

## Autumn storm, October 2013

A powerful autumn storm brought damaging winds across much of southern England on 28 October 2013.

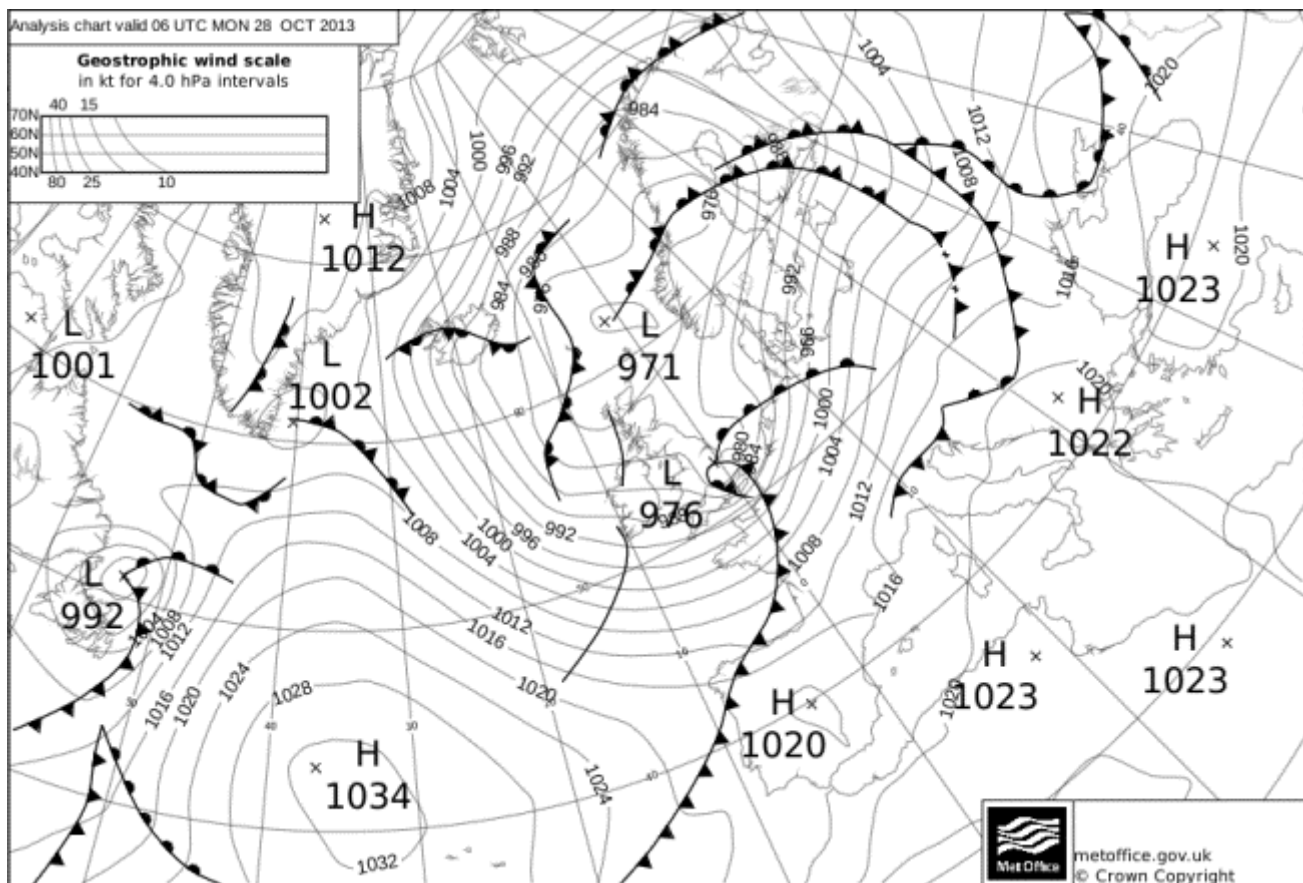
The storm was due to a fast-moving, vigorous Atlantic depression, bringing both very strong winds and heavy rain. Winds gusted widely at 50-60 knots (58-69 mph) and reached 60-70 knots (69-81 mph) across south-east England. The highest recorded gust speed was 86 knots (99 mph) at Needles Old Battery (Isle of Wight). Most of the damage was associated with falling trees - still in full leaf at this time of year - and this storm is judged to be within the top ten most severe storms to affect southern England in the autumn in the last 40 years. However, it was not in the same category as the Great Storm of 16 October 1987.

