Monthly water situation report: Yorkshire Area

1 Summary - August 2026

Monthly rainfall was close to or above average in most catchments but remained below normal in the northern Dales catchments. Monthly mean river flows remained very low but rainfall produced increased flows and less dry soils in the second half of the month. Reservoir levels continued to decline. Groundwater levels declined in most aquifers.

1.1 Rainfall

There was a significant increase in rainfall when compared with the previous month. According to the Met Office Had-UK data set of catchment averaged rainfall, monthly totals for August ranged between 63% and 144% of the long-term average (LTA) and were more typical for the time of the year. Rainfall in the Upper Pennine catchments was categorised as below normal, in the Rye, Derwent, Esk, Ouse, Aire and Calder as normal and in the Don and Hull and Humber as above normal. It was the third consecutive month of below average rainfall for Yorkshire as a whole, with only May recording above average rainfall in the past 6 months.

For the first 15 days of the month very little rain fell across Yorkshire., Between days 16 to 31 wetter days occurred, particularly on days 19, 27 and 30. Higher rainfall totals were observed in the most southern and eastern catchments of the Don, Rother and Hull.

On day 19, rain was widespread and at many locations reached between 10% and 35% of the monthly LTA. On day 27, a rain gauge in the Don catchment recorded 63mm of rainfall, 98% of the monthly LTA. A further wet period occurred between day 30 and 31 which again affected most of Yorkshire and on average recorded 15% of the monthly LTA rainfall, with slightly higher totals in the Ouse, Rye and Hull.

1.2 Soil moisture deficit and recharge

Soil moisture deficit (SMD) reduced overall through the second part of the month. For the first 2 weeks of August all soils were very dry. In the third week SMD decreased in the Lower Aire, Calder and Don catchments and soils there were classified as dry. During the fourth week of August soils across the catchments of the western Pennines, North Yorkshire Moors and Don similarly changed from very dry to dry. As a result of rain in the last few days of August, the Derwent and areas bordering the Humber estuary also changed from very dry to dry while SMD in the upper Hull and much of the East Yorkshire coast reduced into normal.

1.3 River flows

Monthly mean flows were notably low for all the western Pennine catchments (19% to 42% of LTA), Ouse (24%) and Hull and Humber (58%). The lower Wharfe, Swale, Derwent and Esk remained exceptionally low, between 23% and42% of LTA. Monthly mean flows in the Don and Rother increased to normal range, 95% of LTA, however this was mainly due to a single high flow episode between days 27 to 31, in response to heavy rainfall.

Catchment response in August showed a contrast between the first and second halves of the month. As a result of the low rainfall across Yorkshire, daily mean flows remained in the notably to exceptionally low range for the first 16 days for most catchments. The only exception was in the Lower Nidd and Upper Wharfe where flows were below normal until day 8 and then fluctuated between below normal and notably low until day 18.

Then with increased rainfall, flows across Yorkshire began to rise. First in the Don and Rother from day 17 where they increased to normal range, followed by the remaining Pennine catchments, Esk and Rye by day 19 or 20. The recovery in flows was not sustained and rivers soon receded below the normal range for approximately a week. Flows increased again in response to rain during the last few days of the month. Particularly in the Don and Rother: heavy rainfall on day 27 increased the flows here to exceptionally high and they remained in the high range until month end.

Flows in the River Derwent also increased following the periods of rainfall but did not reach the normal range for late August. In the West Beck in the upper Hull catchment, flows were notably low and declining for the first 18 days. They responded slightly to rainfall on days 19 and 20 before reducing again and remaining notably low to day 26. Flows then fluctuated between normal and below normal in response to rainfall from day 27 to month end but it is likely that the underlying baseflow from the chalk continued its gradual decline.

1.4 Groundwater levels

1.5 Magnesian Limestone

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

1.6 Millstone Grit

The groundwater level within the Millstone Grit decreased at Hill Top Farm and was notably low for the time of year.

1.7 Sherwood Sandstone

The groundwater level within the Sherwood Sandstone remained stable at Great Ouseburn and was normal for the time of year. The groundwater level decreased at Riccall Approach Farm and was below normal for the time of year.

1.8 Corallian Limestone

The groundwater level within the Corallian Limestone slightly decreased at Sproxton and was normal for the time of year.

1.9 Chalk

The groundwater level within the Chalk decreased at Wetwang and was at the boundary between below normal and notably low. The groundwater level decreased at Dalton Estate Well and was below normal for the time of year.

1.10 Reservoir stocks

Reservoir stocks continued to decline. At the end of August stocks were 49% full which is 20% less than the LTA. Overall Yorkshire stocks declined weekly by an average of 3%.

1.11 Environmental impact

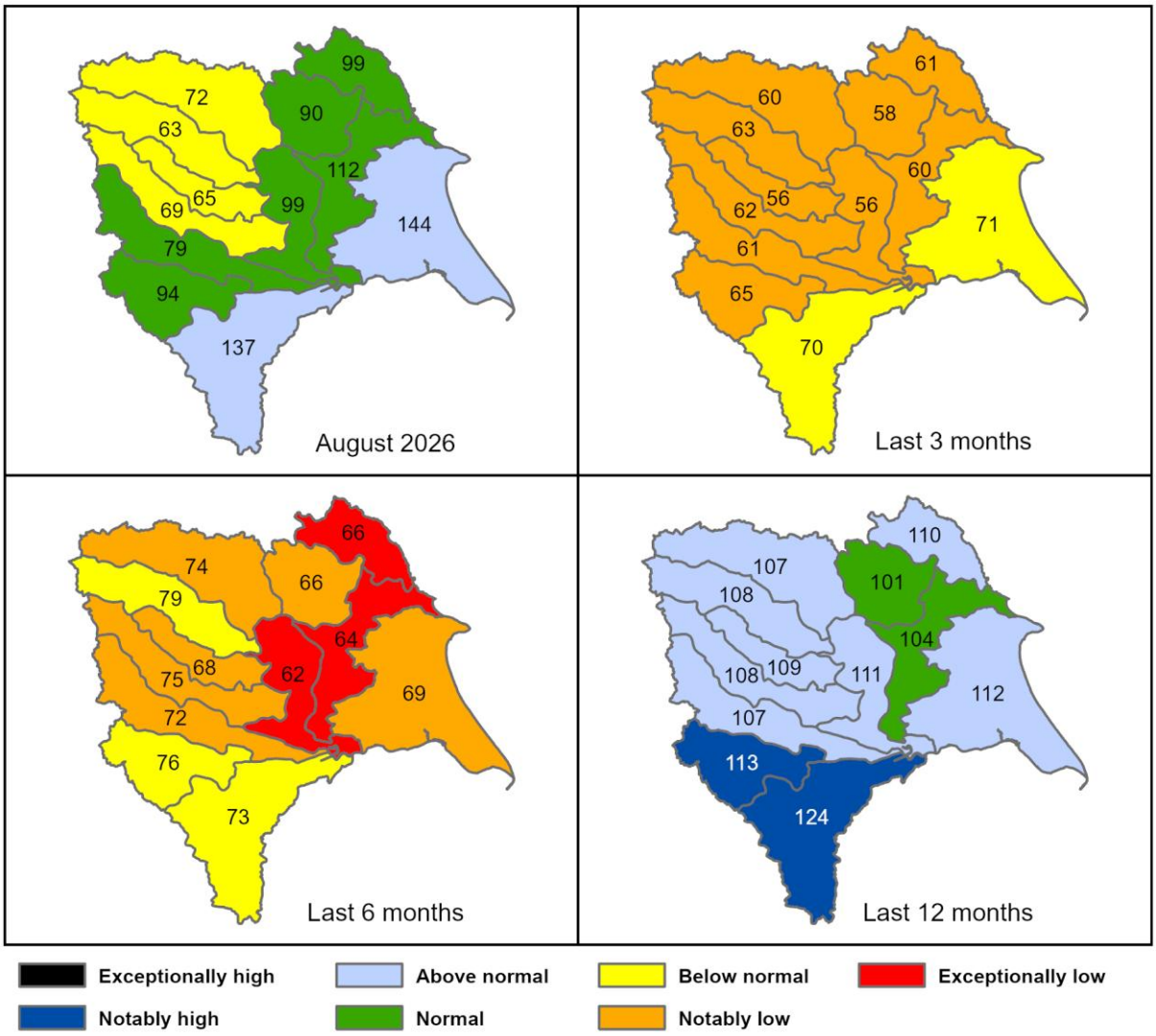
In late August there were 49 abstraction licences with a Hands Off Flow condition in force, and another 39 abstraction licence holders had been given advance warning that flows were low.

