



Weather Front.

June 2022/1922

June 2022

Observers Notes.

Lowdham: The maximum temperature of 31.5 C (17th) is the highest maximum for June on the station record (1991). There were 194.2 hours of sunshine (112%) recorded at Radcliffe-on-Trent.ⁱ

Ely: The daily maximum temperatures were slightly above normal, but minimum temperatures and rainfall were below. Total rainfall to date is 210.2 mm and is the lowest since 2015 (186.8 mm).

Mountsorrel: A dry month. Of the 38 mm recorded 32 mm fell on two days, 22 mm on the 5th and 10 mm on the 18th.

Mickleover: The maximum temperature has exceeded 30 C on eight separate occasions in June since 1981; five have occurred since 2011. This has been the sixth driest June since 1994.

Middleton: The maximum temperature of 28.3 C, on the 17th, equalled the highest maximum on record in June for the fourth time since 1977.

Derby: A warm, and often, dry month. Six maxima reached 25 C or more.

Desford: Dry, with average temperatures.

Pitsford: Unsettled for the first fortnight, turning drier and more settled, with some hot weather, later in the month.ⁱⁱ

Weather Impacts.ⁱⁱⁱ

The weather during much of June was mostly quiet and uneventful, though with a warm spell in mid-month which peaked on the 17th giving the warmest day of the year so far. It was showery at times, especially just after the warm spell and again in the closing days of the month. The provisional UK mean temperature was 13.9 °C, which is 0.6 °C above the long-term average. Temperatures were highest relative to average in northern and eastern areas, particularly for maxima. Rainfall was

slightly above average in some western areas, but towards the east it was a drier than average month, with 76% of average rainfall for the UK overall. Northern Ireland had a dull month, but most other areas were sunnier than average, with a UK figure of 114% of average. The UK monthly extremes were as follows: A maximum temperature of 32.7 °C was recorded at Heathrow (Greater London) and Santon Downham (Suffolk) on the 17th. A minimum temperature of -1.5 °C was recorded at Altnaharra (Sutherland) on the 2nd. In the 24 hours ending at 0900 UTC on the 4th, 94.2 mm of rain fell at Criccieth (Gwynedd). A wind gust of 51 knots (59 mph) was recorded at Capel Curig (Gwynedd) on the 10th. Weather impacts Despite some spells of fine settled weather during June, there were various episodes when heavy showers and thunderstorms affected a few localities, bringing temporary disruption. During the Platinum Jubilee weekend, thunderstorm warnings were issued for parts of Wales and southern England. A very localised storm affected Criccieth (Gwynedd) on the 3rd, with surface water flooding along the town's main street, manhole covers being forced up and a few properties being inundated. The following day saw surface water flooding in and around Kingsbridge, south Devon as a band of locally torrential thundery rain moved through during the morning. The weekend of the 18th/19th saw further thundery activity across parts of southern and eastern England as a cold front displaced an incursion of very warm air. Lightning strikes were the likely cause of various power outages across Devon and Cornwall on the 18th, and later that day the First Light Festival at Lowestoft (Suffolk) was temporarily suspended due to torrential downpours and frequent lightning. The closing days of the month saw several localised incidences of heavy rain and thunderstorms. On the 30th, intense rainfall caused flooding along sections of a railway line in south-west England with service cancellations and trains running at reduced speed.

In the second half of the week of June, heat gradually built across Spain with temperatures reaching 35-40 C. Across central and southern parts, the temperatures were expected to rise even higher. It was expected to be the earliest heatwave [11 June 2022] since records began and tied with one that started on 11 June 1981.

