

Storm Christoph 18 to 20 January 2021

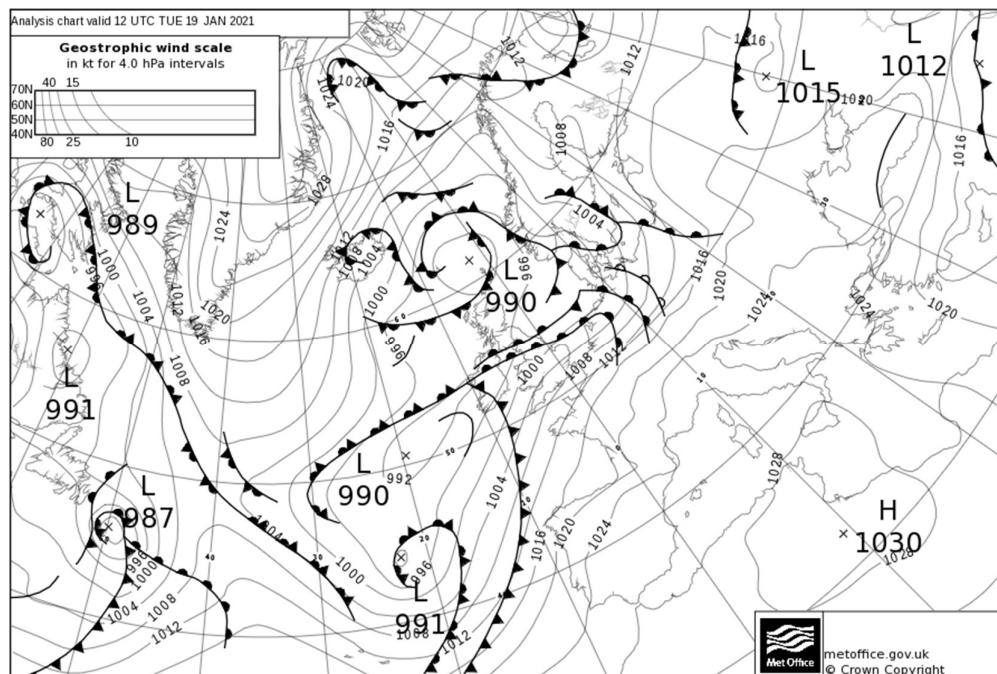
Storm Christoph brought some exceptionally wet weather to North Wales and northern England from 18 to 20 January. 100mm of rain or more fell across upland areas, and parts of Cheshire, Greater Manchester and Lancashire received around the January whole-month long-term average rainfall from this event. For north-west England and North Wales this was one of the wettest 3-day periods on record. Storm Christoph also brought some strong winds, particularly across eastern England and Scotland, and as the storm cleared eastwards, it brought some significant snowfalls with blizzard conditions across upland in the north-east.

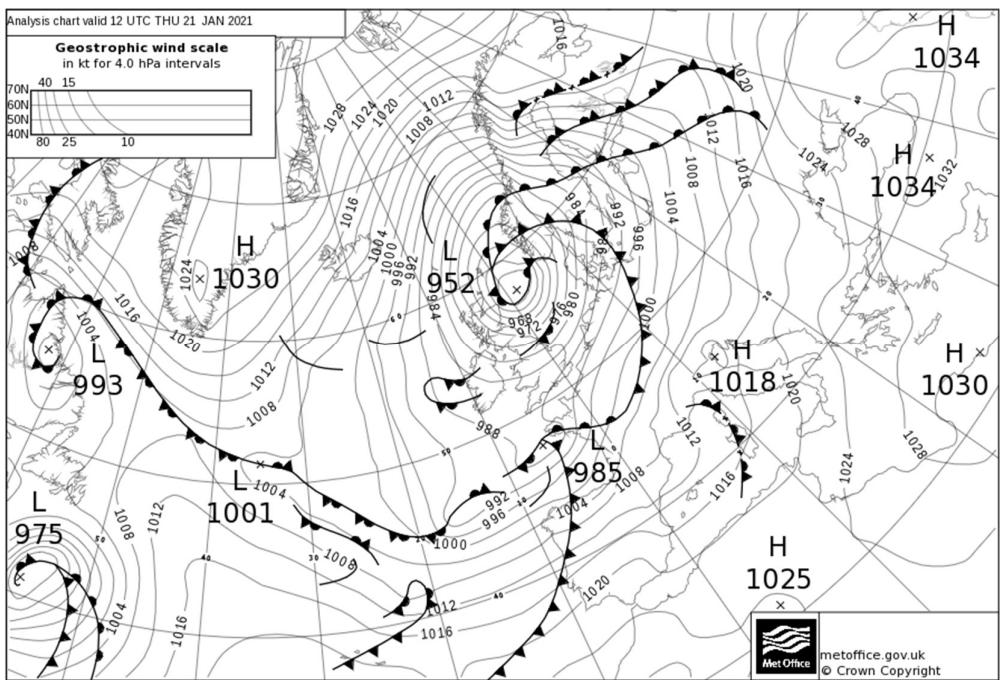
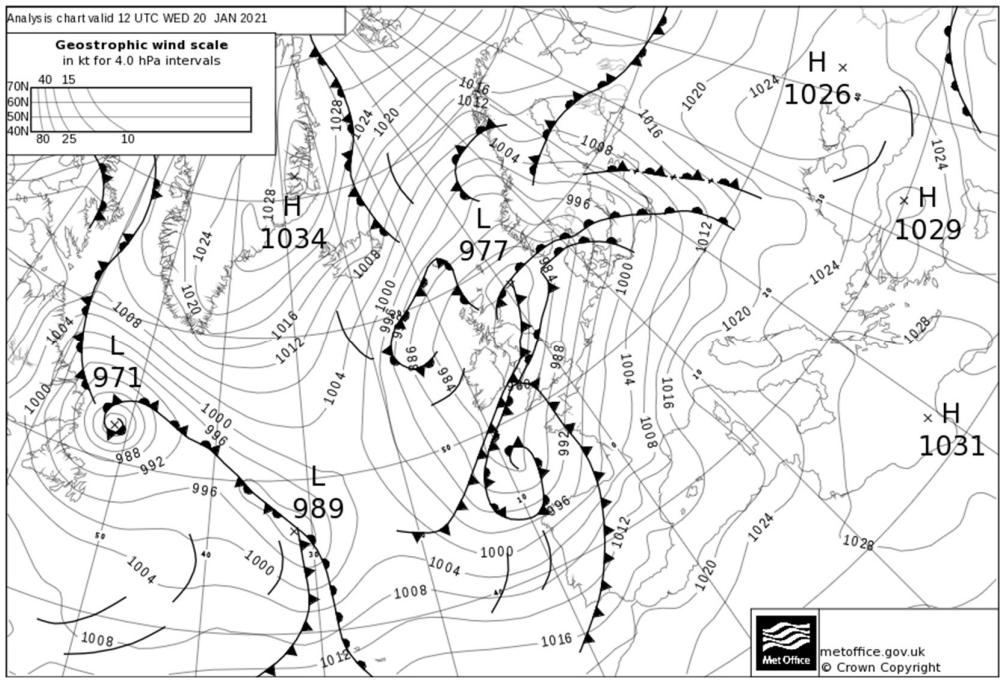
Impacts

