Monthly water situation report: North East Area

1 Summary - August 2026

August rainfall totals were below normal across the area but considerably higher than in July. Monthly mean river flows increased at most indicator sites and were classed as normal, below normal, notably low, or exceptionally low. Soil moisture deficits (SMDs) decreased in 2 catchments but remained higher than the long term average (LTA) in most catchments. All reservoirs continued to record a decrease in stocks and remained below average for the time of year. Groundwater levels decreased at 3 out of the 5 indicator sites and increased at 2, falling within the below normal, normal, and above normal ranges.

1.1 Rainfall

August was wetter than July, although rainfall totals remained below average for the time of year. August totals were below normal in all catchments, in contrast to the totals in July, which were exceptionally low in 4 out of the 6 catchments. August totals ranged from 62% of the LTA in the Northumbria North Sea Tribs catchment to 71% in the Tees catchment. Most days in August recorded rainfall. The largest daily totals were generally recorded on 19 August, with further high totals on 3 August and at the end of the month.

Cumulative 3-month totals indicate progressively drier conditions towards the south of the area, ranging from below normal in the Tweed catchment to exceptionally low across the southern catchments. Cumulative 6-month totals were notably low across all catchments, whilst cumulative 12-month totals were normal across all catchments. Rainfall has remained below average for 6 consecutive months in the Tweed and Northumbria North Sea Tribs catchments. In the Tyne catchment, rainfall has been below average for 5 consecutive months.

1.2 Soil moisture deficit

SMDs decreased in the Tyne and Tees catchments. Deficits remained highest in the Seaham catchment, and fell in the 101 to 130mm banding. Deficits were lowest in the Tyne catchment, in the 41 to 70mm range. Across all other catchments, deficits fell in the 71 to 100mm range. Soils remained drier than average for the time of year, although some improvement was observed in the Seaham catchment. SMDs were 6 to 25mm above the LTA in the Seaham catchment and 26 to 50mm above the LTA in all other catchments.

1.3 River flows

Monthly mean river flows increased at 6 out of the 8 indicator sites, and decreased at 2. Monthly mean flows were classed as normal, below normal, notably low, or exceptionally low. Flows ranged from only 8% of the LTA at Rutherford Bridge on the River Greta to 67% at

Middleton-in-Teesdale on the River Tees. Flows at Middleton-in-Teesdale are impacted by upstream releases from Cow Green reservoir. The site issues at Heaton Mill have been resolved, with missing data from earlier months now backfilled. At this site, monthly mean flow was exceptionally low for the time of year.

At all indicator sites, daily mean flows were higher at the end of the month than at the beginning. This increase reflected frontal rainfall on the 27 August and heavy, thundery showers during the final few days of the month. The largest peaks in daily mean flows were generally observed around 20 August, with smaller increases around 4 and 5 August. Daily mean flows increased during the last 2 days of the month, particularly at Rutherford Bridge, where flows nearly tripled between 29 and 31 August. By the end of August, daily mean flows were normal at 5 out of the 8 indicator sites. Daily mean flows were below normal at Rothbury, notably low at Mitford, and exceptionally low at Heaton Mill.

1.4 Groundwater levels

Changes in groundwater levels were varied. In the Fell Sandstone, levels decreased at Royalty Observation and increased very slightly at Townlaw. Despite this slight increase at Townlaw, levels changed from normal to below normal for the time of year. Levels at Royalty Observation changed from above normal to normal.

In the Magnesian Limestone, groundwater levels decreased at West Hall Farm and Aycliffe Nra2, and increased at Red Lion. Despite these changes, levels remained in the same bandings as July at all 3 sites. Levels remained above normal at West Hall Farm and Red Lion and normal at Aycliffe Nra2.

1.5 Reservoir stocks

All reservoirs recorded a decrease in stocks and remain below average for the time of year. Cow Green reservoir recorded the largest decrease, with stocks falling by 19.3% during August as releases continued to support downstream abstractions and maintain river flows. Derwent reservoir recorded the smallest decrease, falling by 9%.

The Kielder transfer system has been in operation since 28 May to support stocks in Waskerley reservoir within the Durham group. Additional support began on 13 July through releases at Frosterley to maintain flows in the River Wear and sustain public water supply abstraction. Substitution of the Derwent reservoir compensation flow began on 22 July. Hury reservoir in the Lune and Balder group has been drawn down since April for planned maintenance.

Reservoir or reservoir group	Percentage of current stocks	Percentage of previous month stocks
Kielder	76.8	83.5
North Tynedale group	52.2	63.4
Derwent	58.5	67.5
Durham group	46.1	57.3
Lune and Balder group	57.3	66.2
Cow Green	43.3	62.6