Author: Yorkshire Hydrology Team, hydrology.northeast@environment-agency.gov.uk

2 Rainfall

2.1 Rainfall map

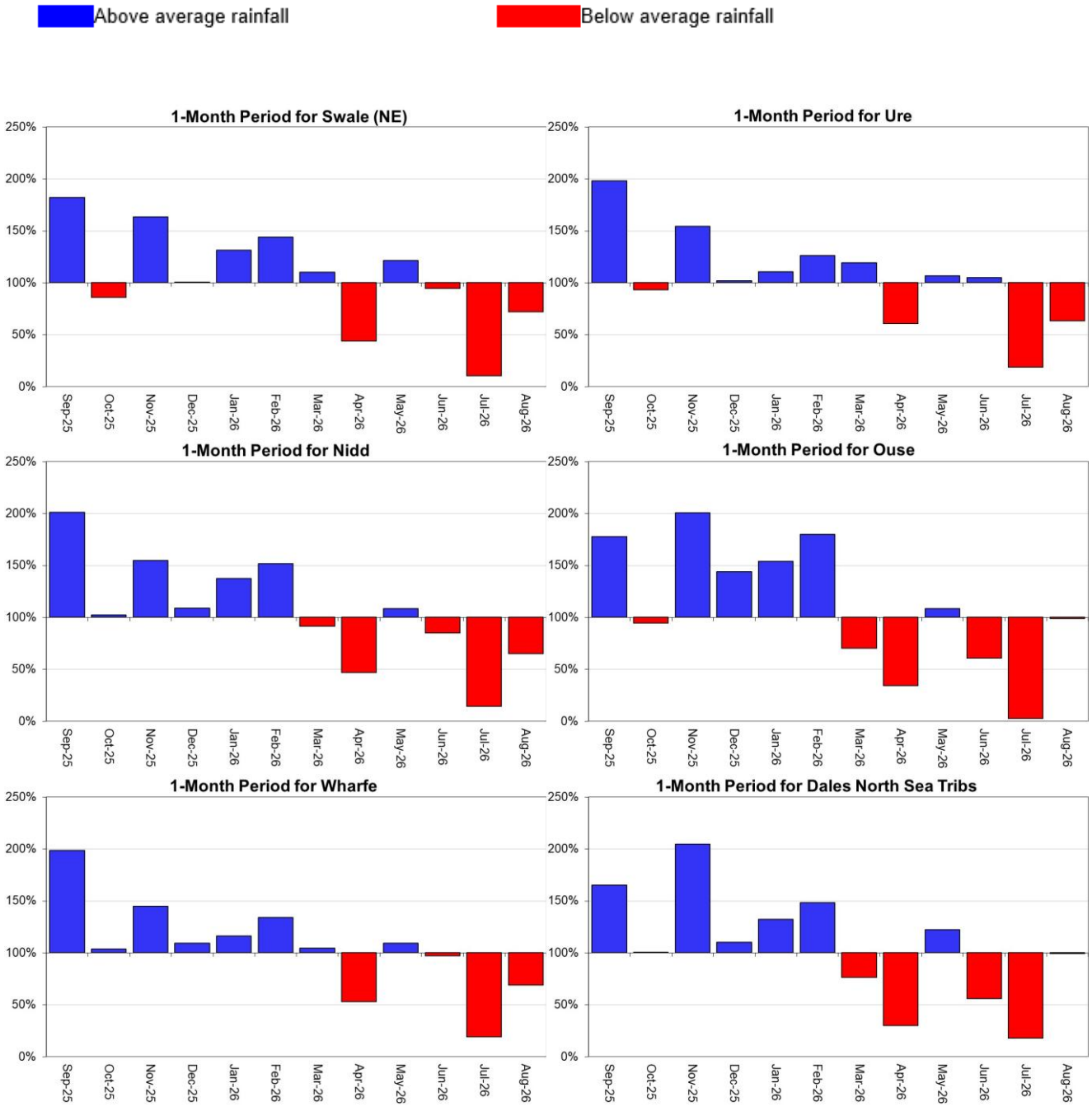
2.1: Total rainfall for hydrological areas across Yorkshire, expressed as a percentage of the 1991 to 2020 long term average rainfall, for the current month (up to 31 August 2026), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.

