

Storm Gerrit, 27 to 28 December 2023

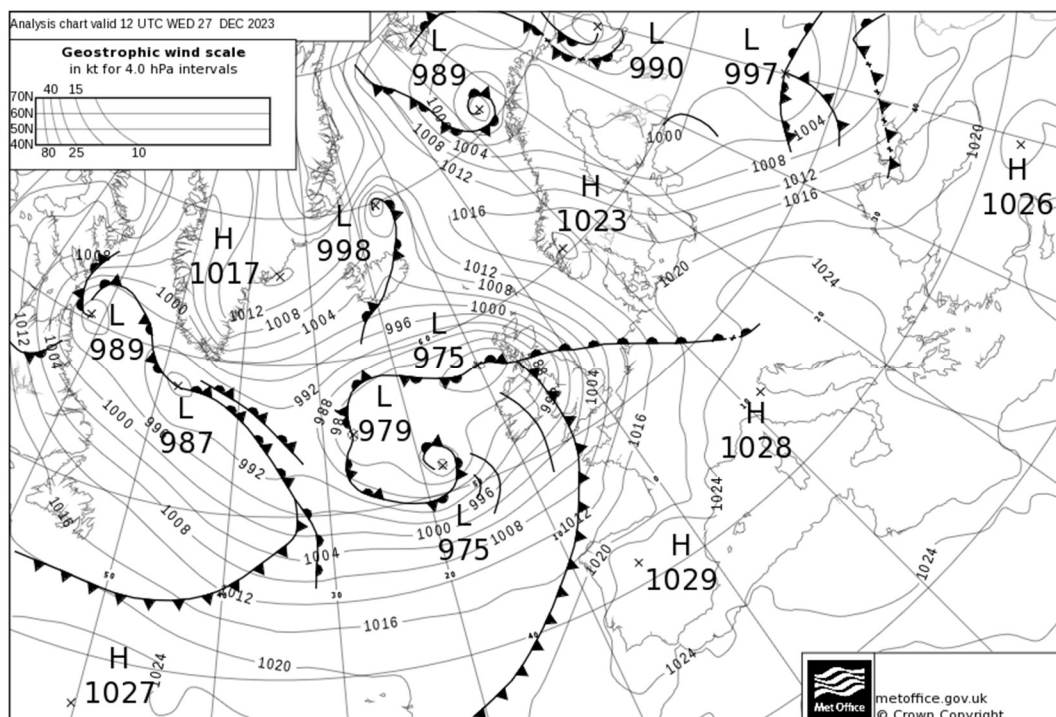
Storm Gerrit brought damaging winds and heavy rain to the UK from 27 to 28 December with Wales, north-west England and Scotland worst affected. In the most exposed locations, winds gusted at over 70Kt (81mph) while heavy rain led to increased flooding concerns. There was heavy snow across parts of Highland Scotland and a mini-tornado in Greater Manchester. This storm contributed to the generally prolonged, very wet and unsettled spell of weather lasting through much of December.

Weather impacts

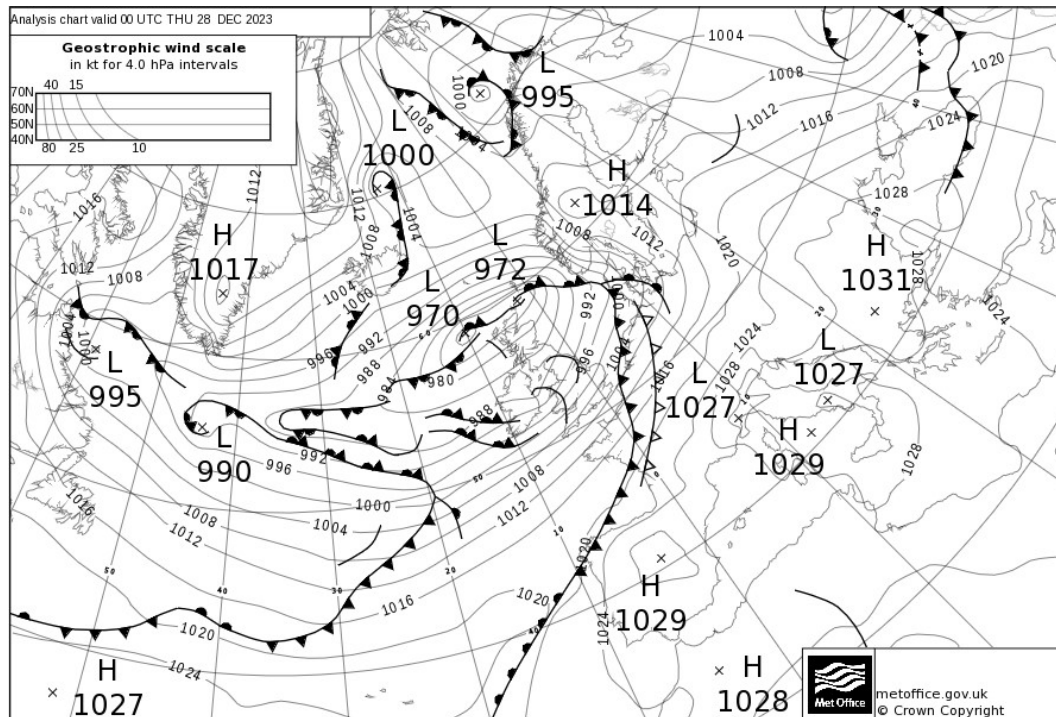
Storm Gerrit caused severe travel disruption to the rail network and on roads, with many people travelling after Christmas. In Scotland numerous rail services were delayed due to strong winds and speed restrictions, landslips, flooding, trees on the lines, while a tree hit a train on the Dumbarton and the Dundee to Glasgow line. Huge crowds were stranded at London's King's Cross Station after the East Coast Main Line was closed beyond Newcastle. A number of motorists were stranded for several hours on the A9 due to snow and many other roads were affected by flooding, fallen trees and power lines. The M48 Severn Bridge was closed due to high winds and flooding and fallen trees also affected travel across Wales. Thousands of properties experienced loss of power, with residents in north-east Scotland and Shetland worst affected. In Stalybridge, Greater Manchester, a major incident was declared after around a hundred homes were damaged by a mini tornado. With concerns about flooding increasing, temporary flood barriers were installed along parts of the River Severn at Ironbridge, Shropshire and Bewdley, Worcestershire.

