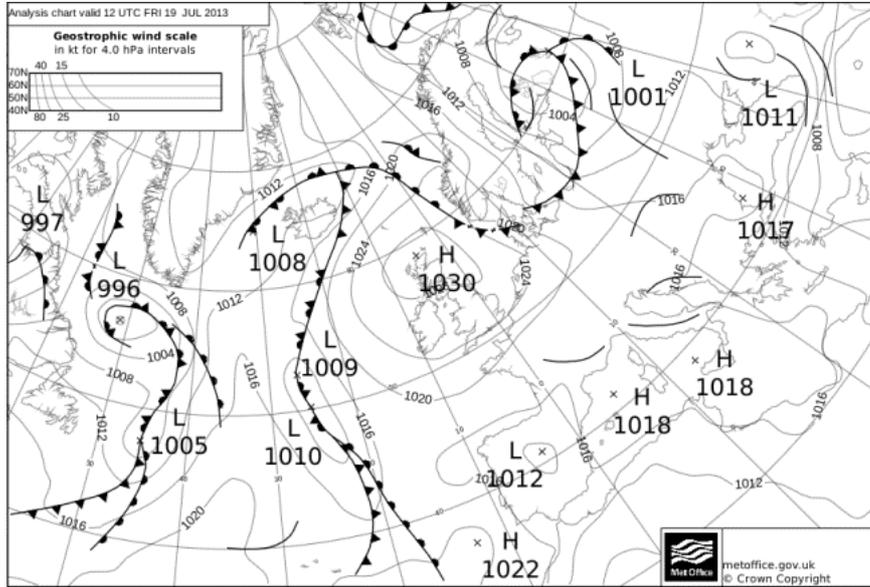


Hot dry spell July 2013

From 3 to 23 July 2013 the UK experienced a spell of hot, sunny weather with an area of high pressure established across the UK.

Many areas - particularly in the south and west - experienced almost unbroken sunshine, although easterly winds brought some low cloud to north sea coasts at times. Daily maximum temperatures exceeded 28 °C widely every day from 13 to 19 July inclusive and again on 22 July, across South East England, the Midlands, South West England and East Anglia.

Synoptic situation at 1200 UTC on Friday 19 July 2013, with high pressure established over the UK.



Satellite image on 19 July 2013, showing almost unbroken sunshine across the UK. Low cloud and fog may be seen affecting North Sea coasts and more extensively around northern Scotland. Image courtesy [NERC Satellite Receiving Station, Dundee University, Scotland](#)

Number of days exceeding 28 °C in July 2013 at individual stations.

Temperatures

With light winds and strong July sunshine, maximum temperatures exceeded 30 °C for 7 consecutive days from 13 to 19 July, and again on 22 July when 33.5 °C was recorded at Heathrow and Northolt (Greater London) - this being the highest temperature recorded in the UK since July 2006. The hottest places were often in Greater London (due to the urban heat island) whereas coastal areas were cooler under the influence of sea breezes. The temperature exceeded 28 °C somewhere in the UK on 19 consecutive days from 6 to 24 July.

Highest UK temperatures 6 to 24 July 2013

Date	Daily max temperature (°C)	Station
6 July	28.1	Heathrow and Kew Gardens, Greater London
7 July	29.7	Hurn, Dorset
8 July	29.9	Edenfel, Tyrone
9 July	29.3	Grangemouth Refinery, Stirling
10 July	28.5	Betws-y-Coed, Gwynedd
11 July	28.8	Castleberg, Tyrone
12 July	29.4	Auchtermuchty, Fife
13 July	31.5	Seavington, Somerset
14 July	31.0	Hurn, Dorset and Westonzoiland, Somerset
15 July	30.9	Heathrow, Greater London and Wisley, Surrey
16 July	31.2	Kew Gardens, Greater London
17 July	32.2	Hampton, Greater London
18 July	31.5	Westonzoiland, Somerset
19 July	31.4	Porthmadog, Gwynedd
20 July	29.6	Cromdale, Moray
21 July	29.8	Jersey Airport, Channel Islands
22 July	33.5	Heathrow and Northolt, Greater London
23 July	29.6	Heathrow, Greater London
24 July	28.3	Lingwood, Norfolk

UK daily maximum temperatures for July 2013 relative to the 1981-2010 long term average, showing the location of the heat wave. The darkest shade of red is at least 6 °C above the average.



The latter half of the heat wave, from 18 to 23 July, saw night-time minima remaining above 16 °C quite widely as levels of humidity increased. The night of 22-23 July was particularly warm, with a minimum temperature of 20.7 °C at Heathrow - this also being the highest UK 09-09 minimum since July 2006.



Rainfall

For the 19-day period from 3 to 21 July inclusive, most parts of England and Wales received little or no rain (typically less than 1 mm), while most of Scotland and Northern Ireland were also dry (typically 5 mm or less). Only western and northern Scotland received more than 10 mm.

