

Strong winds and flooding from storm Angus, November 2016

The first named storm of the 2016-2017 season brought some damaging winds to the south coast, accompanied by heavy rain causing flooding mainly across parts of south-west England.

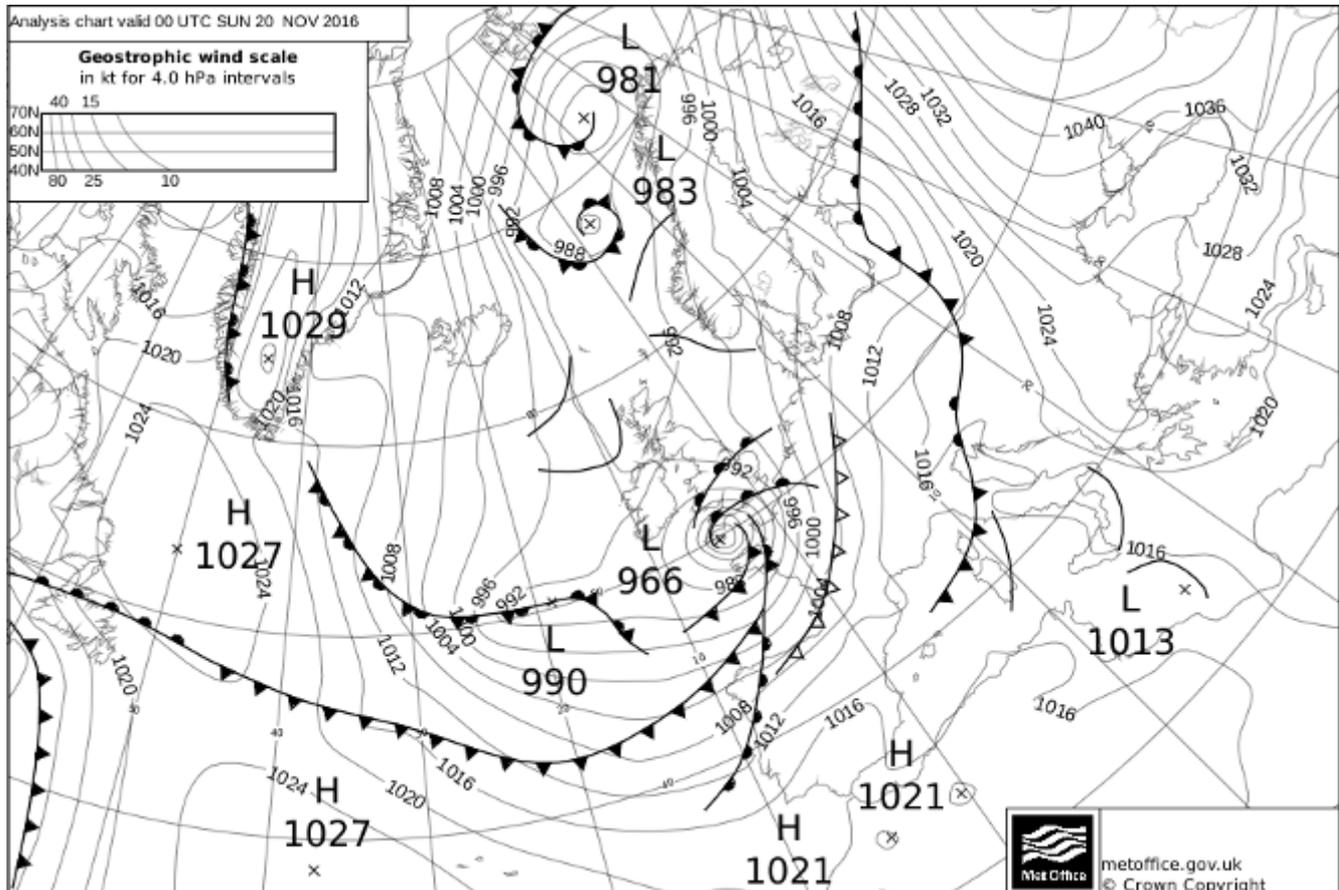
Gusts in exposed coastal locations reached 60 to 70 Kt (69 to 81 mph). Storm Angus brought 40 to 50mm of rain across the wettest areas, with a further 40 to 50mm from the next low pressure system 36 hours later falling on saturated ground and causing significant flooding problems.

