Monthly water situation report: North East Area

1 Summary - December 2025

The rainfall during December was variable with the first three weeks of the month recording high totals, followed by a dry final week. Monthly rainfall totals are classed as normal for all catchments. Monthly mean river flows generally decreased from the previous month and now fall within the normal or above normal ranges. Soils across the area remain fully saturated. Reservoir stocks remain healthy for December with the exception of Derwent reservoir which remains below average for the time of year.

1.1 Rainfall

Monthly rainfall totals were slightly below the long term average (LTA) though they fell within the normal range for all catchments. Totals ranged from 73% of the LTA in the Tweed catchment to 99% of the LTA in the Seaham area. Analysis of the daily rainfall totals shows that virtually all of the rainfall was recorded in the first three weeks of the month and the last 10 days were generally dry. Cumulative totals up to 8 months are now in the normal or higher bandings: a significant improvement from earlier in the year during the period of prolonged dry weather. It is only the 11 month totals where one catchment remains in the notably low category: Northumberland.

1.2 Soil moisture deficit and recharge

Soil moisture deficits remain similar to last month and all catchments are considered to be fully saturated with less than 10mm of soil moisture deficit.

1.3 River flows

Monthly mean river flows have seen a decrease this month and now fall within the normal or above normal ranges. Monthly mean flows ranged from 91% of the LTA at Heaton Mill in the Till catchment to 135% of the LTA at Mitford in the Wansbeck catchment. Analysis of daily mean flows shows that flows were notably high or exceptionally high at the start of the month and continued to remain in the higher categories for 2 to 3 weeks. From 20 December onwards flows began to decline with all sites falling within the below normal or lower ranges by the end of the month. Haydon Bridge on the River South Tyne and Heaton Mill on the River Till had both recorded exceptionally low flows by 31 December.

1.4 Groundwater levels

Groundwater levels have remained in the same range at all indicator sites with the exception of Red Lion where levels now fall in the above normal range. West Hall farm is within the notably high range, which is understood to be the result of a reduction in nearby abstraction

volumes rather than a climatic response. All other indicator sites fall within the normal range for the time of the year.

1.5 Reservoir stocks

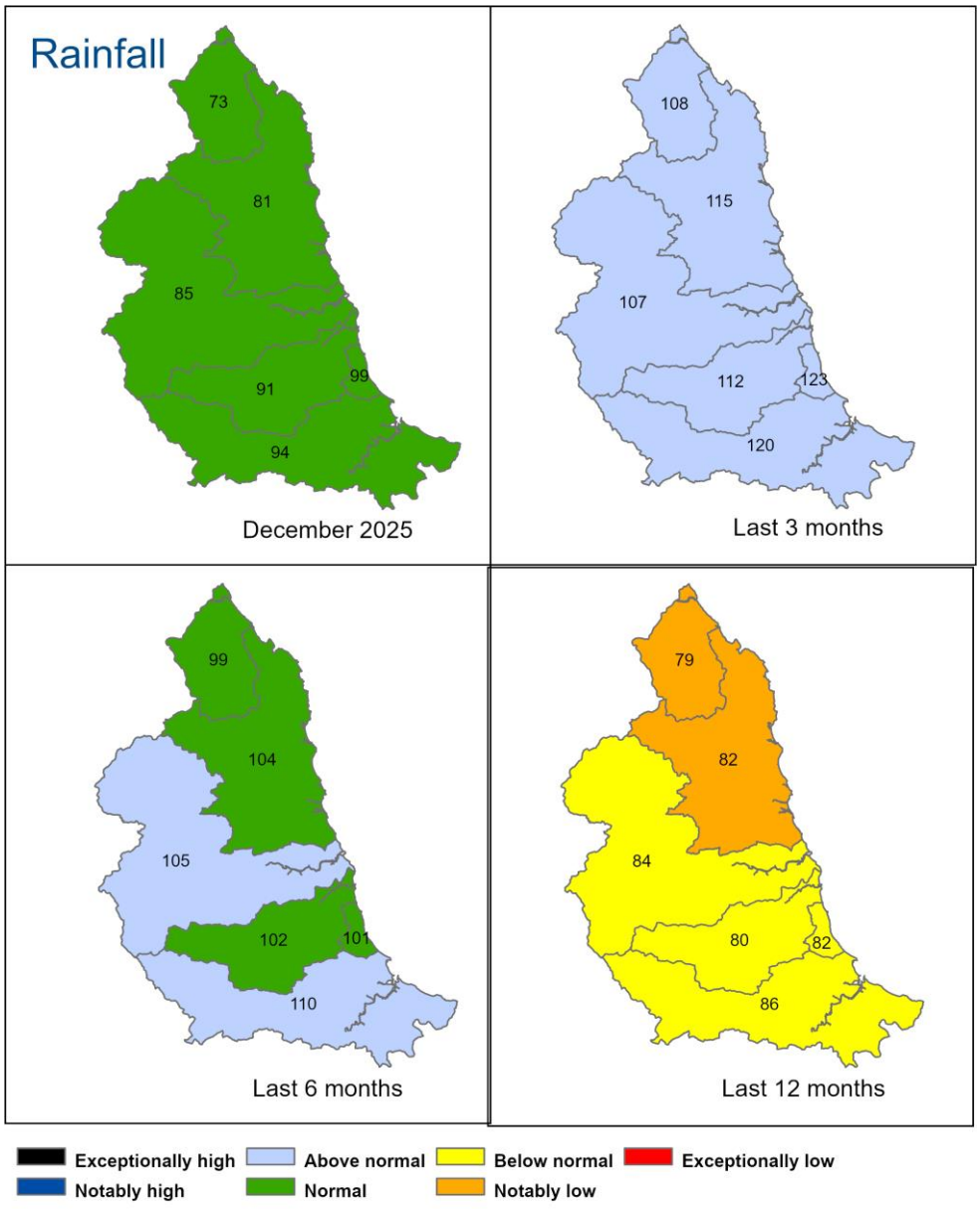
Changes in reservoir stocks have varied this month. Kielder and the Lune and Balder group have decreased slightly whilst the North Tynedale group, Derwent and Cow Green have increased. The Durham group has remained the same. All reservoirs except Derwent are average or above average for the time of year.

