Monthly water situation report: Yorkshire Area

1 Summary - November 2025

Above average rainfall occurred across Yorkshire in November. River flows were exceptional or notably high, which for most catchments was an increase from the previous month. Soils became fully saturated by the third week of November and groundwater levels rose. Reservoir stocks increased week on week.

1.1 Rainfall

All catchments recorded above average rainfall. Catchment-averaged rainfall for November total ranged from 145% to 257% of the long-term average (LTA) using Met Office HadUK-Grid data. The catchments of south and east Yorkshire had rainfall amounts greater than 200% of the LTA. Across Yorkshire, rainfall was classified as notably or exceptionally high. It was the wettest November in a 154-year record in the Derwent and Hull.

The majority of days in the month had at least some rainfall, with very few entirely dry days recorded across the gauged network. Peak rainfall occurred on days 9 and 10, Storm Claudia produced significant rainfall on day 14 and there was a further high rainfall event across days 28 and 29.

1.2 Soil moisture deficit and recharge

At the start of the month soils were wet in the Pennine and North Yorkshire Moor catchments and progressively drier towards the Humber estuary. By the third week of the month soils across Yorkshire were fully saturated and remained so for the rest of the month.

1.3 River flows

Monthly mean flows were between 227% and 52% of the LTA. All catchments were above 118% of the LTA, with exception of the Hull at 52%. Monthly mean flows in November were higher than in October. Monthly mean flow in the Esk was exceptionally high for the time of year. Elsewhere the flows ranged from normal to notably high but with no particular geographical pattern.

For the first 11 days flows across Yorkshire were mostly normal. The Pennine-fed catchments had a peak in flow between days 3 to 5, which raised temporarily those in the Ure to exceptionally high. By day 12 flows increased to above normal across most Yorkshire catchments except for those in the West Beck. Flows peaked on day 14 at exceptionally high in most catchments and then remained high until day 16.

A further series of peak flows occurred between day 23 to 25 and day 29 and 30 which focused on eastern catchments of the Esk, Rye and Derwent. During the month the Esk reported 9 days of exceptionally high daily mean flow values.

At the start of the month flows in West Beck, which are dominated by Chalk base flow, were notably low for the first 9 days. From day 10 to 17 they fluctuated from below normal to normal

and then maintained normal state until day 29. Flows increased to above normal on the final day of the month.

1.4 Groundwater levels

Magnesian Limestone

The groundwater level within the Magnesian Limestone increased at Brick House Farm and was above normal for the time of year.

Millstone Grit

The groundwater level within the Millstone Grit increased at Hill Top Farm and was normal for the time of year. *It should be noted that this observation borehole is used for water abstraction by means of a pump. Therefore, the groundwater level recorded here may be subject to the effects of this.*

Sherwood Sandstone

The groundwater level within the Sherwood Sandstone increased at Great Ouseburn and was at above normal for the time of year. The groundwater level increased at Riccall Approach Farm and was normal for the time of year.

Corallian Limestone

The groundwater level within the Corallian Limestone increased at Sproxton and was notably high for the time of year.

Chalk

The groundwater level increased at Wetwang and was above normal for the time of year. The groundwater level also increased at Dalton Estate Well and was below normal for the time of year.

1.5 Reservoir stocks

Reservoir stocks increased week on week throughout the month. In the first two weeks overall stocks increased weekly by 4%, the rainfall of the third week caused a further 14% increase. By the last week of November overall stocks were 84.8% full, which was 5.2% above the LTA.

1.6 Environmental impact

By the end of November, 40 abstractors have been warned that flows were low but still able to abstract. No hands off flows were currently in force.

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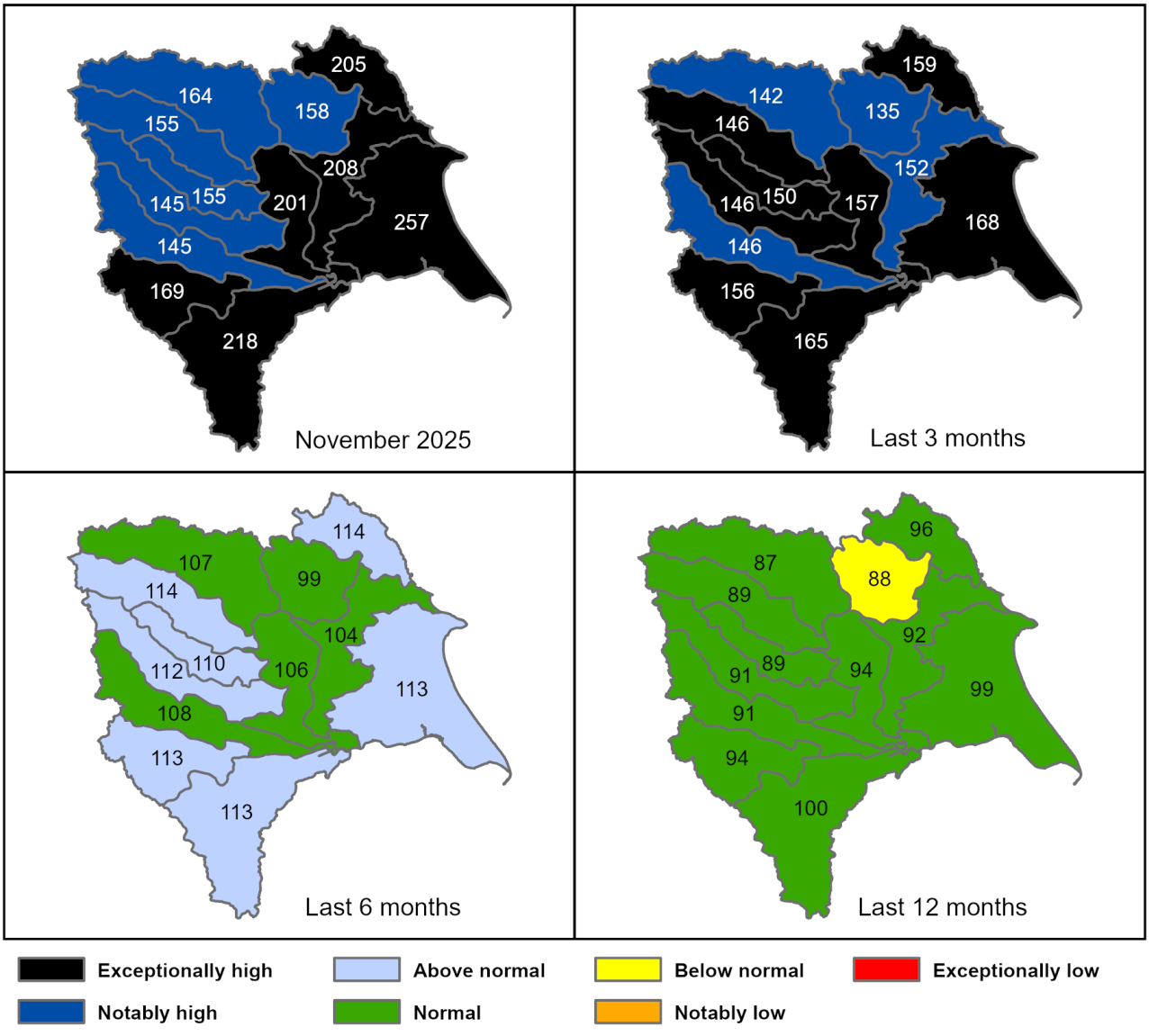
2 Rainfall