Weather data

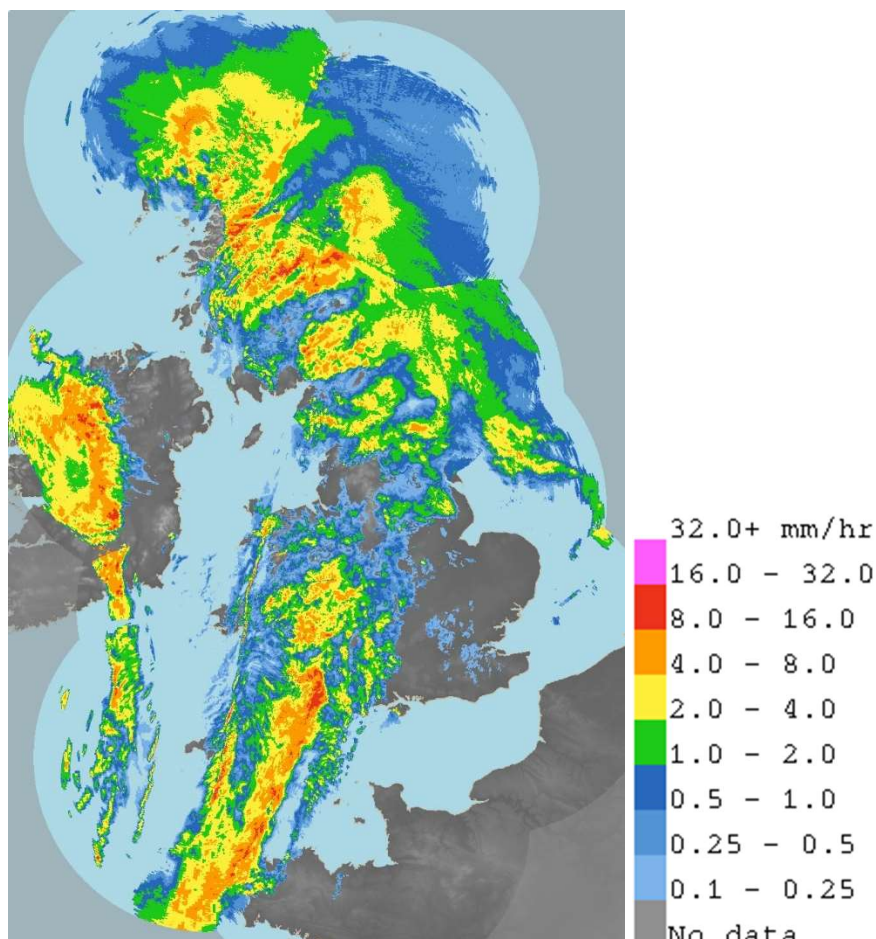
The analysis chart at 1200 UTC 27 December 2023 shows the centre of storm Gerrit to the west of Scotland with associated fronts sweeping north-east across the UK.



