

## Record rainfall - April to July 2012

**From April to July 2012 the UK experienced a period of exceptionally wet weather, breaking previous rainfall records and resulting in several significant flood events.**

The wet weather affected all of England, Wales and eastern Scotland. April, June, and the period April to July were each the wettest on record in the England & Wales precipitation series from 1766, while for the UK overall, summer 2012 (June, July and August) was the wettest since 1912. The record rainfall brought the [England and Wales drought 2010 to 2012](#) to an abrupt end. In contrast to the wet weather elsewhere, the far north-west of Scotland saw well below-average rainfall from March to October 2012.

The persistent wet weather was due to a shift in the jet stream to a much more southerly track than normal, bringing a succession of Atlantic low pressure systems and associated fronts across the southern half of the UK.

### Impacts

After the drought, the wet weather was initially very welcome, bringing much-needed rain for farmers and growers. However, before long it brought new problems.

Waterlogging made access to land difficult, reduced yields and caused some crops to rot. Various flood incidents through the period caused widespread problems, particularly to the transport network. Surface water flooding and debris closed main roads. Railway lines were blocked by flooding and landslips. Birmingham airport diverted inbound flights in late June.

Landslides and cliff collapses affected the south-west coast, with one fatality. Areas of West Yorkshire were affected by flash flooding from the River Calder three times in two weeks during June and July. Evacuations of properties and caravan parks were necessary in Wales, Yorkshire and eastern Scotland.

Leisure activities were affected - for example festival-goers on the Isle of Wight were stranded due to heavy rain and waterlogged ground, though the Olympic Torch relay persisted in spite of bad weather. The flooding also brought ecological problems - unseasonable flooding of wetlands destroyed nests of ground-nesting birds (e.g. in the Ouse Washes) and receding flood waters stranded fish.

The wet spell was punctuated by numerous high rainfall totals causing flooding problems. Notable one-day accumulations included 101 mm at Chilgrove House, West Sussex on 10 June and 208 mm at Honister Pass, Cumbria on 22 June. Two-day accumulations included 186 mm at Rheidol, Aberystwyth on 8 to 9 June, 145 mm at Bognor Regis, West Sussex on 10 to 11 June and 132 mm at Charminster, Dorset on 6 to 7 July. Many of the flood incidents were localised in nature and due to torrential downpours, which overwhelmed drainage systems and caused flash flooding. While several thousand properties flooded, the flooding was not on the scale of summer 2007, when over 55,000 properties were flooded across England and Wales. One reason was the benefit of the network of flood defences across the UK; without this, many more properties would have been affected. In summer 2007 there was large scale fluvial flooding, less spatially extensive but much more damaging overall.