2.1 Rainfall map

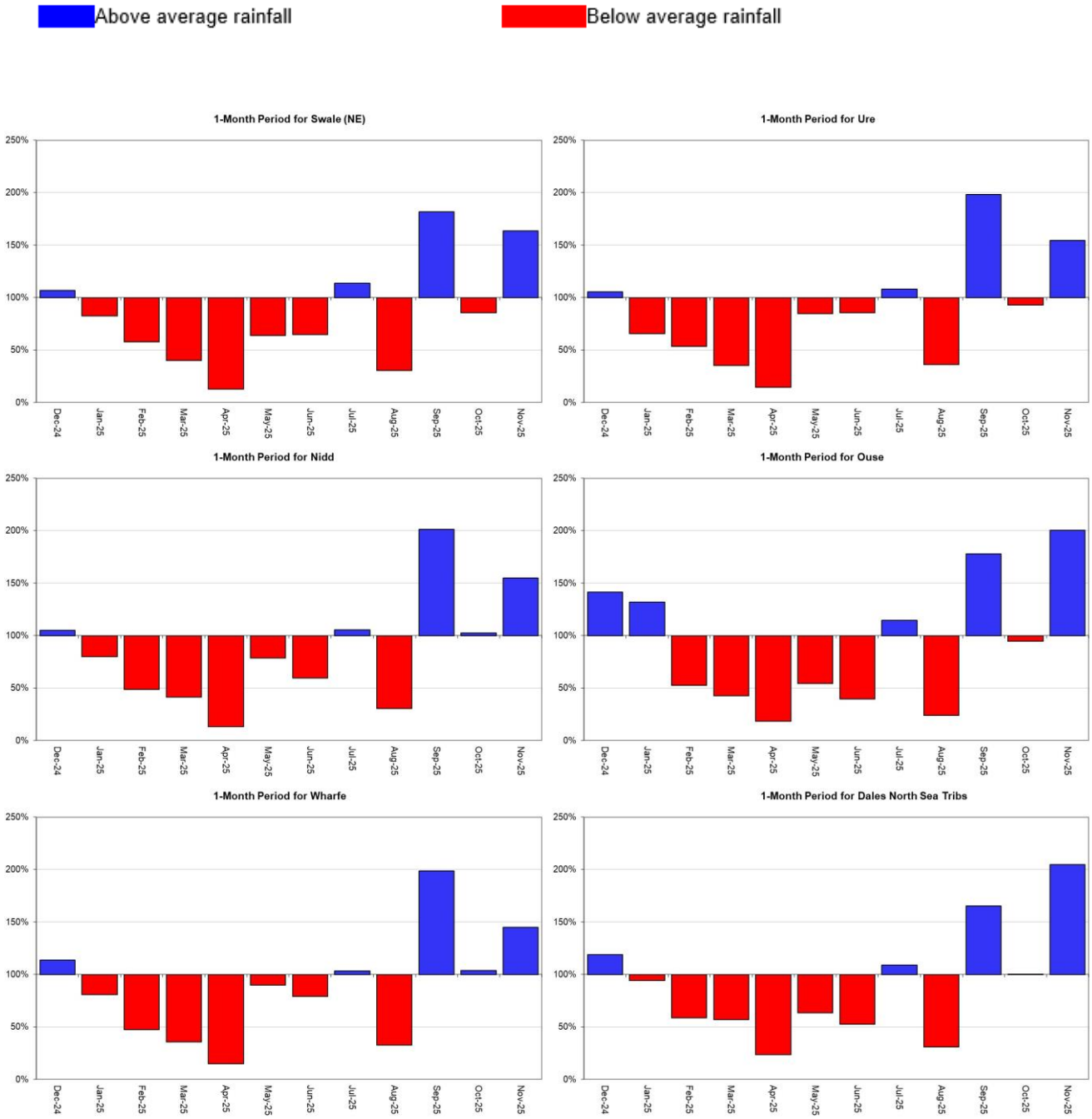
2.1: Total rainfall for hydrological areas across Yorkshire, expressed as a percentage of the 1990 to 2020 long term average rainfall, for the current month (up to 30 November 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.