Reservoir or reservoir group	Percentage of current stocks	Percentage of previous month stocks
Kielder	88.4	91.4
North Tynedale group	87.6	80.4
Derwent	61.4	54.8
Durham group	97.9	97.1
Lune and Balder group	96.9	98.5
Cow Green	96.7	86.1

2 Rainfall

2.1 Rainfall map

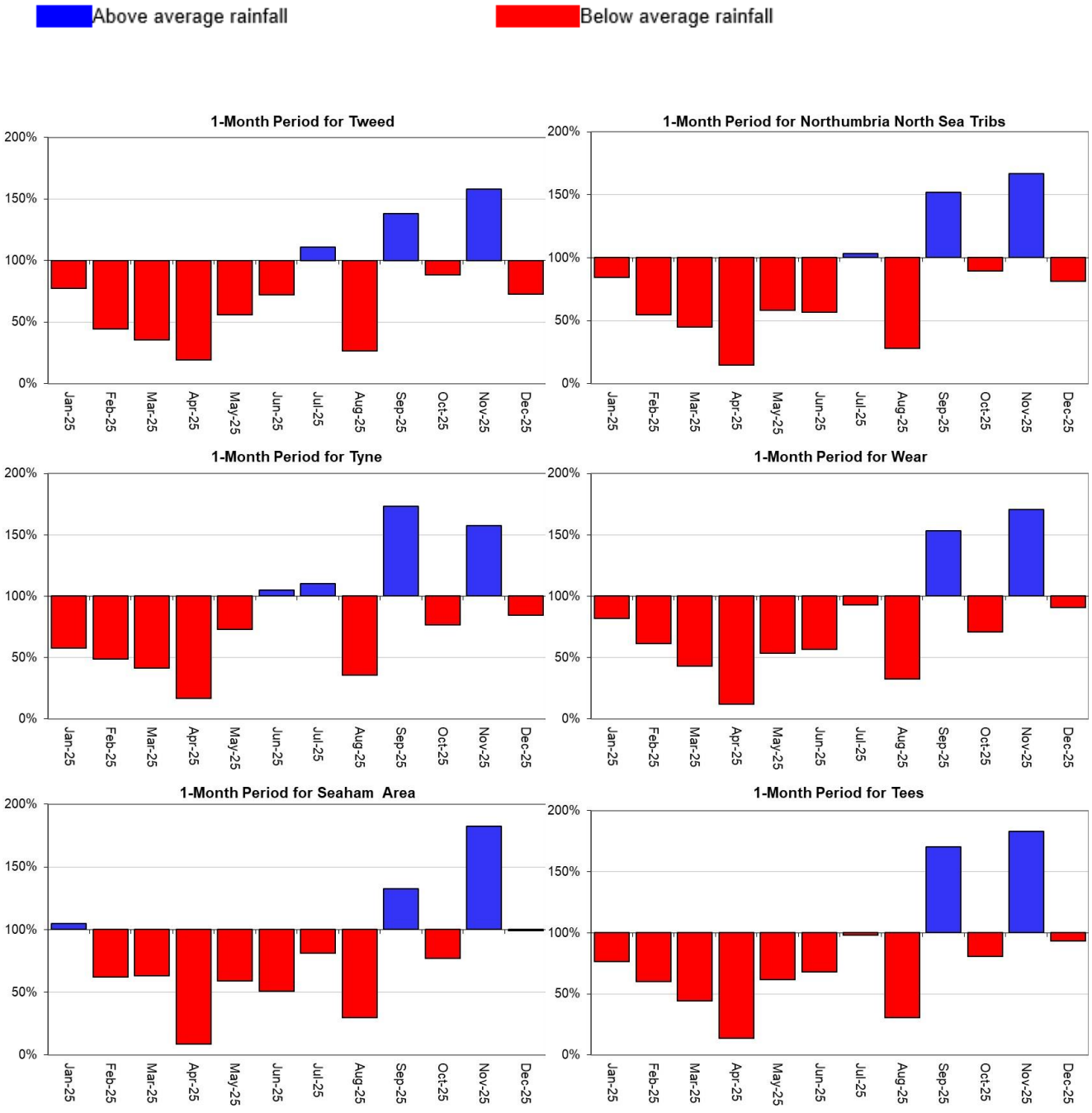
2.1: Total rainfall for hydrological areas for the current month (up to 31 December 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. The number on the maps refer to the percentage of the 1991 to 2020 LTA. December totals were classed as normal for all catchments. Table available in the appendices with detailed information.



