Heatwave 1 July 2015

The UK experienced a 1-day heatwave as hot air moved north from Spain, setting a new July temperature record.

The highest temperatures were recorded across south-east England, reaching the low to mid-30s. Temperatures also reached 30 °C across parts of northern England, and the heat also extended to the far north of Scotland.

Impacts

This was a short duration heatwave and impacts were relatively limited. However, in East Anglia the hot weather may have contributed to a large fire which affected Thetford Forest. The heat also triggered thunderstorms and torrential downpours across parts of northern England and Scotland.

Weather data

Heathrow, Greater London recorded a maximum temperature of 36.7 °C, the highest July temperature on record for the UK, and just ahead of the previous July record 36.5 °C at Wisley, Surrey on Record breaking heat and sunshine - July 2006 . This was the highest temperature recorded in the UK since the record-breaking heatwave of Hot spell - August 2003. The only times a temperature of 36.7 °C has been reached in the UK in observational records were 9 August 1911 (36.7 °C at Raunds, Northamptonshire, Canterbury, Kent and Epsom, Surrey); this UK record stood for nearly 80 years until Hot spell August 1990 (37.1 °C at Cheltenham, Gloucestershire) which was broken again on 10 August 2003 (38.5 °C at Faversham, Kent).
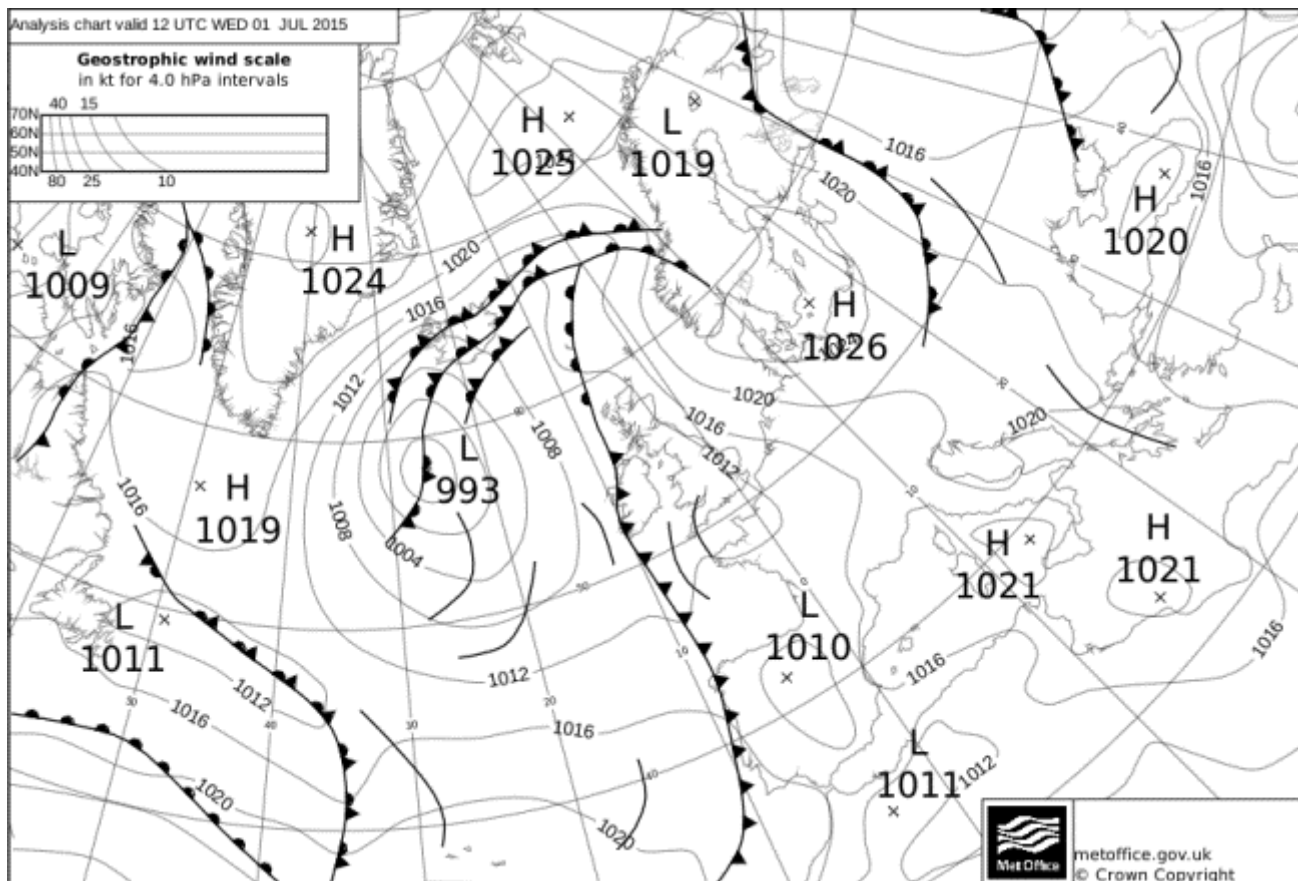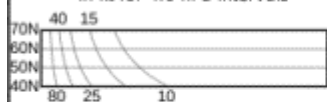
On 1 July the temperature also reached 35.7 °C at Kew Gardens and Northolt, Greater London, 35.3 °C at Wittering, Cambridgeshire and 35.2 °C at Faversham, Kent. Temperatures across the Midlands, East Anglia and parts of north-west and north-east England were also into the low 30s including 33.4 °C at Coningsby, Lincolnshire and 31.9 °C at Brampton, Cumbria. The heat extended to the north of Scotland with 29.0 °C at Aviemore, Inverness-shire and 28.0 °C at Altnaharra, Sutherland.