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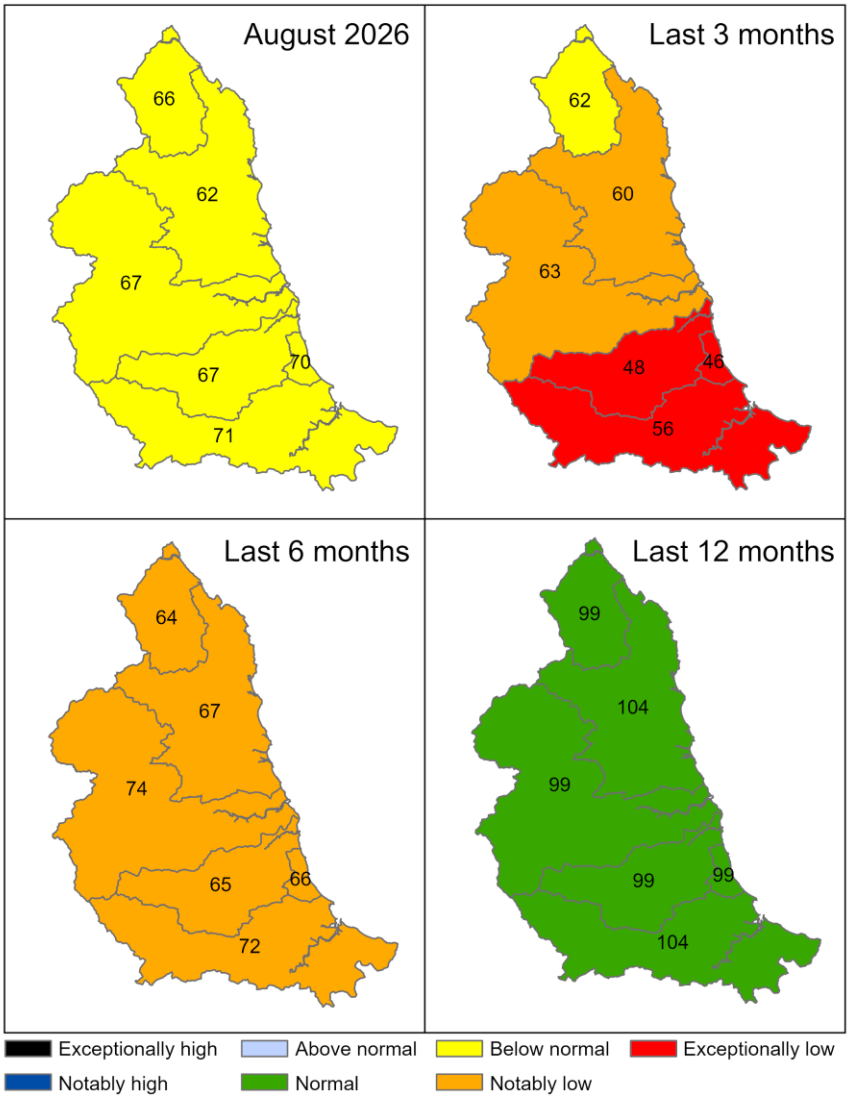
2 Rainfall

2.1 Rainfall map

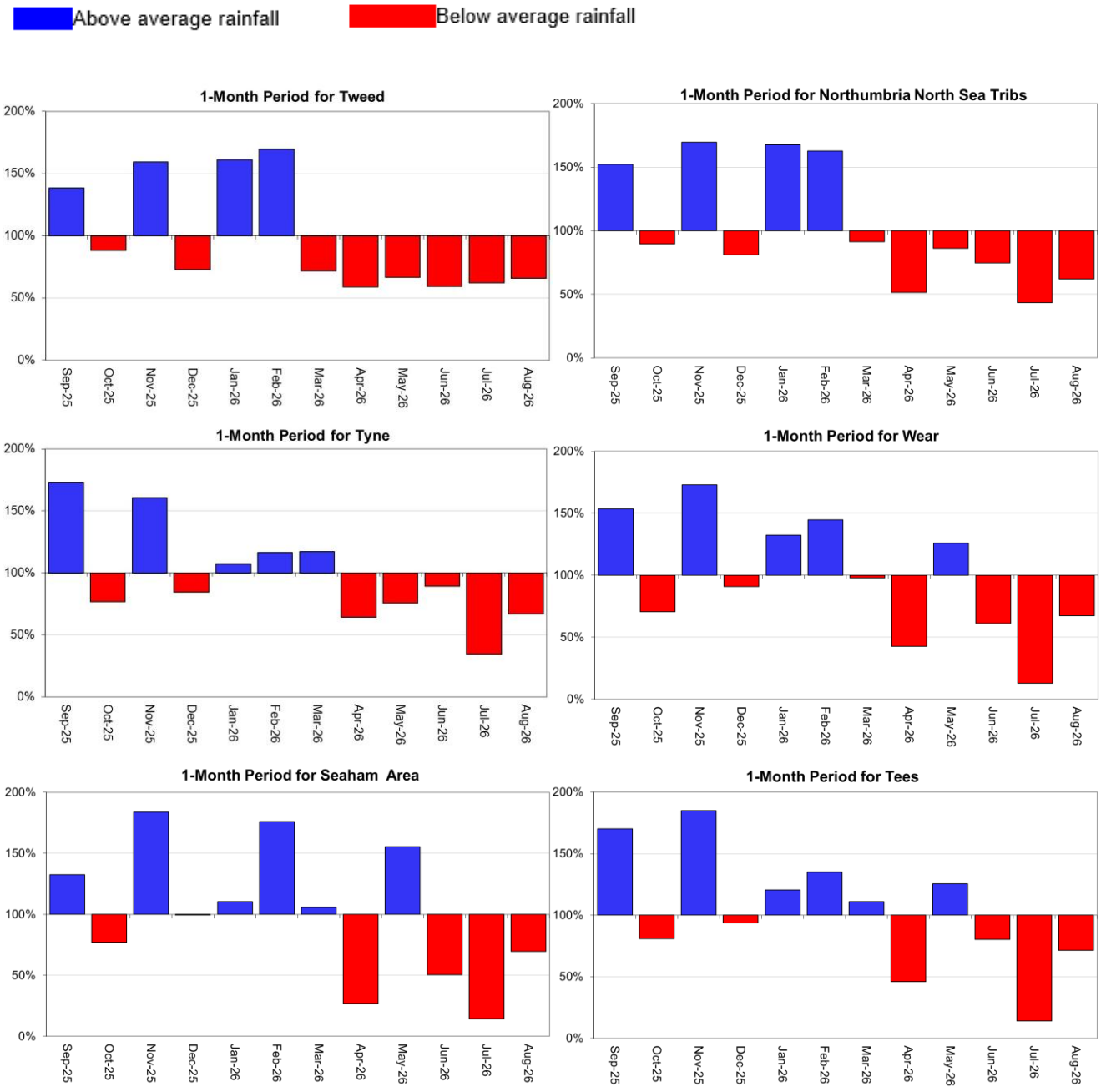
Figure 2.1: Total rainfall for hydrological areas, expressed as a percentage of the 1991 to 2020 LTA. Rainfall is shown for the current month (up to 31 August 2026), the last 3 months, the last 6 months, and the last 12 months. Totals are classed relative to an analysis of respective historic totals. August totals were below normal in all catchments. Cumulative 3-month totals were below normal in the Tweed catchment and notably low the Northumbria North Sea Tribs and Tyne catchments. Cumulative 3-month totals were exceptionally low in the Wear, Seaham, and Tees catchments. Map of catchments and table with detailed information available in the appendices.



