

Monthly water situation report: North East Area

1 Summary - June 2025

Overall June was another dry month with below average rainfall recorded in all catchments with the exception of the Tyne catchment, which recorded just above average rainfall. Six-month cumulative rainfall totals are exceptionally low across the whole North East area. Monthly mean river flows decreased at four of the eight indicator sites and fell within the above normal to exceptionally low ranges. Heaton Mill, Mitford and Witton Park all recorded their lowest monthly mean June flows since their records began. Groundwater levels remained consistent with levels recorded in May across the area. Reservoir stocks varied across the area and remain below average for the time of year.

1.1 Rainfall

Monthly rainfall totals were below the long term average (LTA) for all catchments, with the exception of the Tyne catchment. Monthly totals ranged from 51% of the LTA in the Seaham catchment to 105% of the LTA in the Tyne catchment.

Analysis of the daily rainfall shows the unsettled period at the end of May continued until 9 June, with spells of drier weather from 10 to 12 June and 15 to 20 June. Periods of rain were recorded across the area from 21 to 28 June with the majority of rain recorded in the Tyne catchment, whilst in the north of the area lower totals were observed.

The cumulative 6-month rainfall totals are in the exceptionally low range for the whole area and 12-month rainfall totals are in the notably low range for all catchments. All catchments except the Tyne have recorded their driest four-month period up to and including June since records began in 1871. The second driest start to the year (6 months ending June), has been recorded for the Seaham (after 1949), Tees (after 1929) and Northumberland catchments (after 1949).

1.2 Soil moisture deficit and recharge

Soil moisture deficits (SMDs) are between 101mm and 130 mm in the Seaham catchment. SMDs have recovered to between 41mm to 70mm in both the Tyne and Wear catchments. The rest of the area falls within the 71mm to 100mm SMD banding. Soils are drier than average for the time of year, except for the Tyne catchment, which shows a -5mm to +5mm difference from the LTA.

1.3 River flows

Monthly mean river flows have varied this month as a result of localised rainfall in the area, notably in the Tyne catchment. Haydon Bridge on the River South Tyne recorded the largest increase in monthly mean flow, moving from notably low in May to above normal in June with 119% of the LTA recorded. Monthly mean flows ranged from just 20% of the LTA at Mitford to 119% of the LTA at Haydon Bridge.

Heaton Mill on the River Till, Mitford on the River Wansbeck and Witton Park on the River Wear all recorded their lowest June monthly mean flows since their records began in 2001, 1968 and 1972 respectively. This is the third month in a row that Mitford and Witton Park have recorded their lowest monthly mean flows on record.

Analysis of the daily mean flows shows that flows were in the above normal, normal, notably low or exceptionally low ranges at the start of the month. Daily mean flows increased at all indicator sites following an unsettled start to the month with rainfall recorded across the area on most days up to 9 June. Daily mean flows generally decreased at indicator sites from 9 June to 20 June then increased again in the final week in response to rainfall.

1.4 Groundwater levels

Groundwater levels remained consistent with levels recorded in May across the area. Levels in West Hall Farm borehole in the Wear Magnesian Limestone fall within the exceptionally high range. West Hall Farm appears to be subject to longer term recovery following significant reduction of abstraction within the vicinity. The level in Aycliffe NRA2 in the Skerne Magnesian Limestone has not changed significantly since May and falls within the normal range. Royalty Observation is classed as normal in the Fell Sandstone. Red Lion in the Skerne Magnesian Limestone and Town Law in the Fell Sandstone fall within the normal ranges for June.

