

## **Storm Darragh, 6 to 7 December 2024**

**Storm Darragh, the fourth named storm of the 2023/2024 storm season, brought very strong winds to western parts of England and Wales in early December. The Met Office issued a red warning for wind covering West Wales and both coasts of the Bristol Channel, with winds gusting at 60 to 70Kt (69 to 81mph) or higher in these areas. Wind gusts were broadly comparable with storm Isha on 21 January 2024 but overall slightly less severe than storm Eunice on 18 February 2022. In comparison to Darragh, in relatively recent observations the storm of 12 February 2014 was much more severe.**

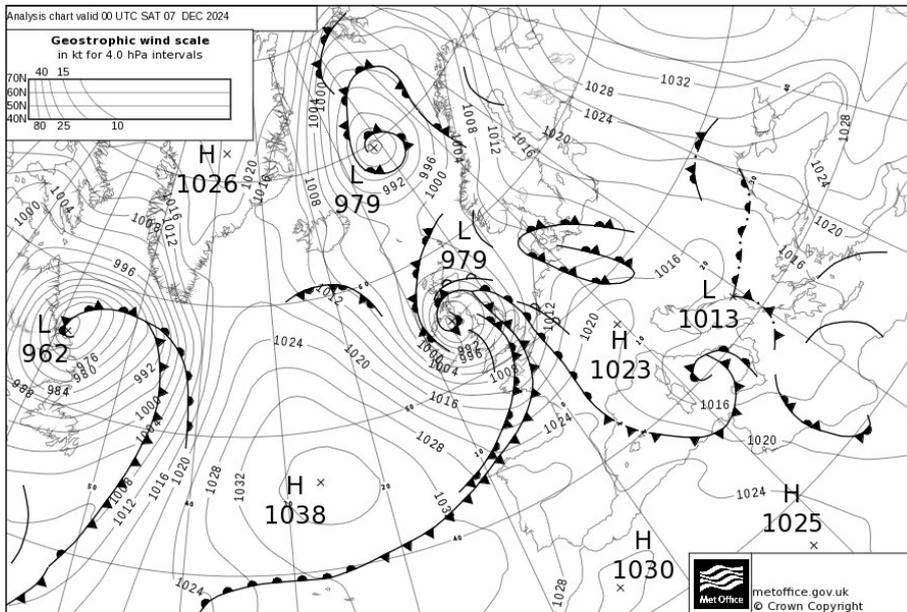
**Arriving two weeks after storm Bert, storm Darragh also brought heavy rain to western areas, with a further 50 to 100mm falling across upland areas of Wales from 6th to 7th, leading to further concern about flooding in areas previously affected by storm Bert.**

### **Impacts**

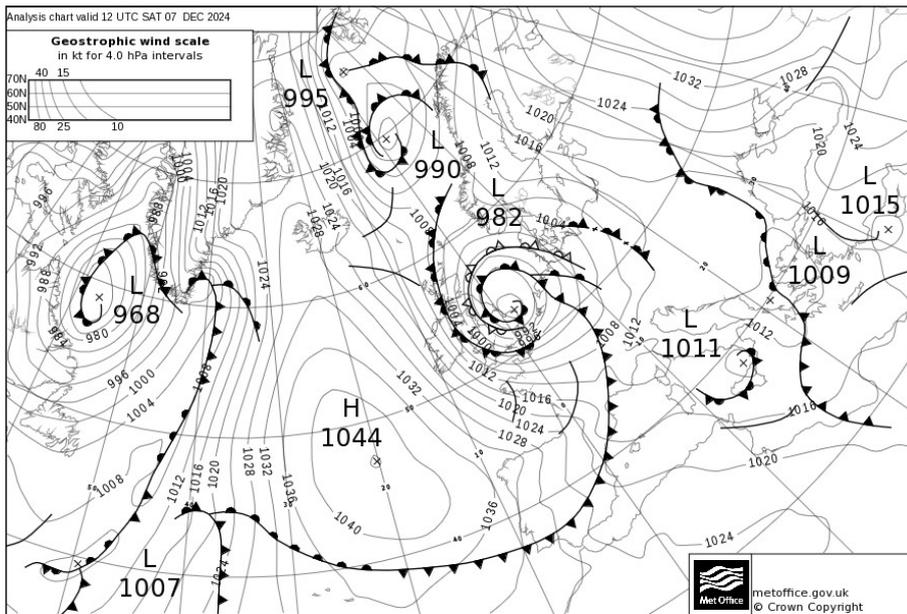
A number of deaths were reported over the weekend as Storm Darragh impacted the UK, and over 2.3 million customers lost power during the storm. A major incident was declared by Dyfed-Powys Police covering Carmarthenshire, Ceredigion, Pembrokeshire and Powys with many fallen trees. A unit on Llandudno Pier (Conwy) was ripped off its foundations by the storm, while a roof was ripped off Pentre Chapel in the village of Mochdre, near Newtown, Powys. Flight cancellations and go-arounds were reported at many UK airports, including Bristol and Heathrow, with airports in southern Wales closed during the red warning. Most rail services in Wales were closed and in Scotland a tree fell onto a train between Girvan and Ayr. Some rail services in England were also disrupted while the M48 Severn Bridge was closed. Domestic football and rugby matches in Wales were also cancelled. London's Royal Parks were closed including the Winter Wonderland attraction in Hyde Park. In Cornwall, nine cows were reported killed after a power cable came down at a farm, and 22 people were stranded in a forest in North Yorkshire after fallen trees and power lines blocked their exit.

