, but it was the spell around 18th/19th that broke temperature records, with the UK's first ever readings above 40 °C. The end of the month was showery in the north, but rainfall was generally below normal for the month, with very little rain in parts of the south and east.

Mean temperatures for the month were provisionally 1.6 °C above average, making it the fourth warmest July for England in a series from 1884, with eastern areas being warmest relative to normal. Maximum temperatures were up to three degrees above normal in eastern areas, while minima were only slightly above average in parts of the south. Rainfall was below average in almost all areas, especially towards the south-east, with less than a fifth of average rainfall for many counties, and 35% of average for England overall. Sunshine was mostly above normal, with East Anglia and the south faring best, giving an overall figure of 111%.

1st to 6th

Rain over the east on the 1st cleared away by mid-morning, but showers soon developed, quickly turning locally heavy and thundery, mainly over Cumbria, Northumberland and eastern parts of Yorkshire and Lincolnshire, Honister Pass (Cumbria) wettest with 49.8 mm, whereas the south coast stayed dry and sunny. East Anglia and the south-east started sunny on the 2nd, with showers elsewhere, and a spell of rain moving slowly and erratically east through the day with brighter skies then following from the west. The 3rd saw variable amounts of cloud, with showers affecting the north and the Midlands but becoming more restricted in extent later in the day. The south-eastern half began fine on the 4th, while other areas were cloudy, with showers over the north-west dying out during the morning; it remained cool in some places with Blencathra (Cumbria) recording a maximum of only 14.1 °C. Cloud tended to increase from the north during the 5th, with a few showers moving south and dying out, then it turned brighter, but with cloud increasing once more over the north late in the day. Many areas were cloudy and windy on the 6th, with outbreaks of rain or drizzle during the day but mostly over central and northern counties, and Brizlee Wood (Northumberland) recording gusts to 58 mph.

7th to 16th

Most areas began cloudy on the 7th, with patchy light rain over north-east coasts and parts of the south and south-east, but by midday most areas were turning brighter with some sunshine, and warmer than of late. Cloud persisted over the north on the 8th, but other areas became sunny and warm. Most areas were sunny on the 9th, and it was very warm in the south. Patchy low cloud, mist and fog over the north-west soon cleared on the 10th, then it was sunny everywhere, Boulmer (Northumberland) recording 16.1 hours of sunshine, and very warm in some areas with temperatures into the low 30s Celsius, but much cooler around many coasts. All areas became sunny on the 11th after any patchy mist or fog cleared, warm for most and very warm or hot in parts of the south, but it clouded over generally during the afternoon. A band of showery rain affected most places during the 12th as it moved southwards, becoming confined to central and southern counties by evening, although accumulations were small for many. Residual patchy light rain over the south soon cleared away on the 13th, then it was bright and warm. The 14th was sunny in the south, cloudier elsewhere, with light showers over the north. Southern counties started sunny on the 15th, but cloud and rain over the north moved south-eastwards through the day, turning showery by afternoon, and becoming confined to the east coast by evening. After a cool night in the north, Redesdale Camp (Northumberland) falling to 3.7 °C, the 16th was sunny, very warm in the south too, but cloudier in the north and the south-west late in the day with some showers.

17th to 19th

Rain cleared from the Midlands and north on the 17th, leaving sunshine and warmth for all areas by the afternoon. The 18th began sunny for many, becoming hot, but with showers for parts of the south from the word go, and isolated showers developing over central and northern parts into the afternoon. Record-breaking temperatures were the headline for the 19th, both overnight with Kenley (Greater London) not falling below 25.8 °C, and by day with several places breaking 40 °C, Coningsby (Lincolnshire) turning out hottest at 40.3 °C, with a few showers breaking out over the north, and bands of thunderstorms already over the south-west spreading east and north, reaching the Midlands and the south-east by evening.

20th to 26th

Remnants of overnight rain and showers cleared East Anglia and the south-east on the 20th, with isolated showers and thunderstorms over Cumbria and Northumberland dying out for a time but reforming during the afternoon, and isolated showers over the Midlands and south-west. The 21st was brightest in the south-west, with showers over parts of the Midlands and the north. The far south-west remained sunny on the 22nd, with showers or longer spells of occasionally heavy rain for the north-west and showers and thunderstorms over the south coast during the morning, these developing more widely through the afternoon. Central and eastern counties started fine on the 23rd, with cloud increasing from the west through the day, bringing rain and showers to northern, central and western parts. The south and east had sunshine on the 24th, with showers further north, and a showery band of rain spread from the west to affect many places during the afternoon. The 25th was cloudy, with showers for many places through the day, turning particularly wet over the north-east in the afternoon. The 26th started mostly cloudy, with showers mainly over the north but also in a few other places; the afternoon became brighter away from the east.