1.5 Reservoir stocks

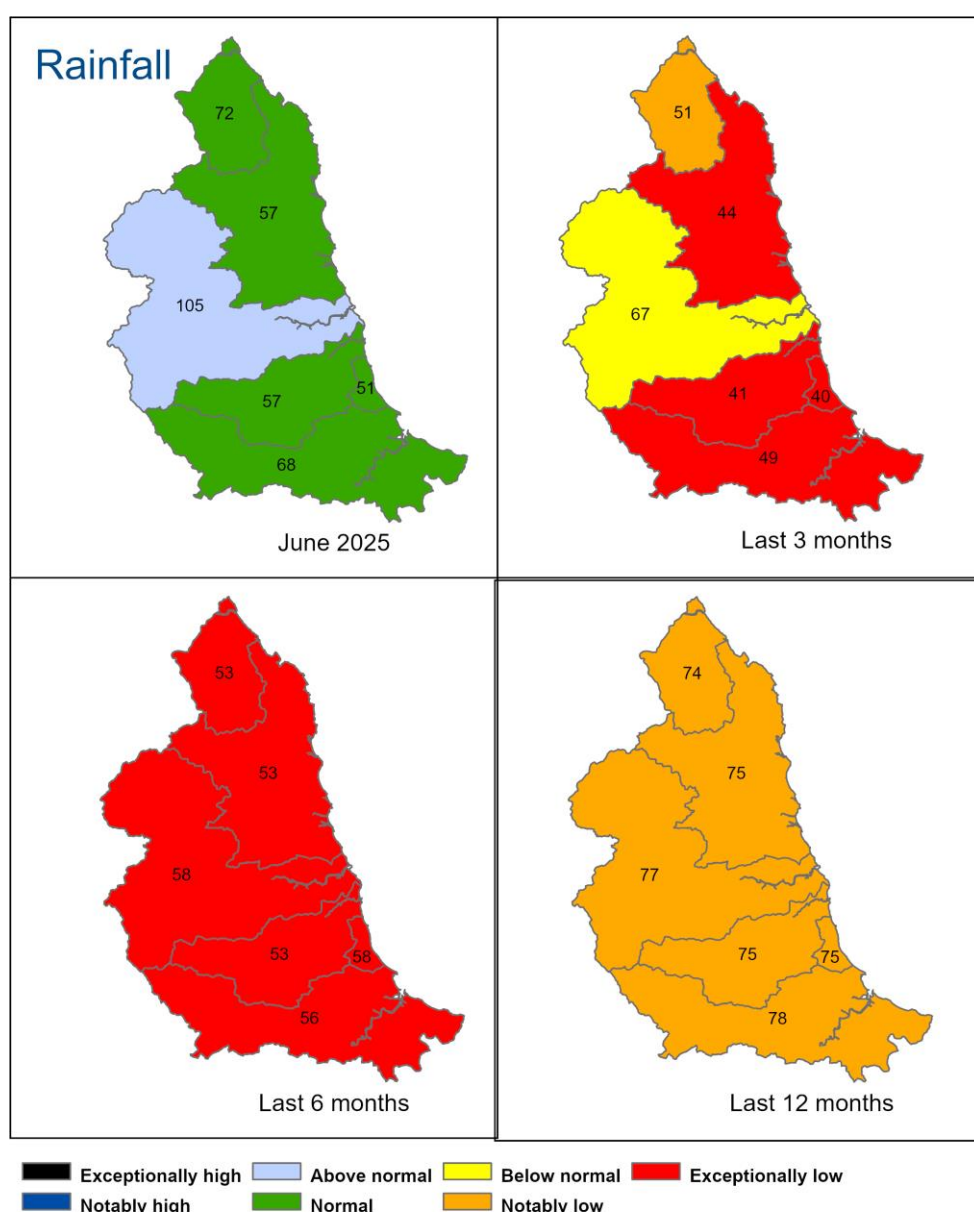
Changes in reservoir stocks vary across the area in June. Kielder, Cow Green and the Lune and Balder group have seen increases in stocks this month, most notably at Kielder which recorded a 5% increase. The North Tynedale group, Durham group and Derwent recorded decreases in stocks with the largest decrease at Derwent reservoir being 8%. Reservoir stocks across the area remain below average for the time of year.

Reservoir or reservoir group	Percentage of current stocks	Percentage of previous month stocks
Kielder	86.4	81.0
North Tynedale group	52.7	58.2
Derwent	64.7	72.8
Durham group	57.6	58.4
Lune and Balder group	73.9	72.6
Cow Green	65.8	64.3

