

Early winter storms, late 2011

On 8 December 2011, a deep Atlantic low pressure system brought very strong winds across the northern half of the UK.

Scotland bore the brunt of the storm, with winds gusting 60 to 70 knots (69 to 81 mph) and reaching well over 70 knots (81 mph) in exposed coastal locations. Mountain summits experienced gusts of well over 100 knots (115 mph). This event is judged as the most significant storm across Scotland since [January 2005 - stormy spells](#). Winds also gusted 50 to 60 knots (58 to 69 mph) across much of north and west Wales, northern England and Northern Ireland.

The storm came in the middle of a spell of turbulent weather across the UK from late November to mid-December, with a powerful Atlantic jet stream bringing a succession of deep depressions. The first storm of the sequence on 24/25 November brought severe gales to the Western Isles. Northern parts of the UK experienced winds gusting over 60 knots from the next system overnight 26/27 November as it passed to the north of Scotland. Brisk westerlies followed over the intervening days until the storm of 8 December struck. Another exceptionally deep depression on 12/13 December brought heavy rain and strong winds to Wales and southern England, as the depression's centre passed over northern Scotland.

Impacts

On 8 December, by far the most significant impacts were felt across Scotland. The very strong winds resulted in widespread travel disruption, power cuts and school closures. The Forth, Tay, Skye and Erskine road bridges were closed. Network Rail imposed a speed restriction because of the risk of trees and other debris on rail lines. Ferry services were delayed and some flights were cancelled. Thousands of people were left without electricity; an estimated 150,000 homes lost power during the 8th, mainly as a result of trees and other debris blown on to overhead power lines. Engineers were still trying to re-connect about half of these on the 9th.

Many trees were brought down, and west-facing coasts were battered by very heavy seas. On the island of Hoy in Orkney, part of a causeway road was washed away, and there were various reports of building damage. Schools across Scotland shut for the day or closed early. The overall cost of disruption to Scotland's economy has been estimated at around £100 million.

In northern England, localised flooding was reported from the Lake District and the Yorkshire Dales and driving conditions were difficult in the strong winds.

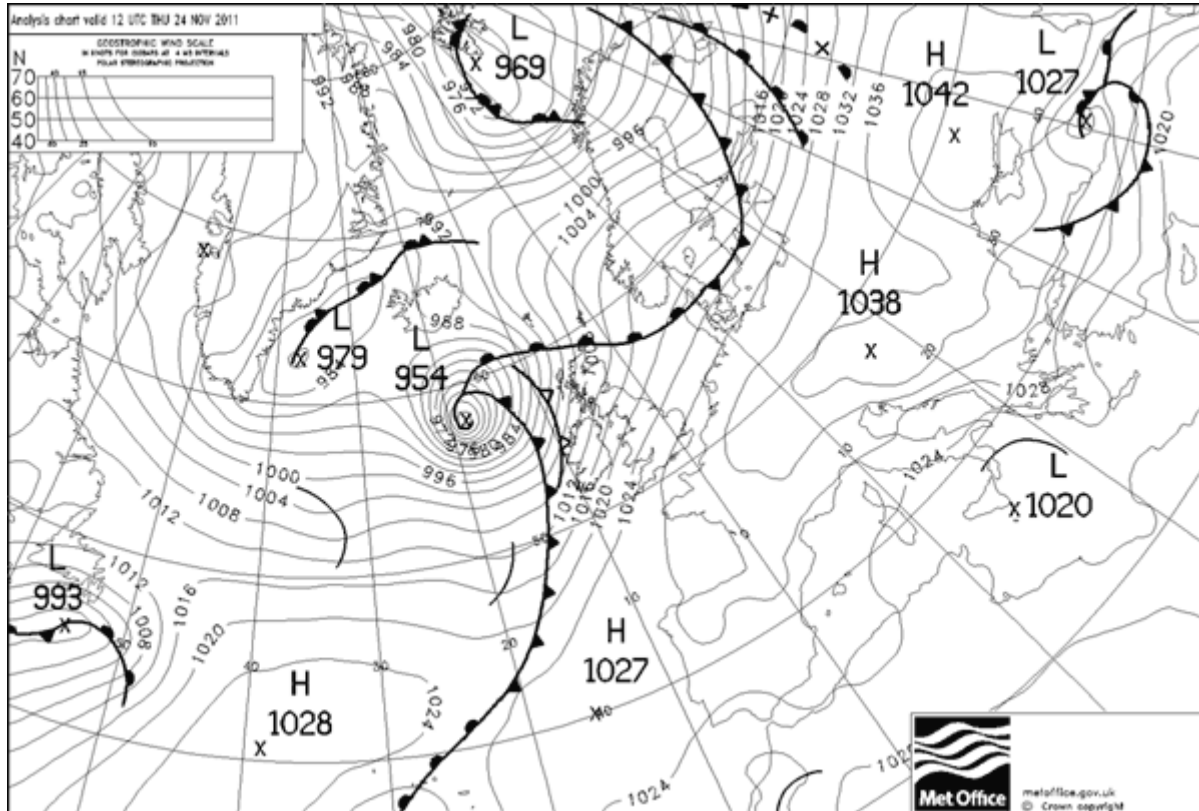
The other storms were overall less significant but still brought notable impacts. During the storm of 26/27 November, a cargo ship sunk after being struck by a wave in the Irish Sea, with the loss of 5 crew members. This storm also brought some travel disruption and smaller-scale power cuts. Whilst far less severe than that of the previous week, the storm of 12/13 December also resulted in some localised impacts, mainly in southern England. Ferry services were disrupted and there were reports of fallen trees and some structural damage.



