Storm Malik and storm Corrie, January 2022

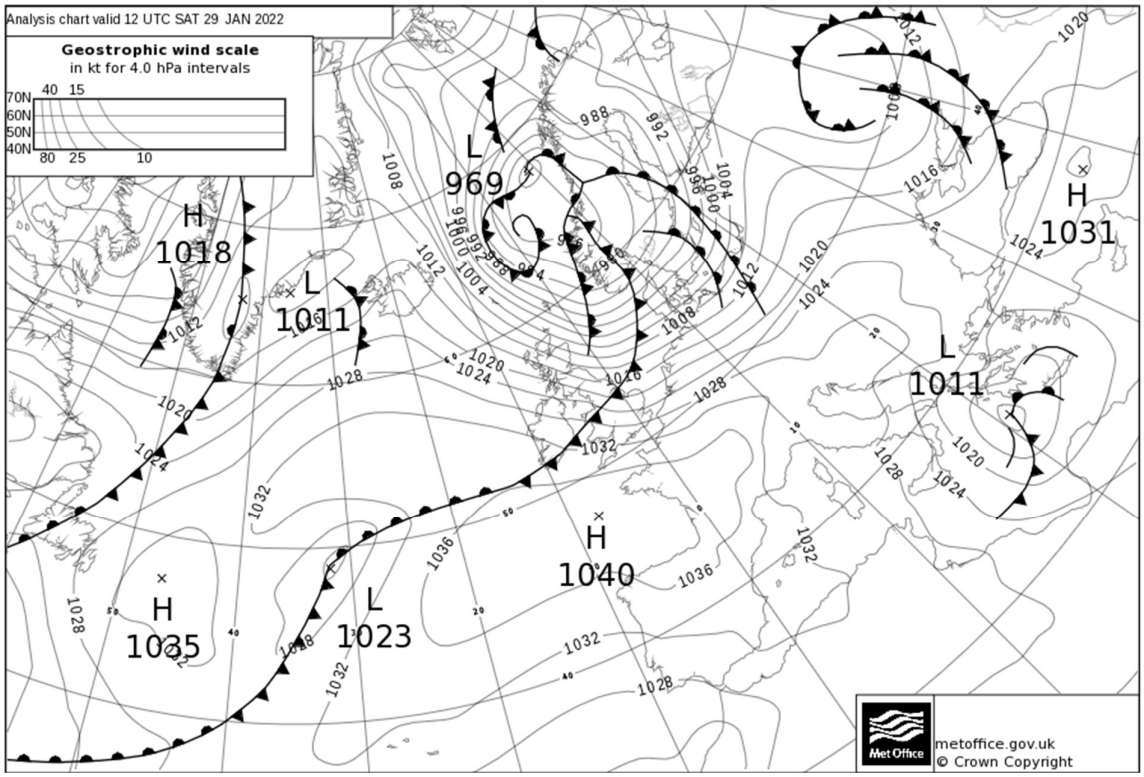
Storms Malik and Corrie, arriving in quick succession, brought damaging north-westerly winds to northern Scotland and north-east England. Malik, named by the Danish Meteorological Institute, brought widespread wind gusts of over 60Kt (69mph), and was one of the ten most significant winter storms to affect the UK since the storm naming system was introduced for the 2015/2016 season. Corrie, arriving only 36 hours later, brought further damaging winds, with gusts reaching 80Kt (92mph) at Stornoway Airport (Western Isles) and 79Kt (91mph) at Inverbervie (Kincardineshire).