2 Rainfall

2.1 Rainfall map

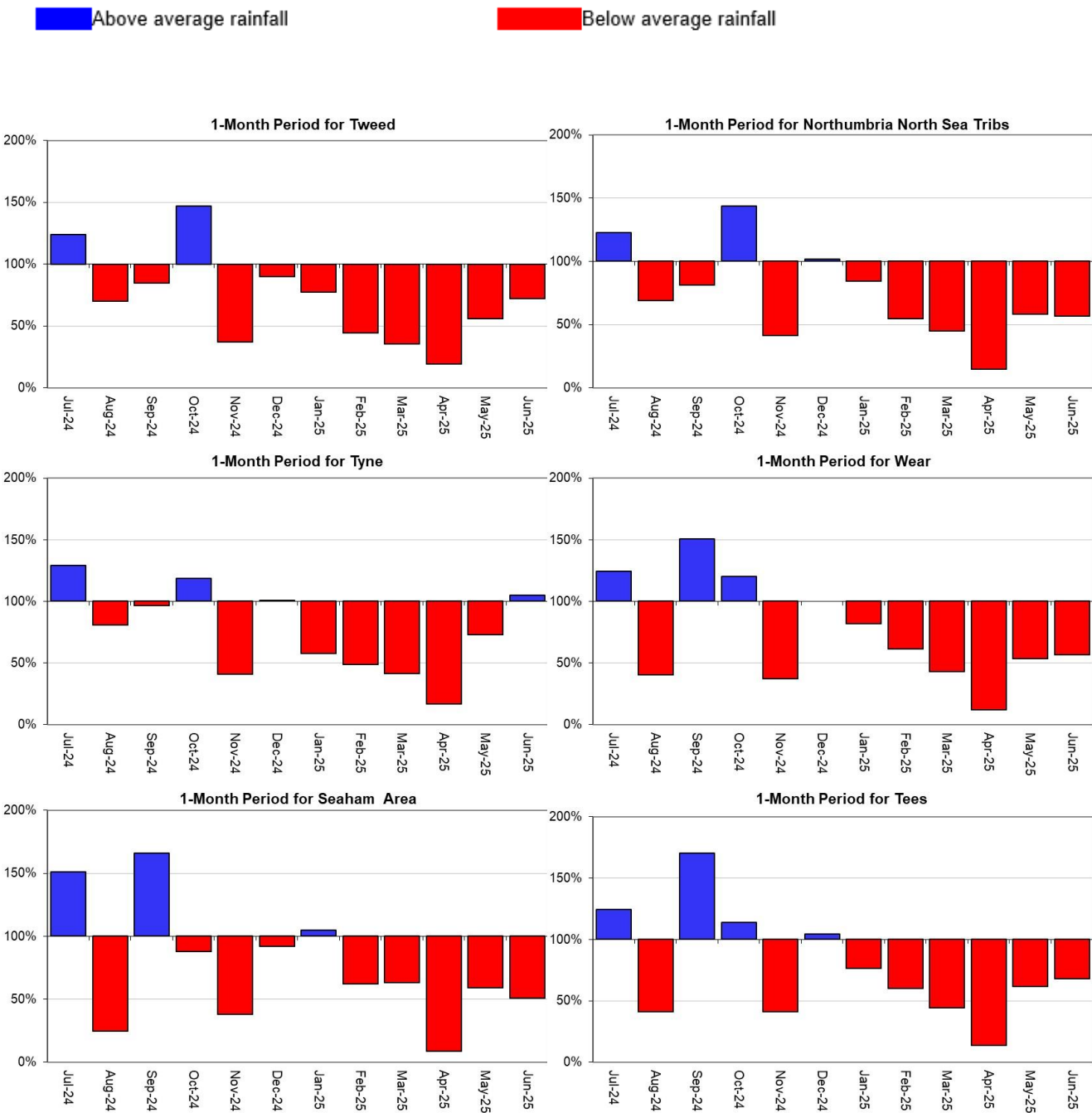
Figure 2.1: Total rainfall for hydrological areas for the current month (up to 30 June 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. The numbers on the maps refer to the percentage of the 1991 to 2020 LTA. June rainfall totals were classed as above normal for the Tyne catchment and normal for the rest of the area. All catchments are classed as exceptionally low for the last 6 month cumulative totals and notably low for the last 12 month totals. Table available in the appendices with detailed information.



HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

2.2 Rainfall charts

Figure 2.2: Monthly rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average for each hydrometric area.

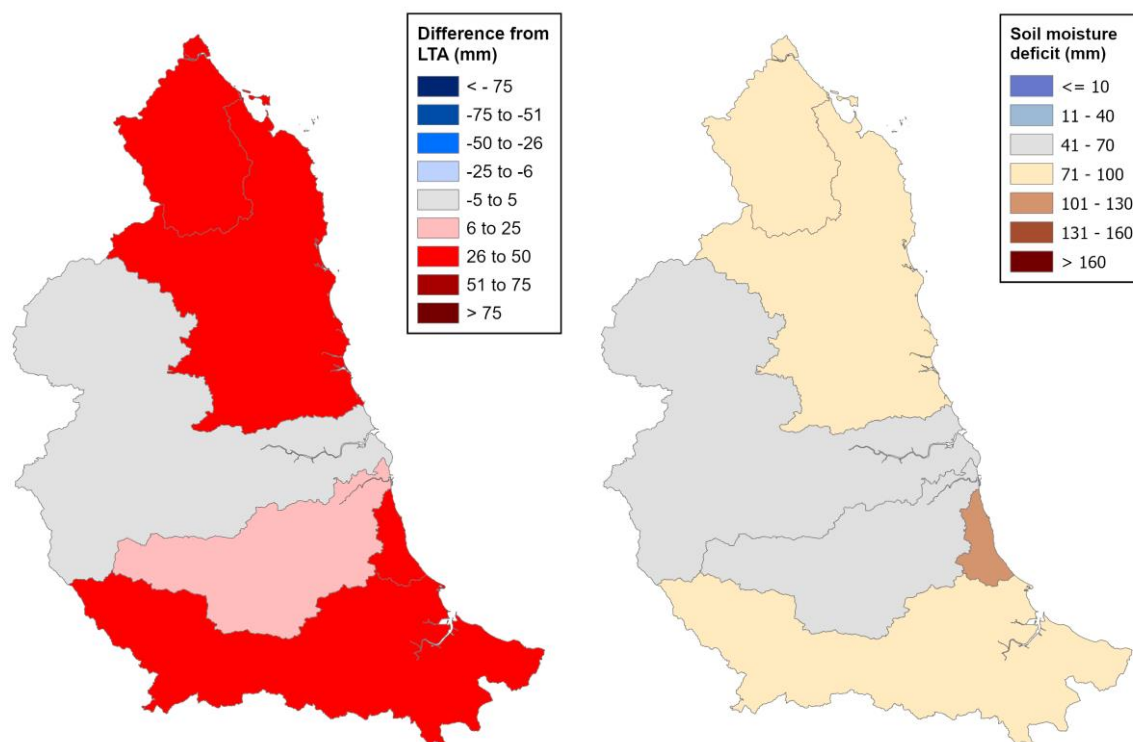


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

3 Soil moisture deficit

3.1 Soil moisture deficit map

Figure 3.1: Soil moisture deficits for weeks ending 2 July 2025. The map on the left shows the difference (mm) of the actual soil moisture deficits from the 1991 to 2020 long term average soil moisture deficits. MORECS data for real land use.