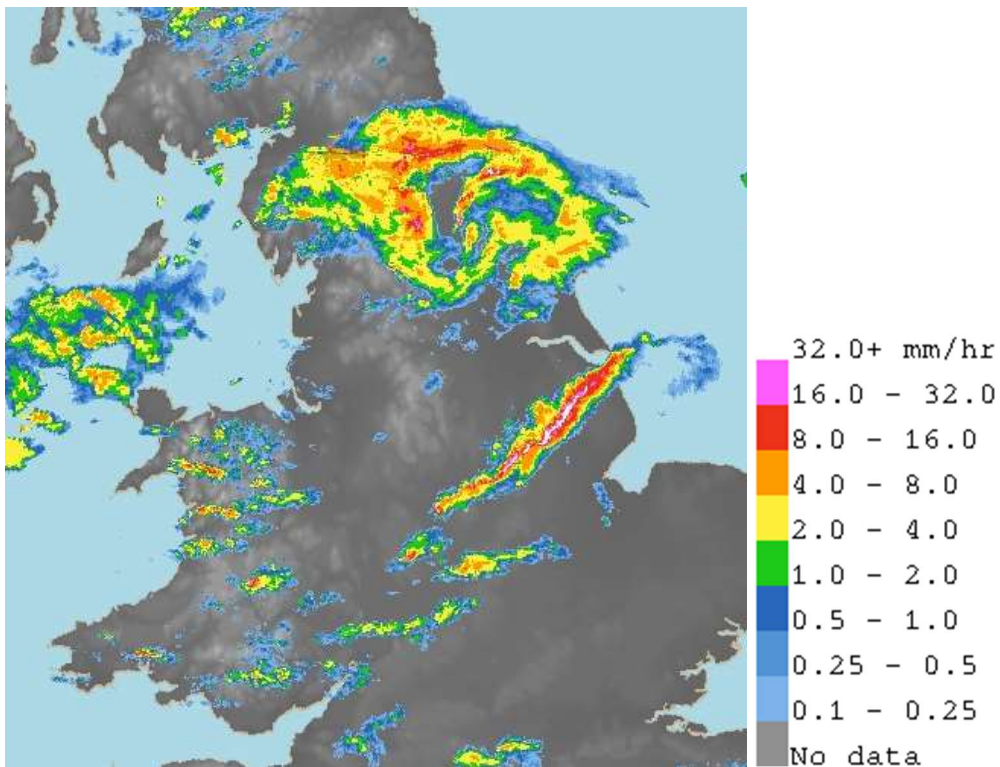
The analysis chart at 0000 UTC 28 December 2023 shows the centre of storm Gerrit having tracked north-east to near Shetland (972hPa). However, the influence of this same area of low pressure still dominates the UK's weather with another deep low centre to the west of Scotland and further troughs of heavy rain and strong winds sweeping across the country.



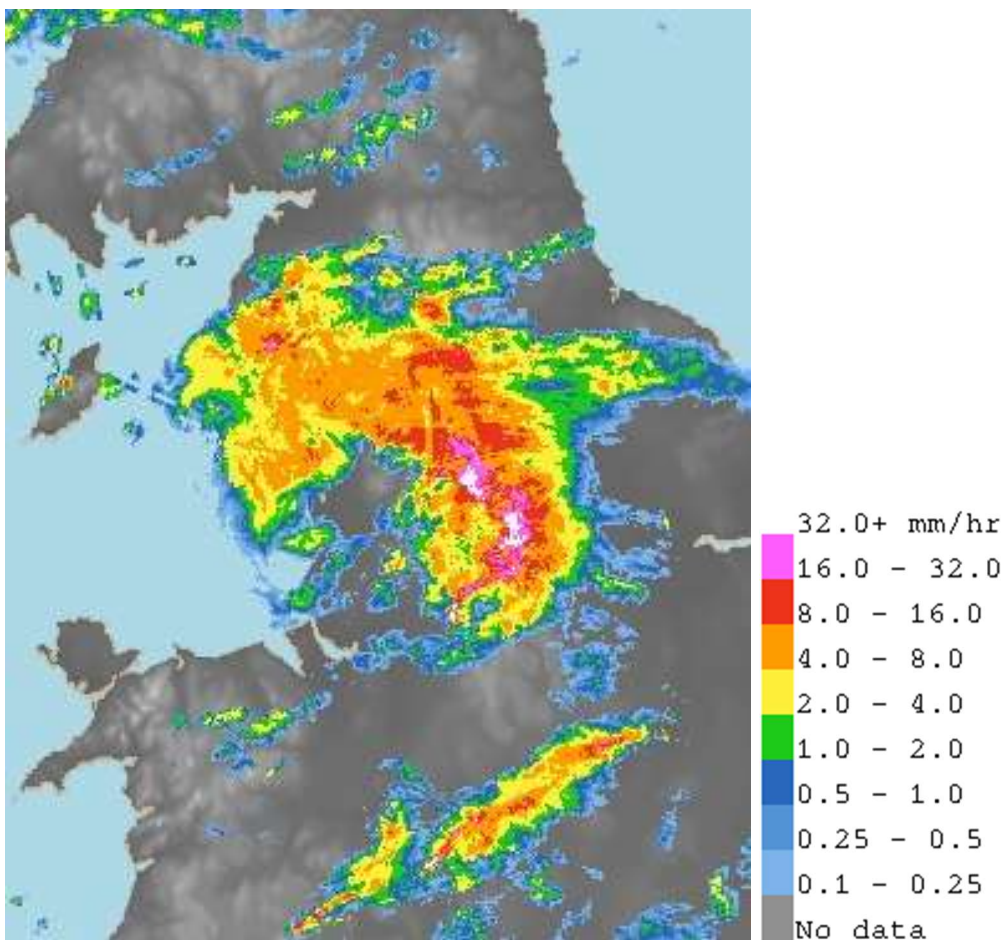
The rain-radar image at 1200 UTC 27 December 2023 shows heavy rain from storm Gerrit stretching from south-west England to northern Scotland, with a further trough of heavy rain moving into Northern Ireland.