A notable feature of the heatwave was the high temperatures early in the day. At 0900 GMT the temperature was already 32.5 °C at Heathrow, resulting in the highest night-time maximum temperature (2100 to 0900 GMT) on record for the UK. (Increased automation of the UK's weather station network means that there are many more 12-hour observations of this type than in the past, since most manual stations only report 24-hour 0900 to 0900 GMT values.)

Analysis chart for 1200 GMT 1 July 2015. Ahead of the area of low pressure to the west of the UK, a light southerly flow draws hot air from the near continent northward across the UK.

Analysis chart valid 12 UTC WED 01 JUL 2015

Geostrophic wind scale
in kt for 4.0 hPa intervals

40 15
70N
60N
50N
40N
80 25   10

H ×
1025

L ×
1019

H ×
1020

× H
1024

H
1026

L ×
1009

× H
1019

L
993

H ×
1021

H
1021

L ×
1011

L ×
1010

L
1011

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1016
1020
1016
1012
1008
1004
1012
1016
1020
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1016
1012

Satellite image from NASA Terra satellite at 1053 GMT 1 July 2015. The area of cloud across south-east England drifted north during the day; had this not been present temperatures may have climbed still higher. The temperature at Heathrow was 32.5 °C at 0900 GMT and 34.1 °C at 1000 GMT, before falling back to 31.5 °C by 1100 GMT. The maximum of 36.7 °C was recorded at 1413 GMT.

Rain-radar at 2200 GMT on 1 July 2015 showing some torrential downpours from thunderstorms across the Pennines and further downpours across parts of Scotland triggered by the heat.