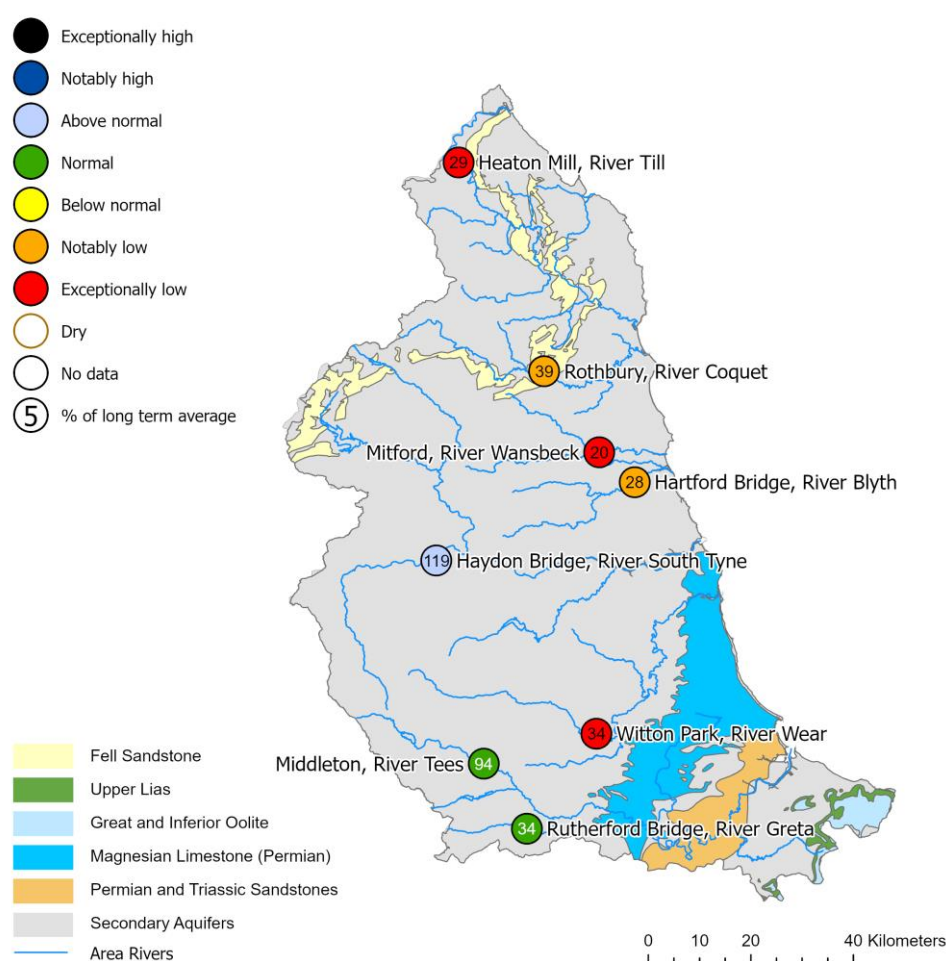


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4 River flows

4.1 River flows map

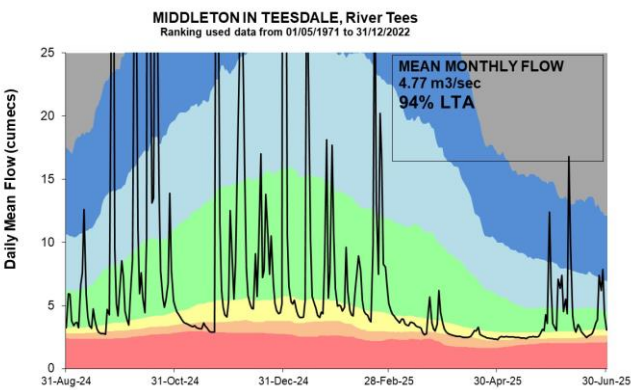
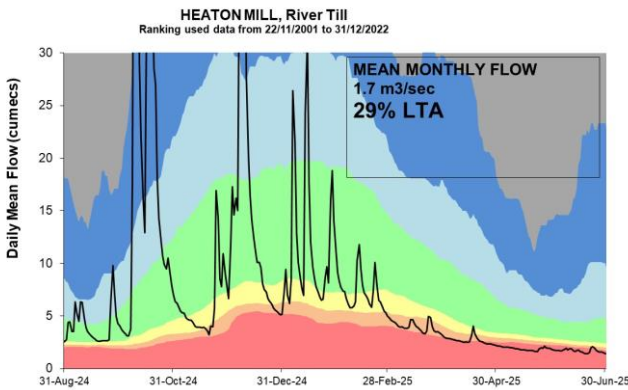
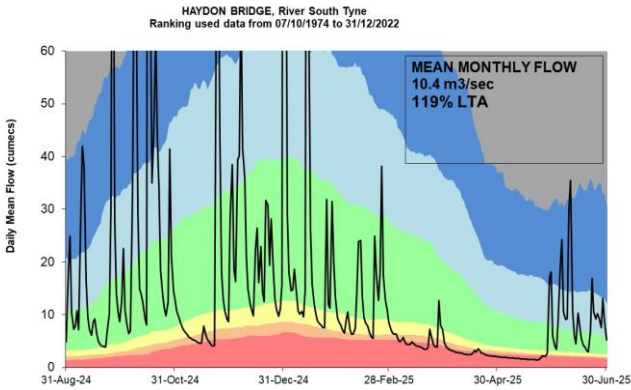
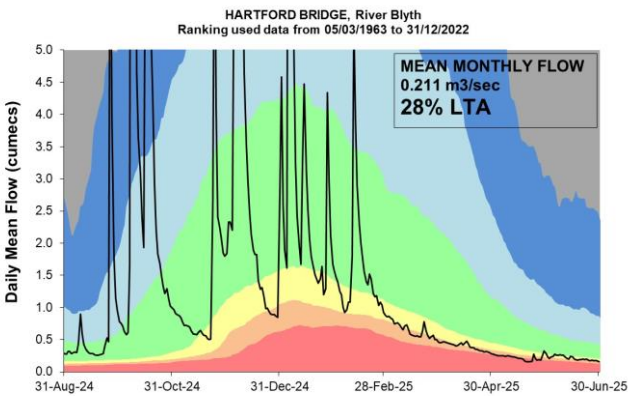
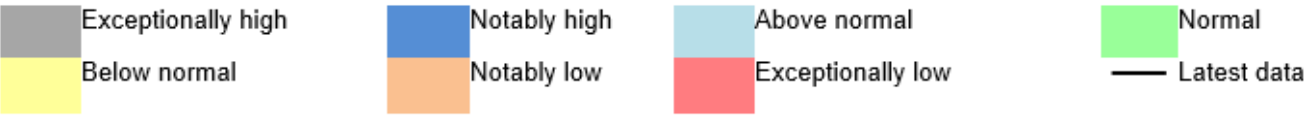
Figure 4.1: Monthly mean river flow for indicator sites for June 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic June monthly means. Monthly means