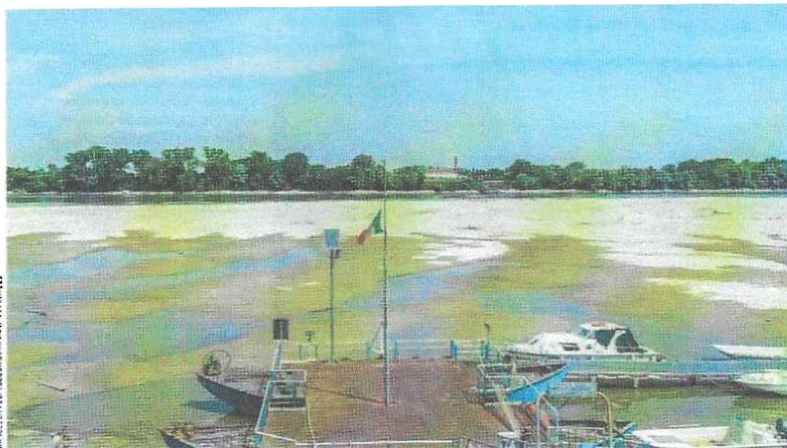
In North Africa and the Middle East temperatures of 50 C is a common threshold for a heatwave however, this threshold was broken on 4 June at Al Jahra in Kuwait, earlier than normal.^{iv}

The hot and dry weather in Spain had worsened the drought across the region, with many reservoirs recording extremely low water levels. This follows a very dry winter.

In France EDF had to shut down some nuclear reactors due to the rising water temperature of the Rhone.^v

A temperature of 39.2 C was observed at Cottbus in Germany and was just 0.4 C below a new June record. Large fires resulting from parched vegetation ravaged parts of Spain and in the USA many central parts experienced extreme heat, a trend that began in the western states and moved to areas such as the Great Plains.^{vi}

On the 26th, the Guardian noted that more than 200 monthly temperature records had been broken across France, Switzerland, Austria, Germany, and Spain. Temperatures of 41.9 C and 40.5 C were recorded at Cazaux and Bordeaux respectively.^{vii}



FRANCOIS VIGIL/ARTISTBYVALENTINWISSE

Boats on the exposed bed of the Po river in Italy on 17 June

Environment

Extreme heat in Europe

A series of heatwaves has hit the continent unusually early this year and caused problems for many, reports **Adam Vaughan**

MILLIONS of Europeans have been sweltering in an extreme and unusually early heatwave that has heaped pressure on energy systems, farmers and forests.

Temperature records have been broken around the continent, particularly in western and central regions of Europe.

France reached 40°C on 16 June – the earliest point in the year that this temperature has been reached since records began – and its southern seaside city of Biarritz hit an all-time high of 42.9°C.

French authorities have banned some outdoor events due to the intense heat. The episode has echoes of June 2019 when a similar heatwave was found to have been made at least five times more

likely because of climate change.

The temperature in Beznau, Switzerland, reached 36.9°C on 19 June, equalling the country's record for the month. It was a similar story in Poland, where the temperature in Slubice reached 38.3°C on 19 June, equalling the nation's June record.

Parts of Spain exceeded 40°C over the weekend, with firefighters having to tackle wildfires across several regions. More than 2600 hectares of vegetation in Catalonia were affected by the blazes, satellite monitoring shows.

Germany has also been afflicted by wildfires and many cities, including Cottbus, saw temperatures above 39°C.

In Italy, a farming group

warned that food output was at risk from drought in the north of the country.

Parts of the UK were warm enough to see heatwaves officially declared after temperatures passed local thresholds for three days in a row.

“It’s very clear that we are still not ready for this type of heat. We should be much better prepared”

“This is quite early for these types of heatwaves, and it has taken a lot of people by surprise,” says Hannah Cloke at the University of Reading, UK. “It’s very clear that we’re still not ready for this type of heat.

We should be much better prepared, because we’re expecting this type of thing to get worse [due to climate change].”

Cloke says short-term measures include people adopting strategies to make their homes cooler, because most housing stock in Europe isn’t suitable for such high temperatures.

She lists shades for windows, insulation, dedicating a “safe cool room” by shutting doors to keep the heat out, and using water to cool yourself down.

She also backs awareness-raising ideas, such as naming heatwaves like the UK does for storms. Seville in Spain has already begun naming heatwaves. “We know that it makes people sit up and take notice, because it conveys this sense of danger, it kind of personifies it and makes it real,” says Cloke.

Longer term, she says major changes will be needed to infrastructure to stop roads melting and railways buckling, and shifts will be needed to ensure new houses are built to cope with heat.

