

Winter storms, early January 2012

A major winter storm brought very strong winds across much of the UK on 3 January 2012.

The worst affected area was southern Scotland - particularly the Central Belt - where winds gusted at well over 70 knots (81 mph). In this area, this storm was judged as the most severe for 13 years - since 26 December 1998, with wind speeds exceeding those of the recent storm of [Early winter storms, late 2011](#). Very strong winds were also experienced across much of England, Wales, and Northern Ireland, with winds here also widely gusting at 50 to 60 knots (58 to 69 mph).

This storm was followed by a further extremely windy spell from 4 to 5 January 2012 - with further damaging winds across northern and eastern England. These storms followed a particularly turbulent spell of weather from late November to mid-December.

Impacts

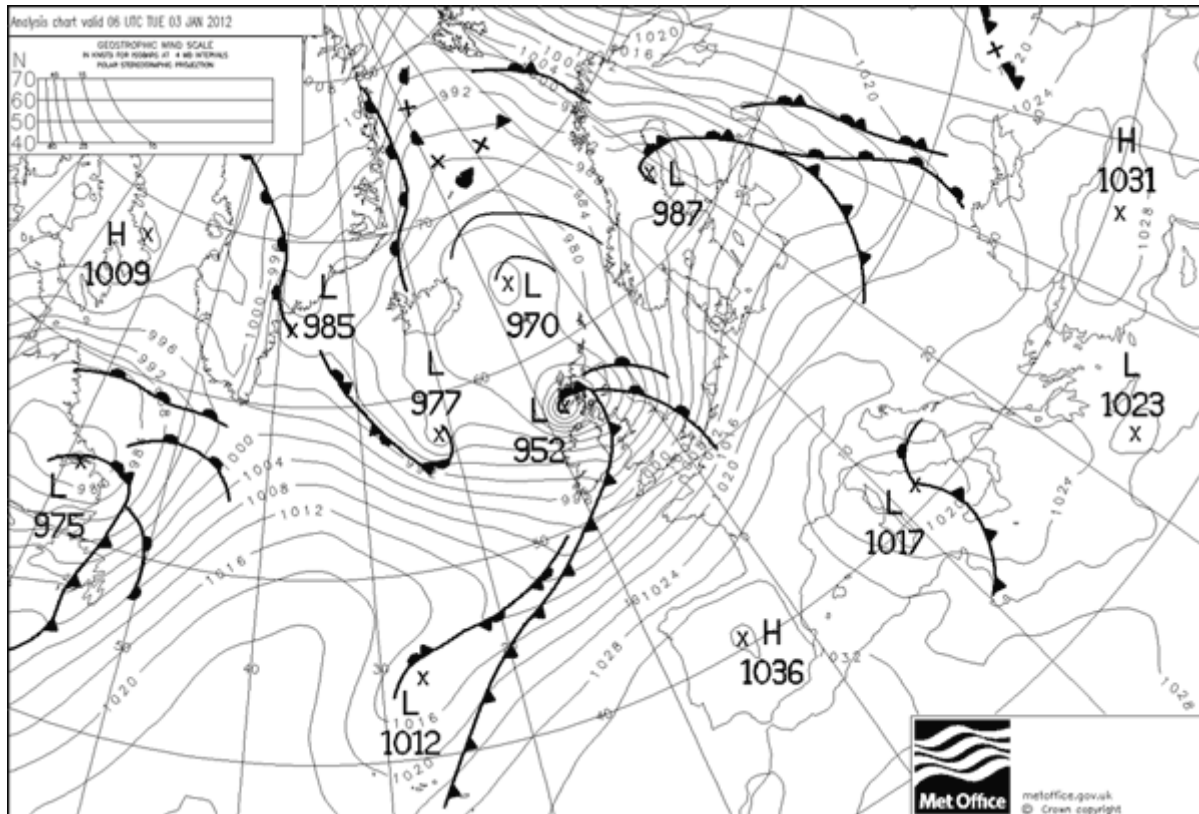
On 3rd, fallen trees blocked roads and rail lines and damaged power lines. Rail services from Edinburgh to Glasgow and Inverness to Aberdeen were suspended. The Forth, Tay and Kingston road bridges were closed, with restrictions elsewhere. Ferry services were delayed and flights from Glasgow and Edinburgh airports were cancelled. More than 100,000 Scottish homes and businesses were left without electricity and some buildings were damaged.

