

Exceptionally wet weather, 21 to 23 May 2024

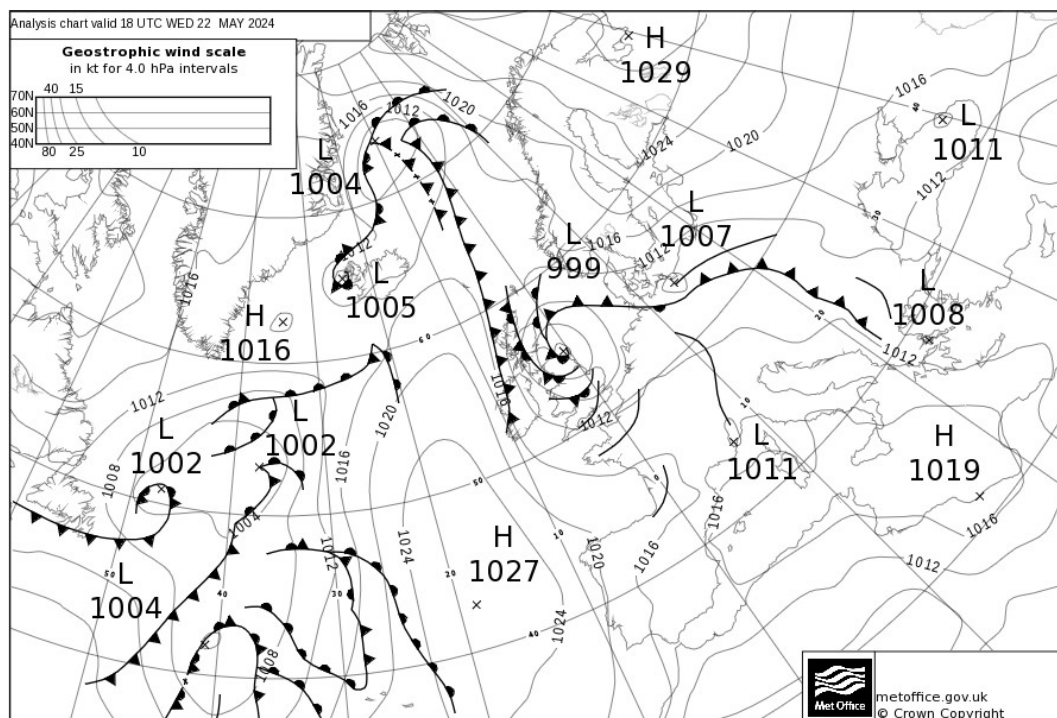
From 21 to 23 May, parts of England, southern and eastern Scotland and North Wales experienced exceptionally wet weather from a slow-moving weather front associated with an area of low pressure centred off the east coast of the UK. Over 50mm of rain fell widely across north-west England, with 75 to 100mm in the wettest locations. On 22 May, northern England recorded its wettest spring day in a series from 1891, while many stations recorded their wettest May day on record.