Daily maximum temperatures across the UK on 1 July 2015

Maximum Temperature
1 July 2015

Met Office
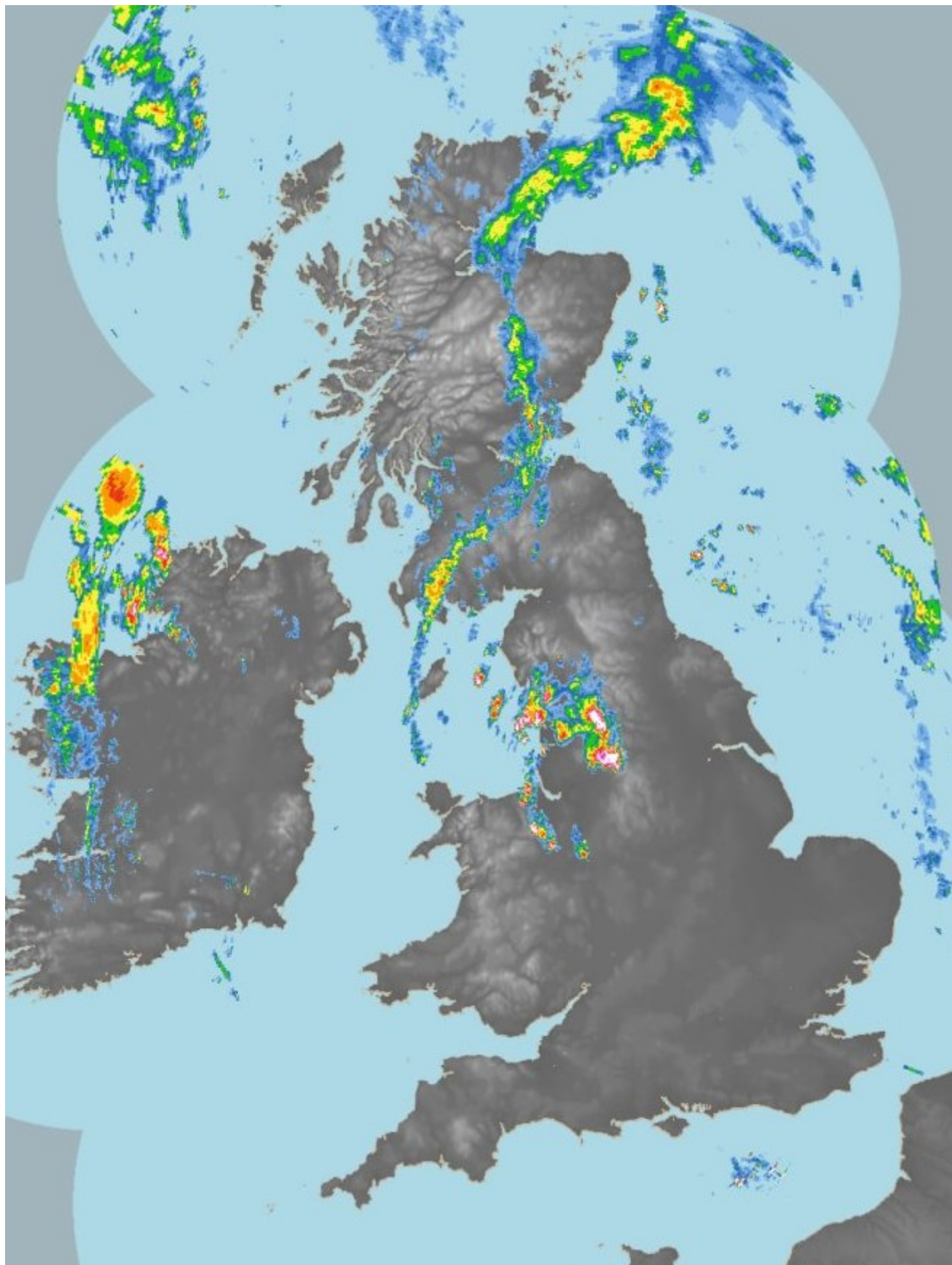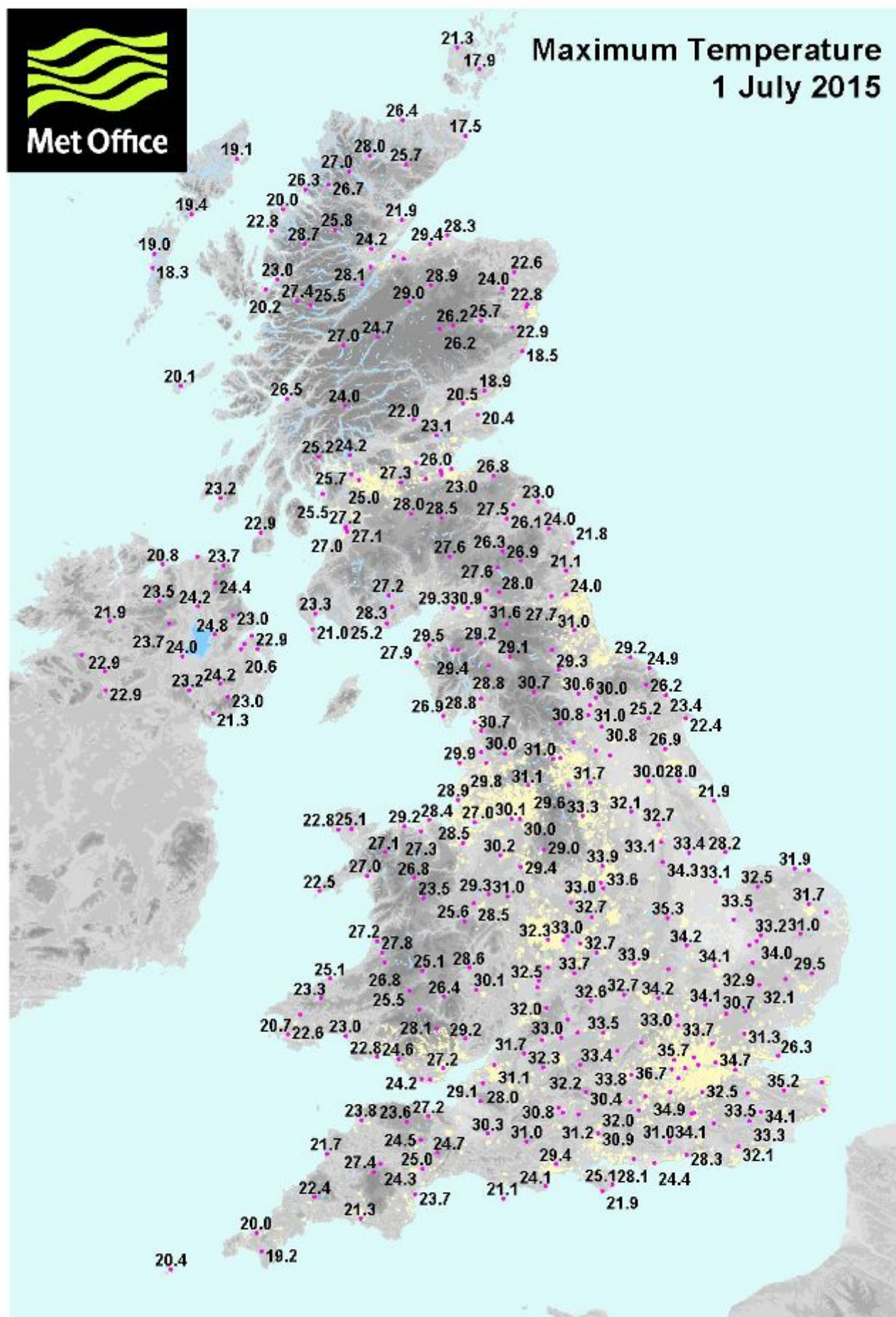
Historical context

The maps below compare 1 July 2015 against other heatwaves in the observational records. Although the UK record was set on 10 August 2003 the heat during this event was largely confined to the south-east. In contrast, on 3 August 1990 the heatwave also extended to south-west England, Wales and much of north-east England. On 19 July 2006 the heatwave again extended to Wales, north-west England and western Scotland. On 1 July 2015 the heatwave extended to northern England and Scotland but it was cooler across Wales.

The time-series below compare hourly air temperature at Heathrow during the heatwaves of 1976, 1990, 2003, 2006 and 2015. In contrast to the 1 July 2015, the events of August 1990, August 2003 and July 2006 each lasted several days. However, the heatwave which stands out in terms of duration is that of summer 1976 (although with slightly less extreme temperatures), reaching or exceeding 30 °C at Heathrow for a run of 16 days from 23 June to 8 July 1976 and coinciding with a severe drought.

