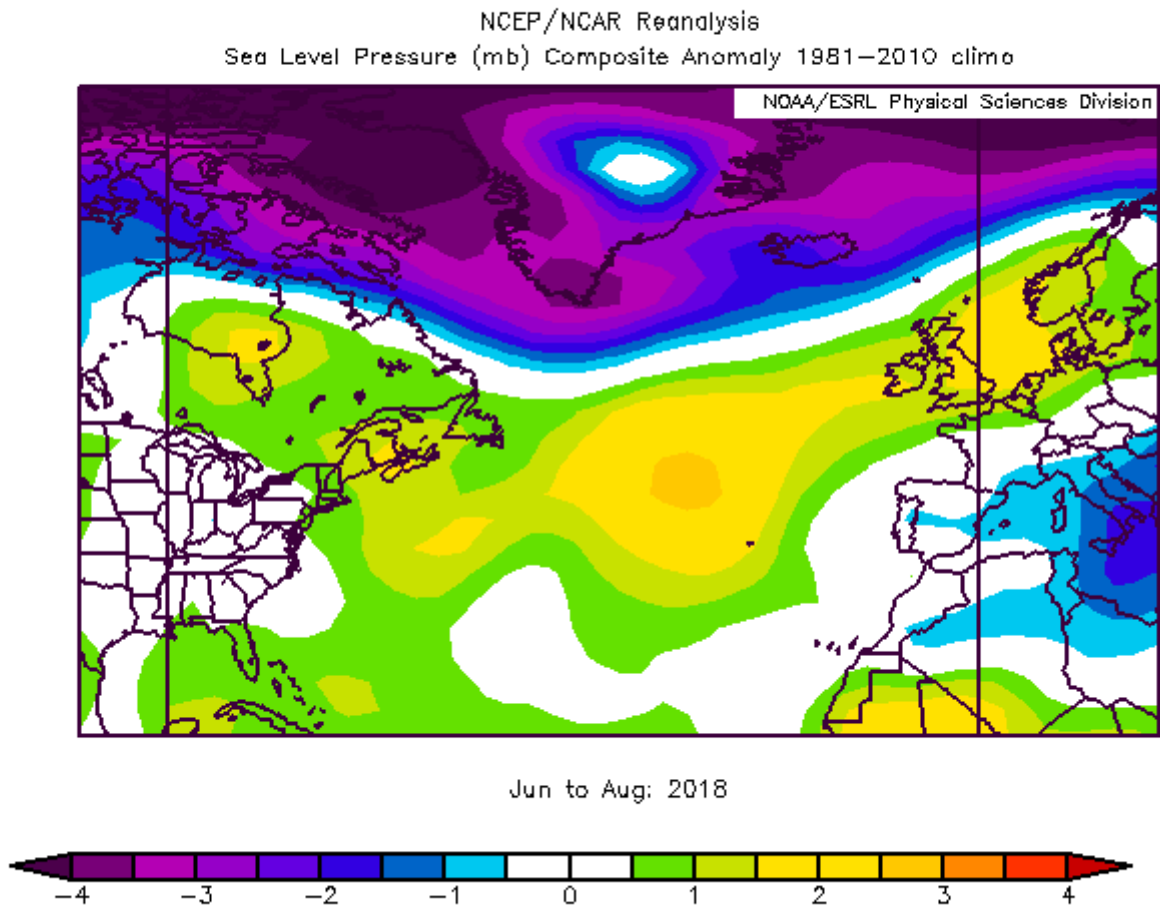


Summer 2018

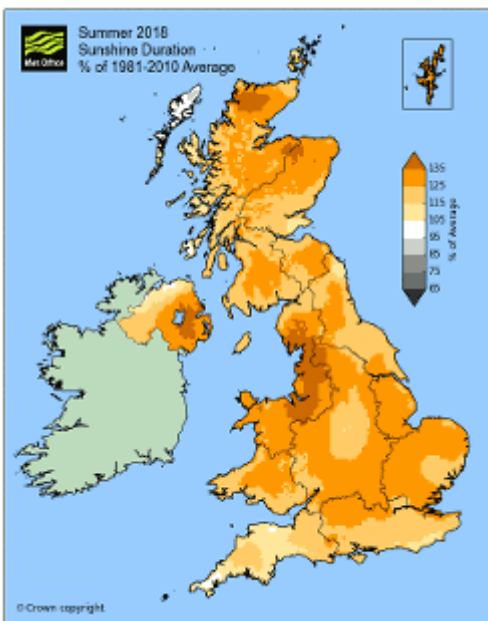
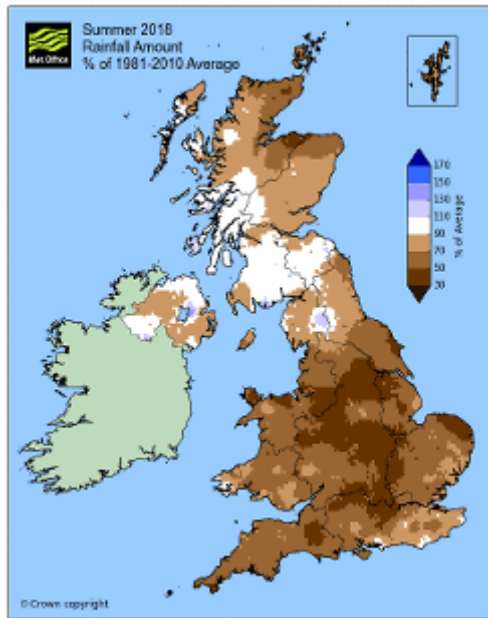
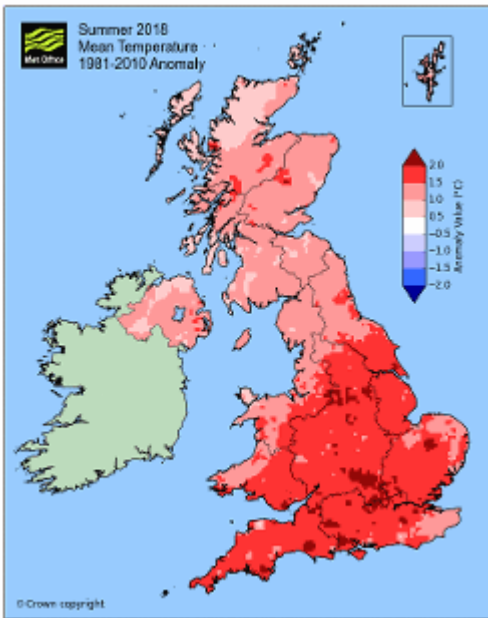
Summer 2018 brought plenty of warm, dry, sunny weather with the UK often under the influence of high pressure, particularly during June and July. This was the UK's warmest summer since 2006, the driest since 2003 and the sunniest since 1995.

Any short, unsettled spells brought rainfall mostly of a showery and sometimes thundery nature. June was exceptionally dry across parts of southern England with a run of over 50 dry days at some stations in the south-east lasting until late July. Temperatures were often well above average with 30 °C exceeded fairly widely on 15 days during July and early August.

