Monthly water situation report: North East Area

1 Summary - October 2026

October rainfall totals were within the normal range across the area. Monthly mean river flows increased at all indicator sites, soil moisture deficits (SMDs) decreased across all catchments, and stocks increased in most reservoirs. Groundwater levels decreased at all indicator sites, although they were classed as normal at most.

1.1 Rainfall

October was wetter than recent months, with rainfall totals ranging from 77% of the LTA in the Seaham catchment to 102% in the Tyne catchment. This was the first month since May in which any catchment recorded above-average rainfall. Although October totals remained below average elsewhere in the area, all catchments were within the normal range for the time of year.

The first 3 weeks of October were relatively dry, with Seaham receiving the least rainfall of any hydrological area in England by month-end. Conditions changed markedly during the final week with the arrival of the season's first 2 named storms, Austen and Boelo. The storms occurred in quick succession and brought the highest daily rainfall totals of the month on 23 and 24 October. Following the storms, high pressure brought drier conditions to close the month.

Cumulative 3-month rainfall totals were notably low in the Northumbria North Sea Tribs, Wear, and Seaham catchments. Totals were below normal across all other catchments. Cumulative 6-month totals were exceptionally low in the Northumbria North Sea Tribs and Wear catchments, and notably low elsewhere. Cumulative 12-month totals were normal across all catchments. Rainfall has remained below average for 8 consecutive months in the Tweed and Northumbria North Sea Tribs catchments. In the Wear, Seaham, and Tees catchments, rainfall has remained below average for 5 consecutive months.

1.2 Soil moisture deficit

Soils were wetter this month, with all catchments moving down by at least one SMD range. Deficits remained highest in the Seaham catchment, falling into the 71 to 100mm range. SMDs were lowest in the Tyne and Wear catchments, within the 11 to 40mm range. Catchments have not been within this range since April. Across all other catchments, deficits fell into the 41 to 70mm range. Differences from the LTA also decreased by one range in most catchments except Seaham and Tees. In the Tweed, Northumbria North Sea Tribs, Seaham, and Tees catchments, SMDs were 26 to 50mm above the LTA. In the Tyne and Wear catchments, SMDs were 6 to 25mm above the LTA.

1.3 River flows

Monthly mean river flows increased at all indicator sites and were classed as either below normal or normal, for the time of year. Sites in the west were generally classed as normal, whilst those in the east were classed as below normal. Flows ranged from 13% of the LTA at Hartford Bridge on the River Blyth to 81% at Haydon Bridge on the River South Tyne.

At most indicator sites, daily mean flows were higher at the end of October than at the beginning. The highest daily mean flows occurred on 24 and 25 October in response to heavy rainfall during Storms Austen and Boelo. During this period, daily mean flows fell into the notably high band at 5 indicator sites. Smaller increases in flows were also observed on 3, 7, 9, and 21 October. Despite elevated flows on 24 and 25 October, only 2 indicator sites ended the month within the normal range. The remaining 6 sites were classed as either below normal or notably low. This reflected the limited rainfall received following Storms Austen and Boelo.

1.4 Groundwater levels

Groundwater levels decreased at all indicator sites. In the Fell Sandstone, levels remained within the normal and below normal ranges at Royalty Observation and Townlaw, respectively. In the Magnesian Limestone, levels remained within the normal range at Red Lion and Aycliffe Nra2. At West Hall Farm, levels changed from the above normal to normal range.

1.5 Reservoir stocks

Most reservoirs recorded an increase in stocks during October. Derwent reservoir was the only reservoir to record a decrease. The Durham group recorded the largest increase, with stocks rising by 13.3 percentage points. Despite some minor recovery, stocks at all reservoirs remained below average for the time of year.

The Kielder transfer system remains in operation to support stocks in Waskerley reservoir within the Durham group and to substitute Derwent reservoir compensation flow. Planned maintenance at Hury reservoir is now complete.

Reservoir or reservoir group	Percentage of current stocks	Percentage of previous month stocks
Kielder	81.6	77.2
North Tynedale group	47.5	45.3
Derwent	48.5	52.4
Durham group	58.0	44.7
Lune and Balder group	64.9	56.8
Cow Green	47.6	40.4