Impacts

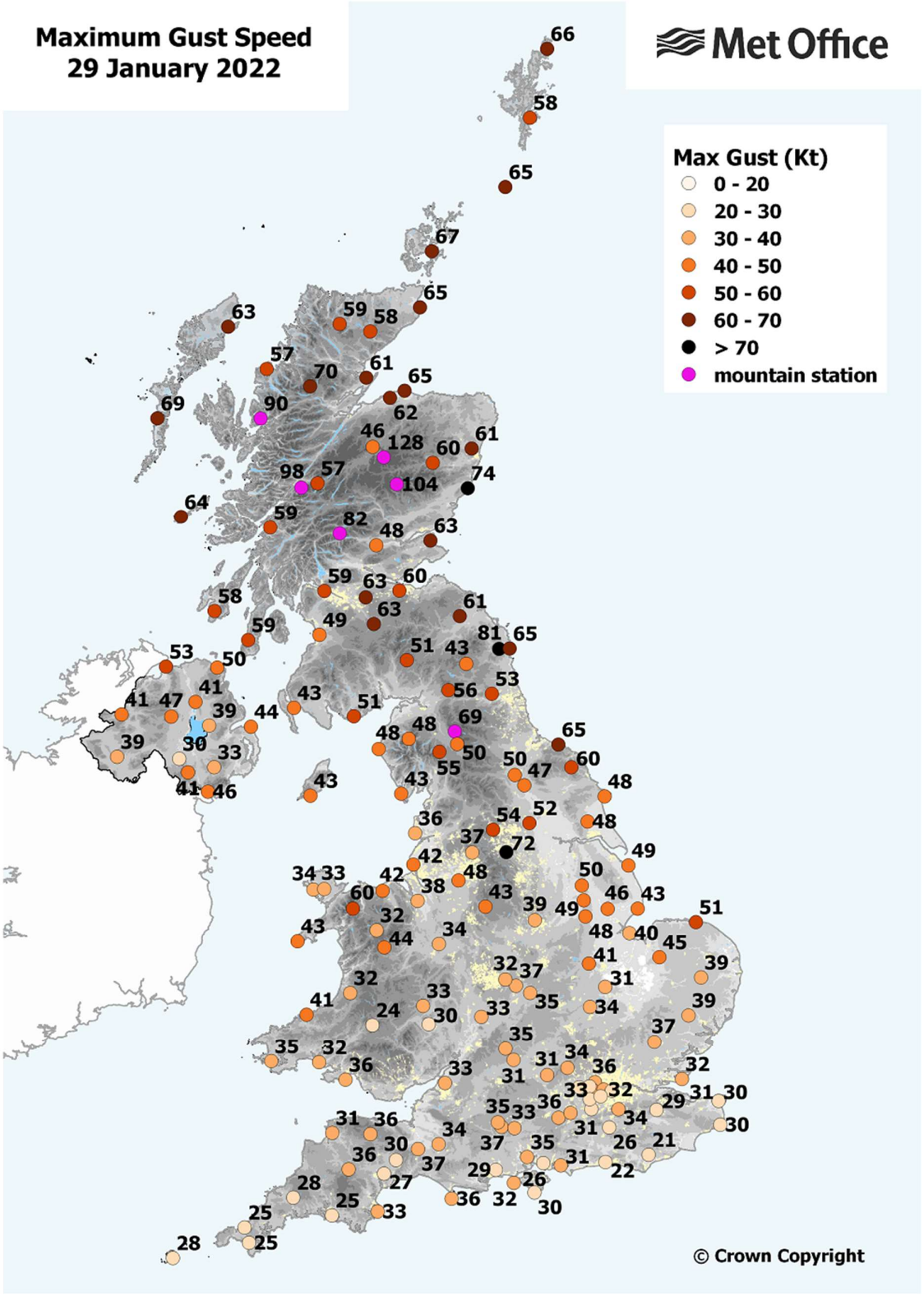
Two people were killed by falling trees in Staffordshire and Aberdeen due to storm Malik. There were widespread reports of structural damage with falling bricks and debris, and the roof of a house was blown off in Gateshead. Falling trees resulted in loss of power supplies to tens of thousands of homes in areas such as Aberdeenshire, Northumberland and County Durham, although the extent of the damage was not as significant as from storm Arwen in late November. There was major disruption to rail services in north-east England and Scotland, and difficult driving conditions with a number of overturned lorries. Ferry sailings in Scotland were delayed or cancelled. Several schools in Aberdeenshire, the Highlands and Moray were closed due to storm damage or power outages.