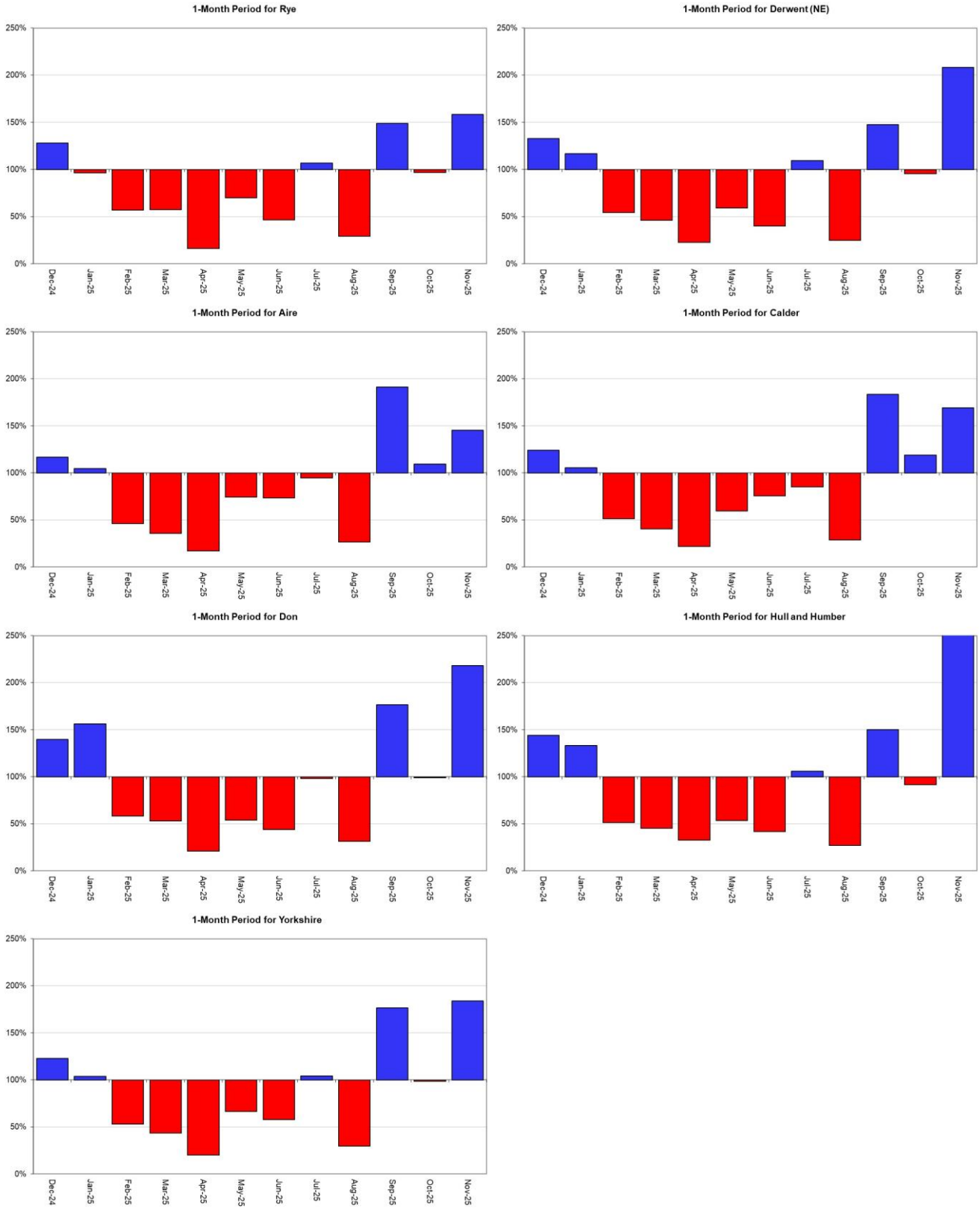


Rainfall data for January 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, AC0000807064, 2025). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded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

2.2 Rainfall charts

2.2: Monthly rainfall totals for the past 24 months as a percentage of the 1991 to 2020 long term average for each catchment.



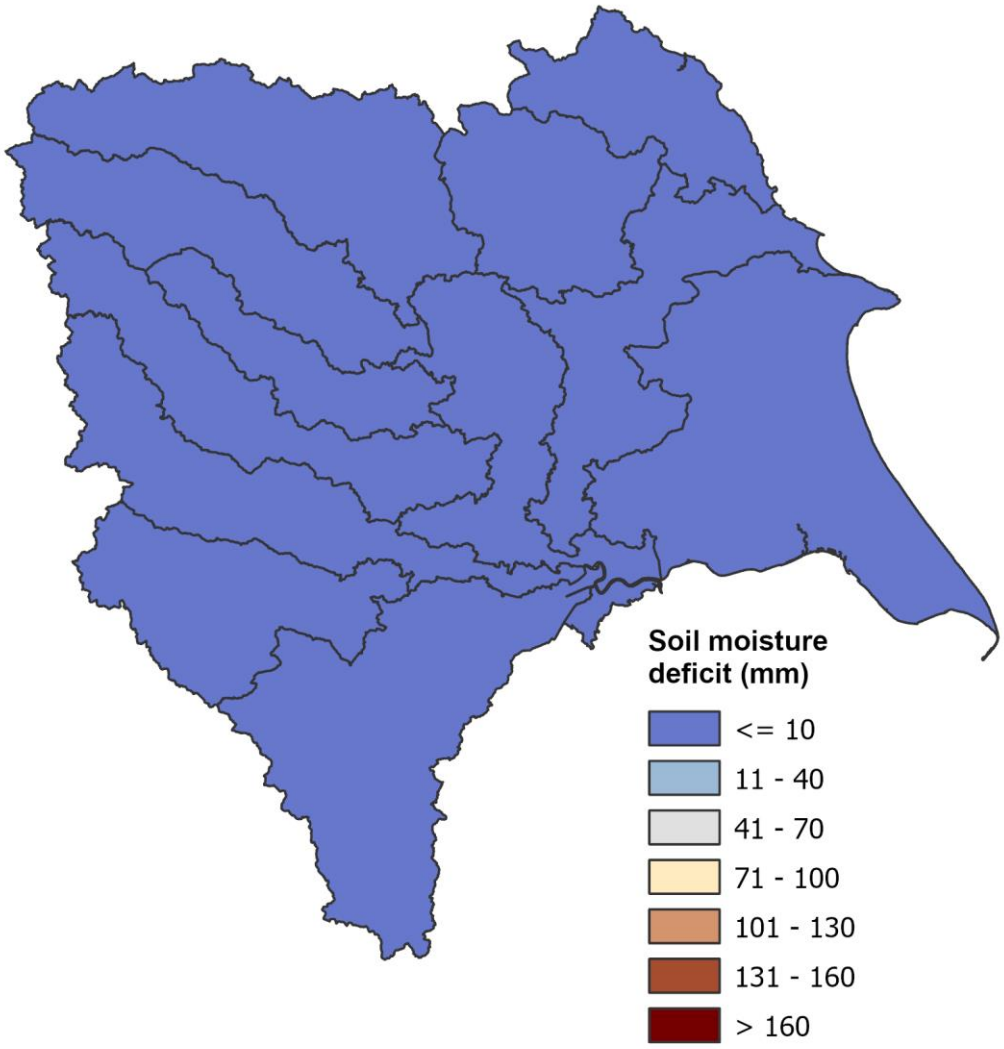


Rainfall data for January 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 2025). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded rainfall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