There are relatively few days in the UK's observational records where temperatures have reached 35 °C or higher in the UK; a count of the number of weather stations on each date since 1959 is shown in the chart below.
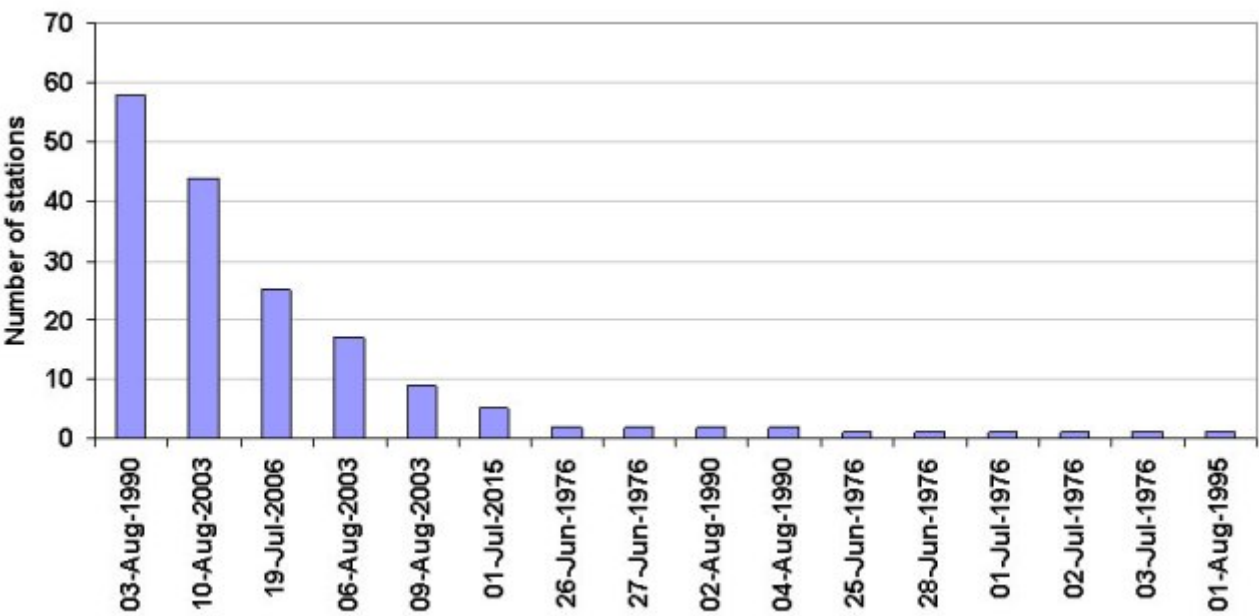
Durham, Sheffield and Bradford each recorded their warmest July day in over 100 years of records, and a number of other stations recorded their warmest July day on record ⧉. These data show that record temperatures for July were not confined to London or other major urban centres. The records were, in fact, part of a larger scale pattern of high temperatures extending through Spain, Portugal and France.

The table below lists the highest UK daily maximum temperature recorded each year since 2001. The highest maximum is typically in the low 30s but years 2003, 2006 and 2015 stand out with maximum temperatures exceeding 36 °C.