Weather data

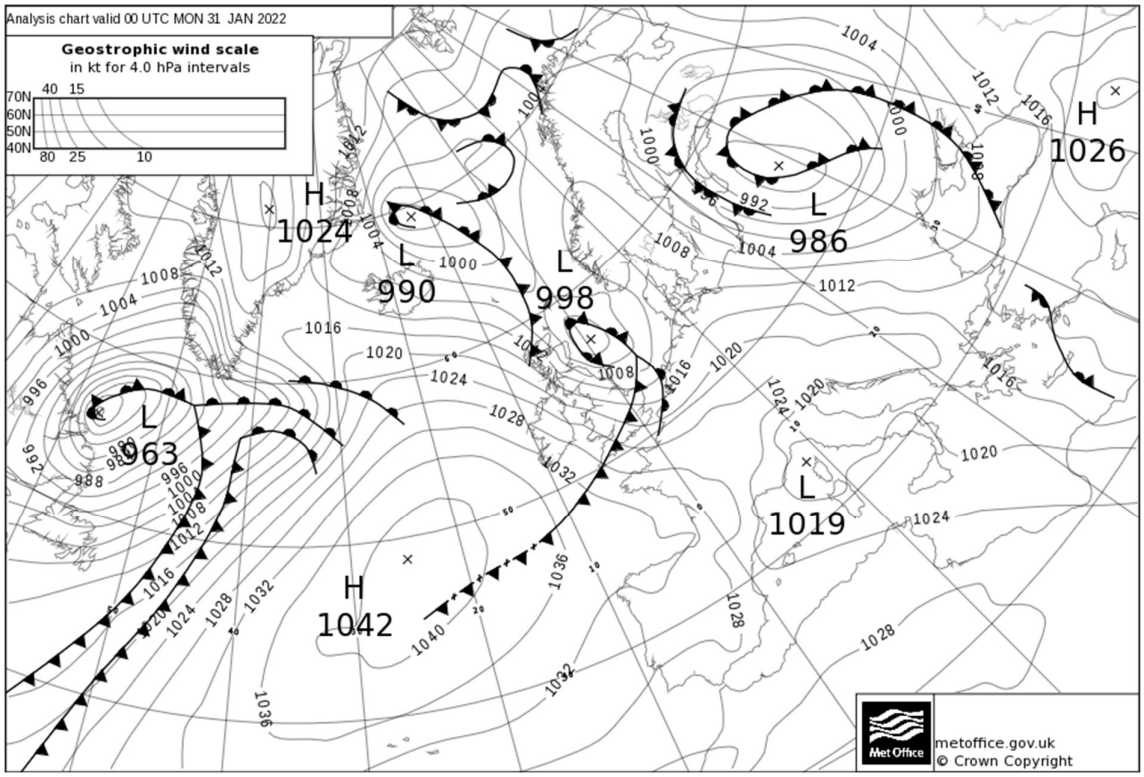
The analysis chart at 1200 UTC 29 January 2022 shows storm Malik to the north-east of the UK with an associated cold front sweeping south-east across the country. The tightly packed isobars provide an indication of the strength of the north-westerly winds.