3 Soil moisture deficit

3.1 Soil moisture deficit map

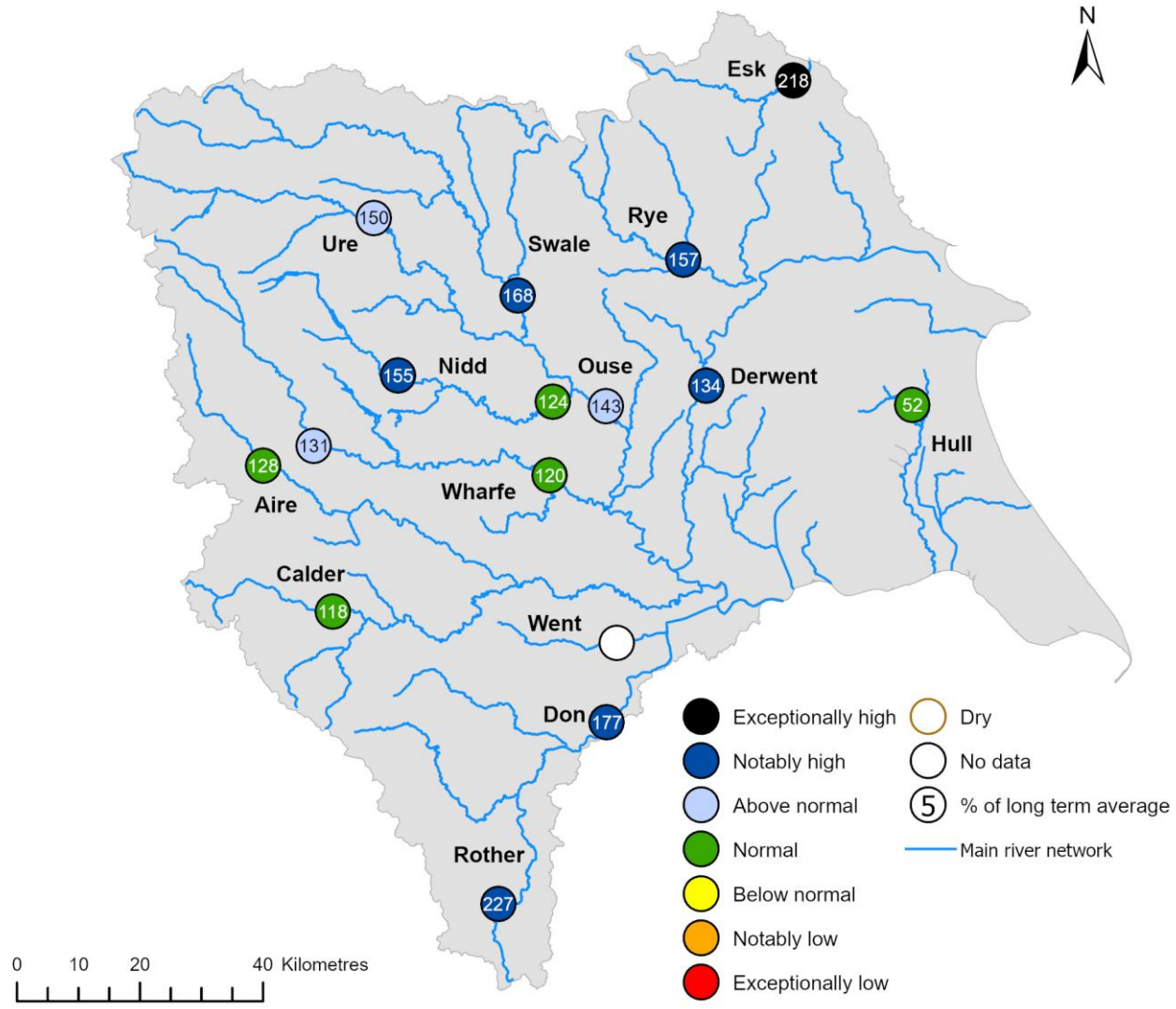
3.1: Soil moisture deficits for weeks ending 30 November 2025. Shows the actual soil moisture deficits (mm) within each hydrological area. Calculated from MORECS data for real land use.



4 River flows

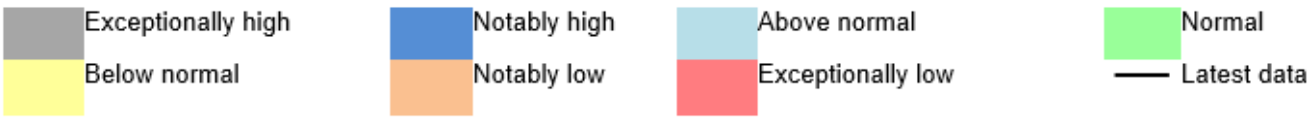
4.1 River flows map

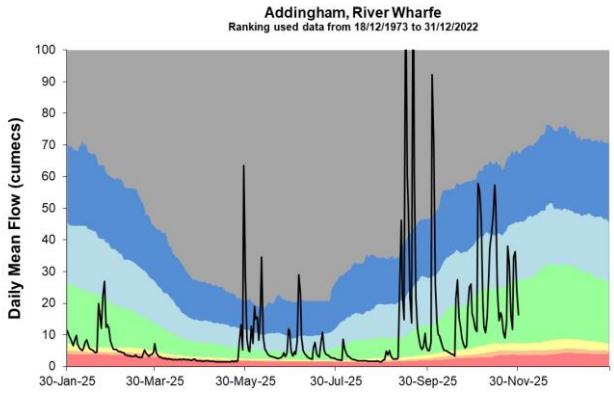
4.1: Monthly mean river flow for indicator sites for November 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic November monthly means. Table available in the appendices with detailed information.

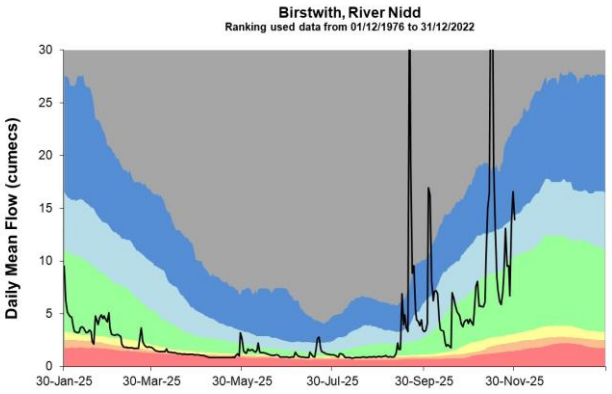


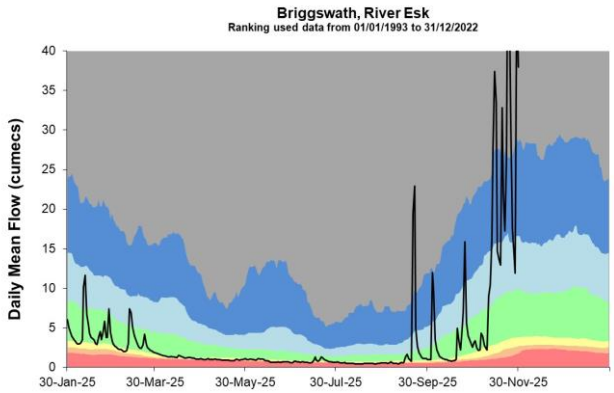
4.2 River flow charts

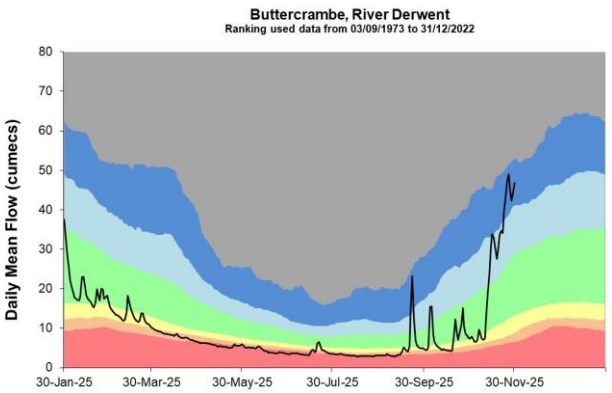
4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