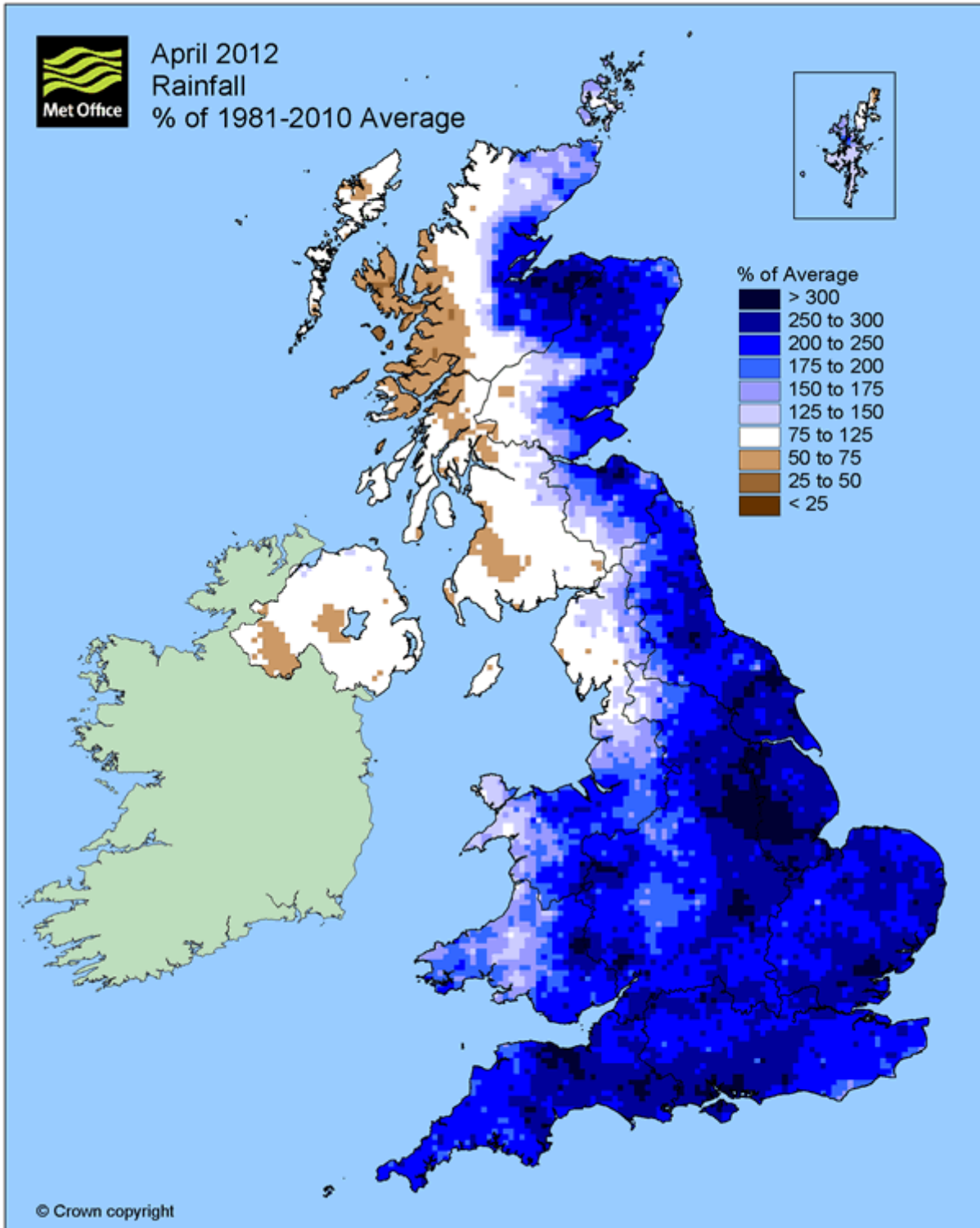
The persistent wet weather transformed the UK's water resource situation. In particular, it allowed groundwater levels to recover in the chalk aquifers of south-east England (an important water resource); this is extremely unusual at this time of year.

In stark contrast, parts of north-west Scotland suffered drought stress through summer 2012. Wildfires threatened historic buildings in Stornoway, there were reports of springs drying up and whisky production was interrupted on Islay, Mull and Skye.

