

Monthly water situation report: Yorkshire Area

1 Summary - July 2026

July was an exceptionally dry month with very few days recording rainfall. River flows declined and groundwater levels reduced in all aquifers. Soils continued to dry and reservoir stocks decreased. Hands off flows (HoF) restrictions were put in place on abstractors in many river catchments.

1.1 Rainfall

The low monthly rainfall totals were record-breaking for July. It was the driest July in a 155-year record in Yorkshire as a whole and for all individual catchments with the exception of the Ure, which ranked second and the Calder as fourth driest. The Swale, Ouse, Derwent and Hull ranked drier than the previous record by a considerable margin, not just a couple of mm. All catchments reported rainfall in the exceptionally low range, ranging between 2% to 20% of the long term average (LTA). This contrasted with the normal rainfall totals for June, falling mostly in the early part of that month.

Rain gauges recorded up to 29 dry days in July. When it did rain it occurred within the first 4 days and the last 5 days of the month. The driest of the catchments when compared to the July LTA's were in the Hull and Humber at 2%, Ouse at 3%, Derwent at 5% and Don at 6%.

The sudden change to drier weather conditions has resulted in a change in the 3-month rainfall accumulation totals. In June the western Pennines reported as normal, but at the end of July all catchments ranged from below normal to exceptionally low.

1.2 Soil moisture deficit and recharge

At the start of the month there was a split across Yorkshire, soils in the upper reaches of the upper Dales catchments were in the normal range, the upper Calder was dry and the remainder were very dry. Soils moisture continued to reduce and changed soils in the northwestern Pennines to dry by mid-month. By month end all catchments were very dry with the exception of the upper Swale and Ure which were dry.

1.3 River flows

Yorkshire's river flows reflected the exceptionally low rainfall. Monthly mean flows ranged between below normal to exceptionally low, 24% to 61% of the LTA. Exceptionally low values were observed in the majority of catchments, with the slightly higher ranges recorded in the Ure, Nidd, Wharfe and the chalk-fed upper Hull. Lowest on record July monthly mean flows were observed at Briggswath in the Esk and at Buttercrambe in the Derwent.

At the start of the month flows in most of the Pennine-fed catchments were reported in normal range with a short-term temporary rise in flows in the Wharfe on days 2, 3 and 5. Exceptions were the Swale and Calder where daily mean flows were already below normal on most days. Flows in the Pennine-fed catchments continued to decline through the month and by day 20 all reached the below normal to exceptionally low range.

Flows in the Don and Rother started the month in below normal range. The flows in the Don reduced to notably low by day 7 and then exceptionally low by day 20. In the Rother flows fluctuated between notably and exceptionally low throughout the month.

Flows in the Rye and Esk were receding and in the notably low and exceptionally low ranges respectively throughout the month. Flows in the Derwent at Buttercrambe were exceptionally low, declining for the first two weeks, more stable for the next fortnight and then decreasing further at the very end of the month. Flows in the West Beck in the upper Hull catchment, which are dominated by groundwater inflow from the Chalk remained notably low throughout the month, whilst flows continued to decline.

1.4 Groundwater levels

Magnesian Limestone

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

Millstone Grit

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

Sherwood Sandstone

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

Corallian Limestone

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

1.5 Reservoir stocks

Yorkshire reservoir stocks reduced by about 3.5% each week. In the final week of July stocks were 9.8% below the LTA. They remained over 15% higher they were in late July 2025.

1.6 Environmental impact

In the final week of July there were 132 abstraction licences subject to a Hands off Flow restriction and 36 abstractors had been given advance warnings that flows were low.

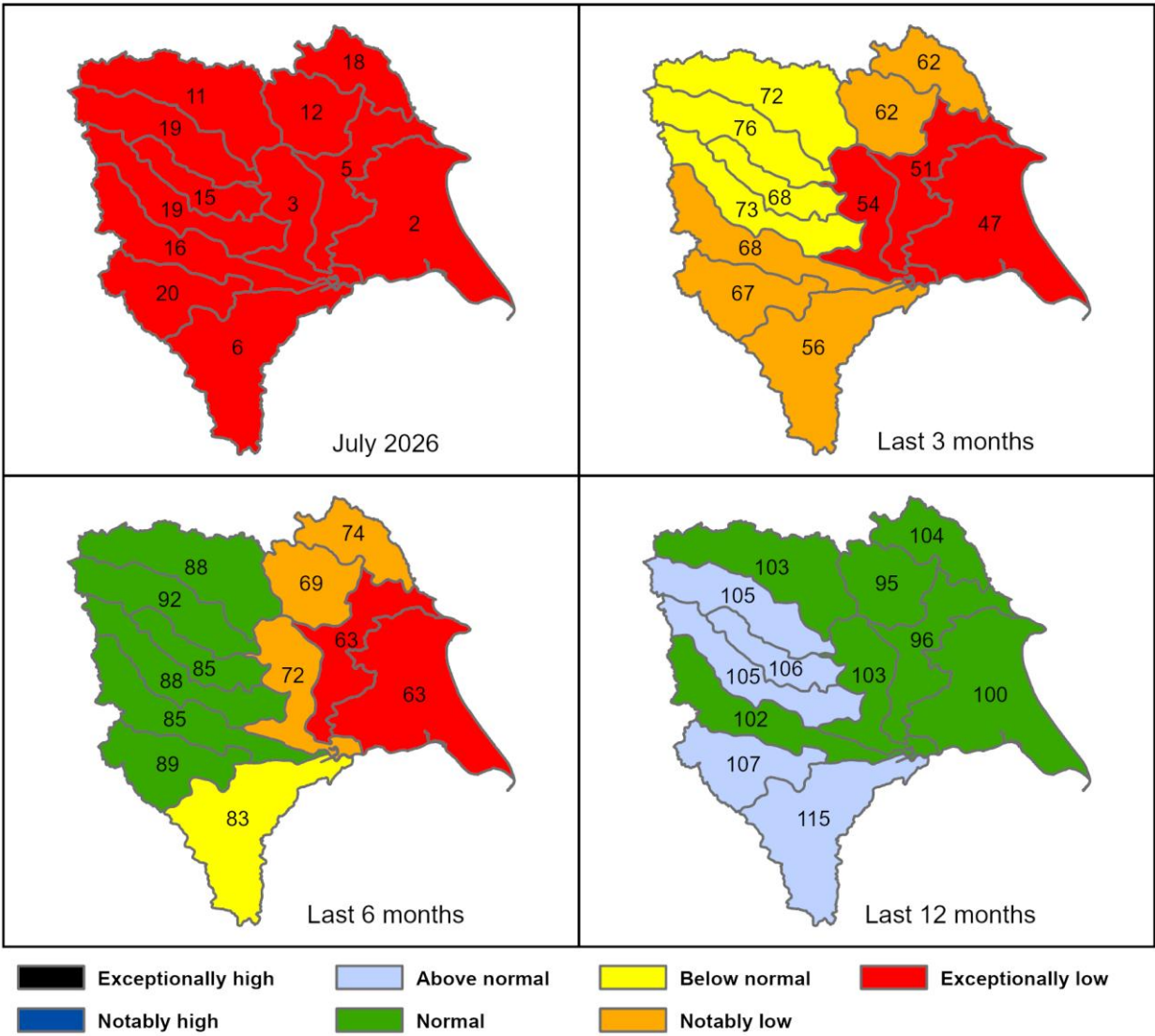
Author: Yorkshire Hydrology Team, hydrology.northeast@environment-agency.gov.uk