Rainfall data for Jan 2025 onwards, 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 Jan 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

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



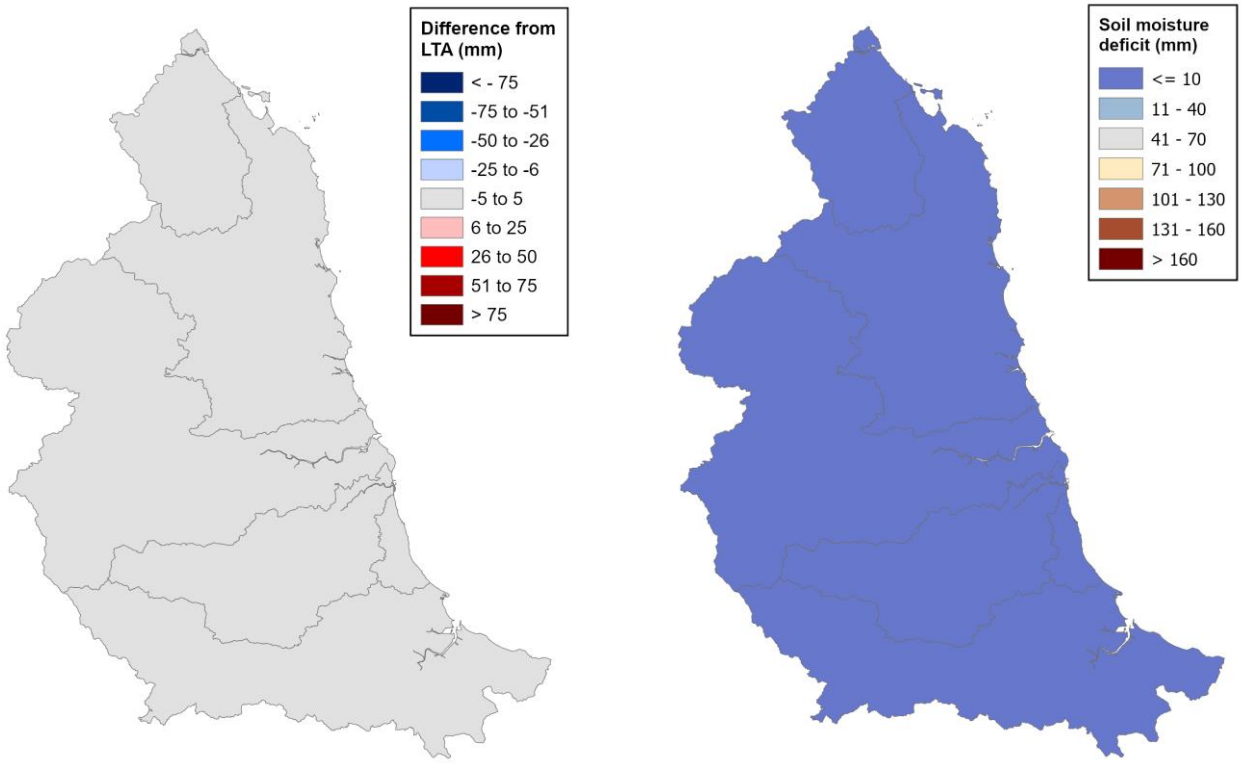
Rainfall data for Jan 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 2026). Rainfall data prior to Jan 2025, extracted from Met Office