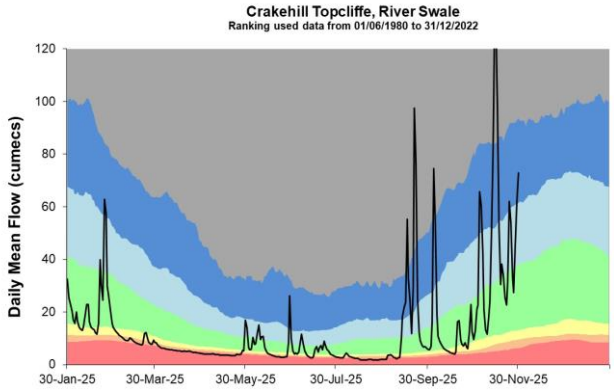


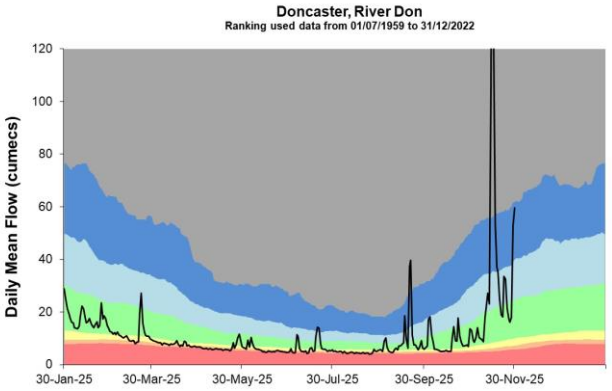




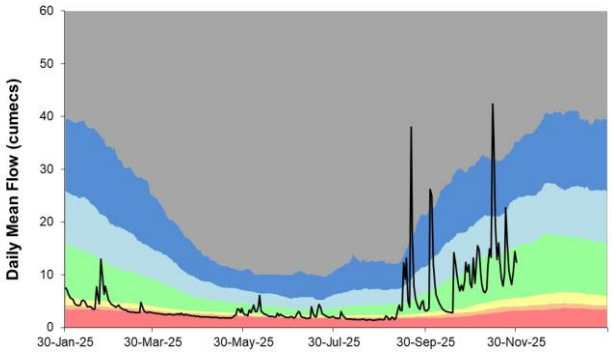




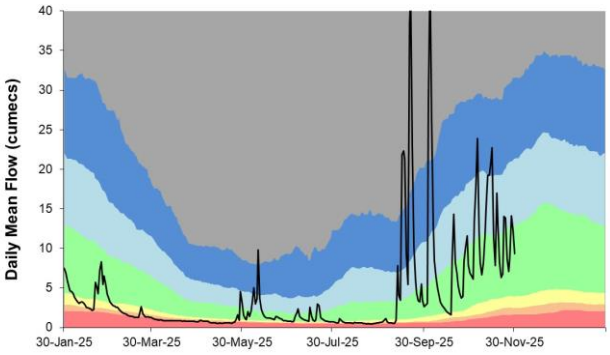




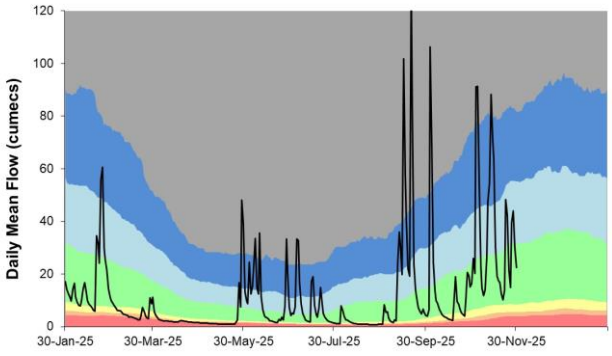
Elland, River Calder
Ranking used data from 01/07/1971 to 31/12/2022



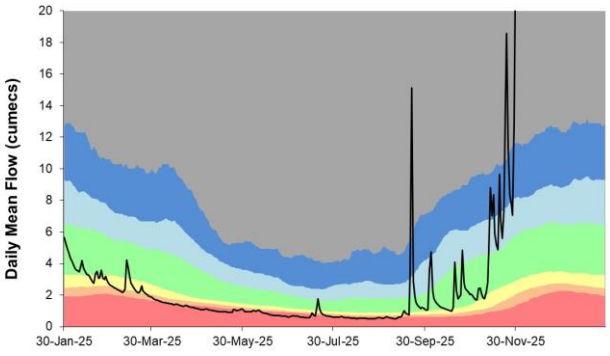
Kildwick, River Aire
Ranking used data from 01/08/1971 to 31/12/2022



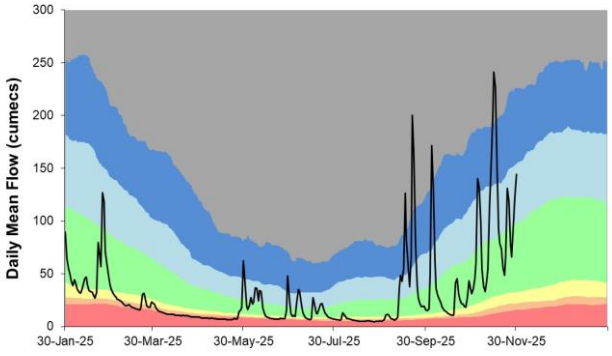
Kilgram Bridge, River Ure
Ranking used data from 01/08/1971 to 31/12/2022



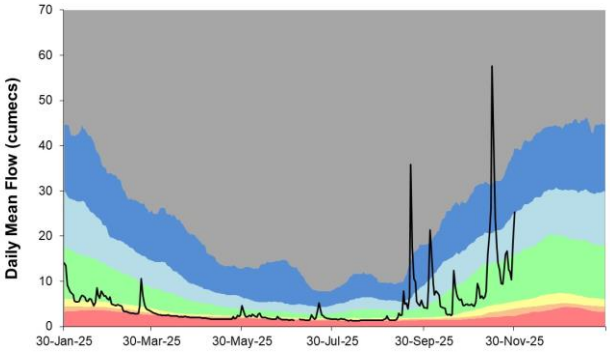
Ness, River Rye
Ranking used data from 01/09/1974 to 31/12/2022