### **Weather data**

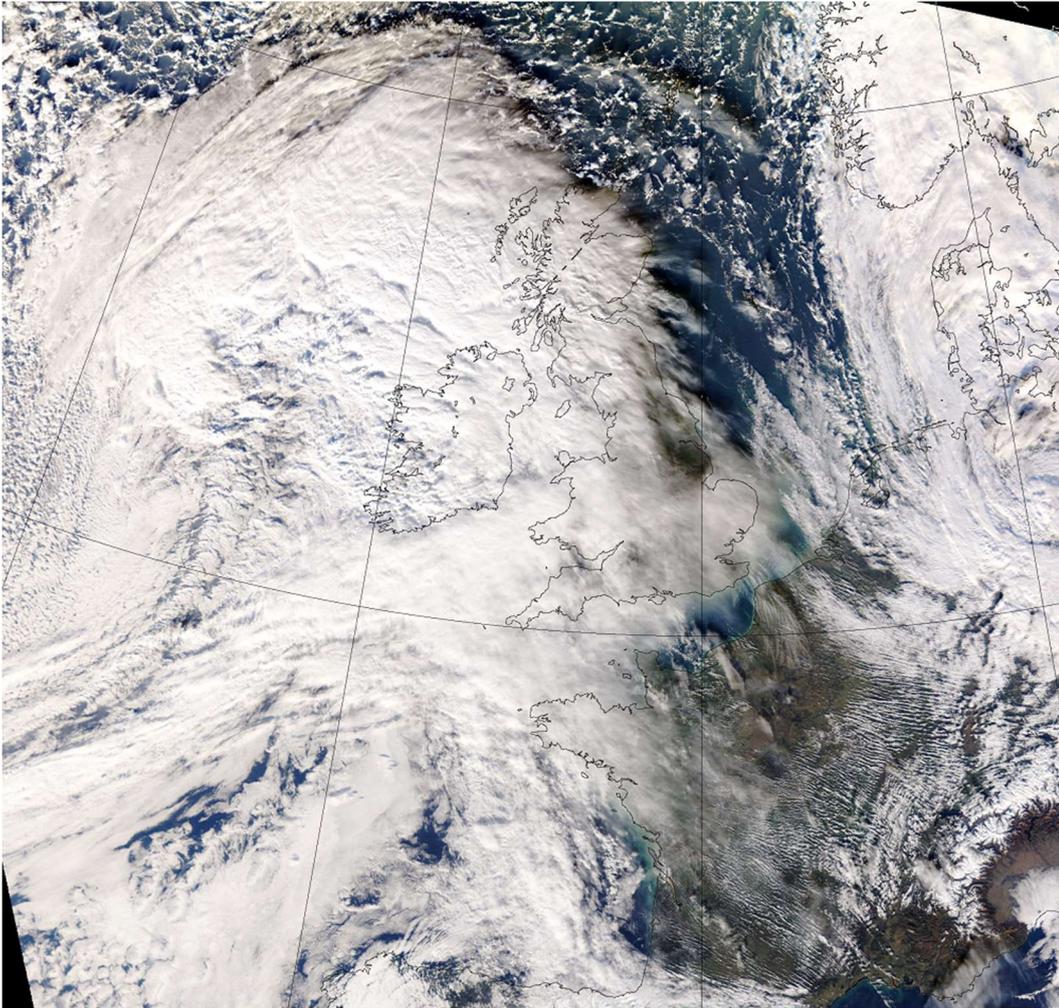
The analysis charts at 0000 UTC 7 December 2024 shows storm Darragh tracking east with the low centre over Northern Ireland and strong westerly winds affecting exposed western coastlines of Wales and south-west England. Associated weather fronts are stretched across the UK.