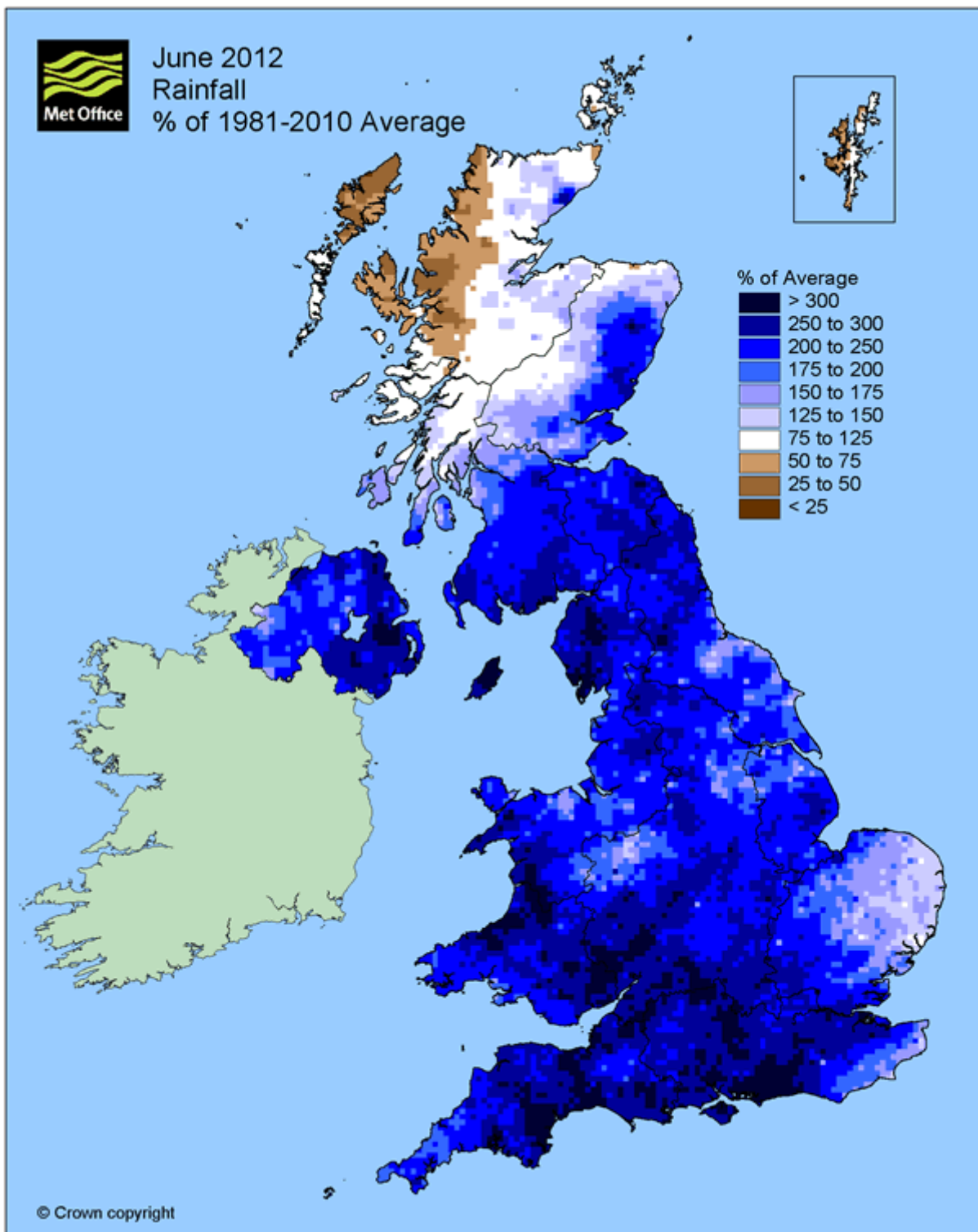
## Weather data

The months of April and June were exceptionally wet, with most parts of England, Wales and eastern Scotland receiving two to three times the monthly average rainfall widely - approaching four times in a few locations. Remarkably, April and June were each the