flow vary across the area. Flows are classed as above normal at Haydon Bridge and normal at Rutherford Bridge and Middleton in Teesdale. Flows are classed as notably low at Rothbury and Hartford Bridge and exceptionally low at Heaton Mill, Mitford and Witton Park. Table available in the appendices with detailed information.

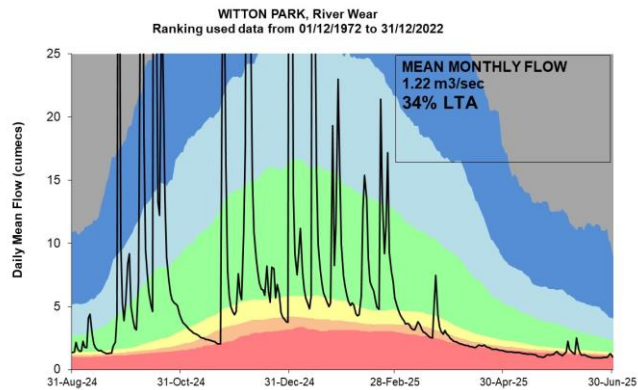
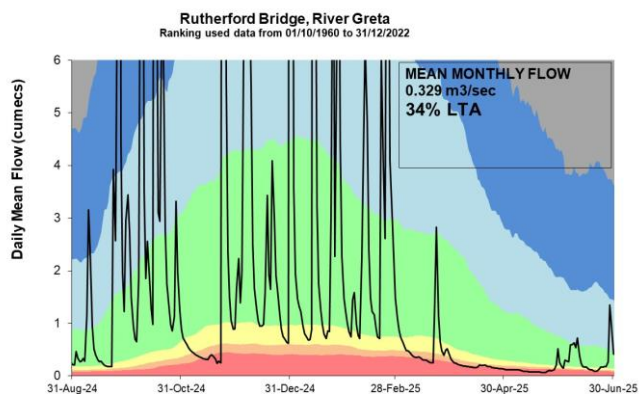
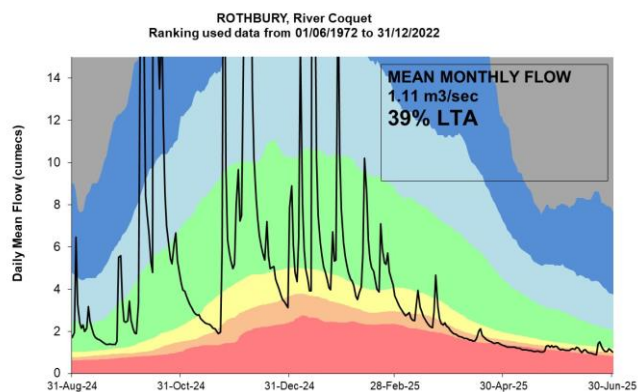
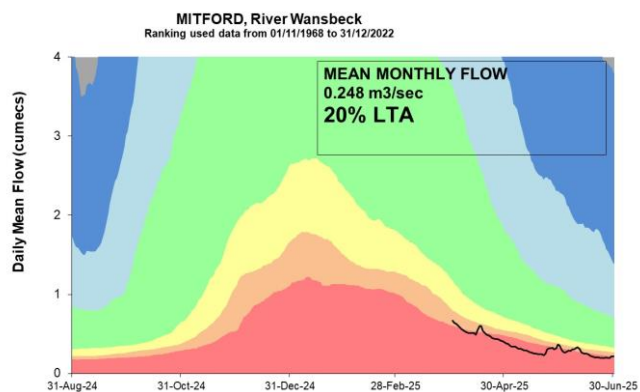