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

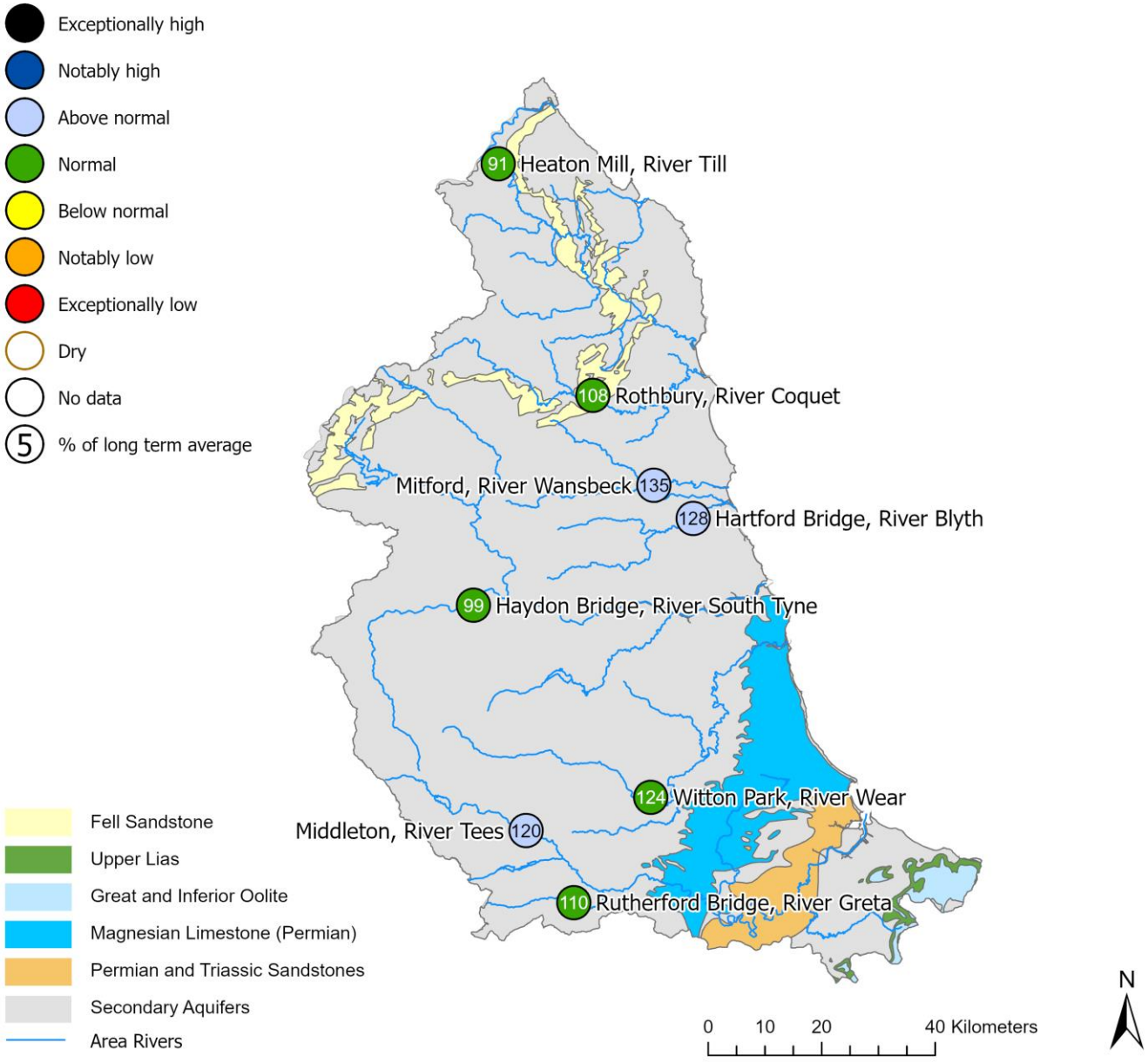
3.1: Soil moisture deficits for week ending 31 December 2025. Map on the left shows the difference (mm) of the actual soil moisture deficit from the 1991 to 2020 long term average soil moisture deficits. MORECS data for real land use.



