

# Monthly water situation report: North-west England

## 1 Summary – April 2026

Rainfall for north-west England during April was classed as normal, having received 78% of the long-term average (LTA). Soil Moisture deficits (SMD) were higher than expected for the time of year across north-west England. April monthly mean river flows for north-west England were generally as expected for the time of year, with the majority classed as normal, but ranging from below normal to above normal. Total reservoir storage for north-west England has declined compared to March, but still remains higher than average for the time of the year.

### 1.1 Rainfall

Rainfall for north-west England during April was classed as normal, receiving 78% of the LTA. Cumbria and Lancashire (CLA) received 84% of the LTA classed as normal and Greater Manchester, Merseyside and Cheshire (GMMC) received 54% of the LTA, classed as below normal.

North-west England saw a clear north-south spatial trend for April rainfall, being wetter in the north, and drier in southern areas. All hydrological areas south of the Wyre and Lune were classed as below normal, with areas to the north classed as normal. The lowest rainfall (in terms of the LTA) was recorded in the Cheshire Rivers Group at 46% of the LTA, classed as below normal. The highest rainfall (in terms of the LTA) was recorded in the Esk (Dumfries) hydrological area at 103% of the LTA, classed as normal.

During the 3-month cumulative period ending in April, a similar trend in rainfall can be observed with drier areas in south Lancashire and GMMC. West Cumbrian hydrological areas along with the Lune and Wyre saw the most rainfall, classed as notably high.

The 6-month cumulative period ending in April was wetter than expected, with all hydrological areas receiving rainfall classed between above normal and exceptionally high. Notably, this was the third wettest 6-month cumulative period ending in April on record for Cumbria, at 1017mm. It was also the third wettest 6-month period ending in April on record for the Esk (Cumbria), Derwent and Kent hydrological areas.

Over the 12-month cumulative period ending in April, a north-south spatial pattern was observed, with rainfall in northern hydrological areas classed as exceptionally high and in southern areas classed as above normal. The exception to this was the Douglas hydrological area which was classed as normal. For Cumbria, this was the third wettest 12-month cumulative period ending in April on record. The same 12-month period was also the wettest

on record for the Esk (Cumbria), and second wettest on record for the Derwent and Kent hydrological areas.

## 1.2 Soil moisture deficit and recharge

Soil moisture deficits across north-west England by the end of April ranged from 18mm to 47mm. For all hydrological areas, this was higher than expected for the time of year, when compared to the LTA. The largest deficit was seen in the Cheshire Rivers Group hydrological area, where the SMD was 22.8mm higher than the LTA.

## 1.3 River flows

In April, the majority of sites recorded normal monthly mean river flows for the time of year. Of the 25 sites, 21 were classed as normal, three sites above normal and one site below normal. Corresponding to spatial rainfall trends, lower flows were generally observed to the south, with the lowest flows at Kirkby in the Alt catchment, at 64% of the LTA. Monthly mean river flows were generally higher in north Lancashire and Cumbria, with the highest flows seen at Pooley Bridge in the Eamont catchment, at 158% of the LTA.

## 1.4 Groundwater levels

Groundwater levels across north-west England at the end of April were classed between below normal and exceptionally high. Groundwater levels increased at:

- Brown Bank Lay-By, from normal to above normal
- Bruntwood Hall, from normal to above normal

All other groundwater indicator sites remained at the same classification at:

- Furness Abbey, classed as exceptionally high
- Great Musgrave, classed as normal
- Lea Lane, classed as normal
- Primrose Hill, classed as normal
- Priors Heyes, classed as exceptionally high
- Skirwith, classed as normal
- Richmond Park, classed as exceptionally high
- Victoria Road, classed as below normal

Please note that the levels at Priors Heyes remain high compared to the historic levels because the aquifer is recovering from the effects of historically high abstractions.

## 1.5 Reservoir storage

Total reservoir storage for north-west England saw a slight decrease from 95% at the end of March, to 92% at the end of April. This is higher than the average of 88% for this time of the year, and higher than this time last year when total reservoir storage was 71%.

At the end of April, reservoir storage (in terms of percentage) was highest at Lake Vyrnwy at 98% full, and lowest at Longendale, at 74% full.

The combined storage at Haweswater and Thirlmere was at 96%. This is higher than the average of 85% for this time of the year, and higher than this time last year when the storage was 62%.

Reservoirs kept low for maintenance works include parts of the:

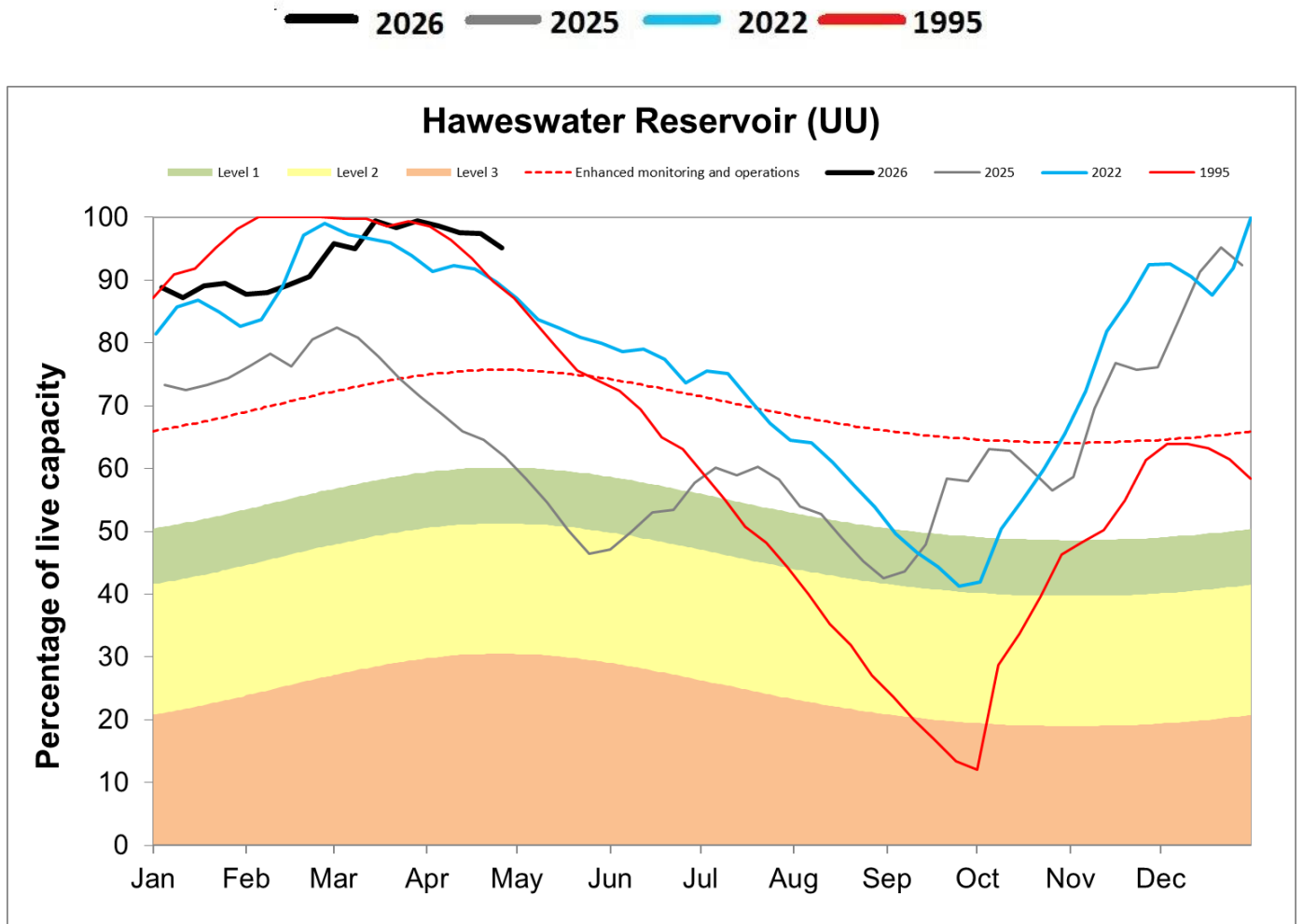
- Longridge System (Ribble Reservoir Supply District) – Alston No.1, Alston No.2, Spade Mill No.1, and Spade Mill No.2
- Rivington System (Rivington Reservoir Supply District) – Anglezarke, High Bullough, and Yarrow
- Longendale System (Longendale Reservoir Supply District) – Audenshaw No.1, Torside, and Woodhead
- Barnacre Group (Ribble Reservoir Supply District) – Barnacre North, and Barnacre South
- Cowpe System (Pennines West Reservoir Supply District) – Cragg
- Cowm System (Longendale Reservoir Supply District) – Cowm
- Poaka Beck System (Lakes Reservoir Supply District) – Harlock
- Piethorne Valley System (Pennines East Reservoir Supply District) – Kitcliffe
- Ogden (Barley) System (Ribble Reservoir Supply District) – Ogden (Barley) Lower, and Ogden (Barley) Upper
- Ridgegate System (Stockport Reservoir Supply District) – Ridgegate

## 1.6 Water abstraction restrictions and environmental impacts

In CLA, five water abstraction licences were issued with warnings or stop notices in April. In GMMC, one water abstraction licence was issued with a reduce notice. There were no reported environmental incidents related to dry weather across north-west England.

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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)).

