Monthly water situation report: Yorkshire Area

1 Summary - May 2026

Rainfall totals in Yorkshire in May were normal for the time of year. Monthly mean flows were below the long term average (LTA) and declining by the month's end. Soils reacted to the rainfall pattern but became drier overall. Reservoir stocks decreased and were just below the LTA. Groundwater levels decreased in all aquifers and Hands off Flow (HoF) restrictions were put in place on abstractions in some river catchments.

1.1 Rainfall

April error correction: The April catchment average rainfall for the Hull was reported last month to be 60% of the LTA and within the normal range. This has been corrected to 26% of the LTA, classed as notably low. The resulting 12-month cumulative rainfall total is classed as normal. The Calder catchment average rainfall for April has been corrected to 57% of the LTA, in the below normal range.

Catchment average rainfall in May was normal with all catchments experiencing just slightly over the LTA for May. The exception was the Hull catchment which had slightly less rainfall than the LTA. 3-month March to May rainfall totals were normal in the north-west catchments of Yorkshire, below normal in most central and eastern areas together with the Don in the south, and notably low in the Hull catchment in the south-east.

Much of the month was dry in the Hull catchment which just received small amounts of rainfall on days 2, 12 to 14 and 18.

Across the rest of Yorkshire most catchments showed a similar pattern with the wettest days on day 2, 18 and 19. There were locally wet conditions in the Don catchment on days 12 to 13. Scattered rainfall occurred from days 8 to 20 and beyond this, days were mostly dry.

1.2 Soil moisture deficit and recharge

Soils began the month dry in the Hull and Humber and lower Ouse region, wet in the northern Pennines and normal elsewhere. By the third week, rain caused the western Pennine soils to become near fully saturated while the Hull and Humber and lower Ouse region remained dry. By month's end soils everywhere but the western Pennines were dry, and the Selby, Goole and lower Foulness area was very dry.

1.3 River flows

Monthly mean flows in May were normal or below normal in all catchments, ranging from 48% of the LTA to 73% of the LTA. Catchments with below normal flows mostly matched those in

the east and south of Yorkshire that recorded less than normal 3-month rainfall during March to May.

Daily mean flows in the northern Pennine catchments began the month below normal or normal for the time of year. The rainfall on day 2 had a small impact, but most rivers remained within the normal range. The accumulation of rainfall from day 8 to day 20 had more of an effect and rivers peaked to above normal and notably high flows around days 19 and 20. Flows then gradually receded and most ended the month in the normal or below normal range.

In the Don and Rother flows were below normal and notably low for the time of year respectively at the start of the month. They responded to the rainfall on day 2 and the Don became notably high for the time of year. They also peaked on days 13 and 19 before declining until the month's end, the Rother reaching exceptionally low flows for May.

Daily mean flows were below normal for much of the month in the Rye, Derwent and Ouse and for just under half of the month in the Esk. Rainfall resulted in a short period of above normal flows on days 19 and 20.

Flows in the chalk-fed West Beck declined steadily over the course of the month, beginning the month normal and ending the month below normal for the time of year. They also had a minor response to the rainfall on days 19 and 20.

1.4 Groundwater levels

Magnesian Limestone

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

Millstone Grit

The groundwater level within the Millstone Grit decreased at Hill Top Farm and was notably low for the time of year. The groundwater level at this observation borehole may be affected by its use for water abstraction by means of a pump.

Sherwood Sandstone

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

Corallian Limestone

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

Chalk

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

1.5 Reservoir stocks

Reservoir stocks continued to decline at an average rate of around 1.5% per week. They had a slight increase in the third week of the month in response to the rainfall. At the end of May stocks were at 84.1%, 1% less than the LTA.

1.6 Environmental impact

At the end of May, there were 21 abstraction licences with a HoF condition in force, and another 34 licence holders had been given advance warning that flows were low.