### Impacts

Most of the storm's impacts were due to damaging gusts of wind. Four people were killed in Kent, Watford and west London and there was severe disruption to transport networks with train services for commuters suspended, reduced flights, disruption on roads, and ferry services cancelled. Over 600,000 homes were left without power as branches brought down power lines. Amongst other impacts, the Helter-Skelter on Clacton Pier (Essex) was blown down.

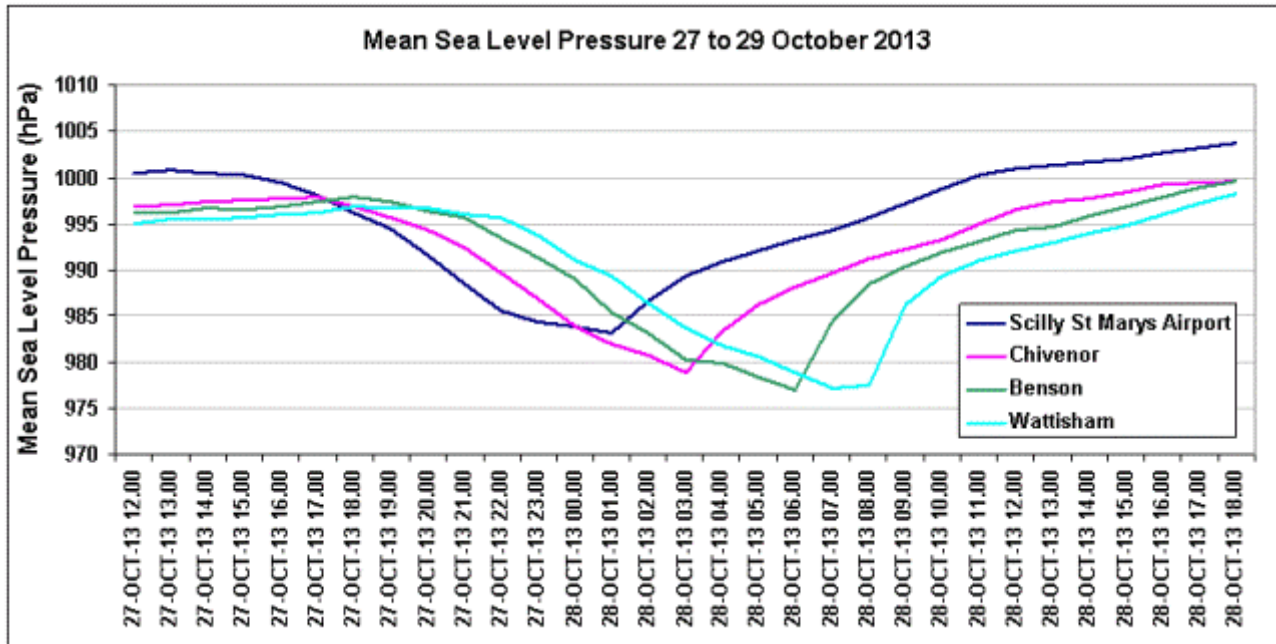
### Weather data

Synoptic situation at 0600 UTC 28 October 2013



The graph below shows mean sea level pressure

recorded at four stations - St Marys Airport (Isles of Scilly), Chivenor (Devon), Benson (Oxfordshire) and Wattisham (Suffolk). The storm continued to deepen and intensify as it crossed southern England.



The strong winds were

accompanied by heavy rain, bringing 30-50 mm across parts of Hampshire, Surrey and Sussex. The following rain radar sequence from 0900 UTC 27 to 2100 UTC 28 October 2013 shows the rapid movement of the storm across southern England.

The highest gust speeds were across southern England, with 50-60 knots (58-69 mph) recorded widely, and 60-70 knots (69-81 mph) in parts of south-east England. The map below show highest gust speeds (knots) recorded on 28 October 2013.