27th to 31st

Apart from early showers over the east coast, the 27th was generally fine, but with increasing cloud and showers developing over central, eastern and south-eastern counties. The 28th was generally cloudy, with rain over the north, this turning showery in the afternoon with an isolated thunderstorm, and scattered showers developing over some central and southern parts through the day. The 29th began with rain from the north Midlands northwards, becoming lighter and more showery through the morning, other areas remaining generally cloudy but the south coast seeing the best of any sunshine. Rain or showers over central and northern counties moved away east by early afternoon, but more showers or longer spells of rain, occasionally heavy, developed over central and northern parts during the afternoon. Many places started wet on the 31st, with rain or showers locally heavy but slowly clearing away south-eastwards, turning drier and brighter generally, any remaining showers becoming isolated, while the far south stayed mostly dry and humid.

Wales diary of highlights

Much of the month was relatively settled and warm, although the first few days were cooler and showery and there were some wet days later in the month. The middle part of the month was particularly warm at times, with record-breaking heat on the 18th and 19th.

Mean temperatures for the month were provisionally 1.1 °C above the long-term average, with maxima up to two degrees above average in the south. Rainfall was below average, with less than a third of normal in the south-east, giving 53% of average overall. Sunshine was mostly near average, with 104%.

1st to 6th

The 1st was rather cloudy and cool, with some showers, turning wetter from late afternoon with more persistent rain especially for the north, and a maximum at Lake Vyrnwy (Powys) of only 14.8

°C. A band of rain on the morning of the 2nd moved away eastwards, and the afternoon was drier and brighter with any showers becoming more isolated and confined to southern parts. The morning of the 3rd was rather cloudy with scattered showers, the afternoon becoming drier and brighter. The 4th again saw a few showers in the morning, followed by a brighter afternoon. The 5th began bright in the south, with cloud and light showery rain then moving southwards, but again the afternoon grew drier and brighter. It was generally overcast and dull on the 6th with patchy light rain and drizzle, but brighter over southern counties during the afternoon.

7th to 15th

The 7th was cloudy in the morning, but sunny by the afternoon. Mist and fog lingered around coasts on the 8th but otherwise it became sunny and warm, remaining so on the 9th. Patchy low cloud soon burned off on the morning of the 10th, leaving warm sunshine almost everywhere, Tenby (Dyfed) recording 15.7 hours. The 11th was sunny in the morning but cloudier in the afternoon. Showers or longer spells of rain spread south-eastwards during the 12th, reaching the south by evening with brighter conditions spreading across the north. The 13th was sunny, and warm in the south. The 14th was fine too, but for a few showers over the north, and the 15th was fine, if cloudy at times.

16th to 21st

Patchy mist and fog in sheltered spots cleared quickly on the 16th, then it was sunny and warm. Isolated showers in the north soon cleared on the 17th, then it was fine and became very warm. The 18th was sunny and very hot, with temperatures generally into the 30s Celsius, and a new Welsh record being set at Hawarden (Clwyd) of 37.1 °C. The hot theme continued overnight into the 19th with temperatures at Aberporth (Dyfed) not falling below 24.5 °C, then it was sunny and hot again, but showers and thunderstorms reached the south late morning, moving north and east, eventually clearing away by evening. The 20th was cloudier and much cooler, with isolated showers. The 21st was fine, but cloudy at times.

22nd to 31st

The 22nd was cloudy with some showers. It was cloudy, dull and rather windy on the 23rd, Capel Curig (Gwynedd) gusting to 56 mph, with rain or showers for all areas at times. The 24th brought further wind and rain, with showers or longer spells of rain for many through the day, heavy over some areas for a time in the afternoon, Capel Curig (Gwynedd) again reporting gusts to 56 mph. Further bands of showers crossed the country through the 25th. Isolated showers on the morning of the 26th gave way to a brighter afternoon. It was chilly in some spots overnight into the 27th, Sennybridge (Powys) falling to 2.9 °C, then after a bright start cloud increased with light rain or scattered showers spreading east in the afternoon. The 28th was cloudy with showers or longer spells of rain. Only the south-west saw any brightness on the 29th, and there were light scattered showers over the north. The 30th brought showers or longer spells of rain, with coastal mist and fog, the rain heaviest over the north during the morning; showers became fewer for a time, ahead of another area of rain spreading quickly east to all parts by early evening, Dinas Reservoir (Dyfed) wettest with 50.6 mm. A dull and wet morning on the 31st brought rain to many places and some coastal mist and fog, the rain slowly clearing away south with the afternoon gradually turning drier and brighter.