Maximum Temperature
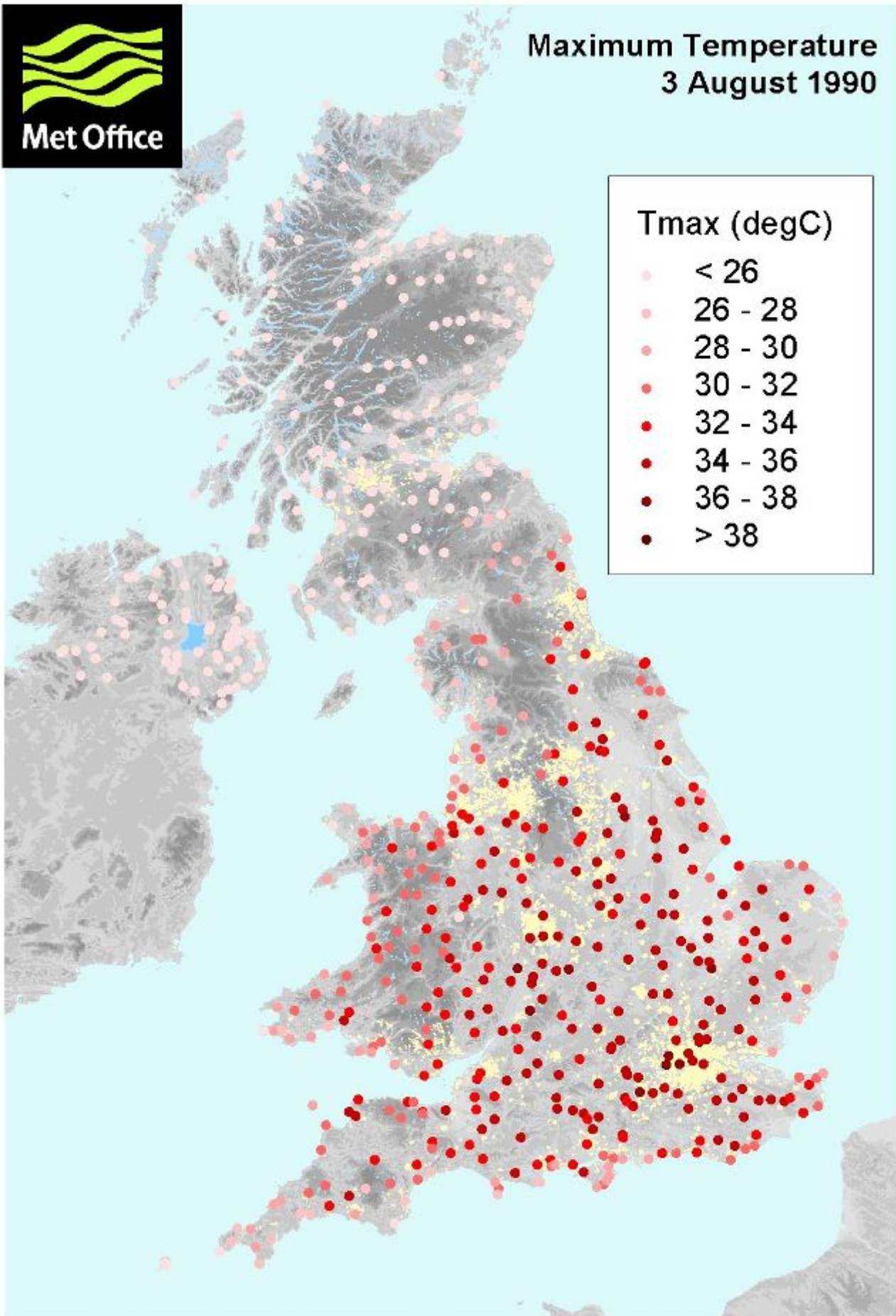3 August 1990

Met Office

Tmax (degC)
- < 26
- 26 - 28
- 28 - 30
- 30 - 32
- 32 - 34
- 34 - 36
- 36 - 38
- > 38

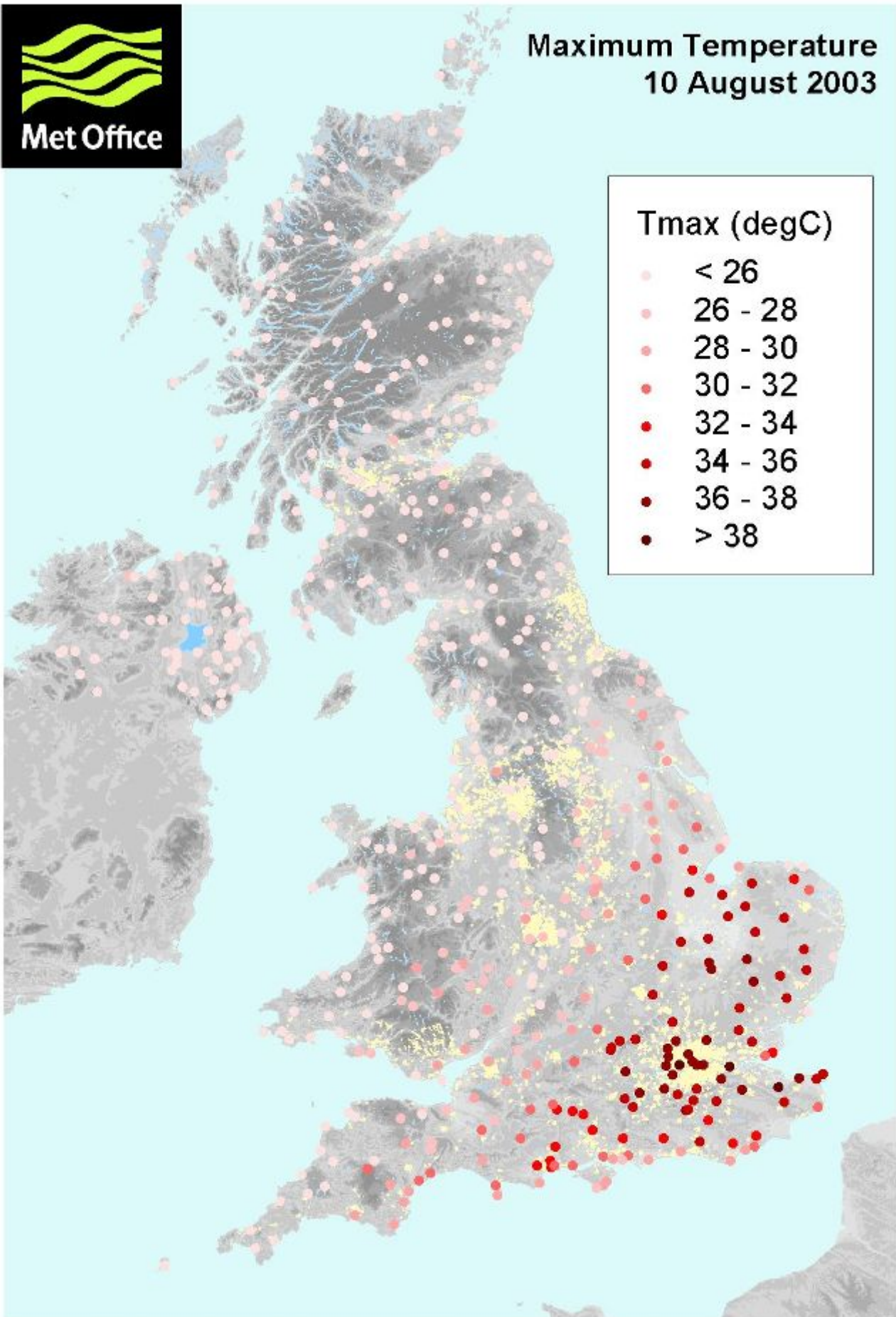Maximum Temperature
10 August 2003

Tmax (degC)