## Comparison with other storms

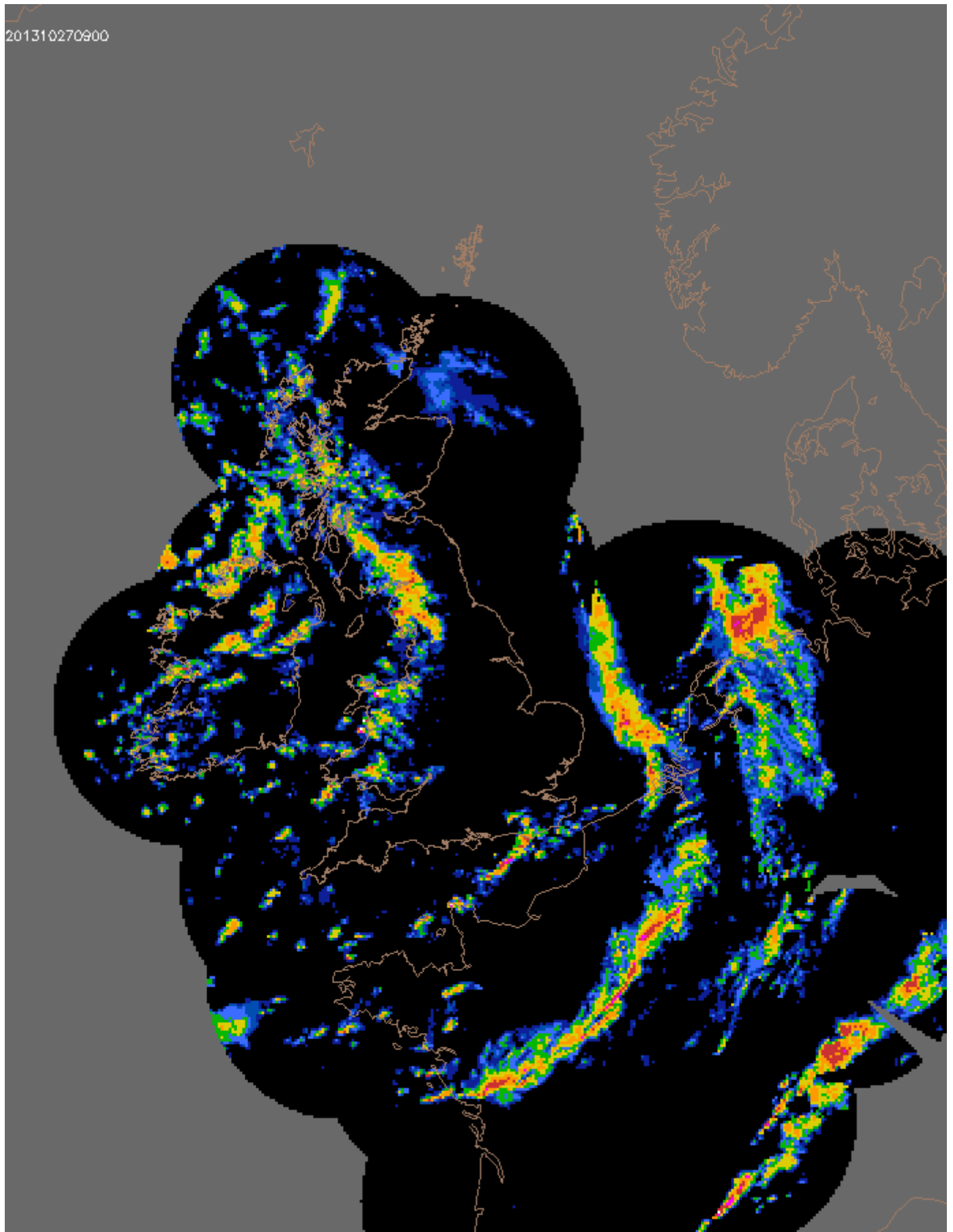
There have been approximately 30 to 50 comparable or more severe storms in the historic record across southern England in the last 40 years. Recent examples include [Winter storms, early January 2012](#) (although this mainly affected Scotland), and [Strong winds 10-12 March 2008](#). However, most of these storms tend to occur in the winter months (particularly December and January). The figure below demonstrates the seasonality of storms across southern England.