Impacts

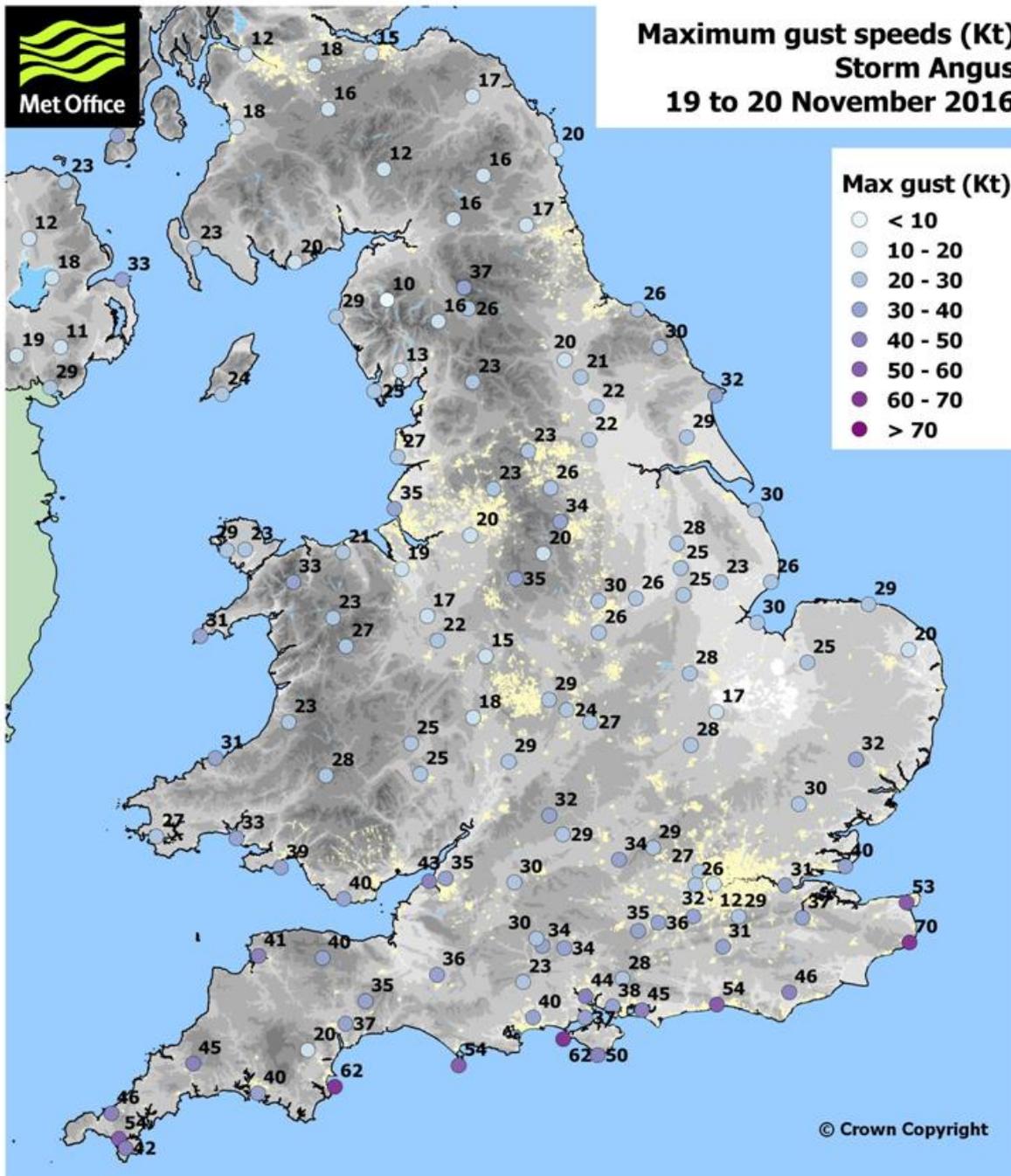
A cargo ship collided with a barge in the English Channel and a ferry carrying 150 passengers was stranded for 26 hours before docking at Fishguard, Pembrokeshire. Large waves battered the south coast and damage was reported to the sea wall at Swanage, Dorset. The south-west main line railway was closed outside Exeter due to flood damage and more than 1,000 properties across south-west England were without power. There was widespread travel disruption with roads closed and trains cancelled. Parts of South Wales were also affected by flooding. Further north, cars were stranded by heavy snow across parts of northern England.