Impacts

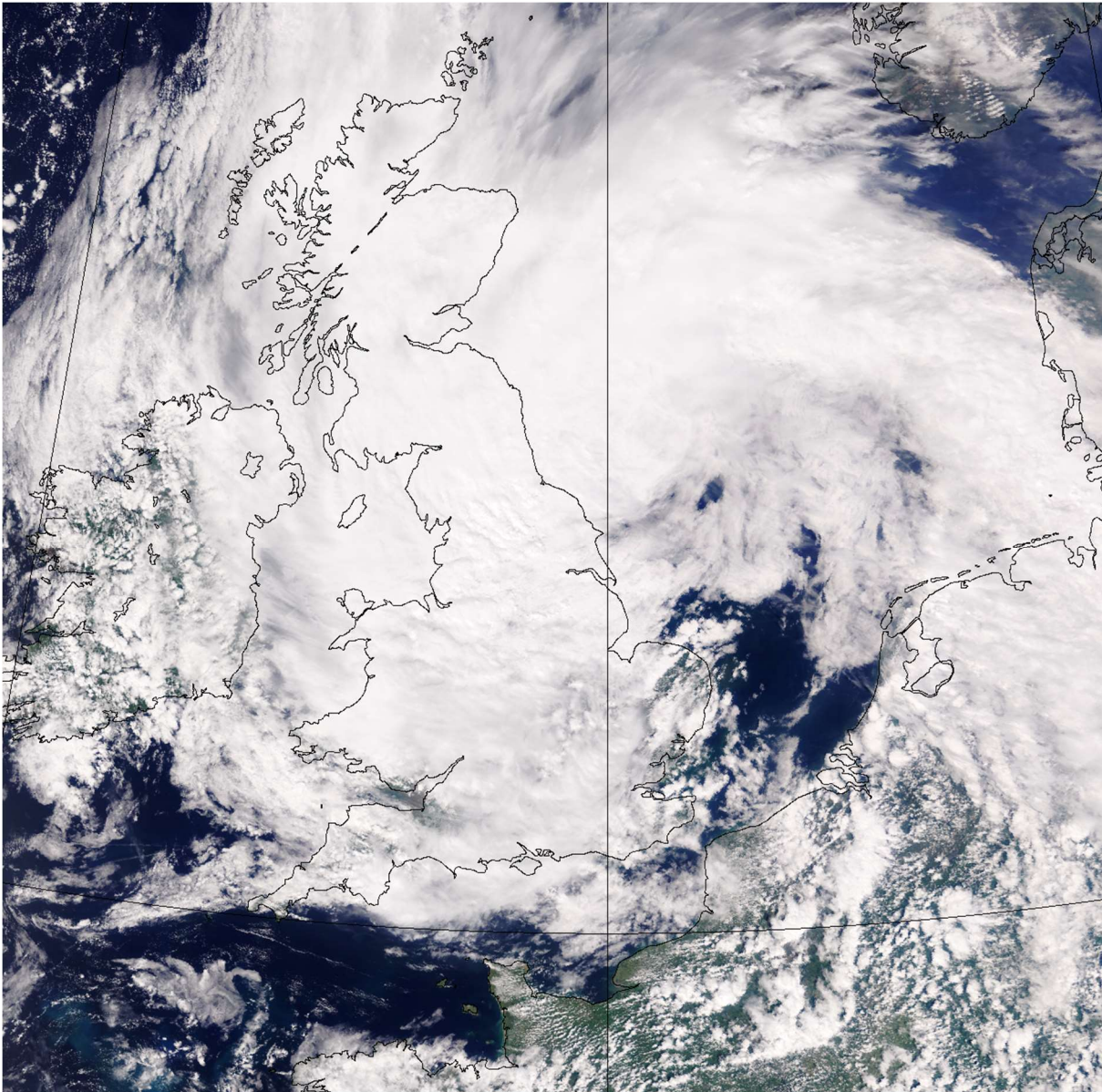
Tragically, a schoolgirl died in a mudslide at Carlton-in-Cleveland in North Yorkshire. There was widespread disruption across the rail network, with the West Coast Main Line closed between Carlisle and Lockerbie and the TransPennine Express also disrupted. Localized surface water flooding also caused disruption to many roads. In Cumbria, households were temporarily cut off by rapidly rising rivers in and around the hamlet of Stockdalewath and Edinburgh city centre also experienced flooding.