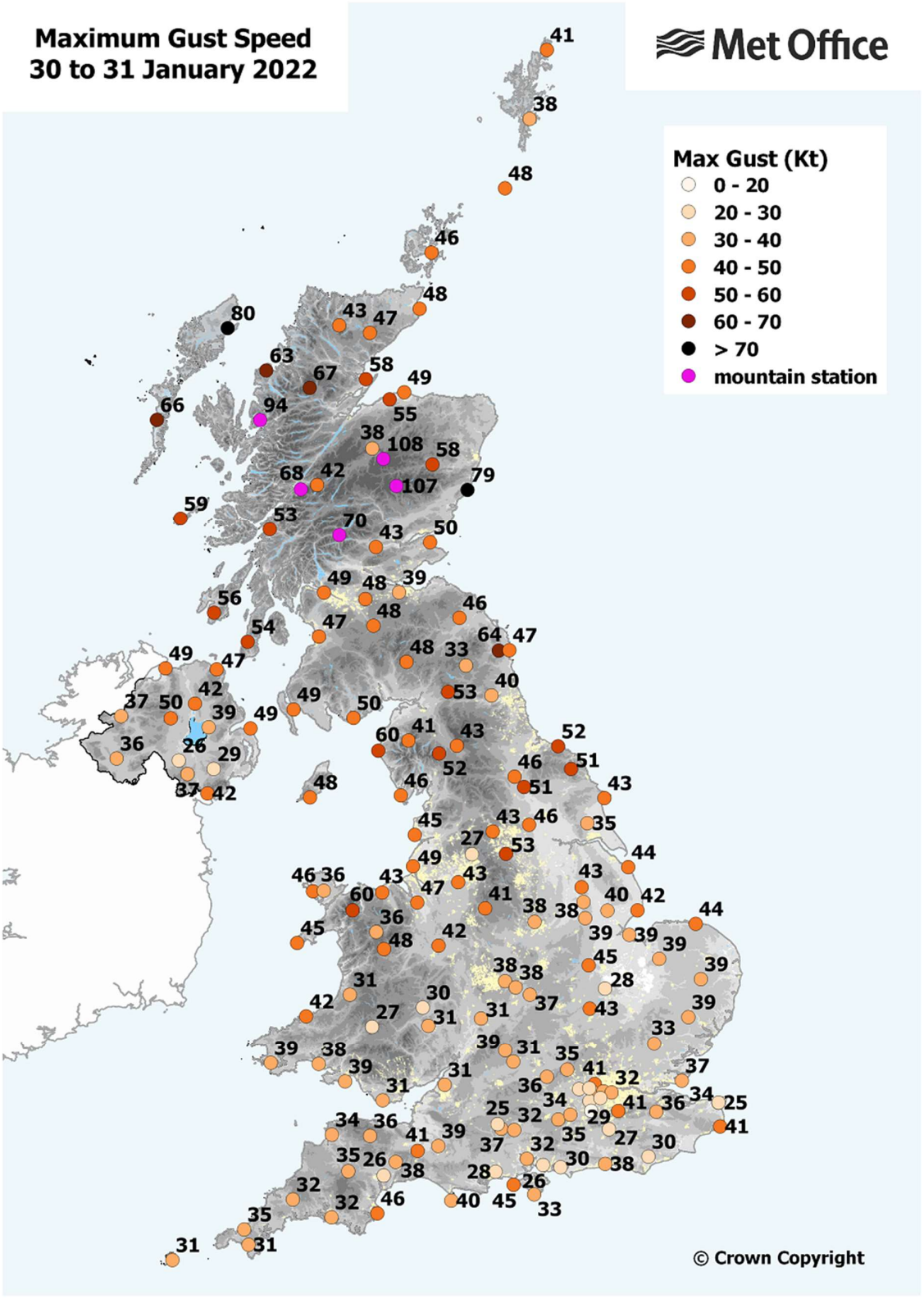
The map below shows maximum gust speeds from storm Malik on 29 January 2022. Gusts of 60 to 70Kt (69 to 81mph) were recorded widely across stations in Scotland and north-east England. The highest gusts were 81Kt (93mph) at Brizlee Wood (Northumberland), 74Kt (85mph) at Inverbervie (Kincardineshire), 72Kt (83mph) at Emley Moor (West Yorkshire), 70Kt (81mph) at Loch Glascarnoch (Highland) and 69Kt (79mph) at South Uist (Western Isles). Winds gusted at over 100Kt across Scotland's mountain summits with 128Kt (147mph) at Cairngorm Summit, 1237 metres above mean sea level (masl).