4 River flows

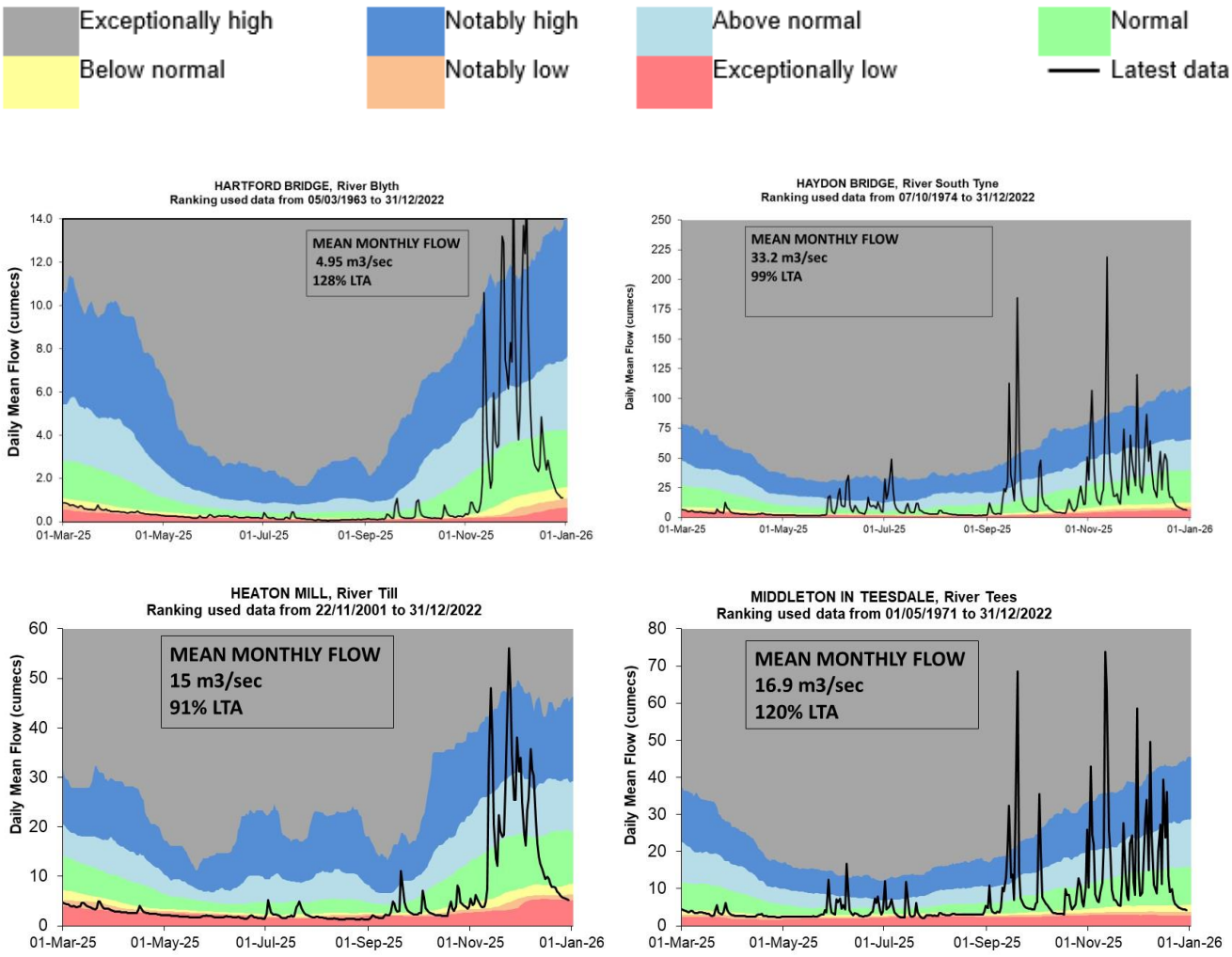
4.1 River flows map

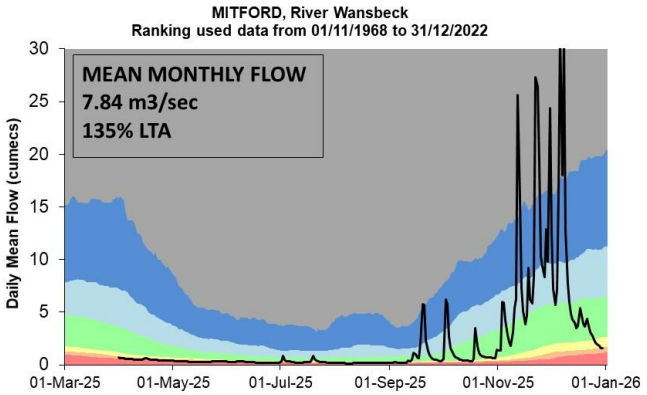
4.1: Monthly mean river flow for indicator sites for December 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic December monthly means. Monthly mean flows are classed as normal or above normal. Table available in the appendices with detailed information.

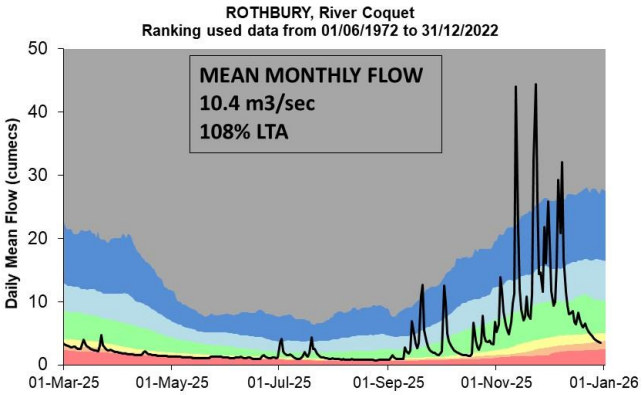


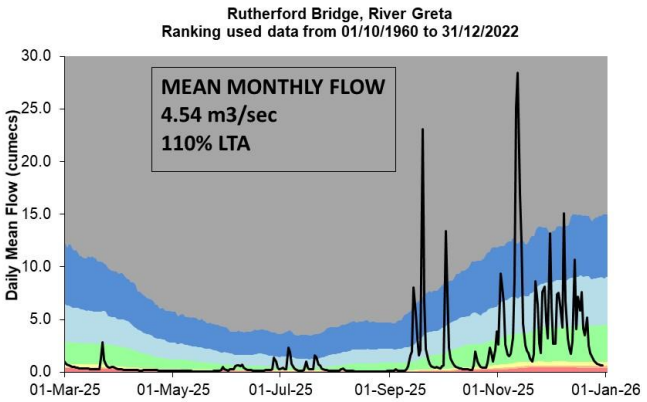
4.2 River flow charts

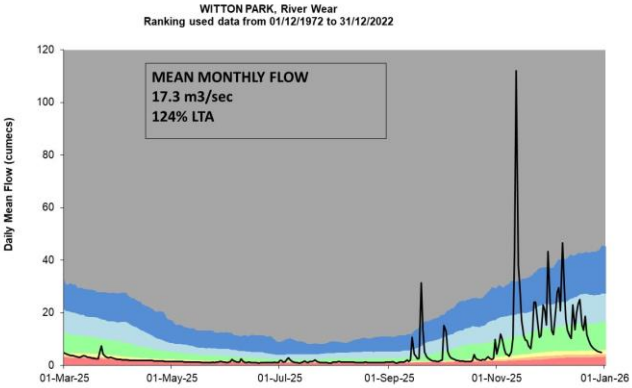
4.2: Daily mean river flow for index sites over the past 10 months, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.