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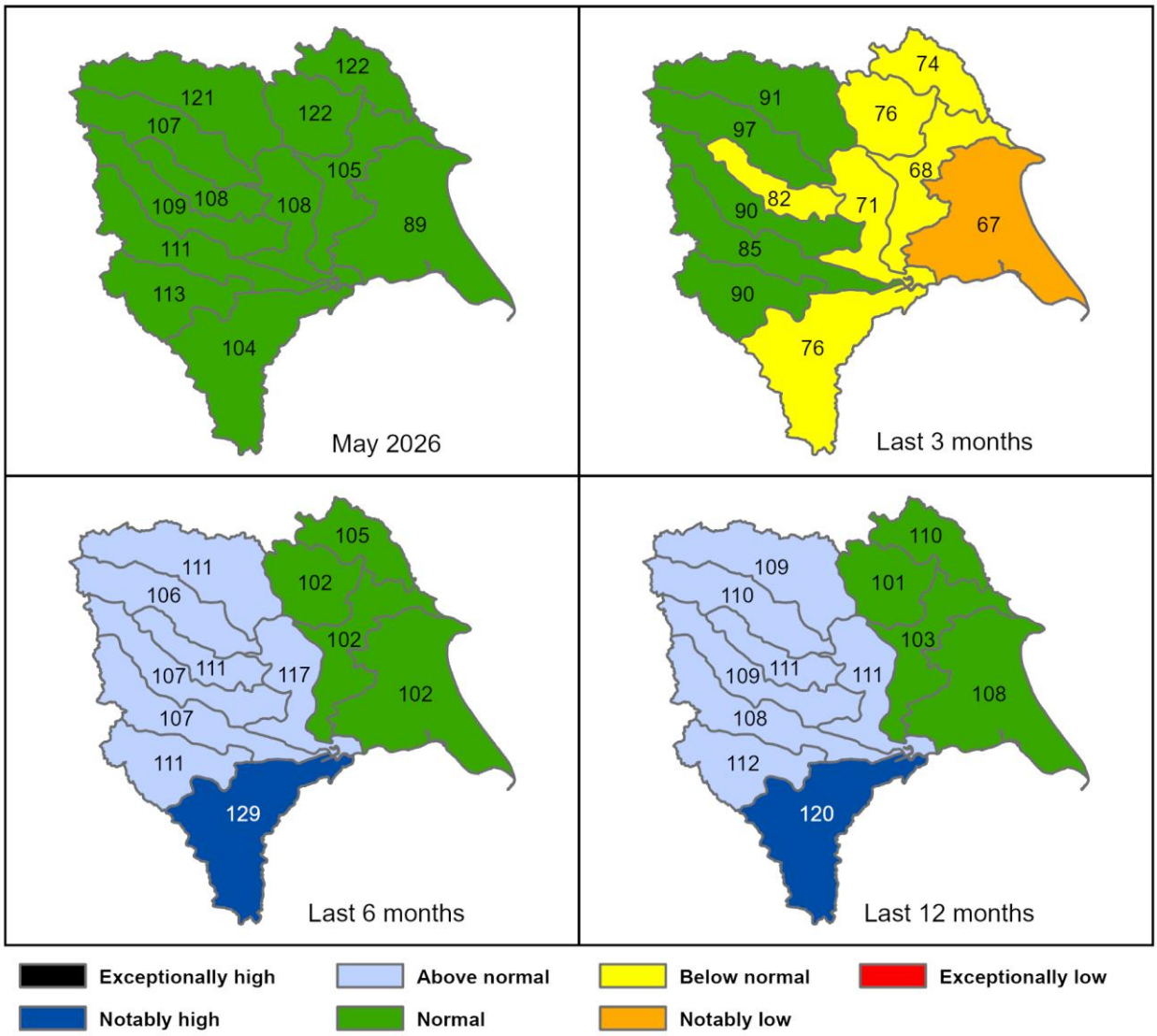
2 Rainfall