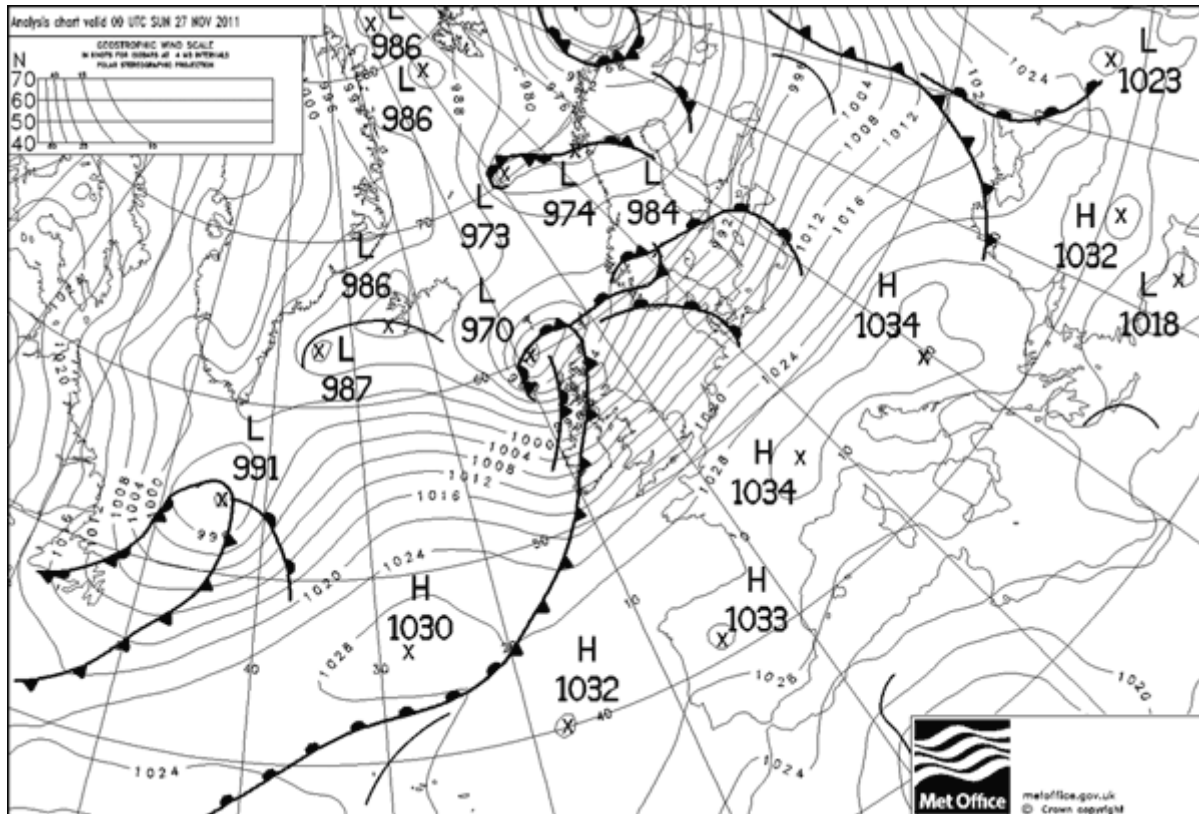
The photograph shows the failure of a wind turbine in North Ayrshire during the storm.