- < 26
- 26 - 28
- 28 - 30
- 30 - 32
- 32 - 34
- 34 - 36
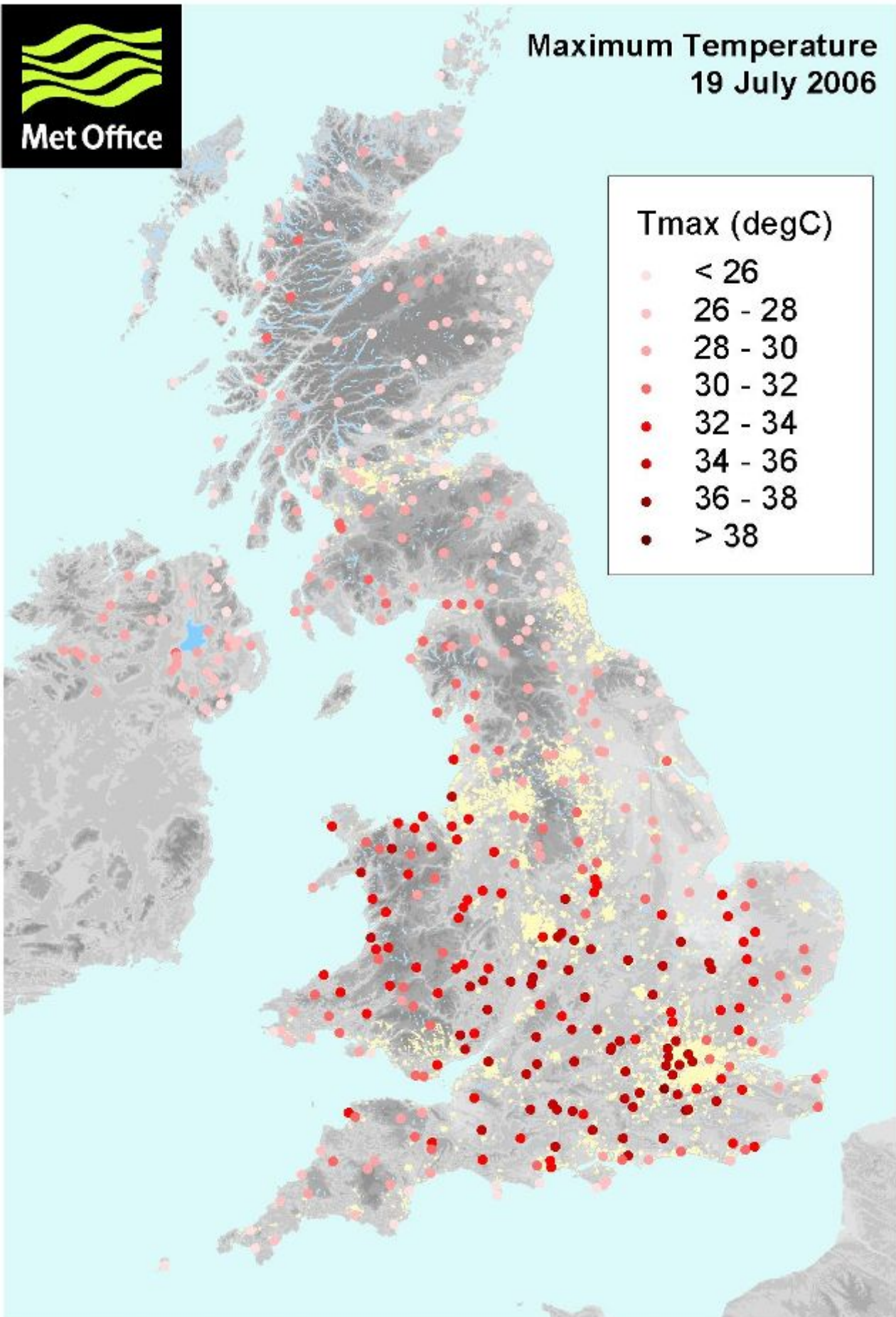- 36 - 38
- > 38