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2 Rainfall

2.1 Rainfall map

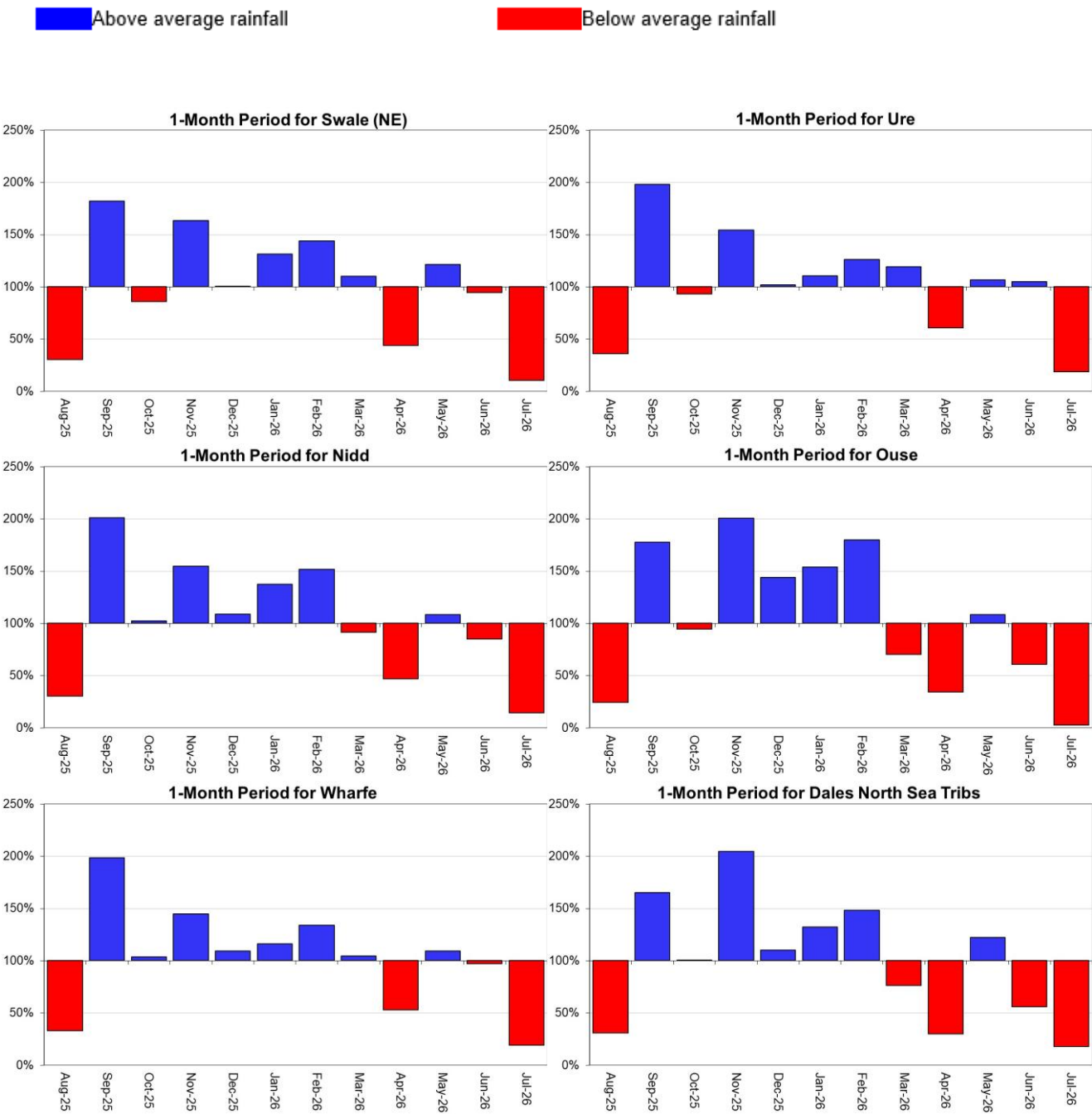
Figure 2.1: Total rainfall for hydrological areas across Yorkshire, expressed as a percentage of the 1991 to 2020 long term average rainfall, for the current month (up to 31 July 2026), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic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