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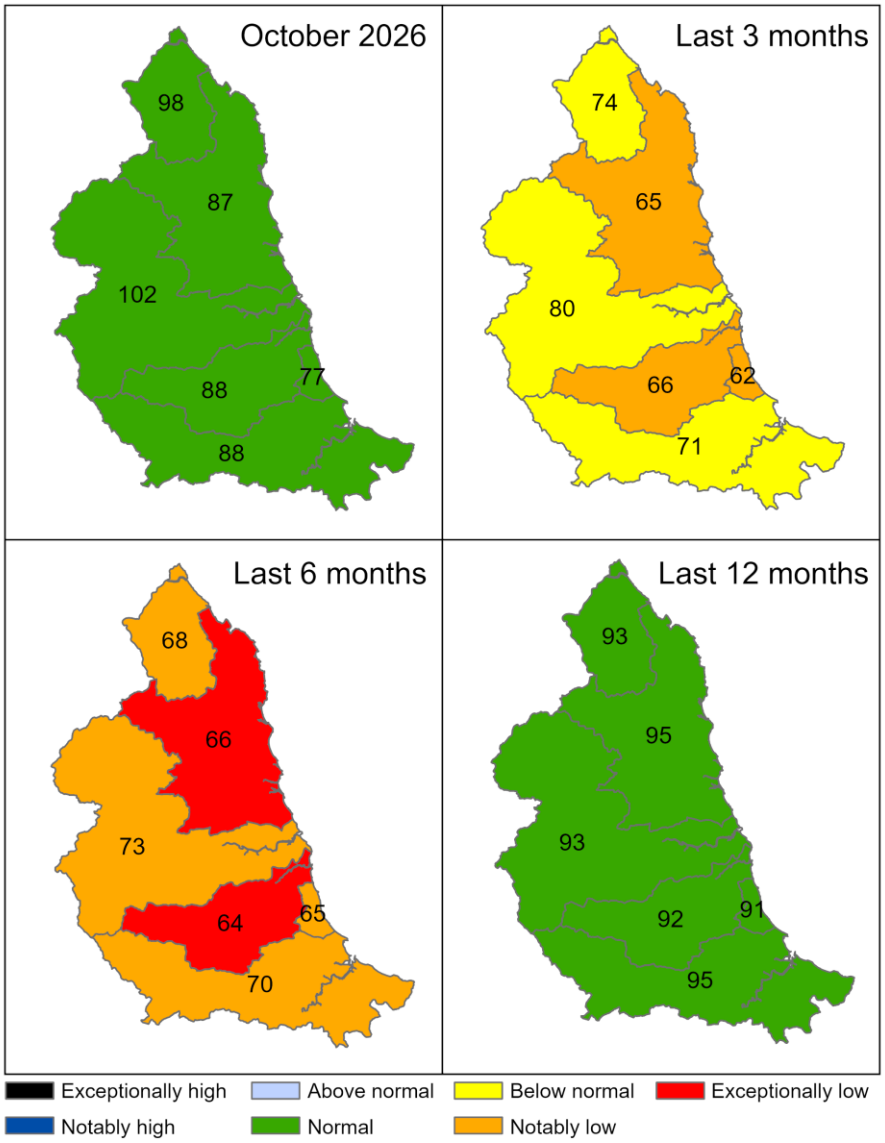
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2 Rainfall

2.1 Rainfall map

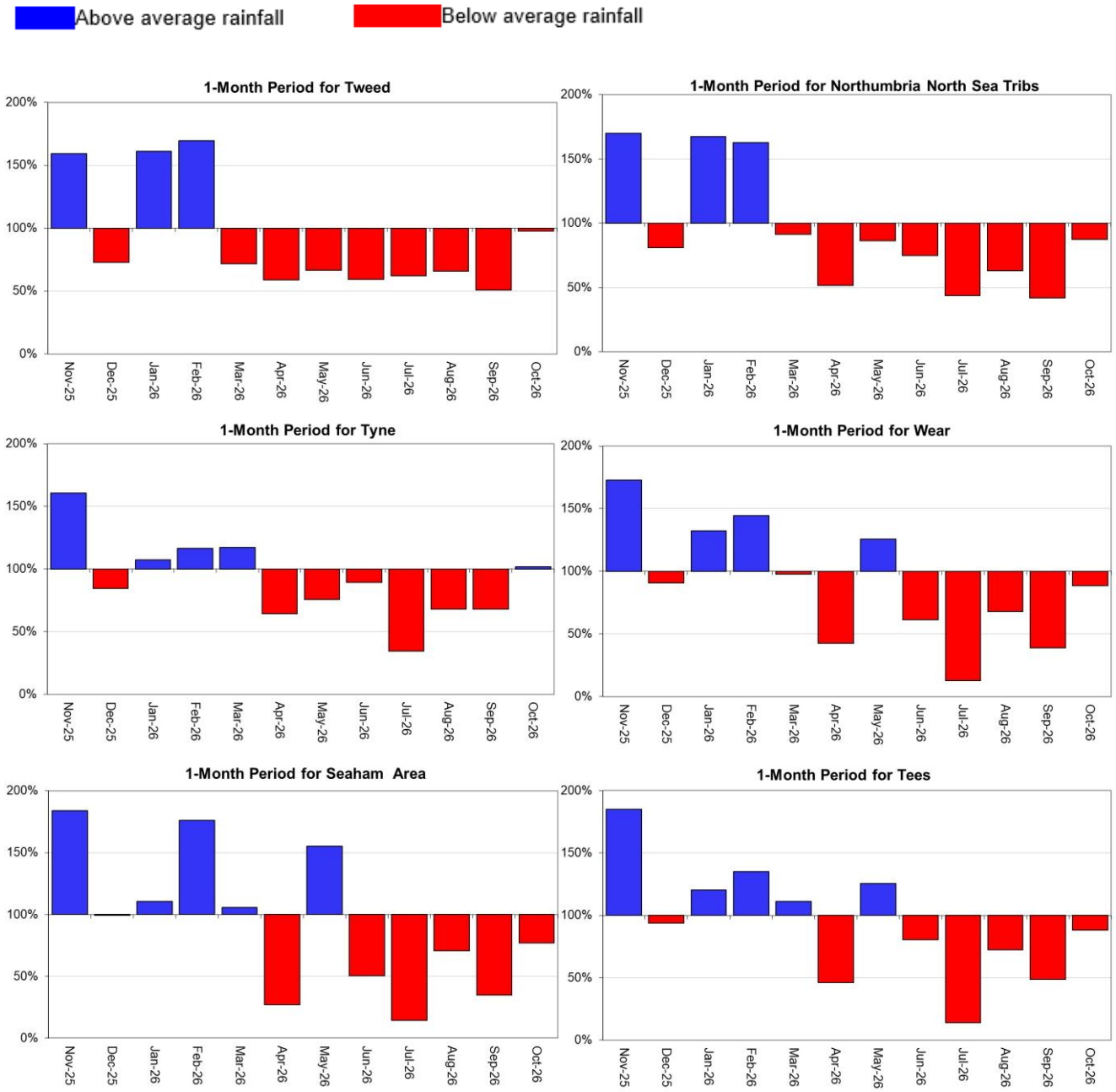
Figure 2.1: Total rainfall for hydrological areas, expressed as a percentage of the 1991 to 2020 LTA. Rainfall is shown for the current month (up to 31 October 2026), the last 3 months, the last 6 months, and the last 12 months. Totals are classed relative to an analysis of respective historic totals. October totals were normal across all catchments. Cumulative 3-month totals were notably low in the Northumbria North Sea Tribs, Wear, and Seaham catchments, and below normal in all other 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.

