

Floods in Carlisle - January 2005

Heavy rainfall on Friday 7 January led to flooding in Carlisle on Saturday 8th January 2005.

The rainfall was prolonged over the high ground of the nearby Lake District and Pennines, draining into the River Eden on which Carlisle is situated. Places in western Scotland and north Wales also recorded high rainfall amounts from this event because of similar conditions in a south-westerly airstream.

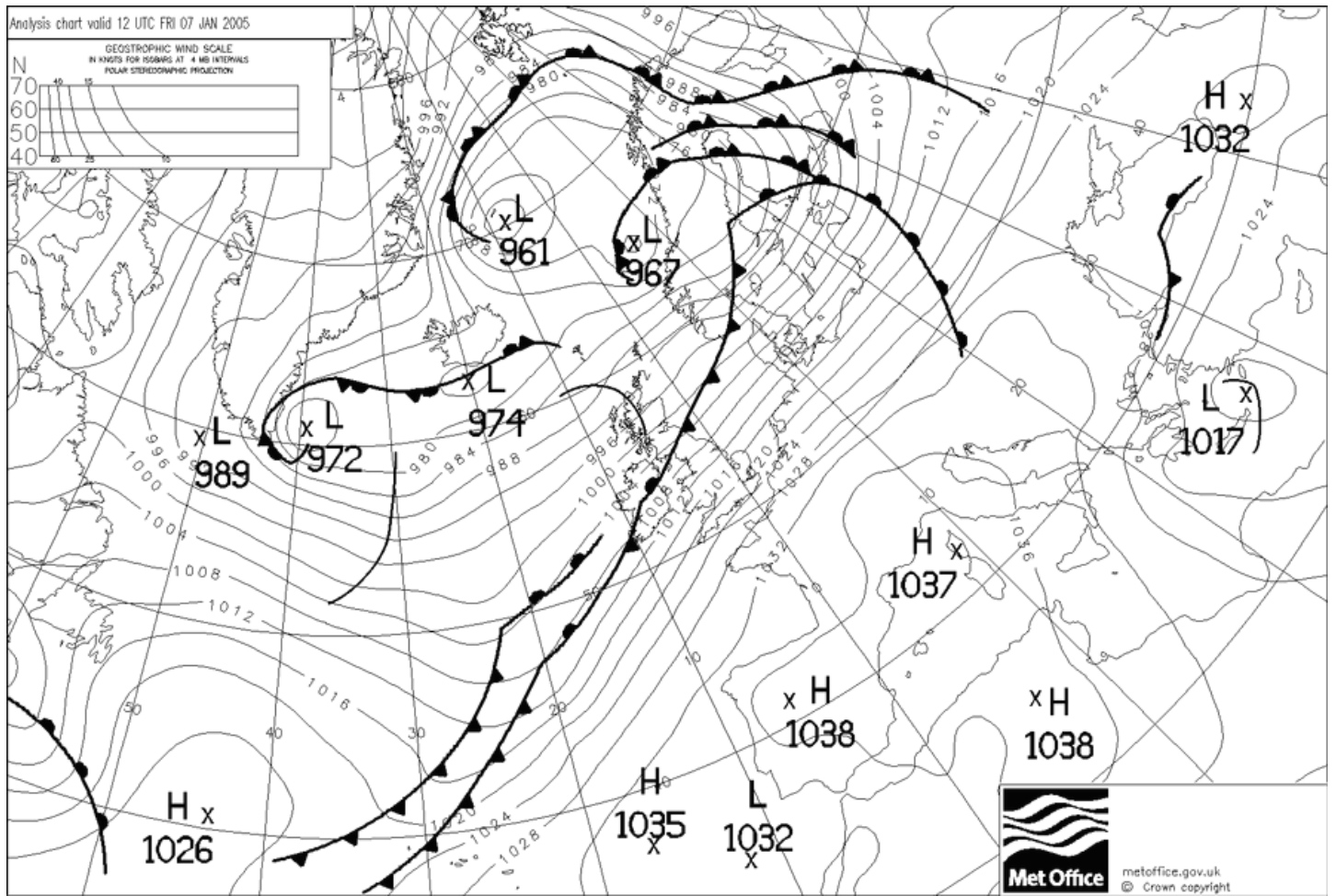
Impacts

Three people were killed, many homes and businesses were flooded and schools were closed. There was widespread transport disruption with all of Carlisle's buses damaged. Appleby, Cockermouth and Keswick also had flooding. This was the worst flood to affect Carlisle since 1822. The following are links to the BBC News website.