Weather data

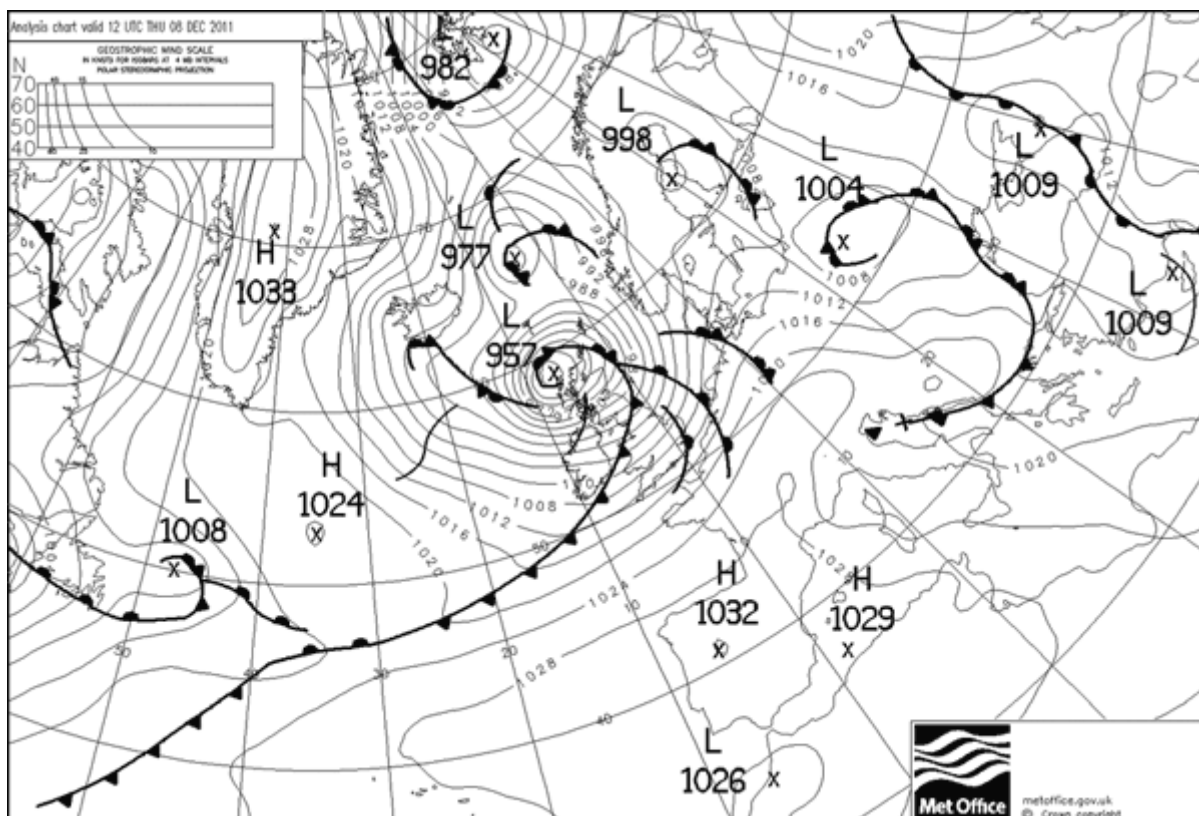
Synoptic situation at 1200 GMT on 24 November 2011. This first deep depression of the sequence, tracking NNE to the west, fortunately missed most of the UK.