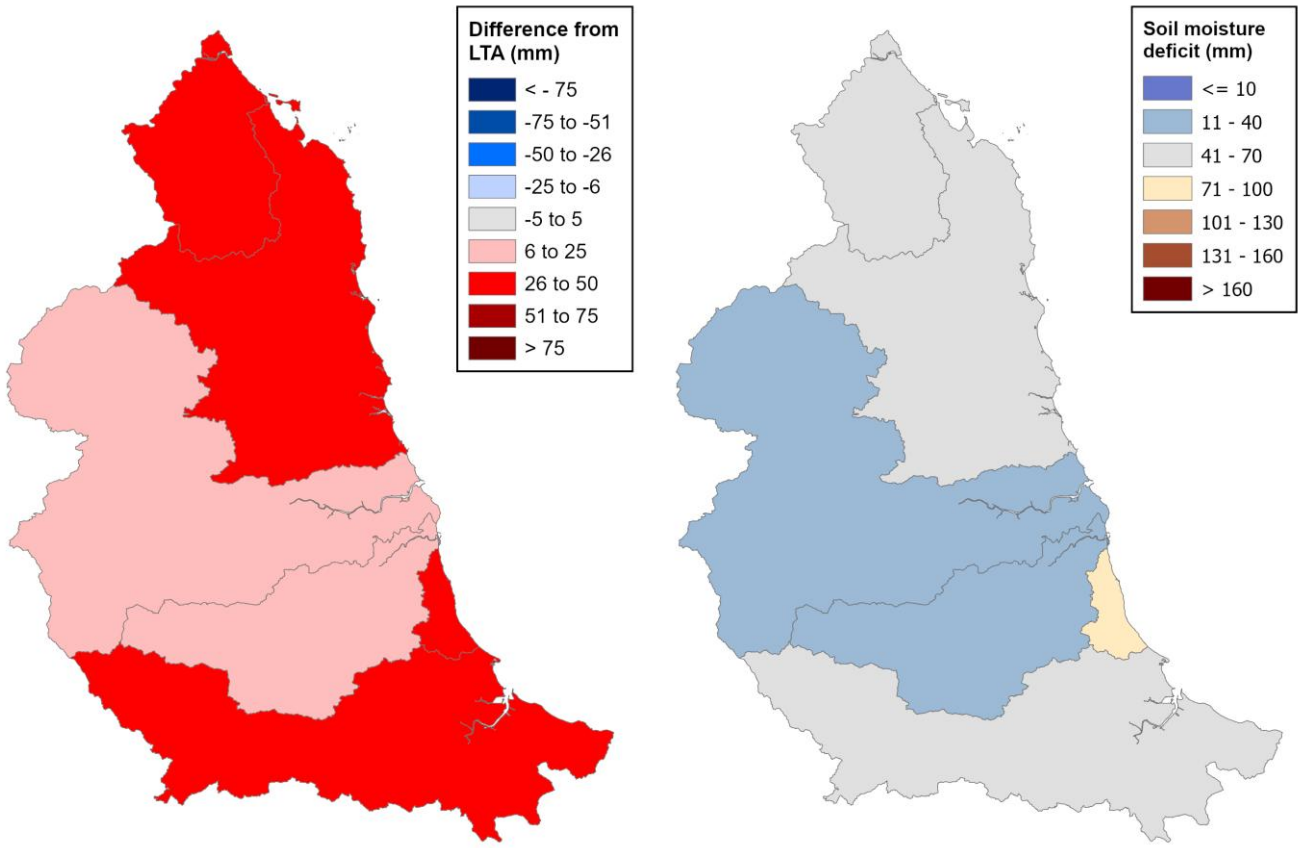


Rainfall data extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 2026).