Weather data

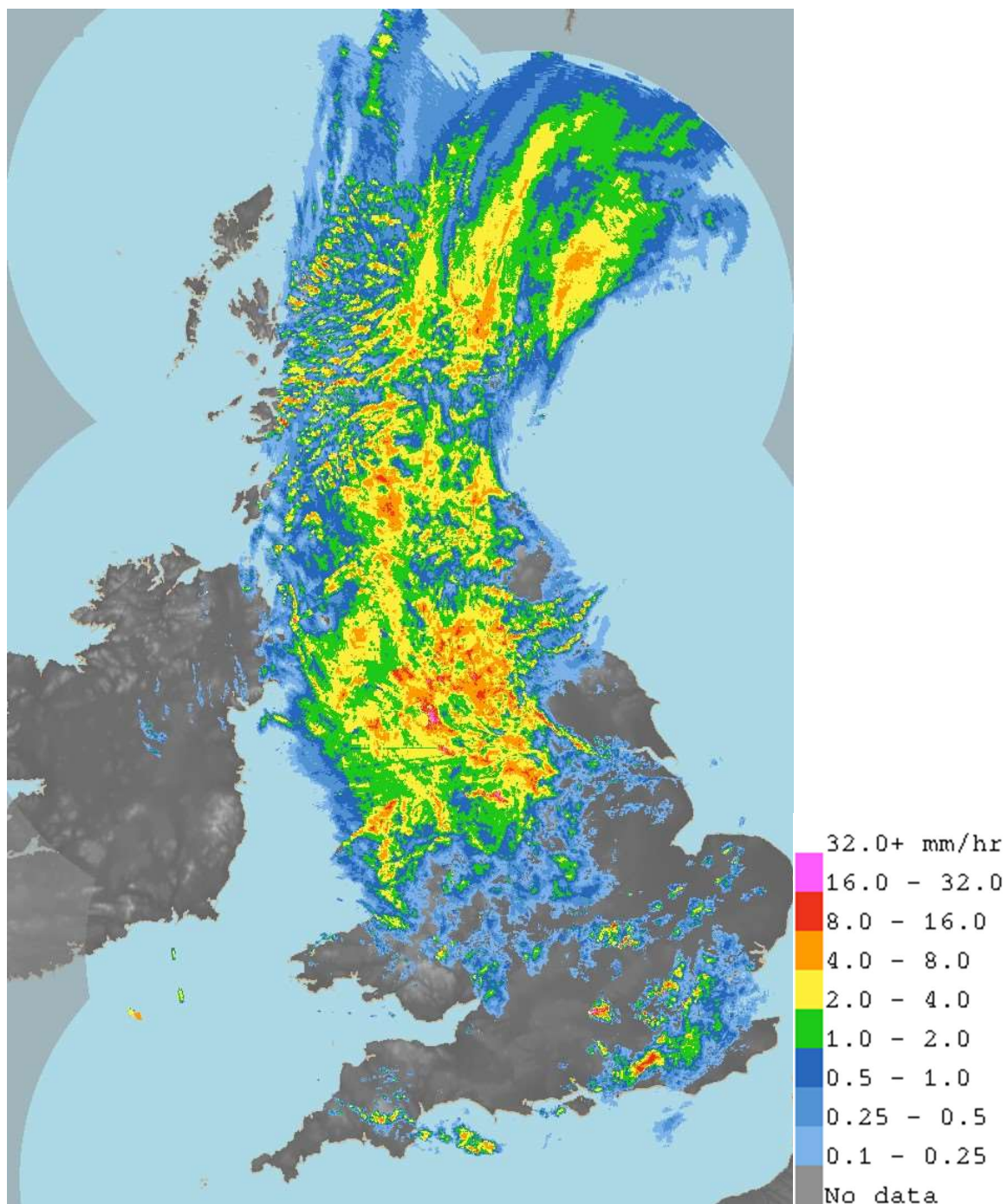
The analysis chart at 1800UTC 22 May 2024 shows an area of low pressure just off the East Coast with associated slow-moving fronts bringing heavy and persistent rain.