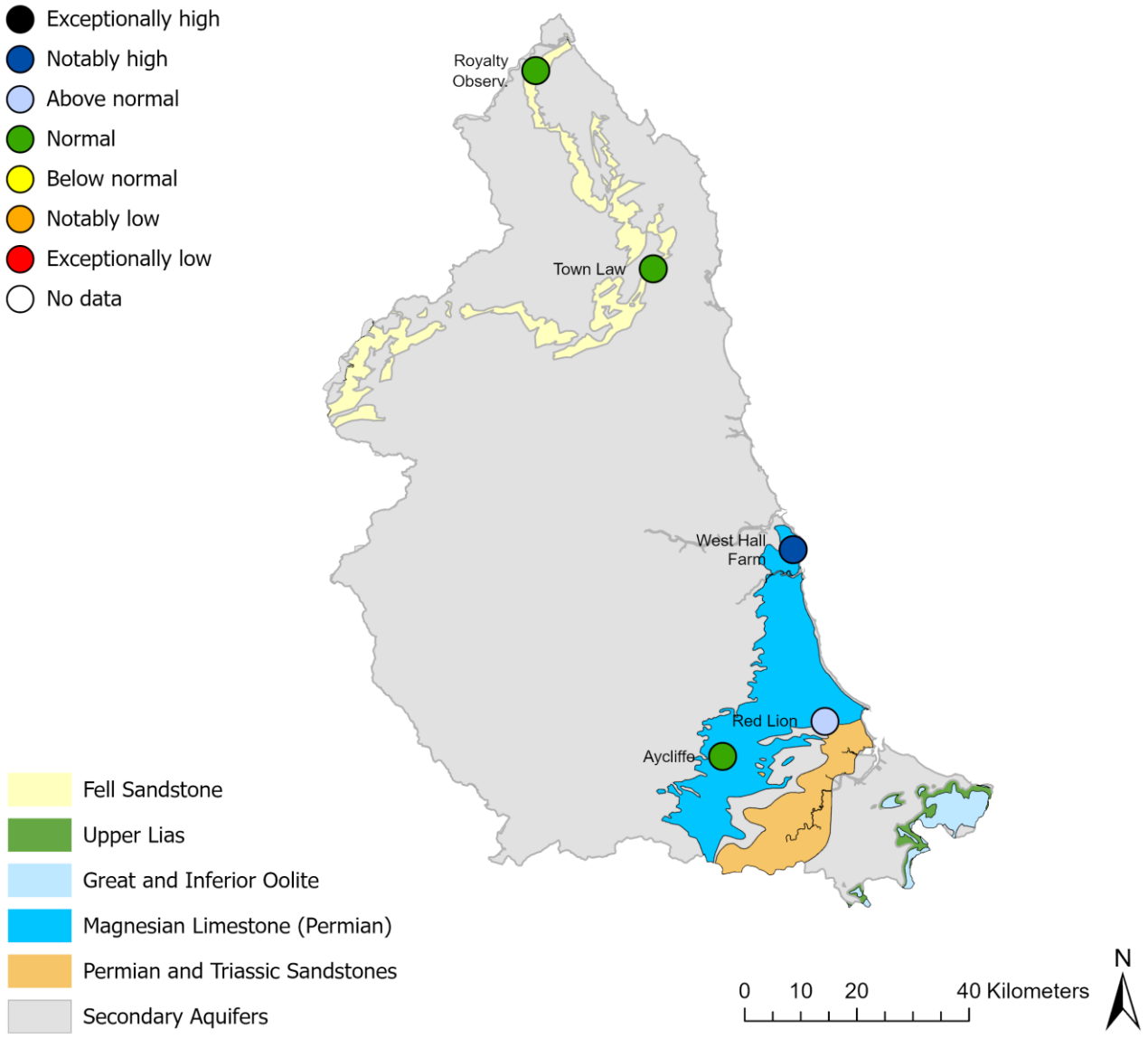


Source: Environment Agency.