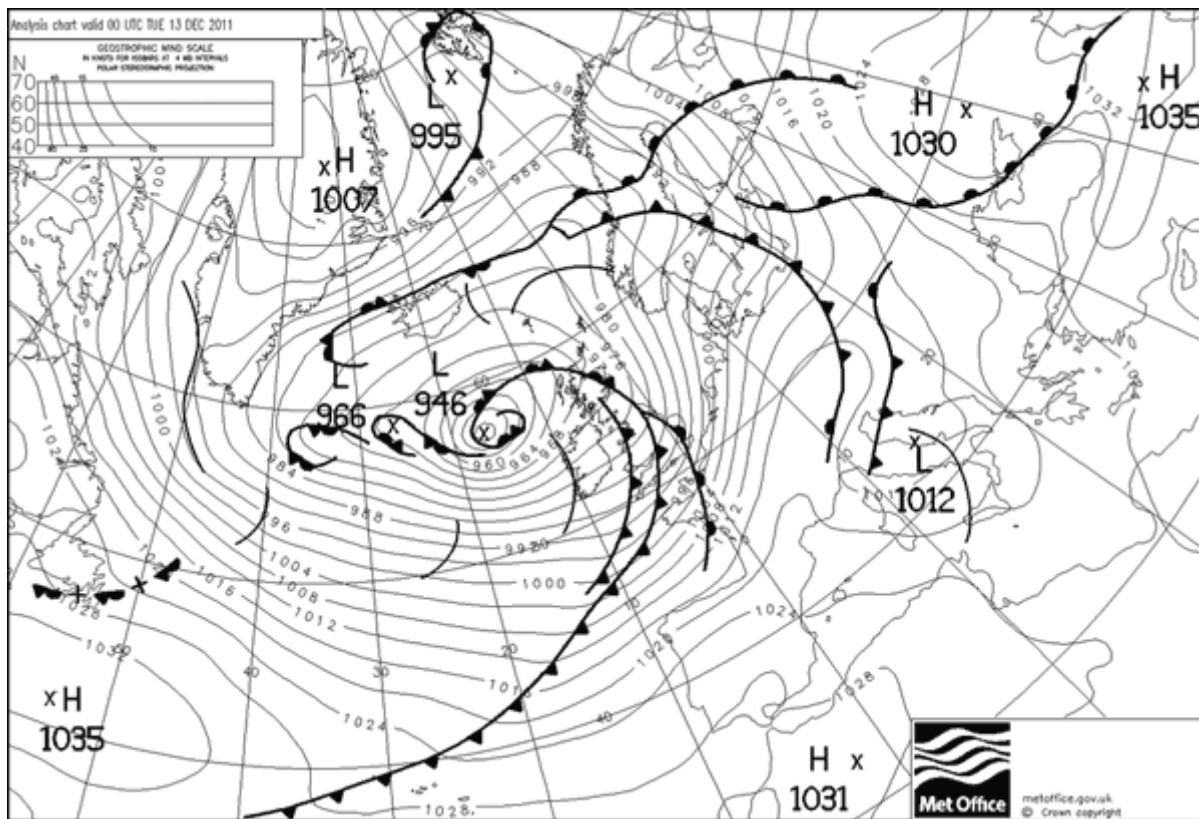
Synoptic situation at 0000 GMT on 27 November 2011. This deep depression brought strong winds to northern areas of the UK.



Synoptic situation at 1200 GMT on 8 December 2011. Scotland bore the brunt of this violent storm which brought the strongest winds and by far the most significant impacts of the spell.