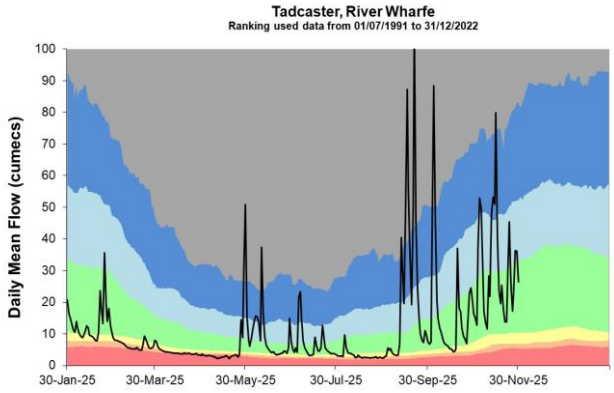


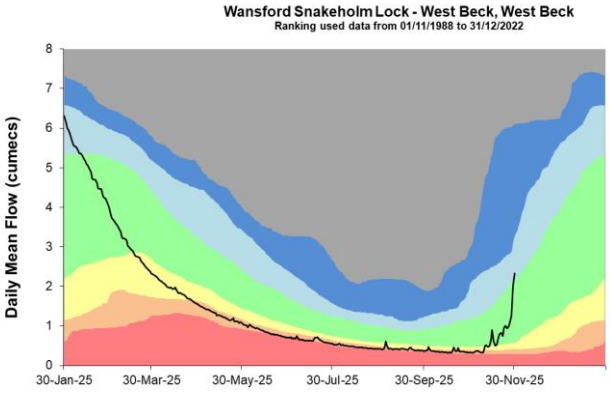
Skelton, River Ouse
Ranking used data from 18/09/1969 to 31/12/2022

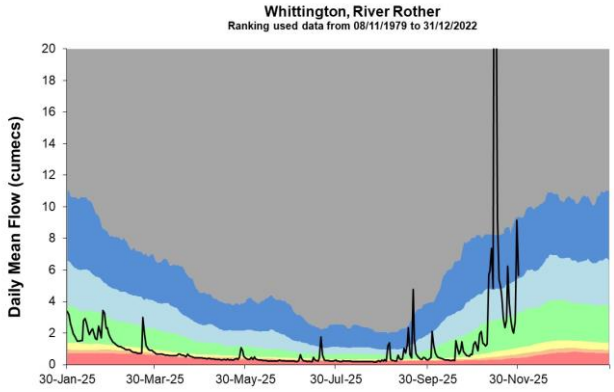


Skip Bridge Kirk Hammerton, River Nidd
Ranking used data from 12/06/1979 to 31/12/2022







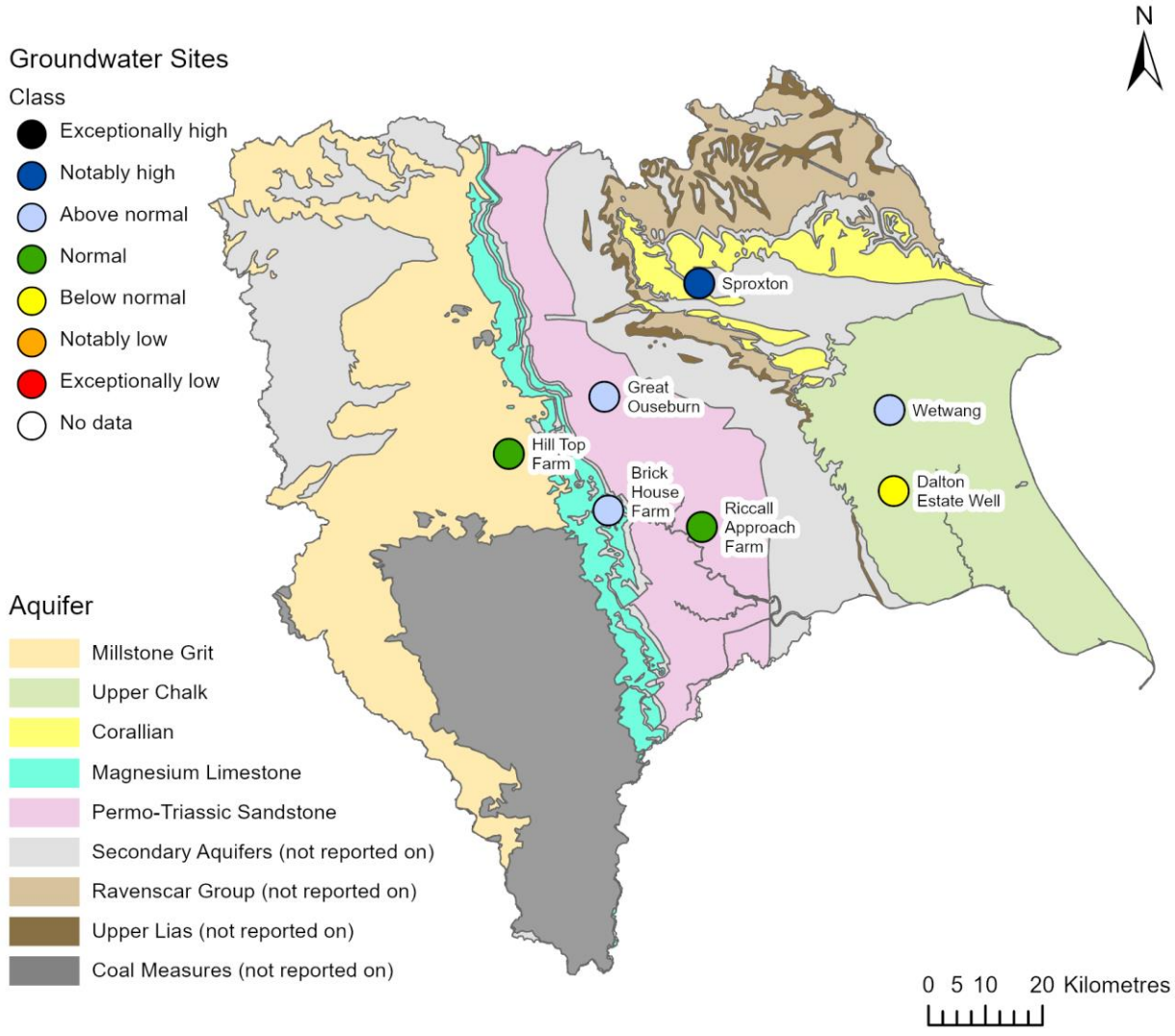


(Source: Environment Agency).