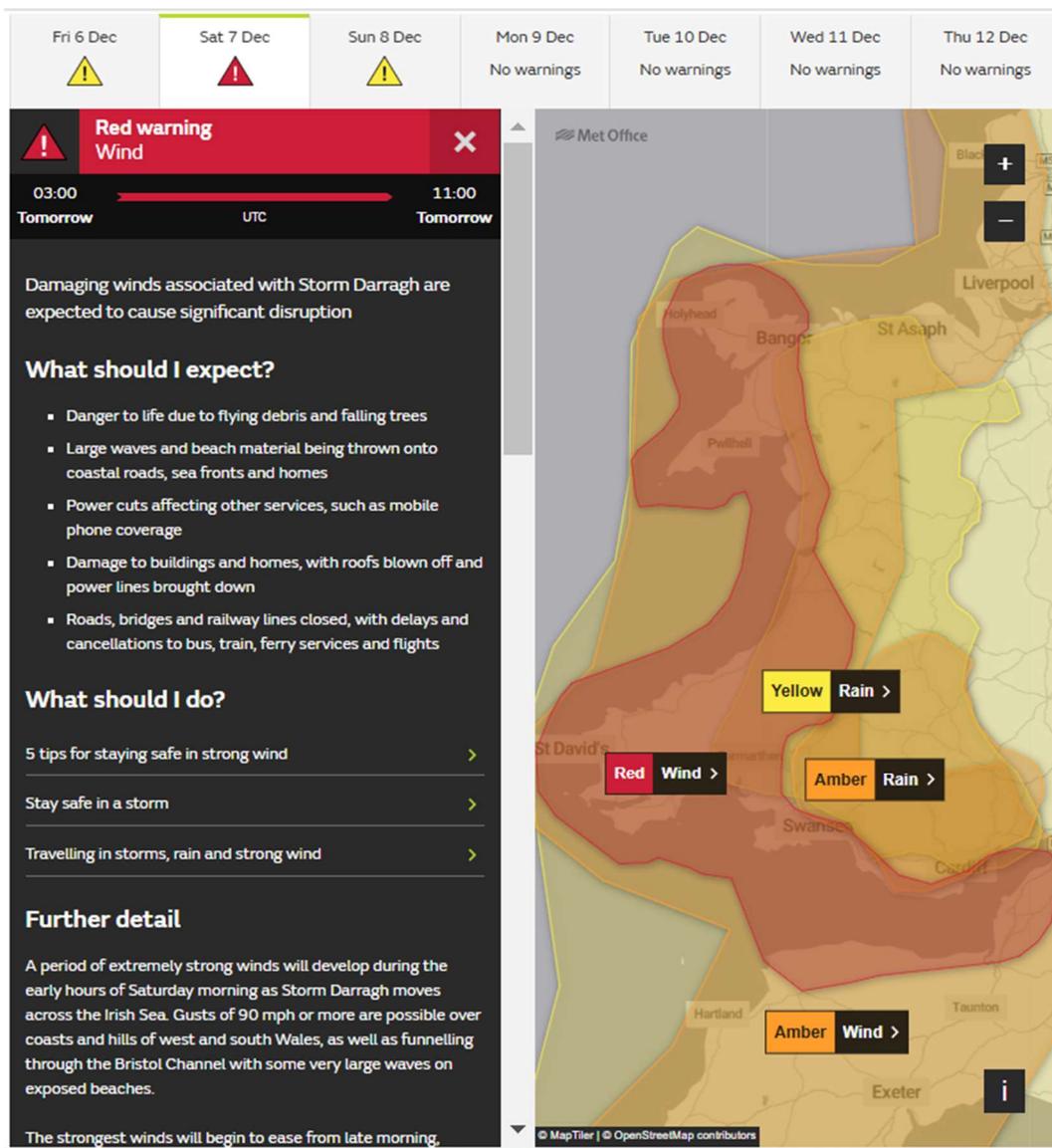
The analysis chart at 1200 UTC 7 December 2024 shows the low centre clearing the Norfolk coast. The high pressure in mid-Atlantic and storm Darragh to the east caused a squeeze in isobars, driving very strong north-westerly or northerly winds through Irish Sea coasts and affecting many western parts of the UK.



The satellite image shows storm Darragh approaching the UK to the west of Ireland on 6 December 2024. Cloud from warm front ahead of the storm are swathing much of the country. The snow-covered Alps are in the far bottom right. Image copyright Met Office / NOAA / NASA.



The map below shows the Met Office red warning issued for wind for storm Darragh from 0300 UTC to 1100 UTC Saturday 7 December 2024, covering West Wales and Bristol Channel coasts. The Irish national meteorological service, Met Éireann, also issued a red warning for wind. A more extensive amber warning area included Northern Ireland, and Irish Sea coasts of Scotland and north-west England, most of Wales and south-west England. The most recent red warning for wind issued in the UK was for storm Isha in January 2024, while a red warning for rain was issued for storm Babet in October 2023. Several million people received a government emergency alert on their mobile phones on the evening of Friday 6th December giving advice about the storm.



The image below shows the shipping forecast issued for Irish Sea on Friday 6 December 2024, with winds forecast north-westerly occasionally violent storm 11. This is not the UK's prevailing wind direction, which is westerly or south-westerly i.e. a more typical direction for the strongest winds from Atlantic low pressure systems.

**Irish Sea**

**GALE WARNING**  
 Issued: 03:52 (UTC) on Fri 6 Dec 2024

Gale now ceased but southerly severe gale force 9 expected soon veering northwesterly violent storm force 11 later

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**WIND**  
 Cyclonic 5 to 7, increasing 7 to severe gale 9, becoming northwest severe gale 9 or storm 10, occasionally violent storm 11.

