

Storms Ellen and Francis, August 2020

The UK experienced a turbulent spell of weather in late August 2020 with a strong jet stream bringing deep areas of low pressure. Storms Ellen (19th to 21st) and Francis (25th) brought wind gusts of 40 to 50Kt across inland areas and 50 to 60Kt across exposed coastal locations. Wind speeds reached 69Kt (79mph) at Capel Curig, Conwy during storm Ellen and 70Kt (81mph) at Needles Old Battery (Isle of Wight) from storm Francis. These were two of the most notable August storms in the UK in the last 50 years.

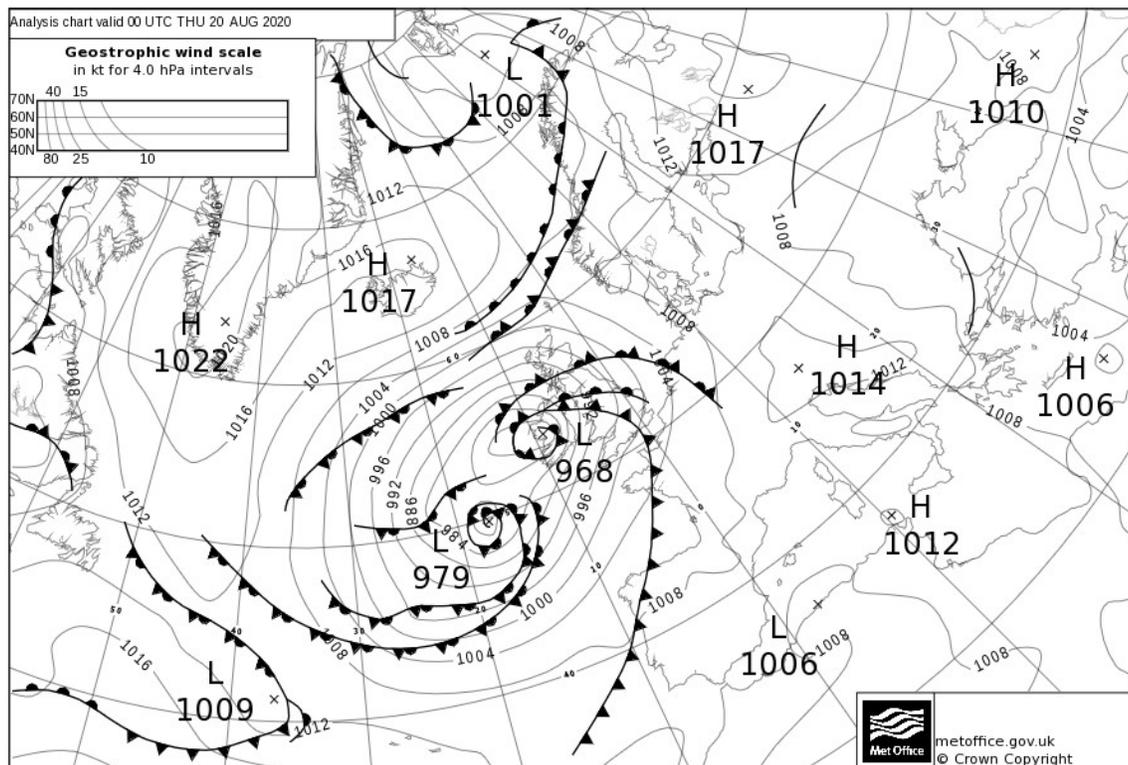
Impacts

Storm Ellen brought significant travel disruption, hundreds of homes were left without power in Wales and the M48 Severn Bridge was closed. Rail and ferry services in west Wales were cancelled, large waves battered exposed coastlines causing some coastal flooding and there were reports of fallen trees (with the ground saturated and trees in full leaf at this time of year). A number of 'iconic' beach huts at Woolacombe in north Devon were washed away.