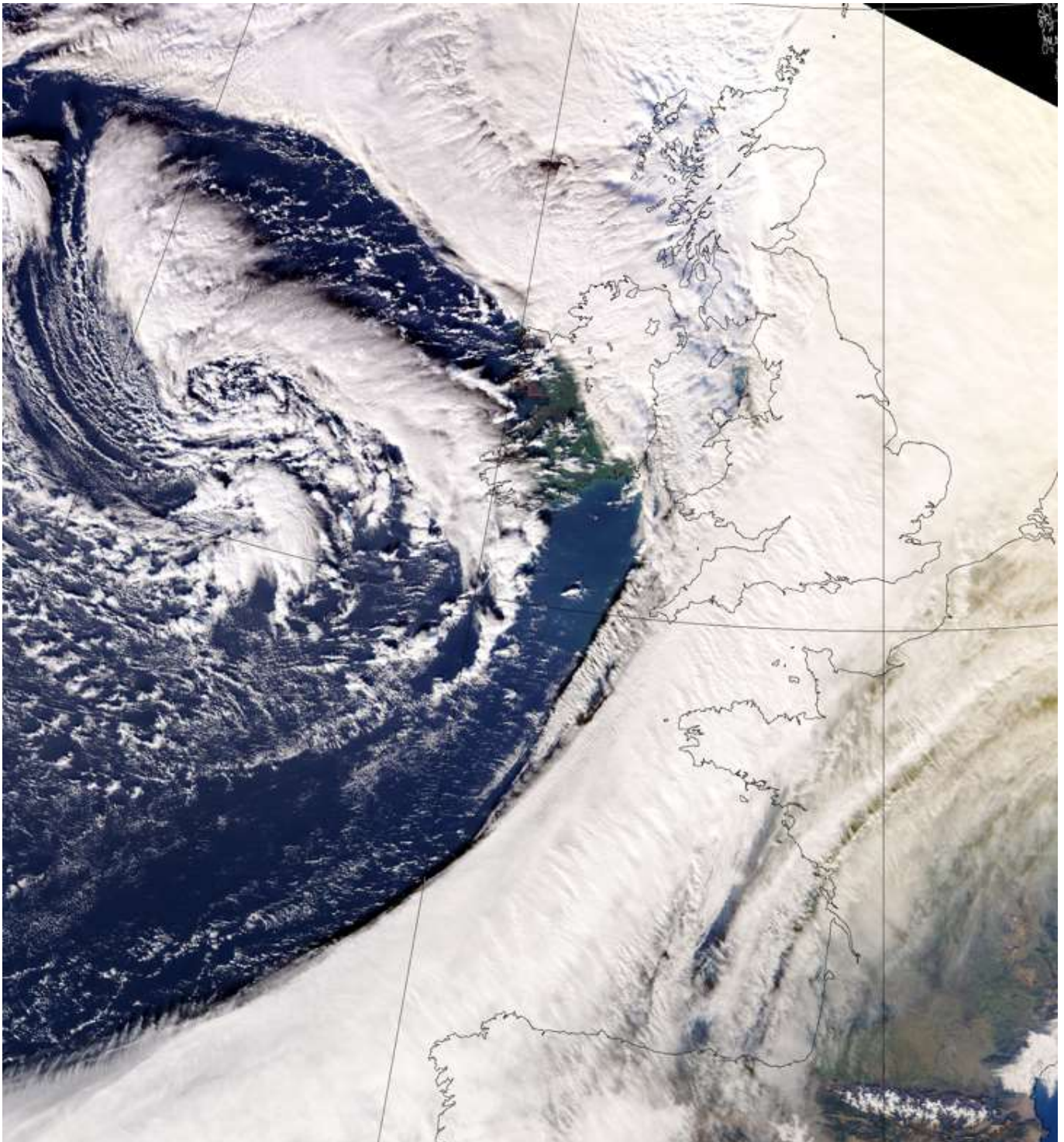
The rain-radar image at 0000 UTC 28 December 2023 shows bands of intense rainfall across parts of north-east England and Lincolnshire. Areas in white indicate rain-rates exceeding 32mm per hour.