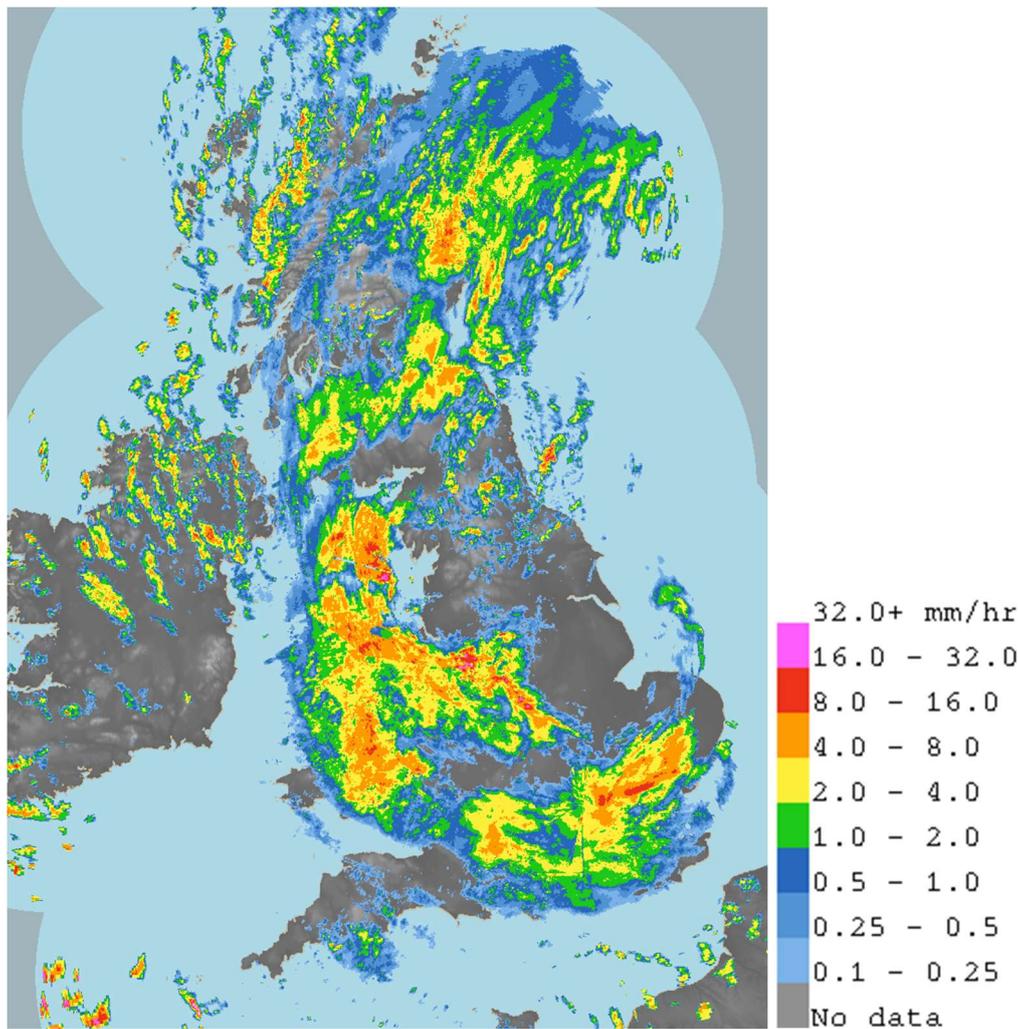
**SEA STATE**  
 Slight or moderate at first, otherwise rough or very rough becoming very rough or high later.

**WEATHER**  
 Rain.

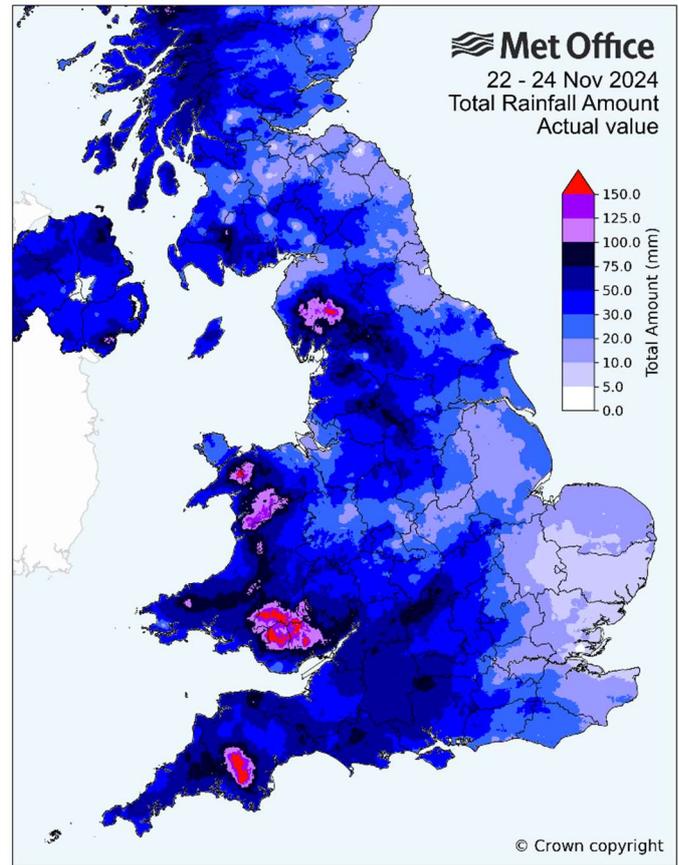
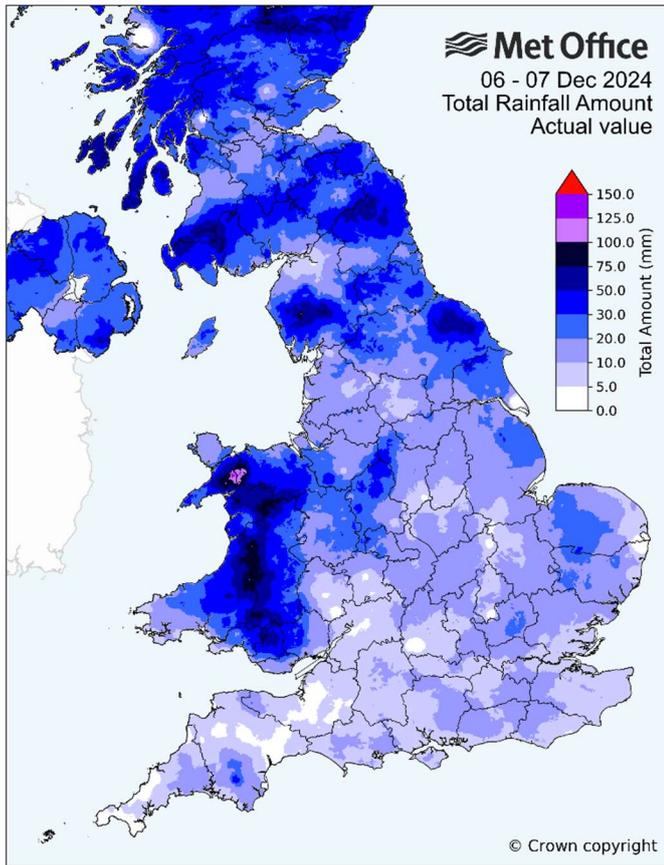
**VISIBILITY**  
 Good, occasionally poor.