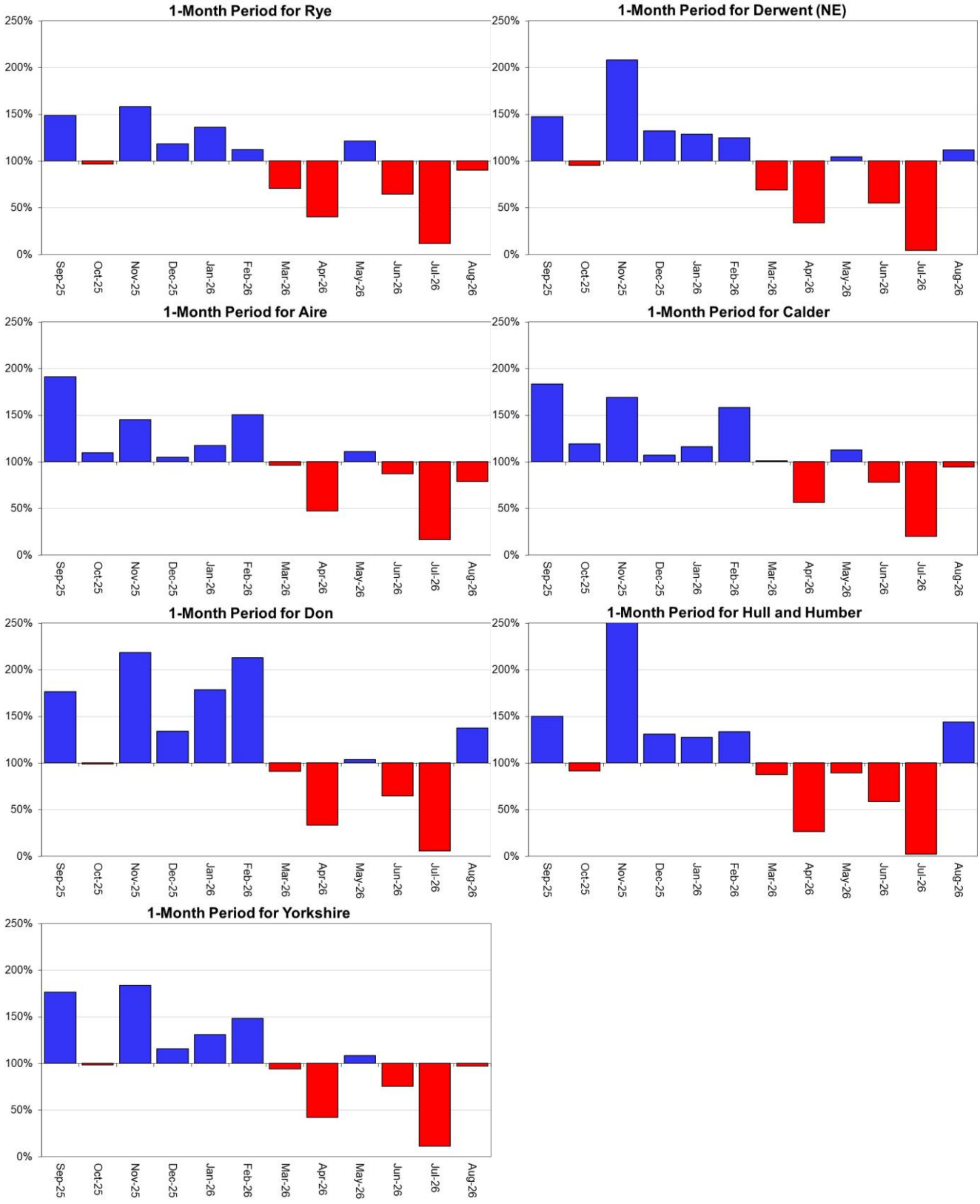


Rainfall data for January 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, AC0000807064, 2026). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded rainfall dataset derived from registered rain gauges (Source: Met Office. Crown copyright, 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 catchment.





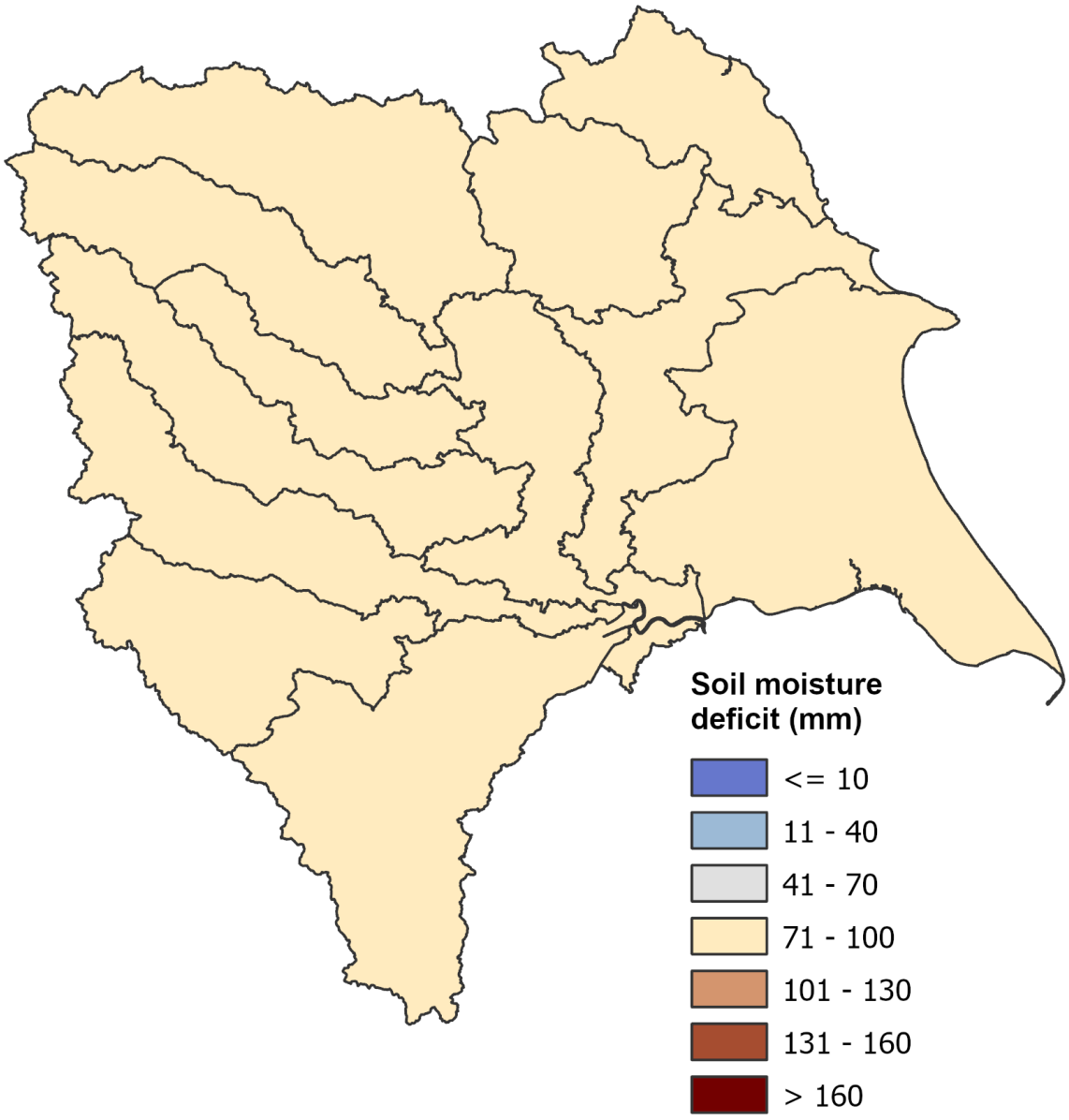
Rainfall data for January 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment

Agency. Crown Copyright, 2026). 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, 2026).