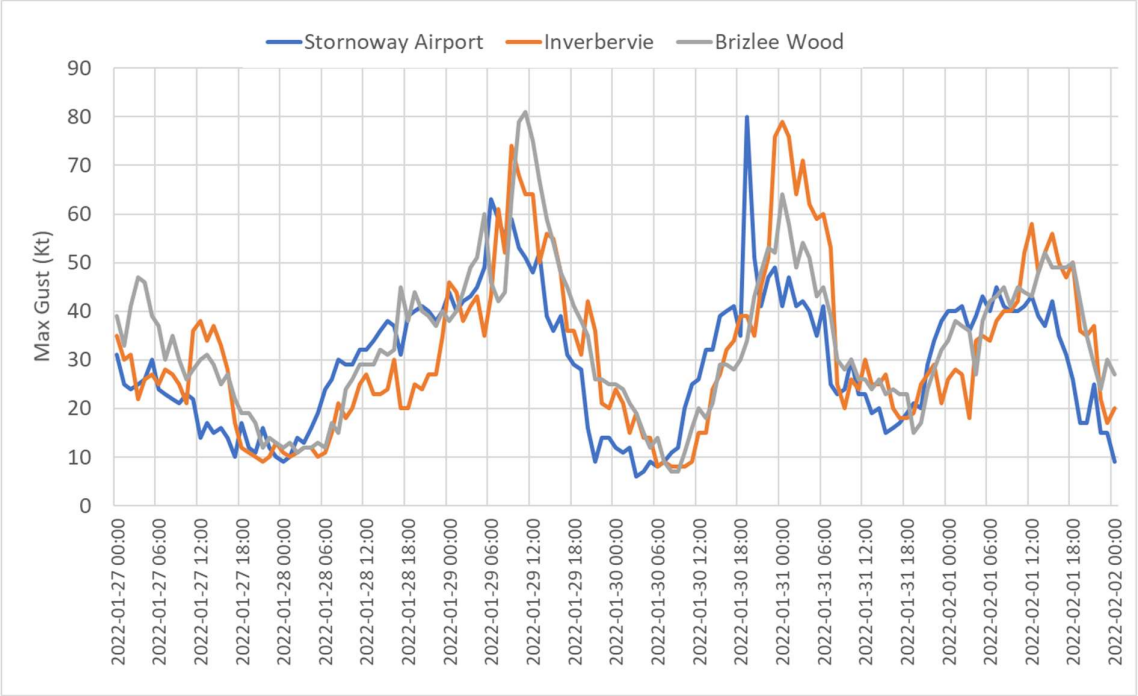
The analysis chart at 0000 UTC 31 January 2022 shows storm Corrie in the North Sea, bringing further very strong north-westerly winds across the UK.



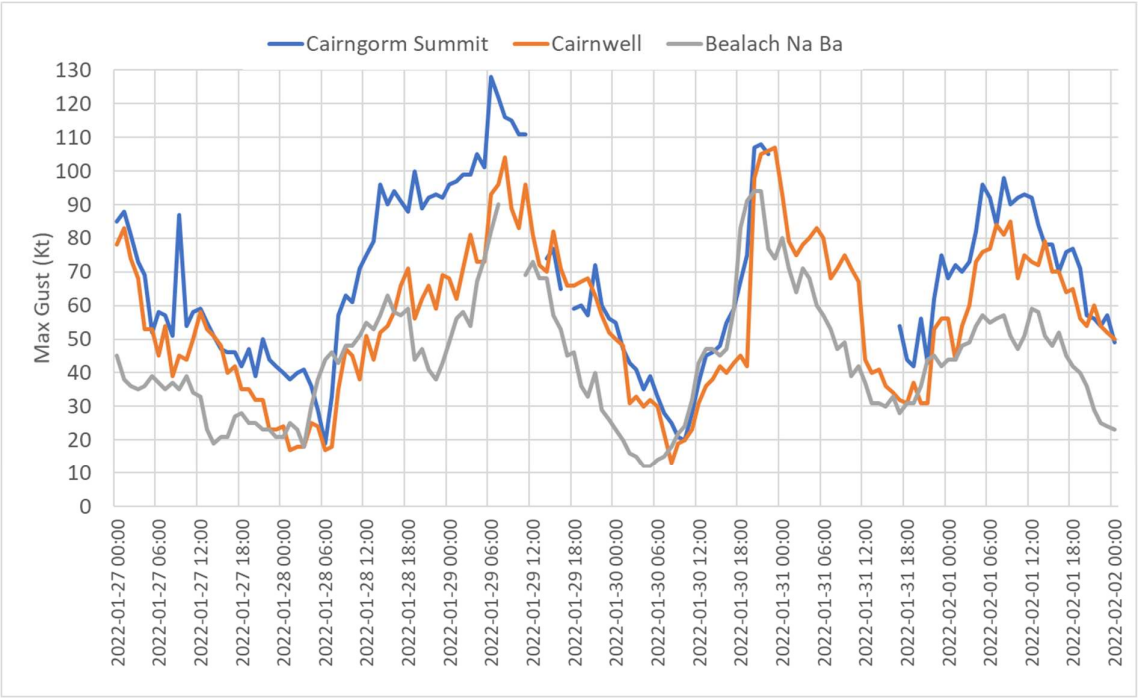
The map below shows maximum gust speeds from storm Corrie from 30 to 31 January 2022. Gusts of 60 to 70Kt (69 to 81mph) were recorded again across parts of Scotland and northern England, although the area affected by the highest gusts was generally smaller in extent than storm Malik. The highest gusts were 80Kt (92mph) at Stornoway Airport (Western Isles), 79Kt (91mph) at Inverbervie (Kincardineshire), 67Kt (77mph) at Loch Glascarnoch (Highland) and 66Kt (76mph) at South Uist (Western Isles). Winds again gusted at over 100Kt (115mph) across Scotland’s mountain summits.