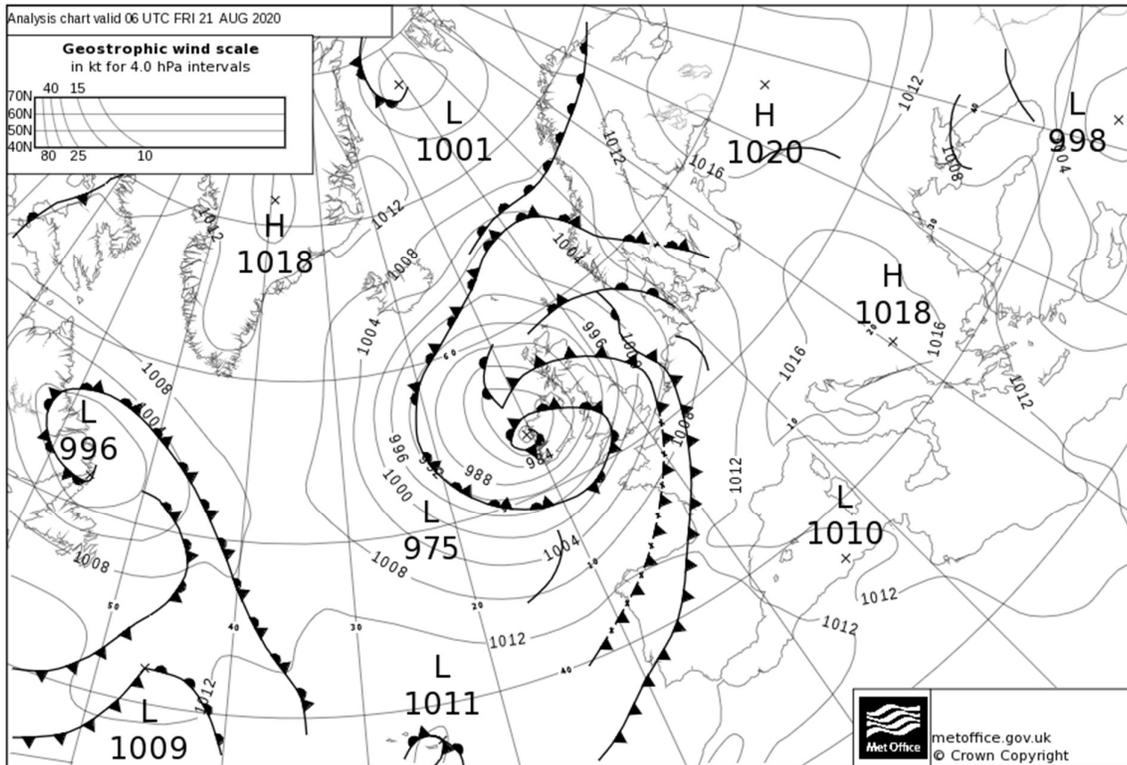
Storm Francis caused further transport disruption to road and rail and further coastal flooding. Thousands of homes were without power, there were reports of fallen trees and several campsites were flooded. The A5 was closed in Snowdonia due to a landslide and the M48 Severn Bridge again closed.

Weather data

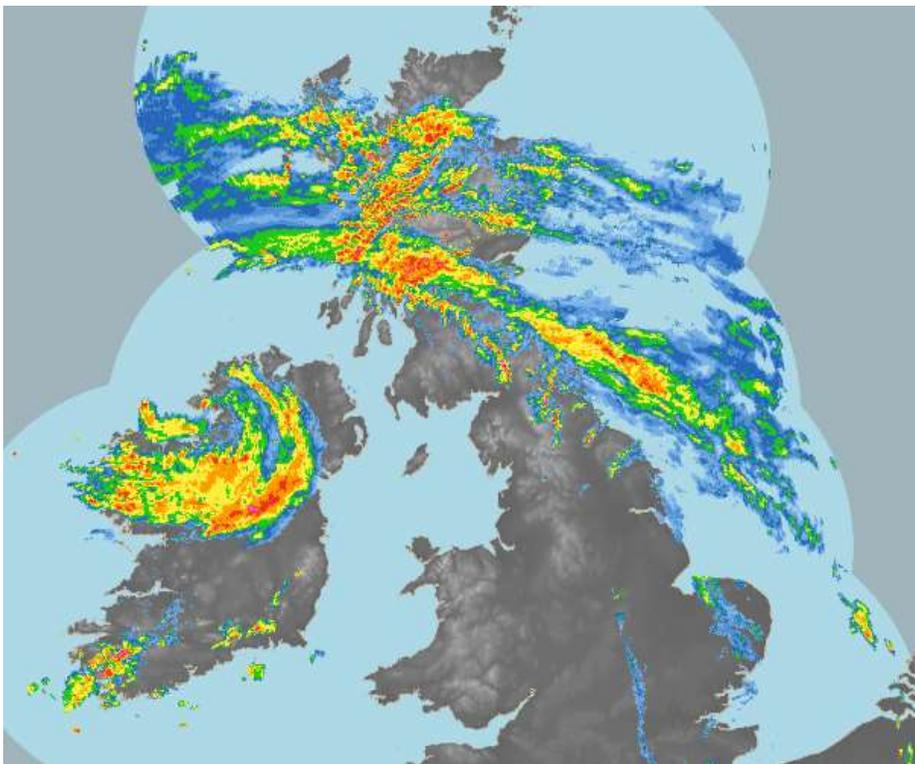
The analysis chart 0000 UTC 20 August 2020 shows storm Ellen across the west of Ireland. Met Eireann issued a red warning for damaging winds across south-west Ireland.



