

Monthly water situation report: North-west England

1 Summary – August 2026

Rainfall for north-west England in August was classed as normal, having received 84% of the long-term average (LTA). Soil Moisture deficit (SMD) was predominantly higher than expected for the time of year across north-west England, with the exclusion of the Cheshire Rivers Group where the SMD was as expected. August monthly mean river flows for north-west England were classed between exceptionally low and normal. Groundwater levels have decreased slightly at all sites since last month and were classed between notably low and exceptionally high. At the end of August total reservoir storage for north-west England had decreased since the end of July and was lower than average for the time of year.

1.1 Rainfall

After the exceptionally low rainfall in July periods of heavy rain were recorded across the north-west during August, especially in the second half of the month. Rainfall for north-west England was classed as normal, receiving 84% of the LTA. Cumbria and Lancashire (CLA) received 80% of the LTA while Greater Manchester, Merseyside and Cheshire (GMMC) received 104% of the LTA, both classed as normal.

During August every hydrological area across north-west England recorded rainfall classed as normal, except for the Kent which recorded the lowest rainfall total relative to the LTA at 70%, classed as below normal. The highest rainfall relative to the LTA was observed in the Mersey and Irwell hydrological area (106% of the LTA).

Over the 3-month cumulative period ending in August, rainfall patterns were more spatially variable, with higher totals generally observed across CLA and the driest conditions towards the south of GMMC. Of the 10 hydrological areas, 1 was classed as notably low, 5 as below normal, and 4 as normal.

Over the 6-month cumulative period ending in August, the variation in rainfall totals between CLA and GMMC was more defined, with the highest totals observed in CLA. Of the 10 hydrological areas, 1 was classed as notably low, 2 as below normal, 6 as normal, and 1 as above normal.

Over the 12-month cumulative period ending in August, this spatial variability continued with the highest rainfall totals observed in western Cumbria. Of the 10 hydrological areas, 4 were classed as above normal, 2 as notably high and 4 as exceptionally high.

1.2 Soil moisture deficit and recharge

As a result of rainfall across north-west England at the end of August, soil moisture deficits (SMD) decreased across all hydrological areas when compared with the end of July. Despite this, due to the dry preceding conditions, with the exception of the Cheshire Rivers Group, all hydrological areas recorded higher than average SMD. The highest SMDs were observed across Lancashire and GMMC, with all hydrological areas between 71mm and 100mm.

1.3 River flows

River flows in August reflected the spatial variability in rainfall, with higher monthly mean flows observed at sites in GMMC, and lower flows at sites in CLA. In CLA, monthly mean flows were classed between exceptionally low and normal, while in GMC they were classed between below normal and normal. The highest monthly mean river flows relative to the LTA were on the Mersey at Brinksway with 83% of the LTA classed as normal, the lowest flows were on the Lune at Lunes Bridge with 12% of the LTA classed as exceptionally low. For the 25 indicator sites this month, 2 were classed as exceptionally low, 6 as notably low, 9 below normal and 8 classed as normal.

1.4 Groundwater levels

Groundwater levels across north-west England at the end of August were classed between notably low and exceptionally high, with absolute levels decreasing between July and August at all sites. Between July and August, only one site changed classification, with Richmond Park decreasing from notably high to above normal.

1.5 Reservoir stocks

Total reservoir storage for north-west England decreased from 66.7% net storage at the end of July to 50.8% net storage at the end of August. This is 20.9% lower than the average of 71.7% at this time of year and 2% higher than this time last year when stocks were at 48.8%.

At the end of August, net reservoir storage (in terms of percentage) was highest at Lake Vyrnwy at 69.6% full, and lowest at Haweswater at 40.8% full.

The combined net storage at Haweswater and Thirlmere reservoirs decreased from 62.5% at the end of July to 43.4% at the end of August. This is lower than the average of 64.9% for this time of year, and higher than this time last year when stocks were at 42.5%.

Reservoirs kept low for maintenance works include parts of the:

- Longridge System (Ribble Reservoir Supply District) – Alston No.1, Alston No.2, Spade Mill No.1, and Spade Mill No.2

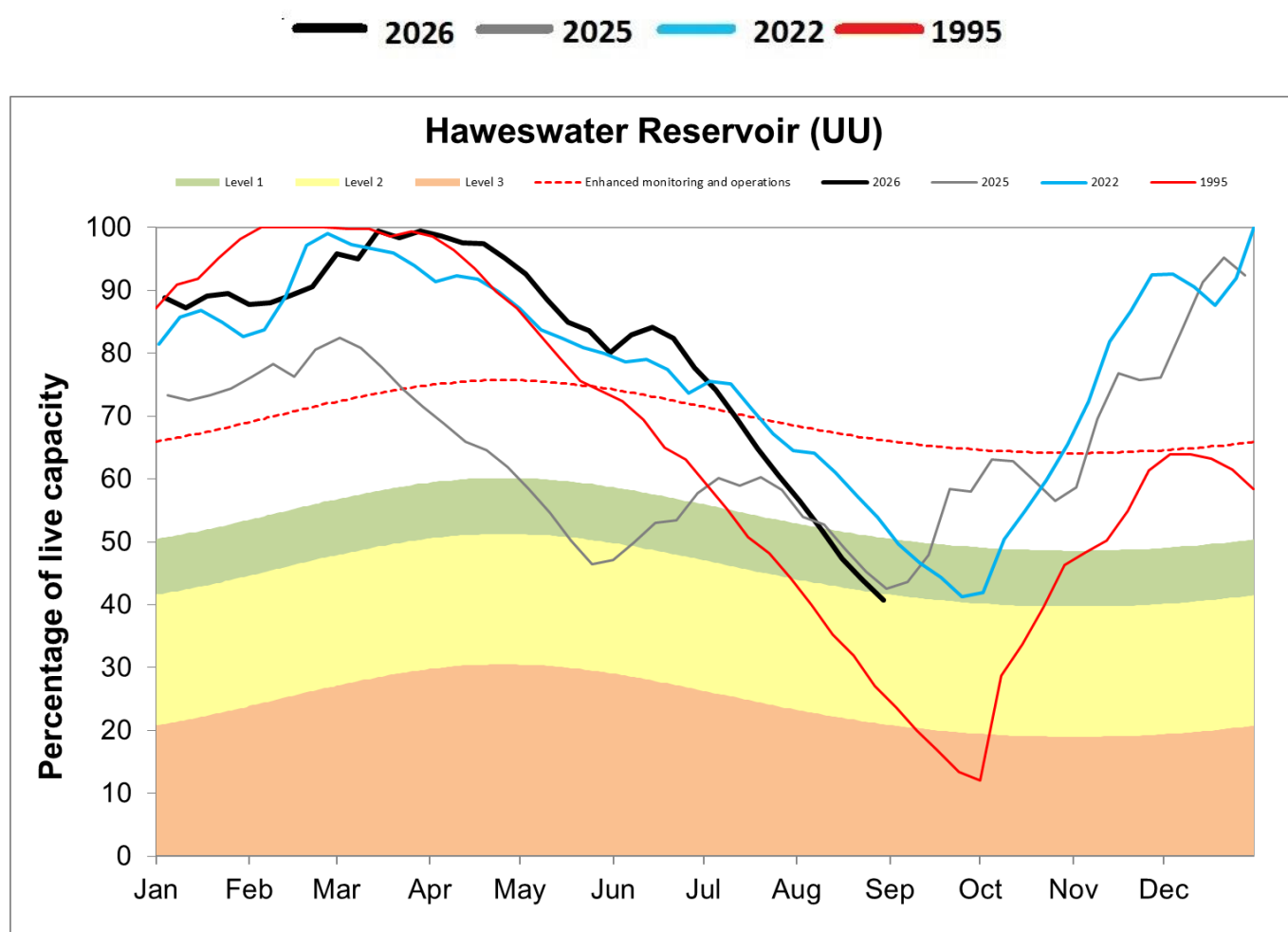
- Rivington System (Rivington Reservoir Supply District) – Anglezarke, High Bullough, and Yarrow
- Longdendale System (Longdendale Reservoir Supply District) – Audenshaw No.1, Torside, and Woodhead
- Barnacre Group (Ribble Reservoir Supply District) – Barnacre North, and Barnacre South
- Cowpe System (Pennines West Reservoir Supply District) – Cragg
- Cowm System (Longdendale Reservoir Supply District) – Cowm
- Ogden (Barley) System (Ribble Reservoir Supply District) – Ogden (Barley) Lower, and Ogden (Barley) Upper
- Ridgeway System (Stockport Reservoir Supply District) – Ridgeway
- Cumbria Compensation & recreation only reservoirs – Borran

1.6 Water abstraction restrictions and environmental impacts

In GMMC, 1 reduce notice issued on 16/06/2026 remained in force since. During August, 1 warning notice, 3 stop notices and 2 resume notices were issued. In CLA, 4 warning restrictions, 18 stop restrictions and 1 reduce restriction were issued during August.

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Figure 1.5: Storage in Haweswater Reservoir, including the drought levels for the reservoir and storage for the current year (2026) and representative years: 1995, 2022 and 2025
(Source: United Utilities (UU)).