3 Soil moisture deficit

3.1 Soil moisture deficit map

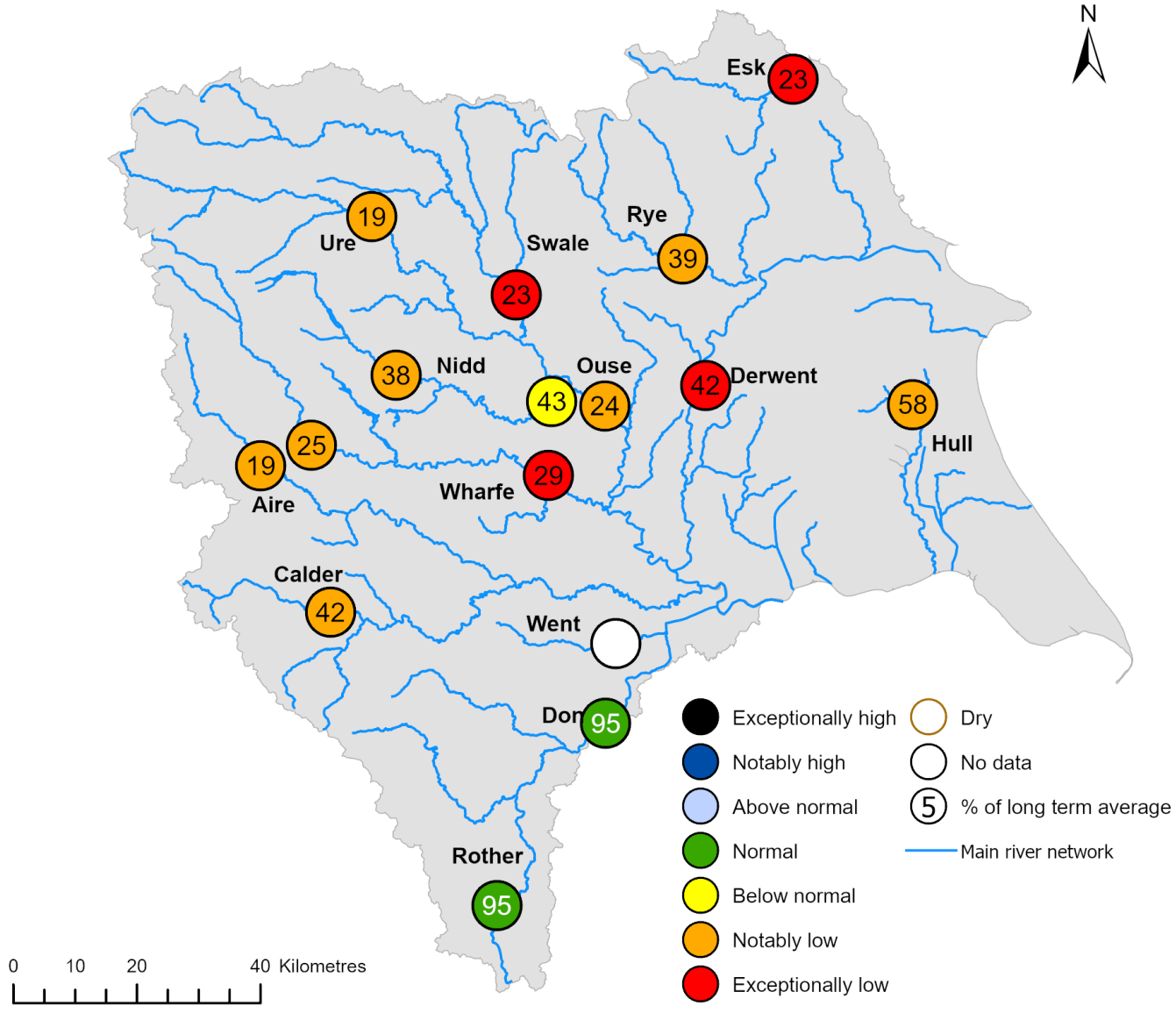
3.1: Soil moisture deficits for week ending 31 August 2026. Shows the actual soil moisture deficits (mm) within each hydrological area. Calculated from MORECS data for real land use.



4 River flows

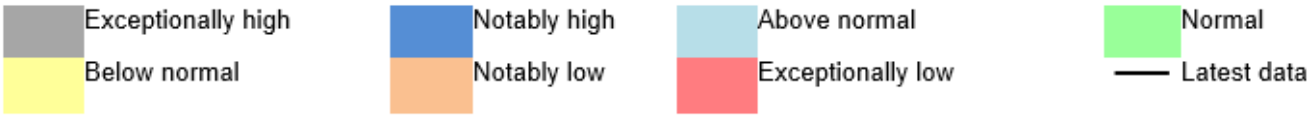
4.1 River flows map

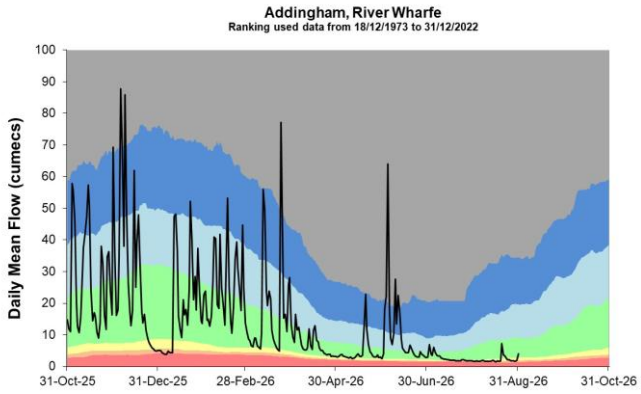
4.1: Monthly mean river flow for indicator sites for August 2026, expressed as a percentage of the respective long term average and classed relative to an analysis of historic August monthly means. Table available in the appendices with detailed information.