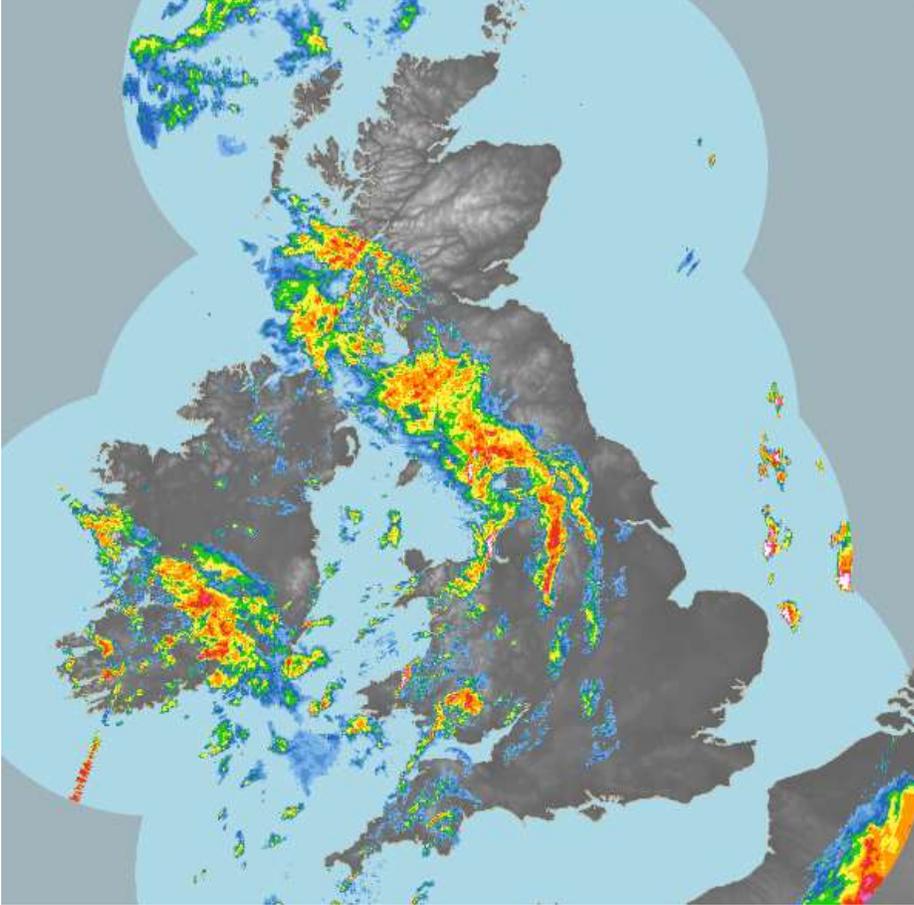
The analysis chart at 0600 UTC 21 August 2020 shows the centre of storm Ellen over south-west Ireland with tightly packed isobars bringing some very strong winds to exposed western parts of the UK – particularly Wales and south-west England.



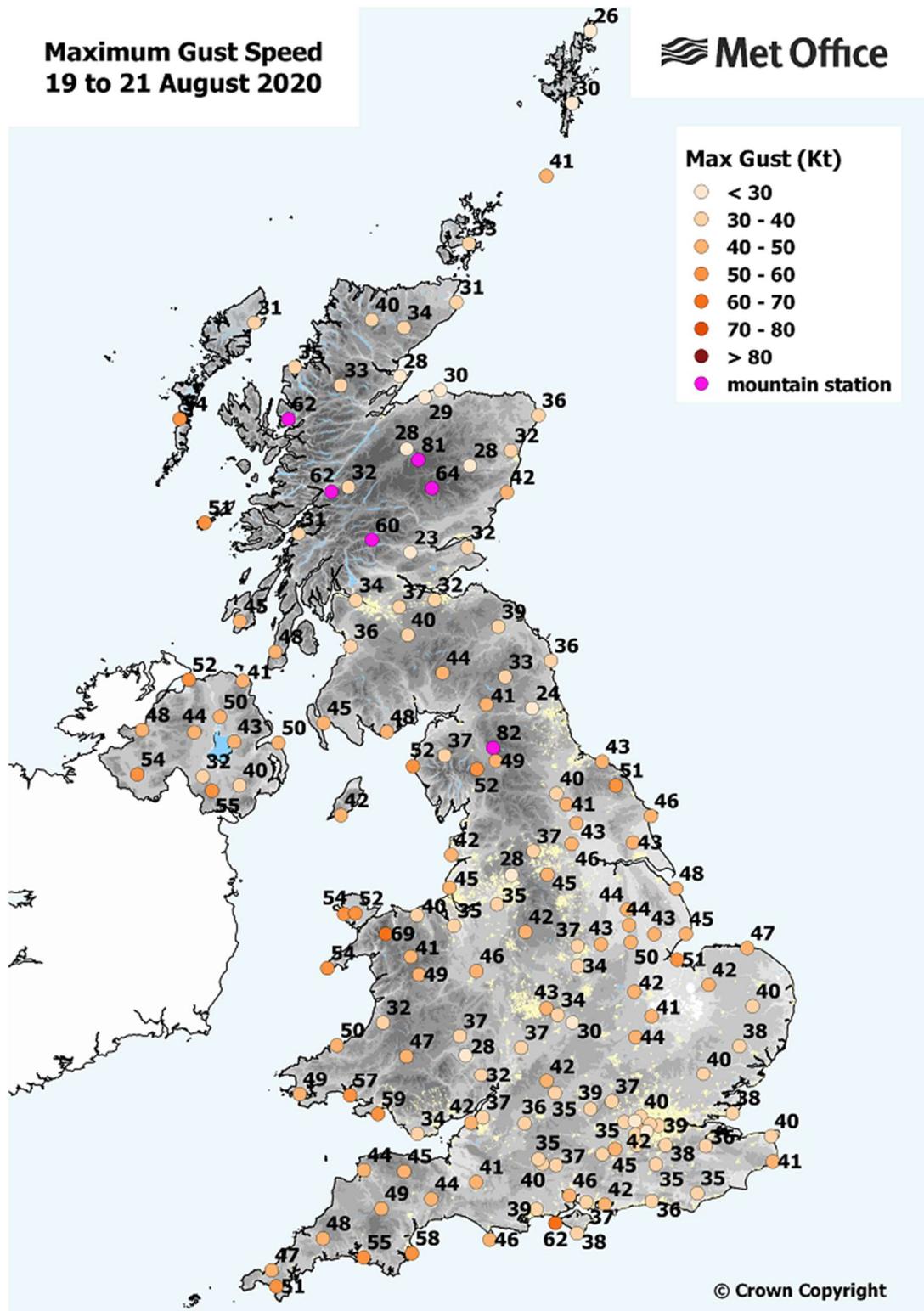
The rain-radar image at 0230 UTC 20 August 2020 shows heavy rainfall across Northern Ireland and western Scotland from storm Ellen.