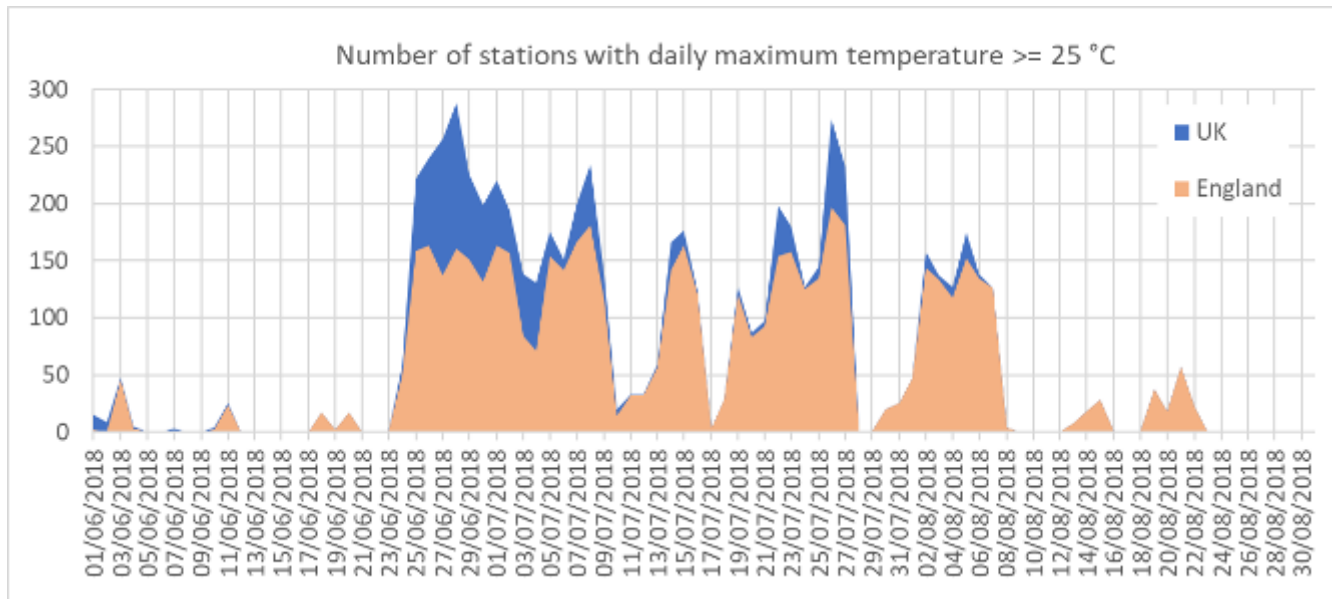


Summer 2018 mean sea level pressure anomaly for summer 2018 from the NCEP reanalysis data (Kalnay et al. 1996) Images provided by the NOAA/ESRL Physical Sciences Division, Boulder Colorado from their website at <http://www.esrl.noaa.gov/psd>

The figures below show summer mean temperature, rainfall and sunshine relative to 1981-2010 average. The summer mean temperature was around 2.0 °C above average across much of England and Wales, largely as a result of warmth in June and July, whereas temperatures for August overall were nearer the long-term average. Most of England and Wales recorded less than 75% of average rainfall, with large areas of central England less than 50%. Summer sunshine totals were widely 125% of average or more across the UK.