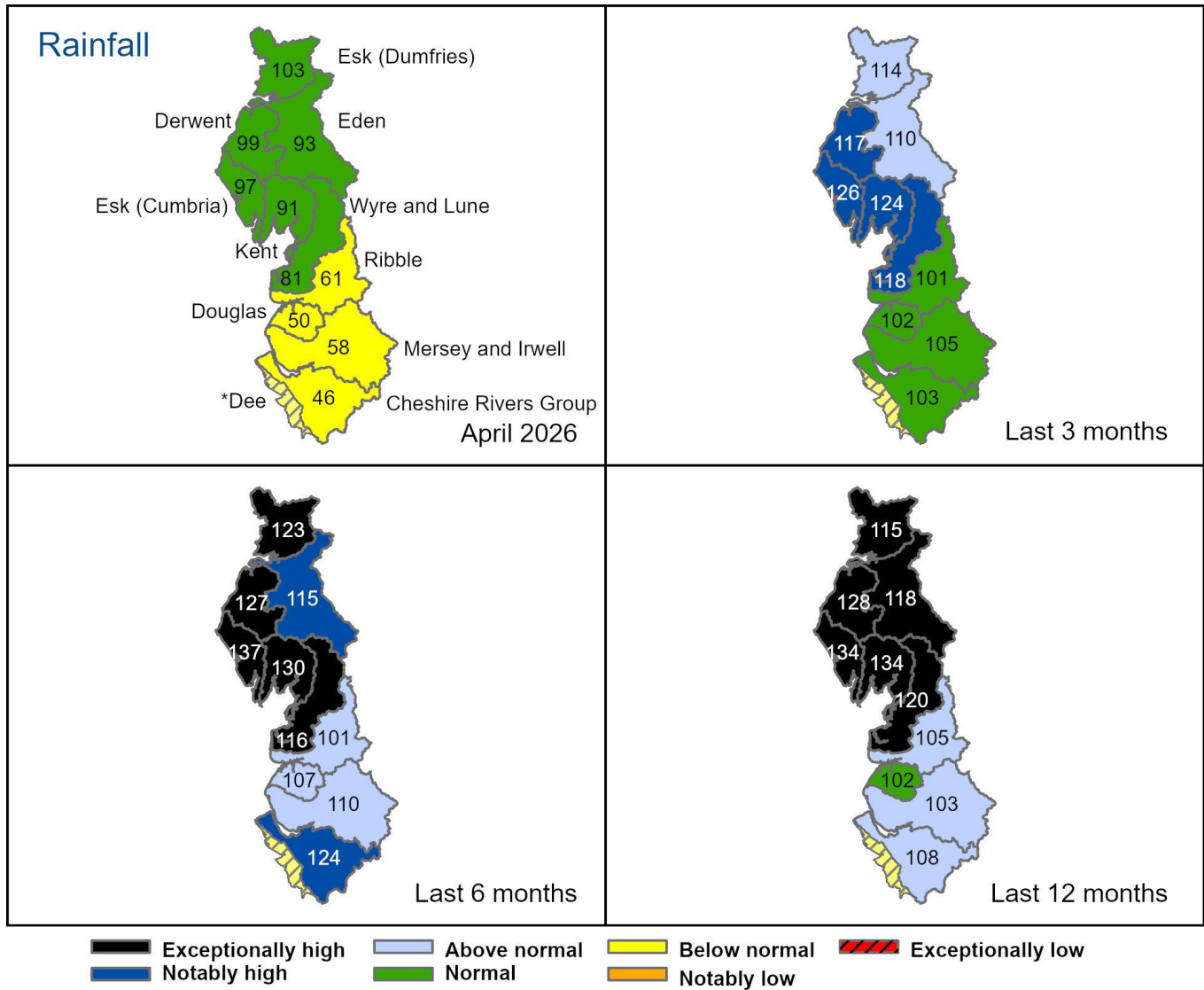


Author: Cumbria and Lancashire Hydrology Team, [hydrology.CMBLNC@environment-agency.gov.uk](mailto:hydrology.CMBLNC@environment-agency.gov.uk)

## 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 30 April 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.

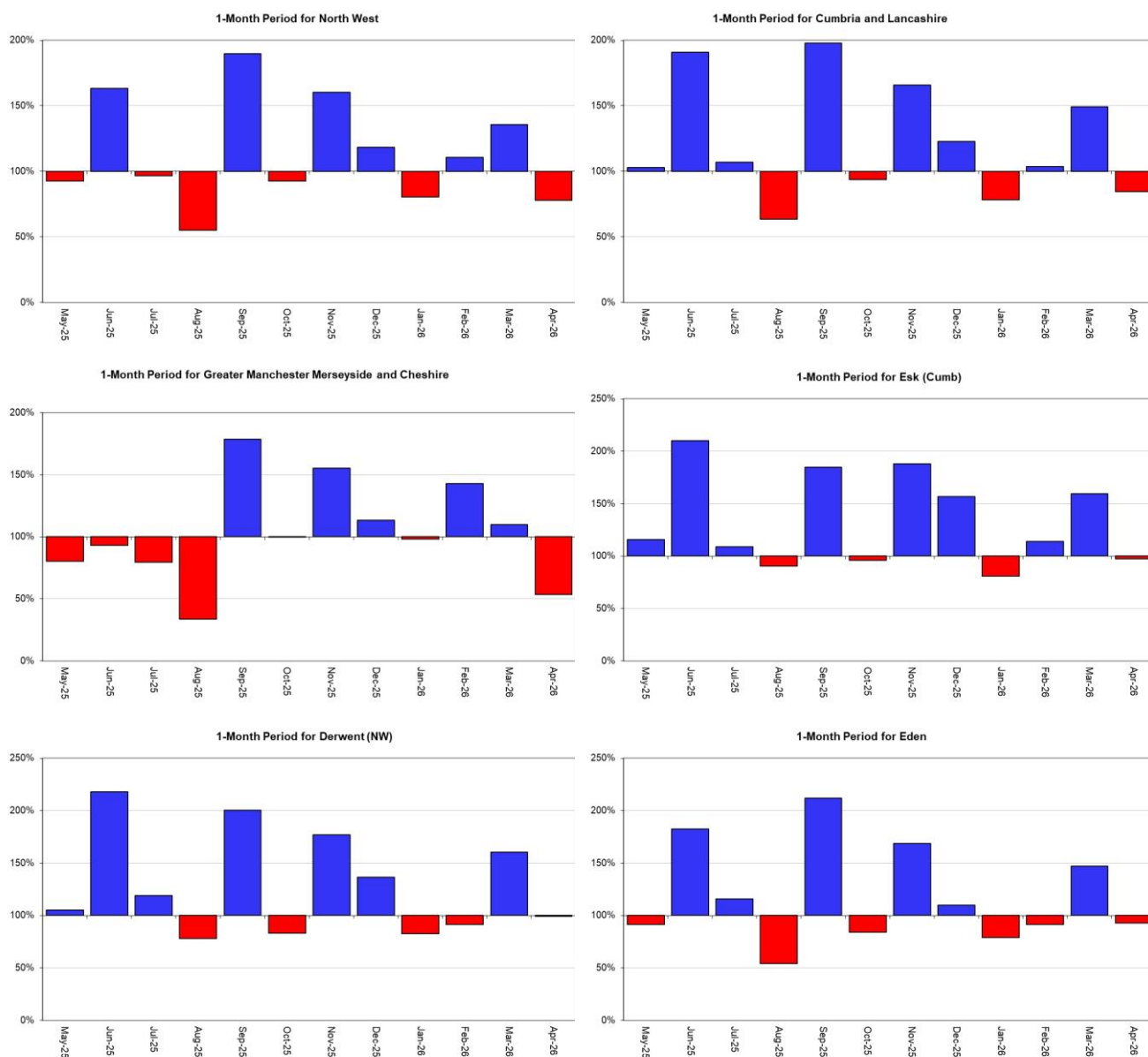


Rainfall data since January 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, AC0000807064, 2026). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded rainfall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

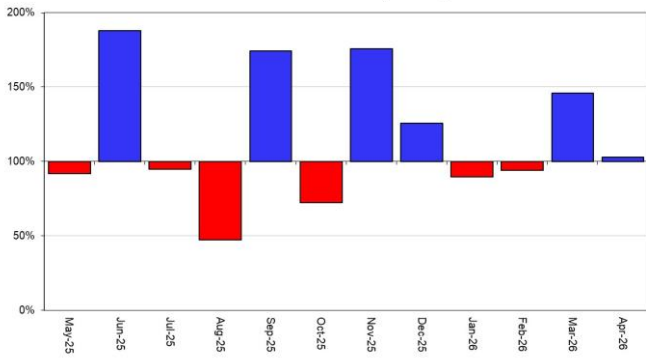
## 2.2 Rainfall charts

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.

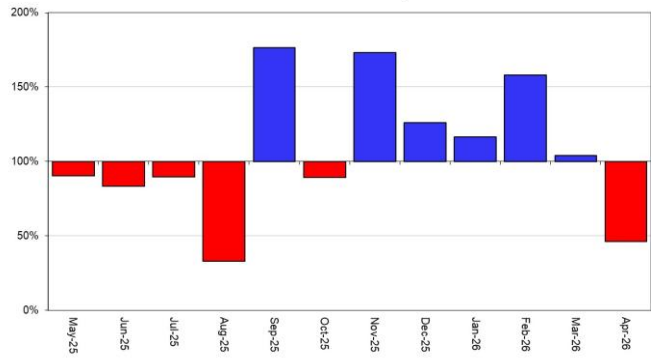
Above average rainfall
  Below average rainfall



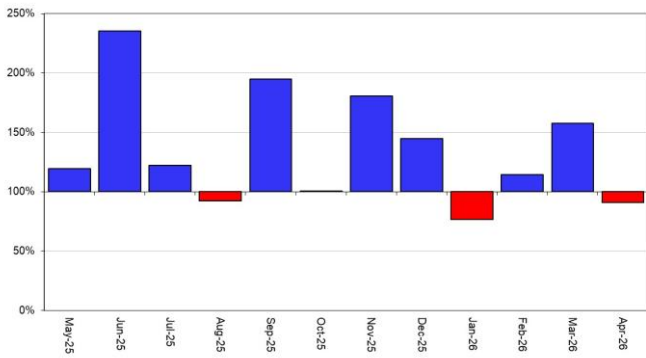
1-Month Period for Esk (Dumfries)