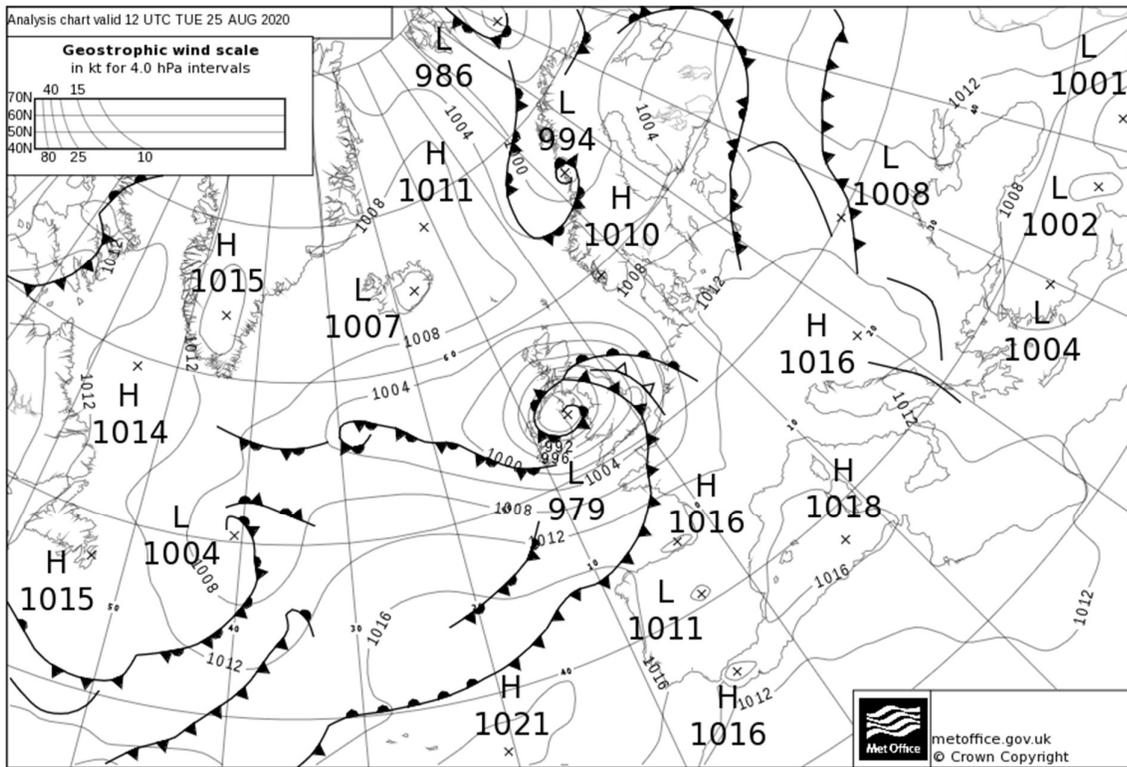
The rain-radar image at 0230 UTC 21 August 2020 shows further heavy rain across parts of Wales, north-west England and south-west Scotland from storm Ellen.