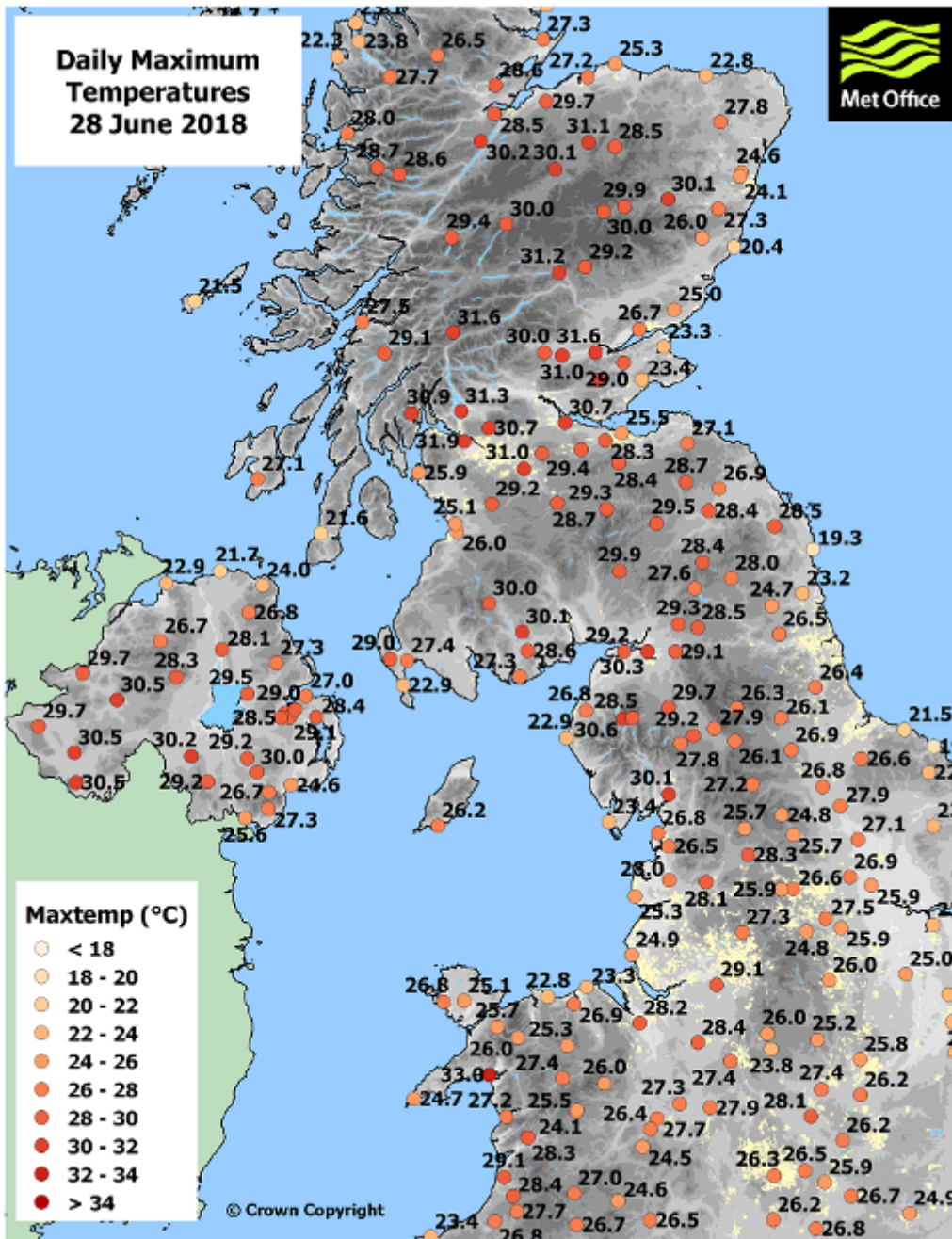


The figure below shows a count of the number of stations across the UK and England on each day during the summer with a daily maximum temperature exceeding 25 °C. This shows a prolonged spell of widespread warmth from late-June to early August, with only brief interludes of cooler conditions around 11th, 17th and 29th July. The hottest weather was mostly focussed across England (particularly south-east England and East Anglia), but extended at times to north-western parts of the UK, particularly in late June and early July.