The rain-radar image at 2300UTC 27 December 2023 (one hour earlier) shows intense rainfall across the south Pennines with a mini-tornado in the Stalybridge area of Greater Manchester.



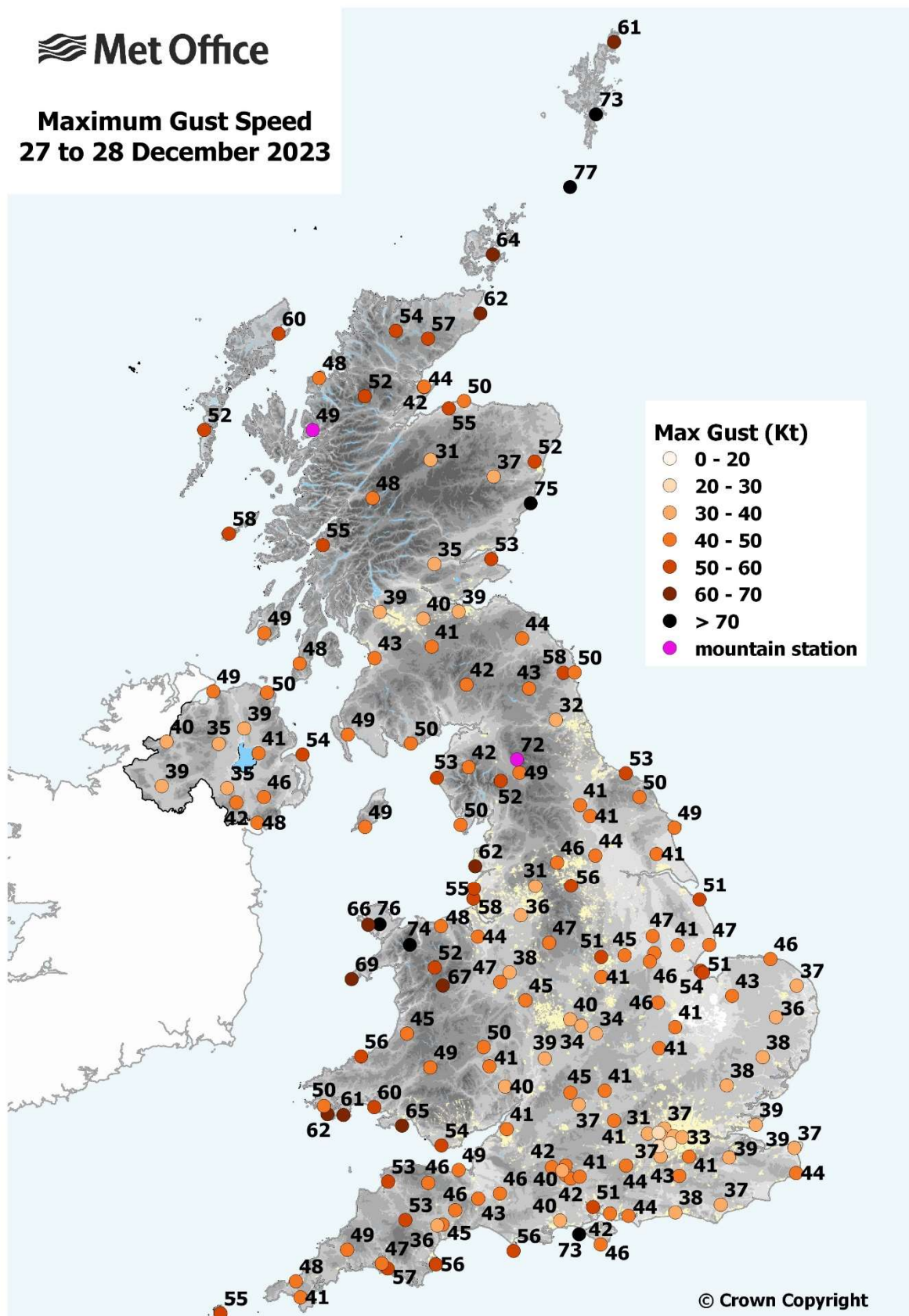
The chart below at 1344 UTC 27 December 2023 shows the UK entirely swathed in cloud from fronts associated with storm Gerrit, with the prominent back edge of the cold front stretching across the Bay of Biscay. The snow-covered mountains of the Pyrenees are in the far bottom right. Image copyright Met Office / NOAA / NASA.