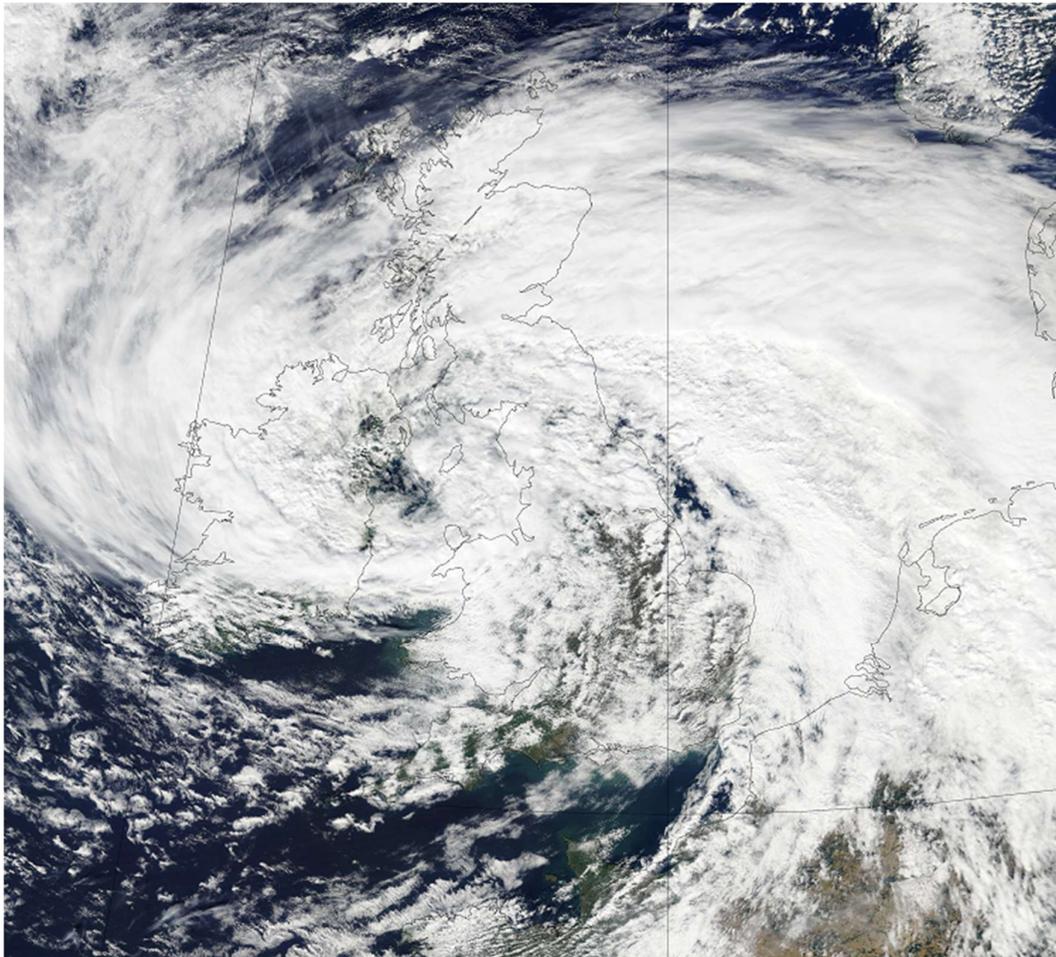
The chart below shows maximum gust speeds from 19 to 21 August 2020 from storm Ellen. Inland winds gusted widely at 40 to 50Kt (46 to 58mph) and exposed coastal locations recorded 50 to 60Kt (58 to 69mph). Capel Curig (Conwy) recorded a gust of 69Kt (79mph).



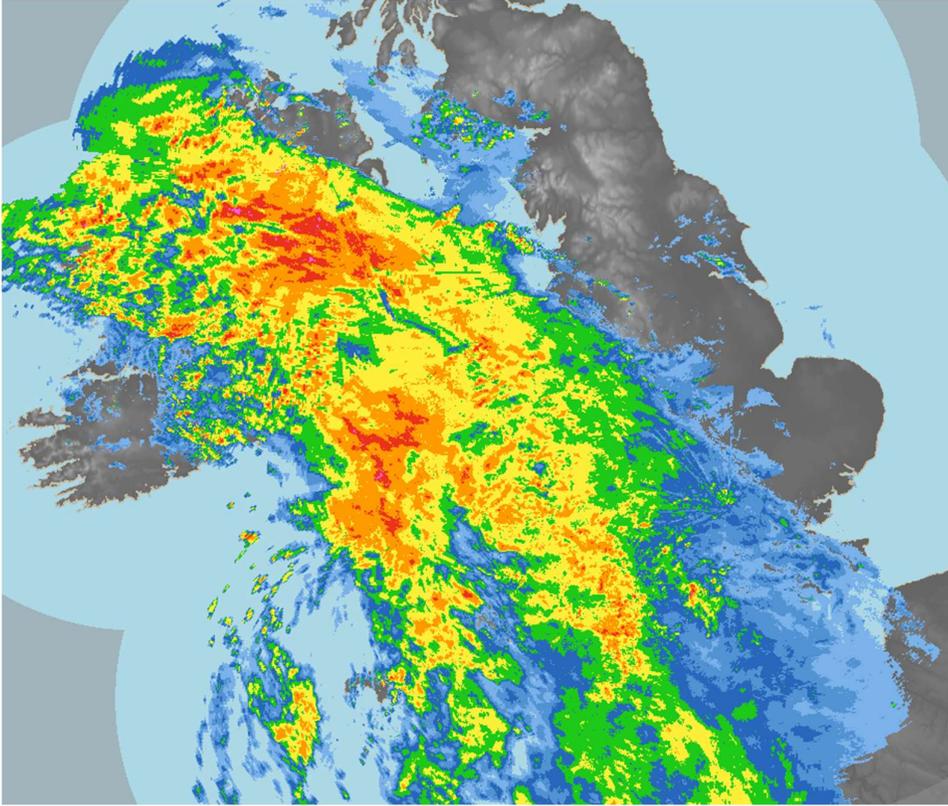
The analysis chart at 1200 UTC 25 August 2020 shows storm Francis sweeping across the UK.