Maximum Temperature
19 July 2006

Tmax (degC)
< 26
26 - 28
28 - 30
30 - 32
32 - 34
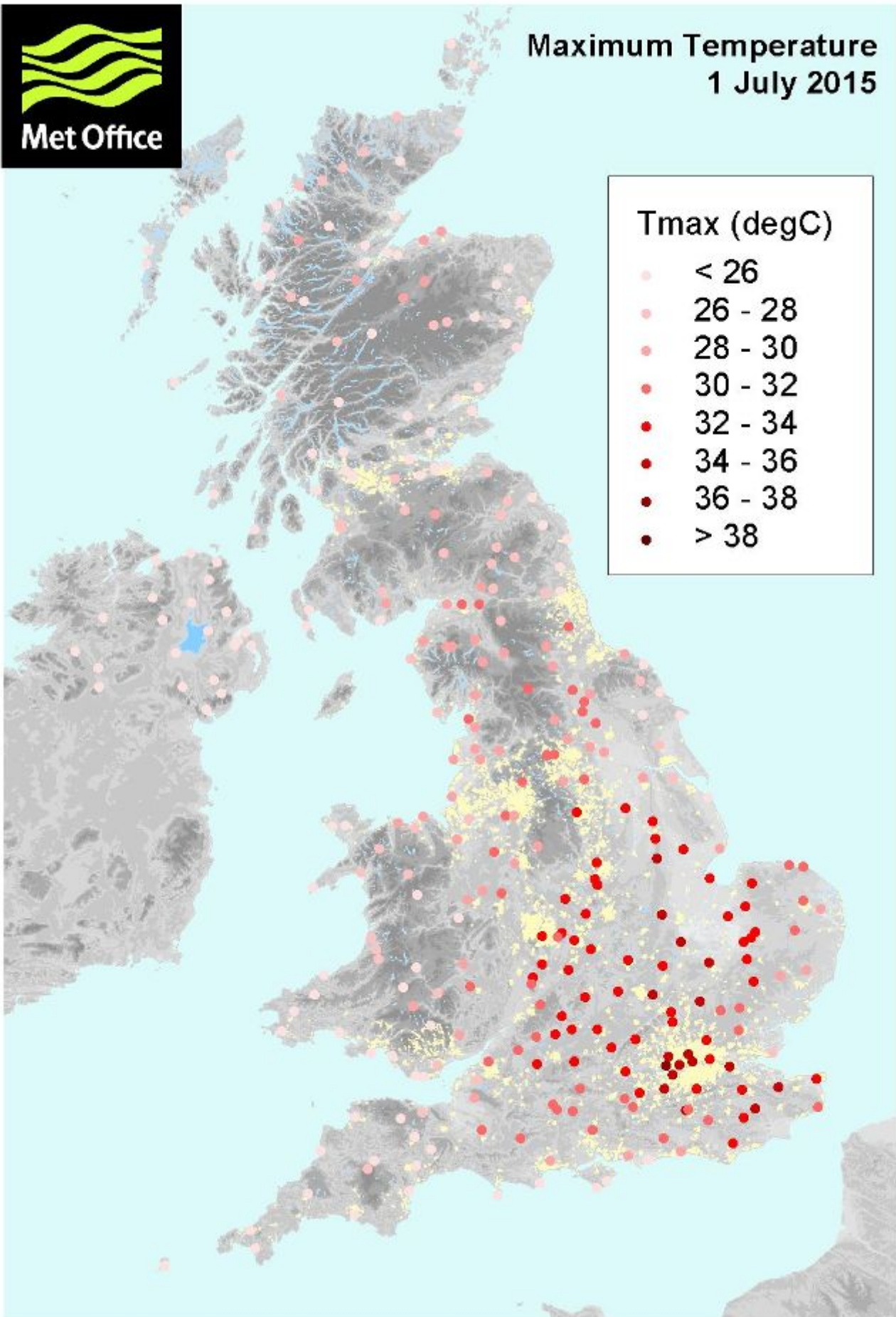34 - 36
36 - 38
> 38
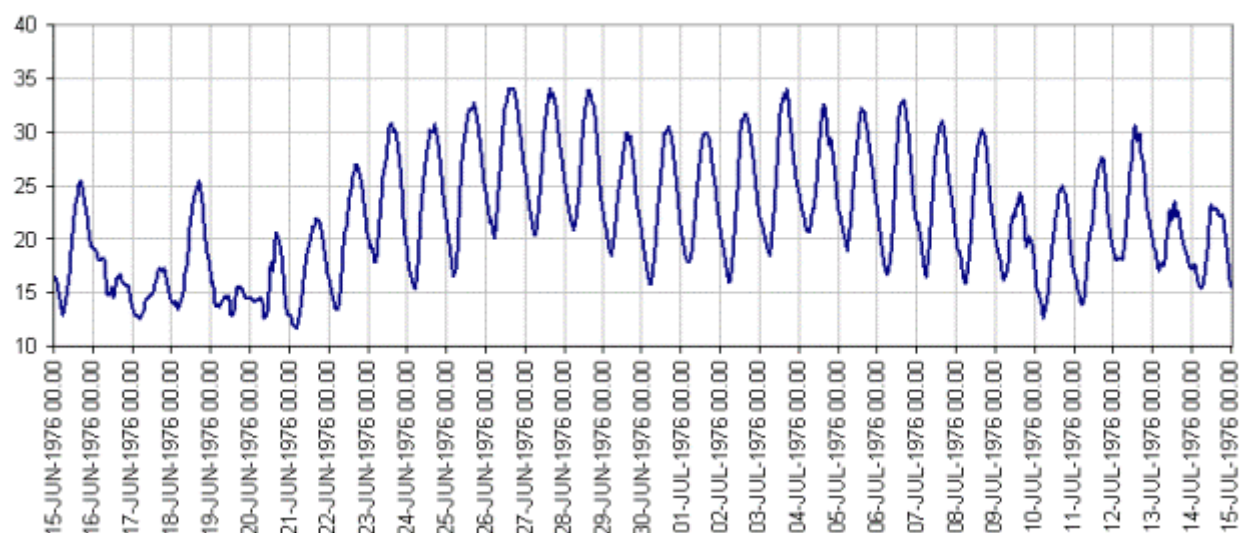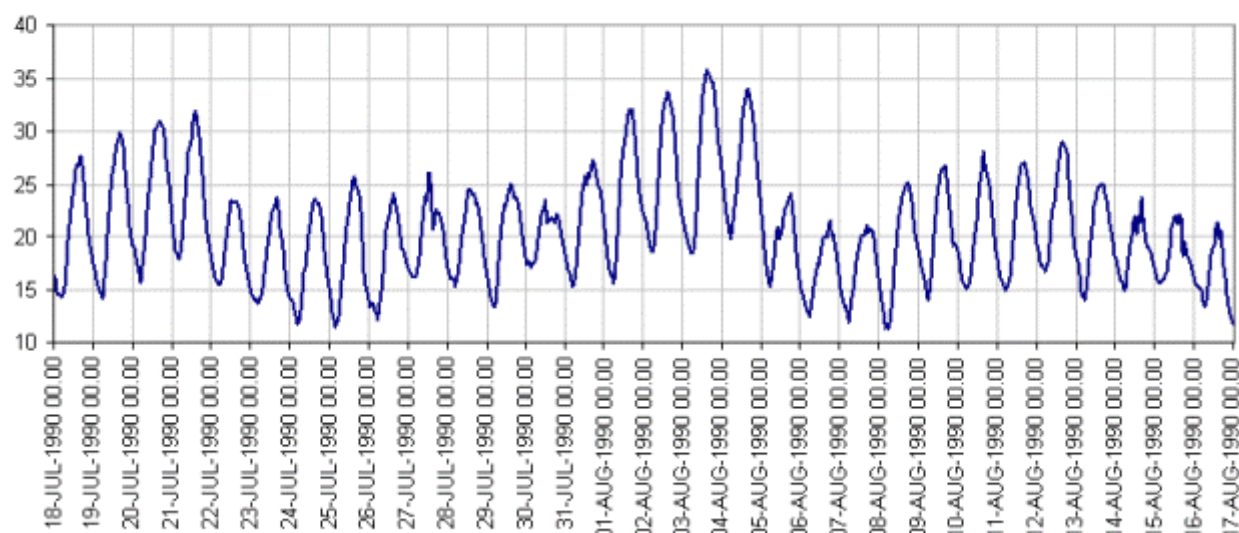
Maximum Temperature
1 July 2015