Weather data

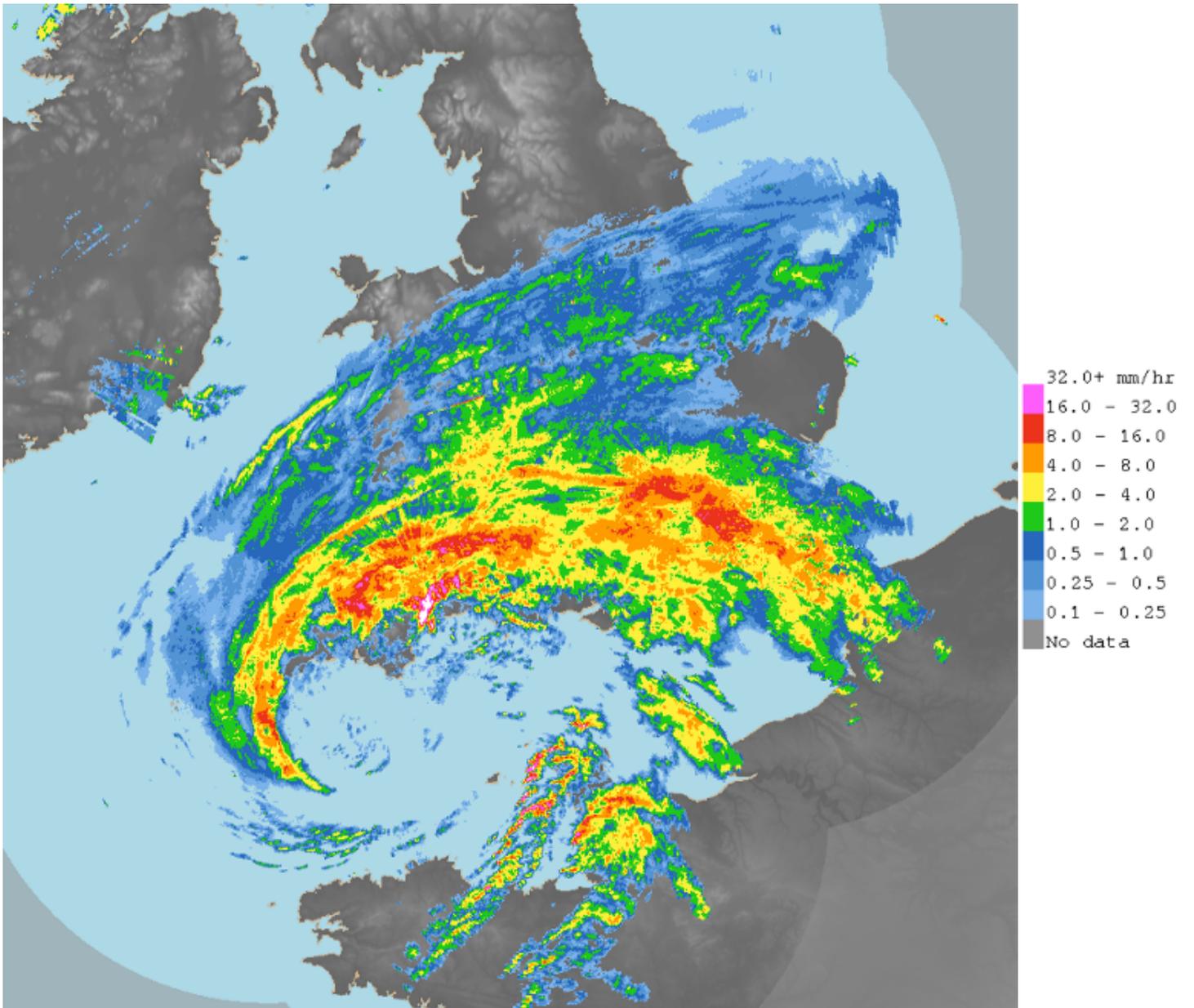
The analysis chart for 0000 GMT on 20 November shows storm Angus bringing heavy rain across southern areas and damaging winds to the south coast.



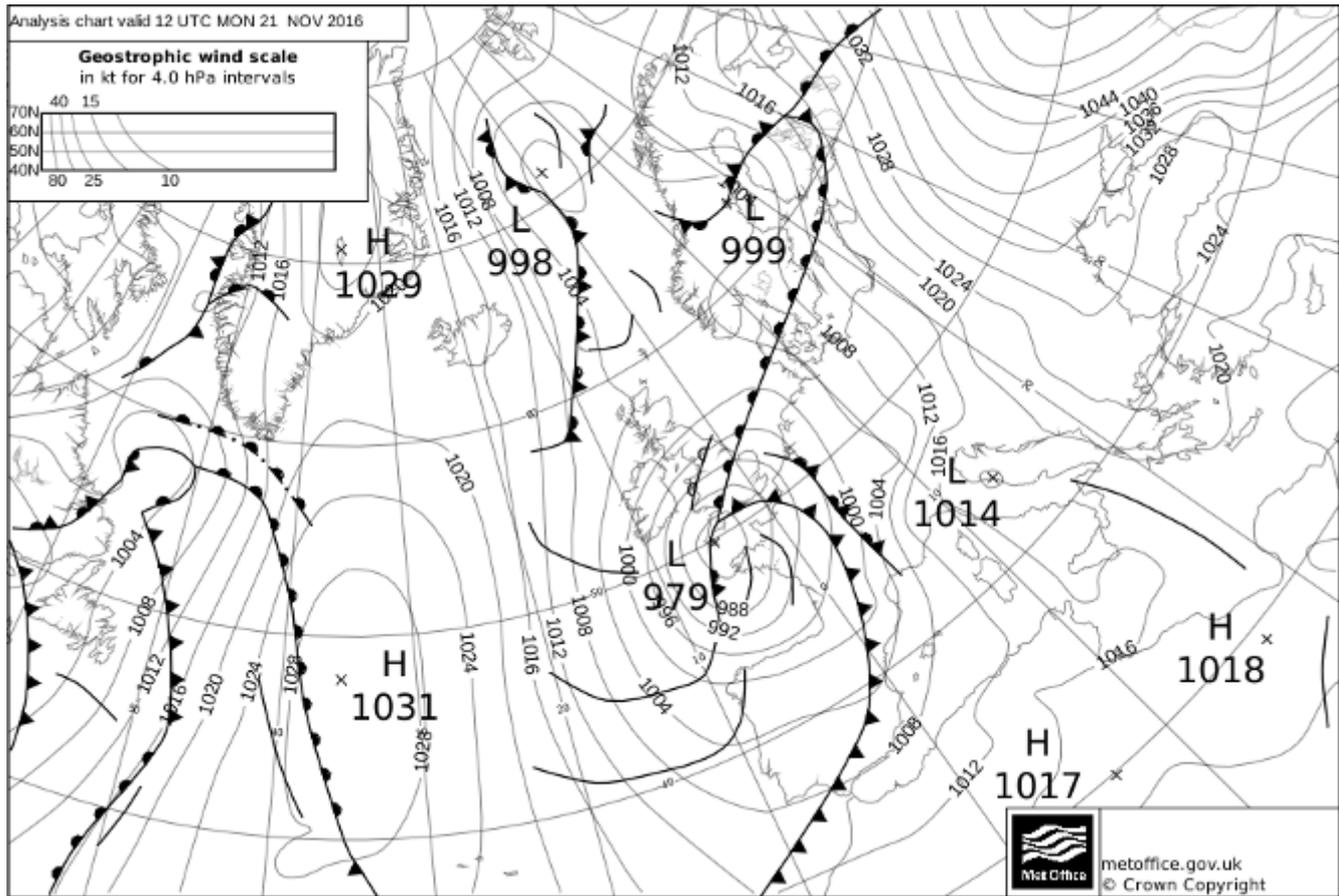
The figure below shows maximum gust speeds (Kt) from storm Angus on 19 and 20 November. Gusts along the south coast exceeded 50 Kt (58 mph) and were strongest in the far south-east with 70 Kt (81 mph) at Langdon Bay, Kent and 73 Kt (84 mph) at Guernsey Airport, Channel Islands.