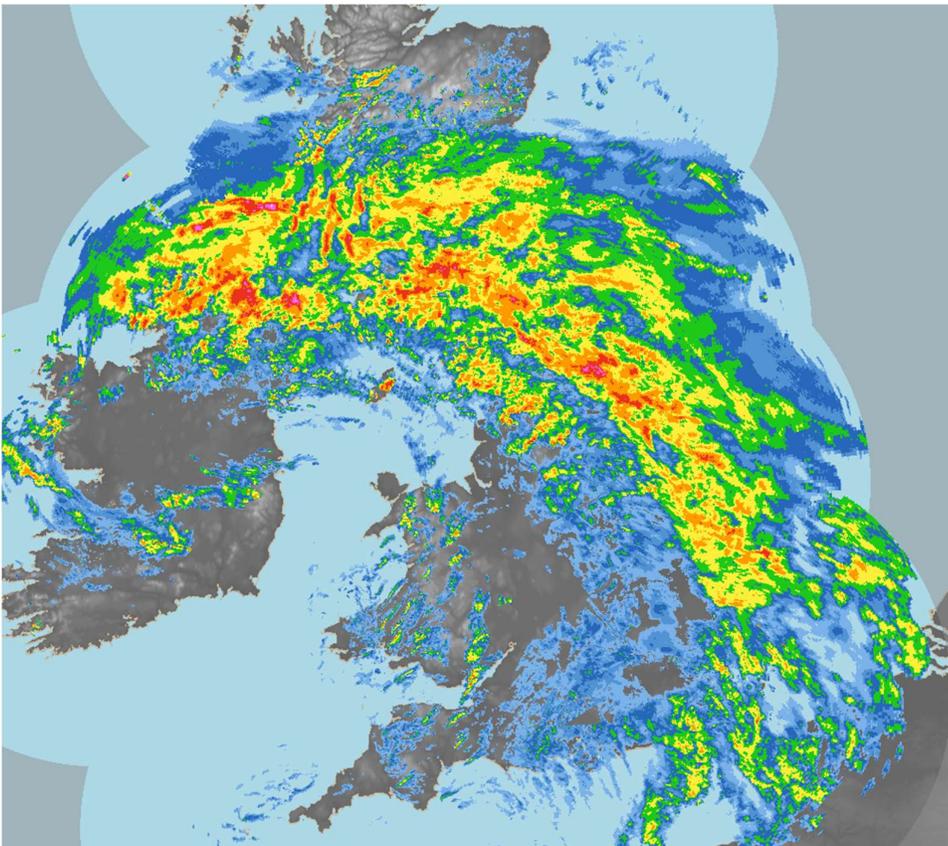
The satellite image at 1259 UTC 25 August 2020 shows the UK swathed in cloud from storm Francis. Image copyright Met Office / NASA / NOAA