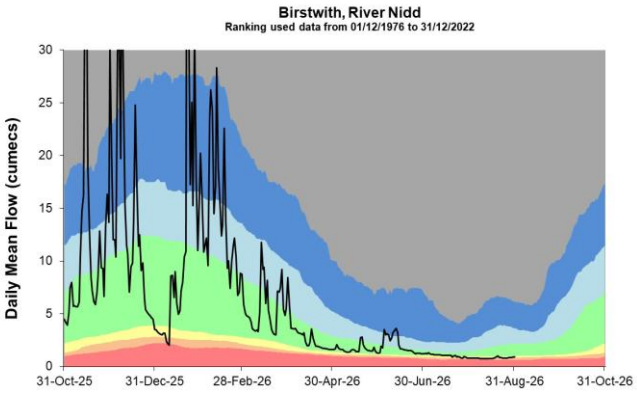


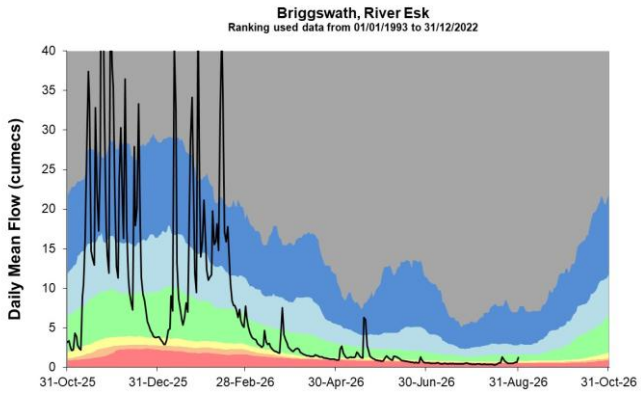
4.2 River flow charts

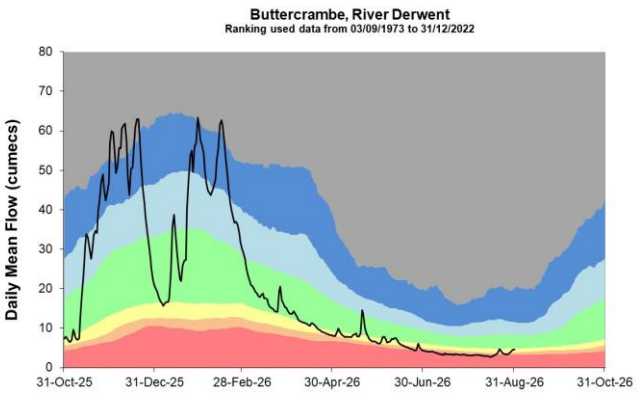
4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

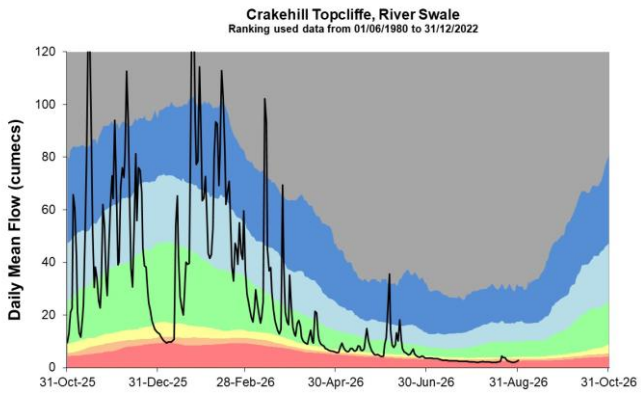


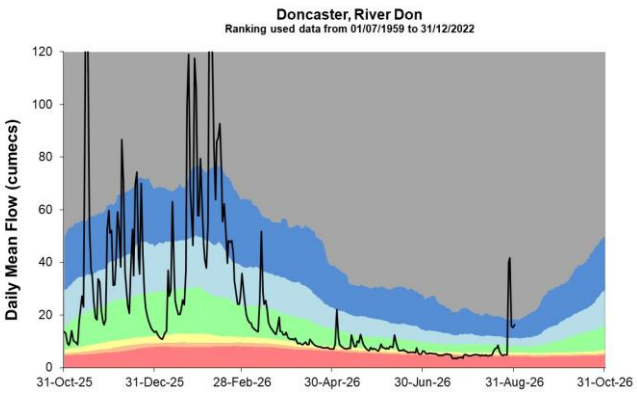




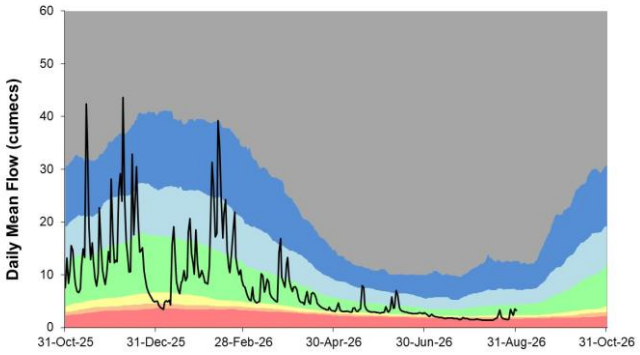




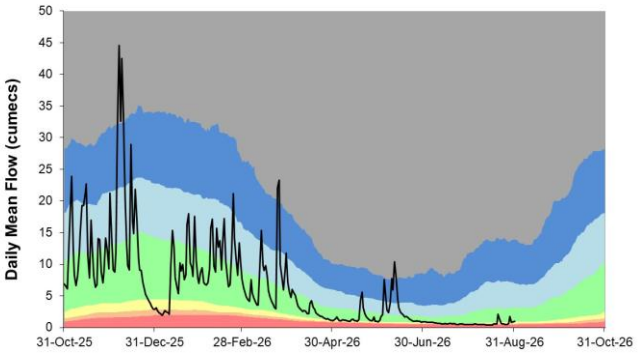




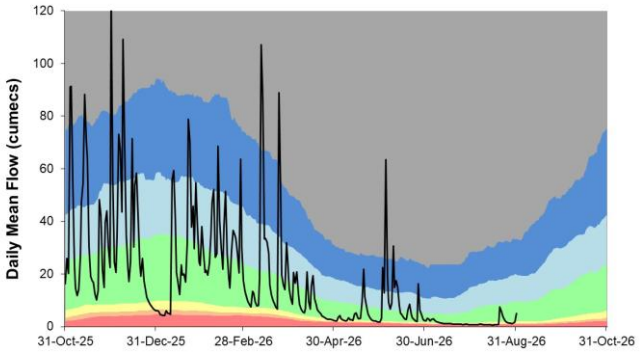
Elland, River Calder
Ranking used data from 01/07/1971 to 31/12/2022



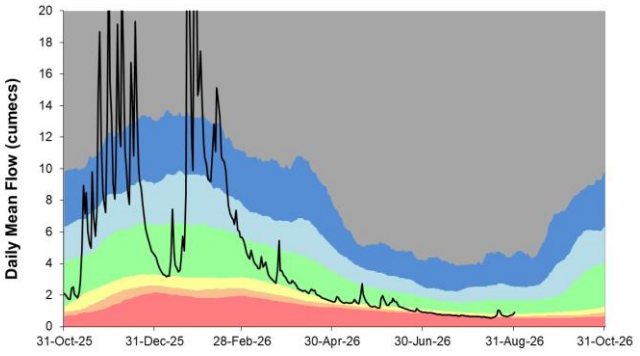
Kildwick, River Aire
Ranking used data from 01/01/1970 to 31/12/2022