Tmax (degC)

- < 26
- 26 - 28
- 28 - 30
- 30 - 32
- 32 - 34
- 34 - 36
- 36 - 38
- > 38

1976

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35
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25
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15
10

15-JUN-1976 00.00
16-JUN-1976 00.00
17-JUN-1976 00.00
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19-JUN-1976 00.00
20-JUN-1976 00.00
21-JUN-1976 00.00
22-JUN-1976 00.00
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24-JUN-1976 00.00
25-JUN-1976 00.00
26-JUN-1976 00.00
27-JUN-1976 00.00
28-JUN-1976 00.00
29-JUN-1976 00.00
30-JUN-1976 00.00
01-JUL-1976 00.00
02-JUL-1976 00.00
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04-JUL-1976 00.00
05-JUL-1976 00.00
06-JUL-1976 00.00
07-JUL-1976 00.00
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11-JUL-1976 00.00
12-JUL-1976 00.00
13-JUL-1976 00.00
14-JUL-1976 00.00
15-JUL-1976 00.00

1990

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15
10

18-JUL-1990 00.00
19-JUL-1990 00.00
20-JUL-1990 00.00
21-JUL-1990 00.00
22-JUL-1990 00.00
23-JUL-1990 00.00
24-JUL-1990 00.00
25-JUL-1990 00.00
26-JUL-1990 00.00
27-JUL-1990 00.00
28-JUL-1990 00.00
29-JUL-1990 00.00
30-JUL-1990 00.00
31-JUL-1990 00.00
01-AUG-1990 00.00
02-AUG-1990 00.00
03-AUG-1990 00.00
04-AUG-1990 00.00
05-AUG-1990 00.00
06-AUG-1990 00.00
07-AUG-1990 00.00
08-AUG-1990 00.00
09-AUG-1990 00.00
10-AUG-1990 00.00
11-AUG-1990 00.00
12-AUG-1990 00.00
13-AUG-1990 00.00
14-AUG-1990 00.00
15-AUG-1990 00.00
16-AUG-1990 00.00
17-AUG-1990 00.00

2003

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15
10

25-JUL-2003 00.00
26-JUL-2003 00.00
27-JUL-2003 00.00
28-JUL-2003 00.00
29-JUL-2003 00.00
30-JUL-2003 00.00
31-JUL-2003 00.00
01-AUG-2003 00.00
02-AUG-2003 00.00
03-AUG-2003 00.00
04-AUG-2003 00.00
05-AUG-2003 00.00
06-AUG-2003 00.00
07-AUG-2003 00.00
08-AUG-2003 00.00
09-AUG-2003 00.00
10-AUG-2003 00.00
11-AUG-2003 00.00
12-AUG-2003 00.00
13-AUG-2003 00.00
14-AUG-2003 00.00
15-AUG-2003 00.00
16-AUG-2003 00.00
17-AUG-2003 00.00
18-AUG-2003 00.00
19-AUG-2003 00.00
20-AUG-2003 00.00
21-AUG-2003 00.00
22-AUG-2003 00.00
23-AUG-2003 00.00
24-AUG-2003 00.00

2006

2015

Highest UK temperature by year

Year	Highest temperature °C	Station and date
2015	36.7	Heathrow, Greater London on 1 July
2014	32.3	Gravesend, Kent on 18 July
2013	34.1	Heathrow, Greater London on 1 August
2012	32.4	Cavendish, Suffolk on 18 August
2011	33.1	Gravesend, Kent on 27 June
2010	31.7	Gravesend, Kent on 9 July
2009	32.0	Hampton, Greater London on 1 July
2008	30.2	Cambridge on 28 July

2007	30.1	Cambridge on 5 August
2006	36.5	Wisley, Surrey on 19 July
2005	32.6	Heathrow on 19 June
2004	31.5	Cambridge on 8 June
2003	38.5	Faversham, Kent on 10 August
2002	32.8	Boxworth, Cambridgeshire on 17 August
2001	32.8	Kew on 28 July and Boxworth on 15 August

Last updated: 15 July 2015

≋ Met Office