The rain-radar image at 0900 UTC 7 December 2024 shows heavy rain from occluded fronts stretching in a curve from Essex to eastern Scotland and included much of Wales. This rain was driven by very strong northerly or north-westerly winds resulting in atrocious weather conditions over upland areas (for example Eryri National Park, formerly Snowdonia), with further heavy rain

pushing through the Cheshire gap. The centre of Darragh is in approximately the Humber area. The low centre would be approximately over coastal Lincolnshire.



The charts below compare rainfall totals for the 2-day period 6 to 7 December 2024, from storm Darragh and for the 3-day period 22 to 24 November 2024 from storm Bert. Overall, Bert brought much higher rainfall totals. In Storm Darragh saw western upland parts of Wales receiving 50 to 75mm of rain or more fairly widely and over 100mm in the wettest areas (100.4mm at Capel Curig, Conwy). This rain was not especially unusual for western upland areas of the UK from a major winter storm, but was nonetheless unwelcome following storm Bert only two weeks earlier. For Wales, the rain from Bert was from a mainly south-westerly airflow, whereas in contrast from Darragh it was north-westerly or northerly.



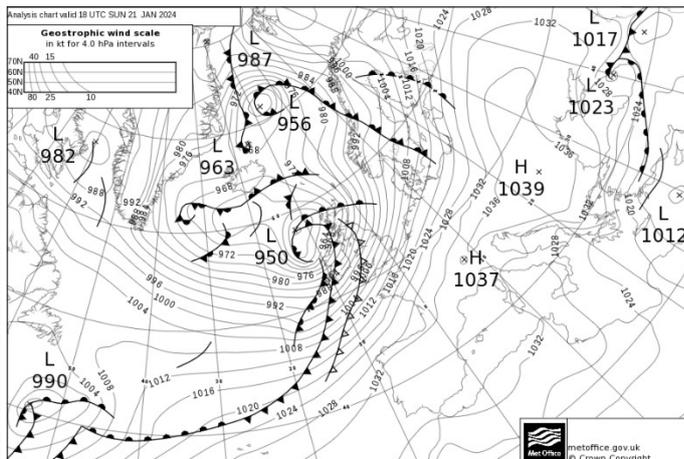
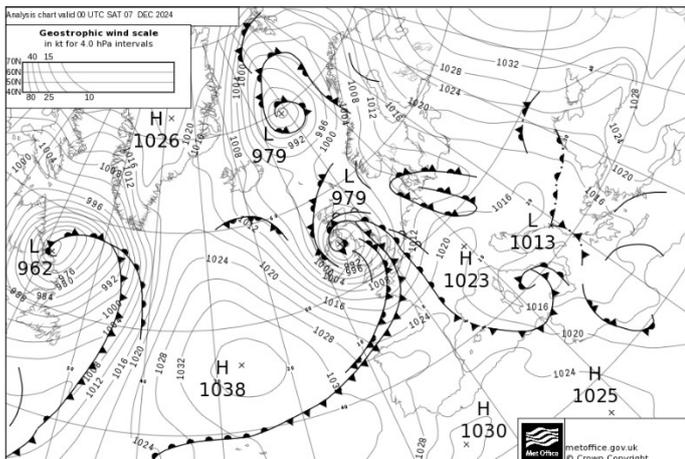
The chart below shows maximum gust speeds from 6 to 7 December 2024. The highest gusts were 83Kt (96mph) at Berry Head, Devon, 81Kt (93mph) at Capel Curig, Conwy, 80Kt (92mph) at Aberdaron, Gwynedd, 74Kt (85mph) at Aberporth, Ceredigion, 69 Kt (79mph) at Valley, Anglesey and 68Kt (78mph) at Orlock Head, County Down. Berry Head recorded its highest December gust speed on record (30-year record length), while Aberporth and Valley recorded their highest December gust speeds since 1993 and 1997 respectively. Exposed western coastal locations recorded gusts of over 60Kt (69mph) widely, but in some areas these also occurred further inland, for example at Cardinham Bodmin, Cornwall (62Kt, 71mph highest December gust on record, 27 years) and Yeovilton, Somerset (62Kt, 71mph, equal highest December gust on record, 34 years).