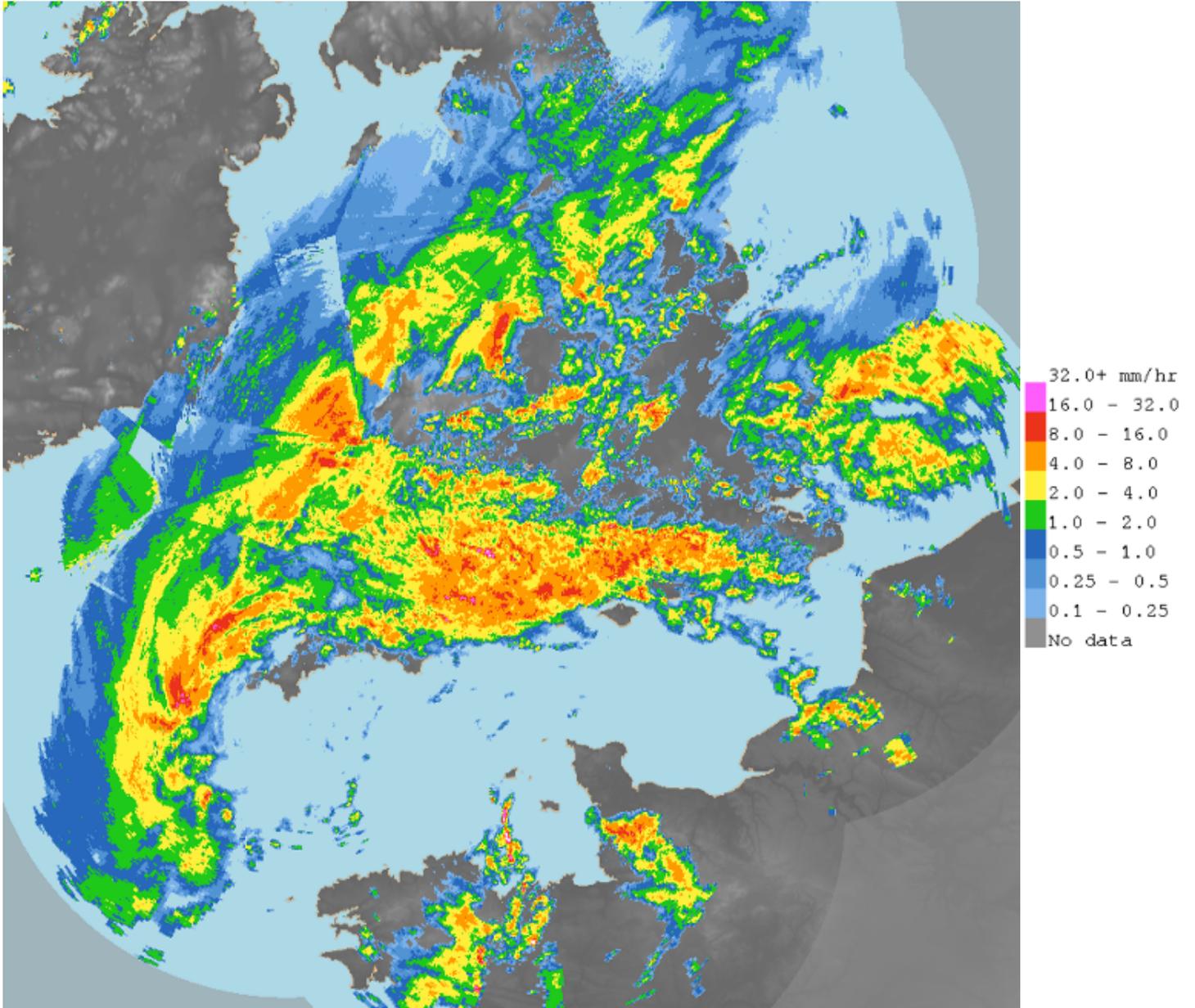
The radar-rainfall image below at 0030 GMT on 20 November shows heavy rainfall from storm Angus.