It was a similar picture across Northern Ireland, with travel delays, power cuts and building damage. In England and Wales, impacts included fallen trees, overturned lorries and building damage. A man was killed in Kent by a falling tree, and a bus driver seriously injured. A crewmember was killed as a vessel in the English Channel was struck by a large wave. The QE11 bridge on the M25 was closed for several hours as was the port of Dover.

Further very strong winds overnight 4th / 5th January caused further damage and disruption, particularly in eastern and northern England. The QE11 bridge on the M25 was again closed, with restrictions on the Humber and Severn bridges. Fallen trees and overturned lorries blocked many roads. Some train services were also disrupted due to trees and overhead wire problems.

Weather data

Synoptic situation at 0600 GMT on 3 January 2012, as a deep Atlantic depression tracks NNE across the UK.



On 3 January, the strongest winds were across Scotland's central belt, gusting at well over 70 knots (81 mph) and up to 89 knots (102 mph) at Edinburgh, Blackford Hill - strong enough to cause some structural damage. Several stations in this area recorded their highest gust speeds for 13 years - making this the most significant storm experienced in southern Scotland since the Boxing Day storm of 26 December 1998 (Table 1). Maximum gust speeds in this area were higher than those of either [Early winter storms, late 2011](#) or [January 2005 - stormy spells](#).

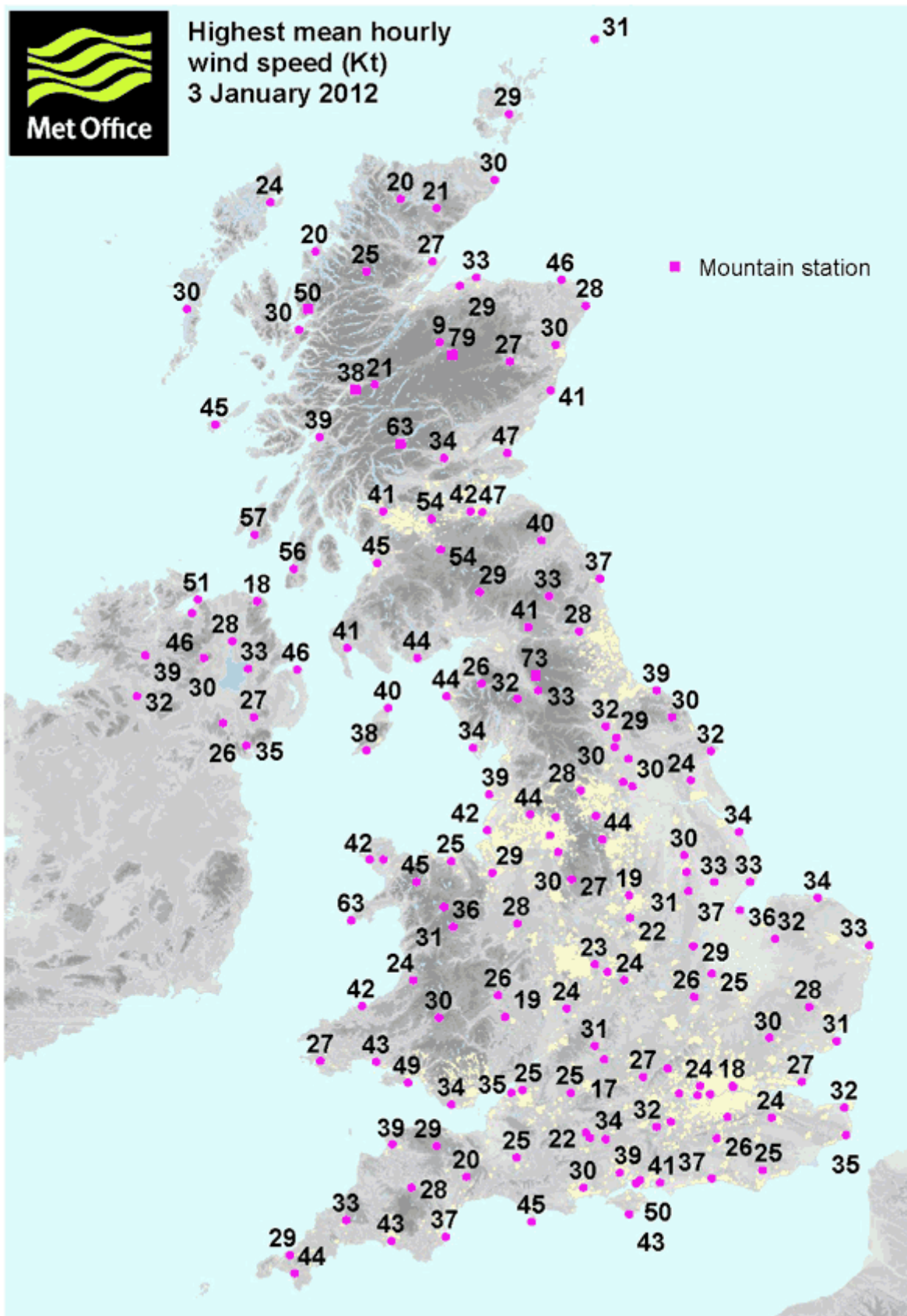
Winds gusted at between 50 to 60 knots (58 to 69 mph) across most of Northern Ireland and Wales, and much of England, apart from the Midlands. Exposed coastal and upland locations saw gusts of over 70 knots (81 mph). Central parts of England experienced gusts more typically of 45 to 50 knots (51 to 58 mph). Across the mountain summits of northern Britain, winds gusted at up to 94 knots (108 mph) on Cairngorm summit (1237 m.a.s.l.) and 92 knots (106 mph) at Great Dun Fell, Cumbria (847 m.a.s.l.) - see Figure 1.