The chart below shows hourly maximum gust speeds during storms Malik and Corrie at Stornoway Airport, Inverbervie and Brizlee Wood, with these two named storms only around 36 hours apart. At Inverbervie, 79Kt (91mph) during storm Corrie was the highest wind gust on record at this station, exceeding 78Kt (90mph) on 8 December 2011, with wind observations for this station from 2010.



The chart below shows hourly maximum gust speeds during storms Malik and Corrie at Cairngorm Summit (1237masl), Cairnwell (928masl) and Bealach Na Ba (773masl)) and provides an indication of the ferocity of wind gusts across Scotland's mountain summits. At Cairngorm summit, maximum gust speeds during storm Malik were around 90Kt (104mph) or higher for a period of almost 24 hours, with gusts of over 100Kt (115mph) for 8 hours from 0300 UTC to 1100 UTC on 29th and a peak gust of 128Kt. Unfortunately, this station experienced some loss of data for both named storms. This was the UK's highest recorded wind gust since 129Kt (148mph) from storm Conor on 25 December 2016. The UK record is 150Kt (173mph) at Cairngorm Summit on 20 March 1986.



The table below provides a count of the number of stations recording a maximum gust of 60Kt (69mph), or higher, since storm names were introduced for the 2015/2016 season. This provides a a broad indication of the spatial extent of the strongest winds. There were 23 UK stations

recording gusts exceeding 60Kt during storm Malik, by this metric making this storm among the top-ten most significant named storms since the storm naming system was introduced. Of the 20 dates in the table, all but two are for named storms. However, ranking storms is complex as it depends on the spatial extent, severity, duration and direction of the wind gusts from each storm, all of which will have differing characteristics, and in addition it depends on the spatial distribution of the network of stations recording wind speeds. Therefore, this comparison will not always reflect the severity of the impacts from an individual storm. For example, a red warning for wind was issued for storm Arwen on 26 to 27 November 2021 for north east coastal regions, but this does not feature on this table (count 9), and is why the national severe weather warning service accounts for both the meteorological hazard, and the potential impacts.

A red warning for wind was previously issued for storm Gertrude and this is arguably the most significant major winter storm since the storm naming system was introduced, with 31 stations (around a fifth of the network) recording gusts of over 60Kt (69mph) and 12 stations over 70Kt (81mph). Looking slightly further back, over the last decade, the four most significant storms are 5 December 2013 (count 56); 3 January 2012 (count 42), 8 December 2011 (count 40) and 12 February 2014 (count 39).

Date	Count	Storm
29/01/2016	31	Gertrude
09/02/2020	31	Ciara
19/09/2018	30	Ali
01/02/2016	24	Henry
29/01/2022	**23**	**Malik**
16/10/2017	19	Ex-hurricane Ophelia
23/02/2017	17	Doris
26/12/2016	16	Conor
11/01/2017	16	un-named
13/01/2020	16	Brendan
26/11/2021	15	Arwen
08/02/2016	14	Imogen
23/12/2016	14	Barbara
16/02/2020	14	Dennis
07/12/2017	13	Caroline
03/01/2018	13	Eleanor
18/01/2018	13	David
22/02/2020	12	un-named
29/11/2015	11	Clodagh
29/12/2015	11	Frank

Author: Mike Kendon, Met Office National Climate Information Centre

Last updated 03/02/2022

Met Office