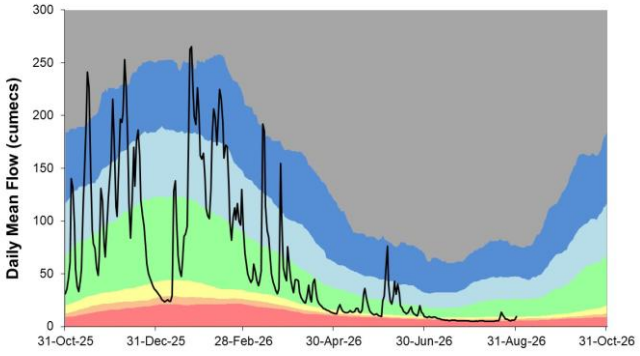
Kilgram Bridge, River Ure
Ranking used data from 01/01/1968 to 31/12/2022



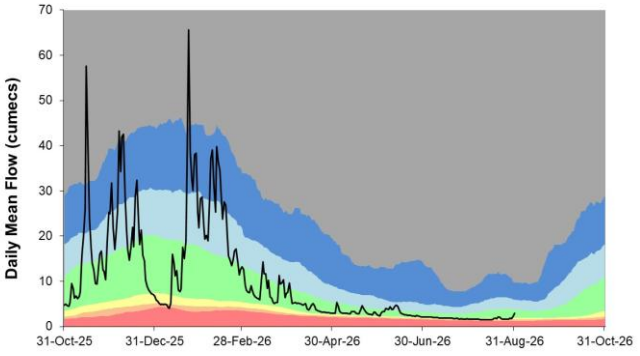
Ness, River Rye
Ranking used data from 07/08/1974 to 31/12/2022

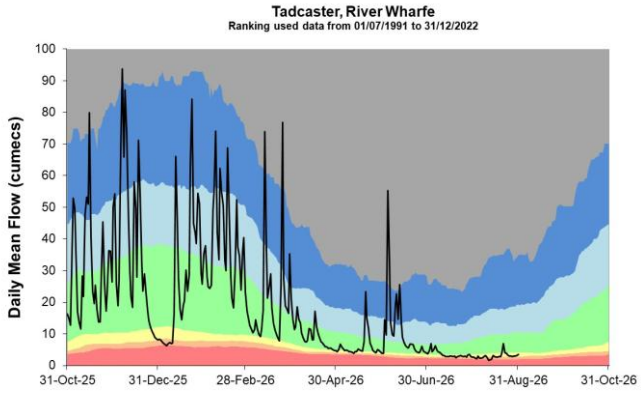


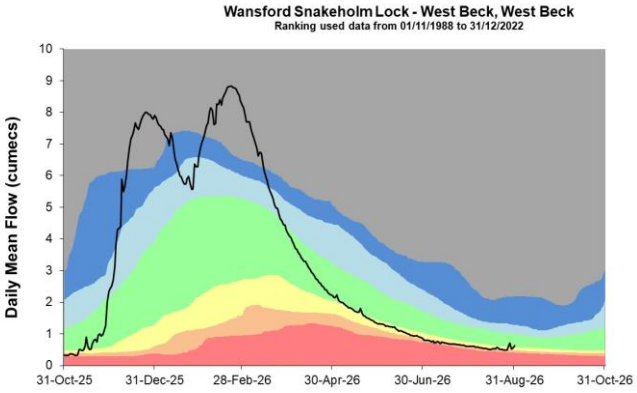
Skelton, River Ouse
Ranking used data from 18/09/1969 to 31/12/2022

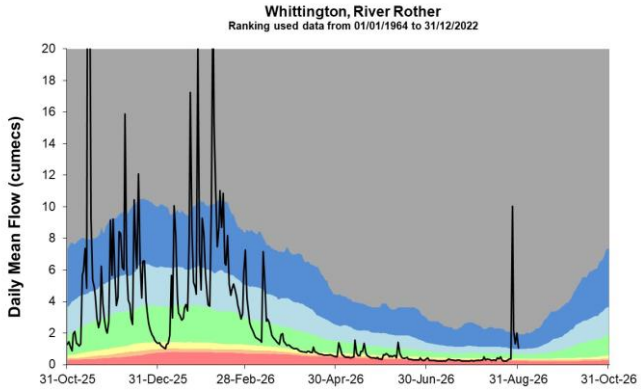


Skip Bridge Kirk Hammerton, River Nidd
Ranking used data from 12/06/1979 to 31/12/2022