Toward the end of the heat wave, warm, humid air was drawn from the near continent with thundery rain pushing north across the UK on 22nd and 23rd. A series of dramatic thunderstorms - mainly affecting parts of eastern and northern England and Scotland - ended the hot spell. The storms resulted in some flash flooding problems (on 23 July, 35.6 mm was recorded in 1 hour at Nottingham, Watnall), with the dry, hard ground resulting in rapid runoff. Lighting affected train and tram services in parts of Manchester, Birmingham and Edinburgh.

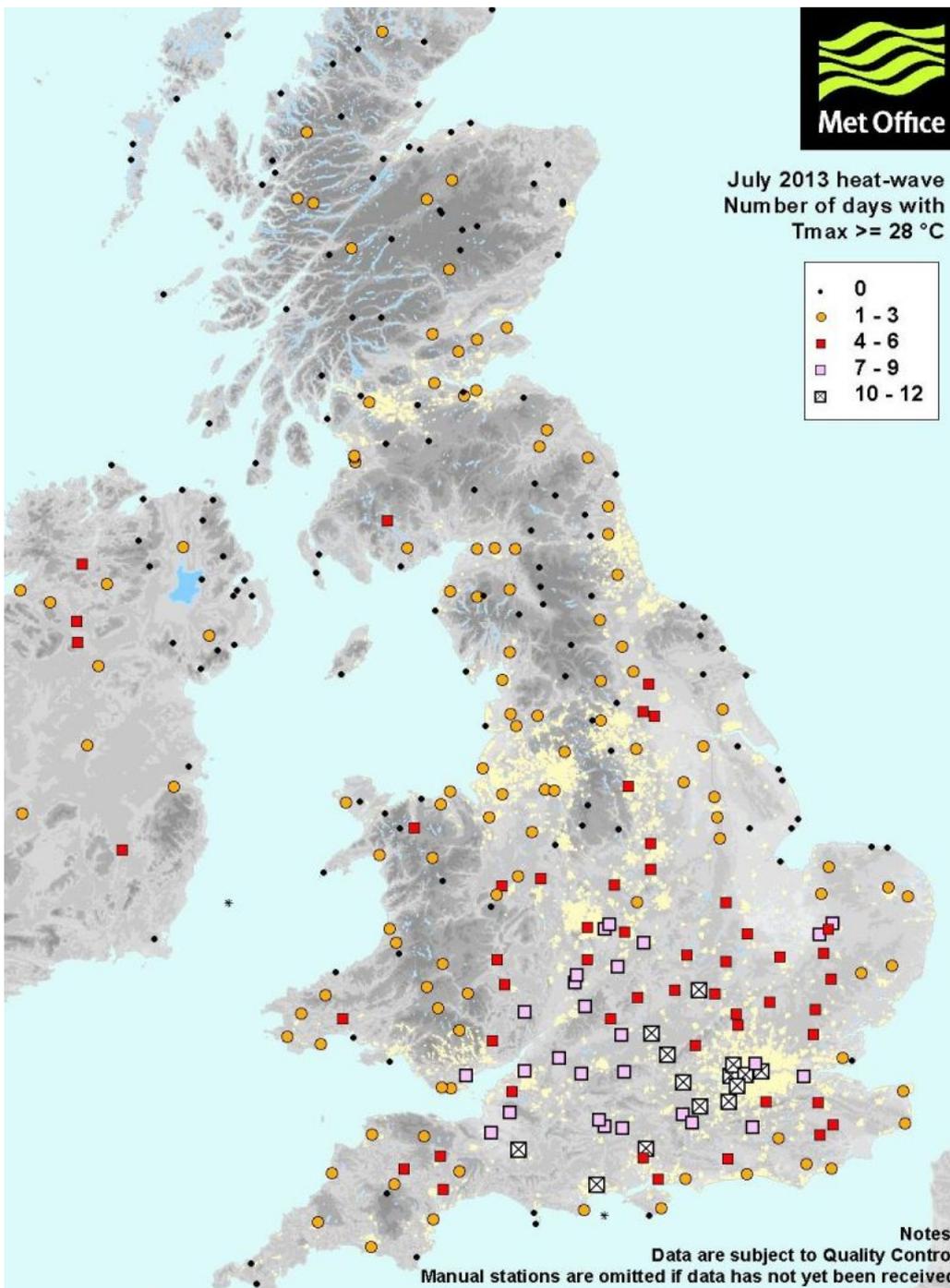
Rainfall accumulations across England and Wales 3-21 July 2013.

UK rain radar 1200 UTC 22 July to 0600 UTC 24 July 2013, showing thunderstorms developing and moving north across the UK.

Historical context

Although the UK has experienced prolonged spells of warm, settled weather in recent years, these have generally *not* occurred during the summer months. Recent summers from 2007 to 2012 have been often characterized by unsettled, cool and at times exceptionally wet conditions. Any spells of warm, settled weather generally lasted for a week or less.

This heat wave was more notable for its duration rather than its intensity. Temperatures of 30 °C are not particularly unusual in the UK (the last year in which 30 °C was not recorded at any UK station was in 1993). However, it is more unusual to have such a prolonged spell of hot, dry, sunny weather with temperatures exceeding 30 °C for 7 consecutive days, and this is judged to be the most significant UK heat wave since



July 2006.