A number of homes were flooded in Cheshire, much of Northwich town centre was under water and residents of two care homes were evacuated by dinghy. Homes were also evacuated in Warrington, Chester, Didsbury and Northenden in Manchester, Ruthin and Bangor-on-Dee in North Wales, and Maghull in Merseyside due to rising floodwater, while some properties were also flooded in South Wales. Evacuations were made more difficult by both the ongoing coronavirus pandemic and falling snow. A bridge over the River Clwyd in Denbighshire was swept away by floodwater, and the East Coast Main Line was affected by floods between York and Darlington. The snowfalls caused travel disruption, with many roads affected by snow, the A9 closed south of Inverness and the Queensferry crossing closed for a time due to the risk of falling ice. Icy conditions on the M5 near Bristol caused multiple crashes including an overturned lorry. Avalanche debris was spotted in the Pentland Hills south-west of Edinburgh.

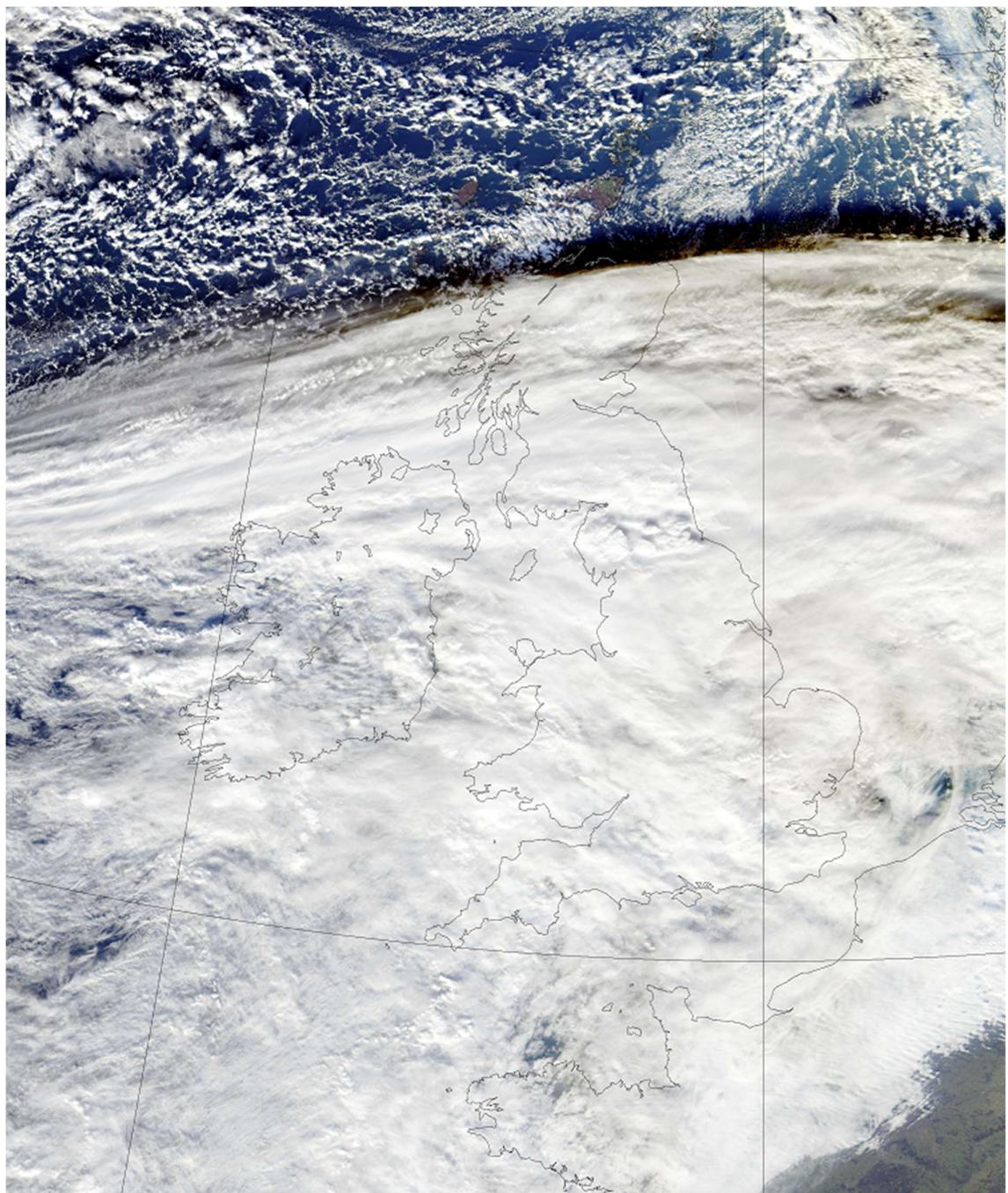
Weather data

The analysis charts at 1200UTC 19, 20 and 21 January 2021 show storm Christoph and associated fronts moving across the UK, with the low deepening as the storm tracked north-east across the North Sea towards Norway.