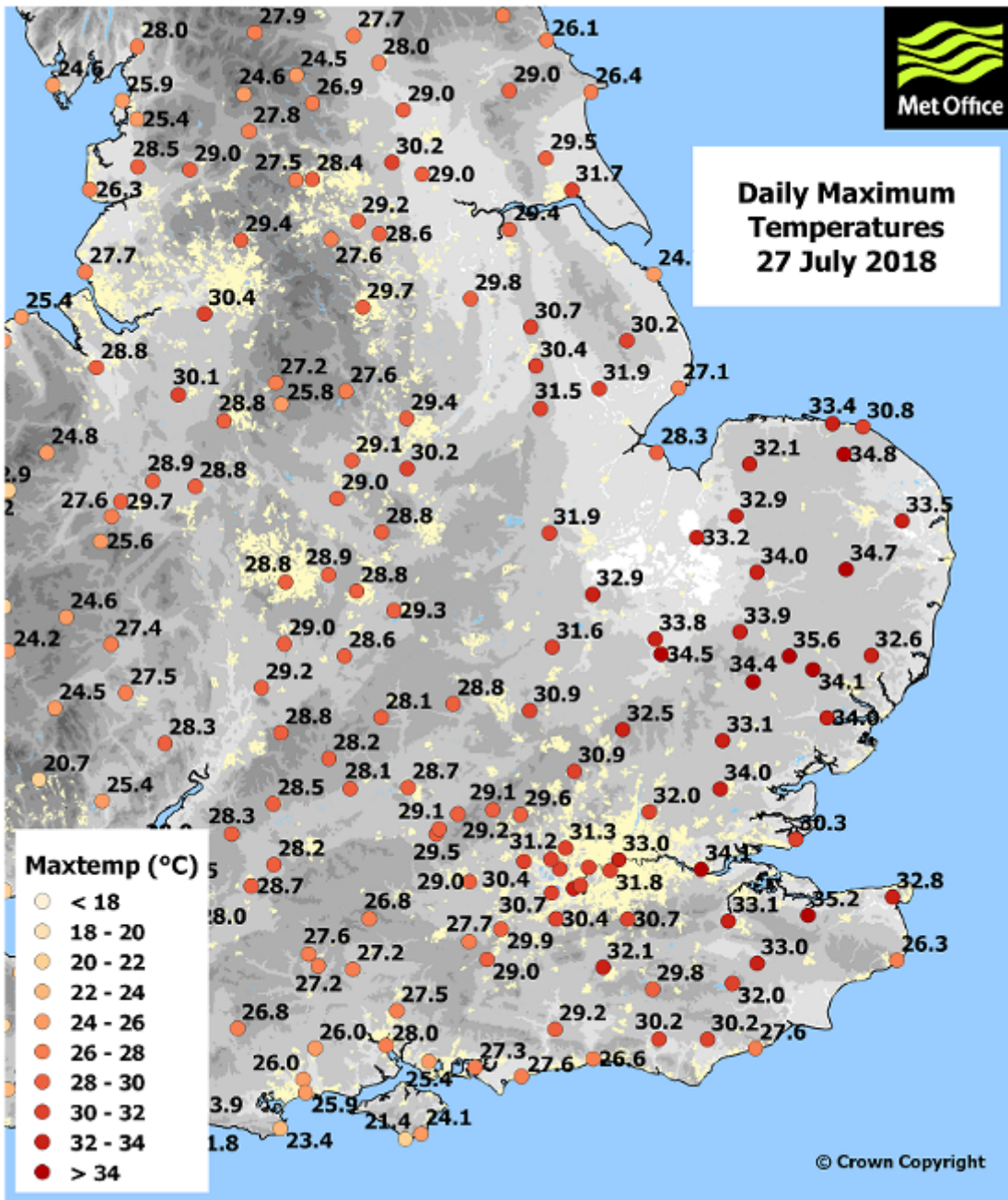


The hottest day across north-western parts of the UK was 28 June, with 30 °C exceeded across north-west England, Scotland's Central Belt, and parts of the Highlands, Northern Ireland and North Wales. Maximum temperatures on 28 June of 31.9 °C at Glasgow Bishopton and 30.5 °C at three stations in Northern Ireland fell within 1 °C of the all-time Scotland and Northern Ireland records, while in Wales 33.0 °C at Porthmadog (Gwynedd) on 28 June was part of a sequence of 6 out of 7 days more than 30 °C at this station. Numerous stations recorded their hottest June day on record including Armagh – 152 years, Balmoral (Aberdeenshire) – 104 years and Eskdalemuir (Dumfriesshire) – also 104 years.