The highest mean hourly wind speeds on 3 January exceeded 40 knots (46 mph) across much of southern Scotland, and around the coasts of Northern Ireland, Wales, and southern England (Figure 2).

Table 1: Highest gust speeds 3 January 2012 (excluding mountain stations)

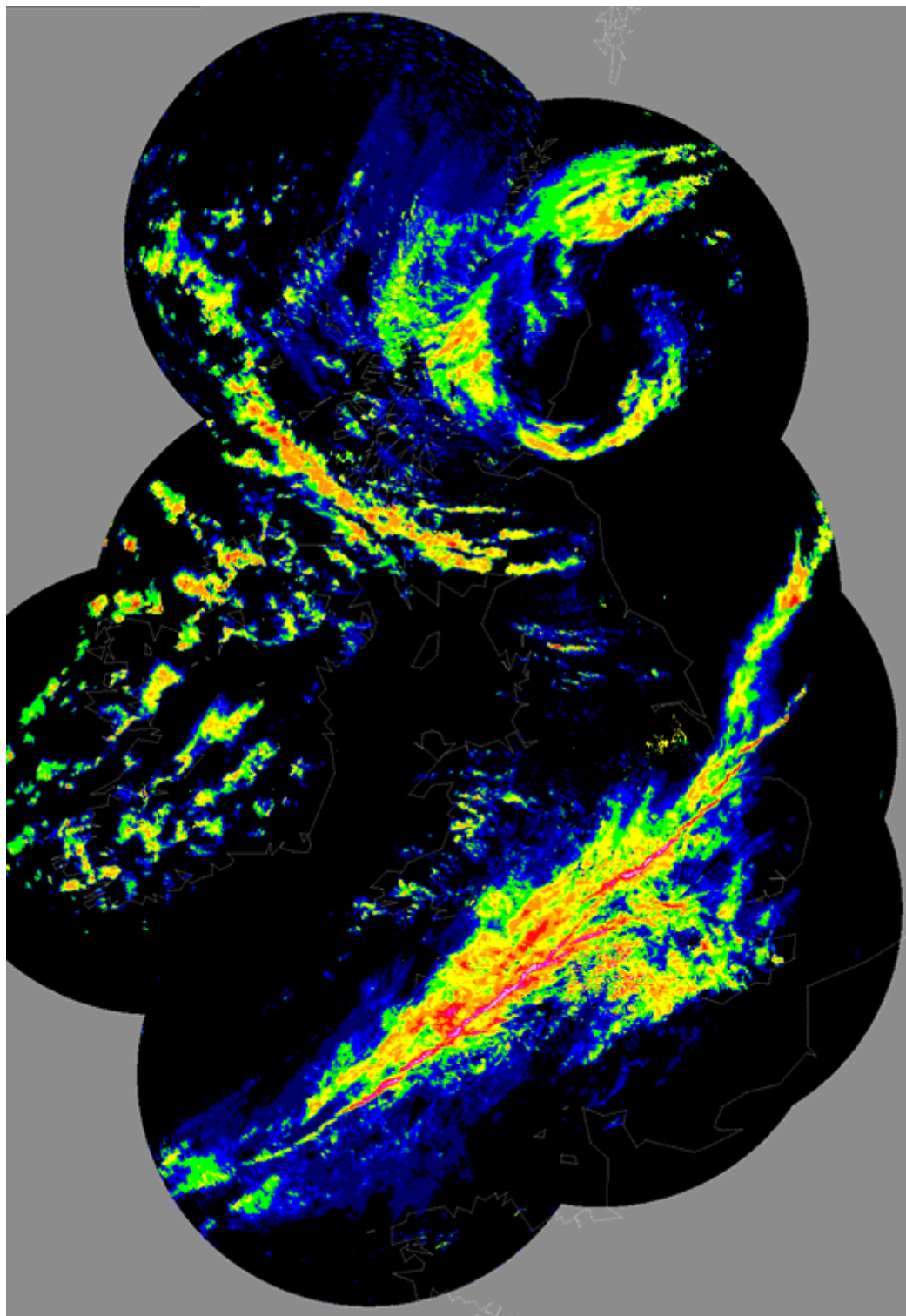
Station	Elevation (m.a.s.l.)	Max gust speed (knots)	Highest gust since
Edinburgh, Blackford Hill	134	89	26 December 1998 93 knots
Salsburgh, Lanarkshire	277	84	26 December 1998 95 knots
Islay, Port Ellen	17	84	Highest gust on record - previously 26 December 1998 83 knots
Aberdaron, Gwynedd	95	81	8 January 2005 89 knots
Drumalbin, Lanarkshire	245	80	26 December 1998 82 knots
Machrihanish, Argyll	10	80	26 December 1998 82 knots
Glasgow, Bishopton	59	79	Highest gust on record - previously 28 January 2002 67 knots. Records from 1999 only
Capel Curig, Gwynedd	216	75	7 February 2011 75 knots
Dunstaffnage, Argyll	3	75	8 December 2011 76 knots
Edinburgh, Gogarbank	57	74	Highest gust on record - previously 28 January 2002 71 knots. Records from 1999 only
Isle of Portland, Dorset	52	74	25 December 1999 80 knots