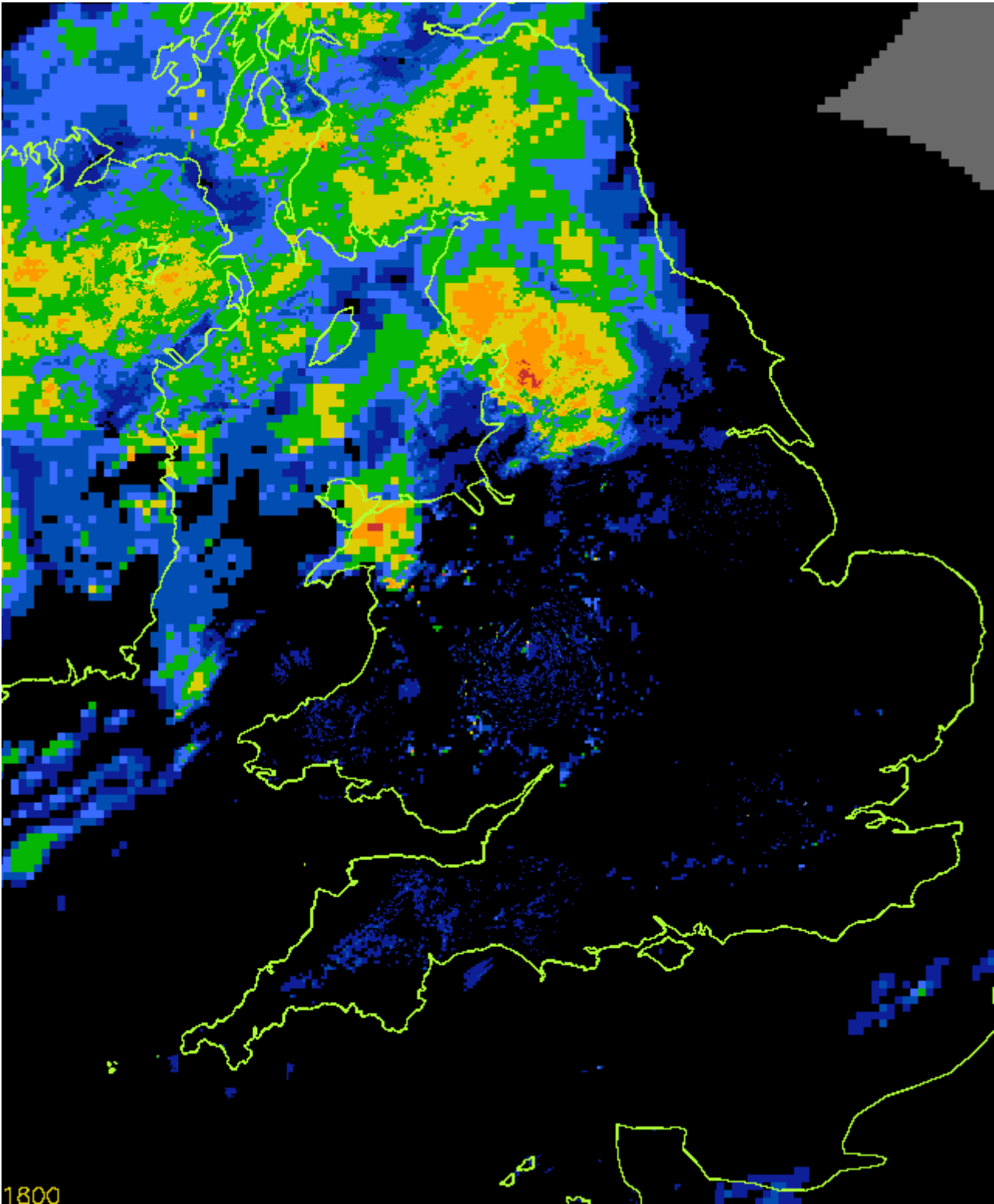
Weather data

On the 7th a westerly airstream affected the UK with a near stationary weather front across northern England and southern Scotland. A very deep depression then tracked eastwards across southern Scotland on the 8th. Details of the wind associated with this system are given [January 2005 - stormy spells](#) The highest rainfall (180.4 mm) was recorded at Rydal Hall, Cumbria and this is estimated as likely to occur less often than once in 200 years. Many places had over 100 mm of rain in one day with several having a once in more than 30 years event.

The synoptic situation at 12 GMT on Friday 7 January 2005.



Shown below are the rainfall rates detected by the rainfall radar network every 15 minutes from 1800 on 7 January to 0300 on 8 January 2005.



<u>Rainfall Rate</u> <u>(mm/hr)</u>
< 0.125
0.125-0.25
0.25-0.5
0.5-1
1-2
2-4
4-8
8-16
16-32
> 32
No data

This map gives the distribution of rainfall on 7 January 2005 (0900 on 7th to 0900 on 8th)

Station details, with return periods estimated using the Flood Estimation Handbook

Station	County	Amount(mm)	Return Period(yrs)
Rydal Hall No 2	Cumbria	180.4	>200
Honister Pass	Cumbria	164.2	100
Crosby Garrett	Cumbria	101.3	100
Askham Hall	Cumbria	83.7	100
Sleagill	Cumbria	87.5	95
Scalebeck Farm	Cumbria	91.8	85
High Snab Farm	Cumbria	148.0	80
Orton Shallowford	Cumbria	110.2	80
Kirkby Stephen: South Road	Cumbria	92.9	80
Alston S Works	Cumbria	90.2	70
Shap	Cumbria	118.6	60
Burn Banks	Cumbria	119.0	55
Mungrisdale: Lowbeckside	Cumbria	97.5	40
Dale Head Hall	Cumbria	123.6	30
Calebreck Hall	Cumbria	83.6	30
Turnerford	Cumbria	78.4	30
Kendal S Works	Cumbria	76.2	30
Grasmere: Tanner Croft	Cumbria	128.8	20
Brathay Hall	Cumbria	95.2	20
Keswick	Cumbria	94.4	20
Carlisle	Cumbria	48.0	20
Elter Water: Carr Howes	Cumbria	109.4	15
Bampton: Swindale Head	Cumbria	102.2	15
Longsleddale: Swinklebank	Cumbria	95.2	15
Seathwaite	Cumbria	158.6	10
Snaizholme	North Yorkshire	129.6	80
Moorland Cottage	North Yorkshire	118.6	65
Bainbridge	North Yorkshire	100.0	60
Beckermonds	North Yorkshire	95.8	30
Askrigg	North Yorkshire	86.0	30
Turnerford	North Yorkshire	78.4	30

Additional information

Use of high-resolution NWP rainfall and river flow forecasts for advanced warning of the Carlisle flood. N. Roberts, S.J. Cole, R. Forbes, R.J. Moore, D. Boswell. Met Applications Volume 15, Royal Meteorological Society, March 2008.

Last updated: 29 October 2012