The highest temperatures recorded in the heat wave were in the low 30s. These were unremarkable in the context of historical records. The most significant heat waves of the last 50 years - July 2006, August 2003, August 1995, August 1990 and June-July 1976 - were much more intense, with temperatures exceeding 30 °C very widely and, on occasion, 35 °C or higher. The 1976 heat wave also coincided with exceptionally severe drought conditions.

July 2013

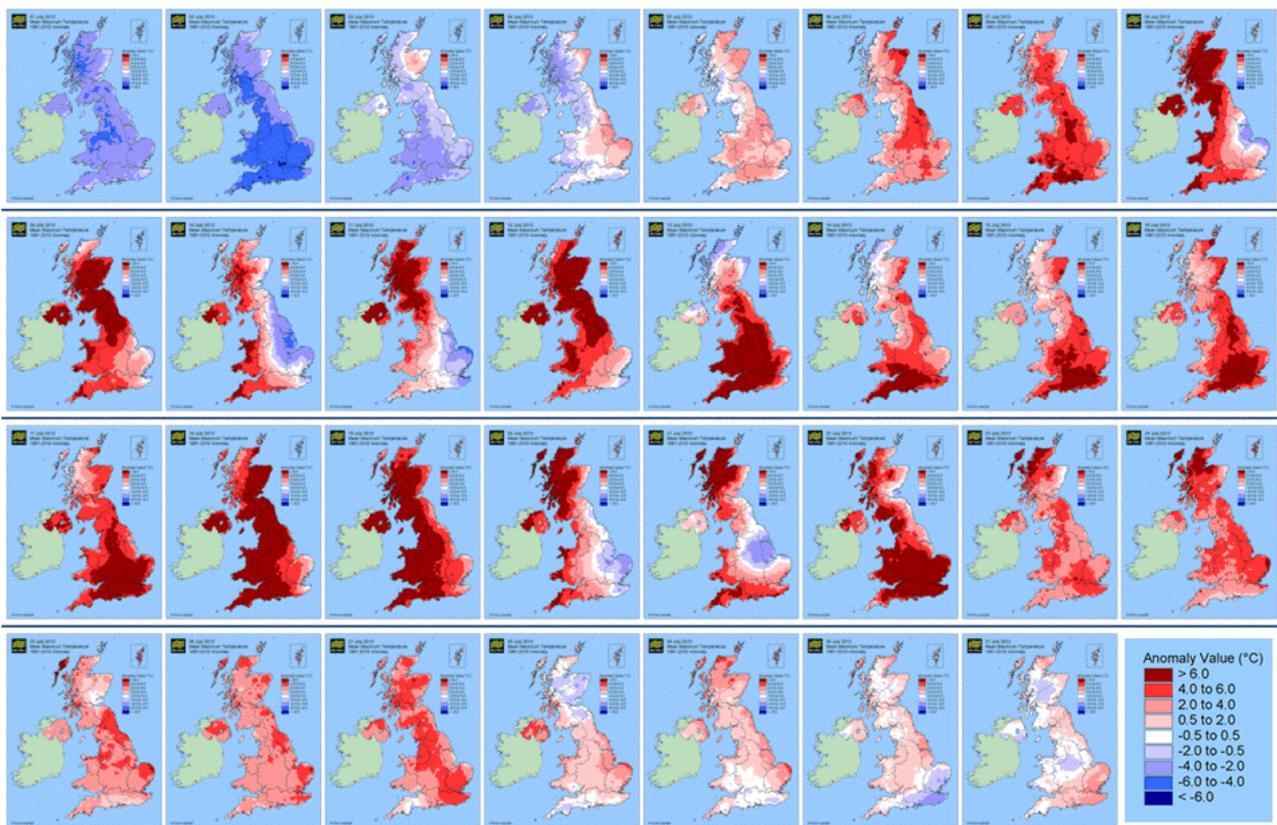
For the UK, this was the third warmest July in a series from 1910, with only the Julys of 2006 and 1983 warmer. For Northern Ireland, it was the second warmest calendar month on record behind August 1995. Daily maximum temperatures for the month were 3 °C or more above the 1981-2010 long term average for much of the UK. It was also the third sunniest July in a series from 1929, with only the Julys of 1955 and 2006 sunnier. Many western areas recorded well over 150% of the long term average sunshine, with over 300 hours recorded widely across South West England.

July was a drier than average month for the UK overall (82%) but not exceptionally so; the period from 23rd to 31st saw a thundery breakdown in the weather, with some significant rainfall accumulations from intense downpours. The July 2006 heat wave similarly ended with an outbreak of severe thunderstorms across England & Wales, triggered by the heat and humidity.

For more information, refer to the [July 2013](#)

In summary - the July 2013 heat wave was more notable for its duration than its intensity, but overall it was not particularly unusual in a historical context. It stands out mostly in contrast to the run of mainly unsettled summers from 2007 to 2012, and was the most significant UK heat wave since July 2006.

Last updated: 10 December 2013



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