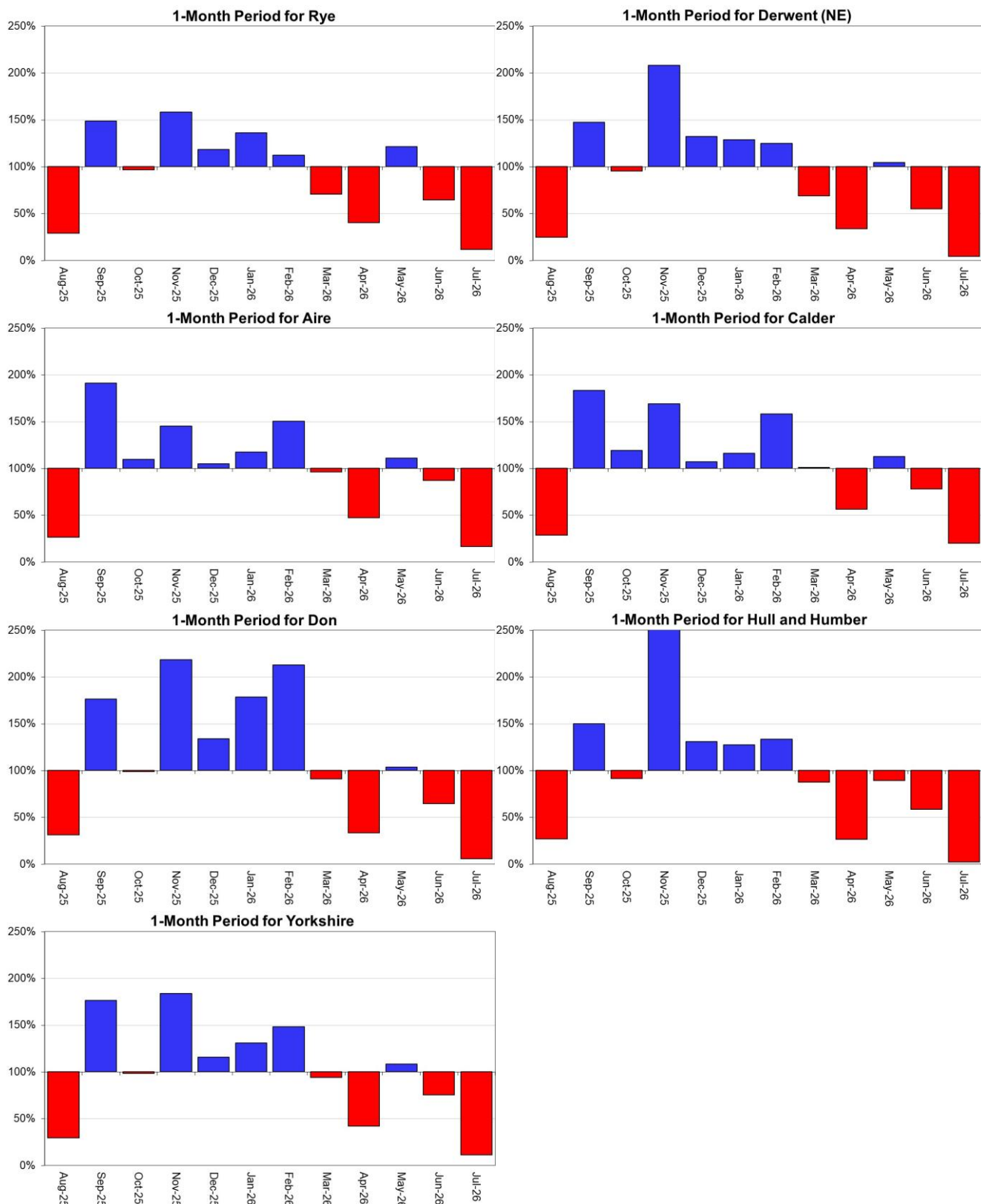


Rainfall data for January 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, AC0000807064, 2026). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded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

2.2 Rainfall charts

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





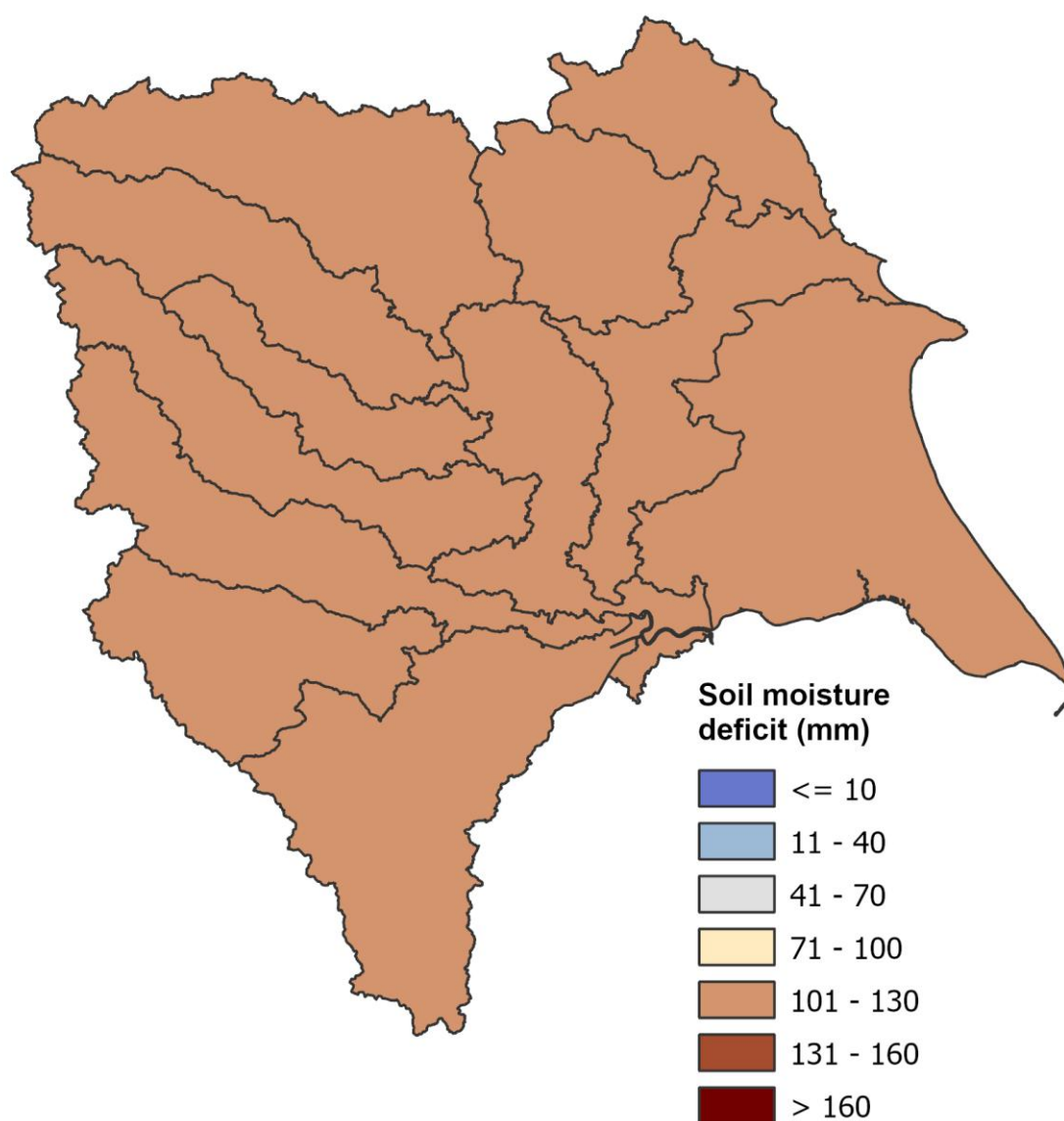
Rainfall data for January 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment