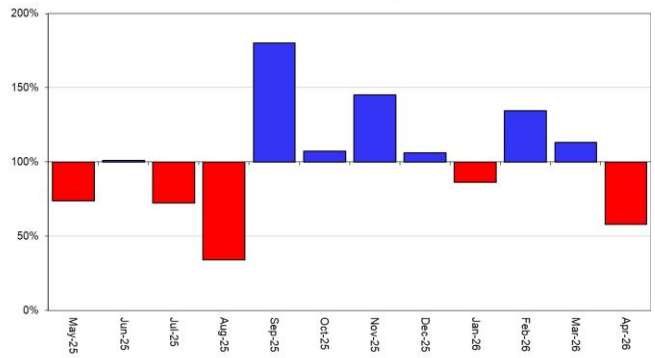
1-Month Period for Cheshire Rivers Group



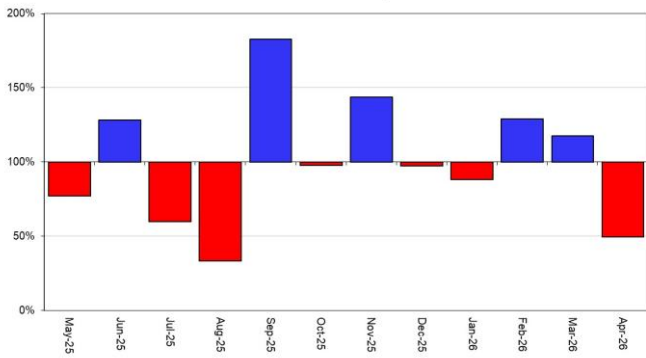
1-Month Period for Kent



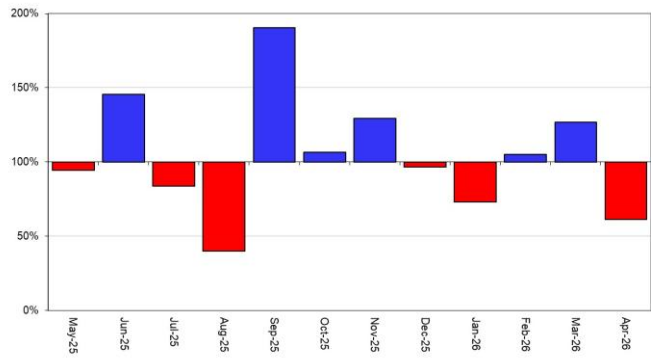
1-Month Period for Mersey and Irwell

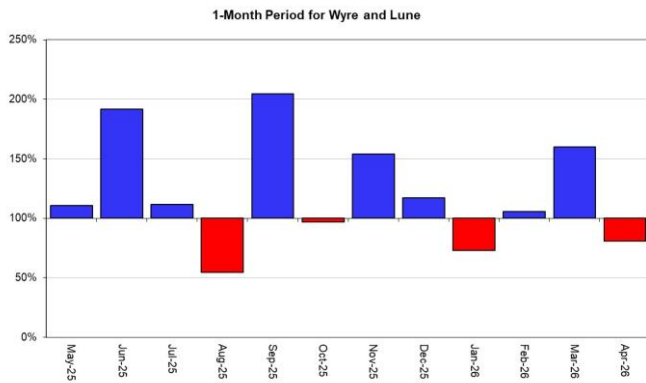


1-Month Period for Douglas



1-Month Period for Ribble



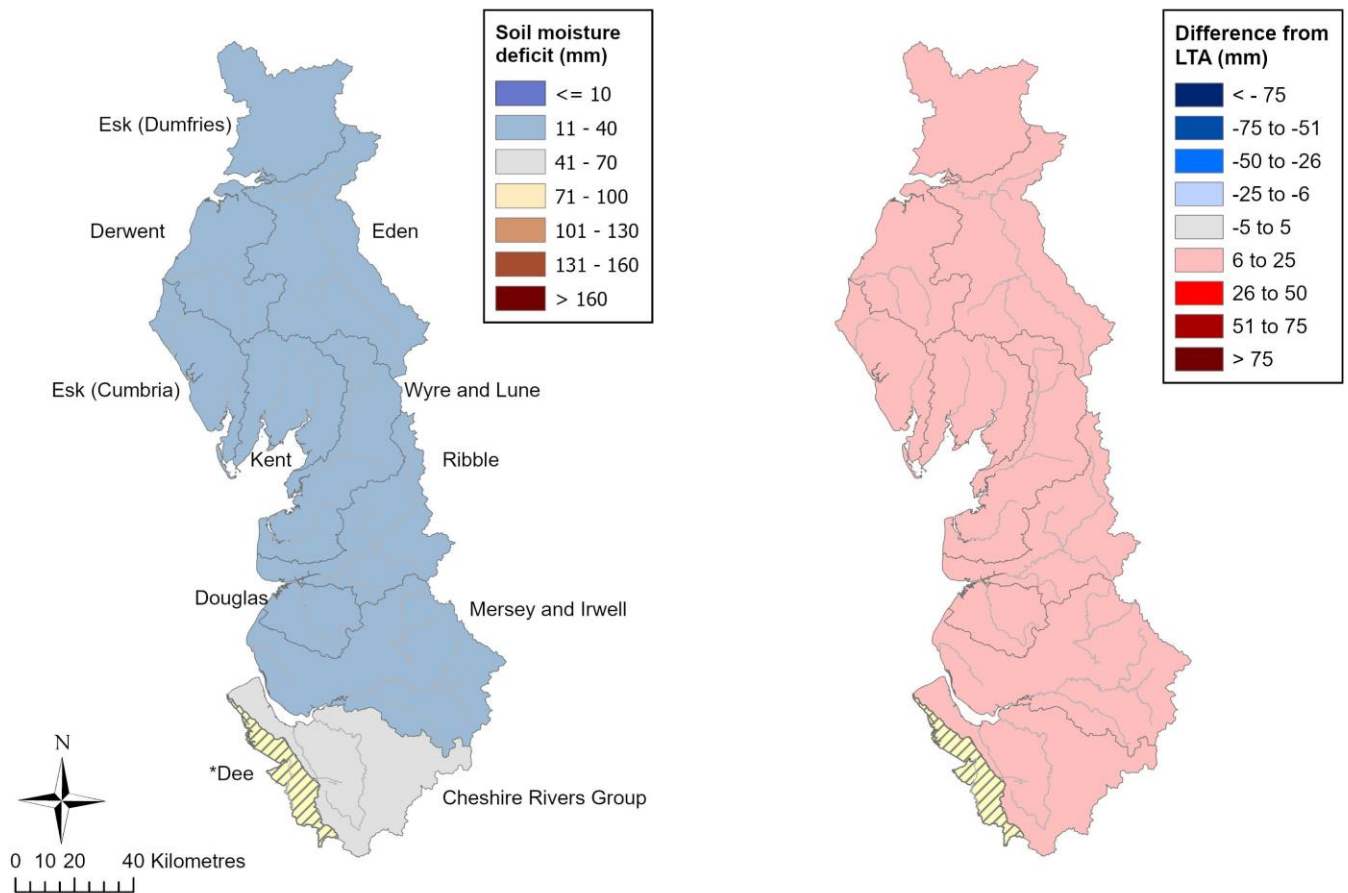


Rainfall data since January 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, AC0000807064, 2026). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded rainfall 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 28 April 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.

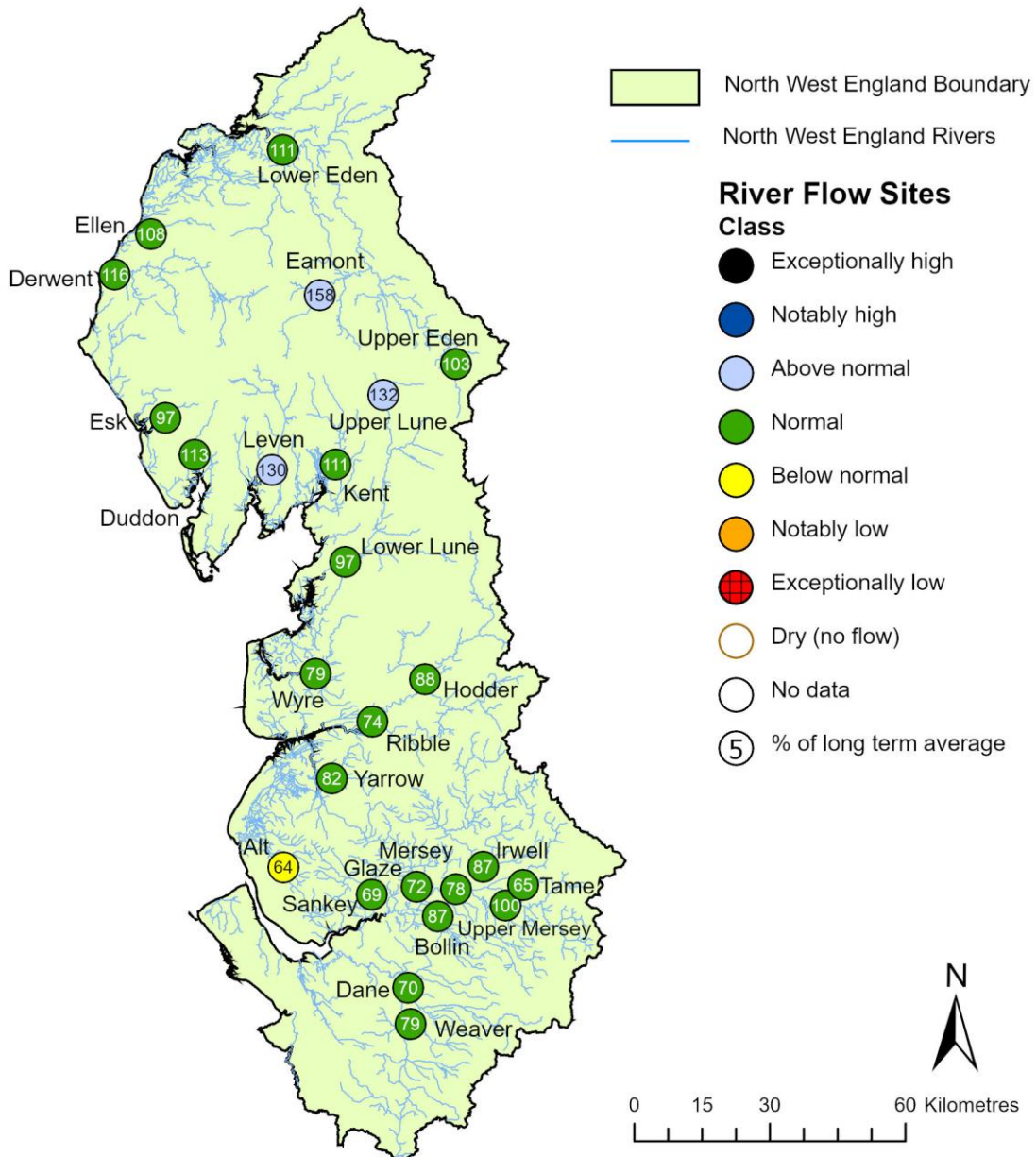


(Source: Met Office. Crown copyright, 2026). All rights reserved. Environment Agency, AC0000807064, 2026.