2.1 Rainfall map

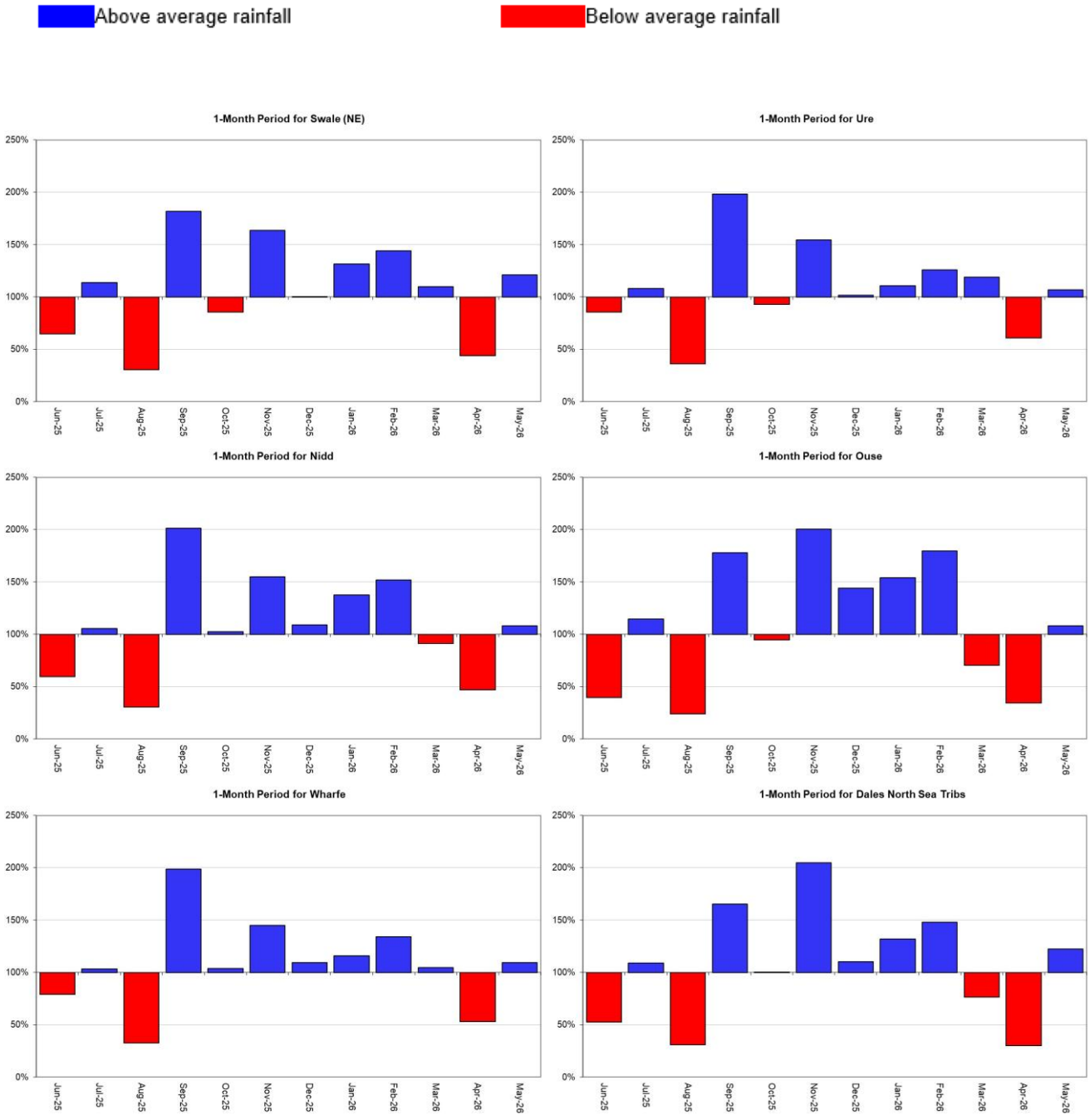
Figure 2.1: Total rainfall for hydrological areas across Yorkshire, expressed as a percentage of the 1991 to 2020 long term average rainfall, for the current month (up to 31 May 2026), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic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