Synoptic situation at 0000 GMT on 13 December 2011. The last storm of the sequence brought heavy rain and strong winds to the coast of Wales and the south coast of England. The centre of this depression was unusually low as it tracked across northern Scotland: South Uist (Western Isles) recorded a pressure of 945.7 hPa at 1400 GMT on 13 December, the lowest recorded pressure anywhere in the UK since 29 January 2000.



During 8 December, winds gusted from 50 to 60 knots (58 to 69 mph) across north Wales, northern England and Northern Ireland, and 60 to 70 knots (69 to 81 mph) across much of Scotland. Exposed coastal locations saw gusts of well over 70 knots (81 mph) (Figure 1). The highest gust from a low-level site was 91 knots (105 mph) at Tulloch Bridge, Highland, the highest gust on record at this station. Several other stations recorded their highest gusts for 5 or 10 years. This is judged to be the most significant such storm across Scotland since that of [January 2005 - stormy spells](#), when the peak gust speeds around the coast and in the Central Belt were typically 55 to 75 knots. Winds were stronger across the Western and Northern Isles.

Highest mean hourly wind speeds on 8 December were 40 to 50 knots (46 to 58 mph) across much of Scotland, and over 70 knots (81 mph) across the mountain summits (Figure 2).

| Highest gust speeds (over 70 knots) 8 December 2011 | | | |
|---|---------------------|---------------------------|--|
| Station | Elevation (masl) | Max gust speed (knots) | Highest gust since |
| Tulloch Bridge, Highland | 249 | 91 | Highest gust on record - previously 28 January 2002 67 knots |
| Fair Isle | 57 | 80 | 8 November 2007 81 knots |
| Tiree | 9 | 79 | 6 November 1996 83 knots |
| Inverbervie, Kincardineshire | 134 | 78 | Highest gust on record - previously 9 January 2008 76 knots |
| Kirkwall, Orkney | 26 | 76 | 29 January 2000 97 knots |
| Dunstaffnage, Argyll | 3 | 76 | 21 January 1993 77 knots |
| Stornoway Airport, Western Isles | 15 | 74 | 11 January 2005 88 knots |
| Point of Ayre, Isle of Man | 9 | 74 | 8 January 2005 85 knots |
| South Uist Range, Western Isles | 4 | 74 | 3 February 2011 75 knots |
| Wick Airport, Caithness | 36 | 73 | 12 January 2005 76 knots |
| Salsburgh, Lanarkshire | 277 | 73 | 31 December 2006 75 knots |
| Leuchars, Fife | 10 | 72 | 26 December 1998 73 knots |
| Rosehearty, Aberdeenshire | 4 | 71 | 29 January 2000 77 knots |
| Machrihanish, Argyll | 10 | 70 | 31 December 2006 74 knots |
| Prestwick, Ayrshire | 27 | 70 | 26 December 1998 80 knots |
| Aberdaron, Gwynedd | 95 | 70 | 8 January 2005 89 knots |
| Orlock Head, County Down | 35 | 70 | 7 March 2009 74 knots |

Across Scotland's mountains, winds gusted well over 100 knots (115 mph) - including a gust of 143 knots (164 mph) on Cairngorm - the highest recorded gust in the UK since 6 November 1996 when Cairngorm recorded 146 knots (168 mph) - and not far short of the UK record of 150 knots (173 mph) set here on 20 March 1986.

| Highest gust speeds 8 December 2011 at mountain stations | | | |
|--|---------------------|---------------------------|---|
| Station | Elevation (masl) | Max gust speed (knots) | Highest gust since |
| Cairngorm Summit, Inverness-shire | 1237 | 143 | 6 November 1996 146 knots* |
| Aonach Mor, Highland | 1130 | 126 | 21 January 1993 132 knots |
| Cairnwell, Aberdeenshire | 928 | 118 | 21 December 2008 124 knots |
| Glen Ogle, Perthshire | 564 | 108 | Highest gust on record - previously 28 January 2002 107 knots |
| Bealach na Ba, Highland | 773 | 103 | 17 January 2009 116 knots |
| Great Dun Fell, Cumbria | 847 | 93 | 31 December 2006 99 knots |