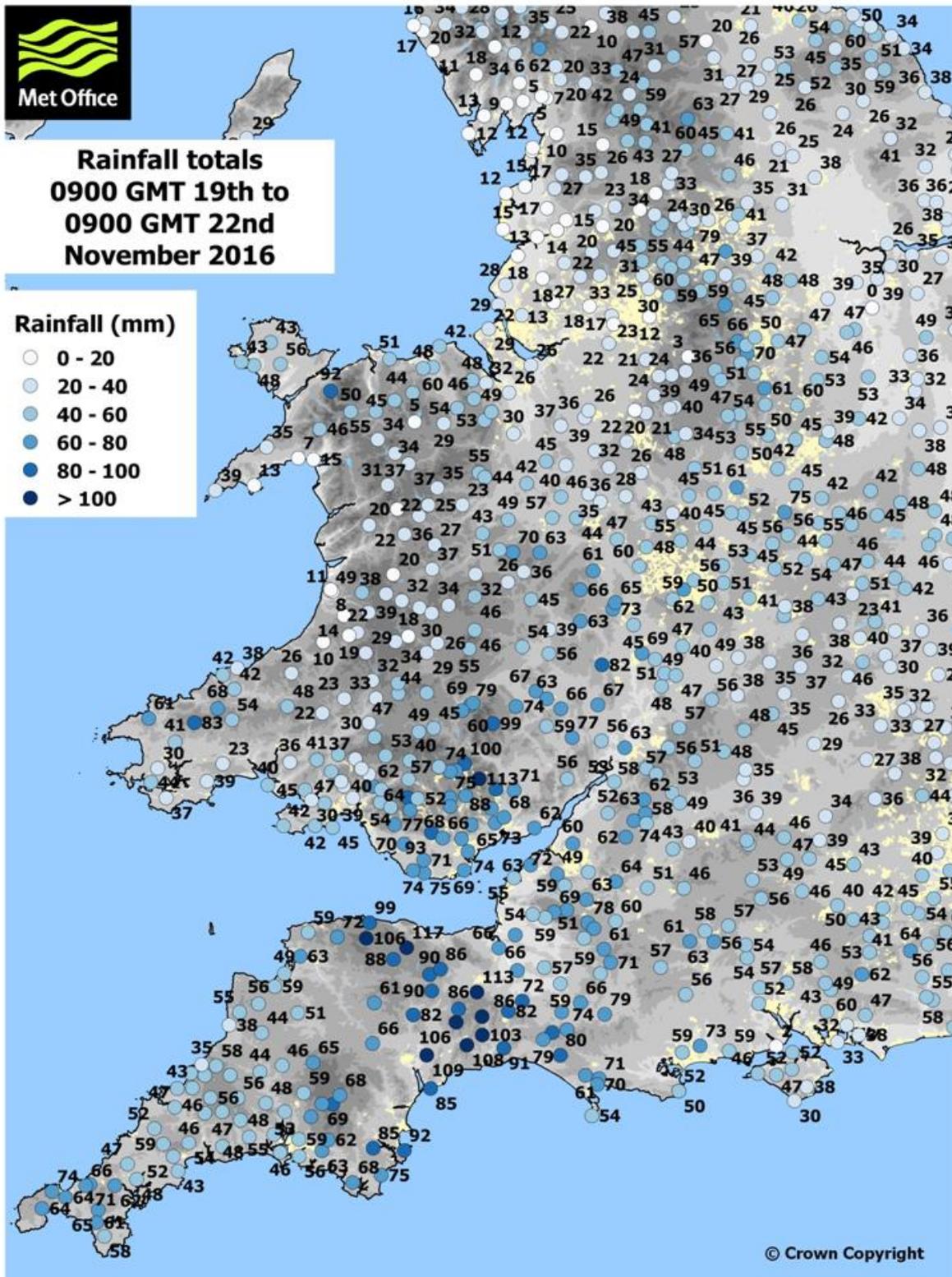
The analysis chart for 1200 GMT on 21 November – 36 hours later – shows the next low pressure system bringing further heavy rainfall.