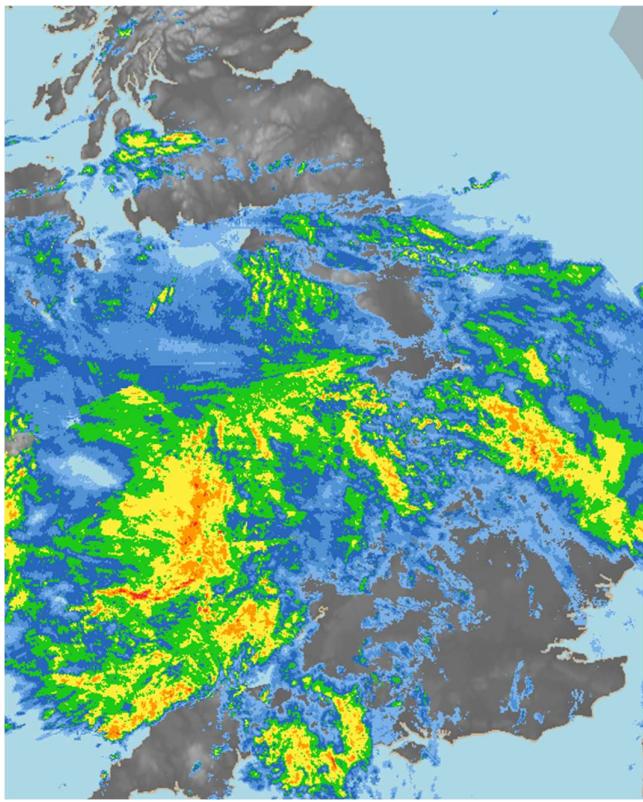


The satellite image on 19 January 2021 shows the UK almost entirely swathed in cloud – with the sole exception of the far north of Scotland – as fronts from storm Christoph moved across the UK.

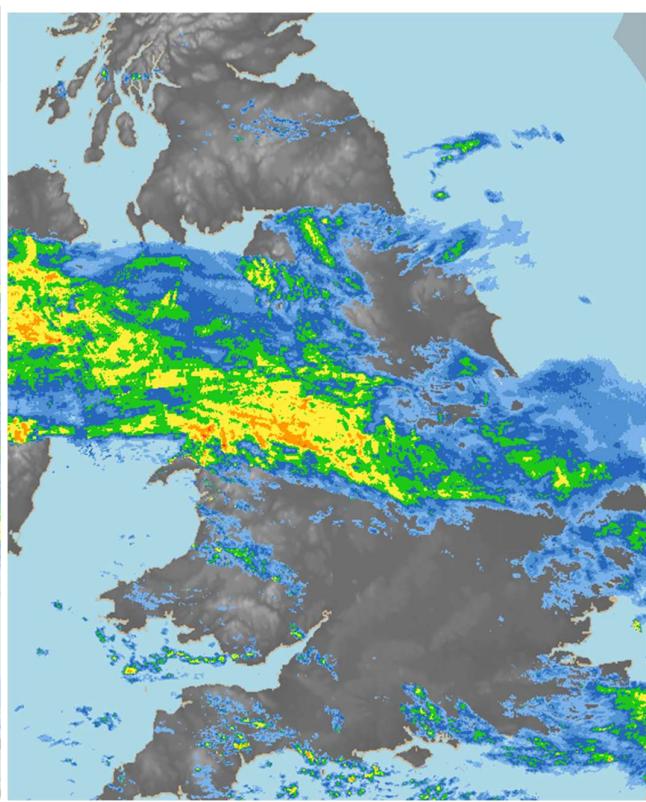


The rain-radar images below at 6 hourly intervals through 19 and 20 January 2021 show the heavy and persistent nature of the rainfall from storm Christoph, with the wettest weather focussed across upland areas of Wales and northern England through this 48-hour period.