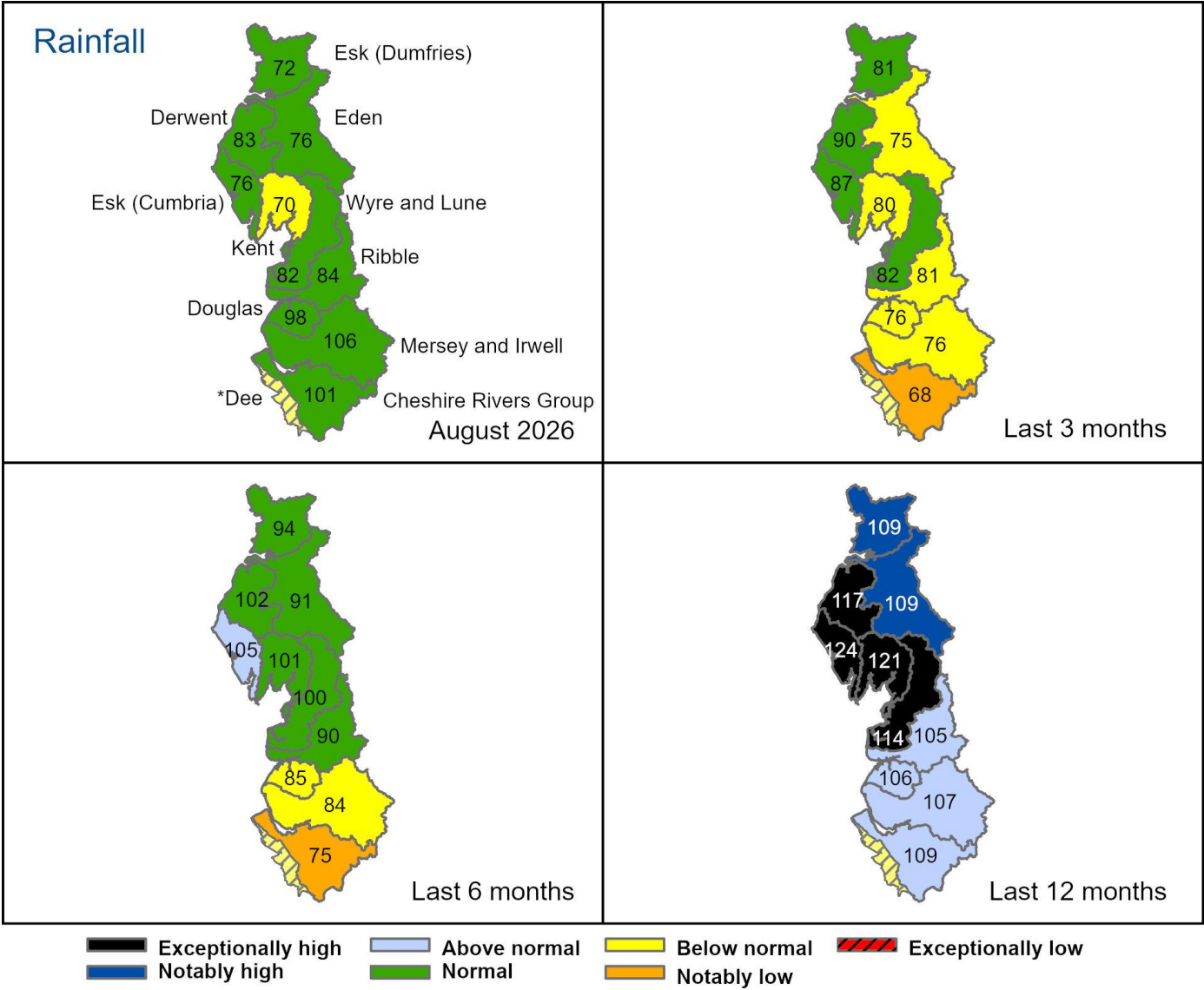


Author: Cumbria and Lancashire Hydrology Team, Hydrology.CMBLNC@environment-agency.gov.uk

2 Rainfall

2.1 Rainfall map

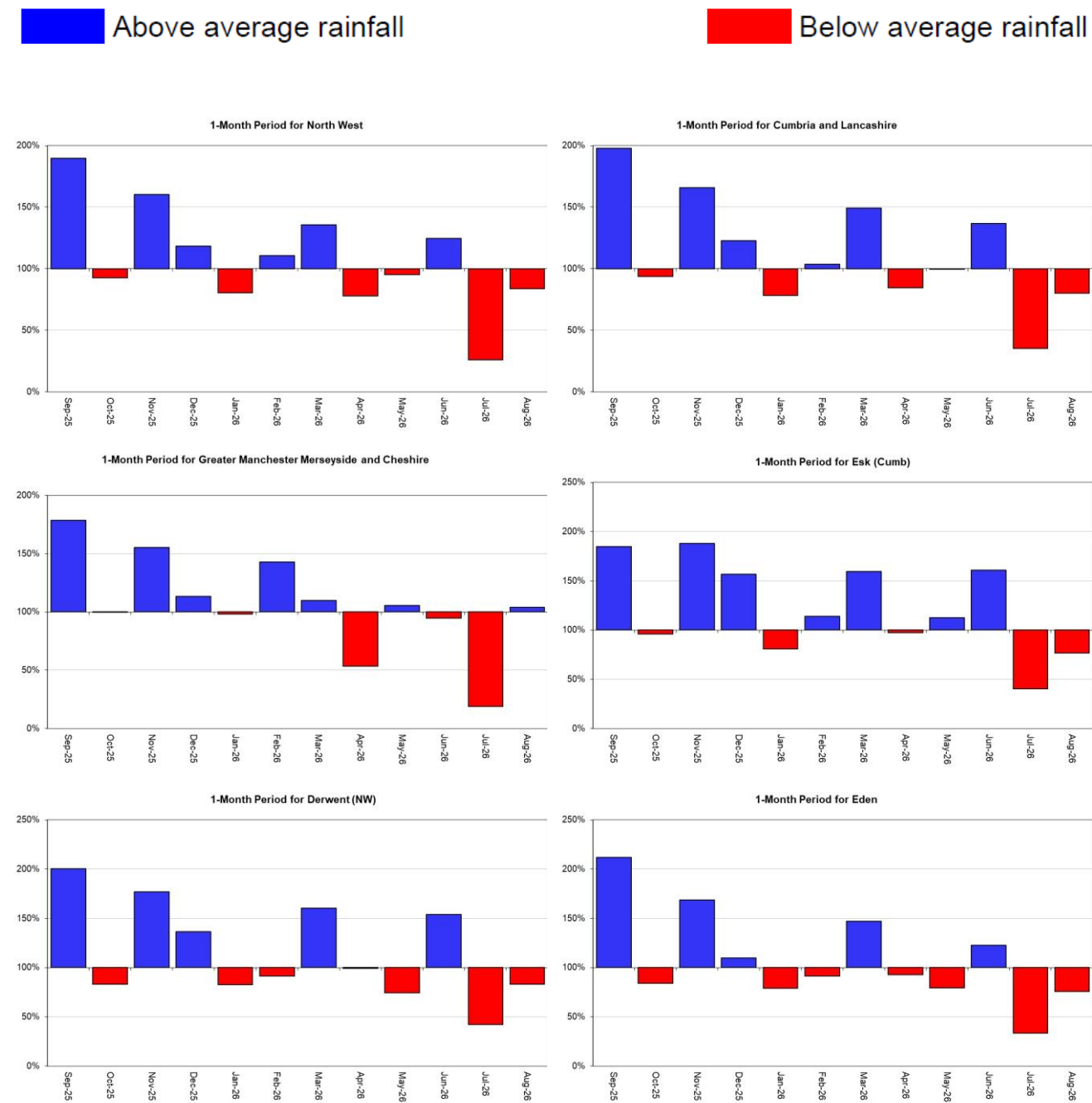
Figure 2.1: Total rainfall (as a percentage of the 1991 to 2020 long term average) for hydrological areas for the current month (up to 31 August 2026), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.



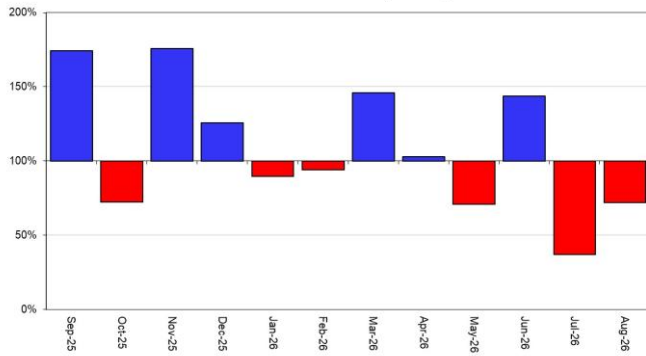
Rainfall data since January 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, AC0000807064, 2026). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded rainfall dataset derived from registered rain gauges (Source: Met Office. Crown copyright, 2026).

2.2 Rainfall charts

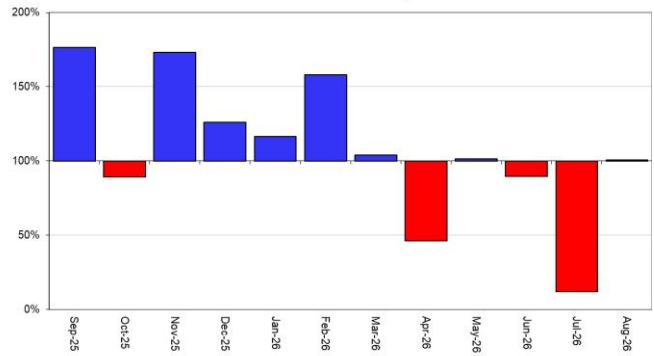
Figure 2.2: Monthly rainfall totals for the past 12 months expressed as a percentage of the 1991 to 2020 long term average for North-west England and its hydrological areas.



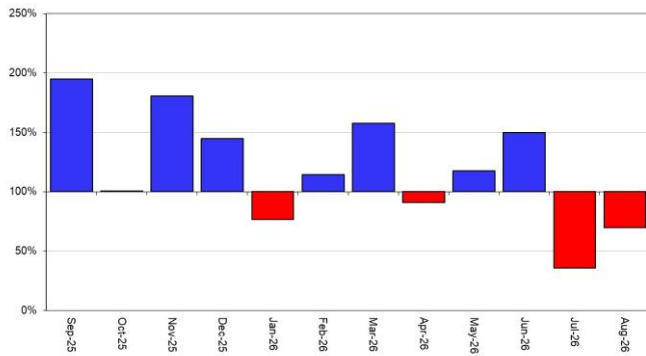
1-Month Period for Esk (Dumfries)



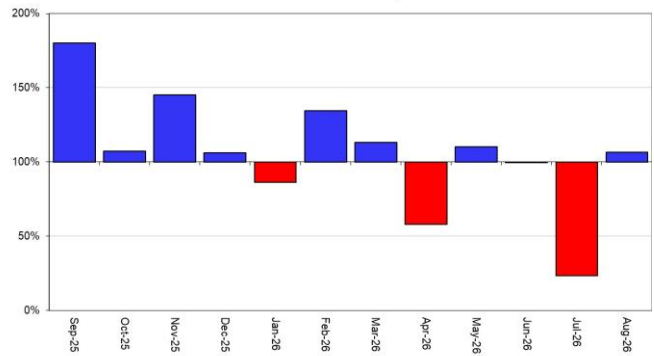
1-Month Period for Cheshire Rivers Group