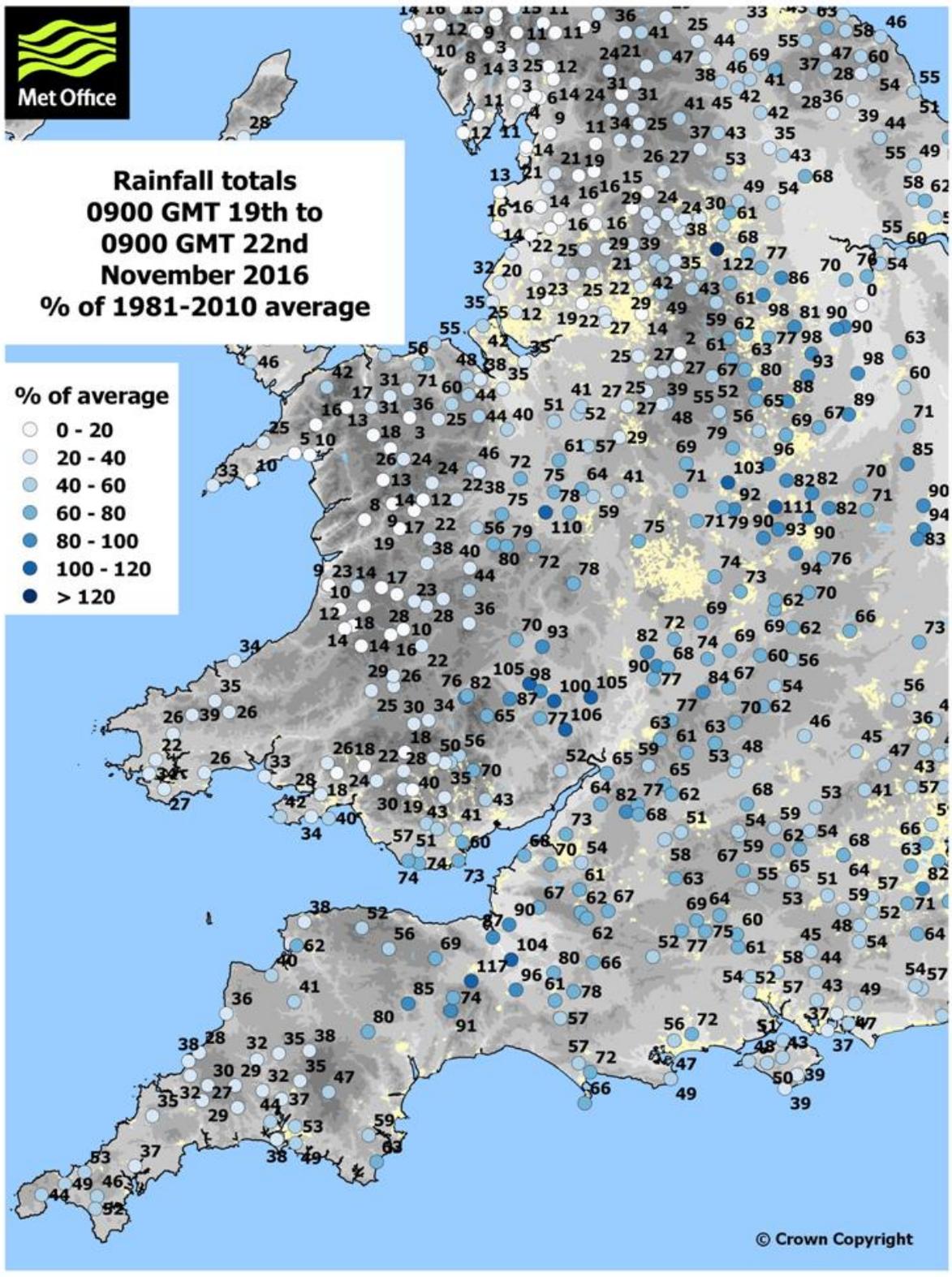
The radar-rainfall image below at 1230 GMT on 21 November shows the heavy rainfall from the next low pressure system, with the rainfall pattern very similar to that of Angus.



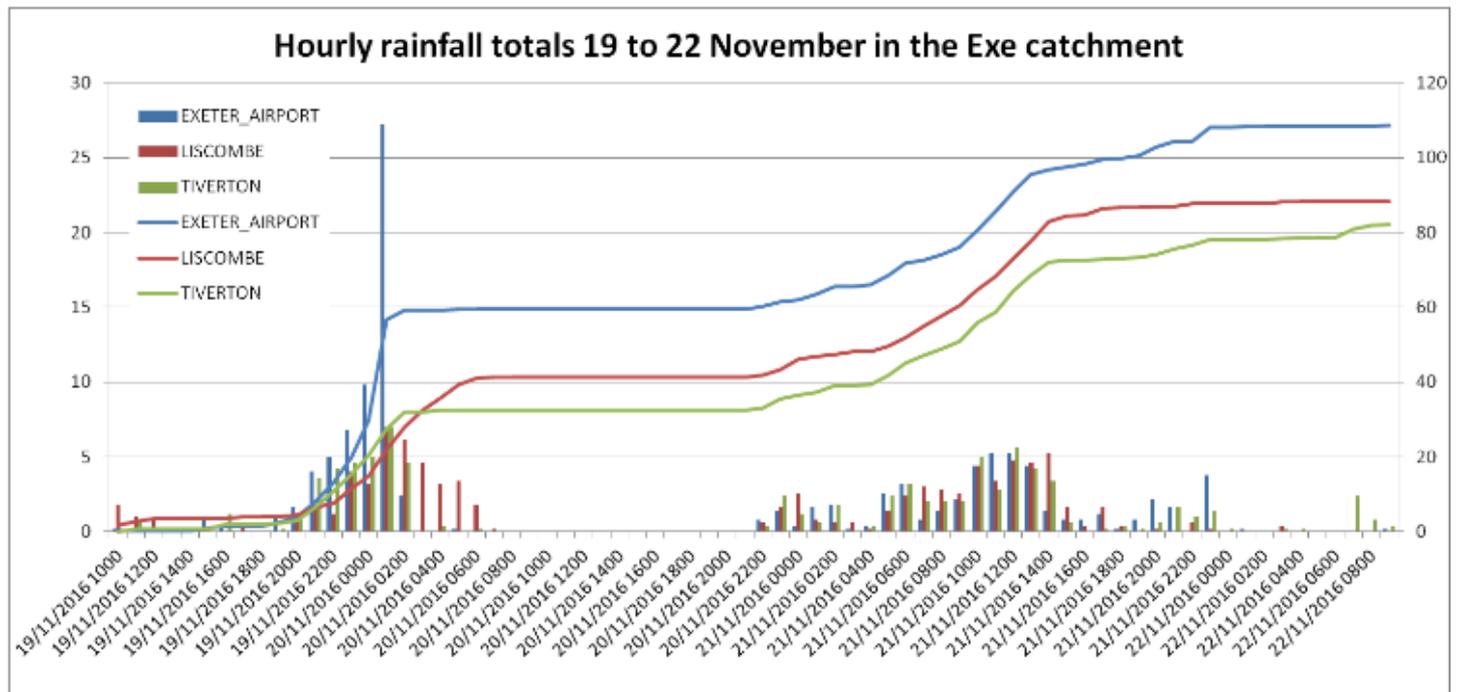
The map below shows overall rainfall totals for the 3-day period from 0900 GMT 19 to 0900 GMT 22 November. The highest totals were across parts of East Devon, Somerset, and South Wales which received over 100 mm in a few locations.