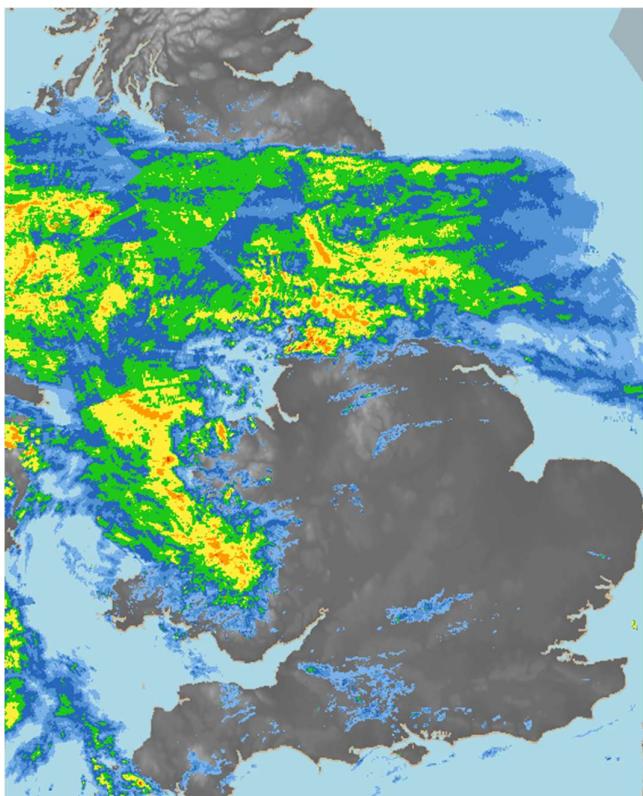
0000 UTC 19 January 2021



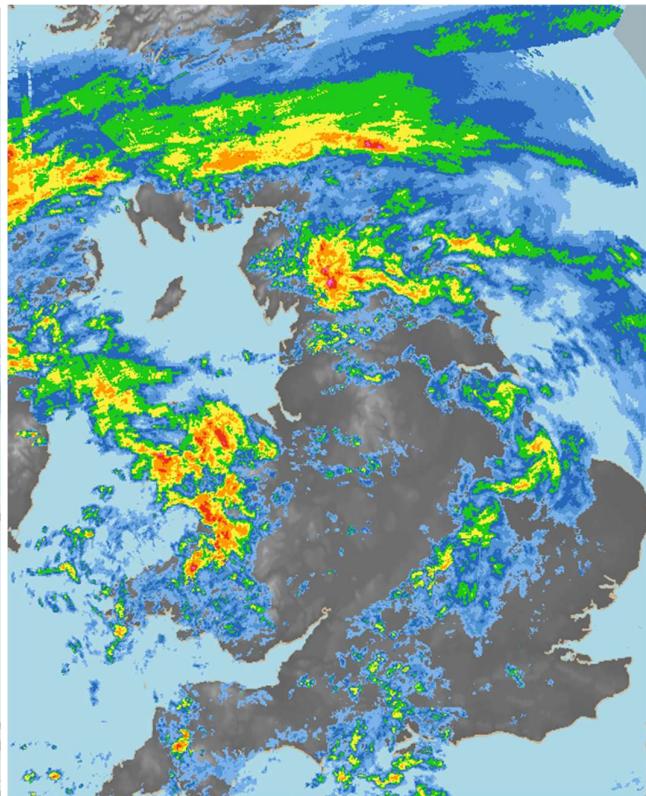
0600 UTC 19 January 2021



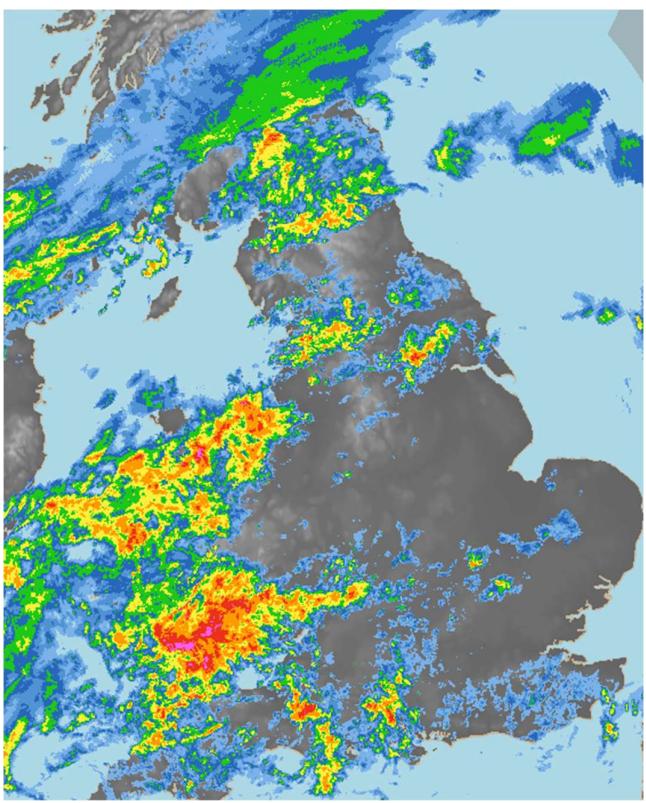
1200UTC 19 January 2021



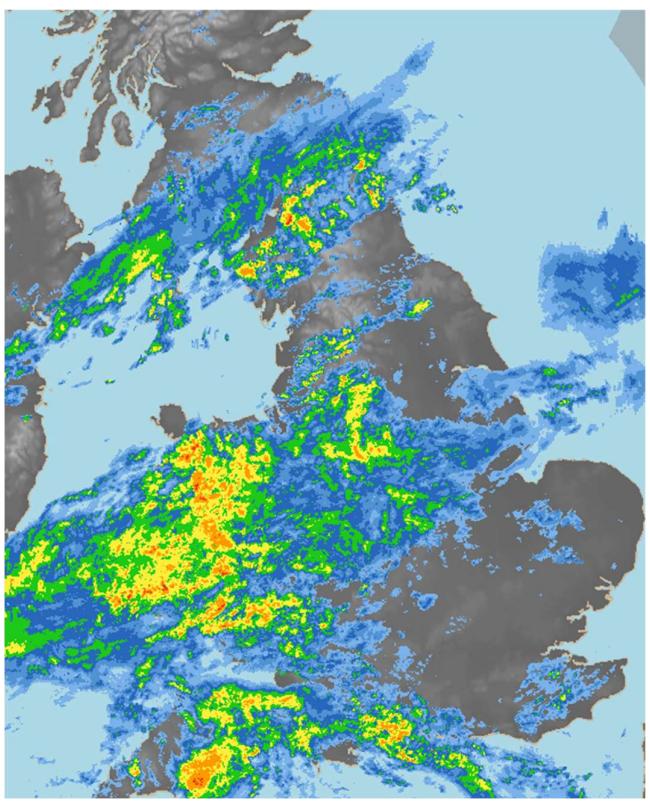
1800UTC 19 January 2021



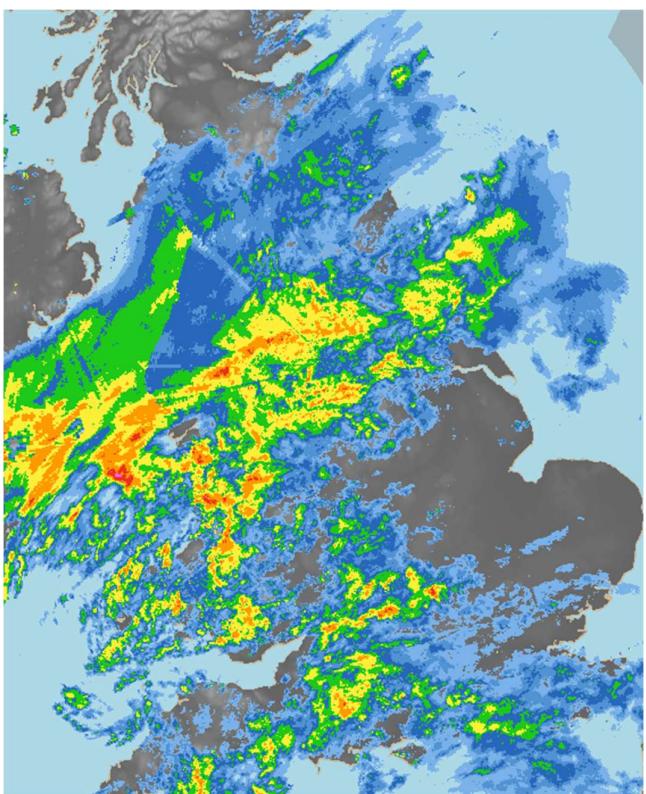
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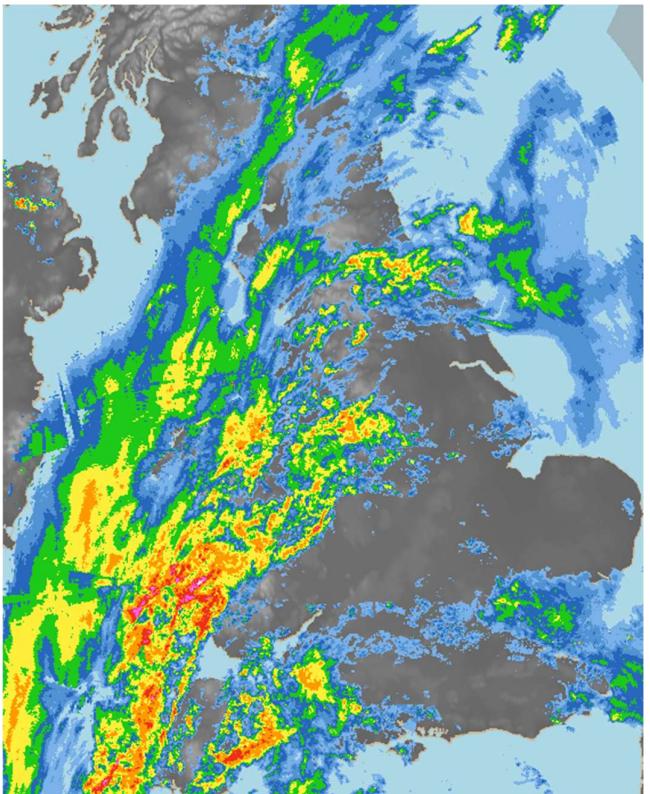
0600UTC 20 January 2021