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

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

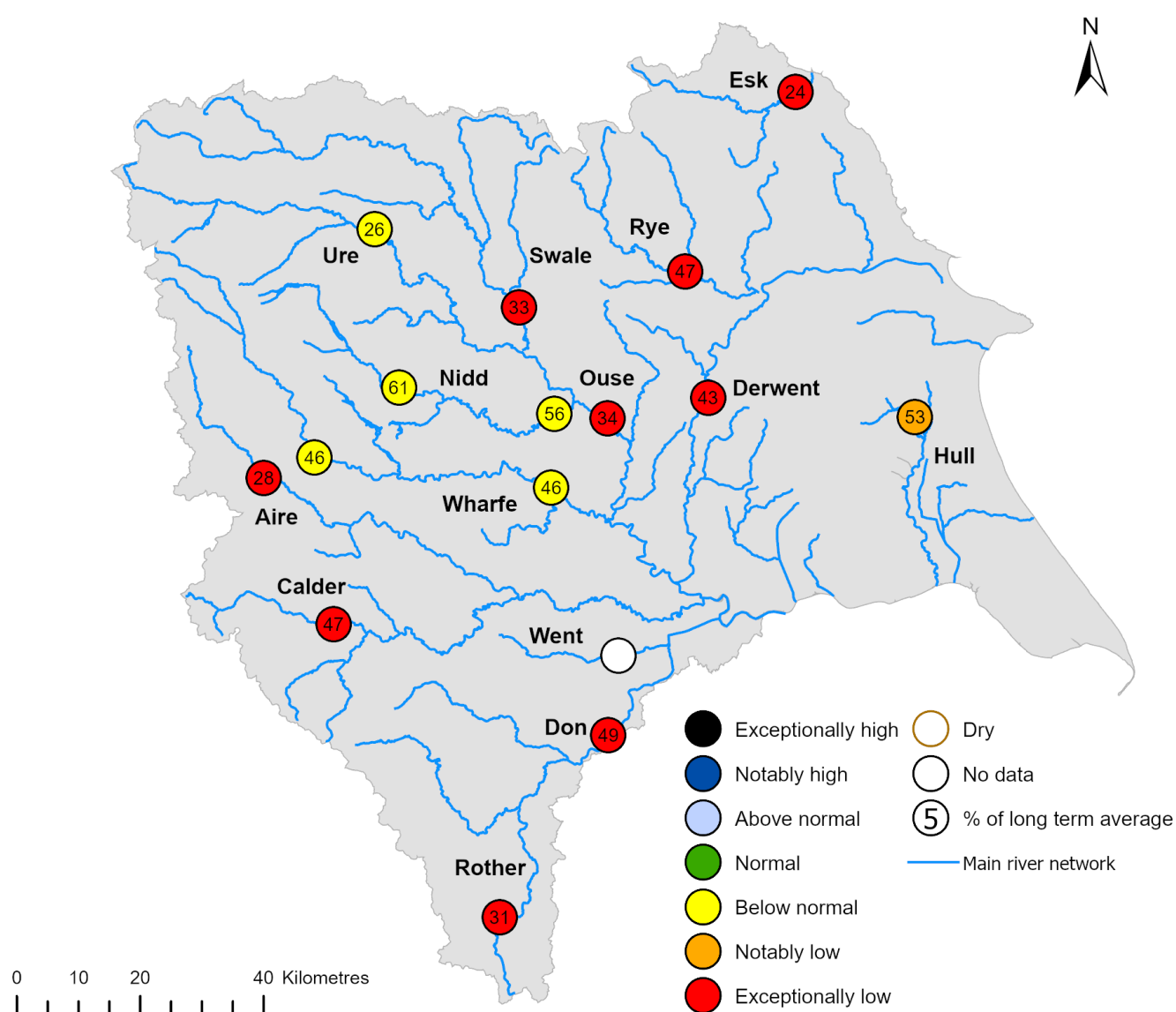


(Source: Met Office. Crown copyright, 2026). All rights reserved. Environment Agency, AC0000807064, 2026.