The focus of the red warning area for wind was west Wales. The analysis charts below compare storm Darragh (top left) against three other events with very strong winds in this area: storm Isha (top right), storm Eunice (bottom left) and 12 February 2014 (bottom right).

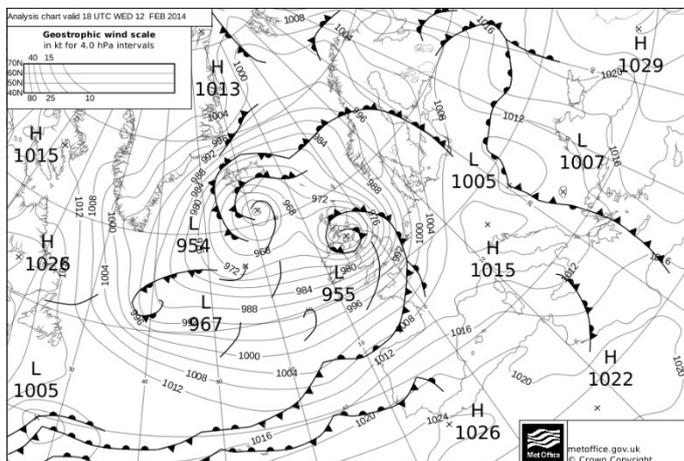
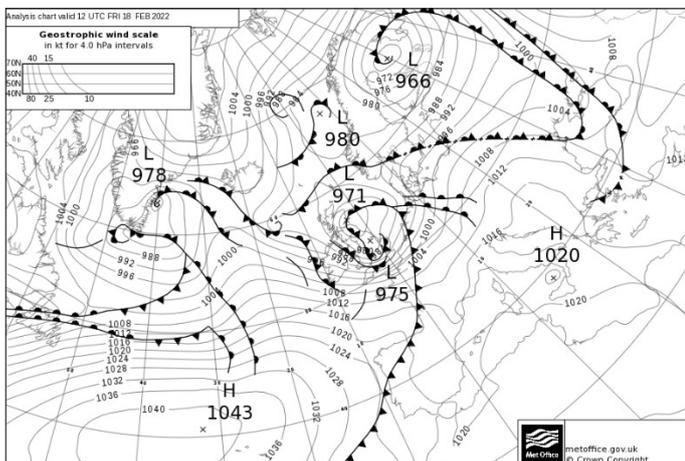
6 to 7 December 2024

21 January 2024



18 February 2022

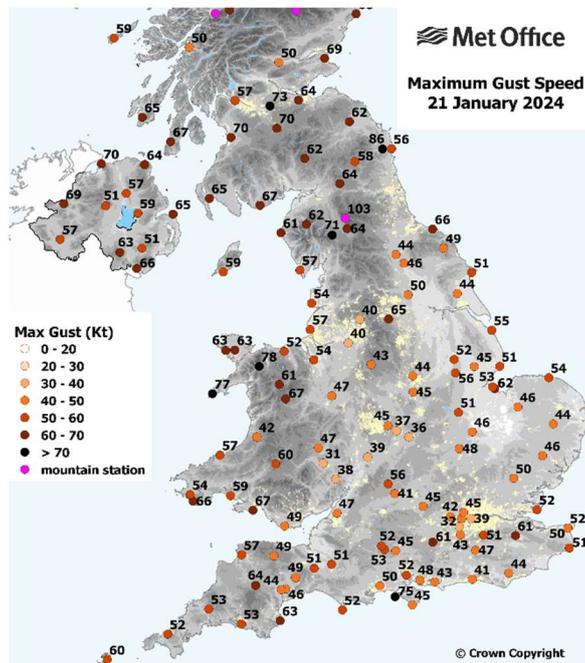
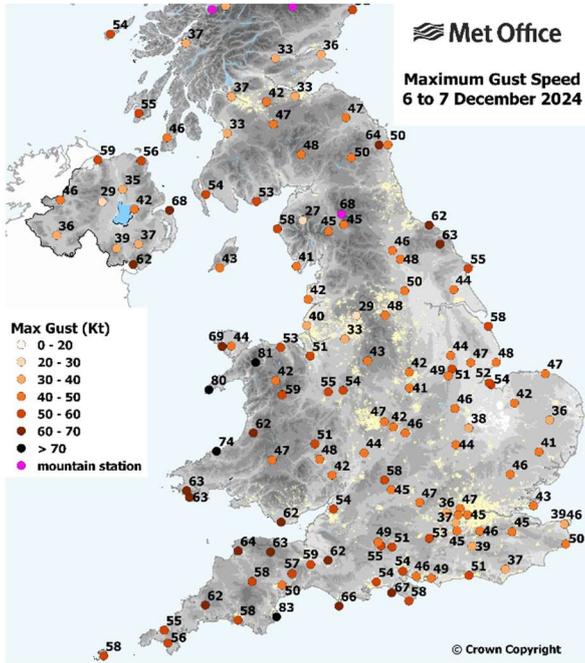
12 February 2014