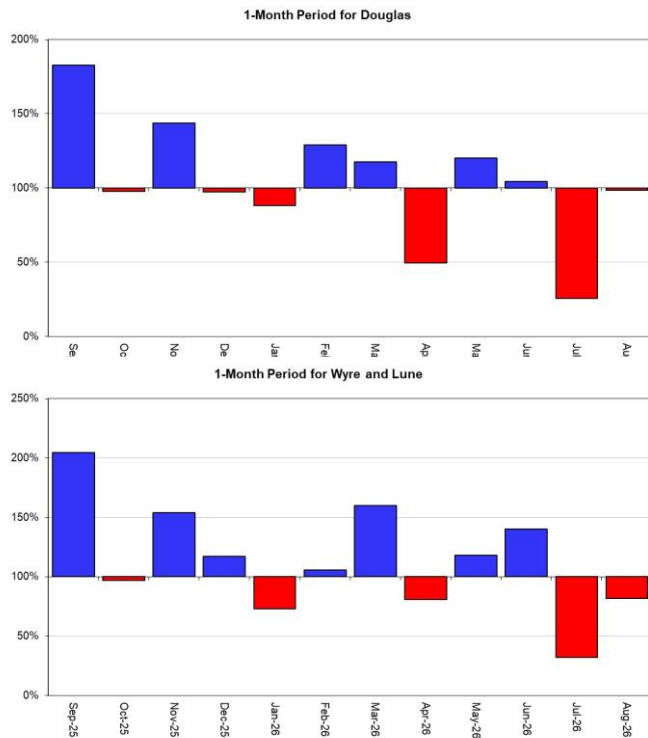


1-Month Period for Kent



1-Month Period for Mersey and Irwell



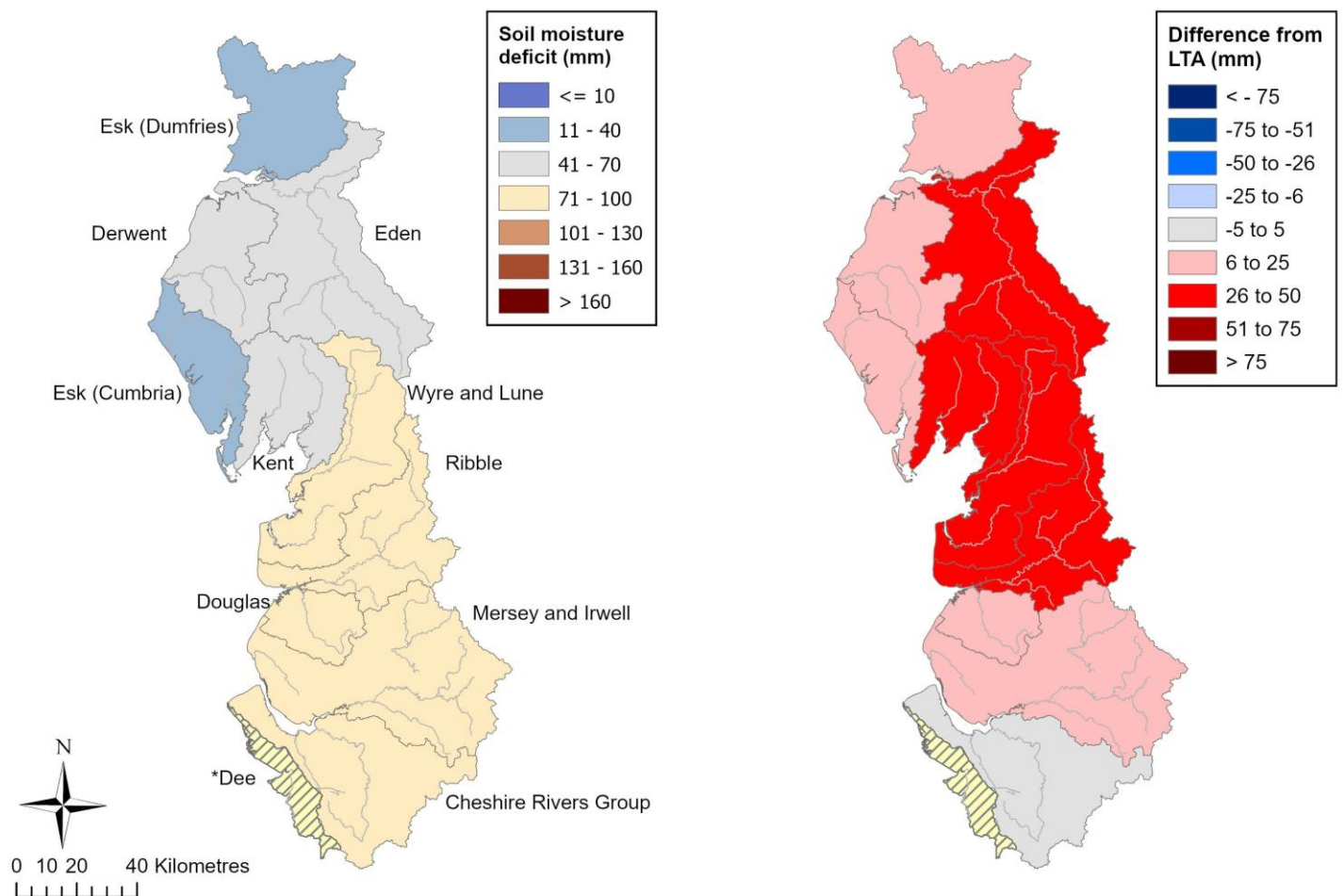


Rainfall data since January 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, AC0000807064, 2026). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded rainfall dataset derived from registered rain gauges (Source: Met Office. Crown copyright, 2026).

3 Soil moisture deficit

3.1 Soil moisture deficit map

Figure 3.1: Soil moisture deficits for the week ending 2 September 2026. The map on the left shows actual soil moisture deficits (mm) and on the right shows the difference (mm) of the actual from the 1991 - 2020 long term average soil moisture deficits. MORECS data for real land use.

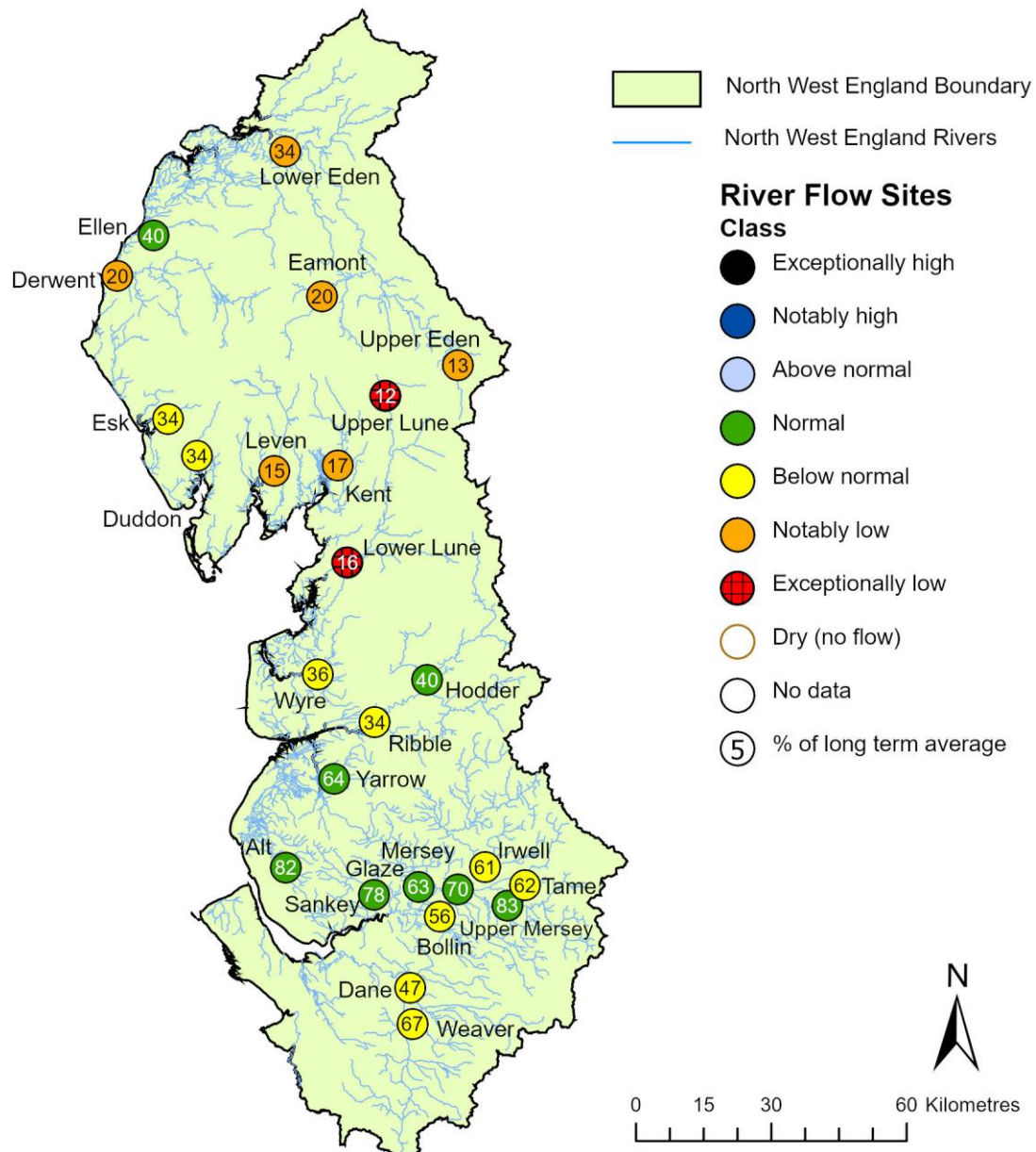


(Source: Met Office. Crown copyright, 2026). All rights reserved. Environment Agency, AC0000807064, 2026.