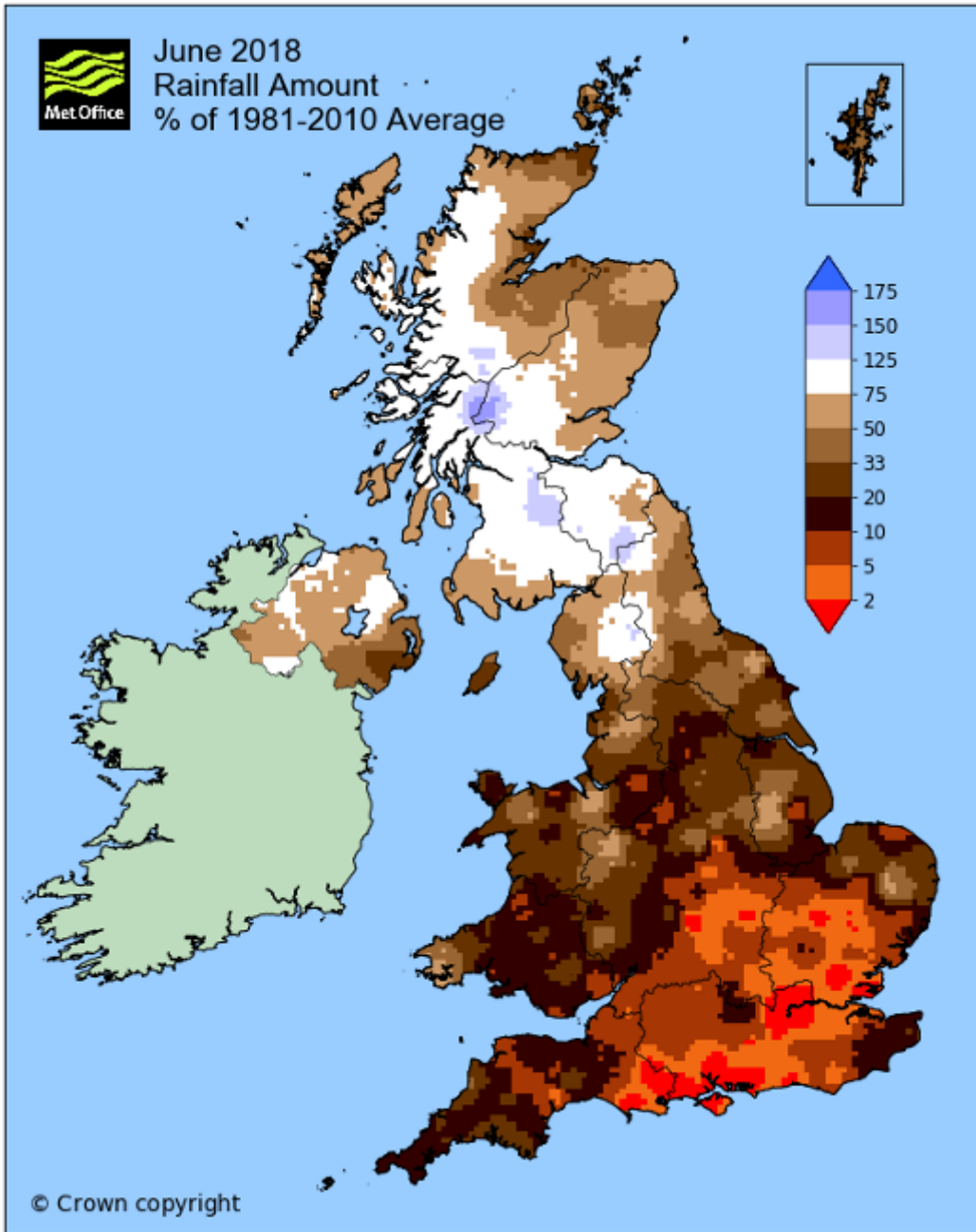
Daily Maximum
Temperatures
28 June 2018



The UK's hottest day of the summer was on 27 July, with 35.6 °C recorded at Felsham (Suffolk); 32 °C was exceeded widely across East Anglia and south-east England on both 26 and 27 July and temperatures reached 35 °C on both dates in parts of East Anglia, Kent and central London. Temperatures above 35 °C are unusual but not unprecedented in the UK having been recorded in the summers of 2015, 2006, 2003, 1995, 1990 and 1976.

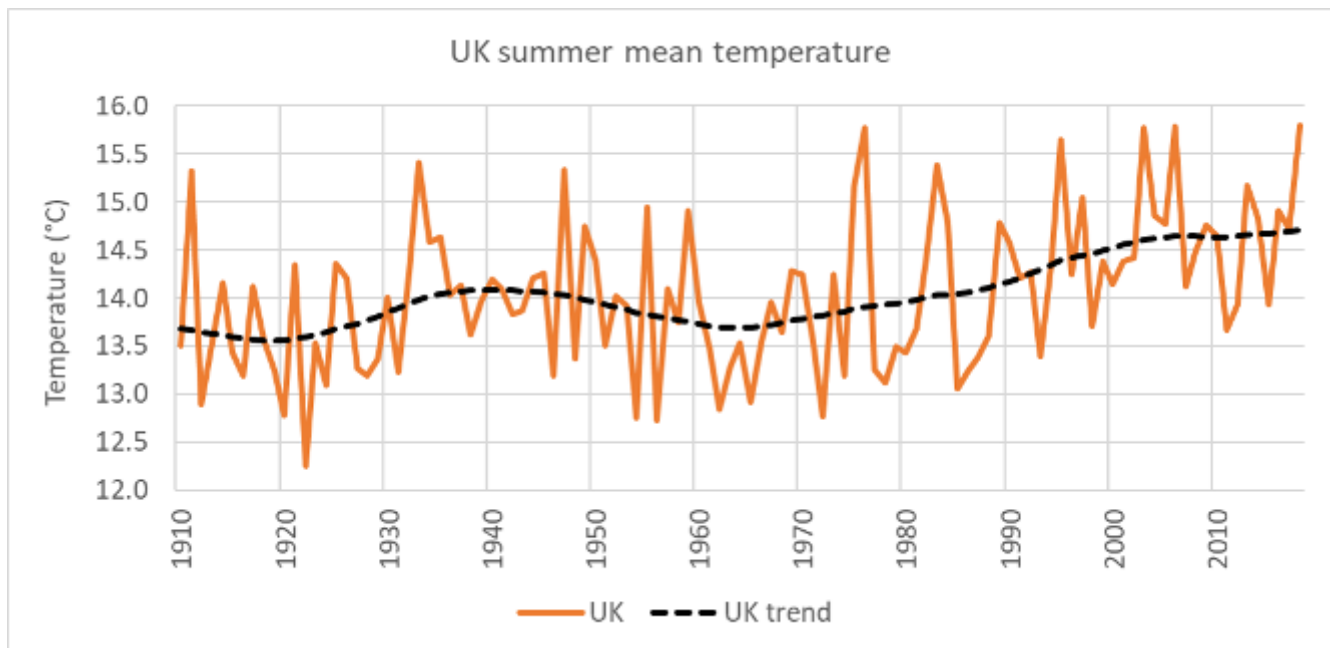


Southern parts of the UK experienced a prolonged spell of dry weather, with little or no rain through June and extending into late July. June was exceptionally dry across parts of central and southern England with monthly rainfall totals widely less than 5mm, and some areas (for example parts of Hampshire, London and Cambridgeshire) less than 1mm – ie essentially no appreciable rain. The June rainfall map below shows large parts of southern England recording less than 5% of the June average rainfall, with some places less than 2%. Southern England recorded its driest June since 1925.