4 River flows

4.1 River flows map

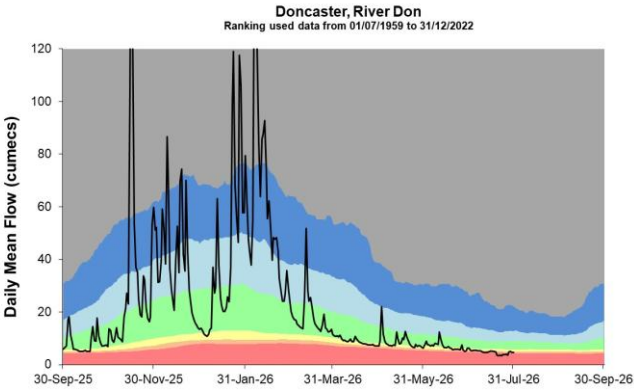
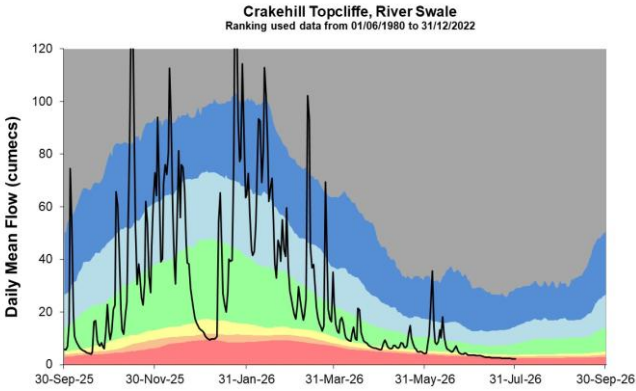
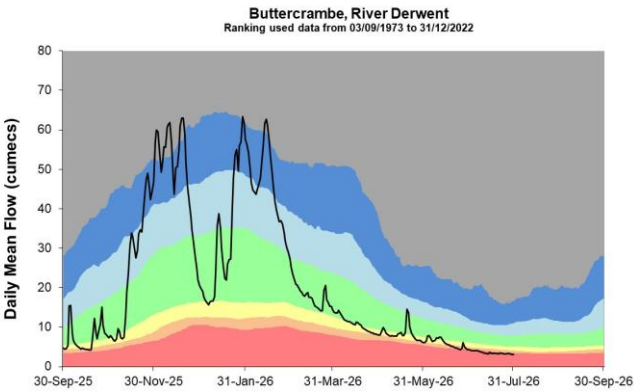
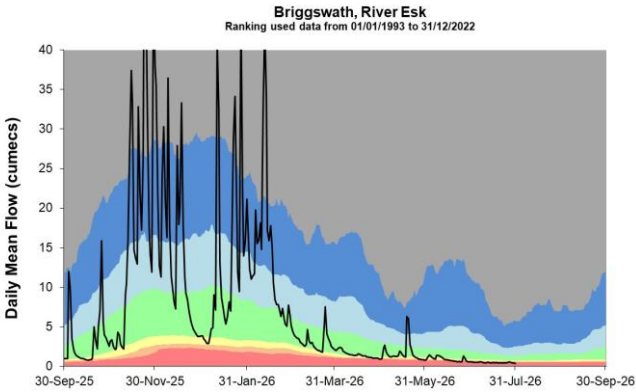
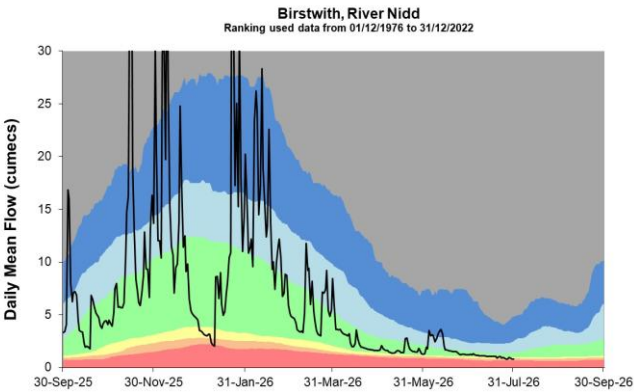
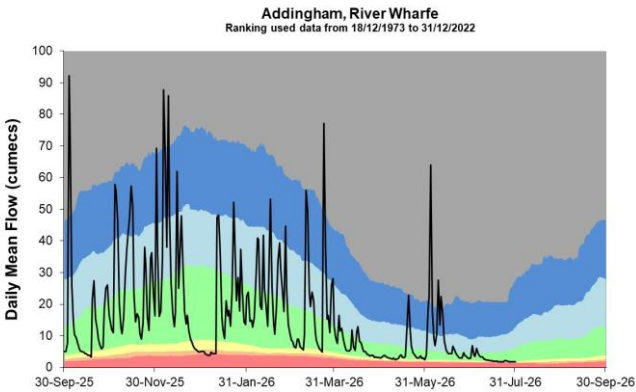
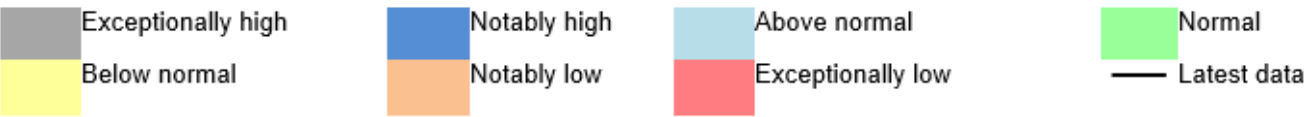
Figure 4.1: Monthly mean river flow for indicator sites for July 2026, expressed as a percentage of the respective long term average and classed relative to an analysis of historic July monthly means. Table available in the appendices with detailed information.



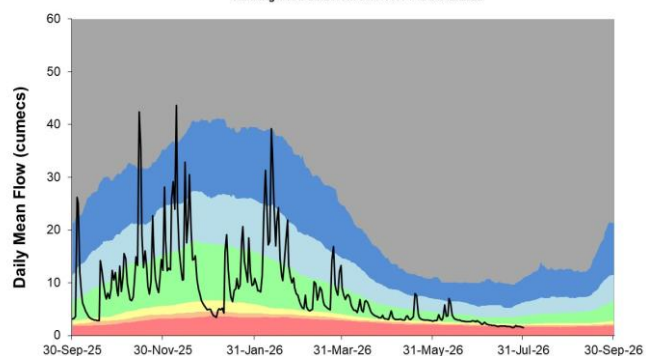
(Source: Environment Agency). Crown copyright. All rights reserved. Environment Agency, AC0000807064, 2026.

4.2 River flow charts

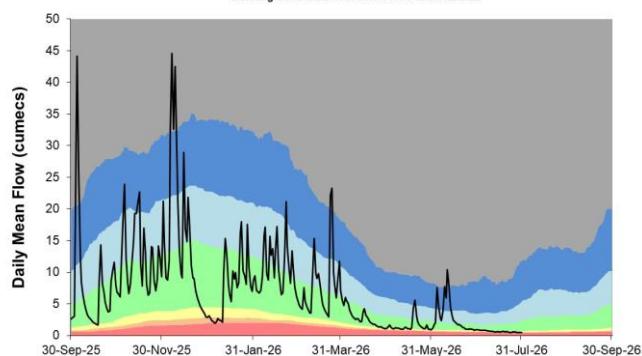
Figures 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



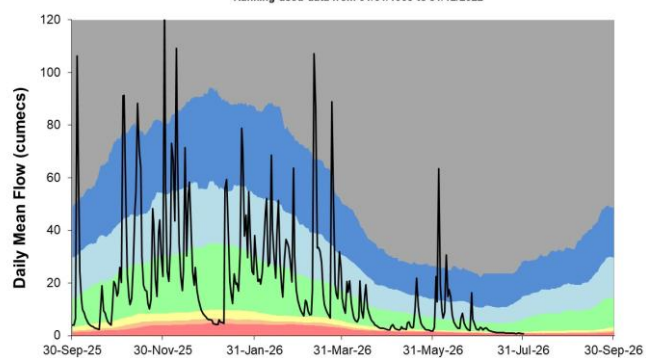
Elland, River Calder
Ranking used data from 01/07/1971 to 31/12/2022



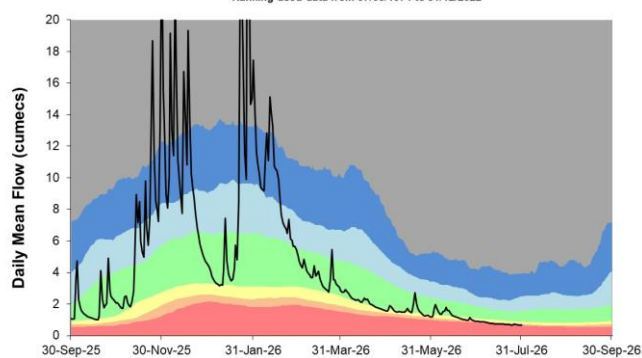
Kildwick, River Aire
Ranking used data from 01/01/1970 to 31/12/2022