3 Soil moisture deficit

3.1 Soil moisture deficit map

Figure 3.1: SMDs for week ending 4 November 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 26 to 50mm above the LTA in the Tweed, Northumbria North Sea Tribs, Seaham, and Tees catchments. SMDs were 6 to 25mm above the LTA in the Tyne and Wear catchments. Actual SMDs were highest in the Seaham catchment, falling in the 71 to 100mm range, and lowest in the Tyne and Wear catchments, in the 11 to 40mm range. Actual SMDs were 41 to 70mm in all other catchments. Calculated from MORECS data for real land use. Map of catchments available in the appendices.

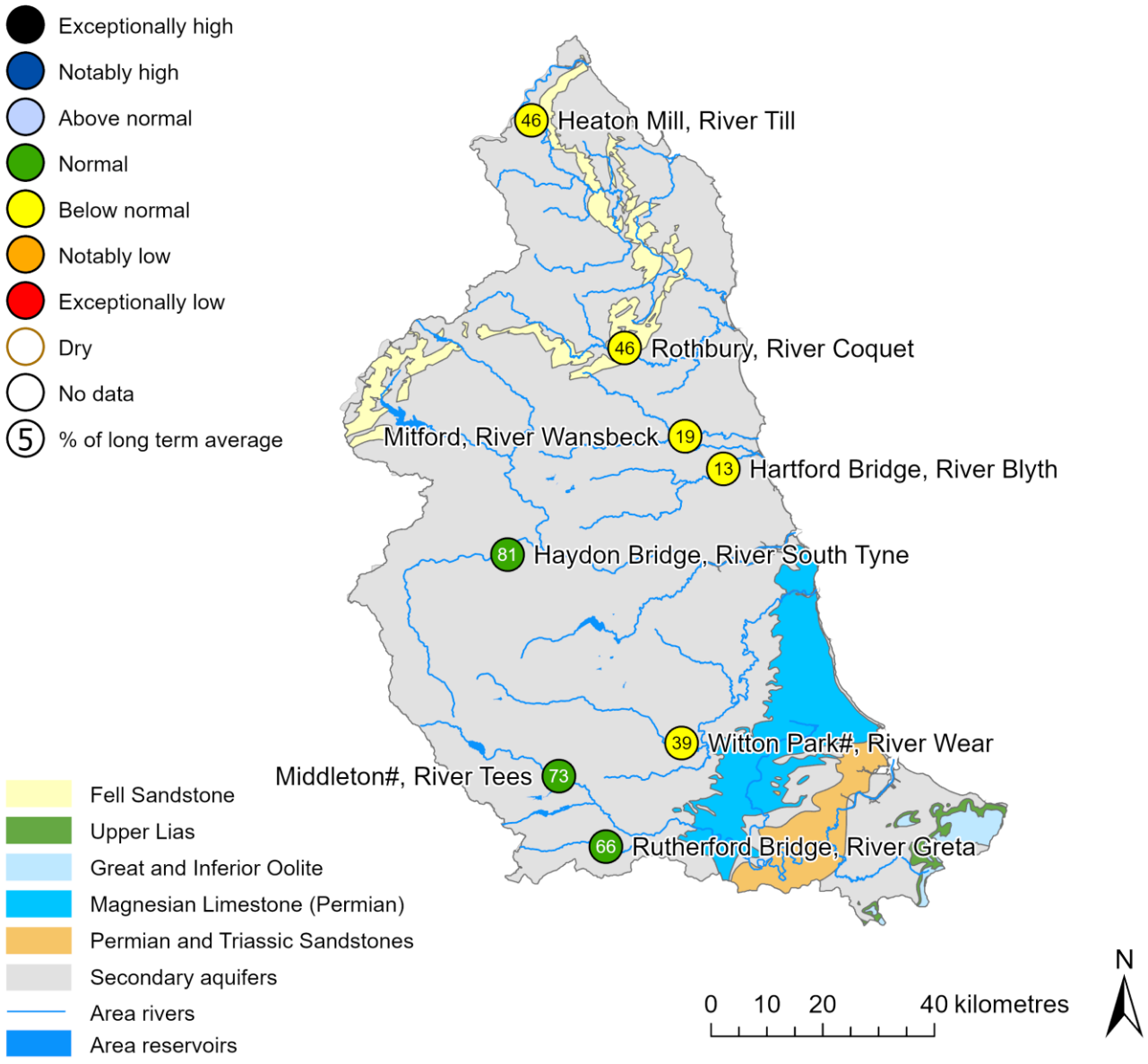


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4 River flows

4.1 River flows map

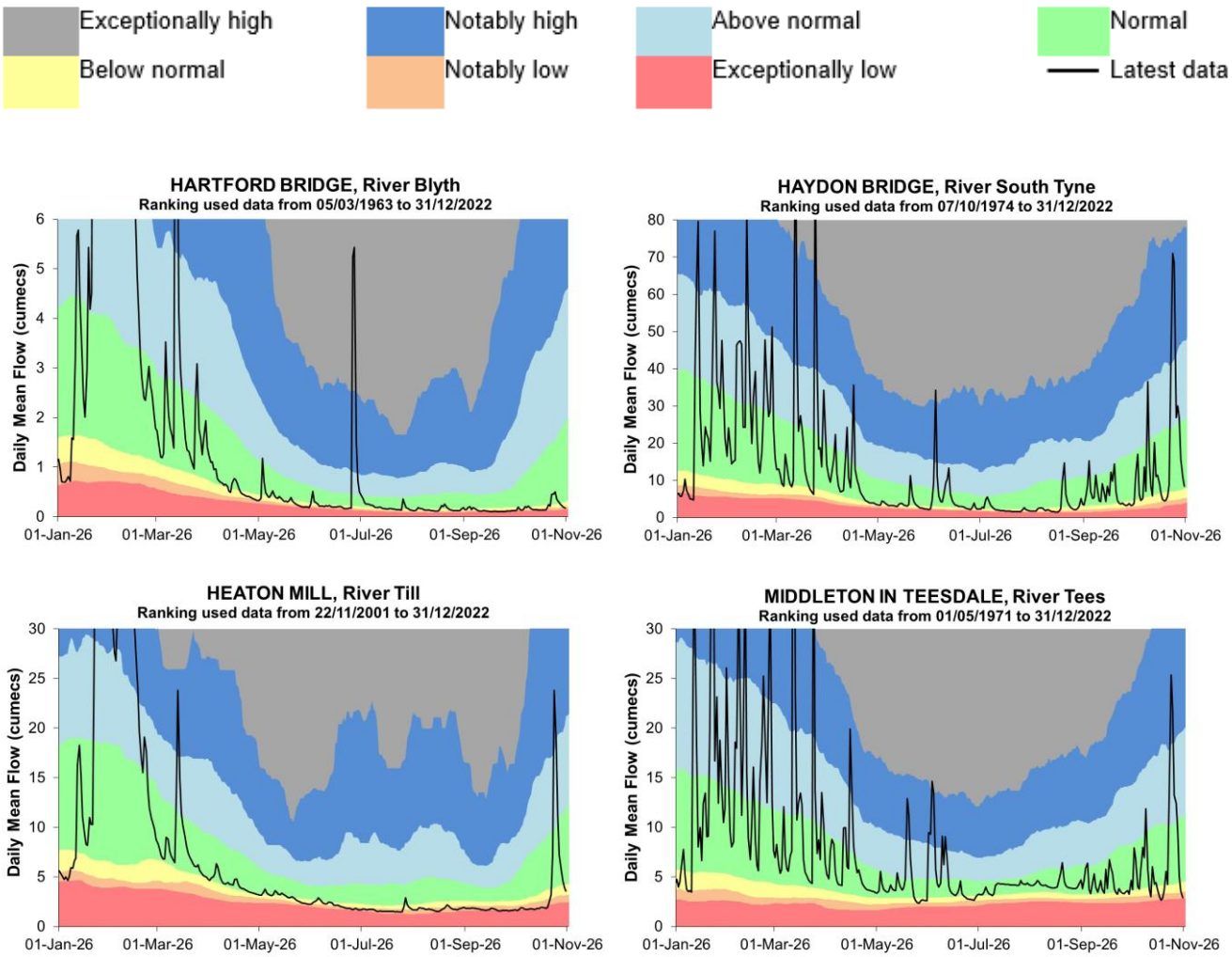
Figure 4.1: Monthly mean river flows for indicator sites for October 2026, expressed as a percentage of the respective LTA. Flows are classed relative to an analysis of historic October monthly means. Monthly mean flows were below normal at Heaton Mill, Rothbury, Mitford, Hartford Bridge, and Witton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