Moreover, Cloke says much more serious action is needed to curtail the greenhouse gas emissions driving climate change. “We need to stop burning fossil fuels,” she says.

Europe’s heatwave is testing energy systems, with France’s EDF Energy warning that nuclear power output – reliant on water for cooling – will fall as river levels drop. Gas power stations were fired up in Spain to meet a spike in demand for air conditioning amid a period of low power generation from renewables.

The heat in many countries began rising just as climate change negotiations were wrapping up in Bonn, Germany, on 16 June. ■

June 1922.

Observers Notes.

Derby/Burton-on-Trent: A very dry June, with all stations below 25 mm totals. The driest were just under 20 mm. Much of the first half of the month was dry. The unusually warm end to May that year lingered into the first day of June. Maxima of 26-29 C were reached on that day. For the remainder of the month, it was, by contrast, relatively cool. Low 20s C were infrequent. The lowest minima were in the 4 to 6 C range on several occasions, but the 5th appears to have been the coldest night. In Burton the overall mean for the month was about 14.4 C^x

Dublin City: A disappointing month. Clouds, squalls, low temperatures, and showers belied the fair promise of the opening day.

Hodsock: Another dry month; bright and warm at first, the second half, dull and cool.

Southport: The earlier half of the month was generally calm, dry, and brilliantly fine, with diurnal land and sea breezes constantly in evidence. The latter half was exceptionally stormy, with much cloud and rain. For the entire month, the normal duration of west winds was nearly doubled, while east ones (so common here in June) were almost absent.^x

Overview of June 1922.

The warm, sunny weather continued from May through to the middle of June and was replaced by cool unsettled conditions associated with a series of depressions which approached the British Isles from the Atlantic.

At the start of the month the country was under the influence of an area of high pressure. This produced fine, hot weather almost everywhere, maxima above [27 C] being recorded at many stations; a maximum of [29.4 C] was noted at Brocklesby on the 1st. However, in the north-east of Scotland the 1st was the coldest day of the month. The maximum at Aberdeen was only [10 C], while at Ruthwell, in Dumfries, the maximum was [29 C]. On the 2nd a trough, extending from France to Iceland, developed two centres, one to the south-east of Iceland and the other over Holland. At the same time the anticyclone to the south-west of the country spread north-east, allowing a cooler north-westerly into the British Isles. The difference in temperature between the two days was marked; at Birr Castle the maximum on the 2nd was [14 C] as against [25 C] on the 1st. It was noted that thunderstorms were reported in a few places.

While the Icelandic depression remained stationary, and filled by the 5th, further south the Azores anticyclone extended north-east, allowing fine, warm weather to persist to the 8th.

On the 8th, a shallow depression over France spread north producing a weak circulation over England on the 9th. The weather was dull to fair over much of the country, except in the extreme north of Scotland where it remained overcast. Rainfall was remarkably small, just over 1 mm being recorded at Brocklesby. There were, however, thunderstorms recorded at Roches Point and Birr in south-west Ireland.

Apart from isolated showers of heavy rain or hail in some parts of southern England, the weather improved on the 10th. While the Azores anticyclone continued to extend north-east over the country, producing much fair weather, on the 11th and 12th, over the north of Scotland dull conditions prevailed. During the night of the 12th rain was reported over all northern counties and, in Berwickshire, the rainfall represented around one-third of the monthly total.

On the morning of the 13th the anticyclone was well established off the west coast of Ireland and a trough extended over the North Sea and Central Europe. This resulted in a northerly airstream. The maximum temperature at Kew on the 12th was [24 C], but only [12 C] on the 14th. On the morning of the 14th the anticyclone was centred over the North Sea, and a shallow trough extended over Ireland, the weather being generally cool with occasional rain. From the 16th to the 21st a succession of depressions produced cool and unsettled westerlies.

On the 21st the Azores high moved further east giving higher temperatures and fine weather over southern England, although some showers occurred locally. A depression, near the Hebrides on the 22nd, moved east, and by the 26th was near Denmark. It then moved north and was centred to the north of Norway by the end of the month. During the last week, a series of depressions crossed the country bringing cold, changeable, and unsettled weather. The dull wet weather alternated with occasional bright periods.