# 4 River flows

## 4.1 River flows map

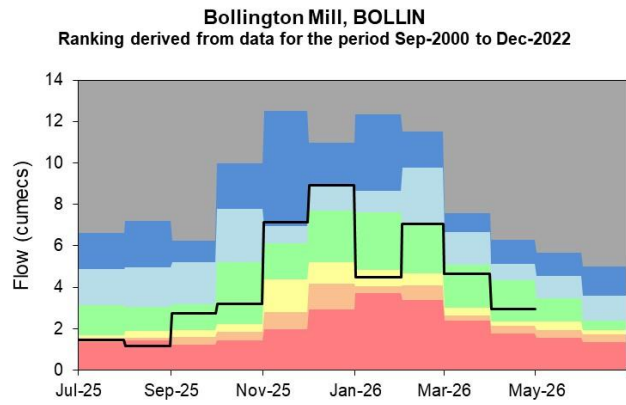
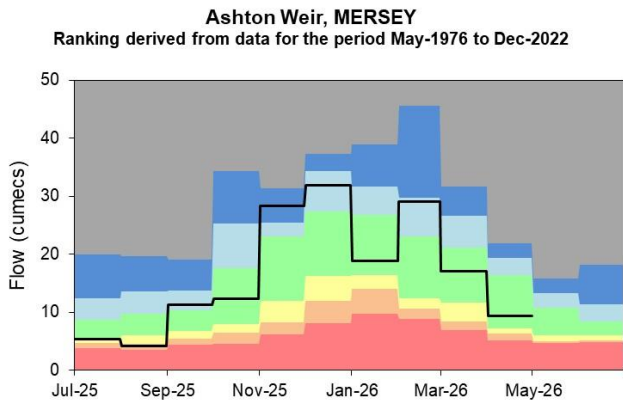
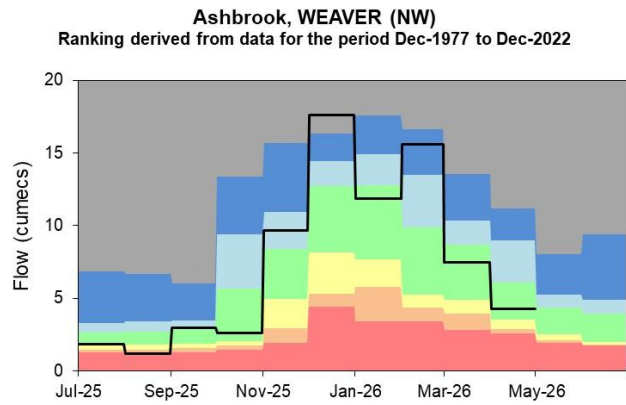
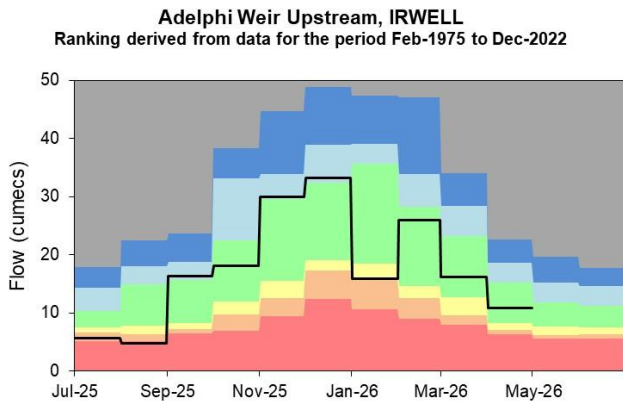
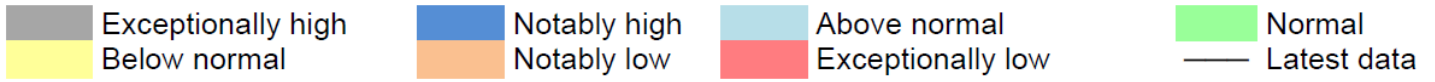
Figure 4.1: Monthly mean river flow for indicator sites for April 2026, expressed as a percentage of the respective long term average and classed relative to an analysis of historic April monthly means. Table available in the appendices with detailed information.