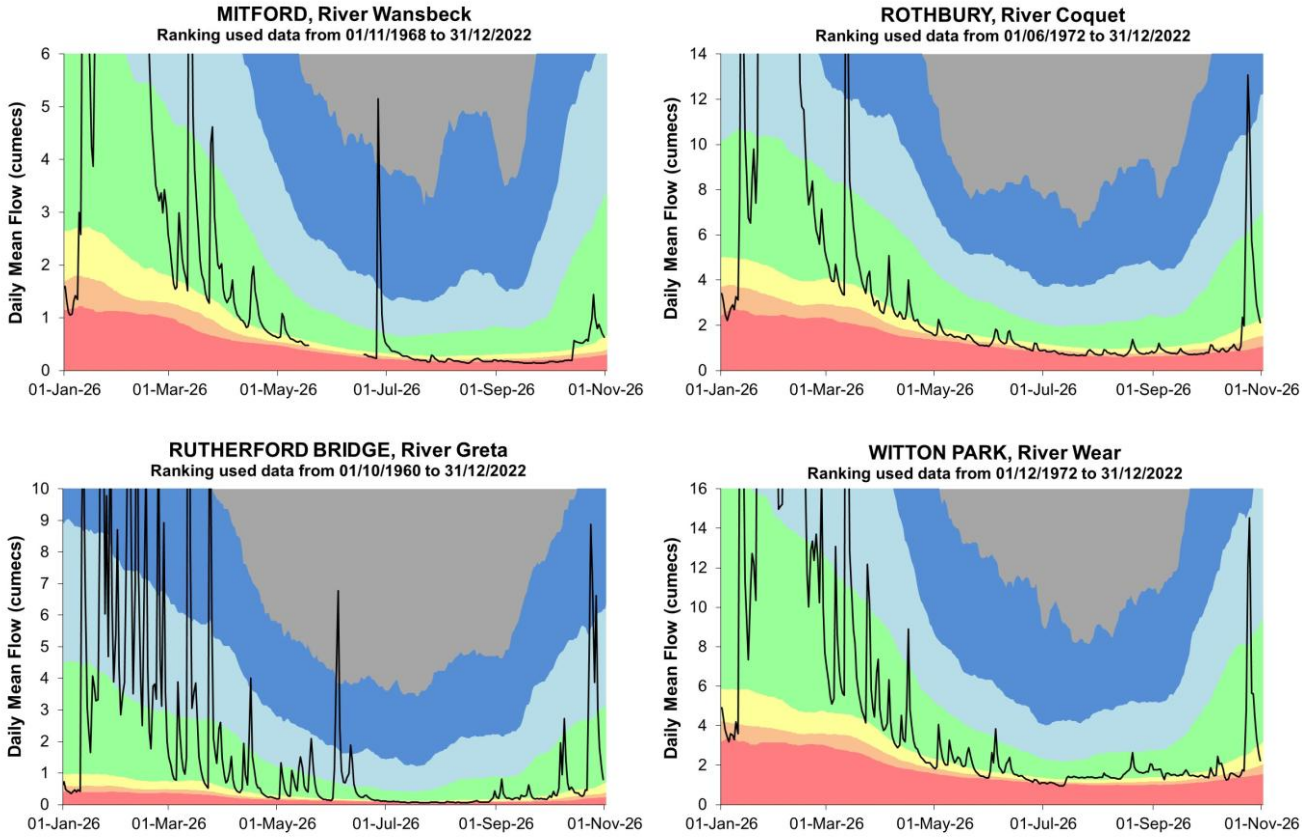


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4.2 River flow charts

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



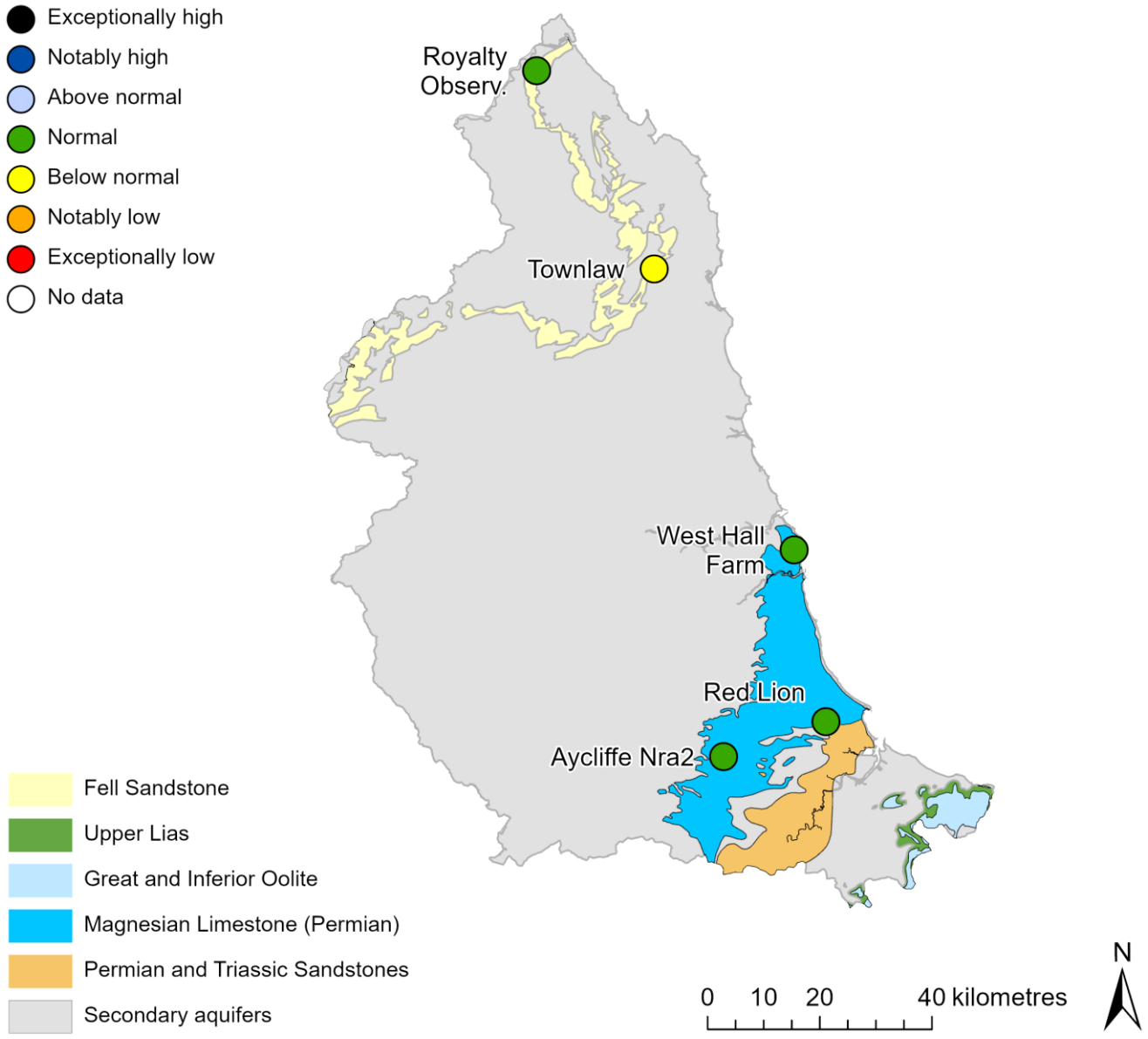


(Source: Environment Agency).

5 Groundwater levels

5.1 Groundwater levels map

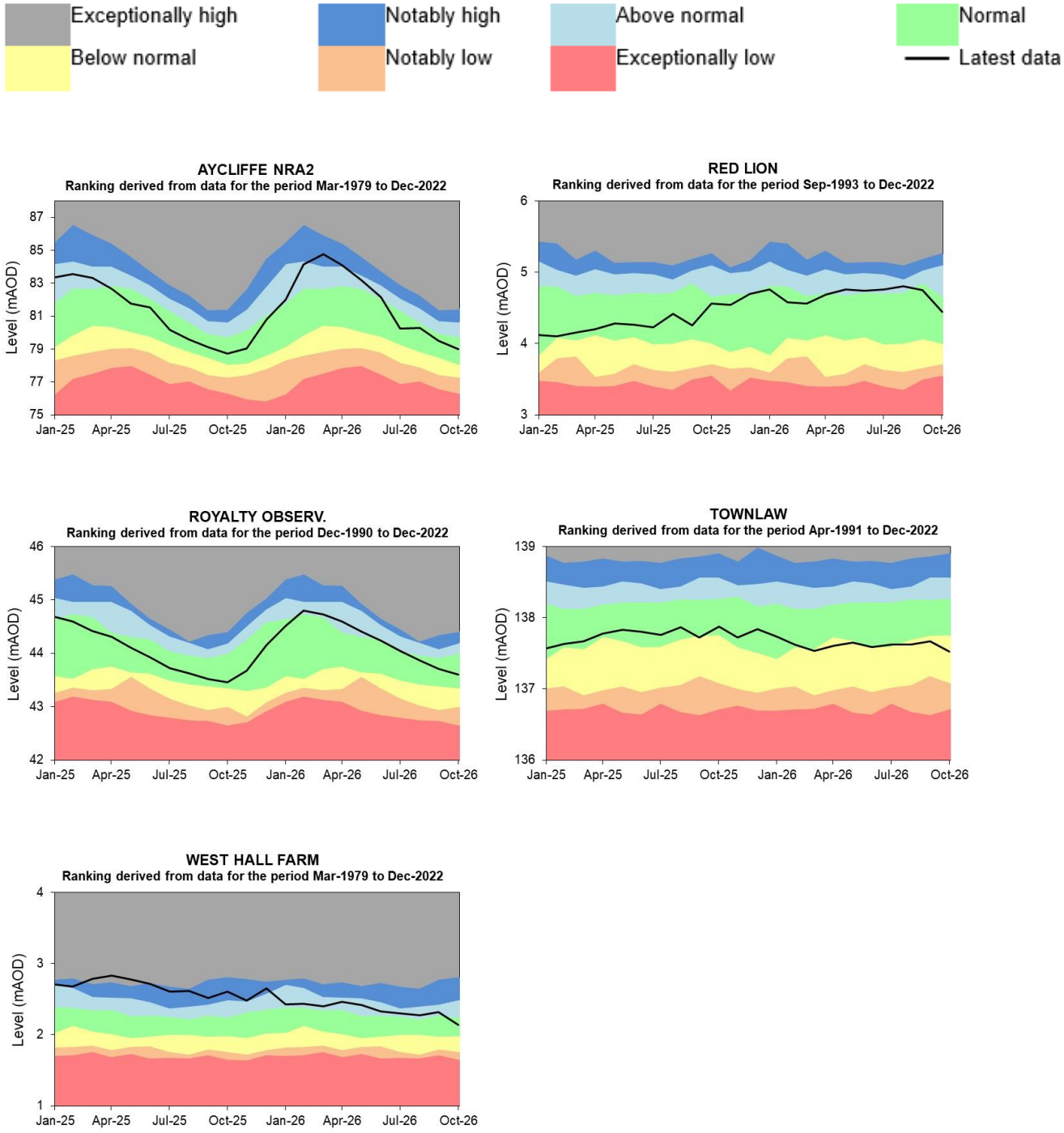
Figure 5.1: Groundwater levels for indicator sites at the end of October 2026, classed relative to an analysis of respective historic end of October levels. Groundwater levels were below normal at Townlaw and normal at Royalty Observation, West Hall Farm, Red Lion, and Aycliffe Nra2. Table available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