Rainfall data extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, AC0000807064, 2026).

2.2 Rainfall charts

Figure 2.2: Monthly rainfall totals for the past 12 months as a percentage of the 1991 to 2020 LTA for each catchment.

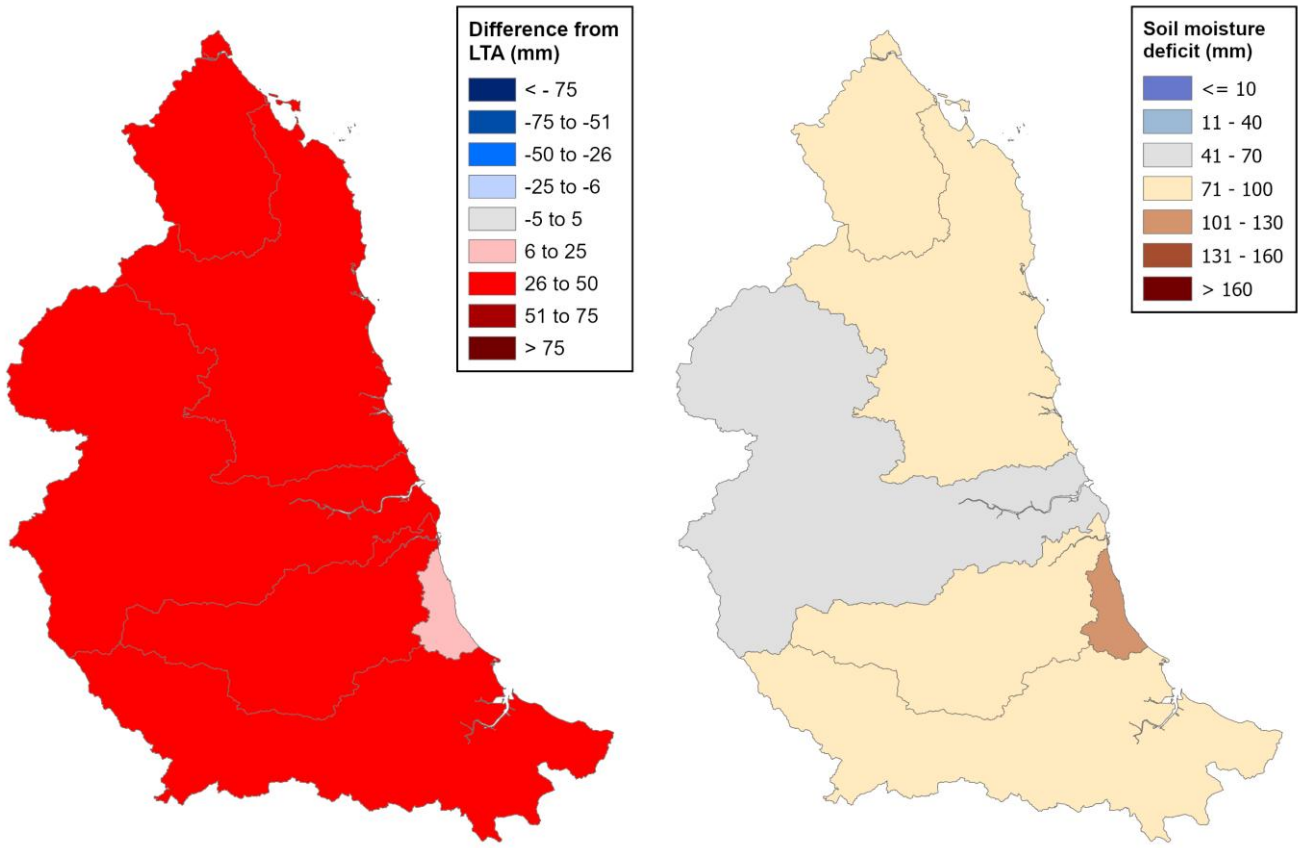


Rainfall data extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 2026).