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4.2 River flow charts

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



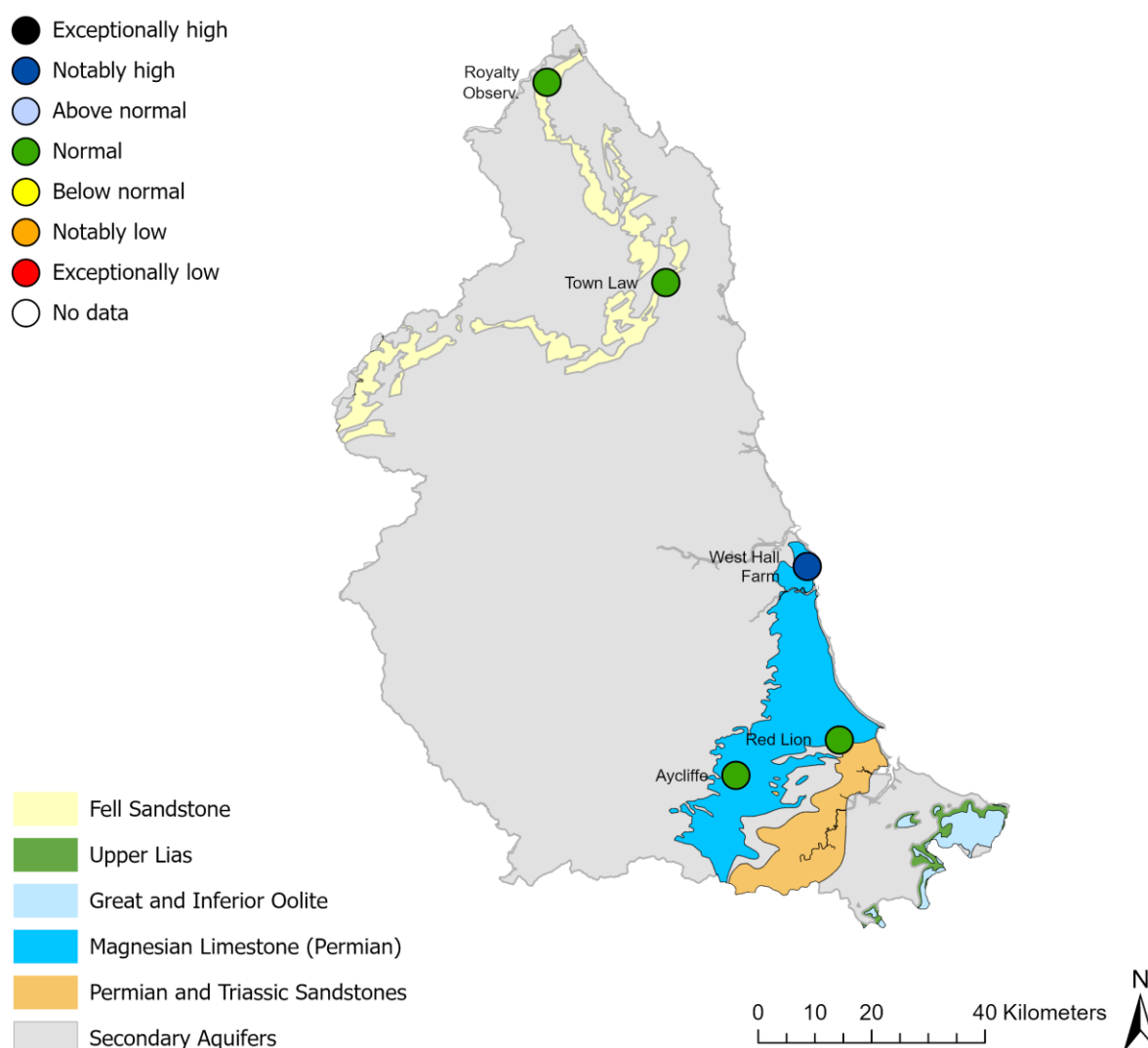


Source: Environment Agency.