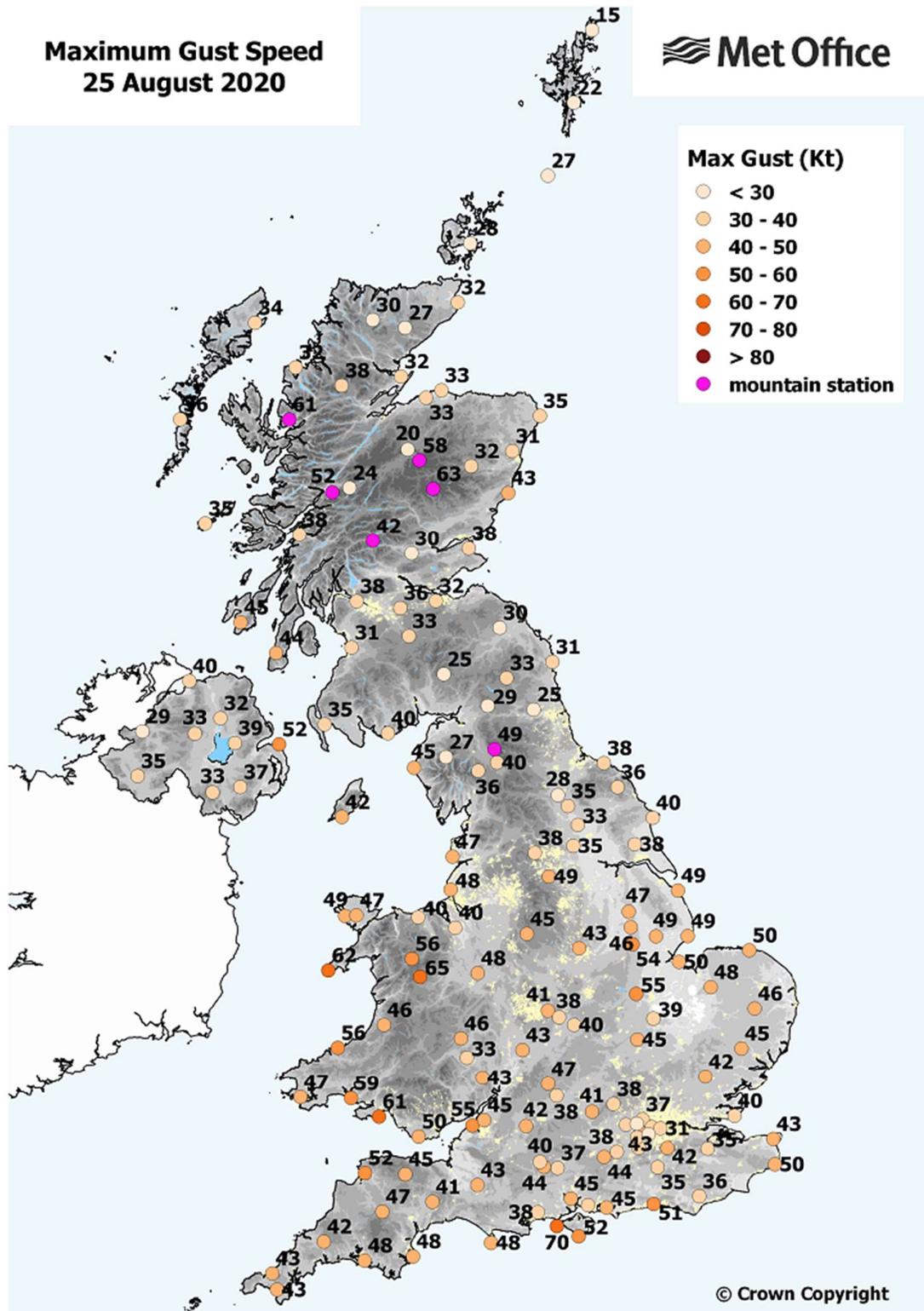
The rain-radar image at 0130 UTC 25 August 2020 shows heavy rain from fronts associated with storm Francis across south-west England, Wales, and much of Northern Ireland.



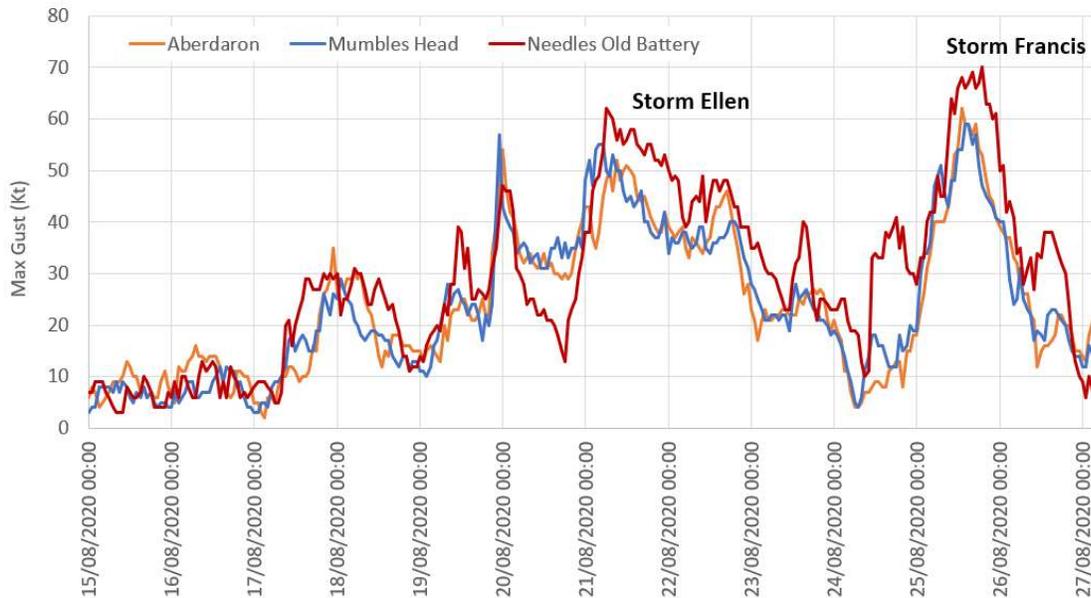
The rain-radar image at 0830 UTC 25 August 2020 – 7 hours later – shows this same rain-band having swept north-east to cover northern England, southern Scotland and Northern Ireland.