4 River flows

4.1 River flows map

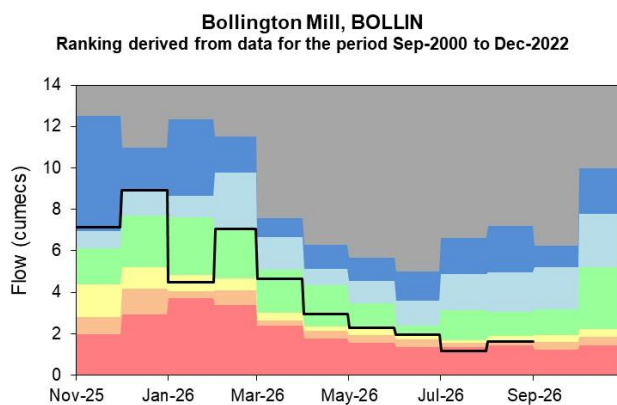
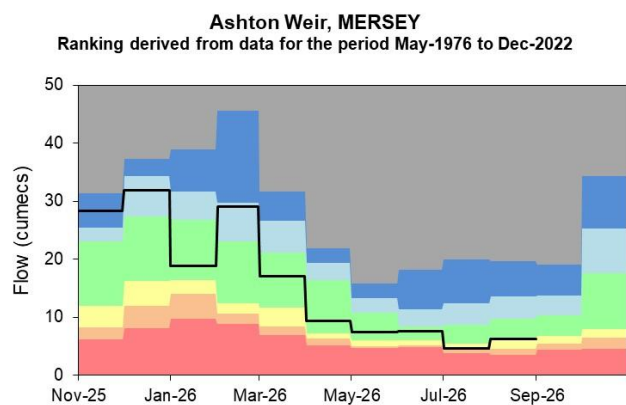
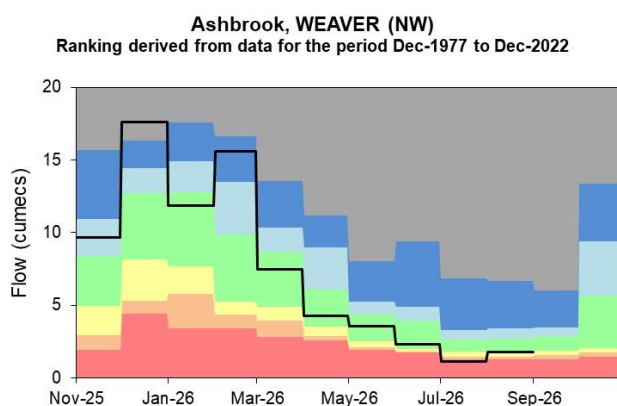
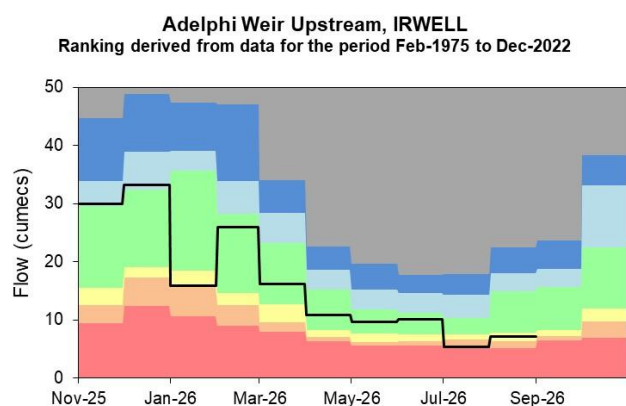
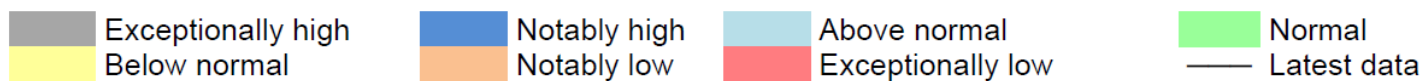
Figure 4.1: Monthly mean river flow for indicator sites for August 2026, expressed as a percentage of the respective long term average and classed relative to an analysis of historic August monthly means. Table available in the appendices with detailed information.



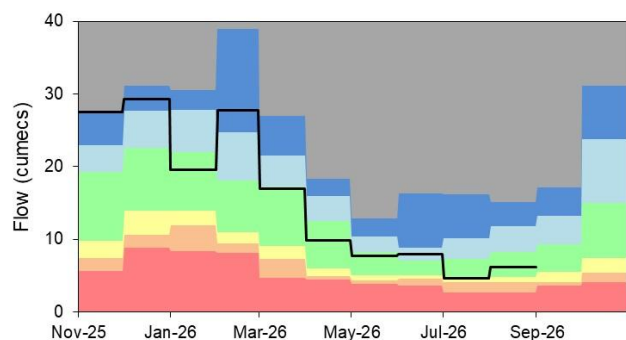
(Source: Environment Agency). Crown copyright. All rights reserved. Environment Agency, AC0000807064, 2026.

4.2 River flow charts

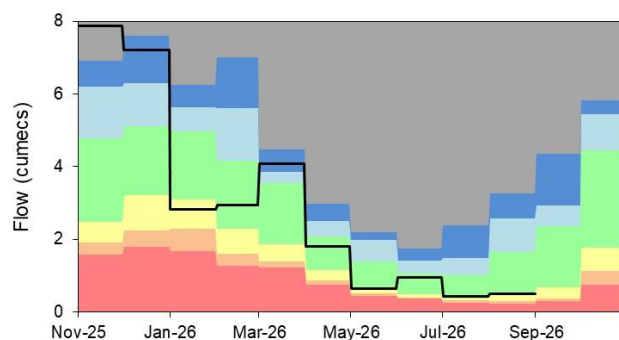
Figure 4.2: Monthly mean river flow for index sites over the past year, compared to an analysis of historic monthly mean flows.



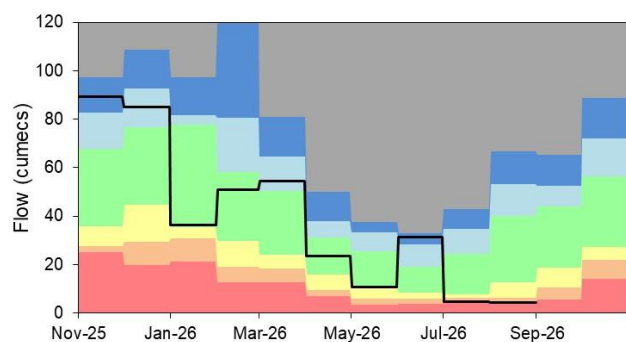
Brinksway, MERSEY
 Ranking derived from data for the period Jan-1974 to Dec-2022



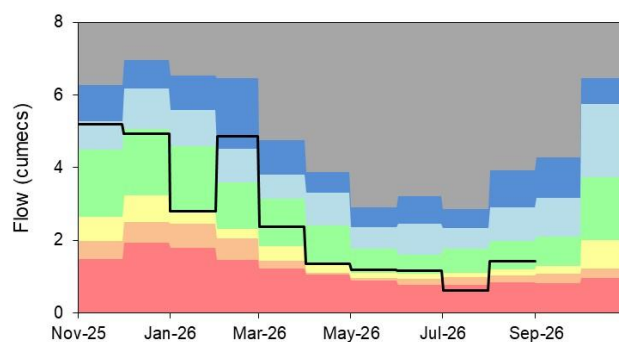
Bullgill, ELLEN
 Ranking derived from data for the period Jan-1976 to Dec-2022



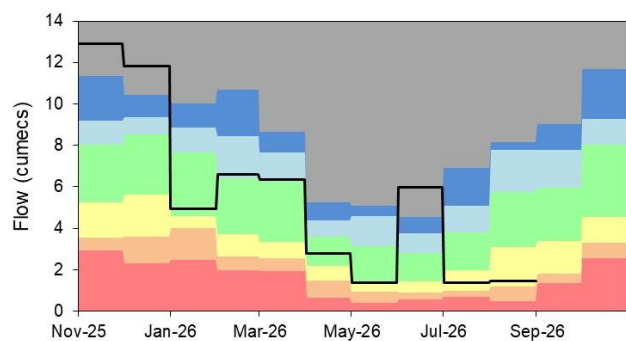
Caton, LUNE
 Ranking derived from data for the period Jan-1959 to Dec-2022



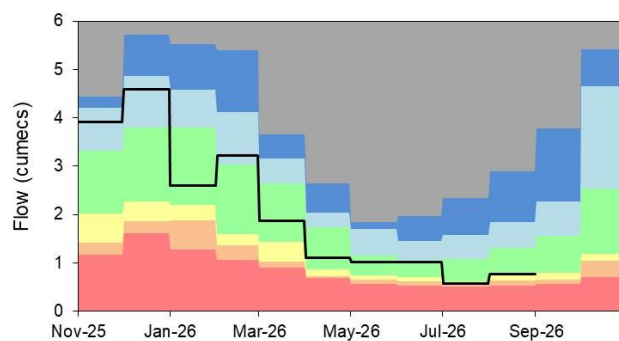
Causey Bridges, SANKEY
 Ranking derived from data for the period Jan-1977 to Dec-2022



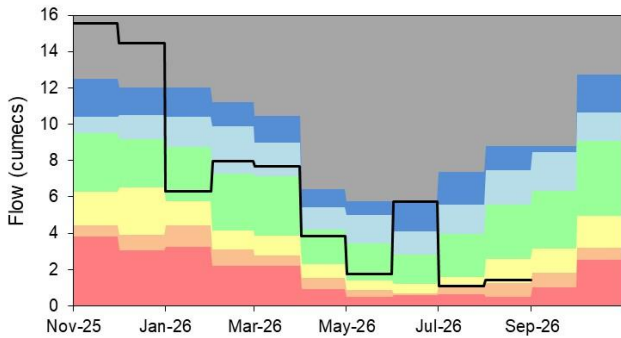
Crople How, ESK (NW)
 Ranking derived from data for the period Jan-1976 to Dec-2022



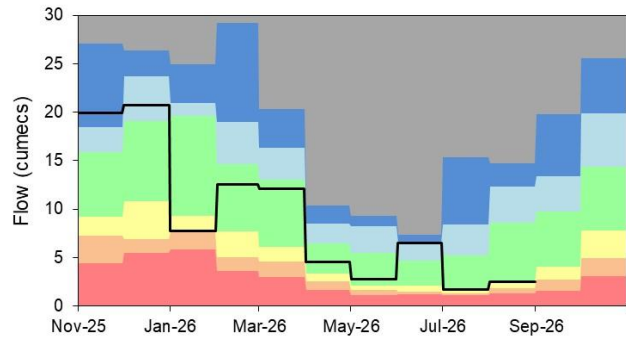
Croston, YARROW
 Ranking derived from data for the period Jan-1976 to Dec-2022