The panel of four maps below compare maximum gust speeds from storm Darragh (top left) against these three other dates. Of these, 21 January 2024 (storm Isha) was broadly comparable but with much stronger gusts across the northern half of the UK. 18 February 2022 (storm Eunice) was more severe across South Wales and south-west England. 12 February 2014 was a more severe event again across western parts of the UK with higher gust speeds generally.

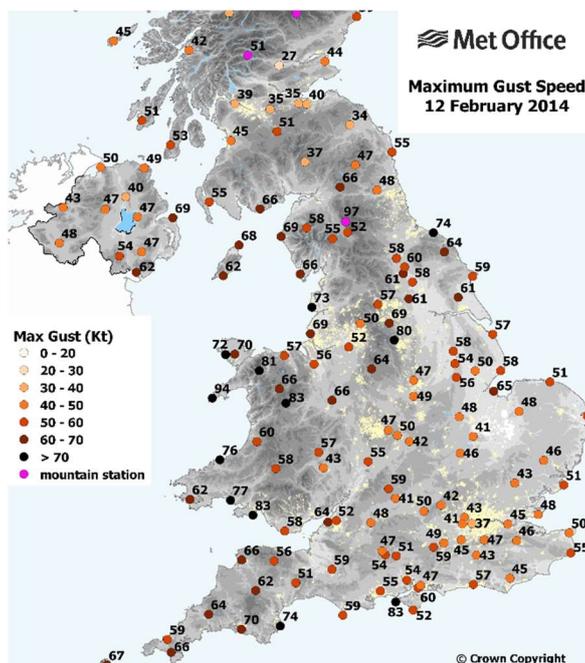
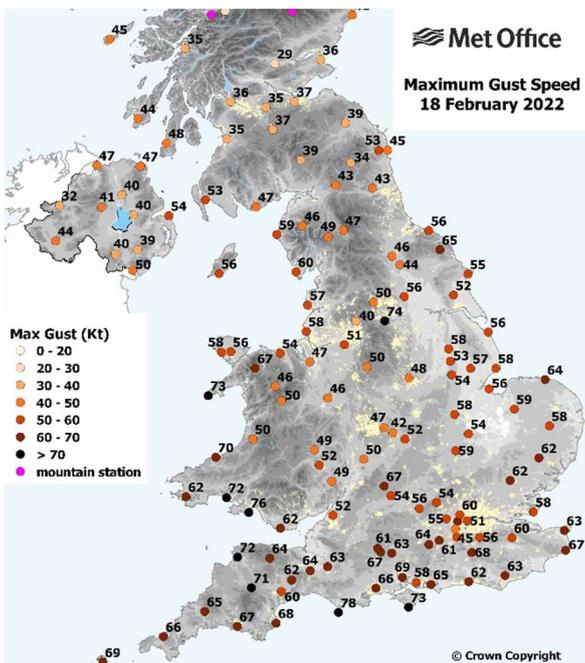
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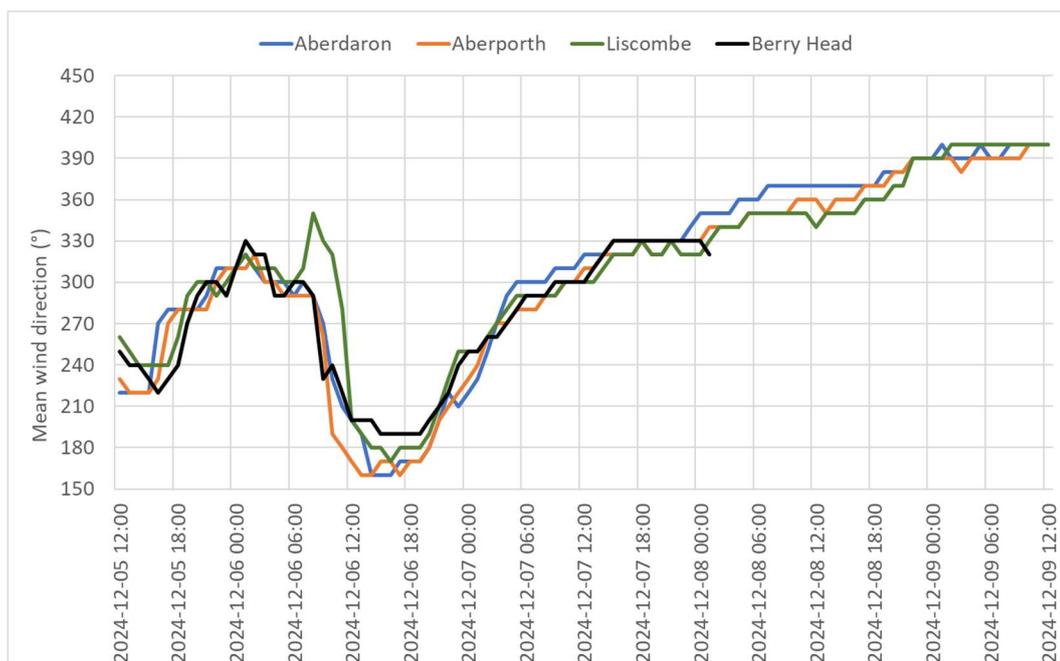
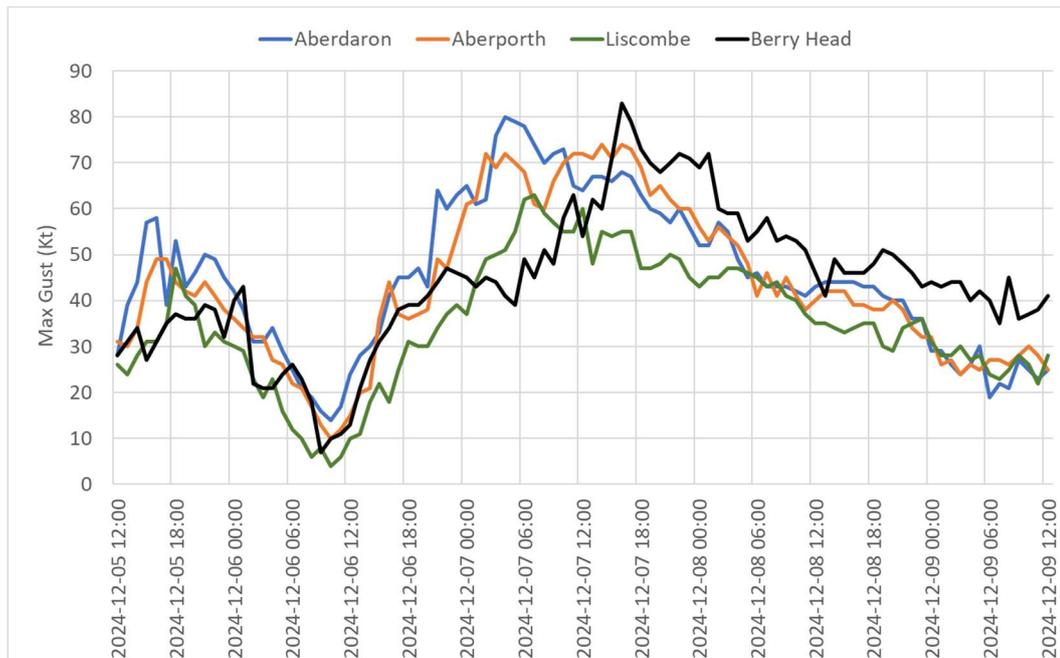