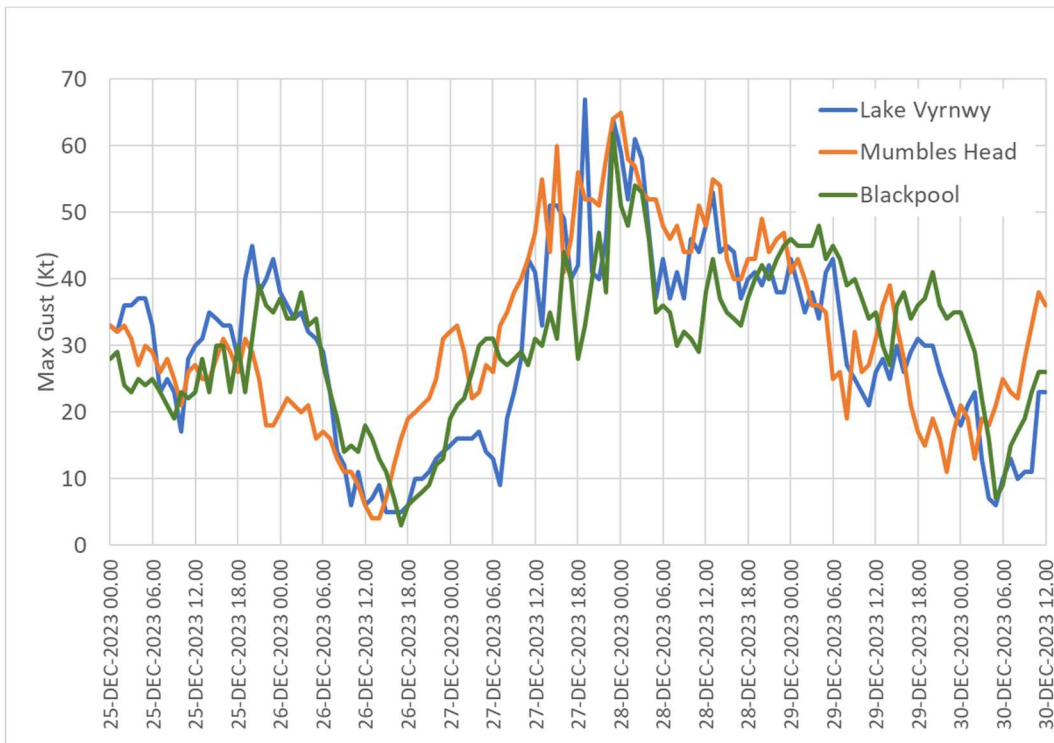
The chart below shows maximum gust speeds across the UK from storm Gerrit on 27 to 28 December 2023. The strongest winds of over 60Kt (69mph) were around the west coast of Wales, north-east coast of Scotland and the Northern Isles. The highest gusts included 77Kt (89mph) at Fair Isle (Shetland), 76Kt (87mph) at Mona (Isle of Anglesey), 75Kt (86mph) at Inverbervie (Kincardineshire), 74Kt (85mph) at Capel Curig (Conwy) and 73Kt (84mph) at Lerwick (Shetland) and Needles Old Battery (Isle of Wight). Numerous other stations recorded gusts exceeding 60Kt (69mph).