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

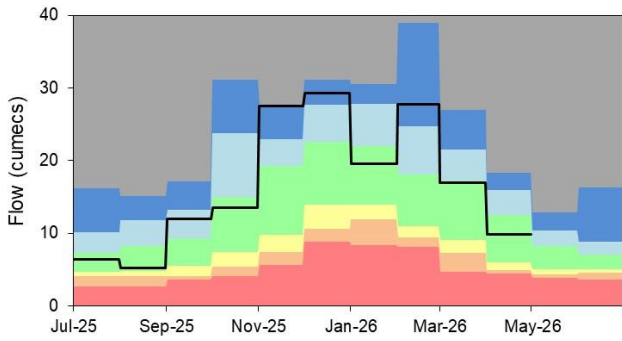
## 4.2 River flow charts

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



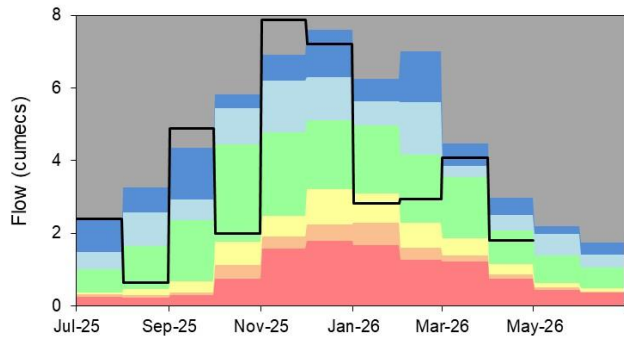
**Brinksway, MERSEY**

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



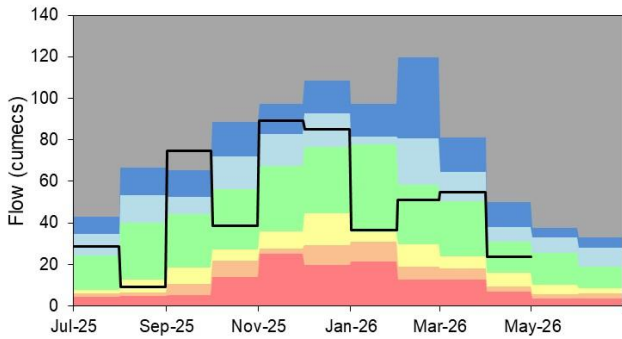
**Bullgill, ELLEN**

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



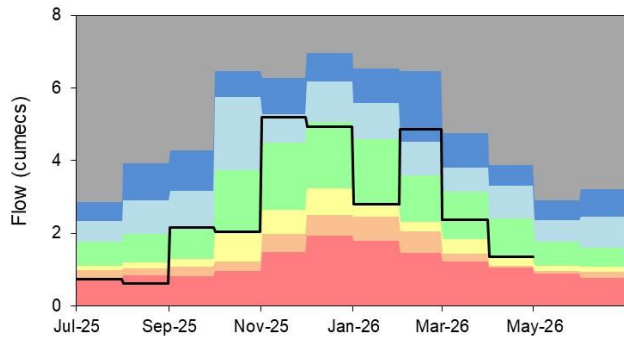
**Caton, LUNE**

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



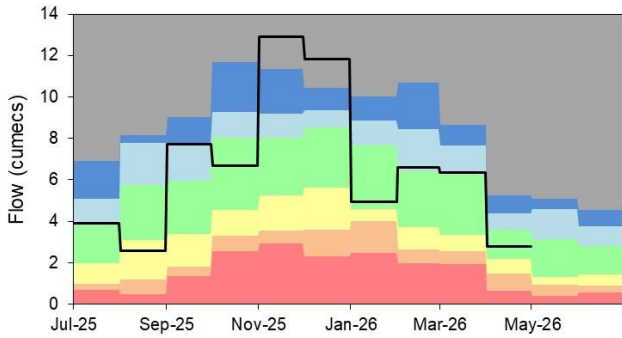
**Causey Bridges, SANKEY**

Ranking derived from data for the period Jan-1977 to Dec-2022



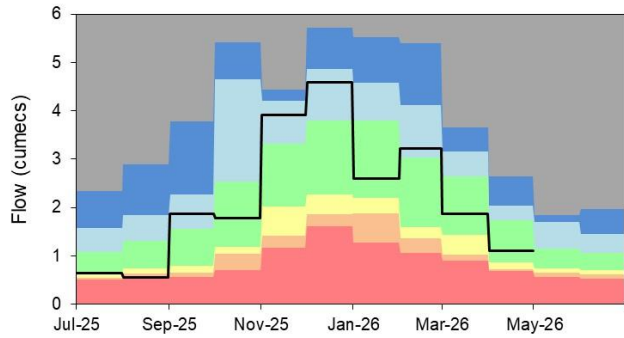
**Crople How, ESK (NW)**

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

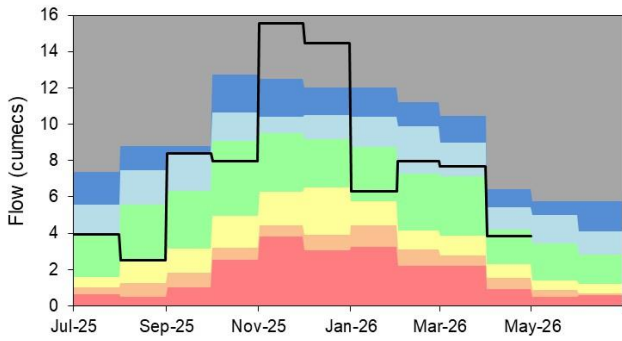


**Croston, YARROW**

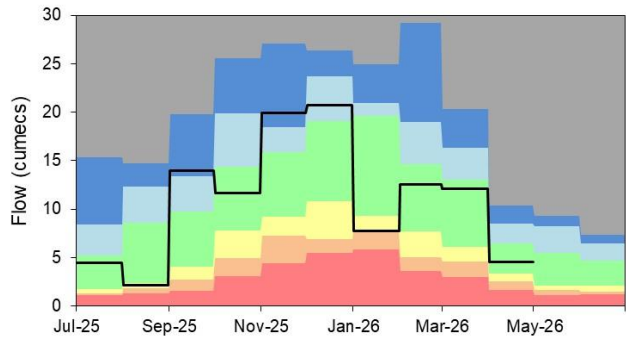
Ranking derived from data for the period Jan-1976 to Dec-2022



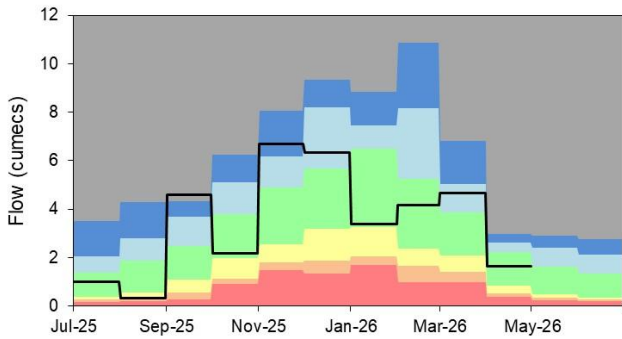
**Duddon Hall, DUDDON**  
Ranking derived from data for the period Mar-1968 to Dec-2022



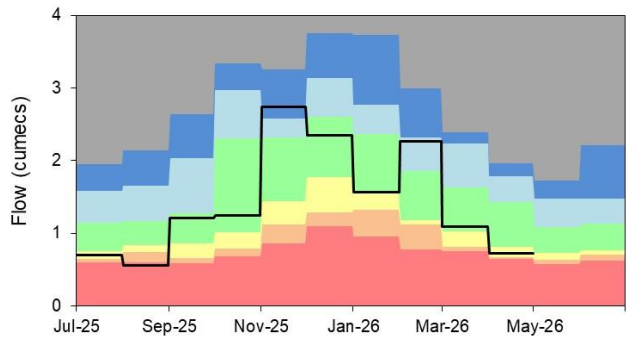
**Hodder Place, HODDER**  
Ranking derived from data for the period Jan-1976 to Dec-2022



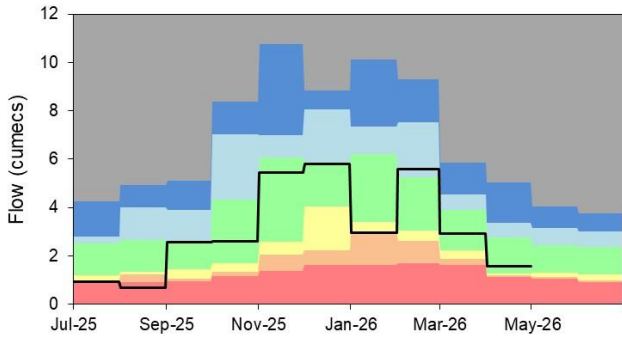
**Kirkby Stephen, EDEN (NW)**  
Ranking derived from data for the period Oct-1971 to Dec-2022



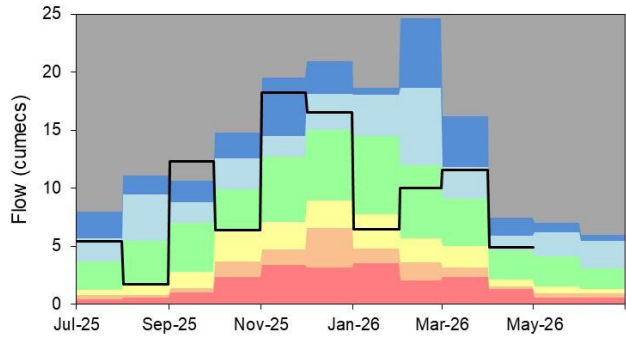
**Kirkby, ALT**  
Ranking derived from data for the period Oct-1977 to Dec-2022



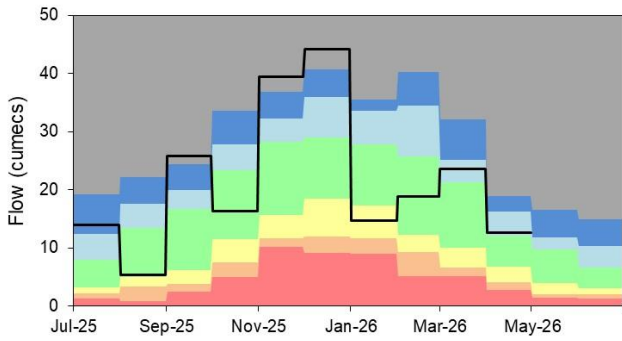
**Little Woollen Hall Ultrasonic, GLAZE**  
Ranking derived from data for the period Jul-1995 to Dec-2022



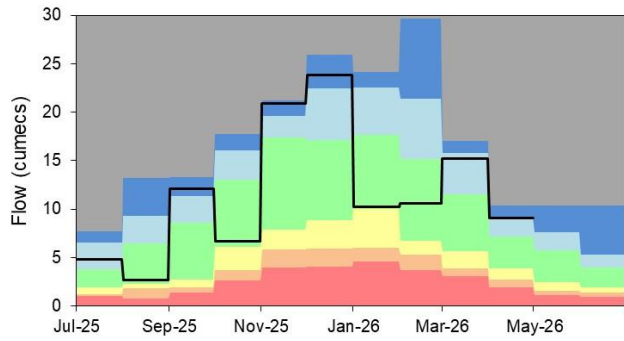
**Lunes Bridge, LUNE**  
Ranking derived from data for the period Dec-1979 to Dec-2022



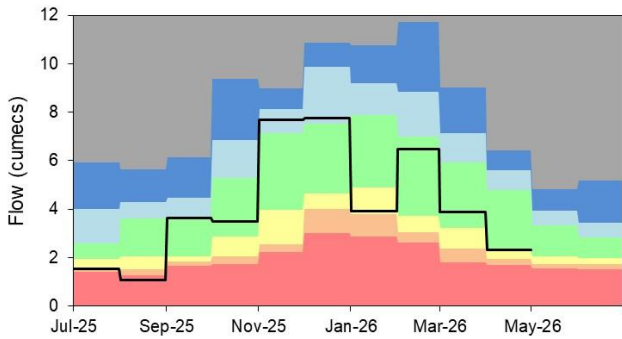
**Newby Bridge FMS, LEVEN (NW)**  
Ranking derived from data for the period Jan-1972 to Dec-2022



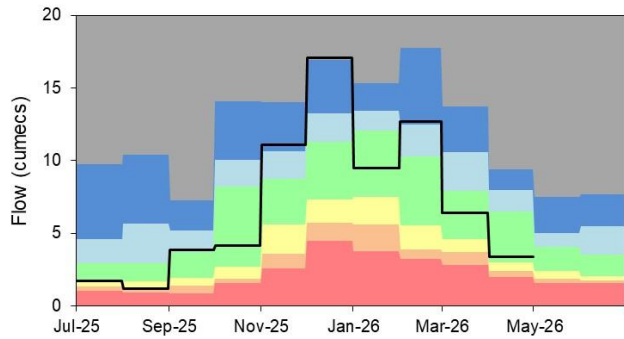
**Pooley Bridge, EAMONT**  
Ranking derived from data for the period Jul-1970 to Dec-2022



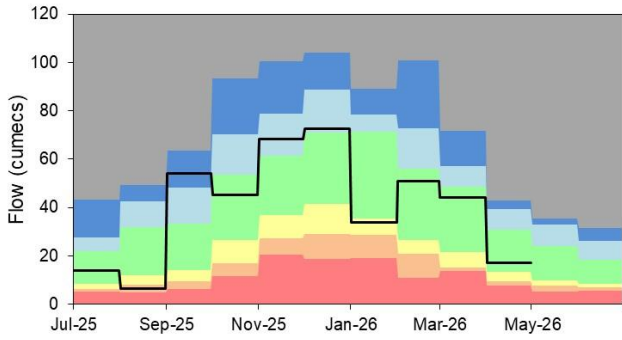
**Portwood, TAME**  
Ranking derived from data for the period Jan-1976 to Dec-2022