wettest such months in both the UK series from 1910, and the England & Wales precipitation series from 1766.

The following maps show rainfall for April and June 2012.



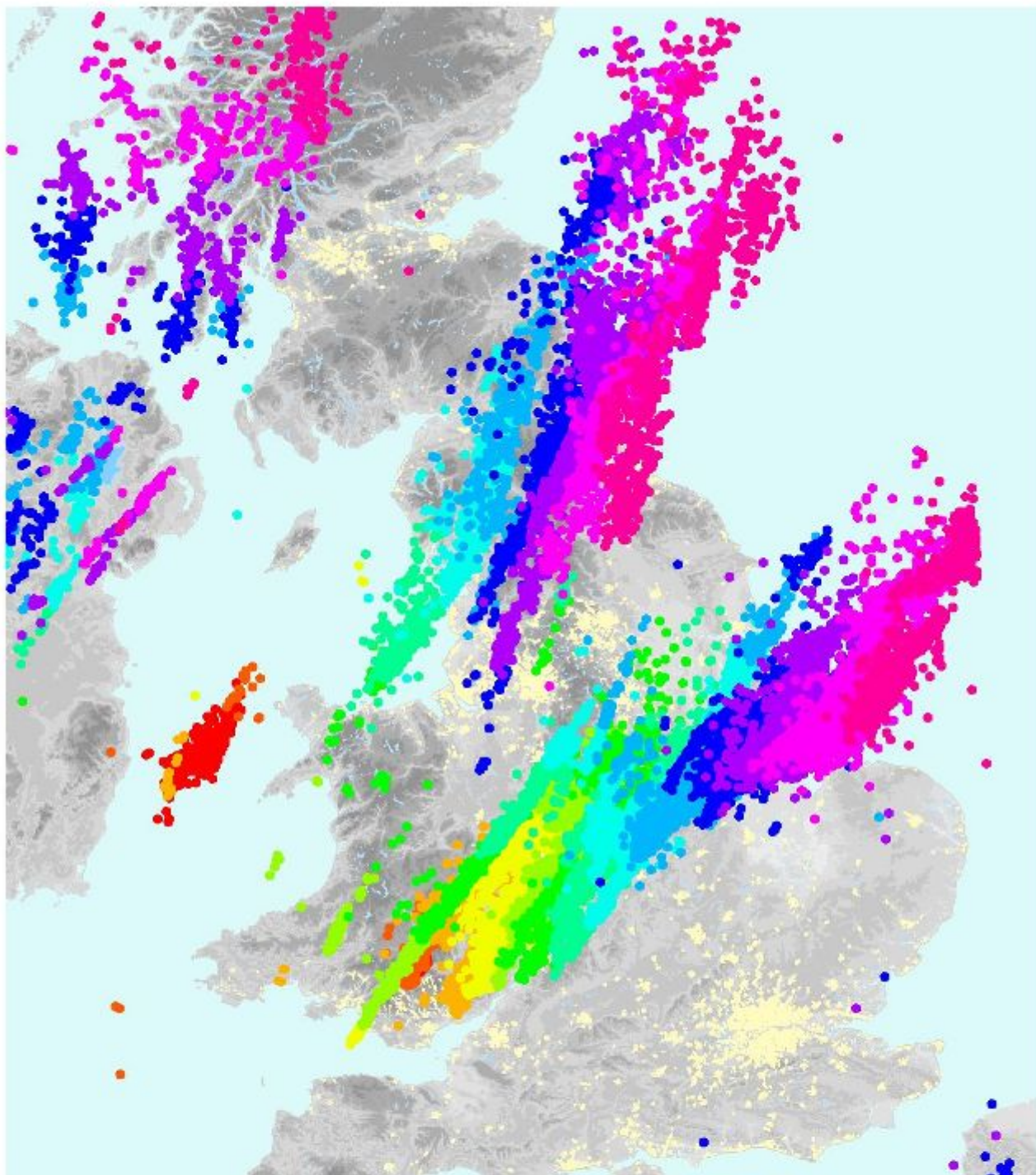
Perhaps the most dramatic day during the spell of wet weather was 28 June 2012. Two lines of intense