5 Groundwater levels

5.1 Groundwater levels map

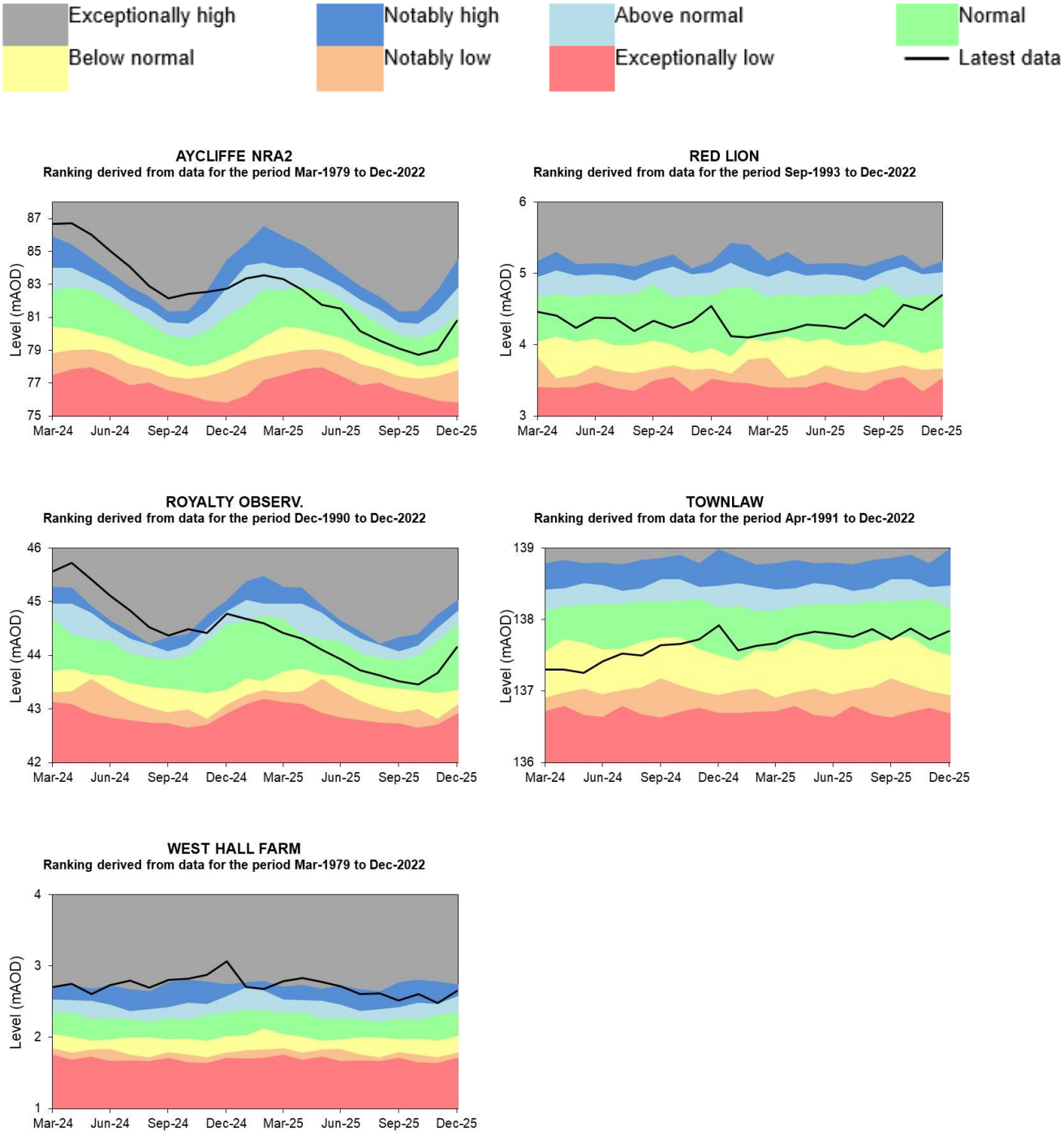
5.1: Groundwater levels for indicator sites at the end of December 2025, classed relative to an analysis of respective historic December levels. Groundwater levels are classed as notably high at West Hall farm and above normal at Red Lion. All other sites are classed as normal for the time of the year. 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

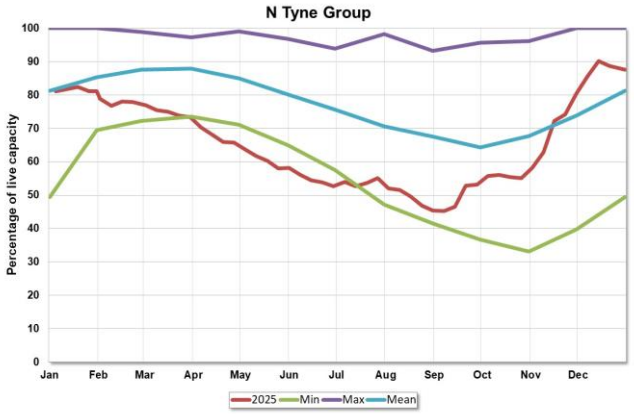
5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.