*Also the highest recorded gust anywhere in the UK since 6 November 1996

Figure 1: Highest gust speeds (knots) 8 December 2011

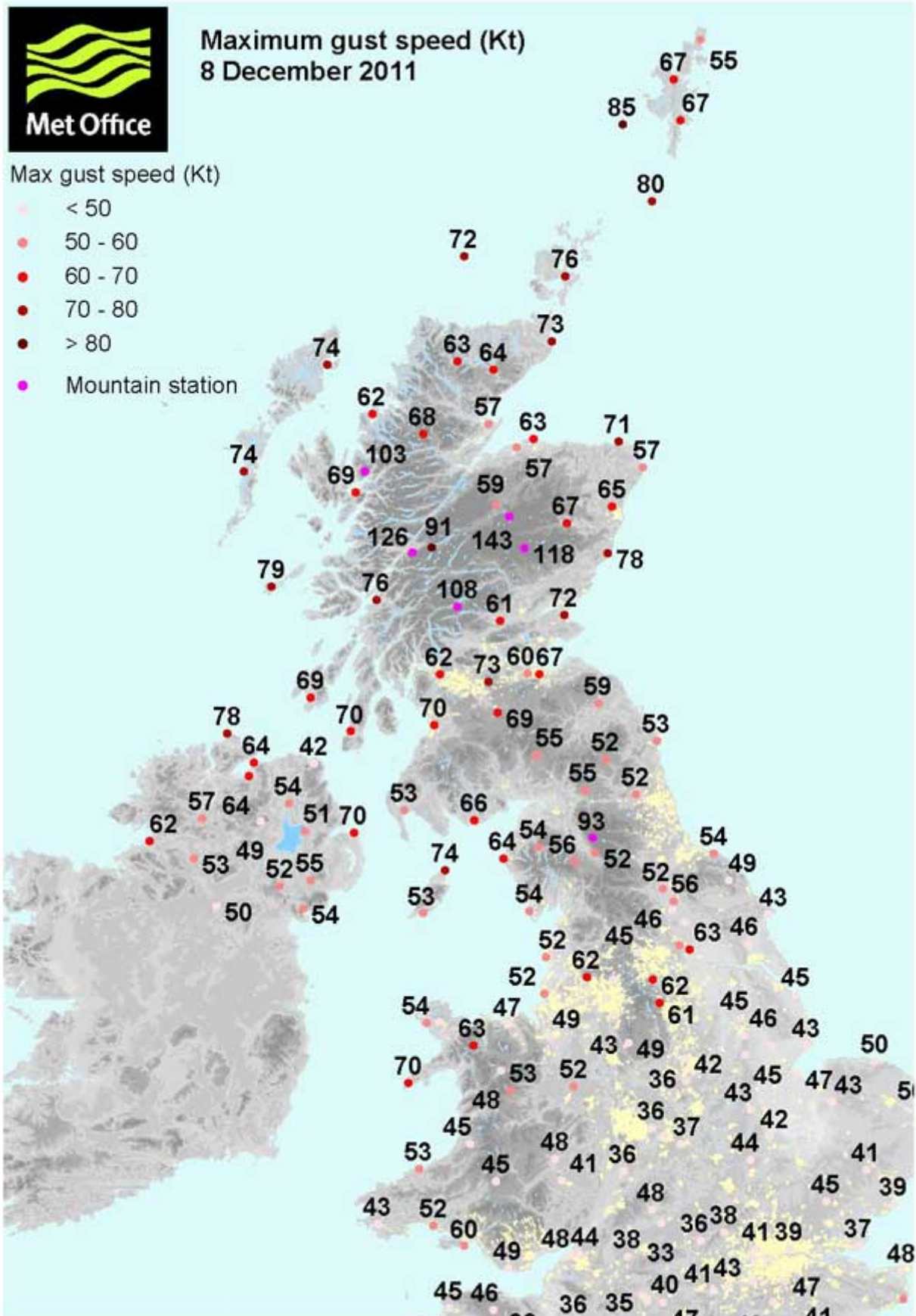