3 Soil moisture deficit

3.1 Soil moisture deficit map

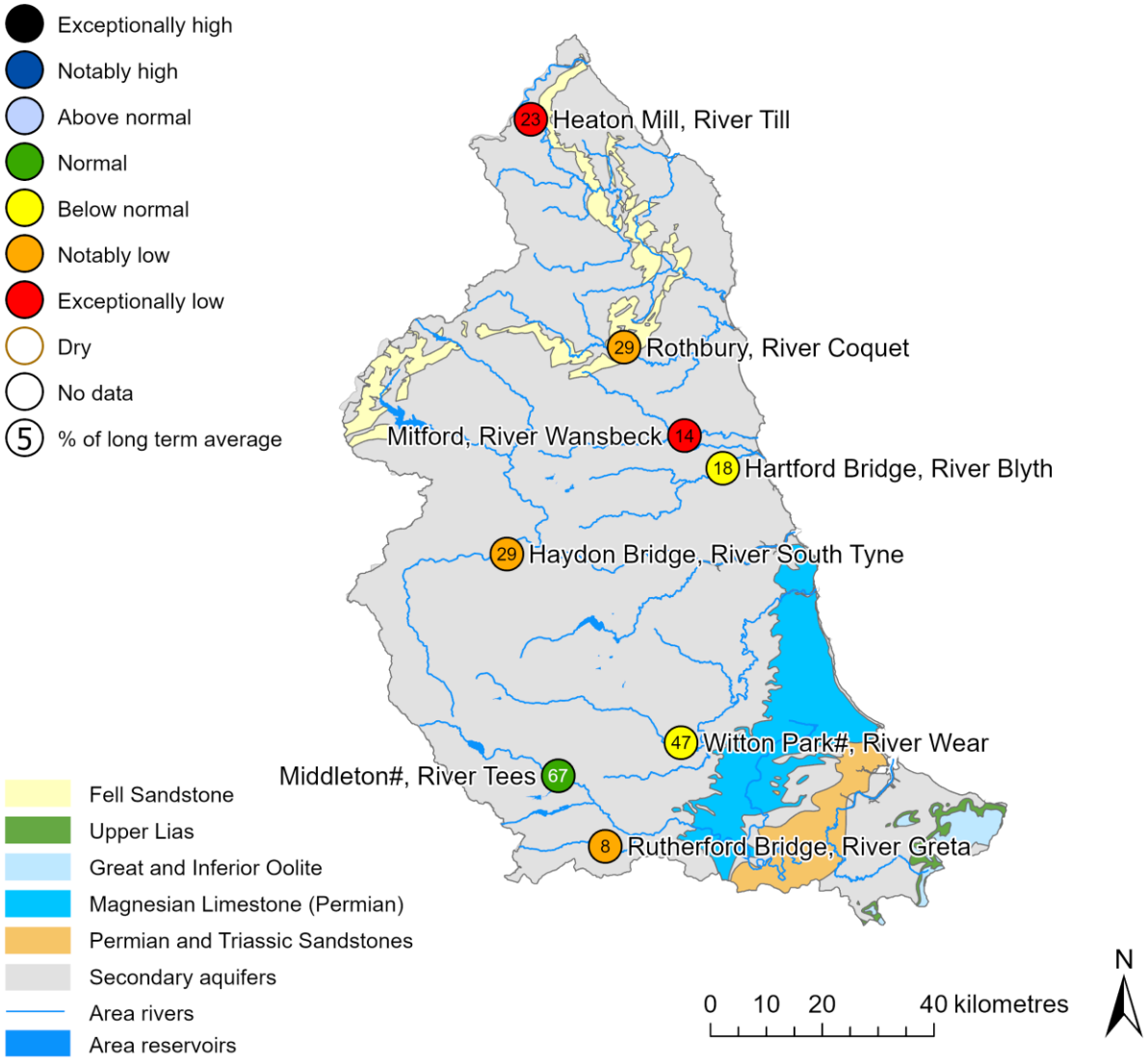
Figure 3.1: SMDs for week ending 2 September 2026. Right panel shows actual SMDs (mm) in each catchment. Left panel shows the difference (mm) of the actual from the 1991 to 2020 LTA SMDs in each catchment. SMDs were 6 to 25mm above the LTA in the Seaham catchment and 26 to 50mm above the LTA in all other catchments. Actual SMDs were highest in the Seaham catchment, falling in the 101 to 130mm range, and lowest in the Tyne catchment, in the 41 to 70mm range. Actual SMDs were 71 to 100mm in all other catchments. Calculated from MORECS data for real land use. Map of catchments available in the appendices.