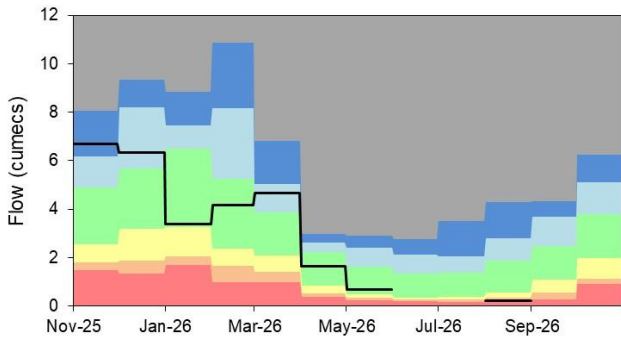
Duddon Hall, DUDDON
 Ranking derived from data for the period Mar-1968 to Dec-2022



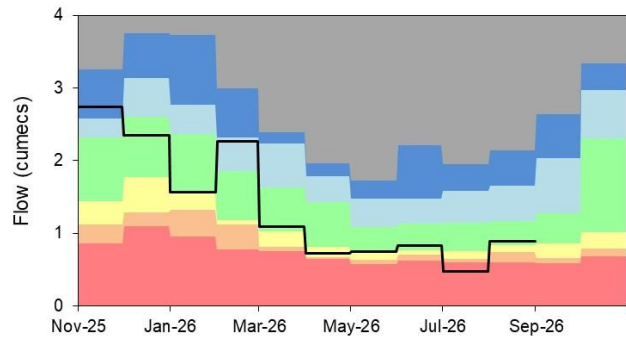
Hodder Place, HODDER
 Ranking derived from data for the period Jan-1976 to Dec-2022



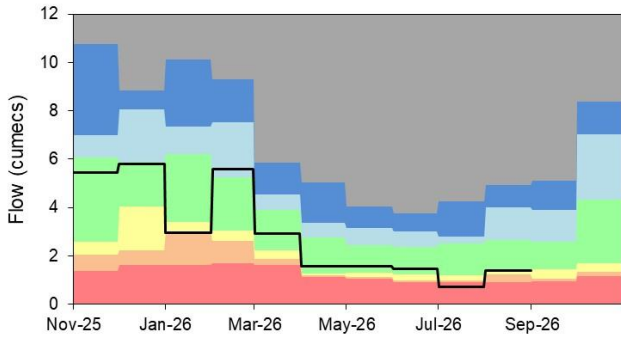
Kirkby Stephen, EDEN (NW)
 Ranking derived from data for the period Oct-1971 to Dec-2022



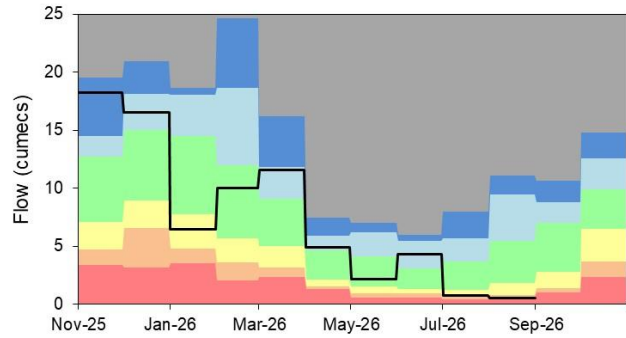
Kirkby, ALT
 Ranking derived from data for the period Oct-1977 to Dec-2022



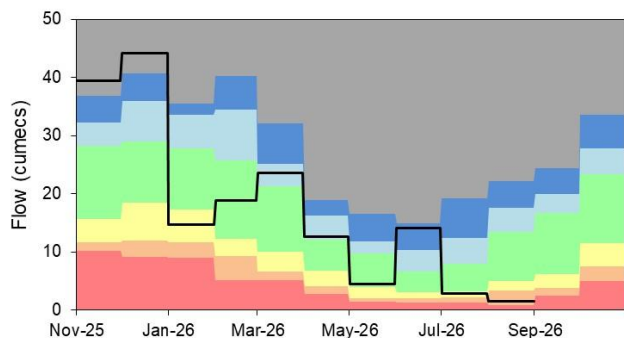
Little Woollen Hall Ultrasonic, GLAZE
 Ranking derived from data for the period Jul-1995 to Dec-2022



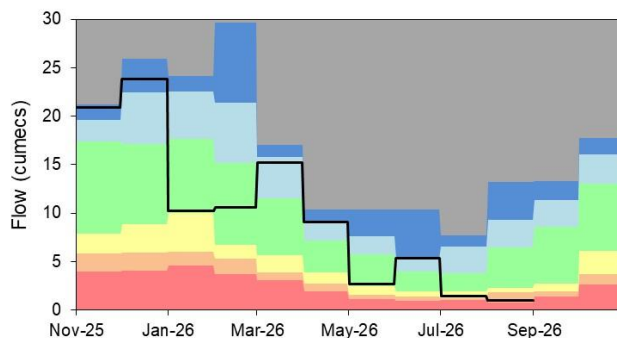
Lunes Bridge, LUNE
 Ranking derived from data for the period Dec-1979 to Dec-2022



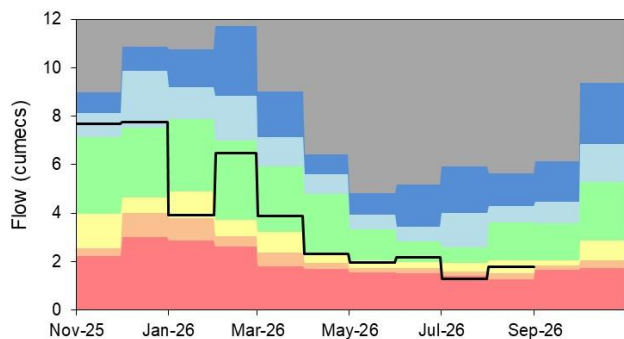
Newby Bridge FMS, LEVEN (NW)
 Ranking derived from data for the period Jan-1972 to Dec-2022



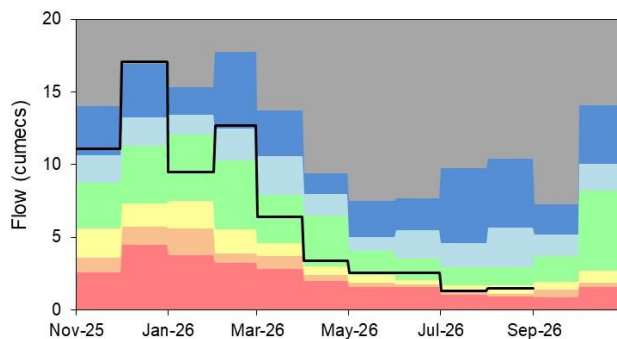
Pooley Bridge, EAMONT
 Ranking derived from data for the period Jul-1970 to Dec-2022



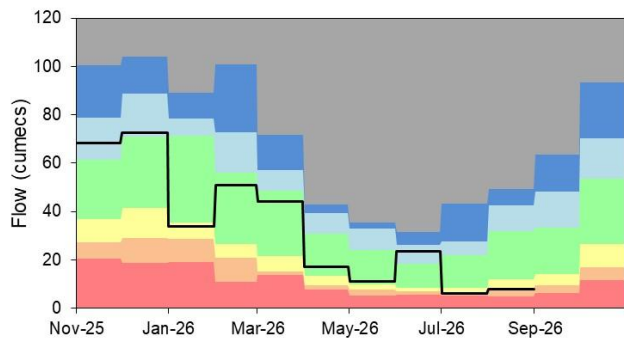
Portwood, TAME
 Ranking derived from data for the period Jan-1976 to Dec-2022



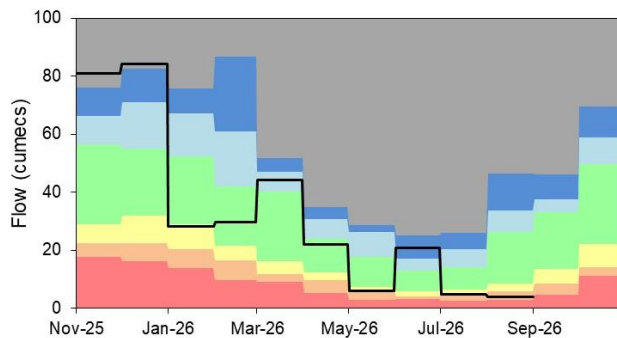
Rudheath, DANE
 Ranking derived from data for the period Jan-1976 to Dec-2022

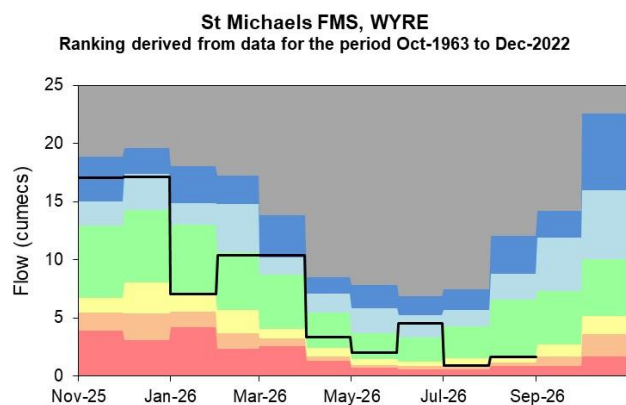
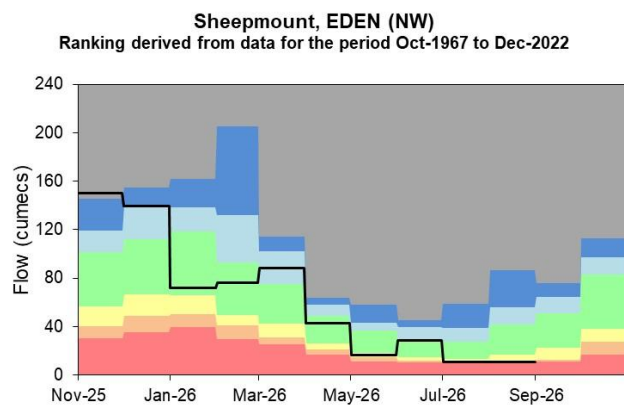
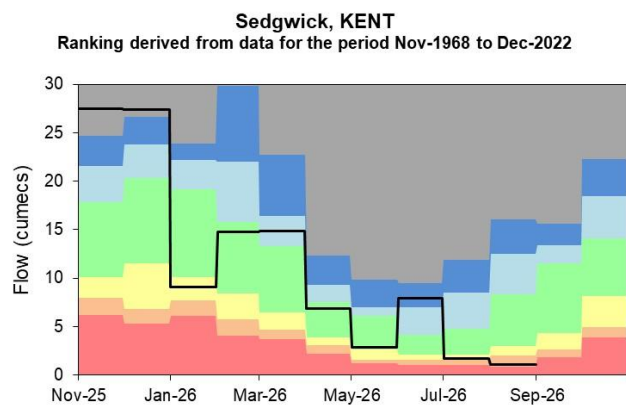