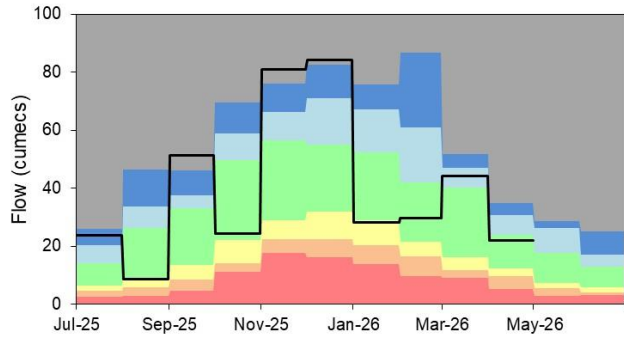
**Rudheath, DANE**  
Ranking derived from data for the period Jan-1976 to Dec-2022



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

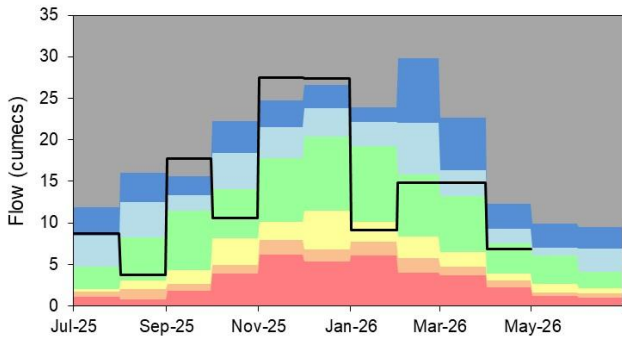


**Seaton Mill, DERWENT (NW)**  
Ranking derived from data for the period Sep-1960 to Dec-2022



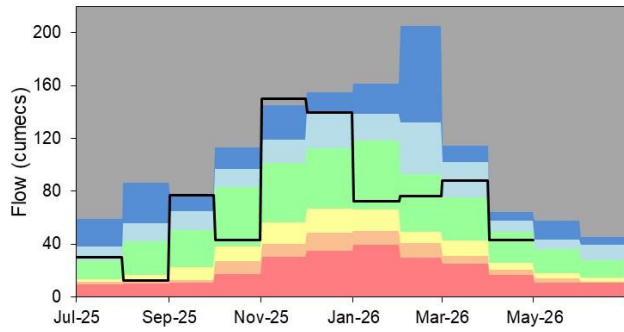
**Sedgwick, KENT**

Ranking derived from data for the period Nov-1968 to Dec-2022



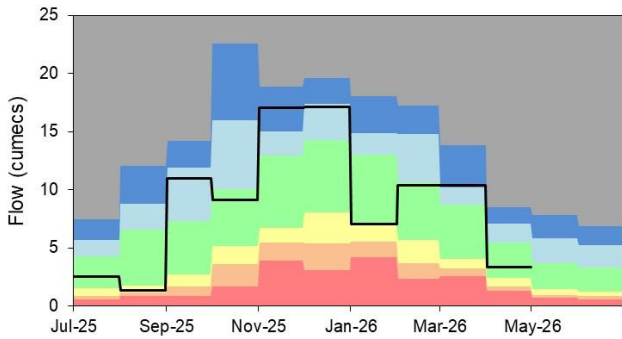
**Sheepmount, EDEN (NW)**

Ranking derived from data for the period Oct-1967 to Dec-2022



**St Michaels FMS, WYRE**

Ranking derived from data for the period Oct-1963 to Dec-2022

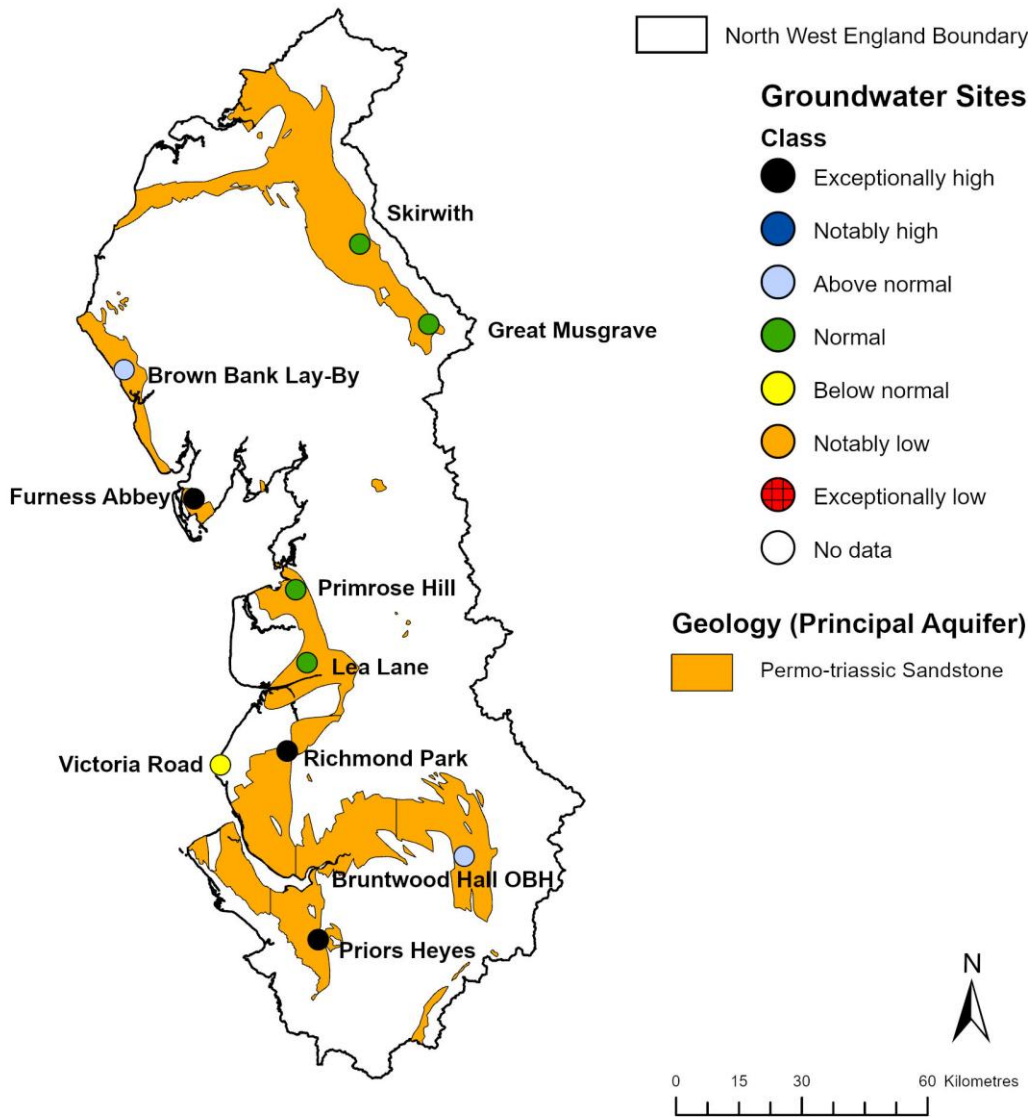


Source: Environment Agency.

# 5 Groundwater levels

## 5.1 Groundwater levels map

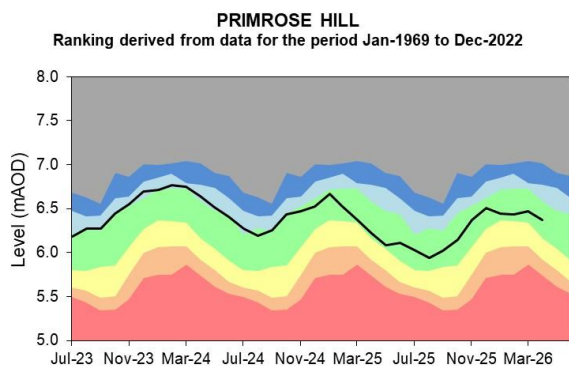
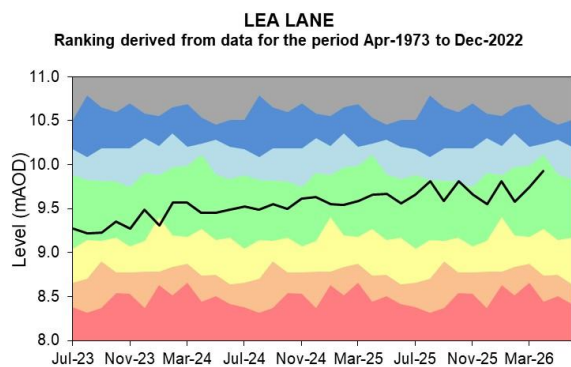
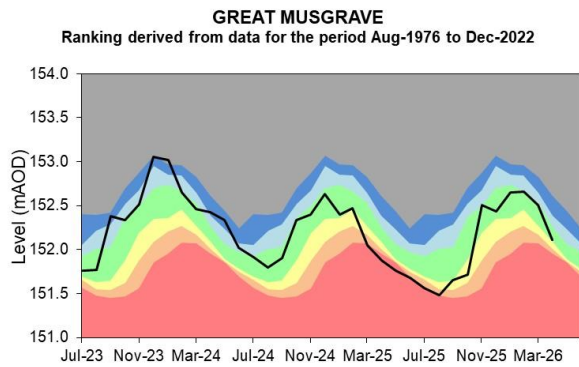
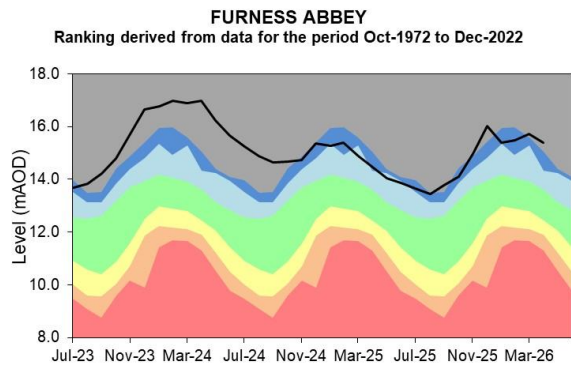
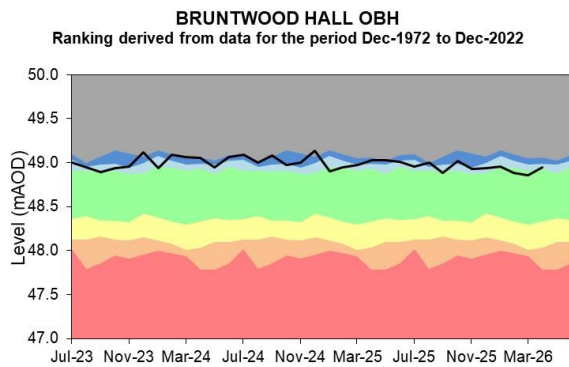
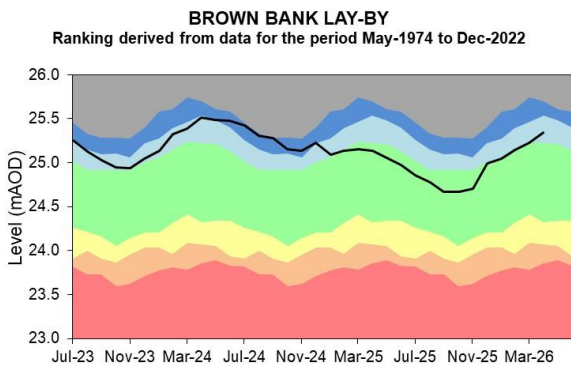
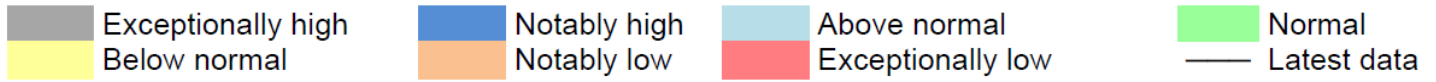
Figure 5.1: Groundwater levels for indicator sites at the end of April 2026, classed relative to an analysis of respective historic April levels. Table available in the appendices with detailed information. Please note Victoria Road Borehole sits within a superficial deposit as opposed to a bedrock aquifer. 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.