4 River flows

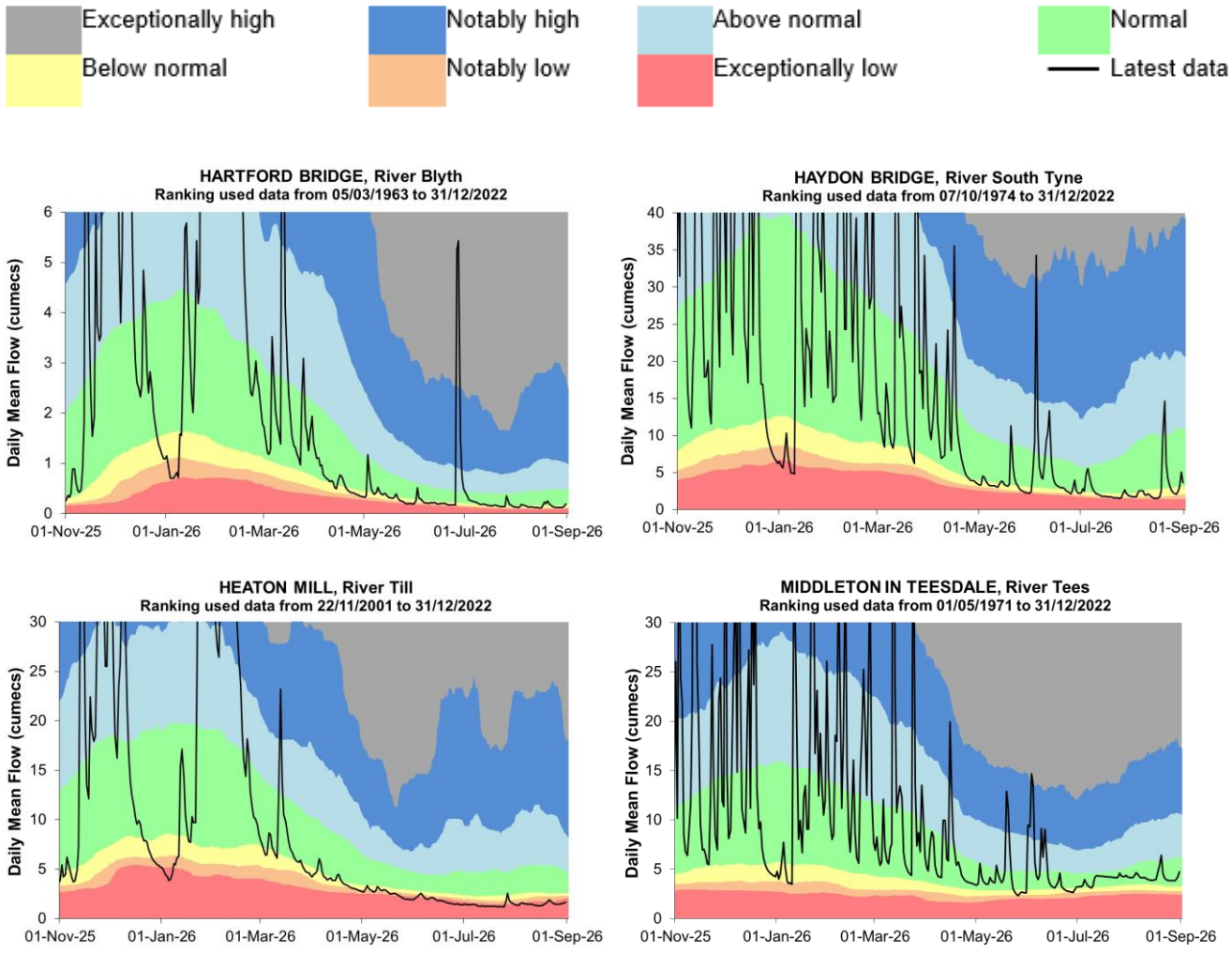
4.1 River flows map

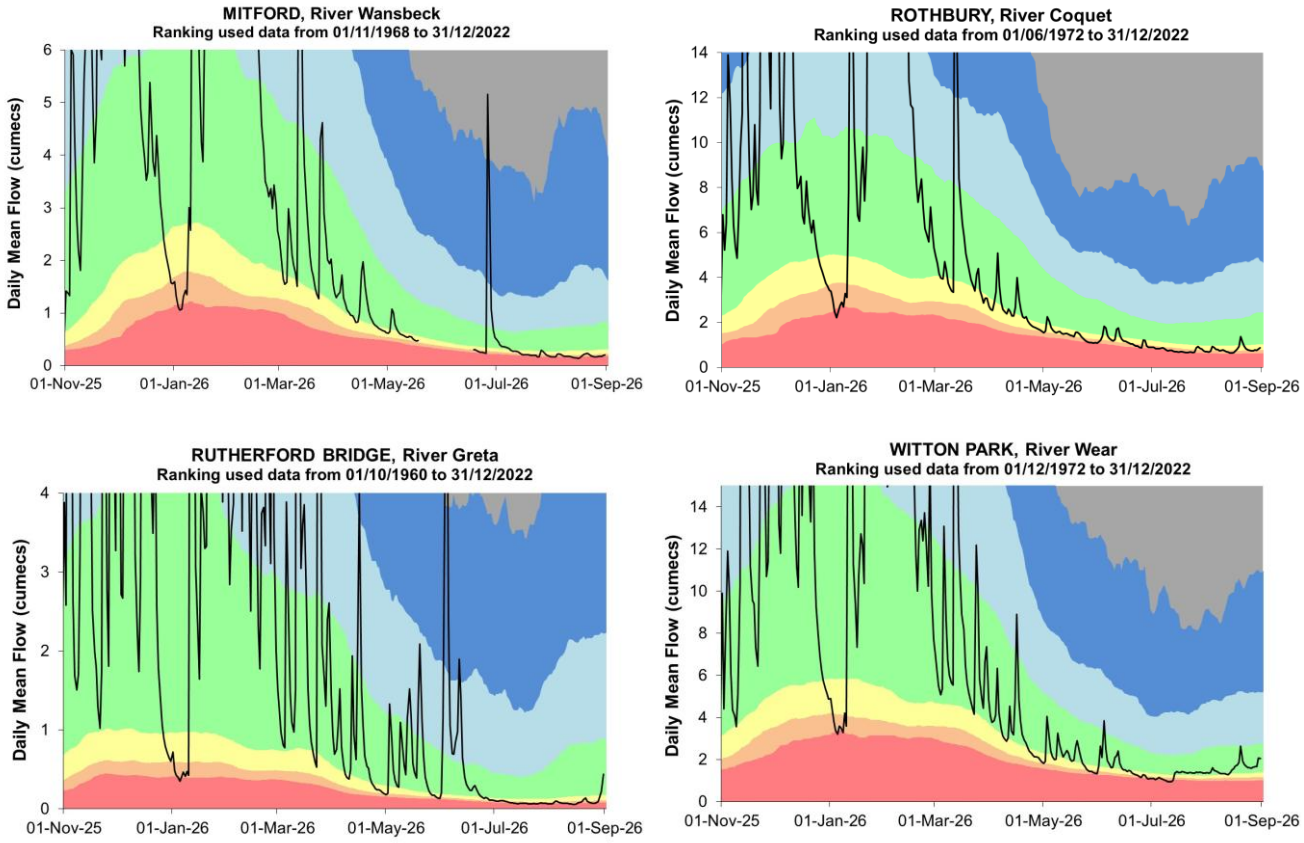
Figure 4.1: Monthly mean river flows for indicator sites for August 2026, expressed as a percentage of the respective LTA. Flows are classed relative to an analysis of historic August monthly means. Monthly mean flows were exceptionally low at Heaton Mill and Mitford, and notably low at Rothbury, Haydon Bridge, and Rutherford Bridge. Monthly mean flows were below normal at Hartford Bridge and Witton Park, despite support from Kielder transfers. Monthly mean flows were normal at Middleton-in-Teesdale, where flows are supported by releases from Cow Green reservoir. Table available in the appendices with detailed information. # Flows may be impacted by upstream reservoir releases.