Figure 2: Highest mean hourly wind speed (knots) 3 January 2012



The strong winds were accompanied by rain and hill snow in Scotland and a narrow band of very intense rainfall moving across southern England, associated with a cold front, as shown in the radar rainfall map Figure 3.

Figure 3. Radar image at 1030GMT on 3 January 2012, showing a line of intense rainfall associated with a cold front moving across southern England.



Synoptic situation at 0000 GMT on 5 January 2012, with the next system bringing strong winds to much of northern and eastern England.

A second spell of very windy weather from 4 to 5 January again resulted in widespread disruption. The strongest winds were across northern and eastern England, gusting at 50 to 60 knots (58 to 69 mph), with the highest winds across the top of the Pennines (Table 2). High Bradfield (South Yorkshire) recorded a gust of 81 knots (93 mph), and winds gusted at up to 97 knots (112 mph) on Great Dun Fell, Cumbria, at 847 m.a.s.l. (Figure 4). Mean hourly wind speeds reached 40 knots (46 mph) in exposed coastal locations and at higher elevations across northern England and Wales (Figure 5).

Table 2: Highest gust speeds 4 to 5 January 2012 (excluding stations above 500 m.a.s.l.)

Station	Elevation (m.a.s.l.)	Max gust speed (knots)	Highest gust since:
High Bradfield, South Yorkshire	395	81	18 January 2007 86 knots
Capel Curig, Gwynedd	216	76	11 November 2010 79 knots
Islay, Port Ellen	17	71	3 January 2012 84 knots - see Table 1
Winter Hill, Lancashire	440	71	3 January 2012 73 knots - see Table 1
Shap, Cumbria	252	71	28 January 2002 72 knots
Keswick, Cumbria	81	68	Highest gust on record - previously 8 January 2005 67 knots.
Emley Moor, West Yorkshire	267	67	Highest gust on record - previously 8 January 2005 65 knots.