Samlesbury Pgs, RIBBLE (NW)
 Ranking derived from data for the period May-1960 to Dec-2022



Seaton Mill, DERWENT (NW)
 Ranking derived from data for the period Sep-1960 to Dec-2022



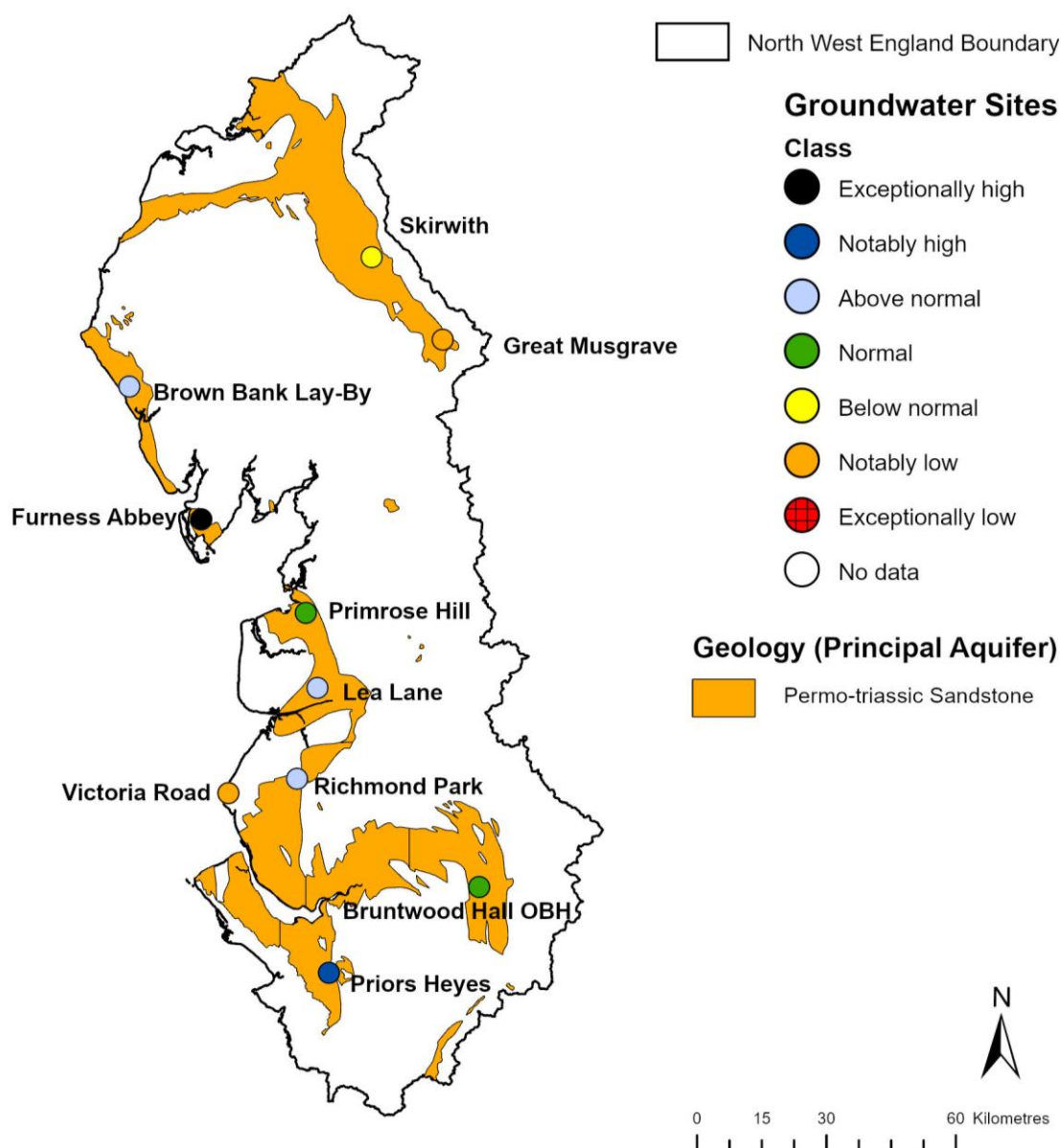


Source: Environment Agency.

5 Groundwater levels

5.1 Groundwater levels map

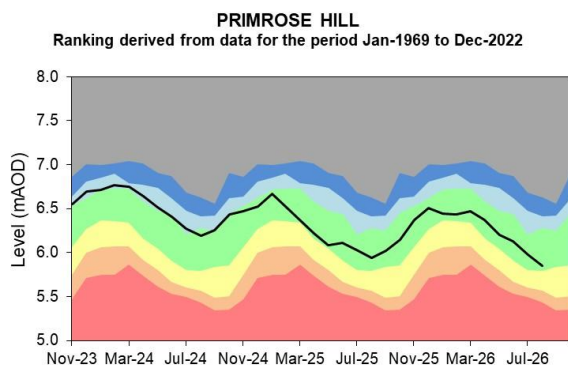
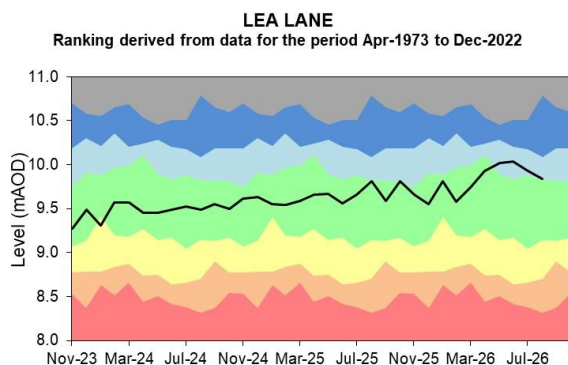
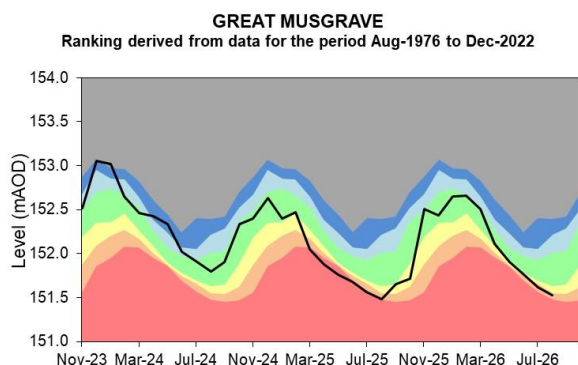
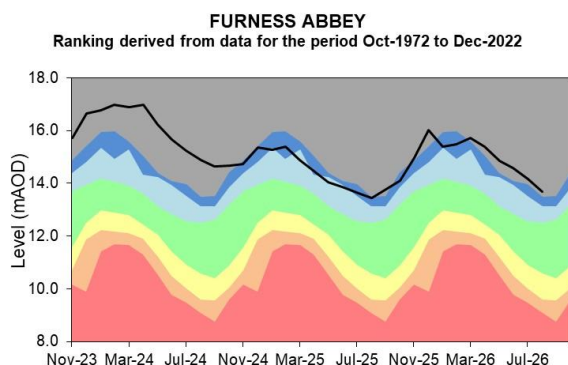
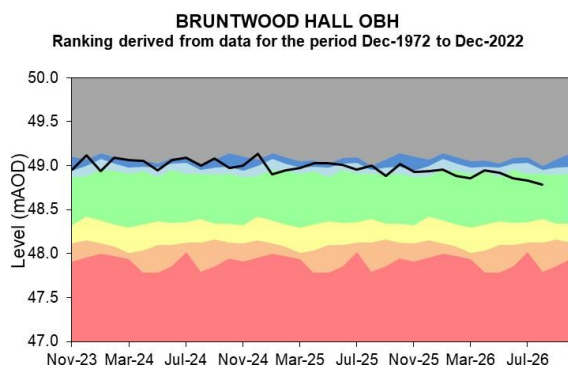
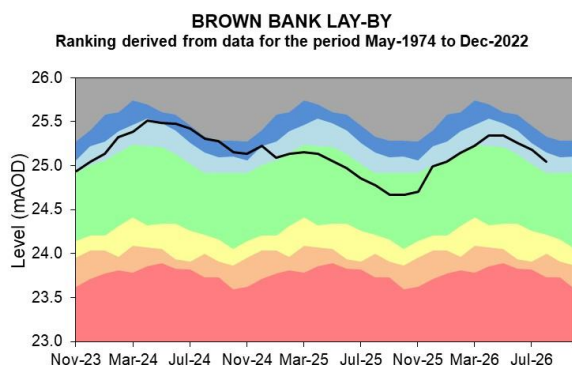
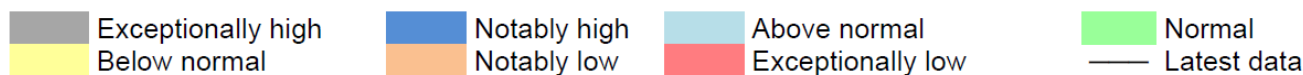
Figure 5.1: Groundwater levels for indicator sites at the end of August 2026, classed relative to an analysis of respective historic August levels. Table available in the appendices with detailed information. Please note Victoria Road Borehole sits within a superficial deposit as opposed to a bedrock aquifer. This is why the geology type is not marked on the map.