4.2 River flow charts

Figure 4.2: Daily mean river flows for indicator sites over the past 10 months, compared to an analysis of historic daily mean flows.



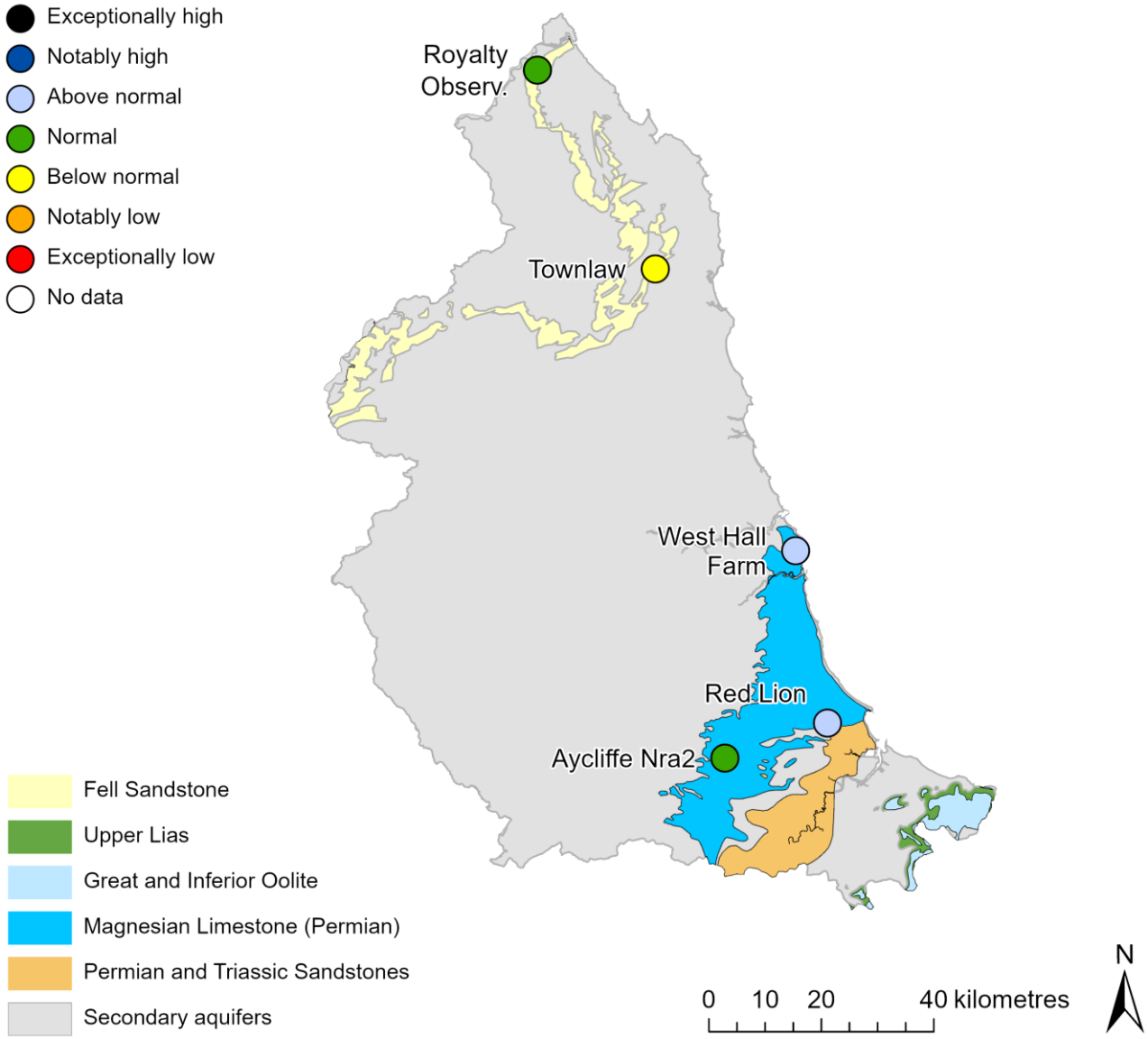


(Source: Environment Agency).