5 Groundwater levels

5.1 Groundwater levels map

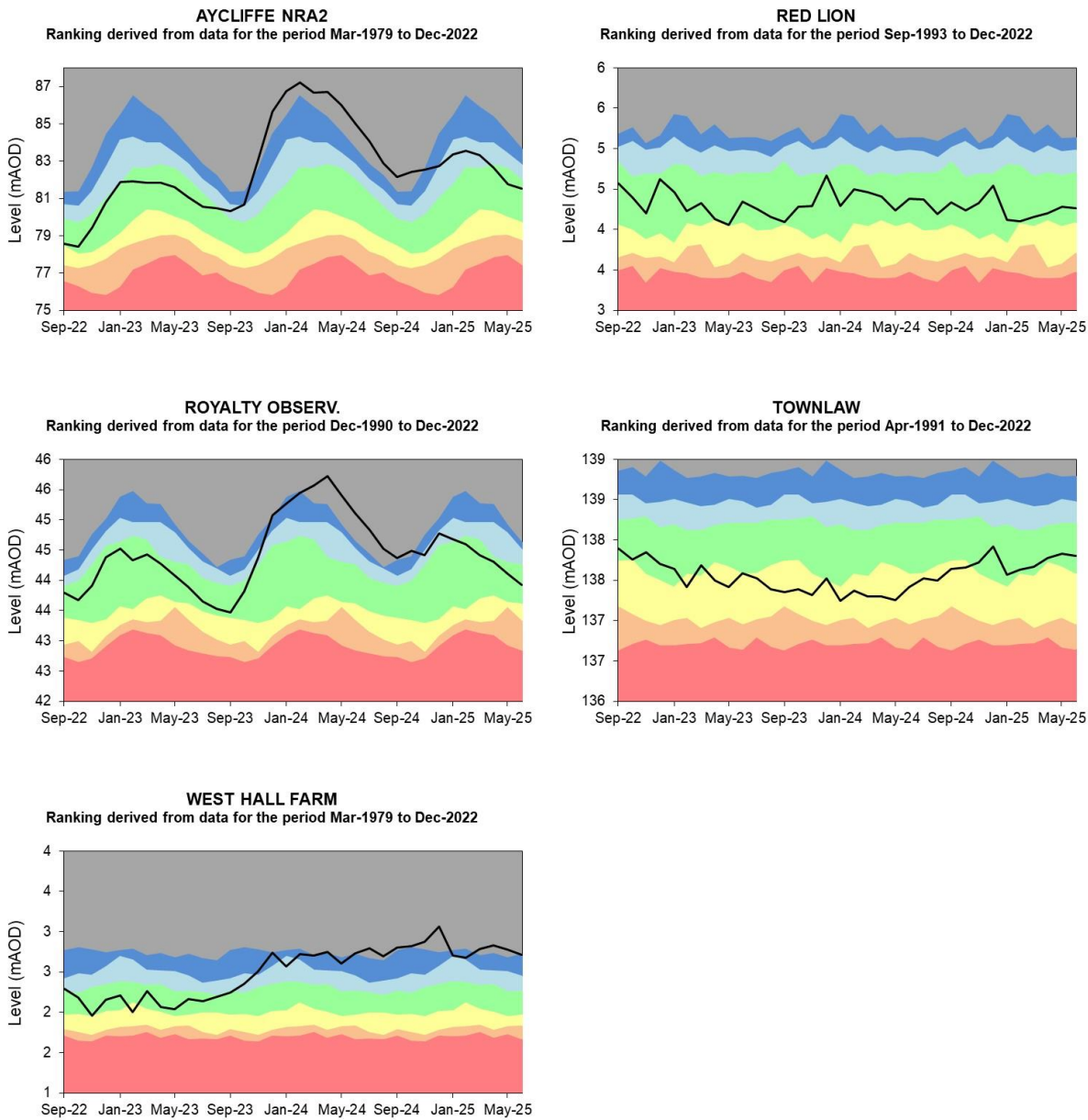
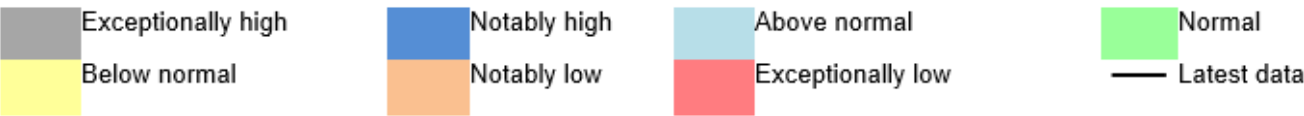
Figure 5.1: Groundwater levels for indicator sites at the end of June 2025, classed relative to an analysis of respective historic June levels. Groundwater levels are classed as notably high at West Hall Farm on the Magnesian Limestone and normal at all other indicator sites in the area. Table available in the appendices with detailed information.