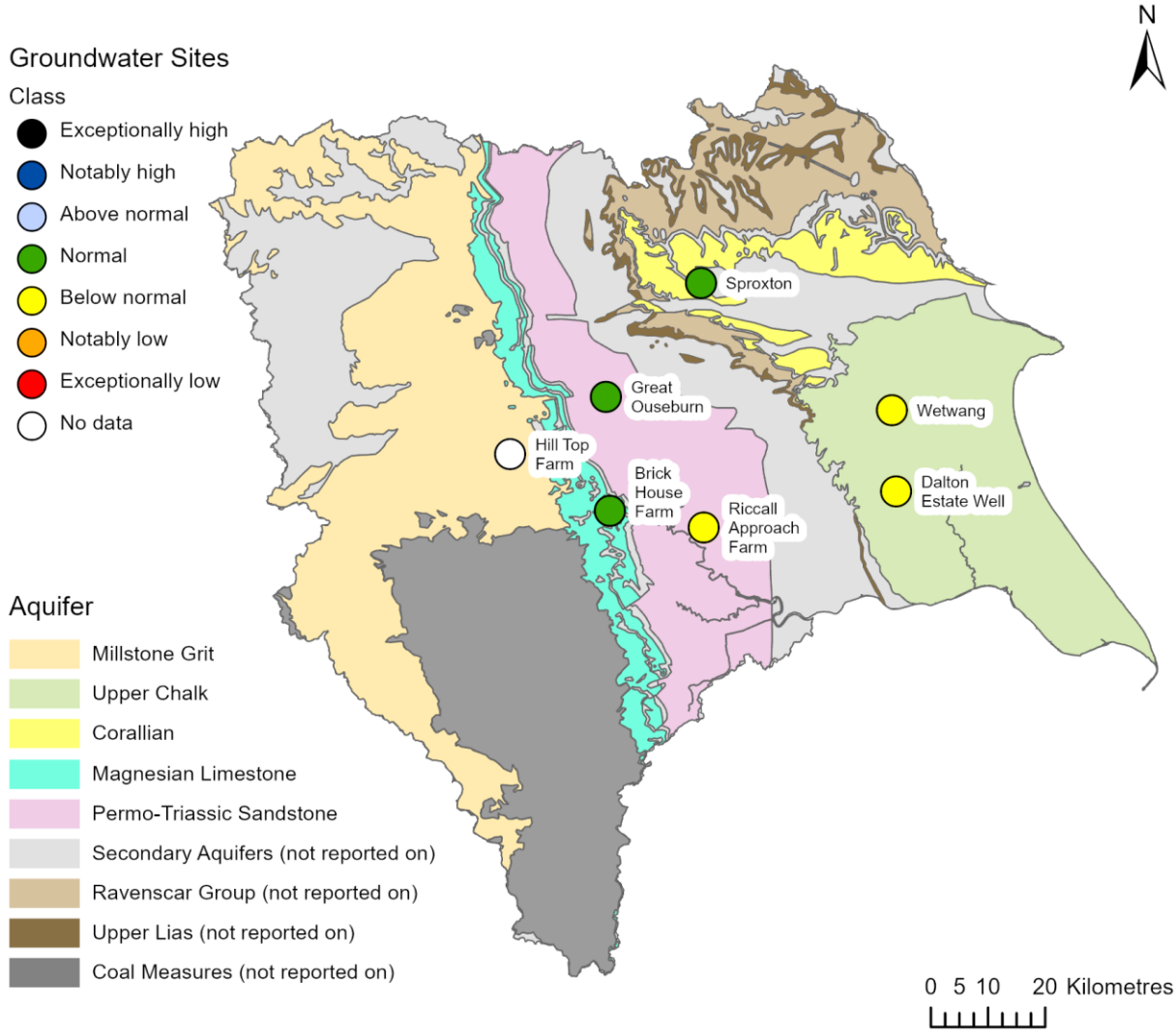


(Source: Environment Agency).

5 Groundwater levels

5.1 Groundwater levels map

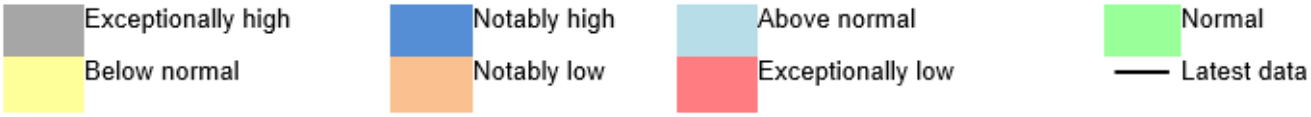
5.1: Groundwater levels for indicator sites at the end of August 2026, classed relative to an analysis of respective historic end of August levels. Table available in the appendices with detailed information. N.B. Hill Top Farm observation borehole is used for abstraction, therefore, the groundwater level record will be directly affected by pumping.

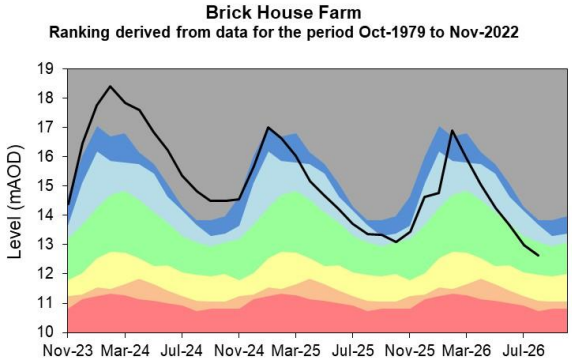


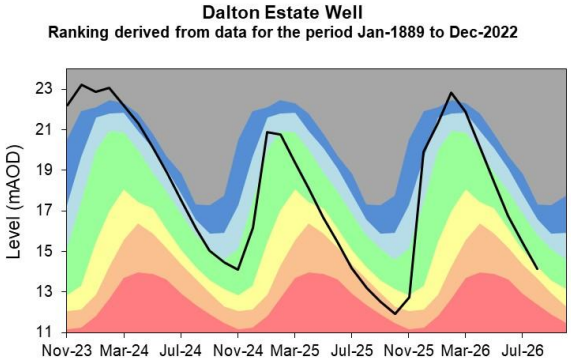
(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, AC0000807064, 2026.

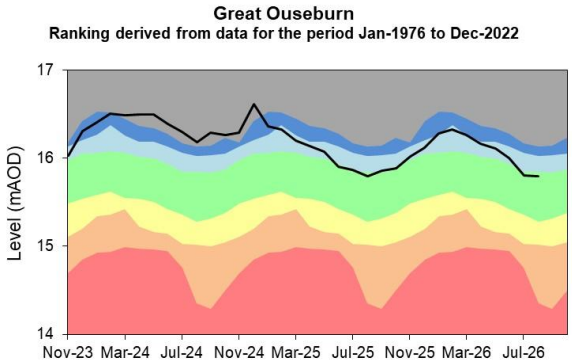
5.2 Groundwater level charts

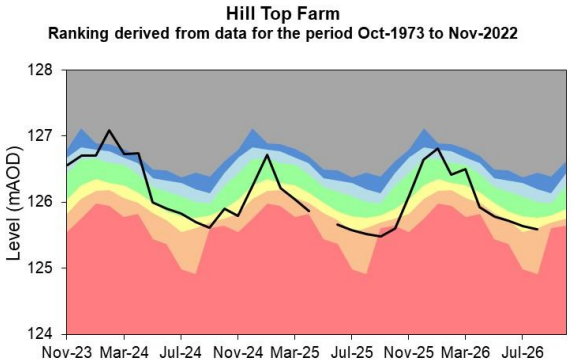
5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.