5 Groundwater levels

5.1 Groundwater levels map

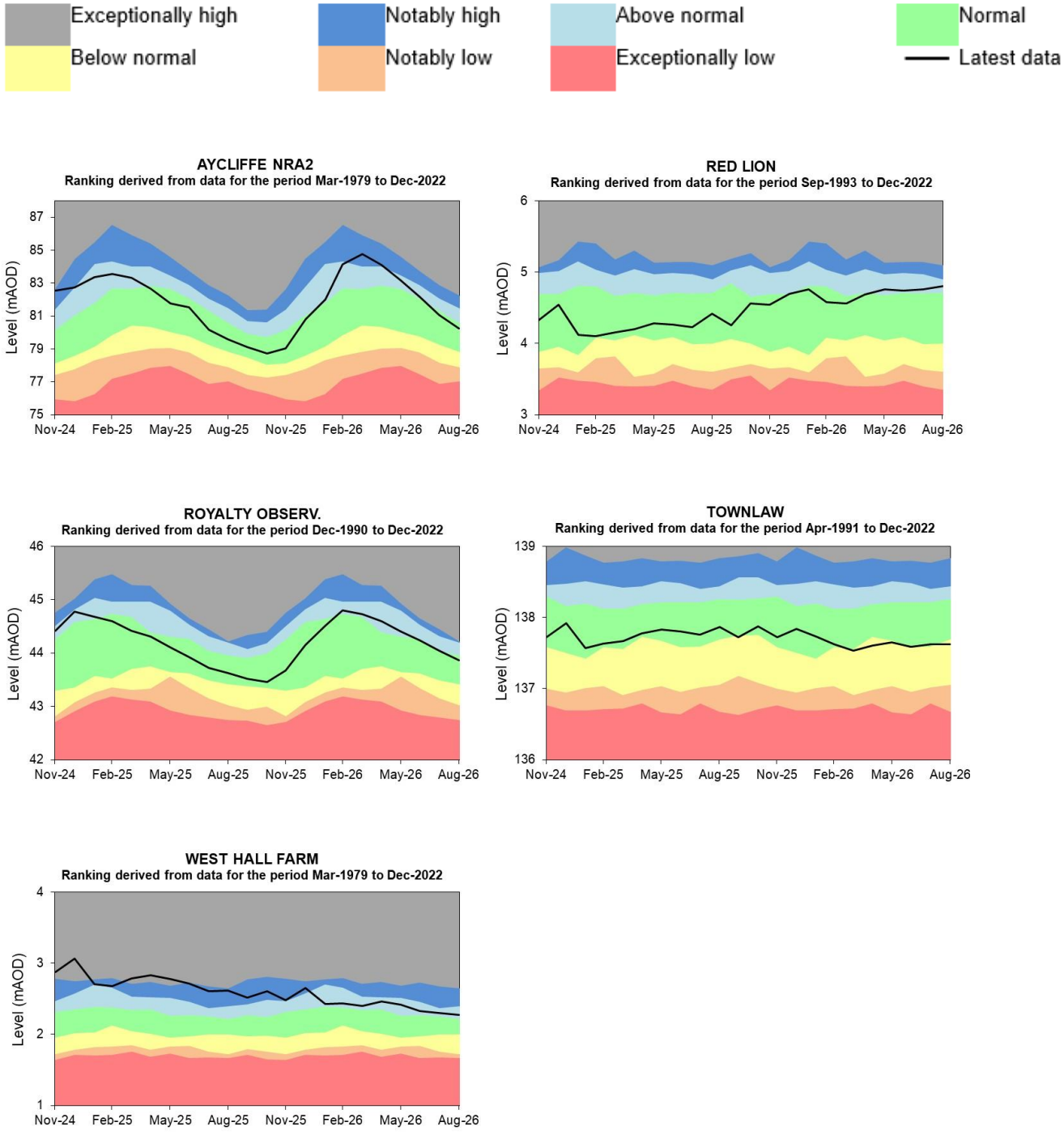
Figure 5.1: Groundwater levels for indicator sites at the end of August 2026, classed relative to an analysis of respective historic end of August levels. Groundwater levels were below normal at Townlaw and normal at Royalty Observation and Aycliffe Nra2. Groundwater levels were above normal at West Hall Farm and Red Lion. Table available in the appendices with detailed information.