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5.2 Groundwater level charts

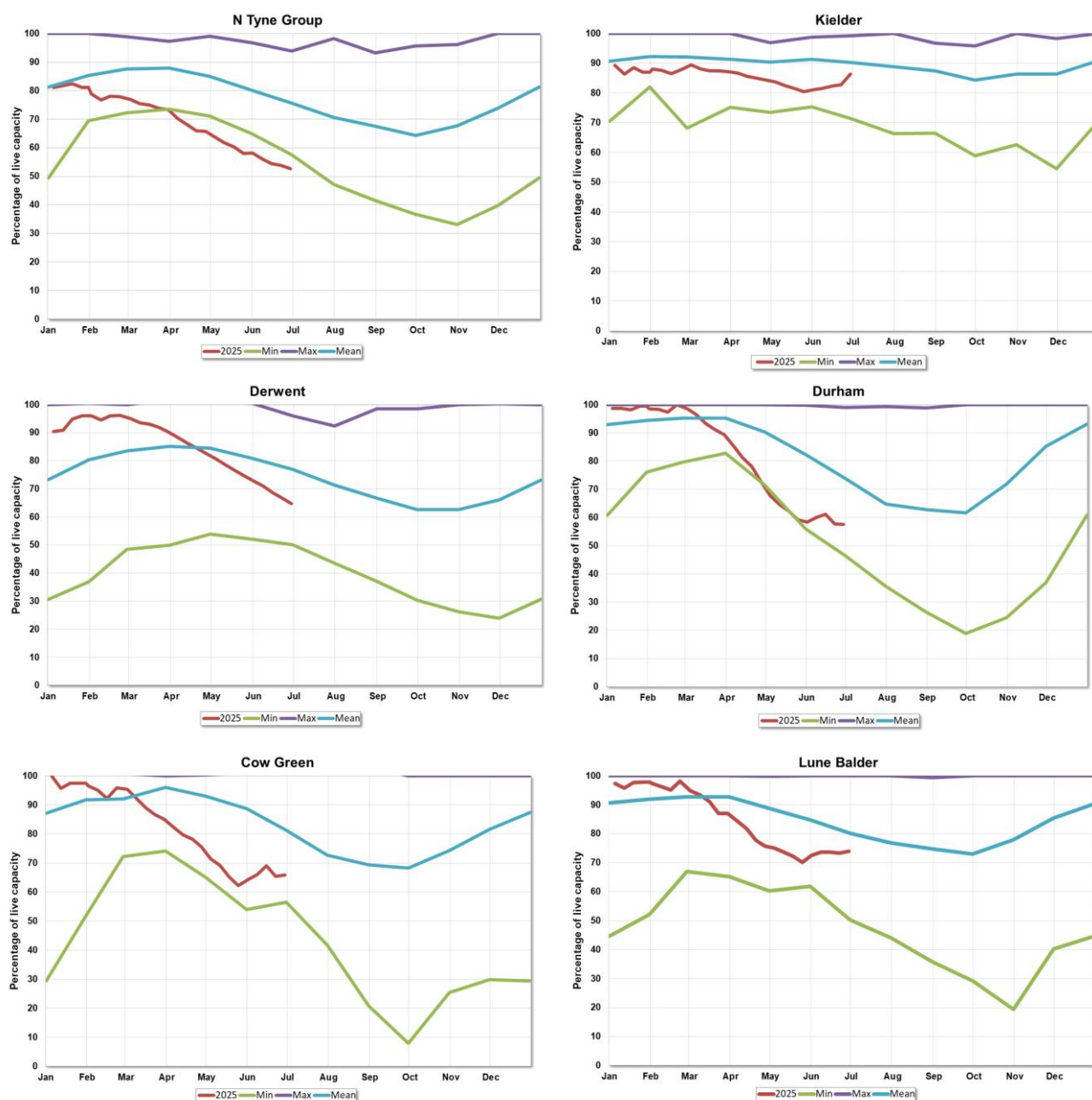
Figure 5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 36 months compared to an analysis of historic end of month levels.



Source: Environment Agency, 2025.

6 Reservoir stocks

Figure 6.1: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.



(Source: water company).

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	June 2025 rainfall % of long term average 1991 to 2020	June 2025 band	Apr 2025 to June cumulative band	Jan 2025 to June cumulative band	Jul 2024 to June cumulative band
Northumbria North Sea Tribs	57	Normal	Exceptionally low	Exceptionally low	Notably low
Seaham Area	51	Normal	Exceptionally low	Exceptionally low	Notably low
Tees	68	Normal	Exceptionally low	Exceptionally low	Notably low
Tweed	72	Normal	Notably low	Exceptionally low	Notably low
Tyne	105	Above Normal	Below normal	Exceptionally low	Notably low
Wear	57	Normal	Exceptionally low	Exceptionally low	Notably low

8.2 River flows table

Site name	River	Catchment	June 2025 band	May 2025 band
Hartford Bridge	Blyth	Blyth	Notably low	Exceptionally low
Haydon Bridge	South Tyne	South Tyne	Above normal	Notably low
Heaton Mill	Till	Till	Exceptionally low	Exceptionally low
Middleton In Teesdale	Tees	Tees	Normal	Notably low
Mitford	Wansbeck	Wansbeck	Exceptionally low	Exceptionally low
Rothbury	Coquet	Coquet	Notably low	Exceptionally low
Rutherford Bridge	Greta	Greta	Normal	Exceptionally low
Witton Park	Wear	Wear	Exceptionally low	Exceptionally low

8.3 Groundwater table

Site name	Aquifer	End of June 2025 band	End of May 2025 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	Normal	Normal
West Hall Farm	Wear Magnesian Limestone	Notably high	Exceptionally high