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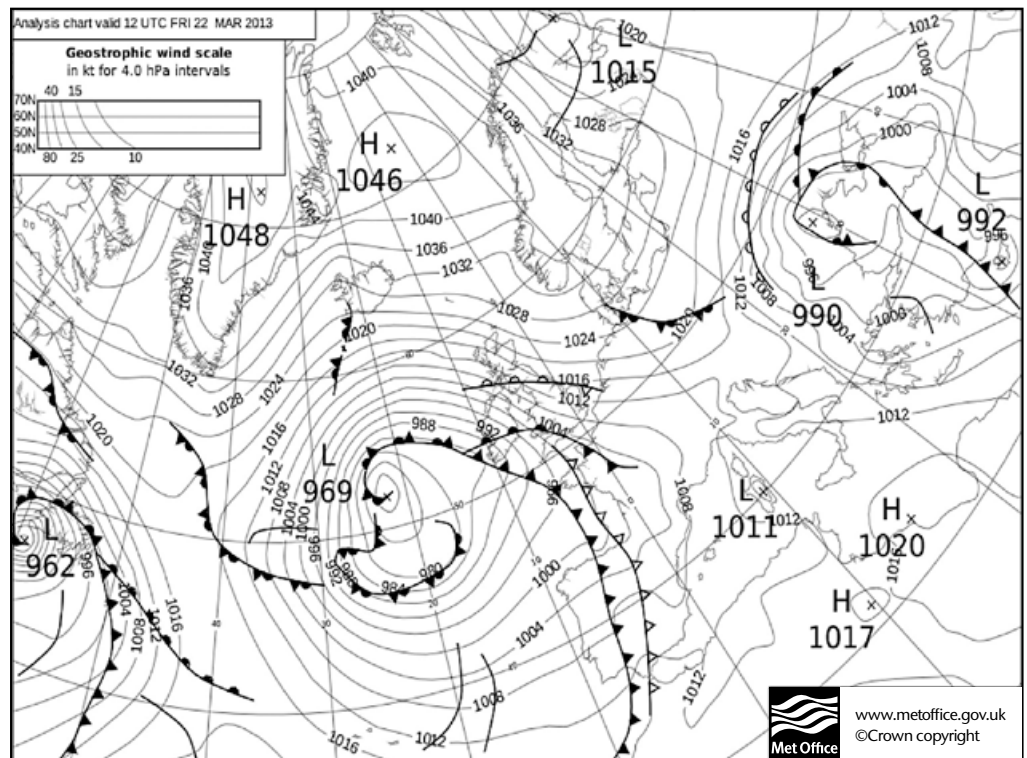
# Case study

## Widespread UK snow 22-24 March 2013

Just one week before the start of British Summer Time, active weather fronts moving in from the Atlantic brought heavy rain and flooding to south-western parts of the UK. As these fronts moved further north they encountered cold easterly winds and the rain turned to snow. Snow fell from the Midlands northwards causing significant disruption. The two weeks following this spell of snow were bitterly cold with north-easterly winds affecting the UK. Given the cold weather which followed there was little chance for the snow to thaw and the impacts were numerous.

### Meteorological situation

Image 1 below is the weather chart for 12pm on 22 March 2013. A low pressure system is centred in the Mid-Atlantic. High pressure extends from Greenland to Scandinavia. In winter Atlantic weather systems often bring mild, wet and windy weather to the UK. Sometimes milder air comes up against cold air which is reluctant to move. Air moves in an anticlockwise direction around high pressure. The chart below shows that the most parts of the UK were under the influence of cold air which originated from Eastern Europe. Milder Atlantic air rises above the cold continental air and snow falls instead of rain.