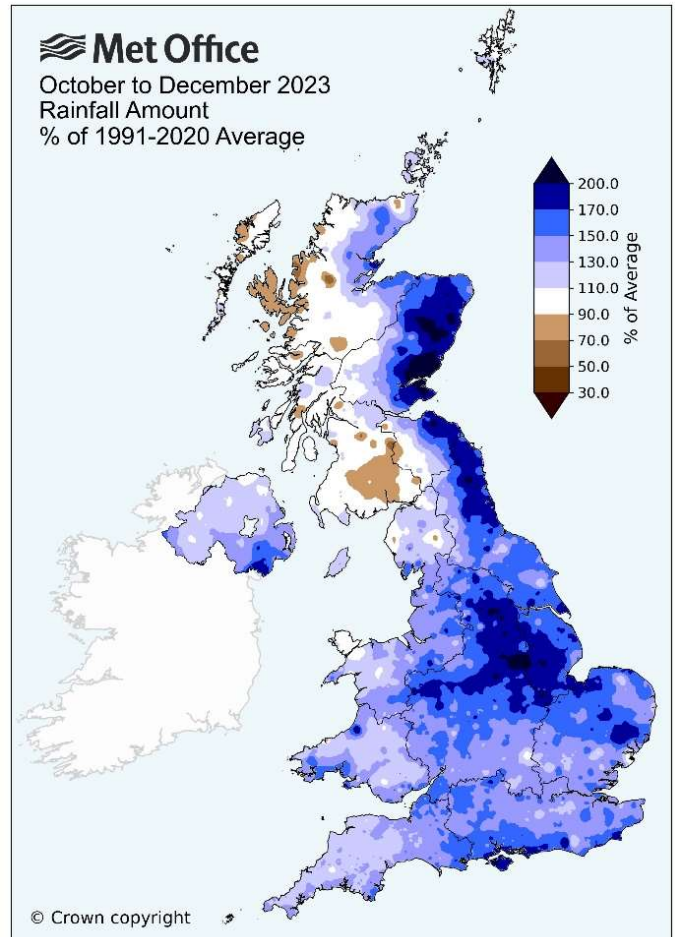
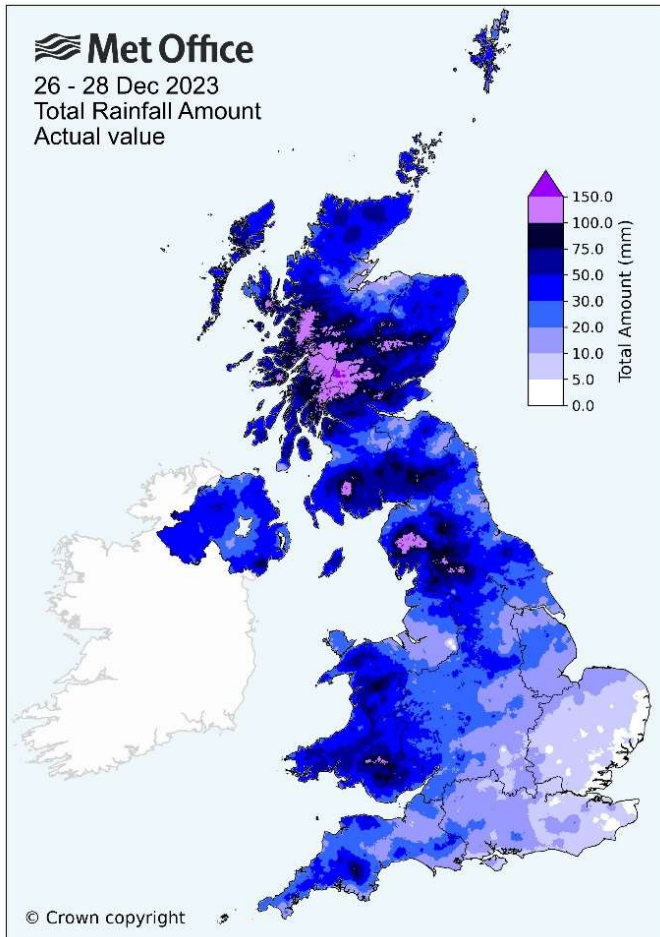
Maximum Gust Speed 27 to 28 December 2023



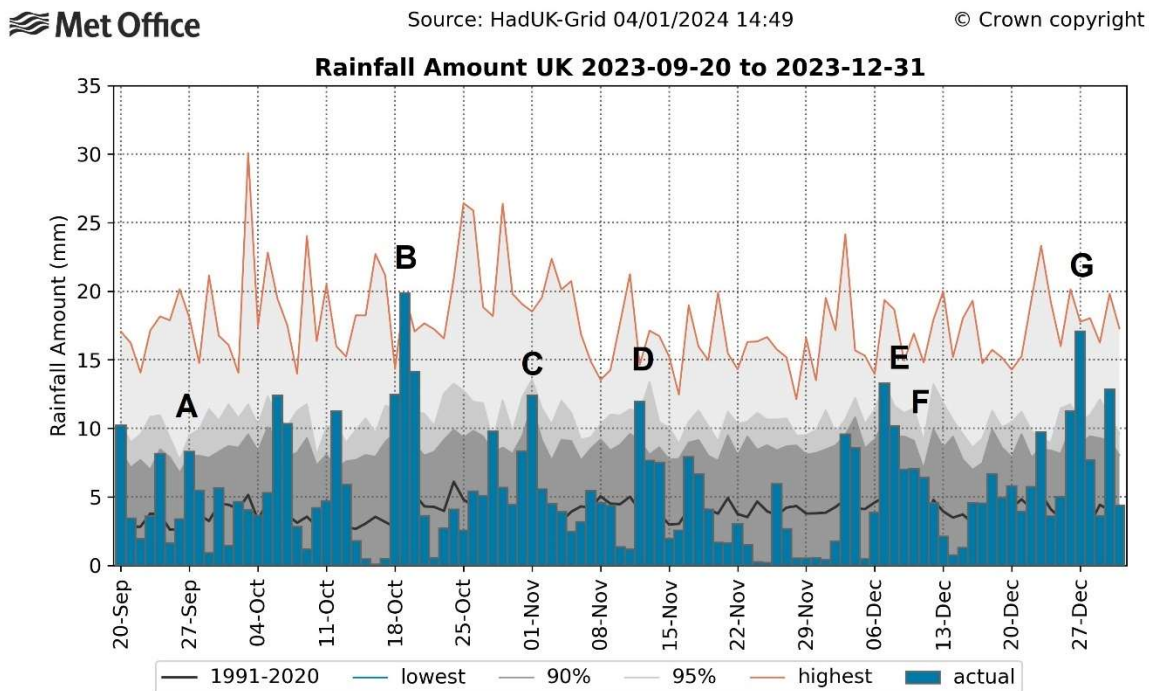
A feature of storm Gerrit was the persistence of the strongest winds. The chart below shows hourly maximum gusts at Blackpool, Squires Gate (Lancashire), Lake Vyrnwy (Powys) and Mumbles Head (Swansea) from Christmas Day to 30 December 2023, and show how the very windy conditions extended from through the 27th and 28th, into the 29th.