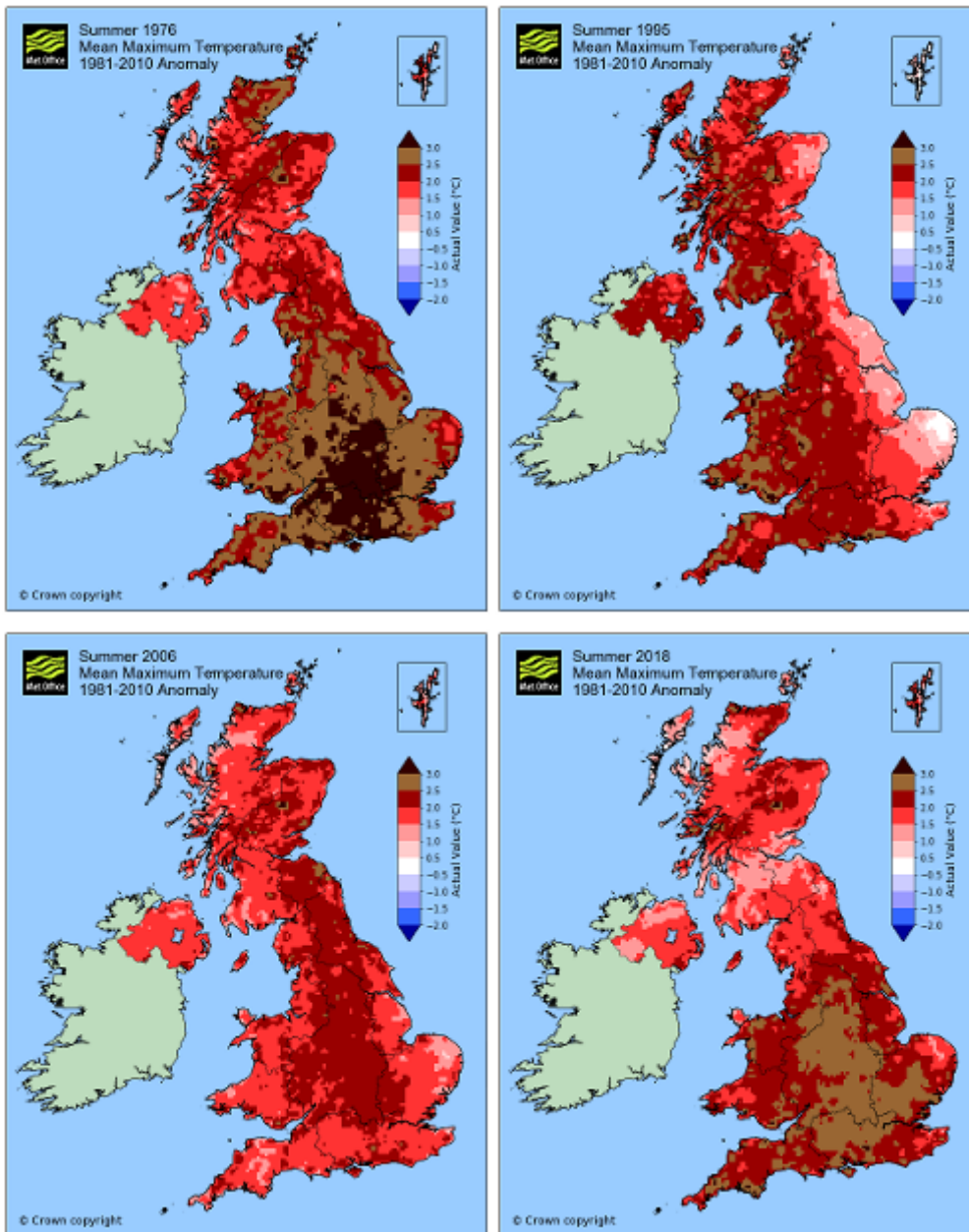
Historical context

The figure below shows summer mean temperature time-series for the UK in a series from 1910. This was the equal-warmest summer for the UK in a series from 1910, with 2006, 2003 and 1976. For England, it was the warmest summer in the series. It was also the equal-fourth warmest summer in the Central England Temperature (CET) series from 1659, with summer 1976 warmest in this series.