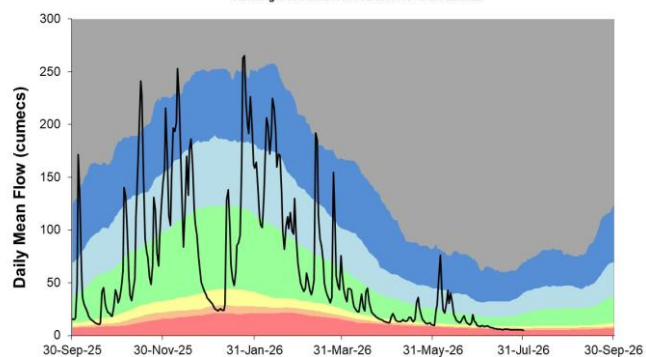
Kilgram Bridge, River Ure
Ranking used data from 01/01/1968 to 31/12/2022



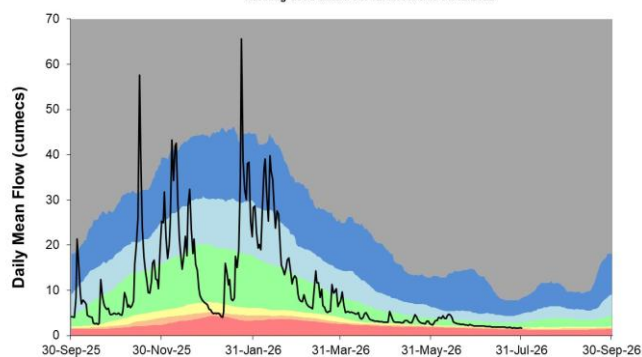
Ness, River Rye
Ranking used data from 07/08/1974 to 31/12/2022

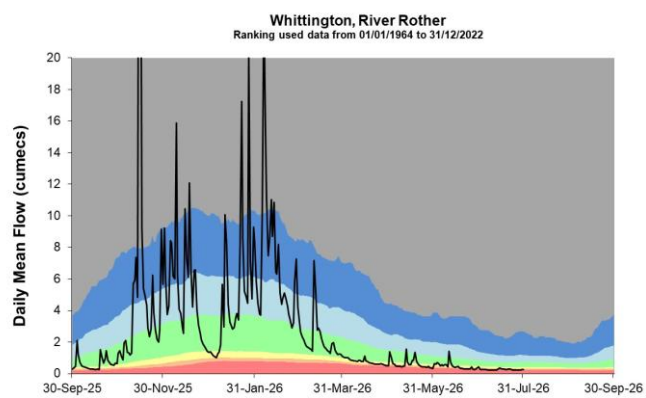
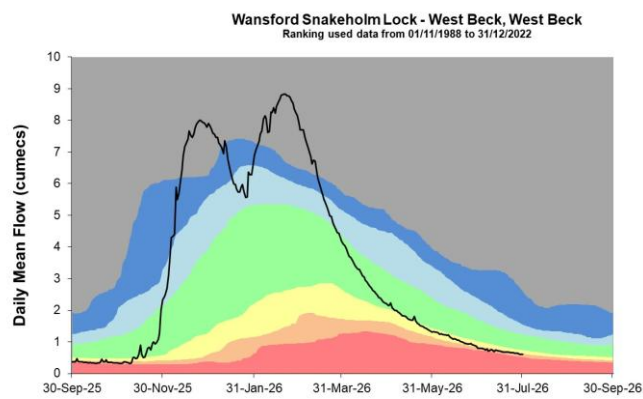
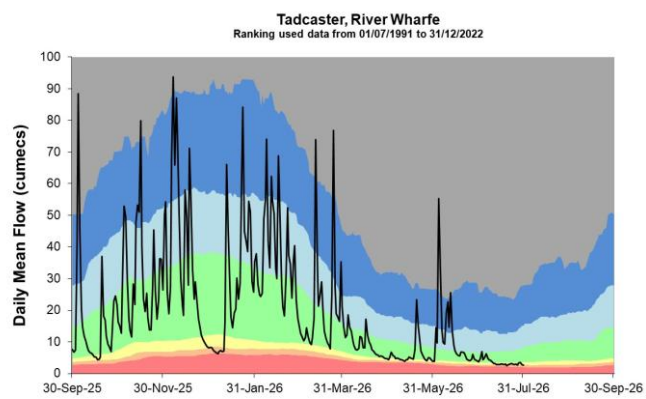