The table below provides a list of dates of storms ranked by the number of stations recording gusts  $\geq 60$ Kt (69mph) across Wales. This metric provides an indication of dates in which notably severe wind storms occurred for Wales, but should be considered as indicative since it is very dependent on the station network and data outages. All of these listed dates are in the period October to February during which the jet stream would typically be strongest, and all listed dates are named storms since the storm naming system was introduced in autumn 2015. Dates in bold are events where charts and maps are provided above.

Date	Count	Named Storm
08/01/2005	11	
<b>12/02/2014</b>	11	
24/12/1997	10	
27/10/2002	10	
09/02/2020	10	Ciara
19/02/1997	9	
13/12/2000	9	
18/01/2007	9	
27/12/2013	9	
16/10/2017	9	Ex-Ophelia
<b>21/01/2024</b>	9	Isha
01/02/1988	8	
03/01/1998	8	
04/01/1998	8	
26/12/1998	8	
24/12/1999	8	
16/02/2020	8	Dennis
<b>07/12/2024</b>	8	Darragh
02/01/1976	7	
08/12/1993	7	
28/10/1996	7	
25/11/2000	7	
12/12/2000	7	
11/01/2007	7	
17/01/2009	7	
03/01/2012	7	
17/11/2015	7	Barney
23/02/2017	7	Doris
<b>18/02/2022</b>	7	Eunice

The chart below shows hourly maximum gust speed for Aberdaron (Gwynedd), Aberporth (Ceredigion), Liscombe (Somerset) and Berry Head (Devon). These show the prolonged duration of strong winds, for example at Aberporth hourly maximum gusts exceeded 50Kt (59mph) from 2300 UTC on 6th to 0400 UTC on 8th – a period of 30 hours. The highest gusts at Aberdaron occurred during the early hours of the 7th, whereas at Berry Head they were not until the late afternoon and evening of the 7th.

The second chart shows hourly mean wind speed for this same period and stations, with westerly winds (270°C) at 0600 UTC on 7th, then veering north-westerly to northerly by the 8th as the storm tracked east. Wind direction can be an important factor influencing the likely number of fallen trees. A recent example of this was storm Arwen in late November 2021, where the strongest winds were also from a northerly direction.



Wind observations for the UK show fewer occurrences of gusts exceeding 40/50/60Kt in the last two decades compared to the 1980s and 1990s i.e. wind observations do not suggest the UK is getting stormier.

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Last updated 01/01/2025