5 Groundwater levels

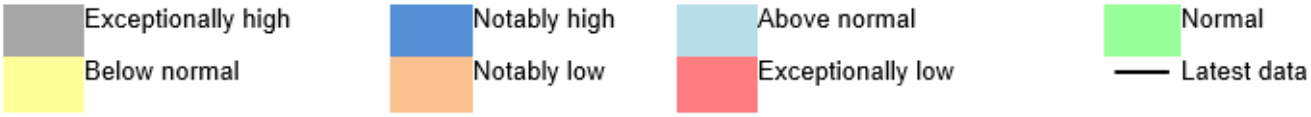
5.1 Groundwater levels map

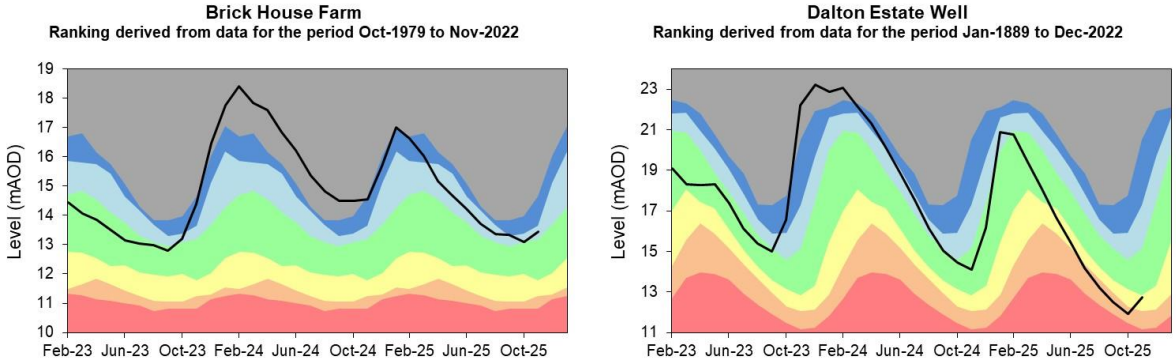
5.1: Groundwater levels for indicator sites at the end of November 2025, classed relative to an analysis of respective historic November levels. Table available in the appendices with detailed information.

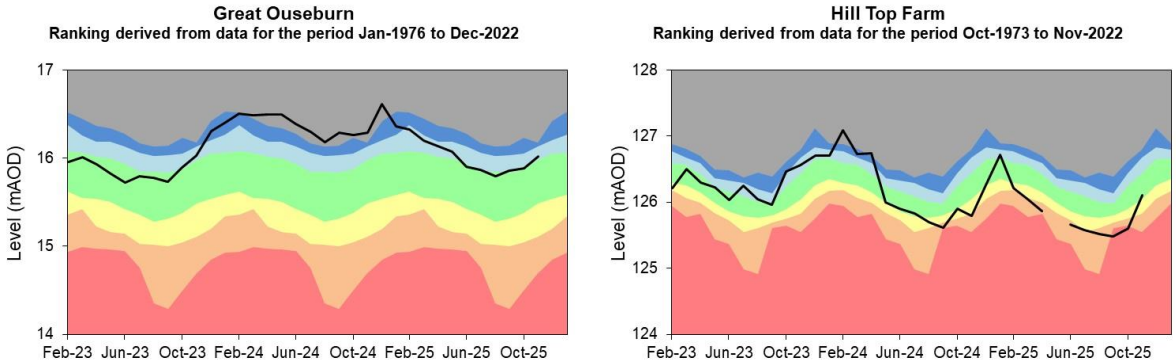


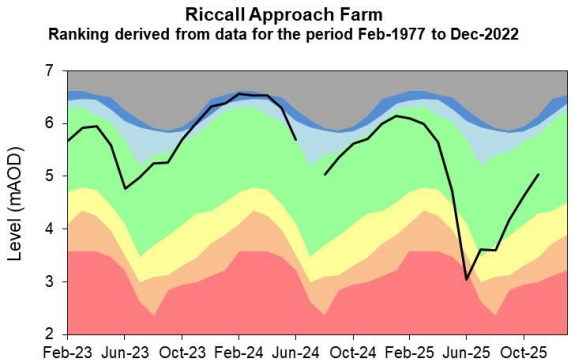
5.2 Groundwater level charts

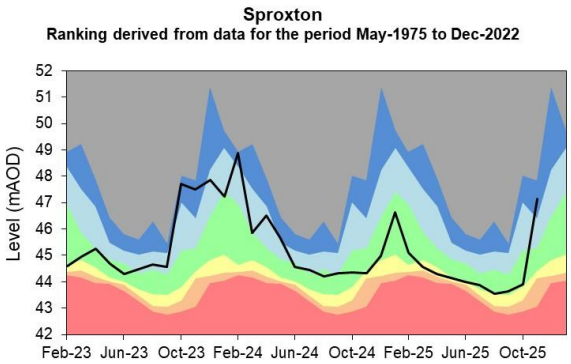
5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.