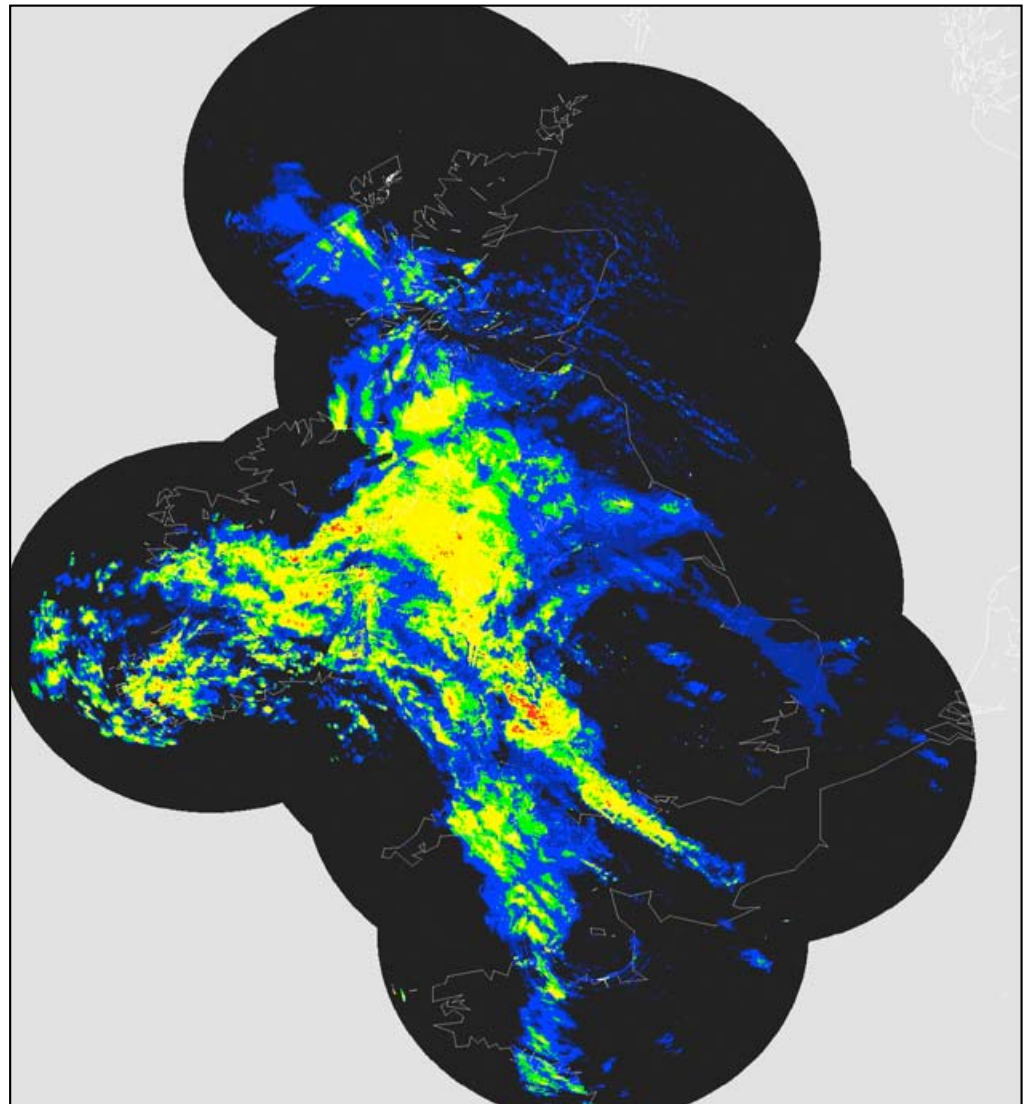




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Image 2 below shows the weather radar for the same time. Rain was falling across the southwest of the UK but from the Midlands northwards snow was falling. Can you see how the positions of the weather fronts tie-in with the bands of rain and snow?





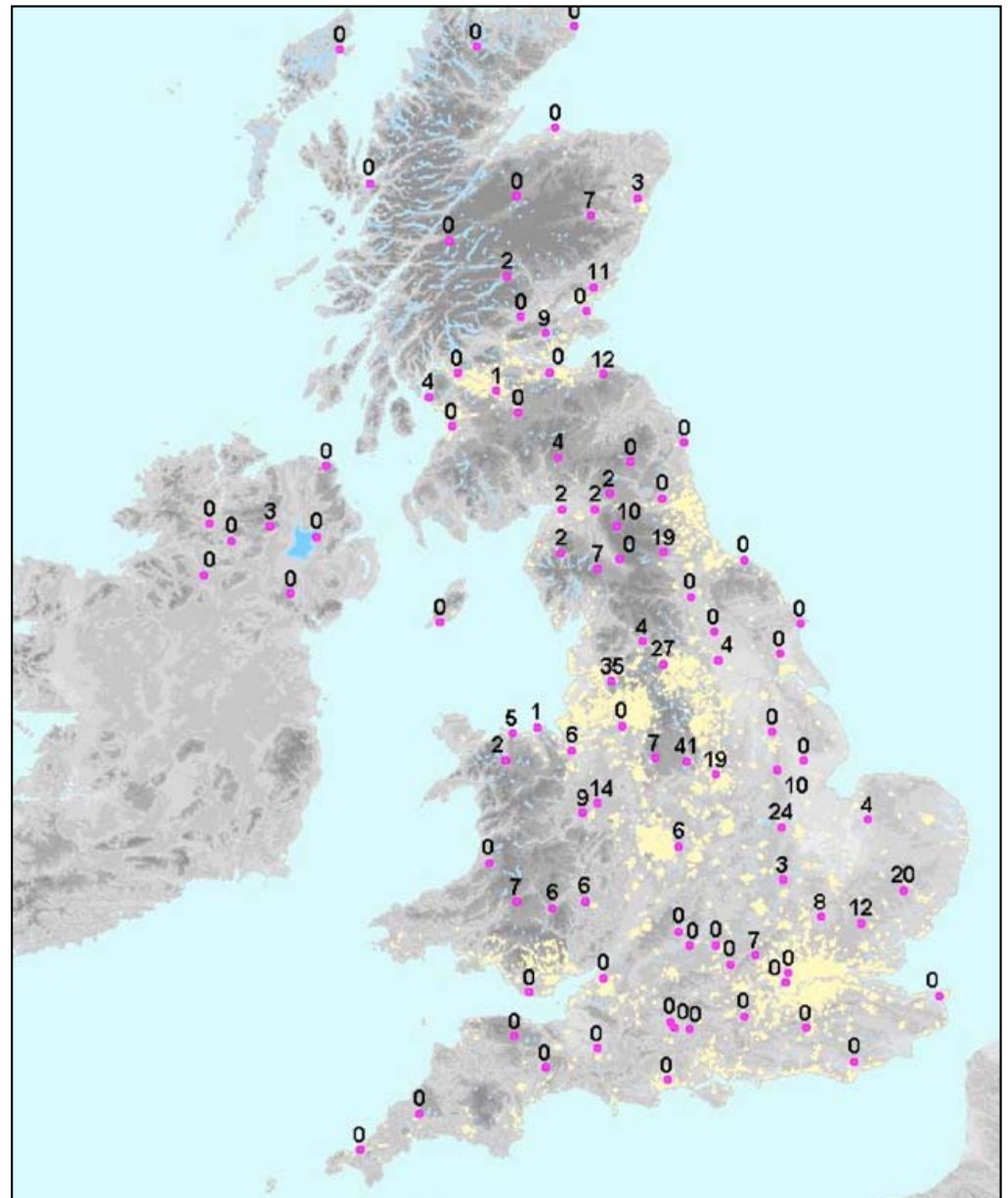
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## Amounts of snow