The mean temperature for the month was below normal over north-west England, Scotland, and Ireland, but slightly above elsewhere.

Rainfall was generally below average, with considerable areas in southern Ireland and Central England receiving less than 50% of average. Less than 25 mm for the month was recorded south of a line Sidmouth to Hull and included the greater part of the Midlands. However, in the Lake District and Inverness falls of around 250 mm were recorded locally.^{xi}

Europe and the Rest of the World.

Four waterspouts approached Biarritz, from the sea, on the 21st. They dispersed on reaching the sand.

Heavy snowfalls occurred over the Bavarian mountains over the weekend of the 17th-18th. Out of two climbing parties, totalling seven people, five lost their lives.

Extreme heat was experienced in Geneva in the second week and, owing to snow melt, the lake overflowed its banks in many places. On the 20th, owing to the flooding, the freshwater pumps were put out of action and there was a water shortage in the town.

Following a period of drought, violent thunderstorm occurred in south-eastern Europe. On the 20th a severe thunderstorm was reported in Sofia, which caused considerable damage, but no loss of life. However, it was estimated that around ten thousand people were noted as homeless. Three days later a violent storm and torrential rain destroyed a village in Transylvania, with the loss of twenty souls.

Severe hailstorms on the 1st destroyed crops in Algeria.

The Indian monsoon rainfall was reported to be satisfactory, except in Katiawar, southern Hyderabad, and southern Madras, where it was reported as below average. No storms were noted in the Bay of Bengal. A severe gale occurred over northern New Zealand on the night of May 31st and continued until 3 June. The SS Wiltshire was wrecked on Great Barrier Island and the crew were rescued with great difficulty.

On the 24th it was reported that south-west Japan was suffering from a drought, the severity of which had not been known in forty years. Rice cultivation was abandoned in many districts.

On the 24th it was reported, from Toronto, that a severe storm had been experienced from eastern Saskatchewan to the Ontario border. Severe damage was reported along its track and some lives were lost.

In Argentina, the first half of the month was marked by unsettled conditions. A depression lay over the River Plate region and was accompanied by rain, with strong winds on the coast. Snow fell further west, and in the Chubut province low temperatures were noted, [-13 C] being recorded at Sarmiento on the 13th. Fine, settled weather is usual in this month.^{xii}

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

Mean Maximum Temperature: 18.5 C. Average: 19.3 C.

Mean Minimum Temperature: 9.1 C. Average: 9.0 C.

Mean Temperature: 13.8 C. Average: 14.1 C.

England and Wales Rainfall: 40.4 mm. Average: 63.3 mm.

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

Midlands Mean Maximum Temperature: 18.7 C.

Midlands Mean Minimum Temperature: 7.8 C.

Midlands Mean Temperature: 13.2 C.

Midlands Rainfall: 30.1 mm.

2022 (Provisional)

Central England (Averaging period is 1991-2020).

Mean Maximum Temperature: 19.8 C. Average: 19.2 C.

Mean Minimum Temperature: 10.0 C. Average: 10.1 C.

Mean Temperature: 14.9 C. Average: 14.7 C.

England and Wales Rainfall: 50.2 mm. Average: 70.5 mm.

ⁱ T Scholey, by email.

ⁱⁱ Pitsford Monthly Weather Report, June 2022, Pitsford Weather Centre, July 2022, Headline.

ⁱⁱⁱ Monthly Weather Summary, Meteorological Office, June 2022, HMSO, July 2022, p. 1.

^{iv} Guardian, 11 June 2022.

^v Guardian, 14 June 2022.

^{vi} Guardian, 21 June 2022.

^{vii} Guardian, 25 June 2022.

^{viii} New Scientist, 25 June 2022, p. 7

^{ix} D J Stanier, by email, 2 July 2022.

^x Monthly Weather Report, June 1922, Meteorological Office, HMSO, July 1922, p. 71.

^{xi} Monthly Weather Report, June 1922, p.71.

^{xii} Meteorological Magazine, July 1922, Meteorological Office, HMSO, August 1922, p. 175-176.

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