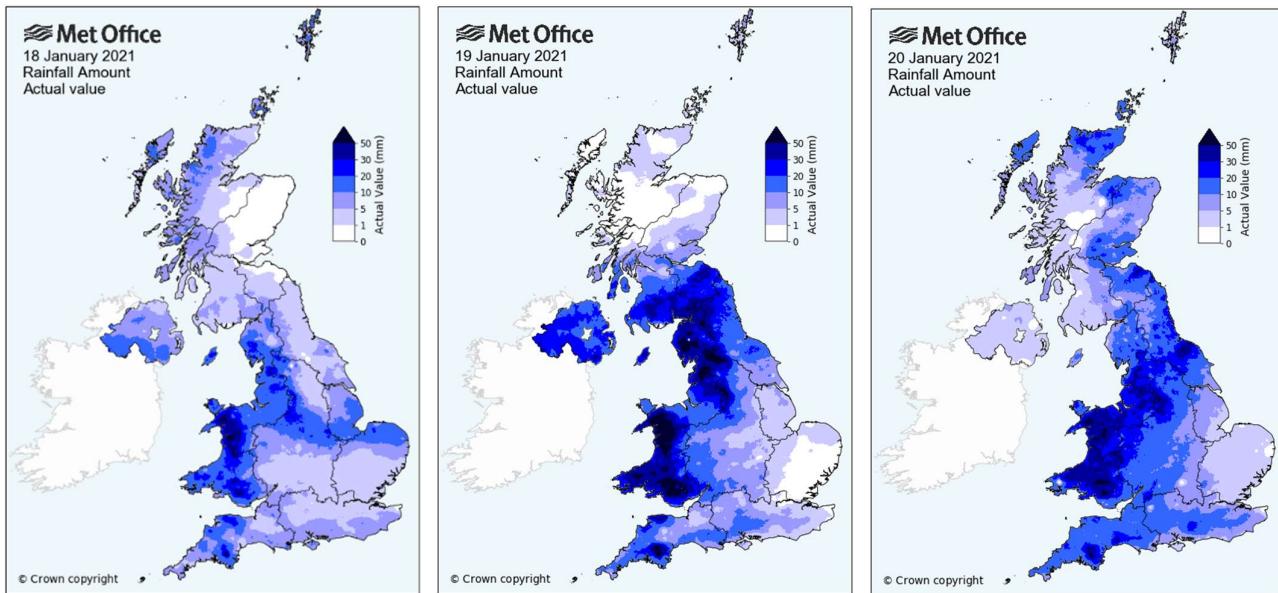
1200UTC 20 January 2021



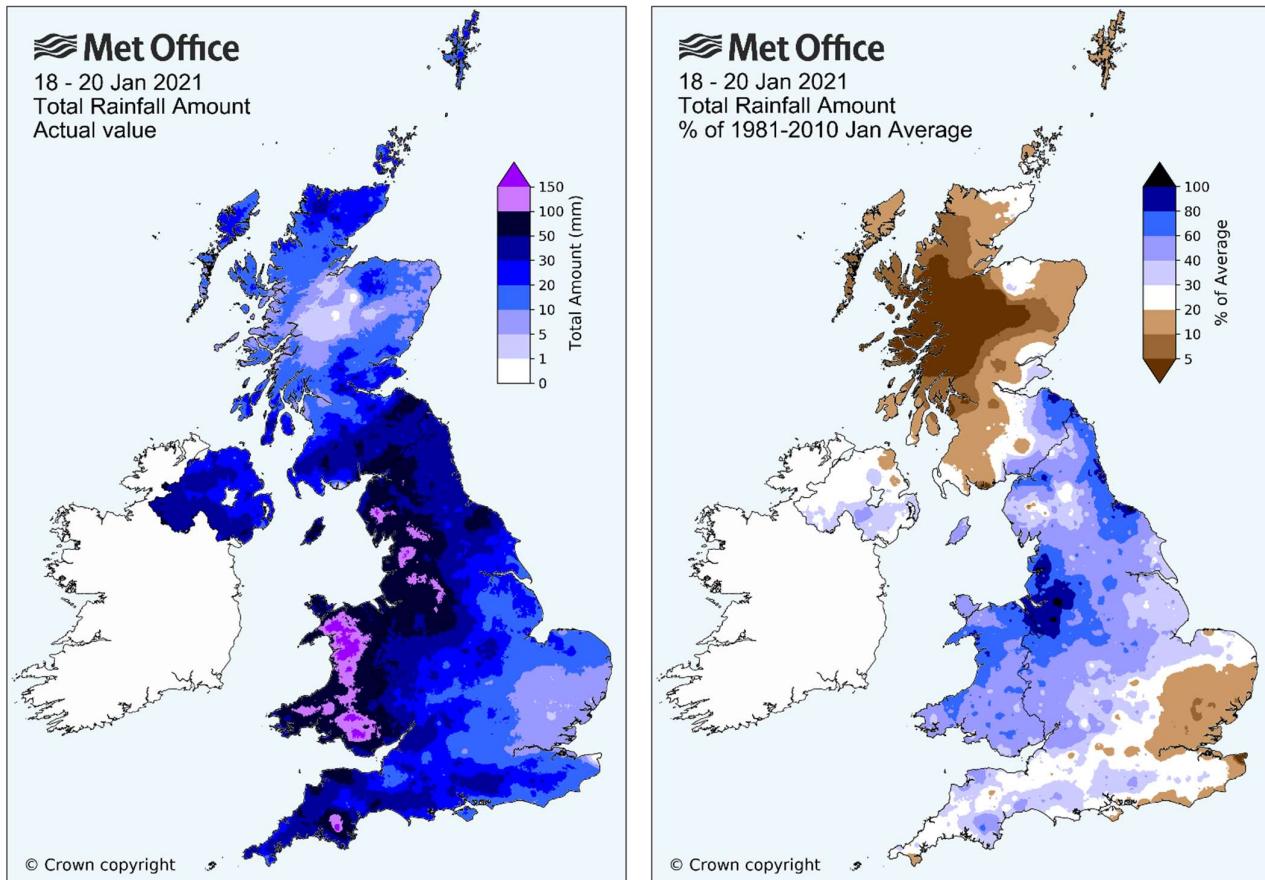
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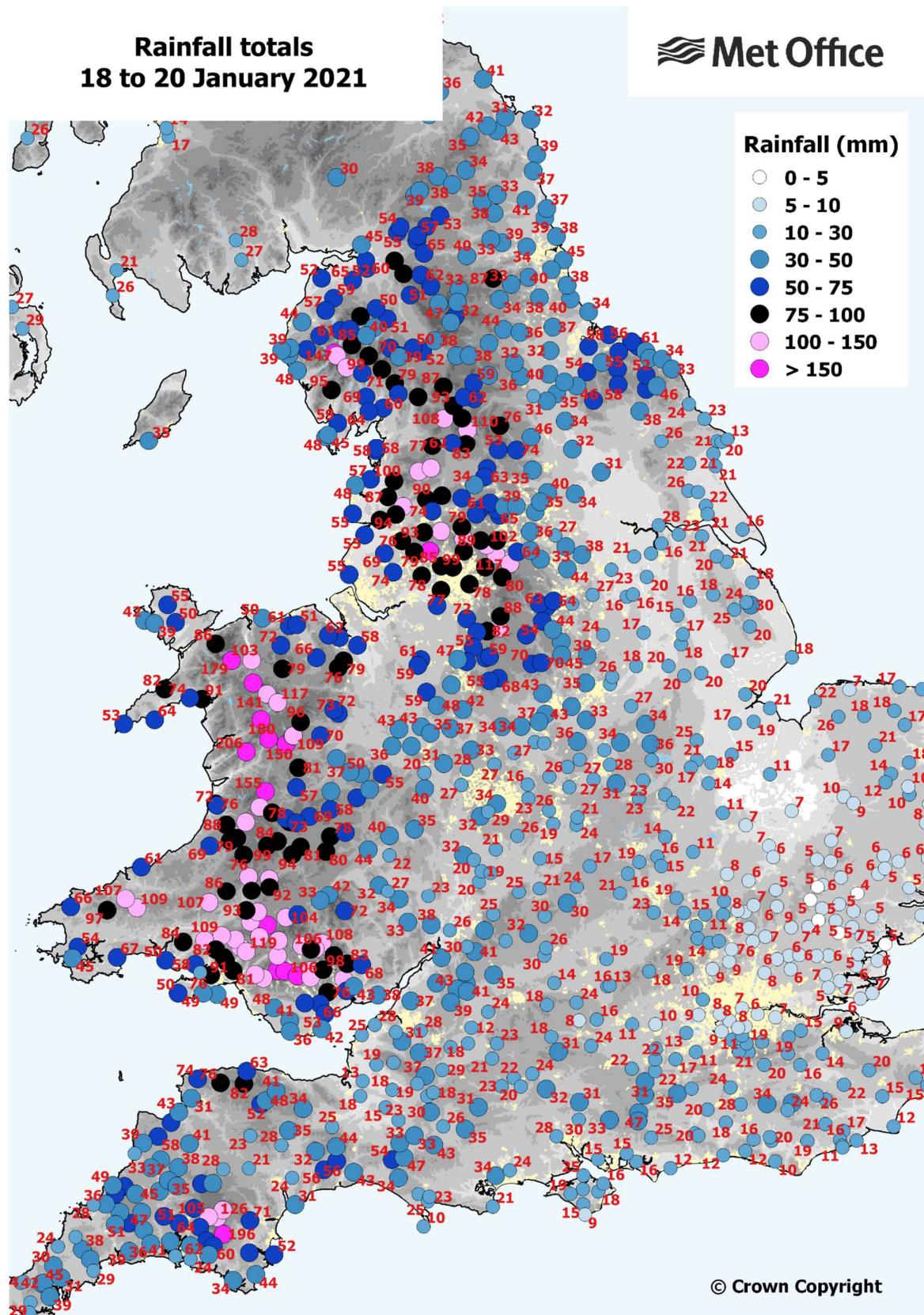
The maps below show rainfall totals for the three rain-days 18 to 20 January 2021 (0900-0900 UTC)



The maps below show rainfall totals from 0900UTC 18 January to 0900UTC 21 January 2021. 50 to 100mm of rain fell widely across Wales and north-west England, with over 100mm across upland areas of Wales, south-west England, the Lake District and the Pennines, and locally 150 to 200mm across the higher ground. Half of the January full-month average rain fell widely across Wales and northern England, with the whole-month average falling across parts of Cheshire, Greater Manchester, Lancashire and parts of north-east England and East Lothian.



The map below shows rainfall totals recorded by the network across England and Wales from 18 to 20 January 2021 (0900UTC 18th to 0900UTC 21st).



The table below lists rainfall totals at selected stations from storm Christoph.