Skelton, River Ouse
Ranking used data from 18/09/1969 to 31/12/2022



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



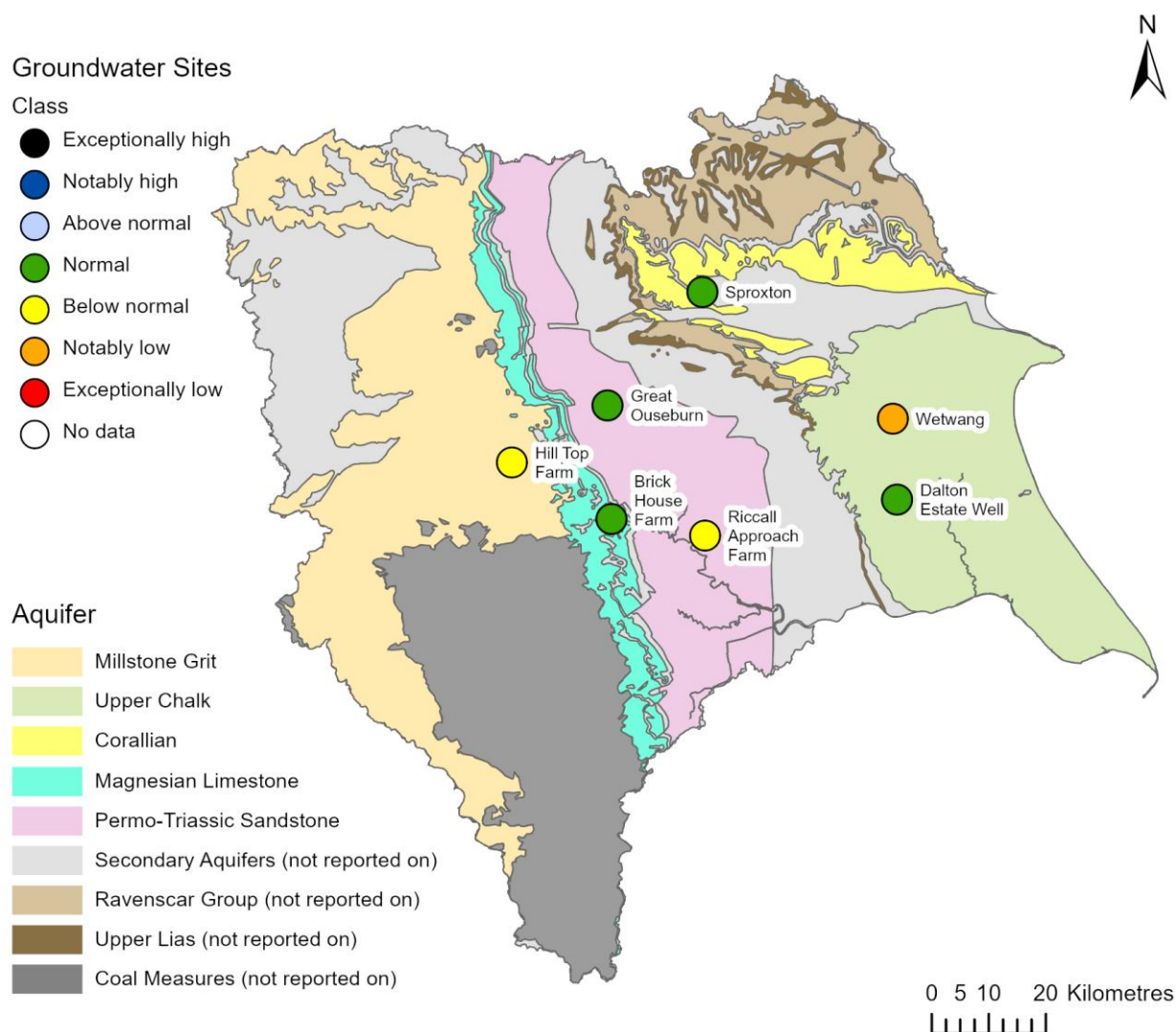


(Source: Environment Agency).

5 Groundwater levels

5.1 Groundwater levels map

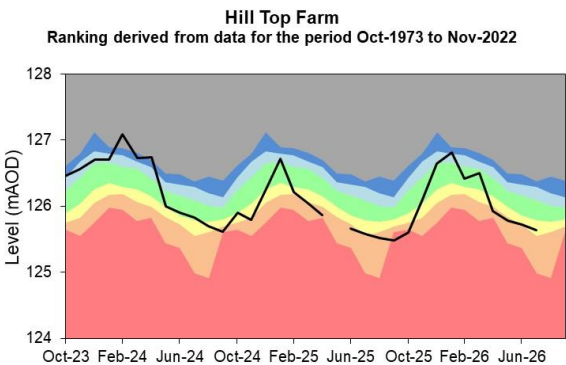
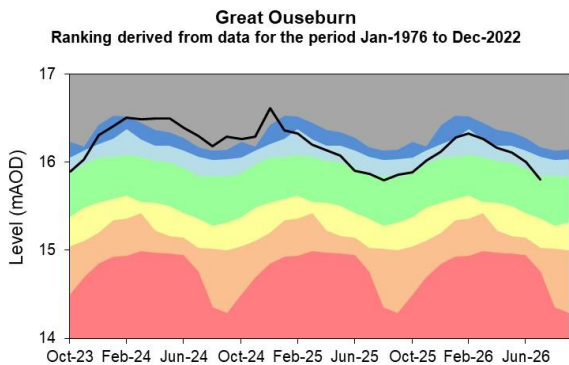
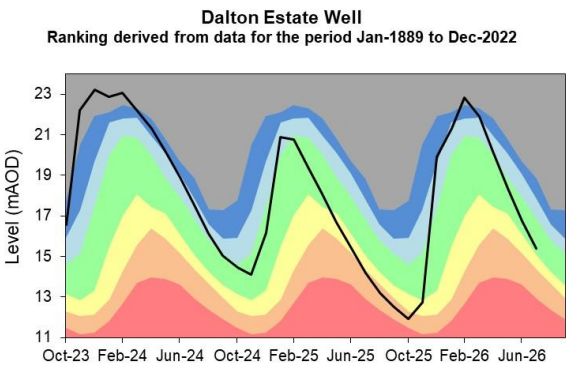
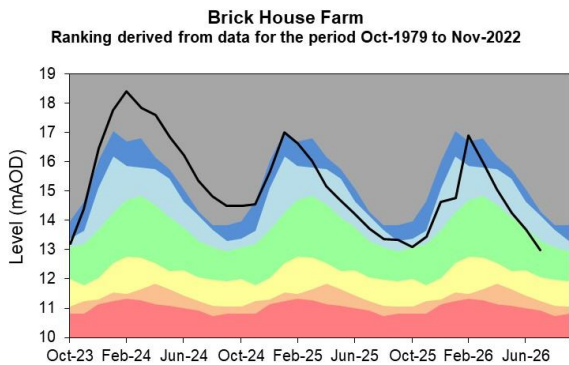
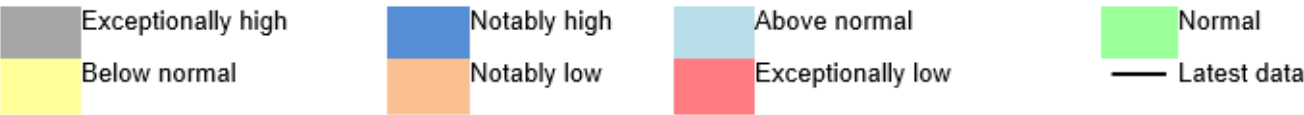
Figure 5.1: Groundwater levels for indicator sites at the end of July 2026, classed relative to an analysis of respective historic end of July levels. Table available in the appendices with detailed information. N.B. Hill Top Farm observation borehole is used for abstraction, therefore, the groundwater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