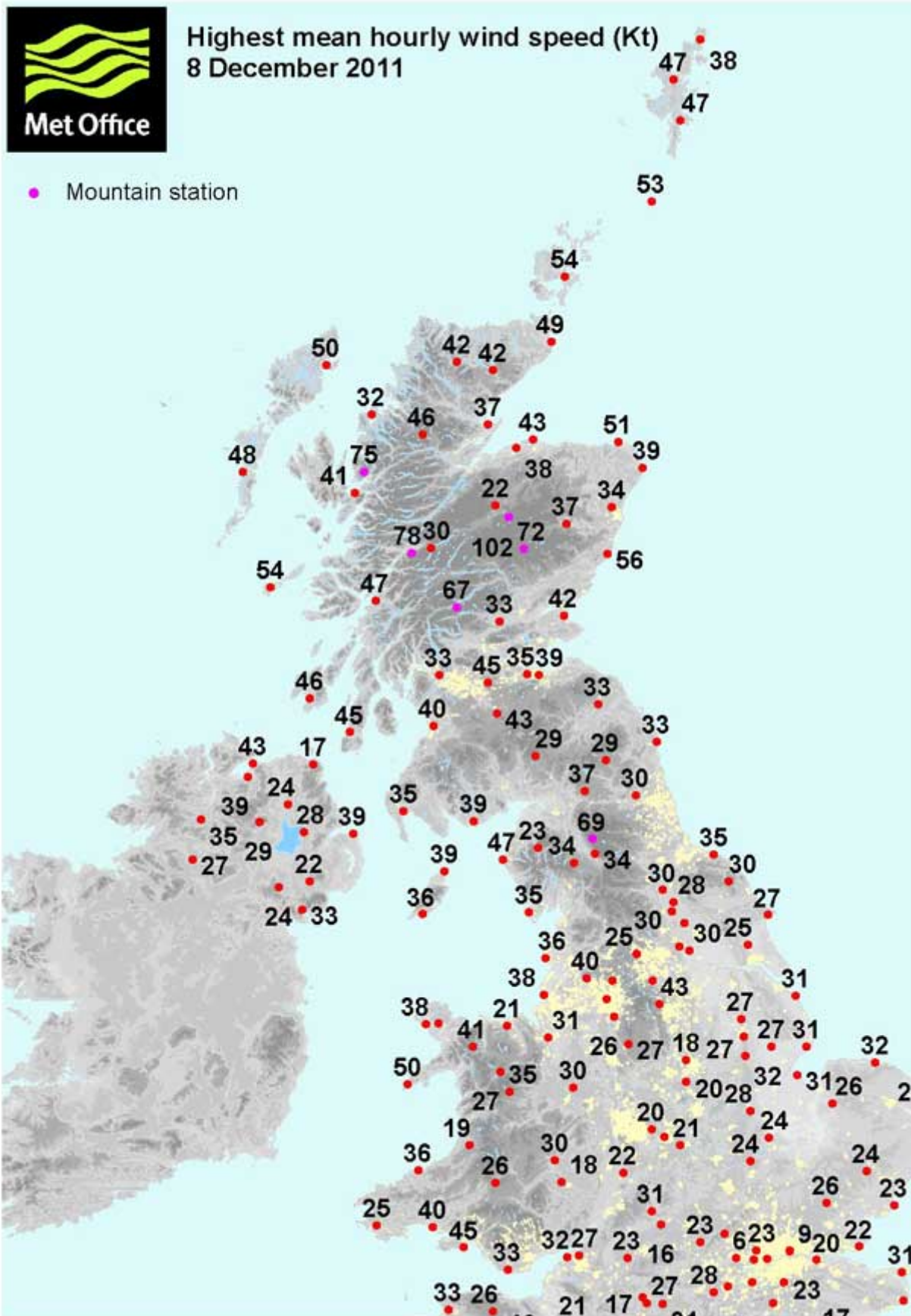


Figure 2: Highest mean hourly wind speed (knots) 8 December 2011



Last updated: 30 October 2012