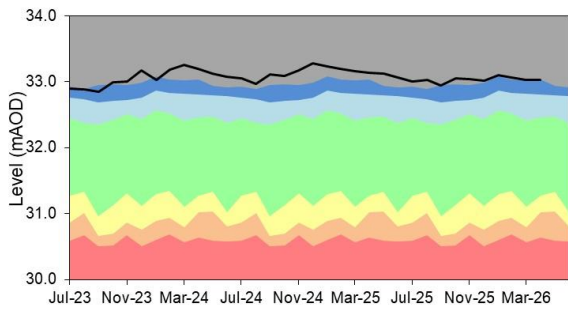
## 5.2 Groundwater level charts

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.



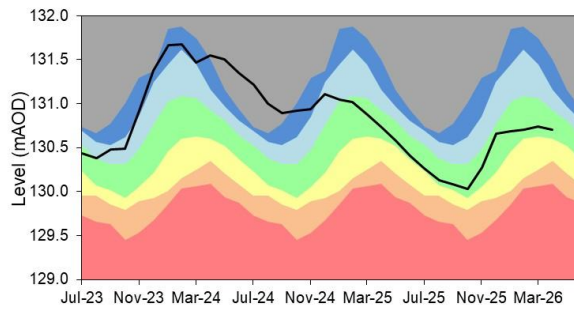
**PRIORS HEYES**

Ranking derived from data for the period Sep-1972 to Dec-2022



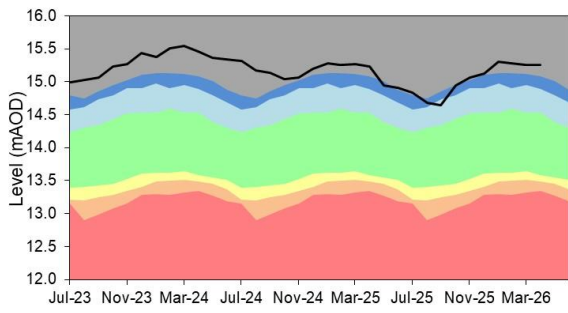
**SKIRWITH**

Ranking derived from data for the period Oct-1978 to Dec-2022



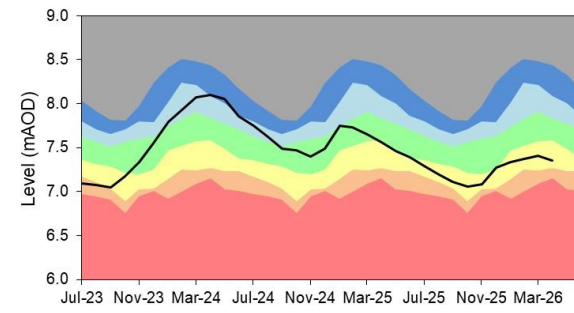
**RICHMOND PARK**

Ranking derived from data for the period Jun-1971 to Dec-2022



**VICTORIA ROAD**

Ranking derived from data for the period Jun-1999 to Dec-2022



Source: Environment Agency, 2026.