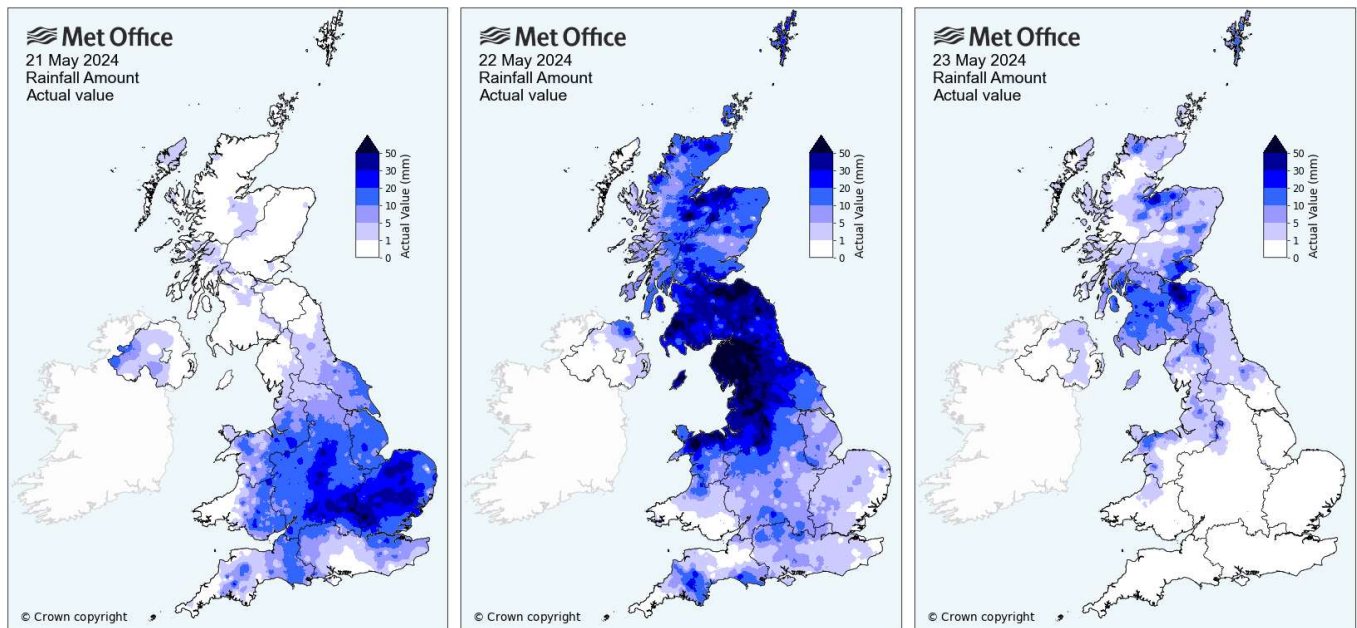
The satellite image at 1308 UTC on 22 May 2024 shows the UK entirely swathed in cloud from weather fronts associated with the area of low pressure. Image copyright Met Office / NOAA / NASA.



The rain-radar image at 1800UTC 22 May 2024 shows heavy and persistent rain affecting much of Scotland, northern England and North Wales.



The maps below show daily rainfall totals for 21, 22 and 23 May. Most of the rain on 21st fell across central England and East Anglia, with 20 to 30mm widely and 30 to 50mm or more in the wettest locations. On 22nd, the main rain-bearing front moved north with the focus of the rain across North Wales, much of northern England, southern and eastern Scotland, with over 50mm falling very widely. The 23rd continued very wet in the Edinburgh area before the rain finally ceased as the area of low pressure weakened and filled.



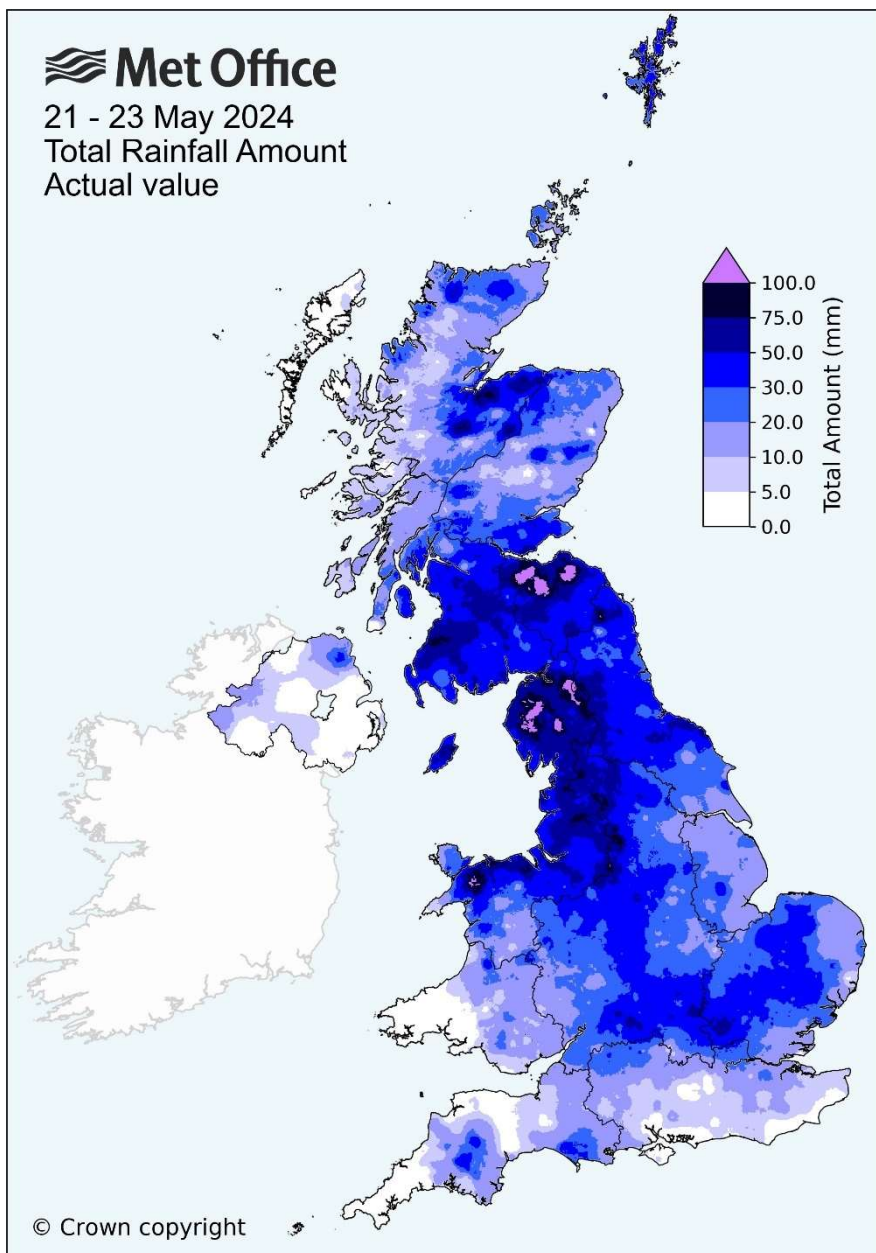
Many stations recorded their wettest May day on record during this event, and several long-running stations also their wettest spring day on record, for example, Rothamsted, Hertfordshire (110 years), and Edinburgh Royal Botanic Garden (82 years). It was exceptionally wet across parts of Cumbria: station records for the previous wettest May day on record were more than doubled at both Keswick (94.8mm) and Carlisle (88.0mm). The table below lists selected station records.