Count of observed maximum gust speeds exceeding 60 knots (69 mph) across southern England in the last 40 years, by month

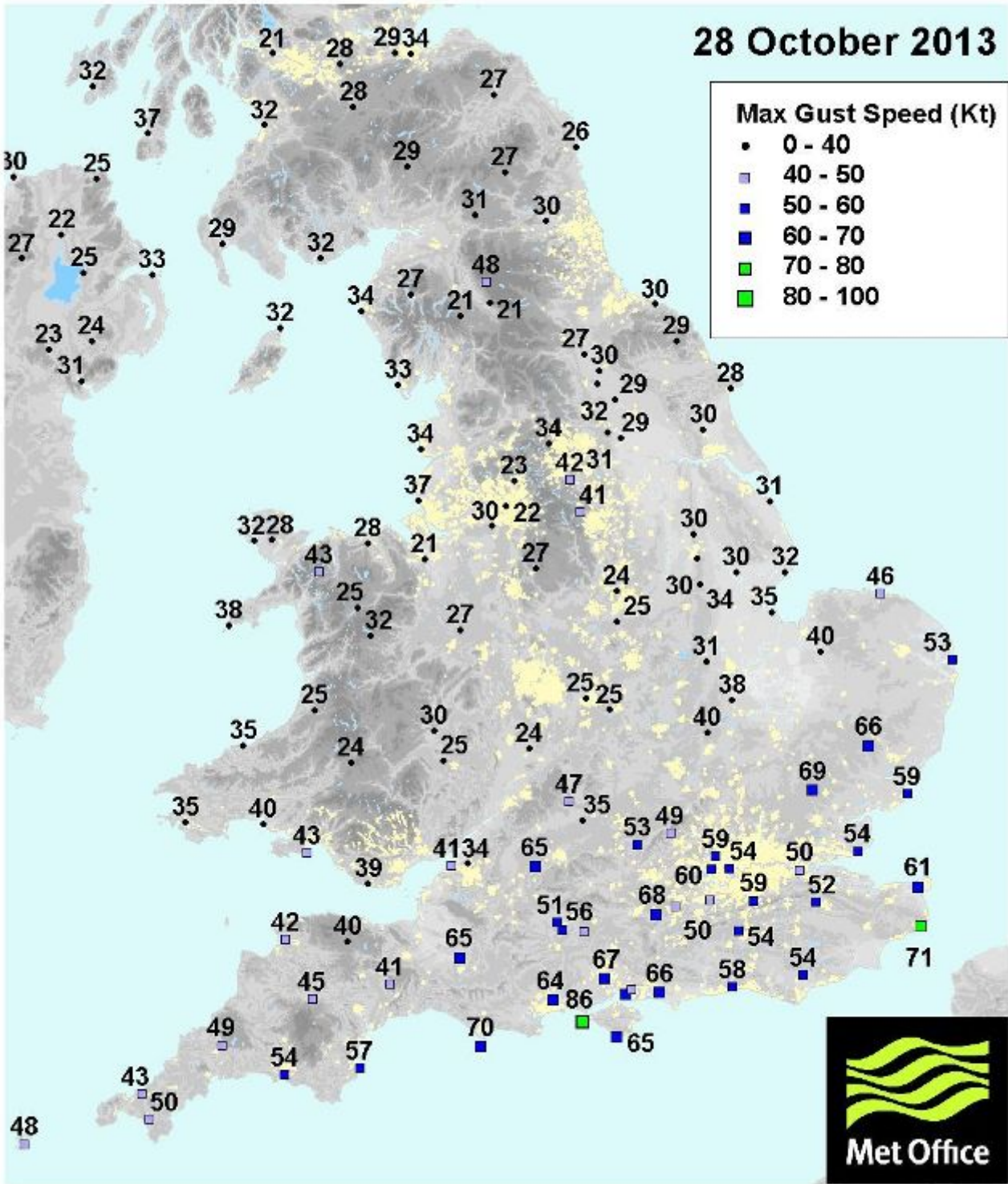
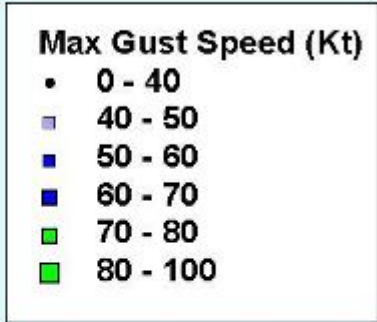
When considering storms in the **autumn only** (i.e. with trees still in leaf) there are fewer comparable events in the historical record. By far the most severe storm across southern England in recent decades is the Great Storm of 16 October 1987 when winds gusted at 80-90 knots (92-106 mph) or more across south-east England - around 20 knots higher than 28 October 2013. However, the strongest winds were mainly confined to the south-east. Another notable storm on [Strong Winds - 27 October 2002](#) affected a much larger area of England and Wales.