Snow affected many parts of the UK during this period but the areas most affected were Northern Ireland, Northern England, North Wales and Southern Scotland.

Image 3 below shows the snow depths (cm) at 9am on 24 March 2013. These figures are from Met Office recording sites. The figures should be viewed cautiously as some of the worst disruption occurred in areas without Met Office recording sites, for example the east of Northern Ireland and Dumfries and Galloway. The map shows snow depths of 41 cm at Middleton in Derbyshire and 35 cm at Darwen in Lancashire. Depths of 40 cm were reported in Northern Ireland with some areas affected by severe drifting with drifts in excess of 2 m.





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### The impacts

On 22 March an estimated 137,000 electricity customers were without power in Northern Ireland. The weight of the snow and ice on the power cables causes breakages. Also the weight of the snow settling on the branches of large trees can cause branches to break and fall onto power cables. Gale-Force easterly winds were also significant in damaging power cables with a gust of 60 knots (69 mph) at Orlock Head in County Down. Similarly, damage was caused to overhead phone lines. Repair work was hindered by the amounts of snow on the ground. With engineers unable to drive to many affected locations they had to be flown in by helicopter. Some homes remained without power several days after the disruption was caused. On 25 March around 1,000 customers were still without electricity in Northern Ireland. The Territorial Army helped to clear some of the worst affected roads and farmers helped too.

Image 4 below (courtesy of David Houston) was taken near Silent Valley in County Down on 5 April 2013, two weeks after the snow fell. The road is clear but look at the depth of the drift to the left of the road. Across Cumbria and Dumfries and Galloway drifts of around 3 m were reported.





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Southwest Scotland was also severely affected by the snow with roughly 18,000 customers without power across Kintyre on 22 March. On the Island of Arran around 100 people a day were using the fire station for hot refreshments and shower facilities.

Across the worst affected parts of the UK people in cut-off areas were having emergency food-supplies flown-in by helicopter and the sick and elderly were flown to hospital. Near Wrexham a family trapped in their hillside farm was forced to burn furniture to keep warm. The family have a young baby and after a few days they were airlifted out by a helicopter from RAF Valley.

Thousands of schools were closed across the UK; some remained closed through the whole of the following week.

UK farming was badly hit as the snow fell during the lambing season. The amount of snow, in combination with the bitterly cold conditions, was just too severe for thousands of newborn lambs. Older animals struggled to deal with the weather conditions too with farmers having to pull or even dig older animals from deep snow drifts. It is estimated that in Northern Ireland alone 3,000 animals died due to the effects of the snow.

In parts of Wales farmers saw a relaxing in the laws concerning the burial of dead animals. Farmers were allowed to bury their animals on their land as their farms were deemed to be inaccessible for collectors of dead livestock to reach.

### Further information

See our Weather Observations Website:

<http://wow.metoffice.gov.uk/home>

From the homepage drag the slider at the bottom fully to the left. Enter the date you want to look at, for example 22/03/2013. On the right you can select the weather element you want to view, e.g. snowfall, temperature. You can also look at photos.

[www.bbc.co.uk/news/uk-wales-north-east-wales-21922269](http://www.bbc.co.uk/news/uk-wales-north-east-wales-21922269)

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