The map below shows these rainfall accumulations as a percentage of the 1981-2010 long term average November rainfall, with some locations receiving more than the whole month's average rainfall in this period.



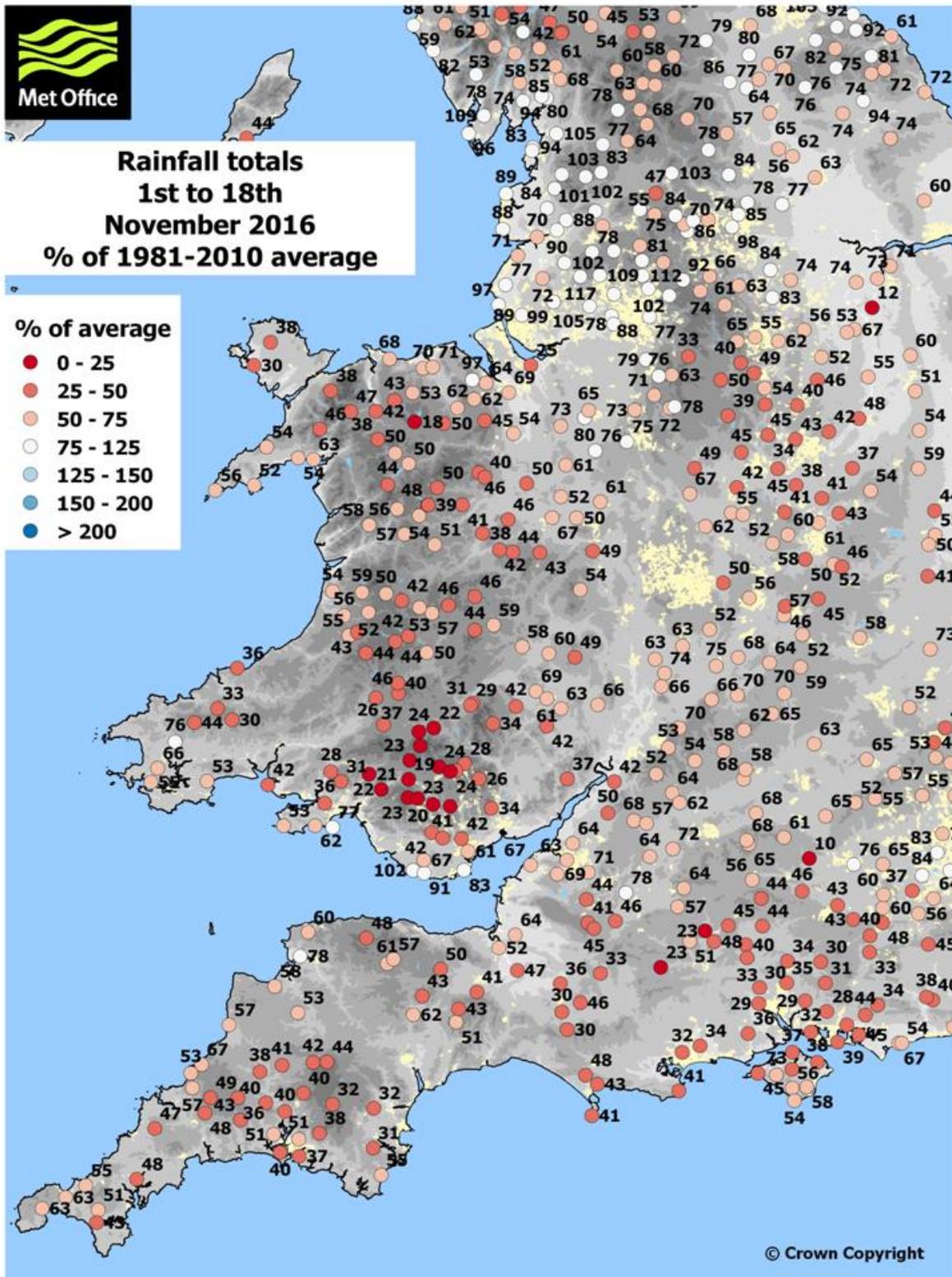
The figure below shows hourly rainfall totals and accumulations from storm Angus and the subsequent low pressure system at Exeter Airport and Tiverton (Devon) and Liscombe (Somerset) – all located within the catchment of the River Exe where significant disruption from flooding occurred. Exeter Airport recorded 27.2 mm in one hour to 0100 GMT on 20 November, associated with the white area of most intense rainfall shown on the radar-rainfall image above.