The chart below shows maximum gust speeds on 25 August 2020. Wind gusts were broadly similar to storm Ellen with 40 to 50Kt inland and 50 to 60Kt across exposed coastal locations. Needles Old Battery (Isle of Wight) recorded a gust of 70Kt (81mph).

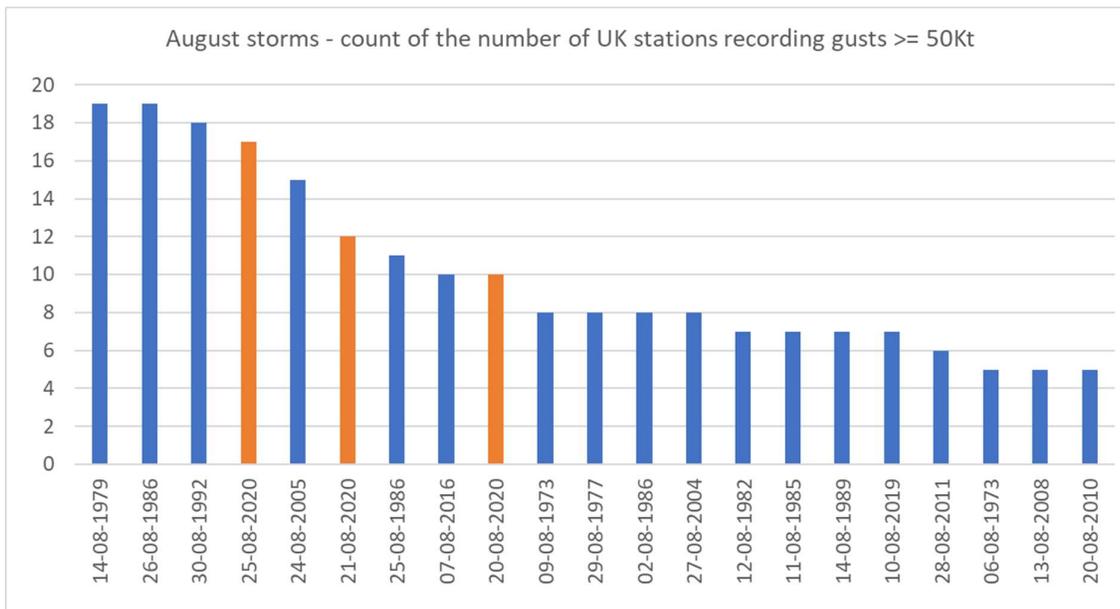


The chart below shows hourly maximum gust speeds at three exposed coastal locations, Aberdaron (Lleyn Peninsula), Mumbles Head (Swansea) and Needles Old Battery (Isle of Wight). In all three locations gusts of 50 to 60Kt or more were recorded during these storms. The spike in wind gusts at around 0000 UTC 20 August 2020 coincided with the red warning across Ireland, ahead of the main passage of storm Ellen across the UK.



How unusual are storms in August?

Late August storms across the UK are unusual, but not exceptional. However, storms Ellen and Francis both brought unusually strong winds for the time of year, with gusts of 40 to 50Kt widely in inland locations and 50 to 60Kt around exposed coastlines. The chart below lists notable August storms of the last 50 years, ranked by the number of stations recording gusts exceeding 50Kt. By this metric, storms Ellen and Francis were ranked in the top 10 most notable storms of the last 50 years.



The most severe of these August storms, the Fastnet Storm occurred on **14 August 1979**. 15 sailors died in the Fastnet yacht race and there were several other fatalities at sea and on land. Wind gusts reached 65Kt (75mph) at Milford Haven and even Northolt, London recorded 52Kt (60mph).

One of the most significant storms of this type in recent decades was from the remnants of Hurricane Charley on **25 to 26 August 1986**. This storm failed to make landfall over the US and instead continued across the Atlantic toward the UK. In addition to strong winds this storm brought widespread heavy rain, and 25 August 1986 recorded 29.8mm of rain as an area-average across the whole UK, which is the highest such value on record. More than 50mm of rain fell very widely across England and Wales, with over 100mm in a few locations. The storm brought damage from flooding and boats were driven onto rocks at Abersoch in west Wales.

There was a significant August storm on **30 August 1992**, occurring a few days after Hurricane Andrew in the US - although Hurricane Andrew made landfall and merged with frontal systems over the Appalachians. Trees were brought down in central London and there were 6 fatalities.

In the historical records, storms of this nature generally gradually become more frequent and severe moving into the autumn period – a recent example being storm Ali on **19 September 2018**.

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