(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

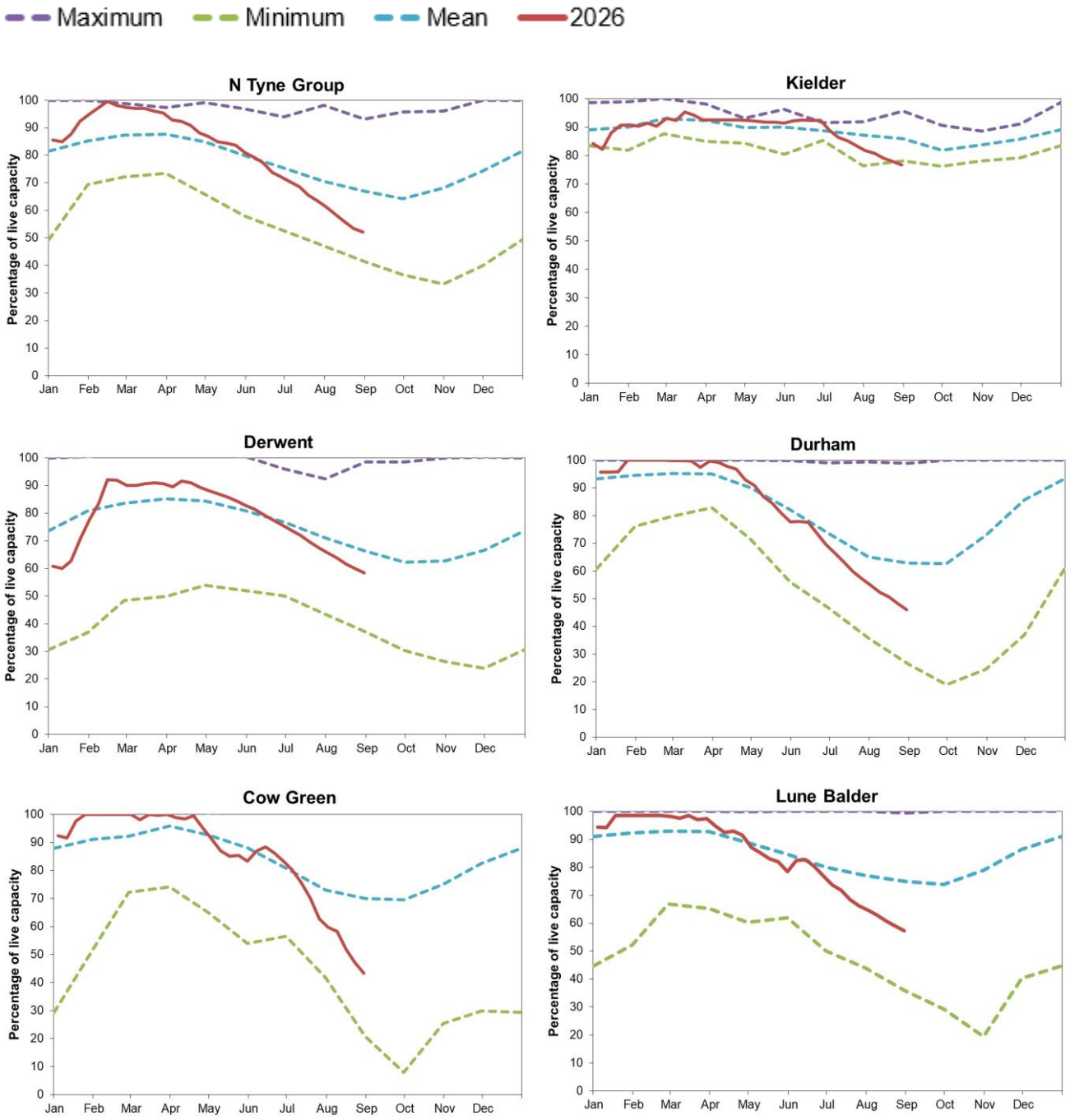
Figure 5.2: End of month groundwater levels at indicator groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of August levels.



(Source: Environment Agency, 2026).

6 Reservoir stocks

Figure 6.1: End of month reservoir stocks compared to long term maximum, minimum, and mean stocks. Note: Historic records of individual reservoirs and reservoir groups vary in length. Kielder reservoir levels are lower than historic levels due to a new flood alleviation control curve in use.



(Source: Northumbrian Water).

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 40km 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 1km 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 Catchment areas map

8.2 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
Northumbria North Sea Tribs	62	Below Normal	Notably low	Notably low	Normal
Seaham Area	70	Below Normal	Exceptionally low	Notably low	Normal
Tees	71	Below Normal	Exceptionally low	Notably low	Normal
Tweed	66	Below Normal	Below normal	Notably low	Normal
Tyne	67	Below Normal	Notably low	Notably low	Normal
Wear	67	Below Normal	Exceptionally low	Notably low	Normal

8.3 River flows table

Site name	River	Catchment	Aug 2026 band	Jul 2026 band
Hartford Bridge	Blyth	Blyth	Below normal	Below normal
Haydon Bridge	South Tyne	South Tyne	Notably low	Below normal
Heaton Mill	Till	Till	Exceptionally low	Exceptionally low
Middleton In Teesdale	Tees	Tees	Normal	Below normal
Mitford	Wansbeck	Wansbeck	Exceptionally low	Below normal
Rothbury	Coquet	Coquet	Notably low	Notably low
Rutherford Bridge	Greta	Greta	Notably low	Exceptionally low
Witton Park	Wear	Wear	Below normal	Below normal

8.4 Groundwater table

Site name	Aquifer	End of Aug 2026 band	End of Jul 2026 band
Aycliffe Nra2	Skerne Magnesian Limestone	Normal	Normal
Red Lion	Skerne Magnesian Limestone	Above normal	Above normal
Royalty Observ.	Till Fell Sandstone	Normal	Above normal
Townlaw	Till Fell Sandstone	Below normal	Normal
West Hall Farm	Wear Magnesian Limestone	Above normal	Above normal