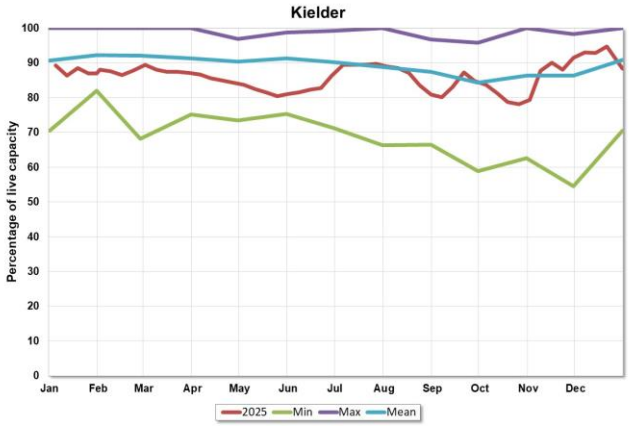


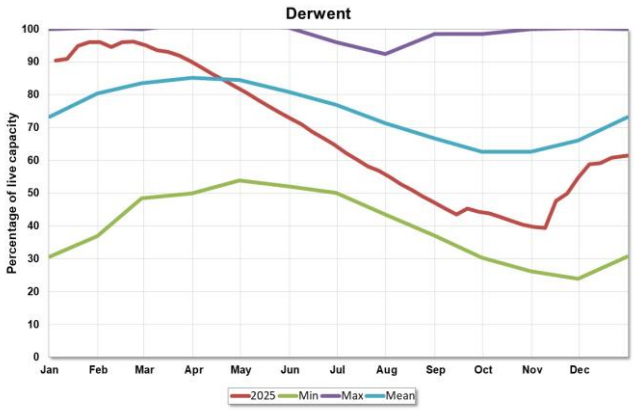
Source: Environment Agency, 2026.

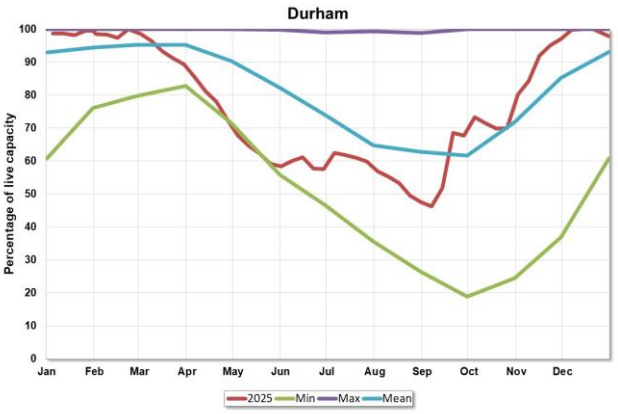
6 Reservoir stocks

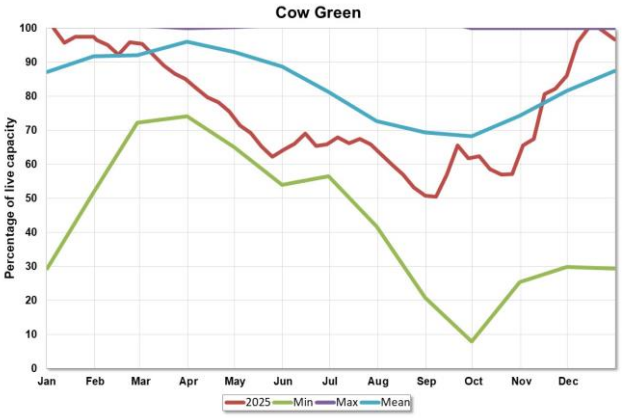
6.1: End of month reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.

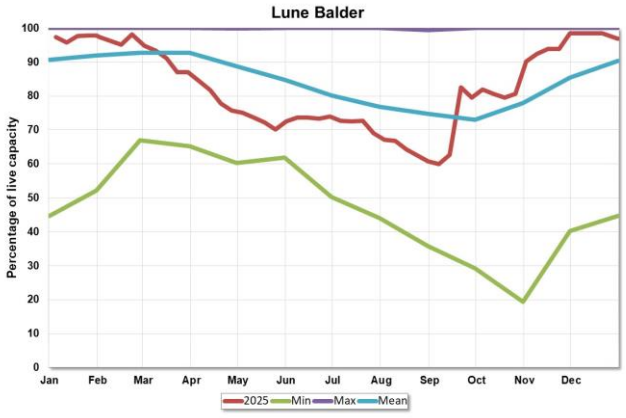












(Source: water company).

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	Dec 2025 rainfall % of long term average 1991 to 2020	Dec 2025 band	Oct 2025 to December cumulative band	July 2025 to December cumulative band	Jan 2025 to December cumulative band
Northumbria North Sea Tribs	81	Normal	Above normal	Normal	Notably low
Seaham Area	99	Normal	Above normal	Normal	Below normal
Tees	94	Normal	Above normal	Above normal	Below normal
Tweed	73	Normal	Above normal	Normal	Notably low
Tyne	85	Normal	Above normal	Above normal	Below normal
Wear	91	Normal	Above normal	Normal	Below normal

8.2 River flows table

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

8.3 Groundwater table

Site name	Aquifer	End of Dec 2025 band	End of Nov 2025 band
Aycliffe Nra2	Skerne Magnesian Limestone	Normal	Normal
Red Lion	Skerne Magnesian Limestone	Above normal	Normal
Royalty Observ.	Till Fell Sandstone	Normal	Normal
Townlaw	Till Fell Sandstone	Normal	Normal
West Hall Farm	Wear Magnesian Limestone	Notably high	Notably high