## 6 Reservoir storage

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

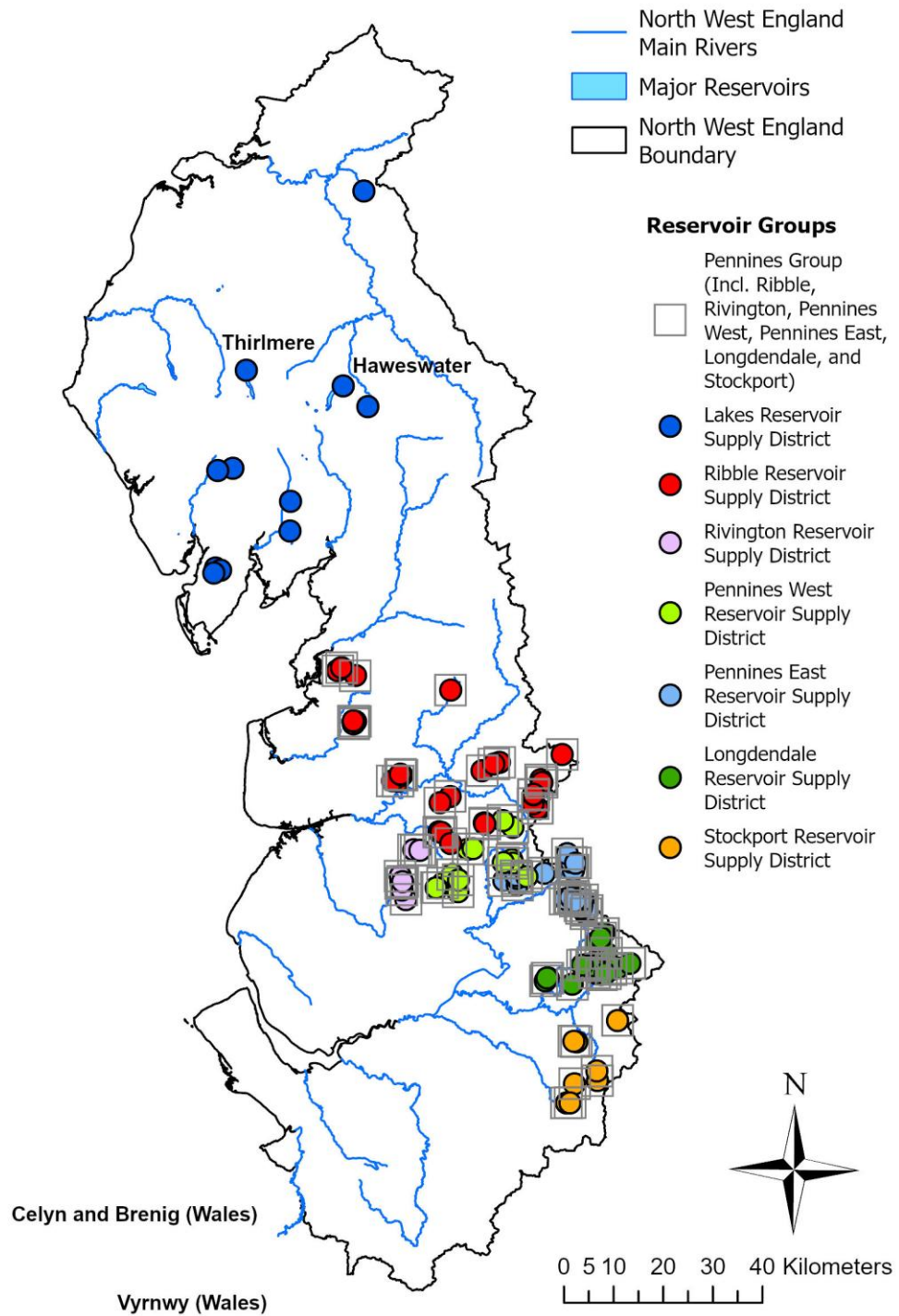
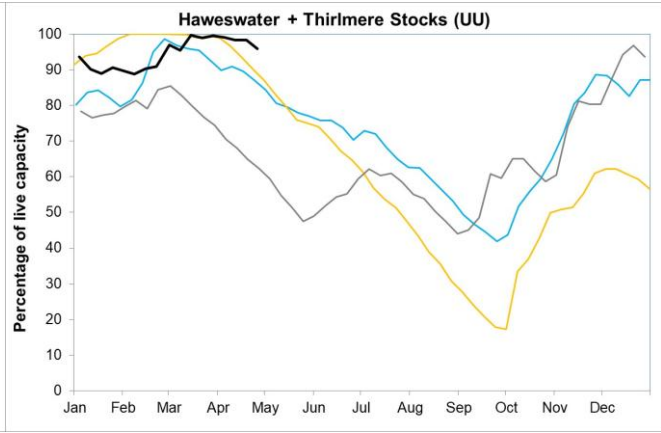
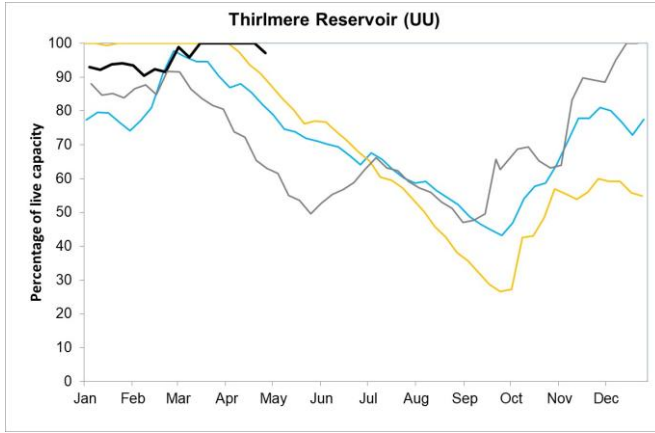
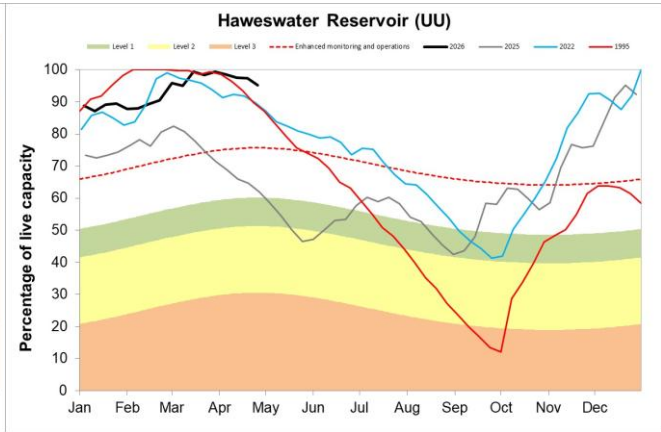
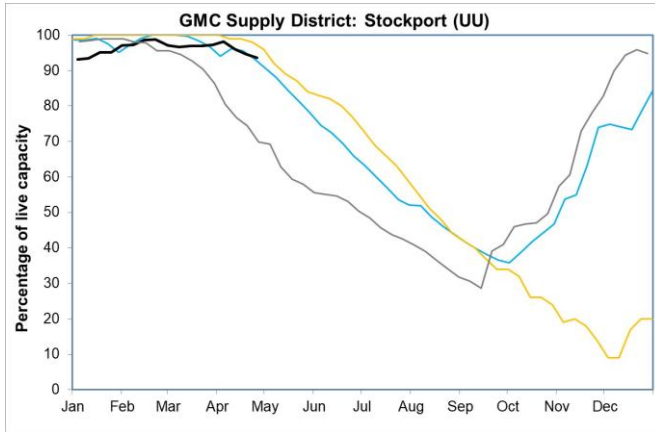
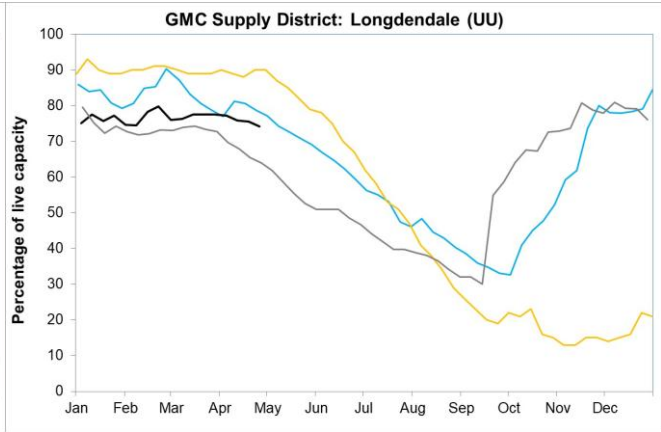
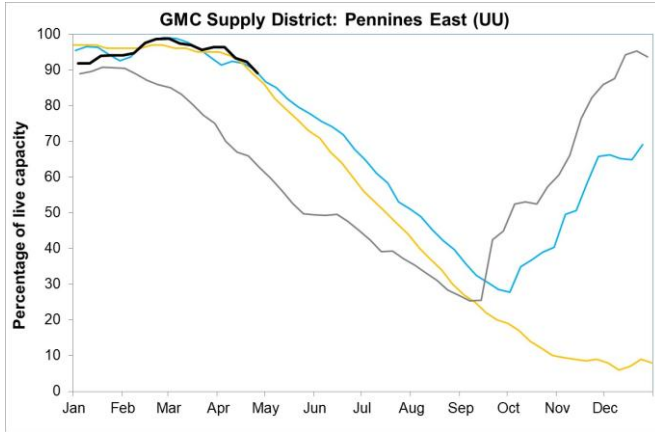
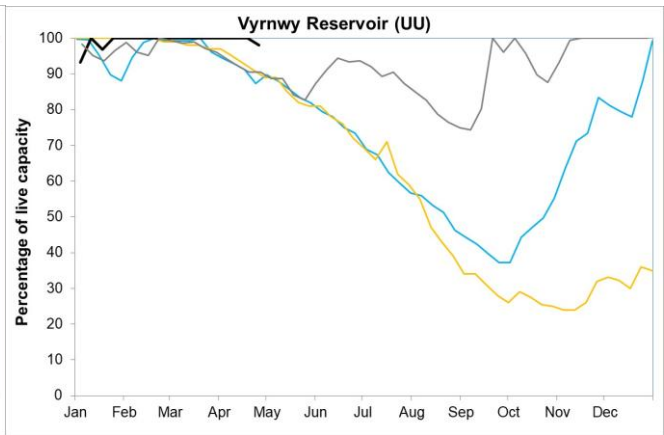
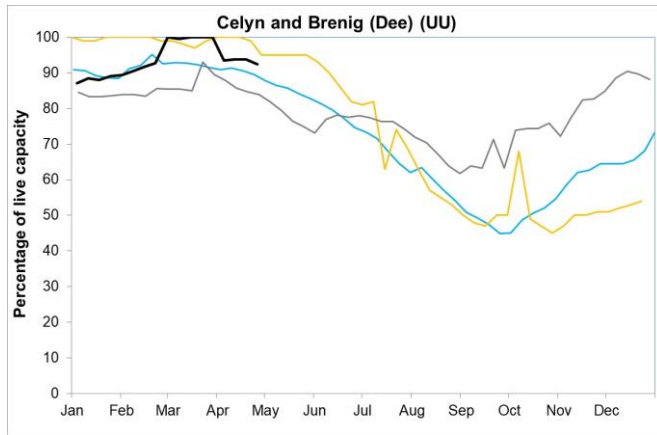


Figure 6.2: End of month reservoir stocks for supply districts across North-west England and selected individual reservoirs for current year (2026) and representative years: 1995, 2003 and 2022. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in 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 ( $\text{m}^3\text{s}^{-1}$ ).

#### **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	Apr 2026 rainfall % of long term average 1991 to 2020	Apr 2026 band	Feb 2026 to April cumulative band	Nov 2025 to April cumulative band	May 2025 to April cumulative band
Cheshire Rivers Group	46	Below Normal	Normal	Notably high	Above normal
Derwent (NW)	99	Normal	Notably high	Exceptionally high	Exceptionally high
Douglas	50	Below Normal	Normal	Above normal	Normal
Eden	93	Normal	Above normal	Notably high	Exceptionally high
Esk (Cumbria)	97	Normal	Notably high	Exceptionally high	Exceptionally high
Esk (Dumfries)	103	Normal	Above normal	Exceptionally high	Exceptionally high
Kent	91	Normal	Notably high	Exceptionally high	Exceptionally high
Mersey And Irwell	58	Below Normal	Normal	Above normal	Above normal
Ribble	61	Below Normal	Normal	Above normal	Above normal

Wyre And Lune	81	Normal	Notably high	Exceptionally high	Exceptionally high
North West	78	Normal	Above normal	Exceptionally high	Notably high

## 8.2 River flows table

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

Kirkby Stephen	Eden (NW)	Eden Cumbria Upper	Normal	Above normal
Little Woolden Hall Ultrasonic	Glaze	Glaze	Normal	Normal
Lunes Bridge	Lune	Lune Upper	Above normal	Above normal
Newby Bridge FMS	Leven (NW)	Leven Cumbria	Above normal	Above normal
Pooley Bridge	Eamont	Eamont	Above normal	Above normal
Portwood	Tame	Tame	Normal	Normal
Rudheath	Dane	Dane	Normal	Normal
Samlesbury PGS	Ribble (NW)	Ribble Lower	Normal	Normal
Seaton Mill	Derwent (NW)	Derwent Cumbria Lower	Normal	Above normal
Sedgwick	Kent	Levens Bridge	Normal	Above normal
Sheepmount	Eden (NW)	Eden Cumbria Lower	Normal	Above normal
St Michaels FMS	Wyre	Brock	Normal	Notably high

### 8.3 Groundwater table

Site name	Aquifer	End of Apr 2026 band	End of Mar 2026 band
Brown Bank Lay-by	West Cumbria Permo-triassic Sandstone	Above normal	Normal
Bruntwood Hall OBH	East Cheshire Permo-triassic Sandstone	Above normal	Normal
Furness Abbey	Furness Permo-triassic Sandstone	Exceptionally high	Exceptionally high
Great Musgrave	Eden Valley And Carlisle Basin Permo-triassic Sandstone	Normal	Normal
Lea Lane	Fylde Permo-triassic Sandstone	Normal	Normal
Priors Heyes	West Cheshire Permo-triassic Sandstone	Exceptionally high	Exceptionally high
Primrose Hill	Fylde Permo-triassic Sandstone	Normal	Normal
Richmond Park	Rufford Permo-triassic Sandstone	Exceptionally high	Exceptionally high
Skirwith	Eden Valley And Carlisle Basin Permo-triassic Sandstone	Normal	Normal
Victoria Road Entrance	West Lancashire Quarternary Sand And Gravel Superficial Deposits	Below normal	Below normal