Scotland diary of highlights

The first week of July was mostly cool and unsettled, followed by a drier and warmer period. It was hot around the 18th/19th, before turning rather more unsettled again in the closing days of the month.

Provisional monthly mean temperatures were 0.9 °C above average, with the eastern side being warmest relative to average. Rainfall amounted to only half the average in parts of the east and

south, but was slightly above average in the north-west, with an overall figure of 81%. Sunshine was just above average in parts of the south but below average in the north-west, with 92% of average overall.

1st to 6th

Rain over the east and south cleared away late morning on the 1st, followed by showers across all parts, turning locally heavy and thundery during the afternoon. The 2nd was cloudy and wet, with showers or longer spells of rain for all, most persistent and heavy over the north. It was mostly cloudy with scattered showers on the 3rd. Showers affected all areas on the 4th, merging at times to give longer spells of rain, heaviest and most frequent across the north, a cool day with Loch Glascarnoch (Ross & Cromarty) recording a maximum of only 11.5 °C. The morning of the 5th brought scattered showers across most areas, these dying away into the afternoon, allowing a brighter period before cloud spread in again from the west, with rain reaching central and northern districts from late afternoon, Achfary (Sutherland) wettest with 59.9 mm. The 6th began with rain, occasionally heavy in places particularly over the north-west, mainly clearing the east by late morning, but persisting over the west and slowly spreading into central and southern parts through the afternoon.

7th to 17th

The next few days were warmer. Most areas saw sunshine to start the 7th, but cloud spread eastwards from late morning, with showers developing over the north. The 8th was mostly cloudy, with patchy coastal mist and fog, and showers over the west and south. Cloud cover mostly dissipated during the morning of the 9th, except over the north where showers or longer spells of rain were seen from mid-afternoon onwards. Low cloud over the south early on the 10th soon burned off, then it was sunny everywhere, although the west coast had patchy low cloud at times through the day, Eskdalemuir (Dumfries & Galloway) recording 15.4 hours of sunshine. The 11th became cloudy and windy, with showers over the far north, and rain into central and northern parts from late afternoon, Loch Glascarnoch (Ross & Cromarty) gusting to 59 mph. After a warm night, Dunbar (East Lothian) not falling below 19.0 °C, the 12th saw rain over central and southern parts fizzling out during the morning, turning brighter for central and eastern counties but with cloud remaining over the west and south producing isolated showers. The 13th and 14th were rather cloudy at times, with showers in places. Most areas began wet on the 15th, the rain moving away south and east through the day and turning showery in the process, and it was dry and fine by early evening. The brightest conditions on the 16th were in the south and east, with showers or longer spells of rain further north and west, though cloud increased more generally from late afternoon, with showers continuing in the north and rain into the Borders by evening. Widespread rain early on the 17th cleared away eastwards by lunchtime, after which more rain and showers affected the far north and later the west.

18th to 22nd

Rain or showers covered the north on the morning of the 18th, but all areas were dry by the afternoon, turning generally sunny and very warm, ahead of more showers spreading into the south-west by evening. Western areas began showery on the 19th, showers moving east through the morning, turning thundery in central and northern parts, with further rain and thunderstorms reaching western and southern counties by mid-afternoon, becoming very wet over the north-west by evening, but very warm especially in the south with some station records being broken and a national record of 34.8 °C set at Charterhall (Berwickshire). The 20th was cloudier and cooler, with a few short-lived showers for the Borders in the morning and the north-west later, but otherwise turning brighter. Early brightness over the Borders on the 21st gave way to scattered showers for all. The 22nd was cloudy, with showers heaviest and most frequent in central and southern districts, scattered elsewhere.