The table gives rainfall totals in mm at these locations during the two storms, together with the November 1981-2010 long term average. (Liscombe, located on Exmoor, is a climatologically much wetter location).

Period	Exeter Airport	Tiverton	Liscombe
0900 GMT 19th to 0900 GMT 22nd	108.6	82.2	88.2
Angus: 1800 GMT 19th to 0700 GMT 20th	58.0	30.6	37.2
Next low: 2100 GMT 20th to 2300 GMT 22nd	48.8	45.4	46.6
November 1981-2010 long-term average	83.4	96.5	159.0

The maps below compare rainfall anomalies for 1 to 18 November against 1 to 22 November 2016. Before the arrival of storm Angus, November had been a relatively dry month with many locations receiving around half the November long-term-average rainfall. This subsequently increased to between 100 and 150% of the monthly average.

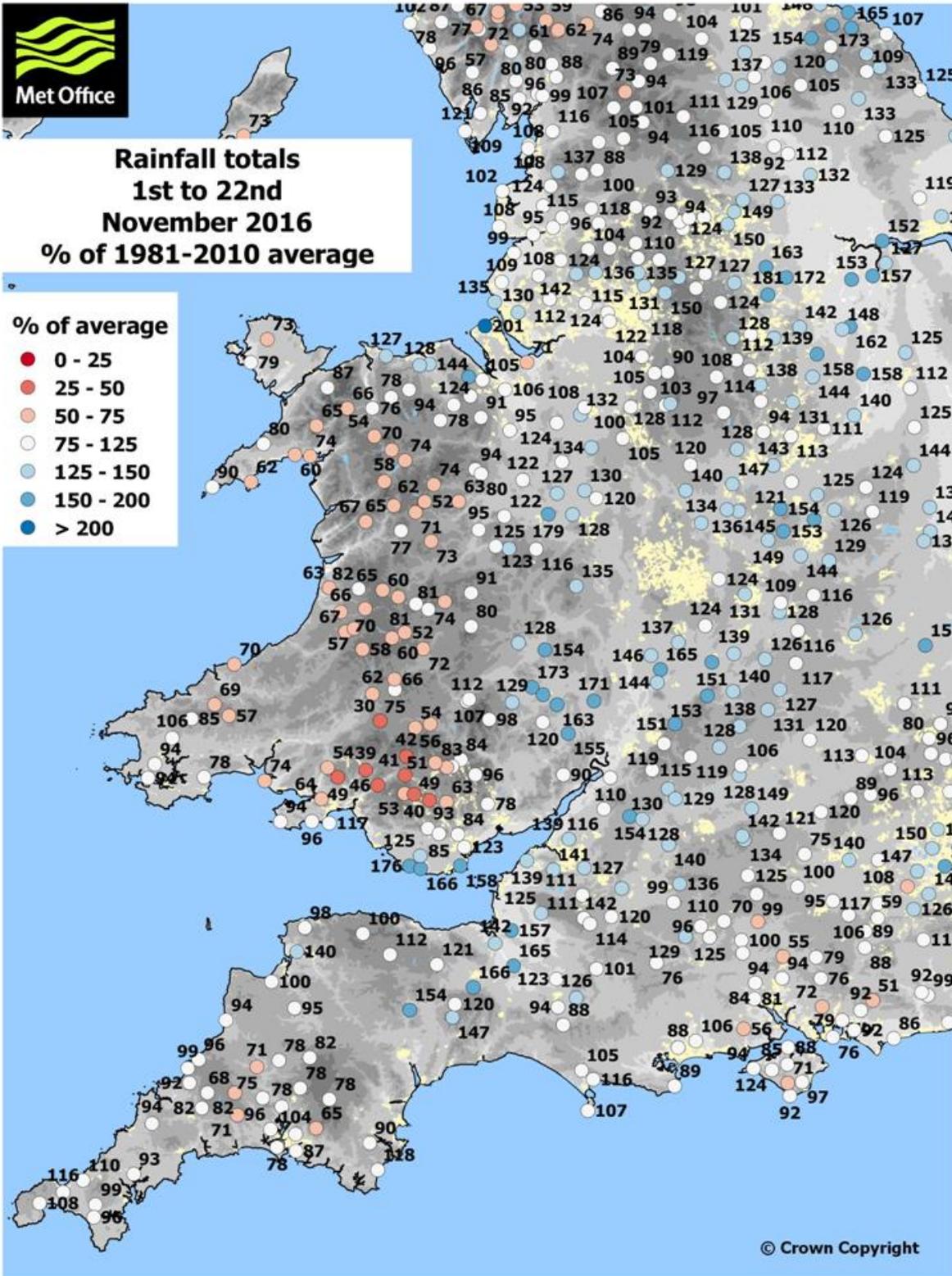




**Rainfall totals
1st to 22nd
November 2016
% of 1981-2010 average**

% of average

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 125
- 125 - 150
- 150 - 200
- > 200



Last updated: 28 November 2016