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5.2 Groundwater level charts

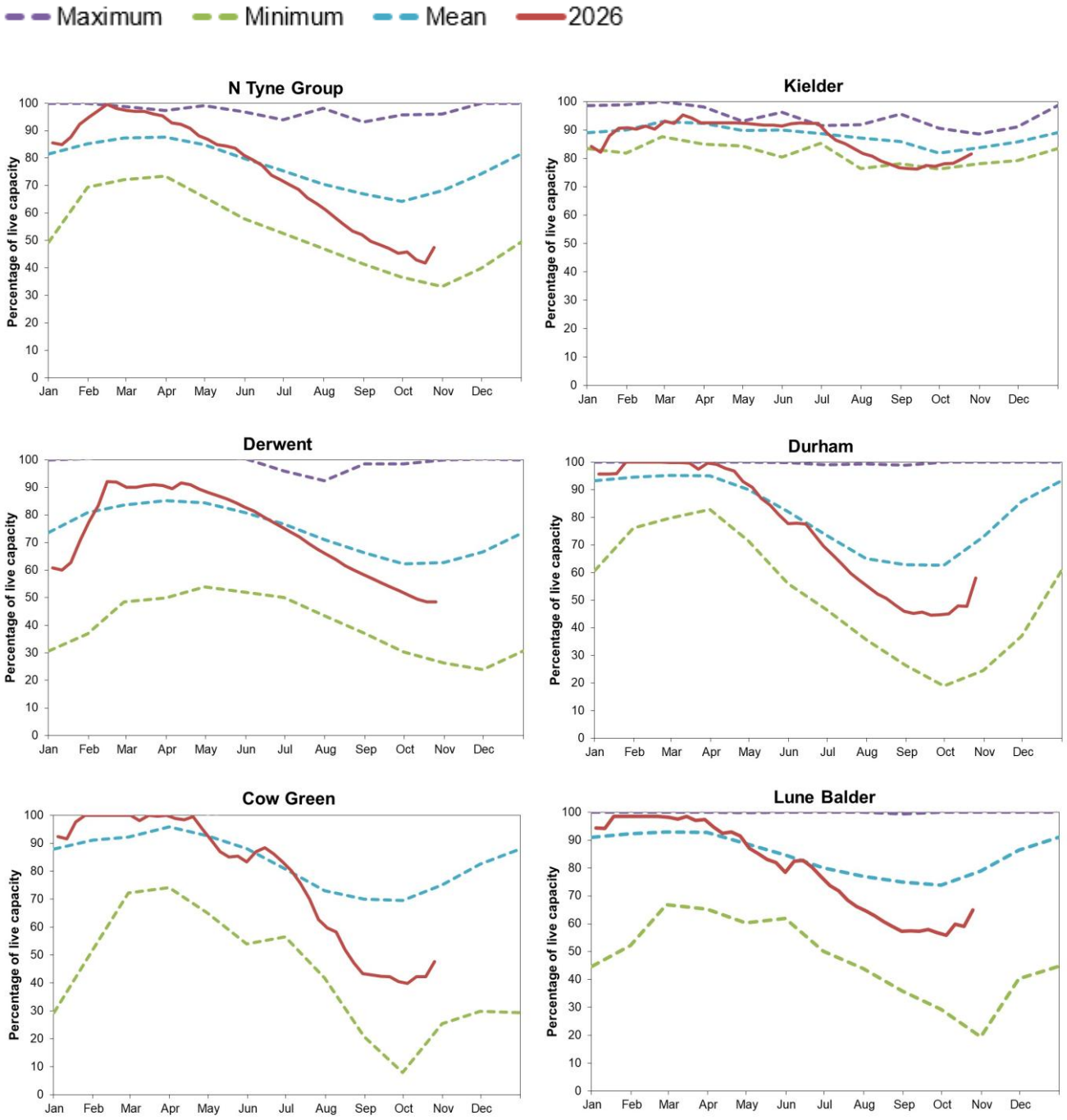
Figure 5.2: End of month groundwater levels at indicator groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of October levels.



(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	Oct 2026 rainfall % of long term average 1991 to 2020	Oct 2026 band	Aug to Oct 2026 cumulative band	May to Oct 2026 cumulative band	Nov 2025 to Oct 2026 cumulative band
Northumbria North Sea Tribs	87	Normal	Notably low	Exceptionally low	Normal
Seaham Area	77	Normal	Notably low	Notably low	Normal
Tees	88	Normal	Below normal	Notably low	Normal
Tweed	98	Normal	Below normal	Notably low	Normal
Tyne	102	Normal	Below normal	Notably low	Normal
Wear	88	Normal	Notably low	Exceptionally low	Normal

8.3 River flows table

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

8.4 Groundwater table

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