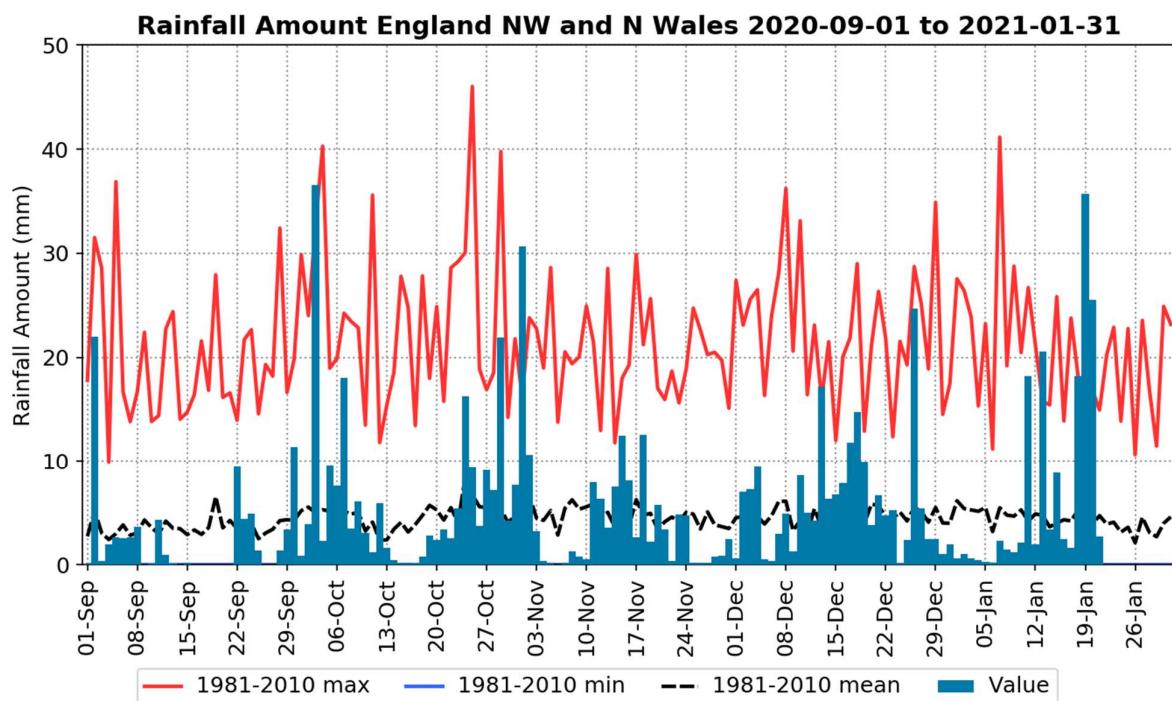
Station	Rainfall total 18 to 20 January (mm)	January 1981- 2010 long-term average (mm)	% of average
Derwent Bridge, County Durham	86.6	75.3	115
Worleston S Wks, Cheshire	61.2	54.2	113
Preston Moor Park, Lancashire	94.4	93.4	101
Sale, Carrington Lane, Greater Manchester	76.6	77.2	99
Audlem, Mere Farm, Cheshire	59.1	60.1	98
Nantwich, Reaseheath Hall, Cheshire	59.2	61.9	96
Hawarden Airport, Clywyd	57.8	60.0	96
Denton Resr, Greater Manchester	78.2	82.8	94
Prestbury S Wks, Cheshire	71.9	77.4	93
Myerscough, Lancashire	87.0	96.8	90
Rochdale, Greater Manchester	98.6	112.2	88
Ruthin, Clywd	65.6	75.1	87
Westerdale, North Yorkshire	66.4	77.1	86

The chart below shows area-average daily rainfall totals across north-west England and North Wales from September 2020 to January 2021. This region experienced three consecutive very wet days from 18 to 20 January with area-average rainfall totals of 18.2mm, 35.7mm and 25.5mm – overall 79.4mm making this provisionally the wettest 3-day period on record for this region in a series from 1891 – marginally wetter than 3 to 5 December 2015 (78.2mm) – the latter including the record-breaking rainfall from storm Desmond.