thunderstorms tracked across England; one from the West Midlands to Lincolnshire, the other from Morecambe Bay to north-east England. These brought torrential downpours, hailstones large enough to damage greenhouses and cars, and intense lightning activity (over 50,000 strikes were recorded across the UK through the day). The Newcastle-on-Tyne area was particularly badly affected by flash flooding; rainfall rates of 20 to over 30 mm per hour were widely recorded.

The following map shows lightning strikes for 28 June 2012

The wet weather continued to predominate for the first two-thirds of July. Many parts of England, Wales and southern Scotland received more than twice the average rainfall for the month overall. Rainfall for the April to July period approached twice the average widely across England, Wales and eastern Scotland and this period was the wettest in the series from 1910 for the UK overall. It was also the wettest such period in the England & Wales precipitation series from 1766.



## Lightning strikes 28th June 2012

### Lightning strike times

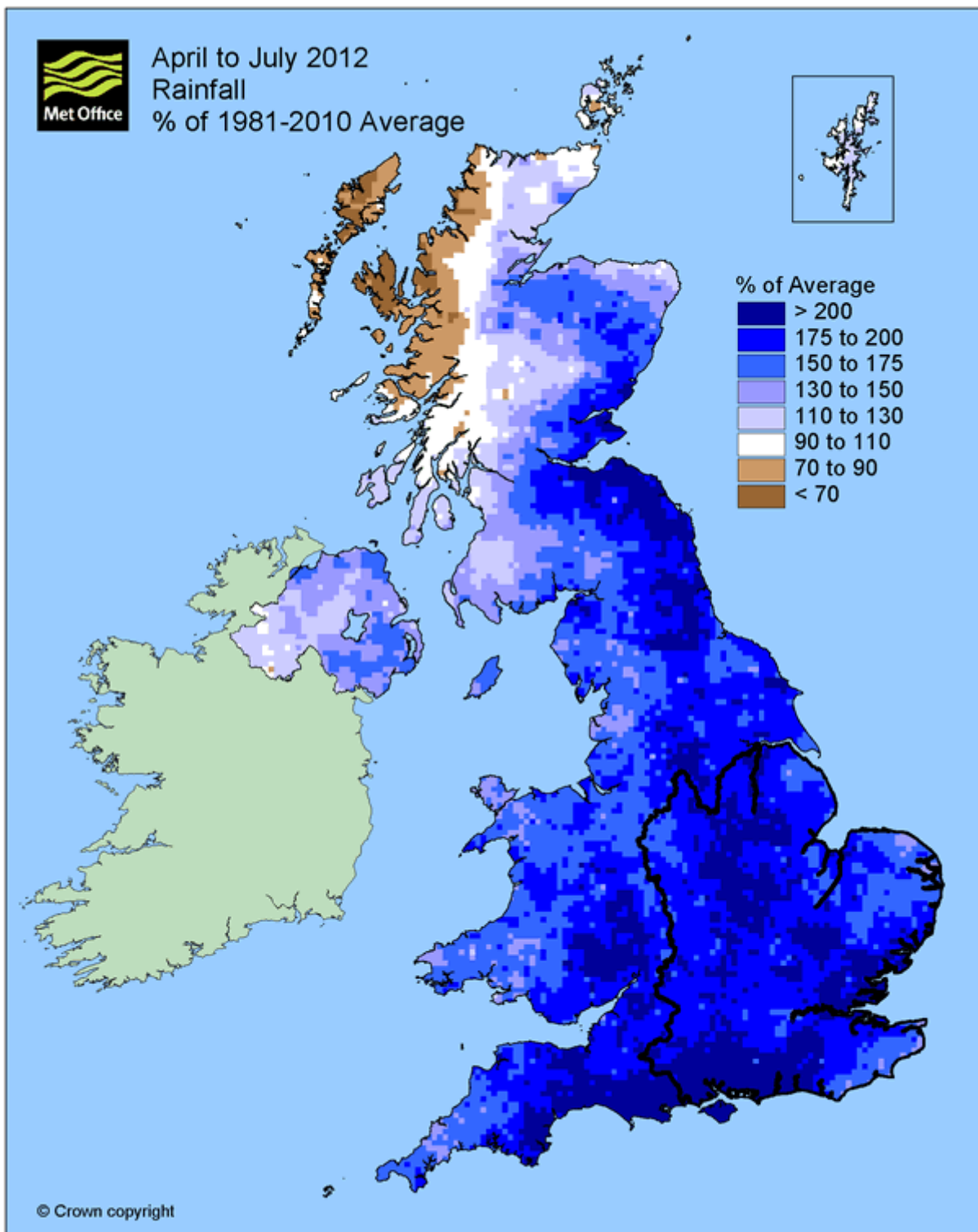
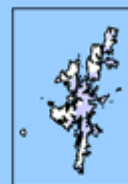
● 05:00 to 06:00	● 10:00 to 11:00	● 14:00 to 15:00
● 06:00 to 07:00	● 11:00 to 12:00	● 15:00 to 16:00
● 07:00 to 08:00	● 12:00 to 13:00	● 16:00 to 17:00
● 08:00 to 09:00	● 13:00 to 14:00	● 17:00 to 18:00
● 09:00 to 10:00		

following map shows rainfall totals for the period April to July 2012. (The area of 'Lowland England' is shown in bold; in this area, groundwater - mainly from chalk aquifers - is an important water resource).

Rainfall totals for the period April to July 2012 are given in Table 1 below.



April to July 2012  
Rainfall  
% of 1981-2010 Average



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Rainfall totals for the period April to July 2012

Region	April to July rainfall (mm)	% of 1981-2010 average	Rank (series from 1910)	Highest or previous highest since 1910
UK	462	157	1	414 mm - 1931
England	452	187	1	389 mm - 2007
Wales	598	169	2	614 mm - 1920
Scotland	449	123	5	503 mm - 1947

Northern Ireland	416	136	6	462 mm - 2002
England & Wales	472	184	1	408 mm - 2007
England N	488	181	1	423 mm - 2007
England S	433	191	1	371 mm - 2007
Scotland E	486	159	1	450 mm - 1916
England E & NE	441	188	1	383 mm - 2007
England NW & N Wales	553	168	2	555 mm - 1920
Midlands	457	190	1	433 mm - 2007
East Anglia	367	186	1	293 mm - 2007
England SW & S Wales	561	181	1	487 mm - 1920
England SE & Central S	417	198	1	350 mm - 1924

August continued largely wetter than average - particularly across south-west England. For UK overall, the summer of 2012 was the wettest for a century (since 1912).

The following map shows rainfall totals for summer 2012.

Monthly rainfall anomalies for the area of Lowland England (defined by the bold line on the April to July rainfall map) are given in the bar chart below. The exceptionally wet weather from April 2012 onwards brought the 2010-2012 drought to an abrupt end.

For a description of monthly summaries, including rainfall statistics from April 2012 onwards, please refer to the [Climate summaries](#).

For a more detailed summary of the 2012 transformation from drought to floods, refer to the following publication:

**Parry S, Marsh T, Kendon M.** 2013. 2012: from drought to floods in England & Wales. *Weather* **68**: 268-274.

Last updated: 3 October 2013



Summer 2012  
Rainfall  
% of 1981-2010 Average