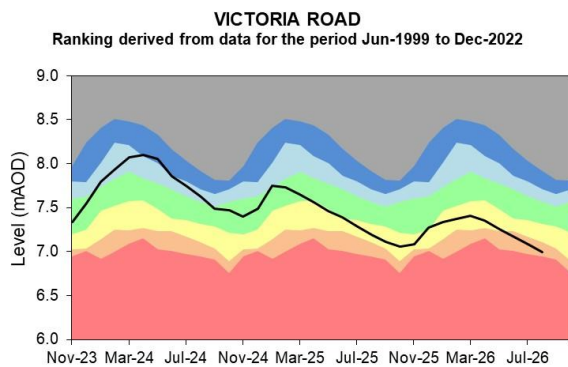
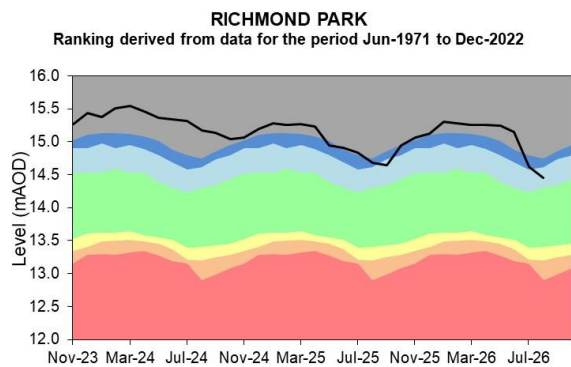
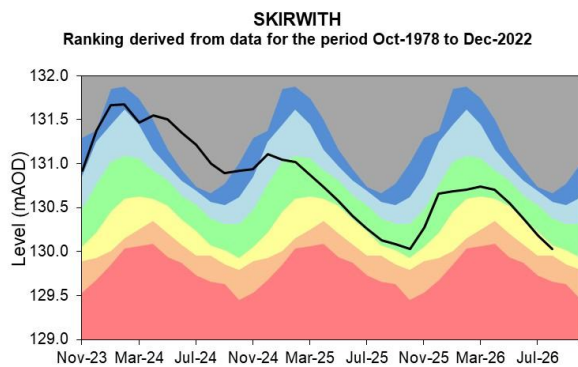
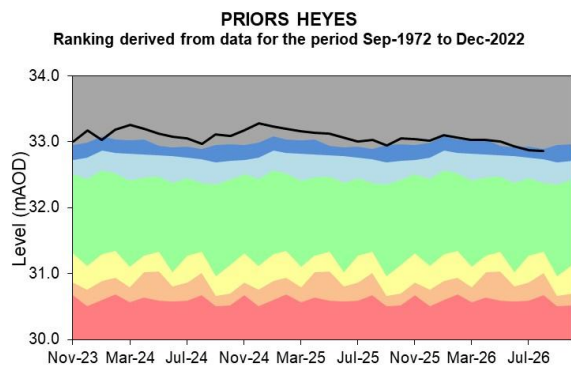


(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, AC0000807064, 2026.

5.2 Groundwater level charts

Figure 5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 34 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.





Source: Environment Agency, 2026.

6 Reservoir stocks

Figure 6.1: The location of reservoirs that comprise the supply districts across North-west England and selected individual reservoirs.

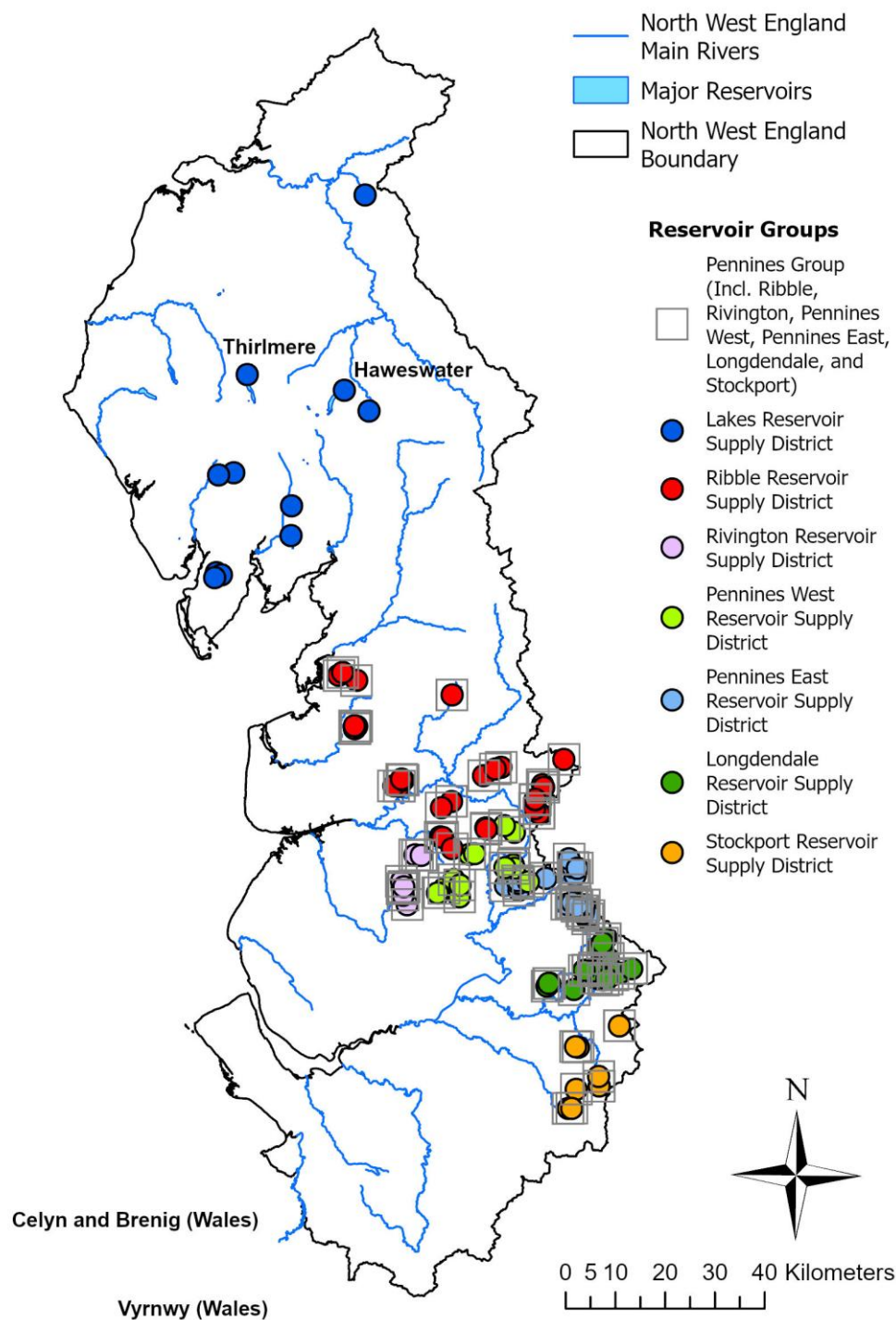
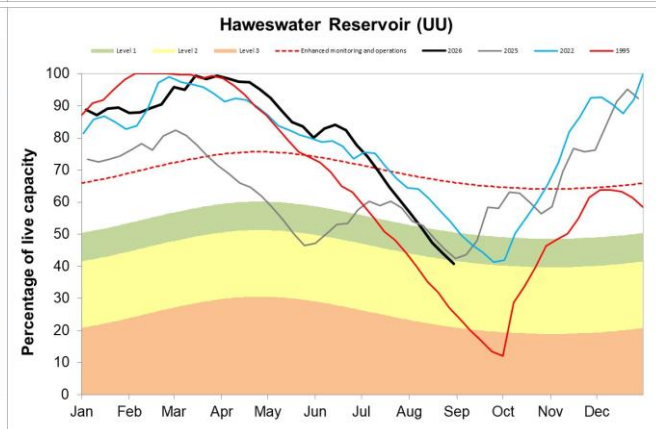
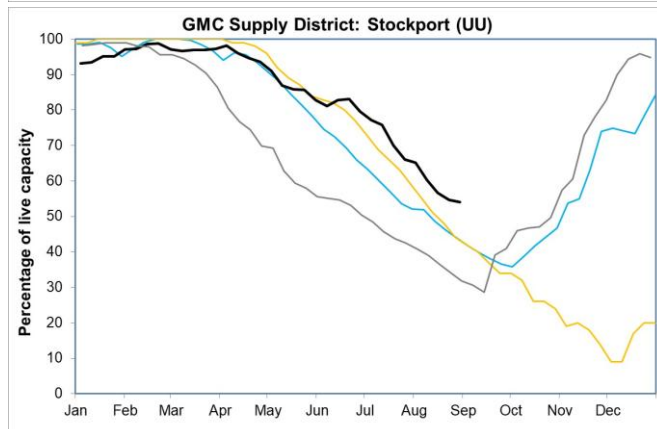
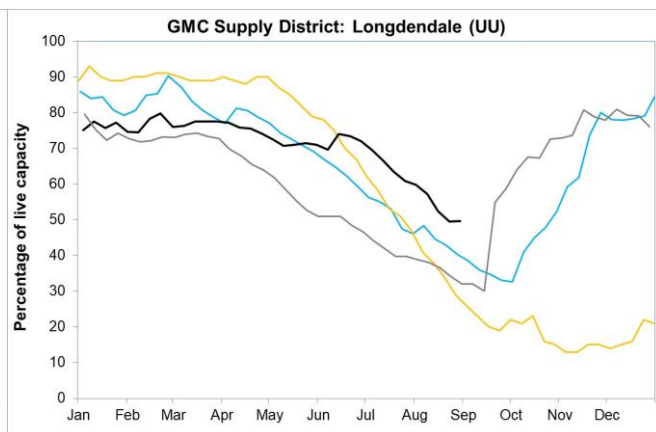
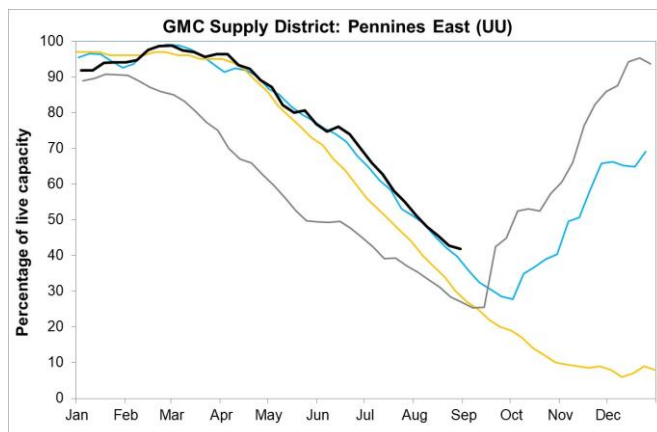
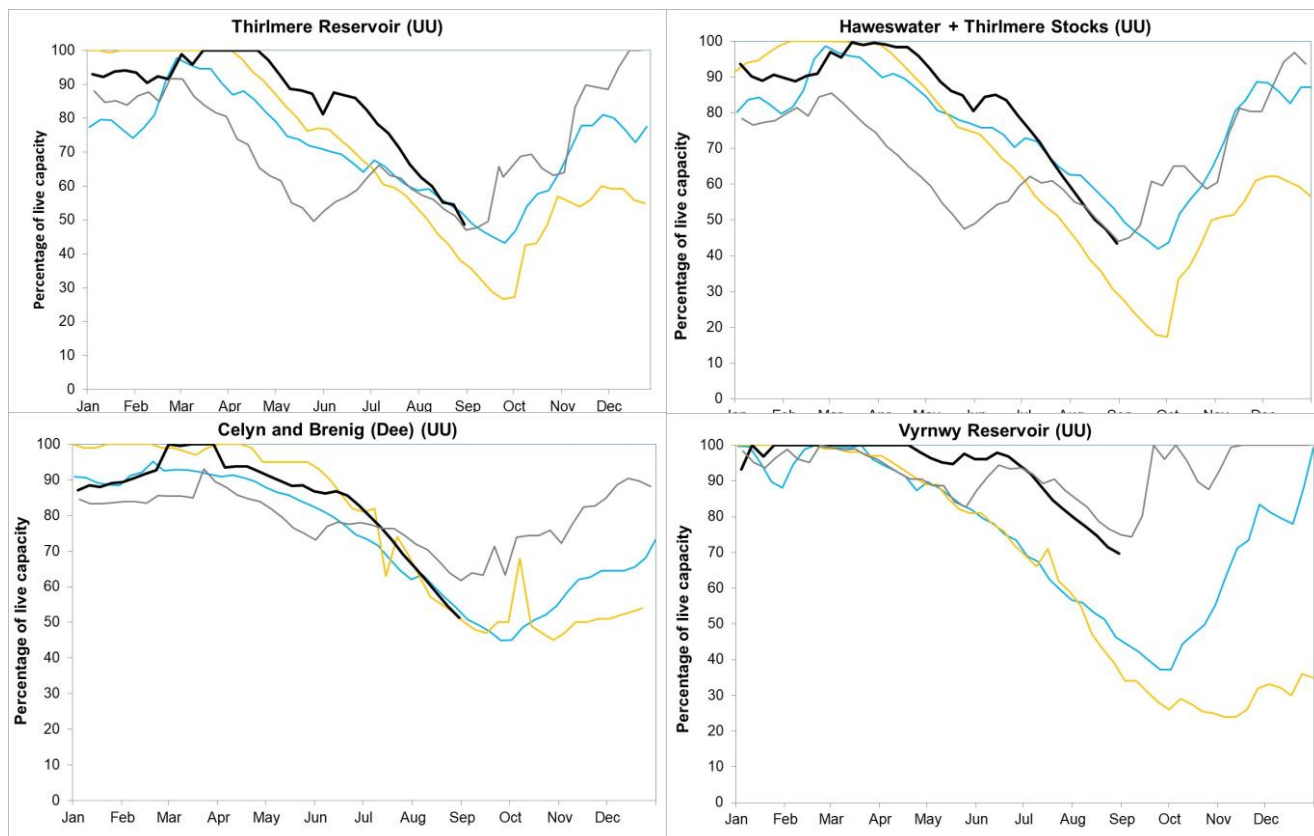