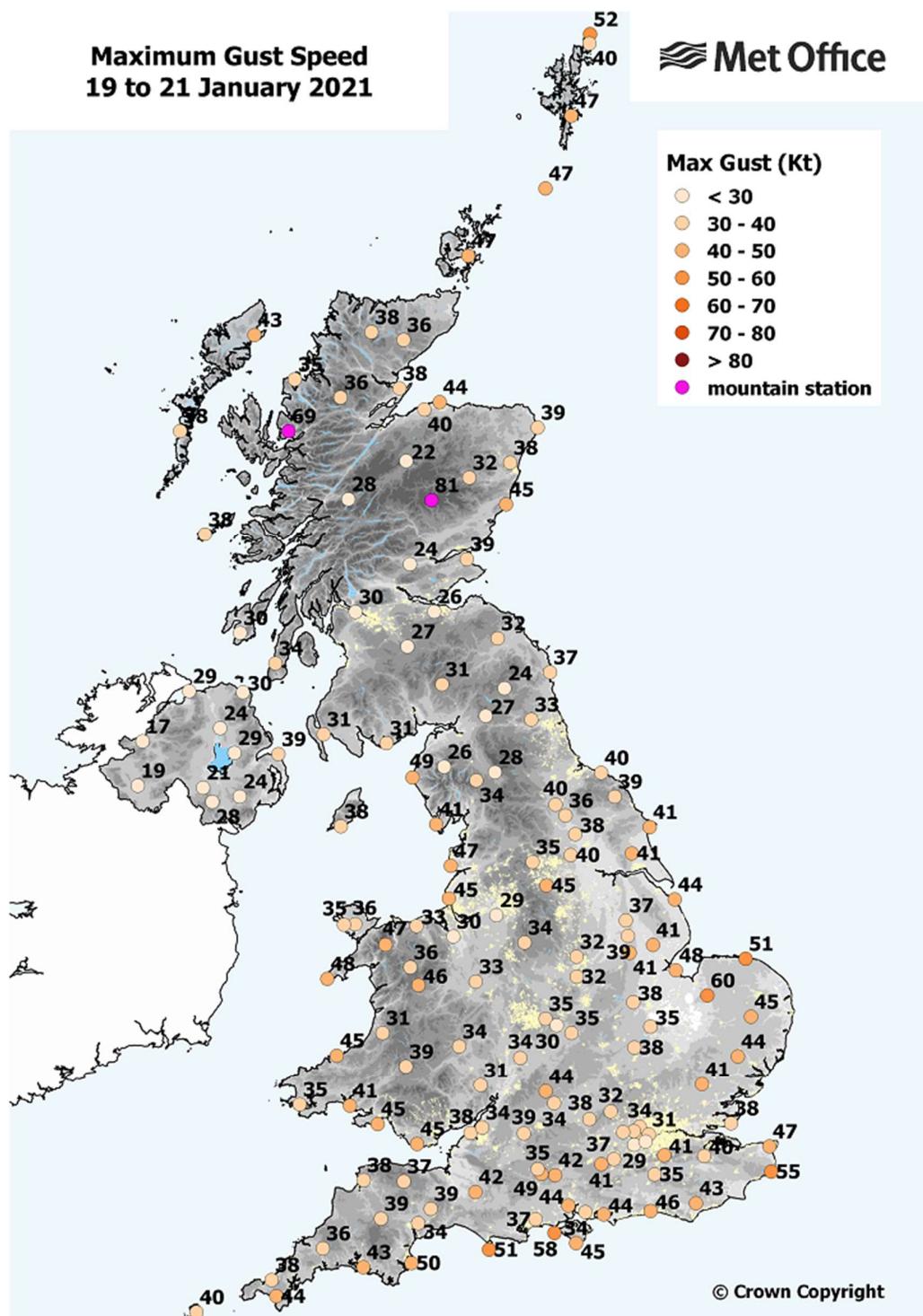


Source: HadUK-Grid 22/01/2021 17:15

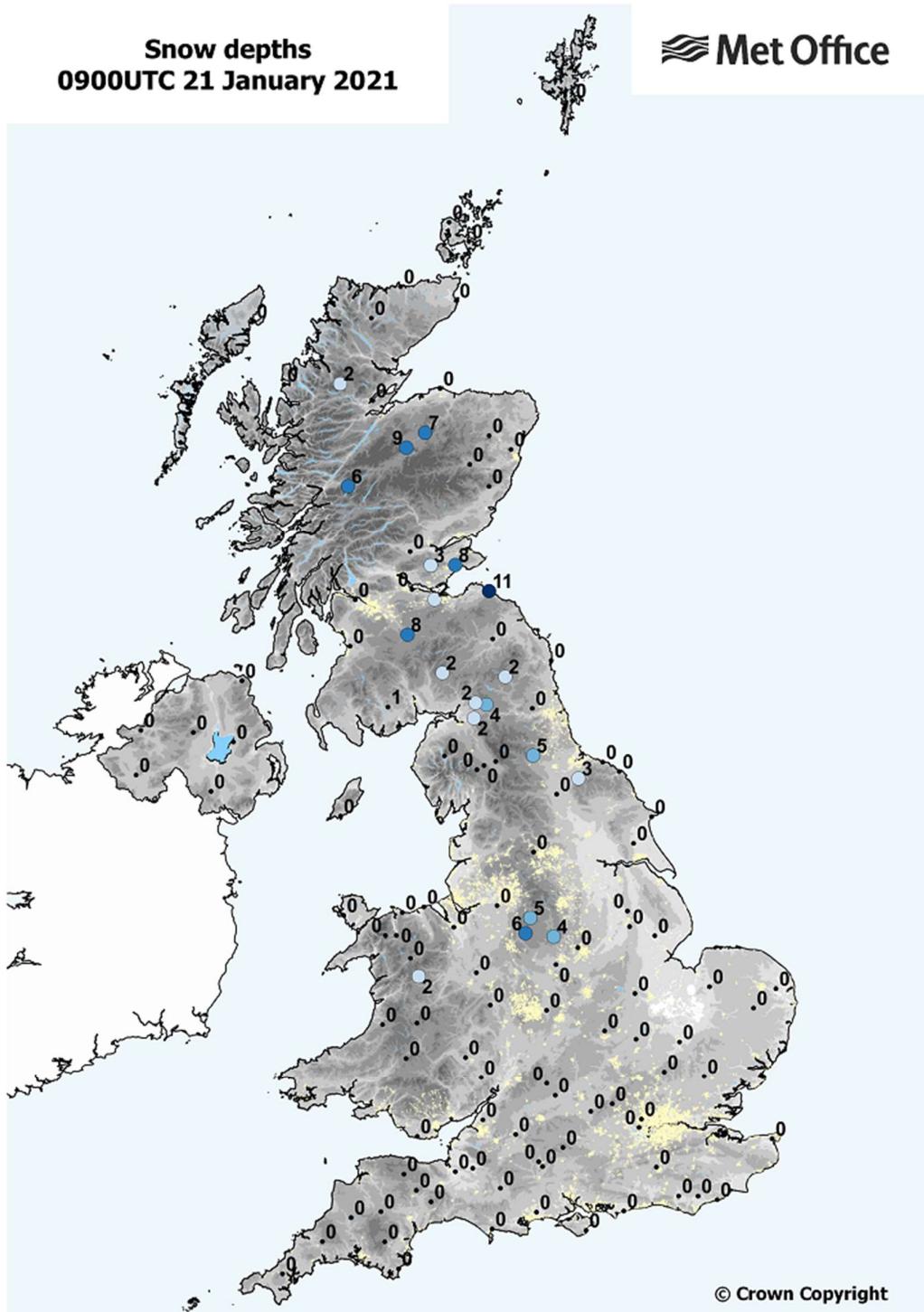
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The map below shows maximum gust speeds across the UK from 19 to 21 January 2021. Storm Christoph was named for the potential impacts from the heavy rainfall and flooding, but nevertheless there were some strong winds, particularly across eastern England with Marham (Norfolk) recording a gust of 60Kt (69mph) overnight 20th to 21st as the low moved east across the UK.



As the low moved into the sea, it intensified, drawing a cold northerly airflow to north-eastern parts of the UK bringing snow across upland areas of north-east England and eastern Scotland on 21 January, with strong winds leading to blizzard conditions at times over high ground. The map below shows snow depths at 0900UTC on 21 January 2021. Depths included 11cm at Dunbar, East Lothian, 8cm at Baintown, Fife and 5cm at Copley, County Durham and Buxton, Derbyshire. While lying snow is of course not unusual in mid-winter, it nevertheless contributed to the ongoing weather-related impacts from storm Christoph.



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Last updated 24/01/2021

 Met Office