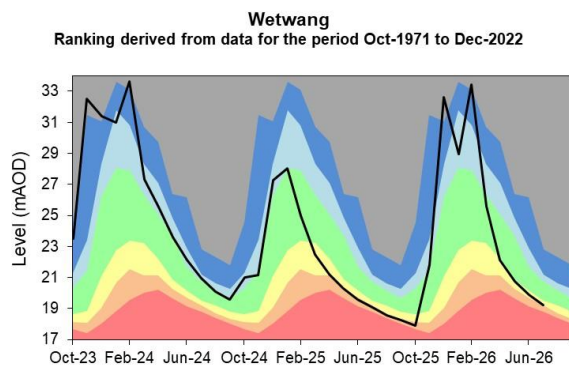
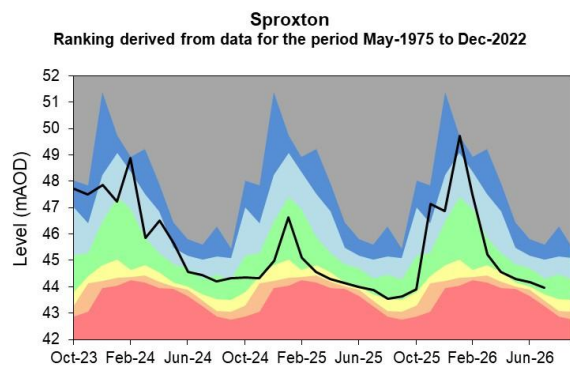
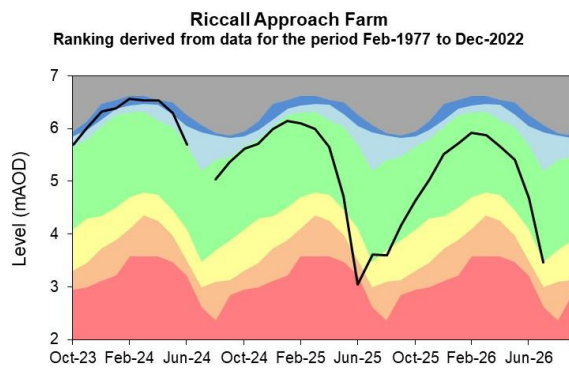


(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, AC0000807064, 2026.

5.2 Groundwater level charts

Figure 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.



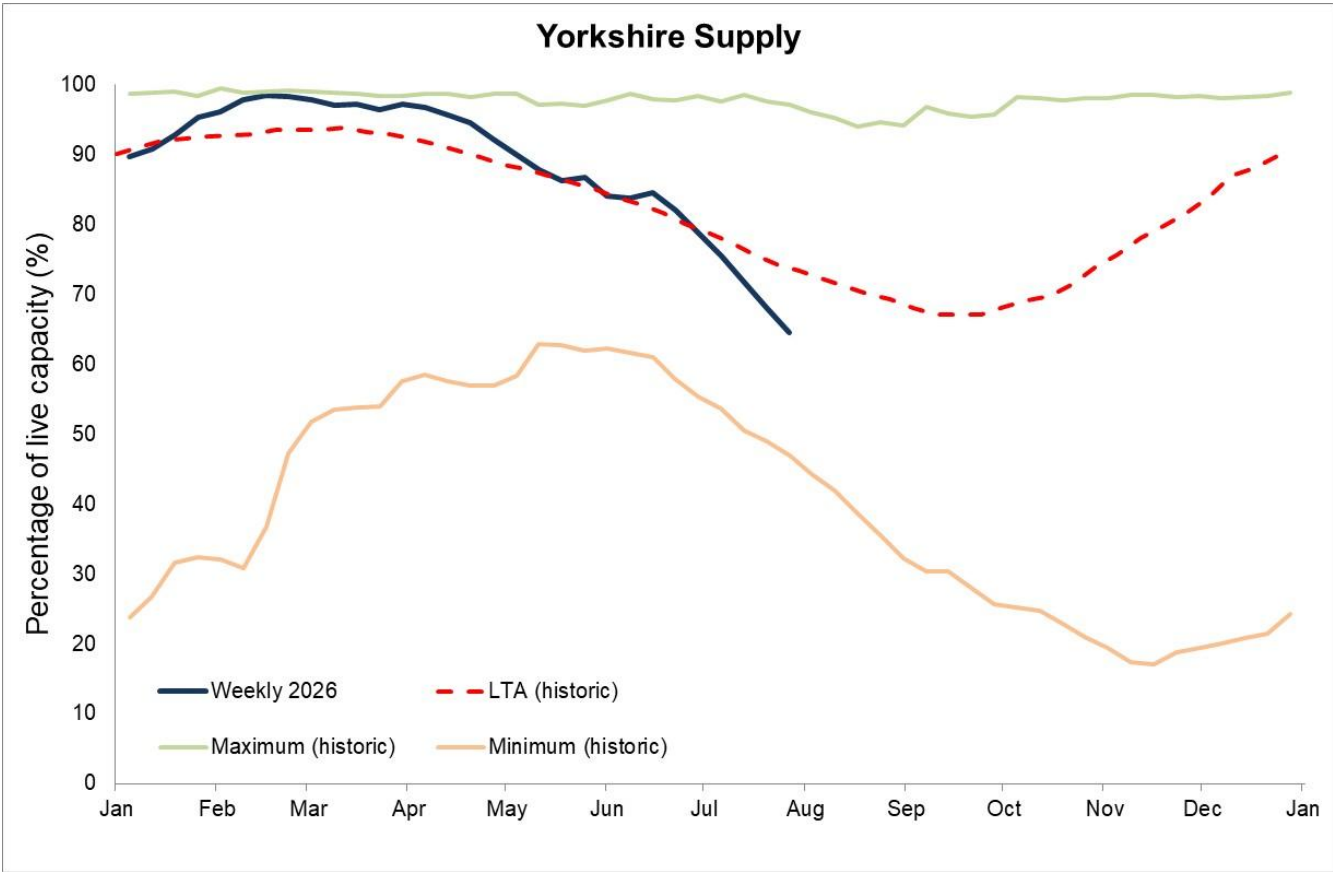


(Source: Environment Agency, 2026).

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

Figure 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 (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 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	Jul 2026 rainfall % of long term average 1991 to 2020	Jul 2026 band	May 2026 to July cumulative band	Feb 2026 to July cumulative band	Aug 2025 to July cumulative band
Aire	16	Exceptionally low	Notably low	Normal	Normal
Calder	20	Exceptionally low	Notably low	Normal	Above normal
Dales North Sea Tributaries	18	Exceptionally low	Notably low	Notably low	Normal
Derwent (NE)	5	Exceptionally low	Exceptionally low	Exceptionally low	Normal
Don	6	Exceptionally low	Notably low	Below normal	Above normal
Hull and Humber	2	Exceptionally low	Exceptionally low	Exceptionally low	Normal
Nidd	15	Exceptionally low	Below normal	Normal	Above normal
Ouse	3	Exceptionally low	Exceptionally low	Notably low	Normal
Rye	12	Exceptionally low	Notably low	Notably low	Normal

Hydrological area	Jul 2026 rainfall % of long term average 1991 to 2020	Jul 2026 band	May 2026 to July cumulative band	Feb 2026 to July cumulative band	Aug 2025 to July cumulative band
Swale (NE)	11	Exceptionally low	Below normal	Normal	Normal
Ure	19	Exceptionally low	Below normal	Normal	Above normal
Wharfe	19	Exceptionally low	Below normal	Normal	Above normal

8.2 River flows table

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

8.3 Groundwater table

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