Figure 6.2: End of month reservoir stocks for supply districts across North-west England and selected individual reservoirs for current year (2026) and representative years: 1995, 2003 and 2022. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.







Source: (UU) United Utilities, (EA) The Environment Agency.

7 Glossary

7.1 Terminology

Aquifer

A geological formation able to store and transmit water.

Areal average rainfall

The estimated average depth of rainfall over a defined area. Expressed in depth of water (mm).

Artesian

The condition where the groundwater level is above ground surface but is prevented from rising to this level by an overlying continuous low permeability layer, such as clay.

Artesian borehole

Borehole where the level of groundwater is above the top of the borehole and groundwater flows out of the borehole when unsealed.

Cumecs

Cubic metres per second (m^3s^{-1}).

Effective rainfall

The rainfall available to percolate into the soil or produce river flow. Expressed in depth of water (mm).

Flood alert and flood warning

Three levels of warnings may be issued by the Environment Agency. Flood alerts indicate flooding is possible. Flood warnings indicate flooding is expected. Severe flood warnings indicate severe flooding.

Groundwater

The water found in an aquifer.

Long term average (LTA)

The arithmetic mean calculated from the historic record, usually based on the period 1991 to 2020. However, the period used may vary by parameter being reported on (see figure captions for details).

mAOD

Metres above ordnance datum (mean sea level at Newlyn Cornwall).

MORECS

Met Office Rainfall and Evaporation Calculation System. Met Office service providing real time calculation of evapotranspiration, soil moisture deficit and effective rainfall on a 40 by 40 km grid.

Naturalised flow

River flow with the impacts of artificial influences removed. Artificial influences may include abstractions, discharges, transfers, augmentation and impoundments.

NCIC

National Climate Information Centre. NCIC area monthly rainfall totals are derived using the Met Office 5 km gridded dataset, which uses rain gauge observations.

Recharge

The process of increasing the water stored in the saturated zone of an aquifer. Expressed in depth of water (mm).

Reservoir gross capacity

The total capacity of a reservoir.

Reservoir live capacity

The capacity of the reservoir that is normally usable for storage to meet established reservoir operating requirements. This excludes any capacity not available for use (for example, storage held back for emergency services, operating agreements or physical restrictions). May also be referred to as 'net' or 'deployable' capacity.

Soil moisture deficit (SMD)

The difference between the amount of water actually in the soil and the amount of water the soil can hold. Expressed in depth of water (mm).

7.2 Categories

Exceptionally high

Value likely to fall within this band 5% of the time.

Notably high

Value likely to fall within this band 8% of the time.

Above normal

Value likely to fall within this band 15% of the time.

Normal

Value likely to fall within this band 44% of the time.

Below normal

Value likely to fall within this band 15% of the time.

Notably low

Value likely to fall within this band 8% of the time.

Exceptionally low

Value likely to fall within this band 5% of the time.

8 Appendices

8.1 Rainfall table

Hydrological area	Aug 2026 rainfall % of long term average 1991 to 2020	Aug 2026 band	Jun 2026 to August cumulative band	Mar 2026 to August cumulative band	Sep 2025 to August cumulative band
Cheshire Rivers Group	101	Normal	Notably low	Notably low	Above normal
Derwent (NW)	83	Normal	Normal	Normal	Exceptionally high
Douglas	98	Normal	Below normal	Below normal	Above normal
Eden	76	Normal	Below normal	Normal	Notably high
Esk (Cumbria)	76	Normal	Normal	Above normal	Exceptionally high
Esk (Dumfries)	72	Normal	Normal	Normal	Notably high
Kent	70	Below Normal	Below normal	Normal	Exceptionally high
Mersey And Irwell	106	Normal	Below normal	Below normal	Above normal
Ribble	84	Normal	Below normal	Normal	Above normal
Wyre And Lune	82	Normal	Normal	Normal	Exceptionally high
North West	84	Normal	Below normal	Normal	Notably high

River flows table

Site name	River	Catchment	Aug 2026 band	Jul 2026 band
Adelphi Weir Upstream	Irwell	Irwell (Croal to Irk)	Below normal	Notably low
Ashbrook	Weaver (NW)	Weaver Upper	Below normal	Exceptionally low
Ashton Weir	Mersey	Mersey Non Tidal	Normal	Below normal
Bollington Mill	Bollin	Bollin	Below normal	Exceptionally low
Brinksway	Mersey	Mersey Non Tidal	Normal	Below normal
Bullgill	Ellen	Ellen Lower	Normal	Normal
Caton	Lune	Lune Lower Tidal	Exceptionally low	Notably low
Causey Bridges	Sankey	Mersey Non Tidal	Normal	Exceptionally low
Crople How	Esk (NW)	Esk (South West Lakes)	Below normal	Below normal
Croston	Yarrow	Yarrow Lower	Normal	Below normal
Duddon Hall	Duddon	Duddon	Below normal	Below normal
Hodder Place	Hodder	Hodder Lower	Normal	Below normal

Kirkby	Alt	Alt	Normal	Exceptionally low
Kirkby Stephen	Eden (NW)	Eden Cumbria Upper	Notably low	Missing Data
Little Woolden Hall Ultrasonic	Glaze	Glaze	Normal	Exceptionally low
Lunes Bridge	Lune	Lune Upper	Exceptionally low	Notably low
Newby Bridge Fms	Leven (NW)	Leven Cumbria	Notably low	Below normal
Pooley Bridge	Eamont	Eamont	Notably low	Below normal
Portwood	Tame	Tame	Below normal	Exceptionally low
Rudheath	Dane	Dane	Below normal	Notably low
Samlesbury Pgs	Ribble (NW)	Ribble Lower	Below normal	Notably low
Seaton Mill	Derwent (NW)	Derwent Cumbria Lower	Notably low	Below normal
Sedgwick	Kent	Levens Bridge	Notably low	Below normal
Sheepmount	Eden (NW)	Eden Cumbria Lower	Notably low	Notably low
St Michaels Fms	Wyre	Brock	Below normal	Below normal

8.2 Groundwater table

Site name	Aquifer	End of Aug 2026 band	End of Jul 2026 band
Brown Bank Lay-by	West Cumbria Permo-triassic Sandstone	Above normal	Above normal
Bruntwood Hall Obh	East Cheshire Permo-triassic Sandstone	Normal	Normal
Furness Abbey	Furness Permo- triassic Sandstone	Exceptionally high	Exceptionally high
Great Musgrave	Eden Valley And Carlisle Basin Permo-triassic Sandstone	Notably low	Notably low
Lea Lane	Fylde Permo- triassic Sandstone	Above normal	Above normal
Priors Heyes	West Cheshire Permo-triassic Sandstone	Notably high	Notably high
Primrose Hill	Fylde Permo- triassic Sandstone	Normal	Normal
Richmond Park	Rufford Permo- triassic Sandstone	Above normal	Notably high

Skirwith	Eden Valley And Carlisle Basin Permo-triassic Sandstone	Below normal	Below normal
Victoria Road Entrance	West Lancashire Quaternary Sand And Gravel Superficial Deposits	Notably low	Notably low