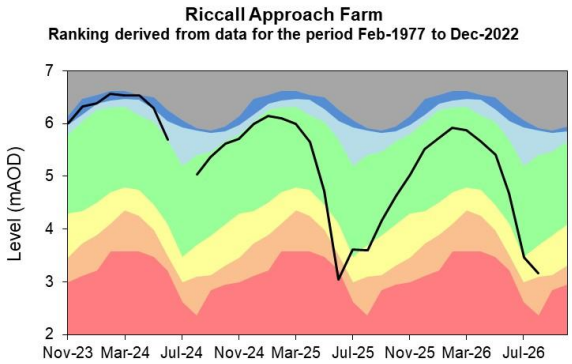


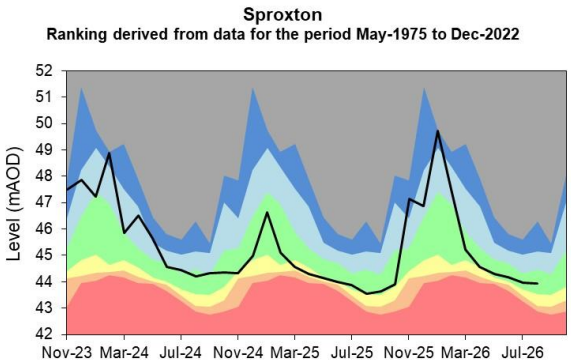


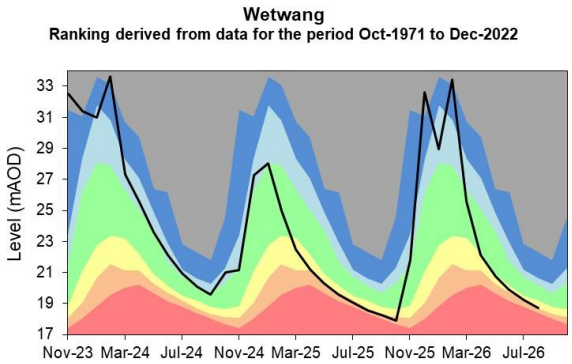










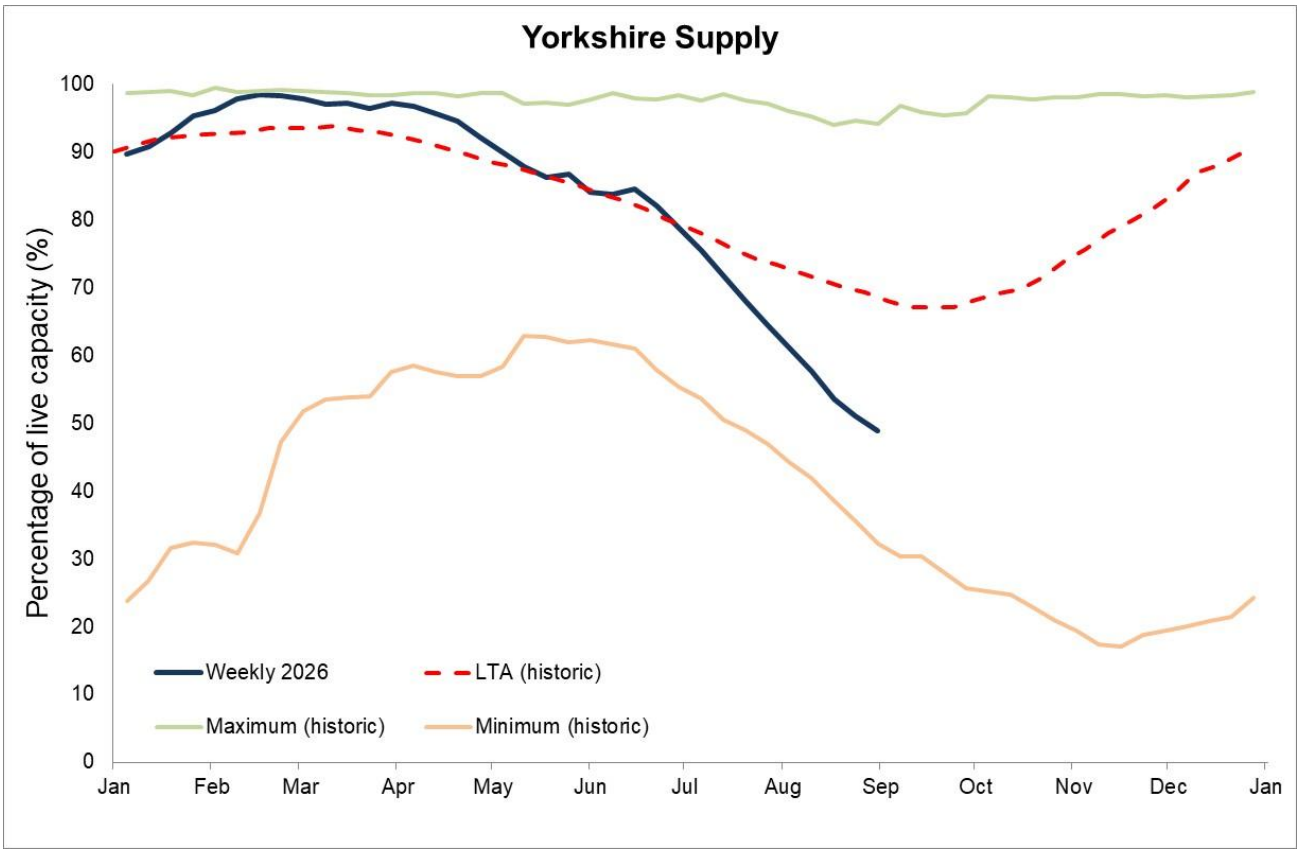


(Source: Environment Agency, 2026).

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 Yorkshire Water 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 (m3s-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 1 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	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
Aire	79	Normal	Notably low	Notably low	Above normal
Calder	94	Normal	Notably low	Below normal	Notably high
Dales North Sea Tributaries	99	Normal	Notably low	Exceptionally low	Above normal
Derwent (NE)	112	Normal	Notably low	Exceptionally low	Normal
Don	138	Above normal	Below normal	Below normal	Notably high
Hull and Humber	144	Above normal	Below normal	Notably low	Above normal
Nidd	65	Below normal	Notably low	Notably low	Above normal
Ouse	99	Normal	Notably low	Exceptionally low	Above normal
Rye	90	Normal	Notably low	Notably low	Normal
Swale (NE)	72	Below normal	Notably low	Notably low	Above normal

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
Ure	63	Below normal	Notably low	Below normal	Above normal
Wharfe	69	Below normal	Notably low	Notably low	Above normal

8.2 River flows table

Site name	River	Catchment	Aug 2026 band	Jul 2026 band
Addingham	Wharfe	Wharfe Middle	Notably low	Below normal
Birstwith	Nidd	Nidd Middle	Notably low	Below normal
Briggswath	Esk	Esk Yorks	Exceptionally low	Exceptionally low
Buttercrambe	Derwent	Derwent Yorks Middle	Exceptionally low	Exceptionally low
Crakehill Topcliffe	Swale	Swale Lower	Exceptionally low	Exceptionally low
Doncaster	Don	Don Lower	Normal	Exceptionally low
Elland	Calder	Calder Yorks Upper	Notably low	Exceptionally low
Kildwick	Aire	Aire Upper	Notably low	Exceptionally low
Kilgram Bridge	Ure	Ure Middle	Notably low	Below normal
Ness	Rye	Rye	Notably low	Exceptionally low
Skelton	Ouse	Ouse Yorks	Notably low	Exceptionally low
Tadcaster	Wharfe	Wharfe Lower	Exceptionally low	Below normal
Wansford Snakeholm Lock	West Beck	Hull Upper	Notably low	Notably low
Whittington	Rother	Rother Yorks	Normal	Exceptionally low

8.3 Groundwater table

Site name	Aquifer	End of Aug 2026 band	End of Jul 2026 band
Dalton Estate Well	Hull and East Riding Chalk	Below normal	Normal
Wetwang	Hull and East Riding Chalk	Below normal	Notably low
Hill Top Farm	Millstone Grit	Notably low	Below normal
Great Ouseburn	Sherwood Sandstone	Normal	Normal
Riccall Approach Farm	Sherwood Sandstone	Below normal	Below normal
Sproxton	Corallian Limestone	Normal	Normal
Brick House Farm	Wharfe Magnesian Limestone	Normal	Normal