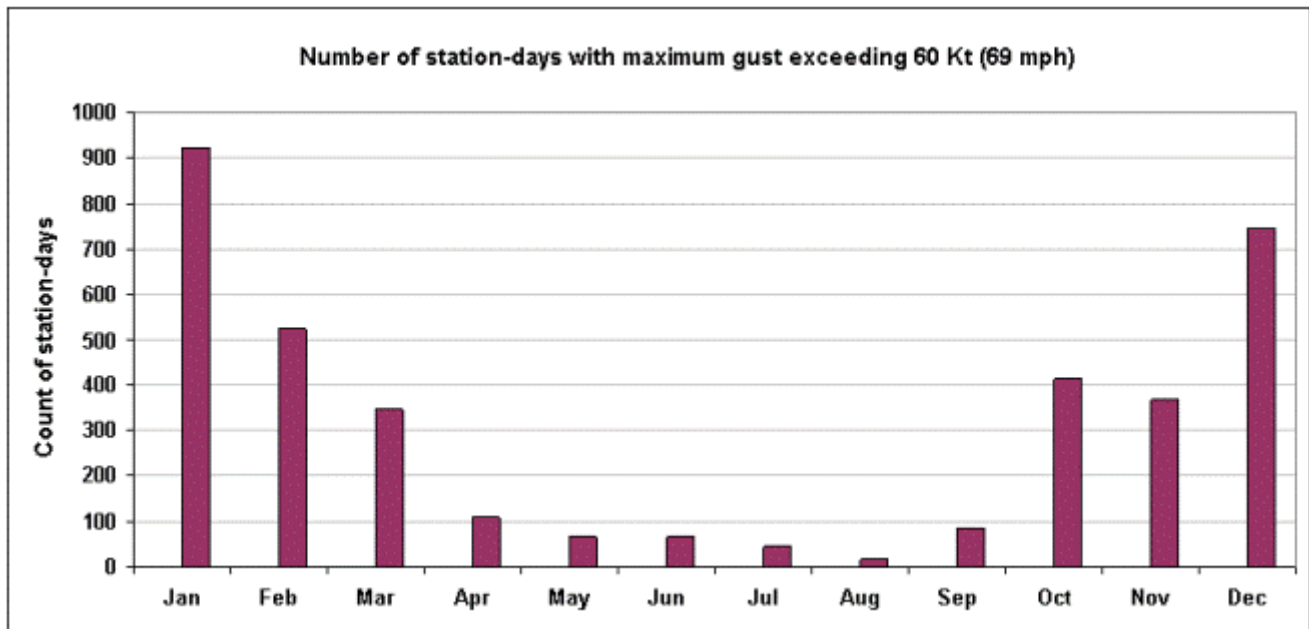
The maps below show highest gust speeds (knots) recorded on 16 October 1987 and 27 October 2002.

The table below lists notable wind events in the autumn months (September to November), counting the number of weather stations which recorded a maximum gust exceeding 60 knots (69 mph) on each date across southern England. The most notable examples are 16 October 1987 and 27 October 2002, but there are several other comparable autumn storms in the historical record, for example 28 October 1996, 30 October 2000, 11 November 1977 and 28 October 1989.



28 October 2013





Severe autumn storms across southern England

Date	Number of stations exceeding 60 knots
27/10/2002	36
16/10/1987	28
28/10/1996	24
30/10/2000	21
11/11/1977	18
28/10/1989	18
28/10/2013	16
07/09/1974	14
24/10/1998	14
14/11/1977	13
25/11/2000	12

In summary, this storm is judged to be ranked within around the top 10 most severe storms in the autumn, across southern England, in the last 40 years. However, it is much less significant if winter storms are included, or if compared against other, windier parts of the UK (e.g. Scotland) where there have been many such storms in historical records.

For a comprehensive review of the Great Storm of 16 October 1987, see *Weather* **67**: 253-280. Special Issue: The 25th Anniversary of the Great Storm of October 1987

Last updated: 17 December 2013



27 October 2002