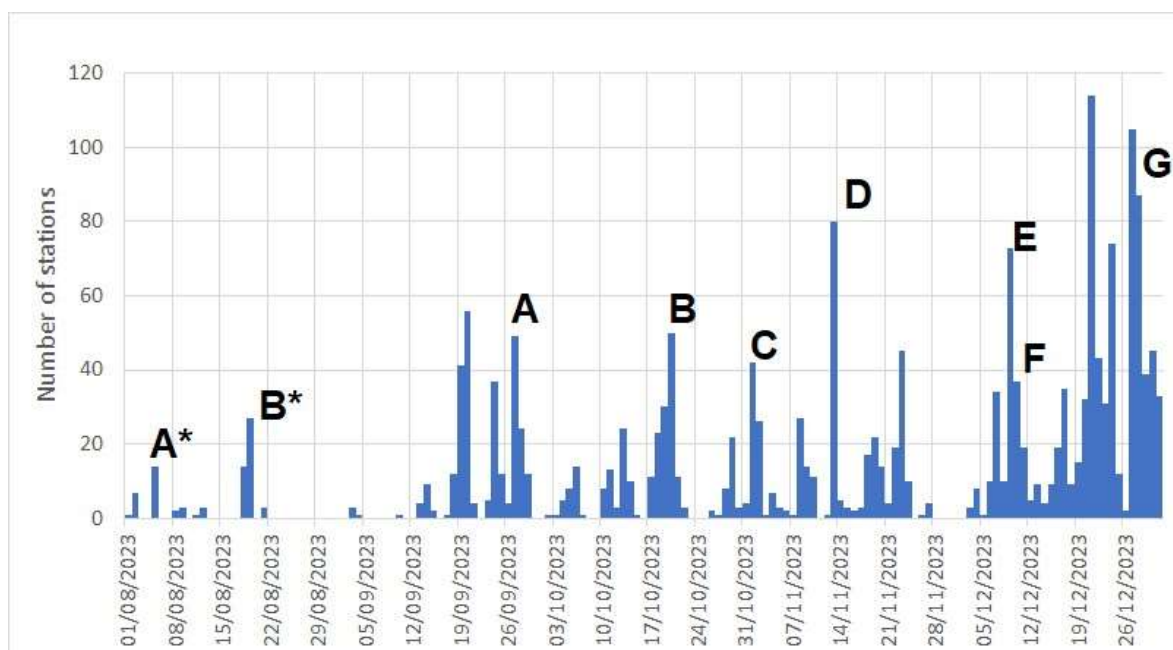
The charts below show rainfall totals for 26 to 28 December in mm (left) and for October to December as a percentage of the 1991-2020 long term average (right). Much of northern England, Wales, Scotland and Northern Ireland received 30mm to 50mm of rain from storm Gerrit, with between 50 and 100mm widely across western upland areas and over 100mm across some high ground, particularly the English Lake District and West Highlands. For the October to December period overall, much of eastern and north-east England and eastern Scotland received more than 150% of average rainfall over this 3-month period, with some areas (for example parts of eastern Scotland) more than twice the normal rainfall amount.



The chart below shows daily rainfall totals for each day from 1 September to 31 December 2023 for the UK overall. The chart illustrates the spells of persistent wet weather, particularly in October and December, with named storms marked (Agnes, Babet, Ciaran, Debi, Elin, Fergus and Gerrit).



The chart below provides a count by day of the number of weather stations across the UK recording a daily maximum gust of 40Kt (46mph) or higher. Not all storms are named for wind, and not all windy spells are named storms, but in both this chart and the daily rainfall chart (above), spikes mostly coincide with named storms. These include Antoni and Betty in August 2023 – the last two named storms of the 2022-2023 season, ahead of the sequence of seven from Agnes in late September to Gerrit in late December.



Author: Mike Kendon, Met Office National Climate Information Centre

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