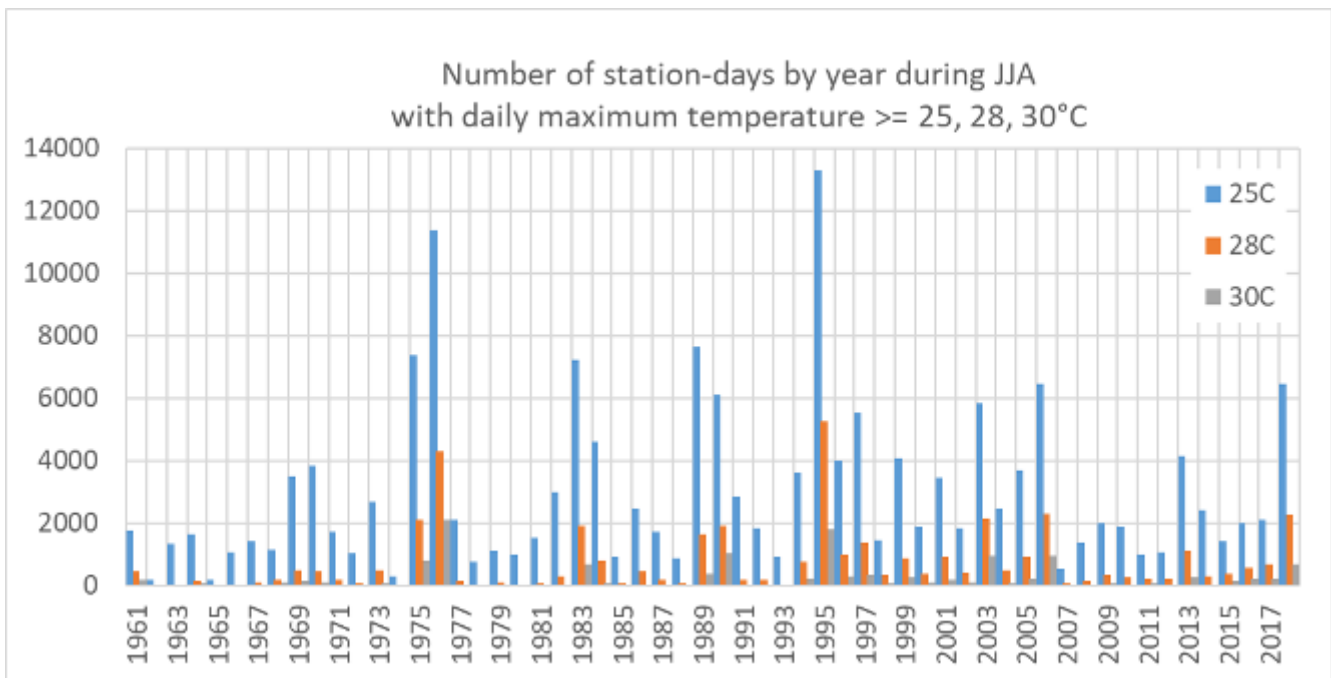


Summer 2018 was the equal-second warmest summer in a UK series from 1910 for mean maximum temperature (shared with 1995) with summer 1976 hottest. The maps below compare the extent of the warmth for the four warmest summers in this series, 1976, 1995, 2006 and 2018. The temperature anomaly pattern in 2018 most closely resembles that of summer 1976, with the warmest areas for both summers relative to average across central and southern England, although overall anomalies in summer 1976 were more extreme.

While maximum temperatures in summer 2018 were well above average, minimum temperatures were much nearer average. This was due to dry air with relatively low humidity and an absence of cloud-cover at night. This characteristic of mean maximum temperature anomalies being much higher than mean minimum temperature anomalies was also a feature of summers 1976, 1995 and 2006.



The figure below shows a count of the number of station-days for each year during June, July and August with daily maximum temperatures exceeding 25, 28 and 30 °C. This was the warmest summer since 2006 in terms of the number of days of widespread warmth, with summers 1976 and 1995 the warmest in this series. The summer of 2018 contrasted with a run of recent cool summers from 2007 to 2012 (these overall also being exceptionally wet).



The summer rainfall total for the UK overall was 73% of average, largely as a result of predominantly fine, dry weather in June and July, whereas August was more unsettled with near-average rainfall. For England, this was fifth driest summer in a series from 1910, with the summers of 1995, 1976, 1983 and 1913 drier. The summer sunshine total for the UK was 124% of average. This was the fourth-sunniest summer for the UK in a series from 1929, behind the summers of 1976, 1995 and 1989. As with temperature and rainfall, this was again mainly due to predominantly fine weather during June and July, whereas August was duller than average in western areas.

In contrast to the summers of 2006 and 2003, there were no extended spells of exceptional heat during summer 2018 (despite the fact that temperatures reached 35 °C on two days). Nevertheless, while summer 1976 will remain as the bench-mark summer for the UK in terms of exceptional and prolonged hot and dry conditions, the summer of 2018 stands out as among the most notable fine, warm, dry, sunny summers in the last 100+ years.

Reference

Kalnay, E. and Coauthors, 1996: The NCEP/NCAR Reanalysis 40-year Project. Bull. Amer. Meteor. Soc., 77, 437-471

Last updated: 16 October 2018