23rd to 31st

The 23rd was dull, with rain and drizzle persisting over the bulk of the country, and heavy rain crossing the Western Isles and north-west during the afternoon, spreading into central and southern districts later. There was further rain on the 24th, a windy day with showers or longer spells of rain for all parts, these turning heavy and thundery at times during the afternoon. Showers or longer spells of rain continued during the 25th, heavy at times, moving south through the day. The 26th saw some respite, dry and bright in the south, cloudier and cool with scattered showers further north. Central and southern areas started fine and rather cold on the 27th, Tyndrum (Perthshire) falling to 2.3 °C overnight, with cloud and scattered showers in the north, becoming generally cloudy through the afternoon. The Borders started wet on the 28th, with the rain spreading slowly north through the day, reaching all but the north-west by evening, turning showery in the south by afternoon with isolated thunderstorms. The 29th saw early sunshine in the north, with more cloud elsewhere, any rain for the eastern part of the Borders clearing away late morning, but isolated showers developing over eastern counties in the afternoon, and more significant rain reaching the west coast by evening. The 30th started with showers or longer spells of rain for some places, and coastal mist and fog, clearing east during the morning, then some sunshine, showers becoming isolated but still locally heavy over the south. Showers for central and eastern areas early on the 31st slowly died out, and it became generally dry and bright with just isolated showers over the north in the afternoon.

Northern Ireland diary of highlights

The month began rather cool, with rain at times, but it became drier and much warmer from the 7th. The last ten days were more variable and less settled in character.

The mean temperature for the month was 0.9 °C above average. It was a dry month except in the north-west, with rainfall totals amounting to 51% of average, and it was a dull month, especially towards the north-west, with just 70% of average sunshine, making it provisionally the eighth dullest July in a series from 1919.

1st to 6th

The 1st was cloudy, isolated showers giving way to bands of showers or longer spells of rain crossing the country from mid-afternoon. The 2nd was brighter, but with showers, some turning locally heavy during the afternoon. It was rather cloudy with scattered showers on the 3rd, these conditions continuing on the 4th which was also rather cool with Lough Navar (Fermanagh) struggling to a maximum of only 13.1 °C. The 5th was cloudy once again, with isolated showers in the morning, easing for a time ahead of more showers or longer spells of rain spreading southwards during the afternoon. It stayed overcast on the 6th with outbreaks of patchy light rain and drizzle in places.

7th to 16th

Mist and low cloud around coasts first thing on the 7th gave way to a brighter and warmer day with variable cloud amounts. The 8th saw some mist and fog around coasts during the morning, and patchy rain and drizzle in places by the afternoon. It remained rather cloudy again on the 9th and 10th, the cloud thick enough to produce occasional outbreaks of light rain or drizzle in places, eventually brightening up from late afternoon on the 10th. Patchy light rain or isolated showers with cloudy skies was the continuing theme on the 11th and 12th. The 13th was rather brighter with scattered showers, a similar pattern continuing on the 14th and 15th. After a fine bright start on the 16th, cloud increased, with rain across all parts in the afternoon, turning heavier at times.

17th to 22nd

After a cloudy and damp start on the 17th with rain around coasts, it became brighter through the morning leading to a fine and warm afternoon. The 18th was sunny and hot, temperatures

reaching the high 20s Celsius away from the coast, and Derrylin (Fermanagh) attaining a maximum of 31.2 °C with Aldergrove (Antrim) recording 12.6 hours of bright sunshine, although the heat sparking off one or two showers. The warmth remained overnight into the 19th with Trassey (Down) not falling below 19.5 °C, then after a fine start showers and thunderstorms developed over the west in late morning, merging into the afternoon to give longer spells of rain, while more showers and thunderstorms moved up the east side, all clearing away by early evening. The 20th was cooler and cloudy with patchy rain or scattered showers, a similar pattern continuing on the 21st. There were sunny intervals and isolated showers on the 22nd.

23rd to 31st

It was wet on the 23rd, with rain for many places during the morning and showers, some turning heavy and thundery, during the afternoon, Magilligan (Londonderry) recording 70.4 mm. The morning of the 24th was showery with some longer spells of rain, then the afternoon saw very heavy rain crossing central and northern parts, followed by showers and thunderstorms for central and southern counties. The 25th was cloudy and breezy with showers, Orlock Head (Down) recording gusts to 43 mph. Showers on the 26th were more scattered, with lighter winds and clearer skies then allowing a cooler night ahead of an overcast day on the 27th, with any local mist and fog clearing during the morning, and patchy light rain and drizzle in places through the day. The 28th was rather cloudy with scattered showers. Sheltered spots began chilly on the 29th, with Katesbridge (Down) falling to 4.2 °C, then it was fine after the clearance of any coastal mist and fog, with cloud increasing through the afternoon, bringing scattered showers initially then rain, occasionally heavy, spreading from the west and becoming widespread by evening. The 30th was cloudy with showers or longer spells of rain, turning particularly wet over the south later. The 31st saw a few showers in the morning but brighter skies in the afternoon.