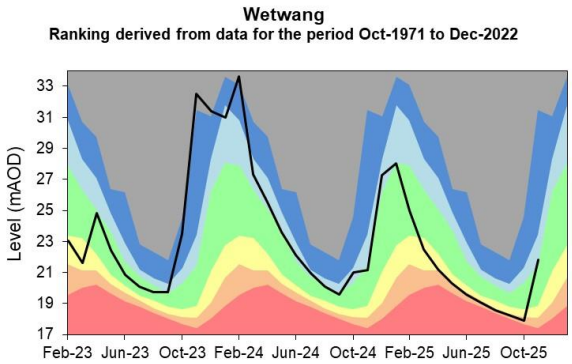










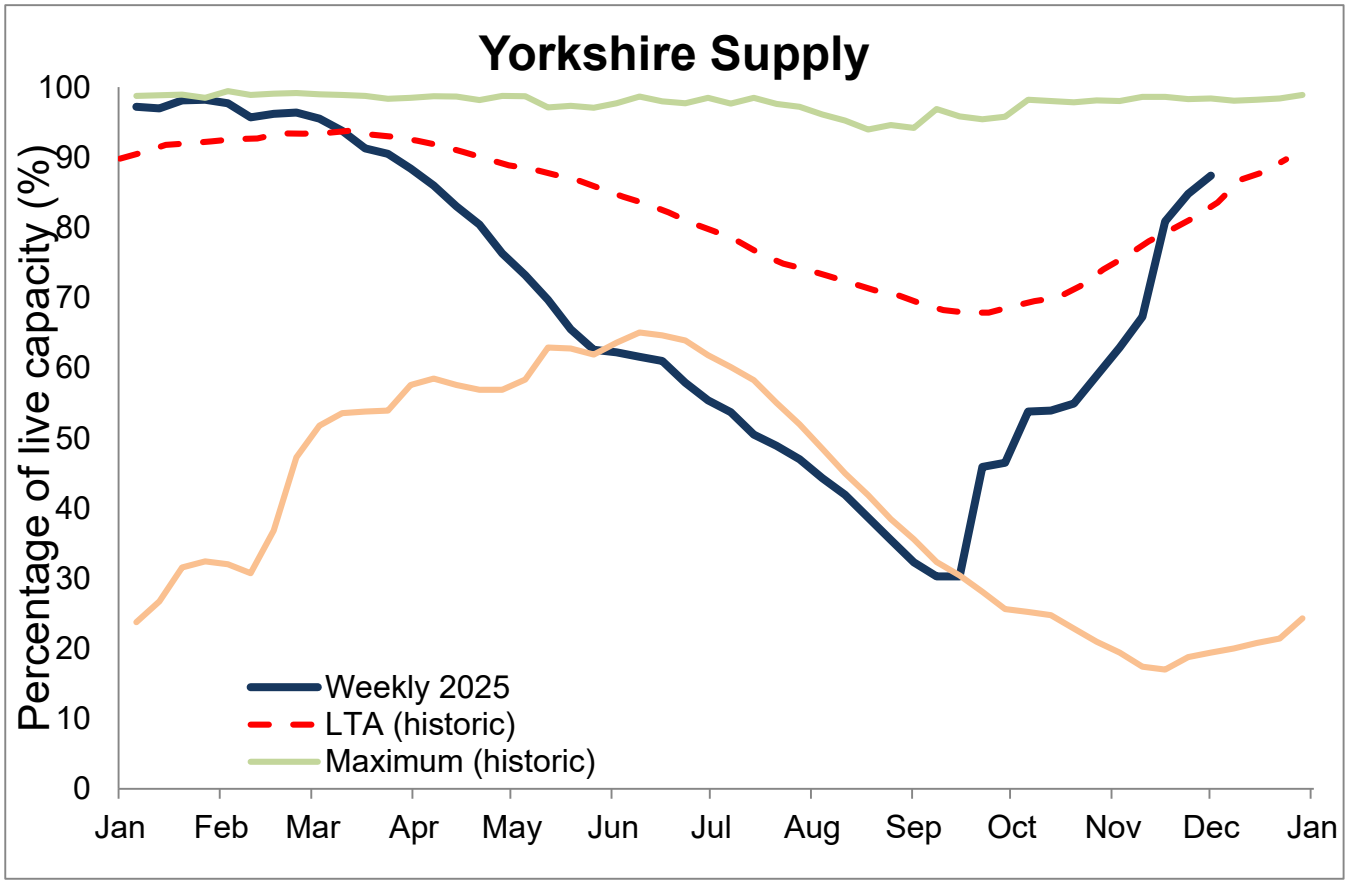


(Source: Environment Agency, 2025).

N.B. Hill Top Farm observation borehole is used for abstraction, therefore, the groundwater level record will be directly affected by pumping.

6 Reservoir stocks

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: Yorkshire 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 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	Nov 2025 rainfall % of long term average 1991 to 2020	Nov 2025 band	Sep 2025 to November cumulative band	Jun 2025 to November cumulative band	Dec 2024 to November cumulative band
Aire	145	Notably High	Notably high	Normal	Normal
Calder	169	Exceptionally high	Exceptionally high	Above normal	Normal
Dales North Sea Tributaries	205	Exceptionally high	Exceptionally high	Above normal	Normal
Derwent (NE)	208	Exceptionally high	Notably high	Normal	Normal
Don	218	Exceptionally high	Exceptionally high	Above normal	Normal
Hull And Humber	257	Exceptionally high	Exceptionally high	Above normal	Normal
Nidd	155	Notably high	Exceptionally high	Above normal	Normal
Ouse	201	Exceptionally high	Exceptionally high	Normal	Normal
Rye	158	Notably high	Notably high	Normal	Below normal
Swale (NE)	164	Notably high	Notably high	Normal	Normal

Hydrological area	Nov 2025 rainfall % of long term average 1991 to 2020	Nov 2025 band	Sep 2025 to November cumulative band	Jun 2025 to November cumulative band	Dec 2024 to November cumulative band
Ure	155	Notably high	Exceptionally high	Above normal	Normal
Wharfe	145	Notably high	Exceptionally high	Above normal	Normal

8.2 River flows table

Site name	River	Catchment	Nov 2025 band	Oct 2025 band
Addingham	Wharfe	Wharfe Middle	Above normal	Normal
Birstwith	Nidd	Nidd Middle	Notably high	Normal
Briggswath	Esk	Esk Yorks	Exceptionally high	Normal
Buttercrambe	Derwent	Derwent Yorks Middle	Notably high	Normal
Crakehill Topcliffe	Swale	Swale Lower	Notably high	Normal
Doncaster	Don	Don Lower	Notably high	Normal
Elland	Calder	Calder Yorks Upper	Normal	Normal
Skip Bridge Kirk Hammerton	Nidd	Nidd Lower	Normal	Normal
Kildwick	Aire	Aire Upper	Normal	Normal
Kilgram Bridge	Ure	Ure Middle	Above normal	Normal
Ness	Rye	Rye	Notably high	Normal
Skelton	Ouse	Ouse Yorks	Above normal	Normal
Tadcaster	Wharfe	Wharfe Lower	Normal	Normal

Site name	River	Catchment	Nov 2025 band	Oct 2025 band
Wansford Snakeholm Lock	West Beck	Hull Upper	Normal	Notably low
Whittington	Rother	Rother Yorks	Notably high	Below normal

8.3 Groundwater table

Site name	Aquifer	End of Nov 2025 band	End of Oct 2025 band
Brick House Farm	Wharfe Magnesian Limestone	Above normal	Above normal
Dalton Estate Well	Hull And East Riding Chalk	Below normal	Notably low
Great Ouseburn	Sherwood Sandstone	Above normal	Above normal
Hill Top Farm	Millstone Grit And Carboniferous Limestone	Normal	Exceptionally low
Riccall Approach Farm	Sherwood Sandstone	Normal	Normal
Sproxton	Sherwood Sandstone	Notably high	Normal
Wetwang	Hull And East Riding Chalk	Above normal	Notably low