Station	Total (mm)	Date	Previous May record	Previous date	Record length	Comment
Nunraw Abbey, East Lothian	100.7mm	22 May 2024	69.5mm	27 May 1983	52	Wettest spring day on record
Keswick, Cumbria	94.8mm	22 May 2024	44.6mm	24 May 2002	34	Wettest spring day on record
Carlisle, Cumbria	88.0mm	22 May 2024	33.1mm	13 May 1993	64	Wettest spring day on record
Shap, Cumbria	74.4mm	22 May 2024	64.0mm	11 May 1992	35	
Edinburgh, Royal Botanic Garden	58.6mm	23 May 2024	34.8mm	23 May 1941	82	Wettest spring day on record
Rothamsted, Hertfordshire	58.2mm	21 May 2024	55.2mm	29 May 1992	110	Wettest spring day on record
Wellesbourne, Warwickshire	48.6mm	21 May 2024	44.2mm	6 May 1955	69	
Buxton, Derbyshire	47.6mm	22 May 2024	46.7mm	3 May 2021	108	
Blackpool, Squires Gate, Lancashire	45.2mm	22 May 2024	34.1mm	14 May 2001	78	Wettest spring day on record
High Beach, Essex	44.2mm	21 May 2024	35.2mm	27 May 2007	45	Wettest spring day on record
Prestatyn, Denbighshire	41.2mm	22 May 2024	35.7mm	5 May 1997	68	Wettest spring day on record

For northern England, 22 May 2024 was the wettest spring day on record in a daily series from 1891, with an average of 32.6mm of rain falling, exceeding 32.0mm on 23 April 1971. It was also the wettest spring day on record for the climate district of North West England and North Wales. Cumbria also recorded its wettest spring day in a daily series from 1891*, with an average of 62.4mm, over 40% higher than the previous wettest spring day of 43.2mm on 13 May 1993.

*This series is based on limited data availability prior to 1961.

The map below shows the 3-day rainfall totals from 21 to 23 May 2024 from this event across the UK. A large swathe of the Midlands and most of northern England and southern Scotland recorded 30 to 50mm of rain, with more than 50mm across much of north-west England and parts of southern Scotland. The wettest locations in Cumbria, the North Pennines and the Pentland, Moorfoot and Lammermuir Hills south of Edinburgh recorded 75 to 100mm or more.



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