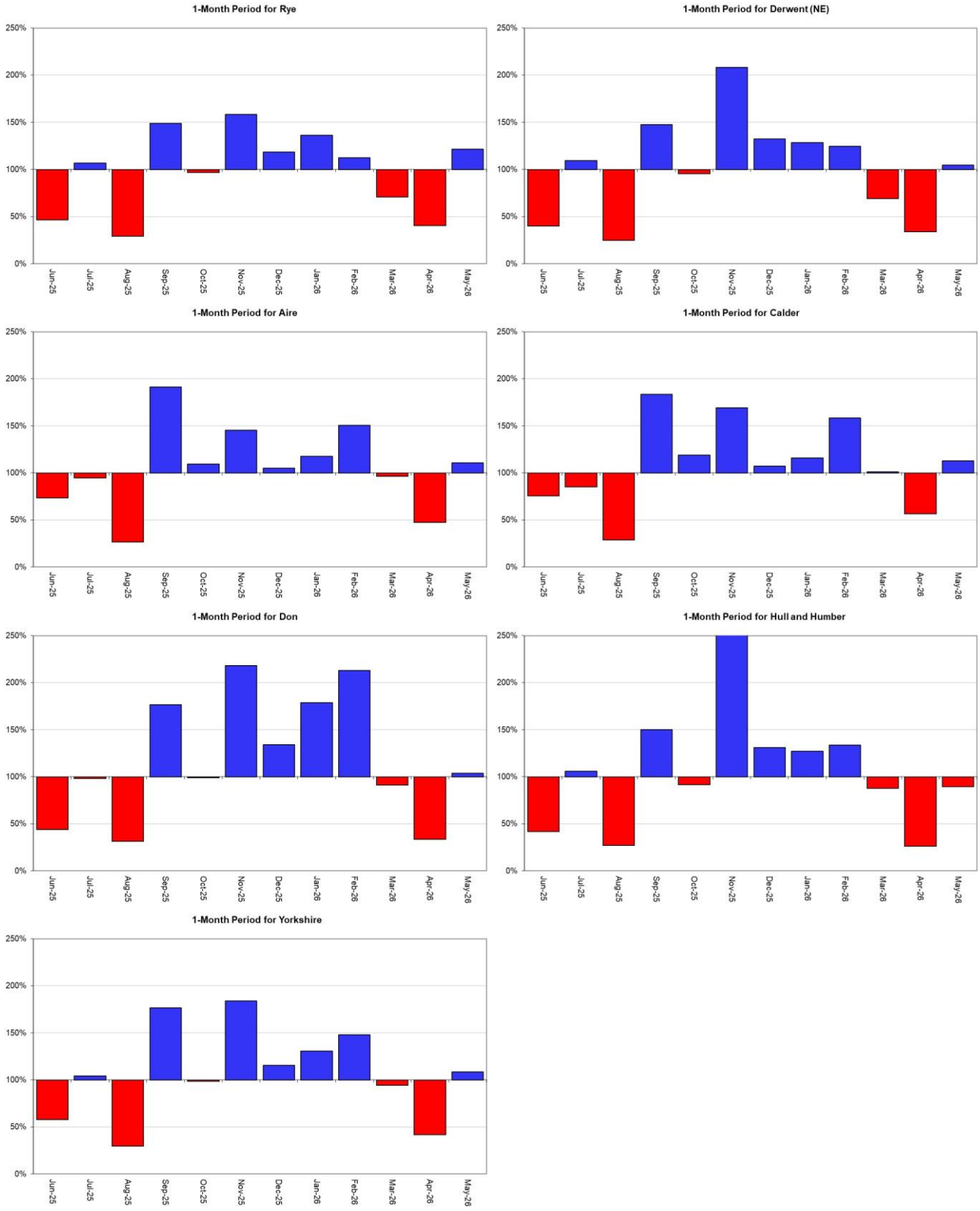


Rainfall data for January 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, AC0000807064, 2026). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded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





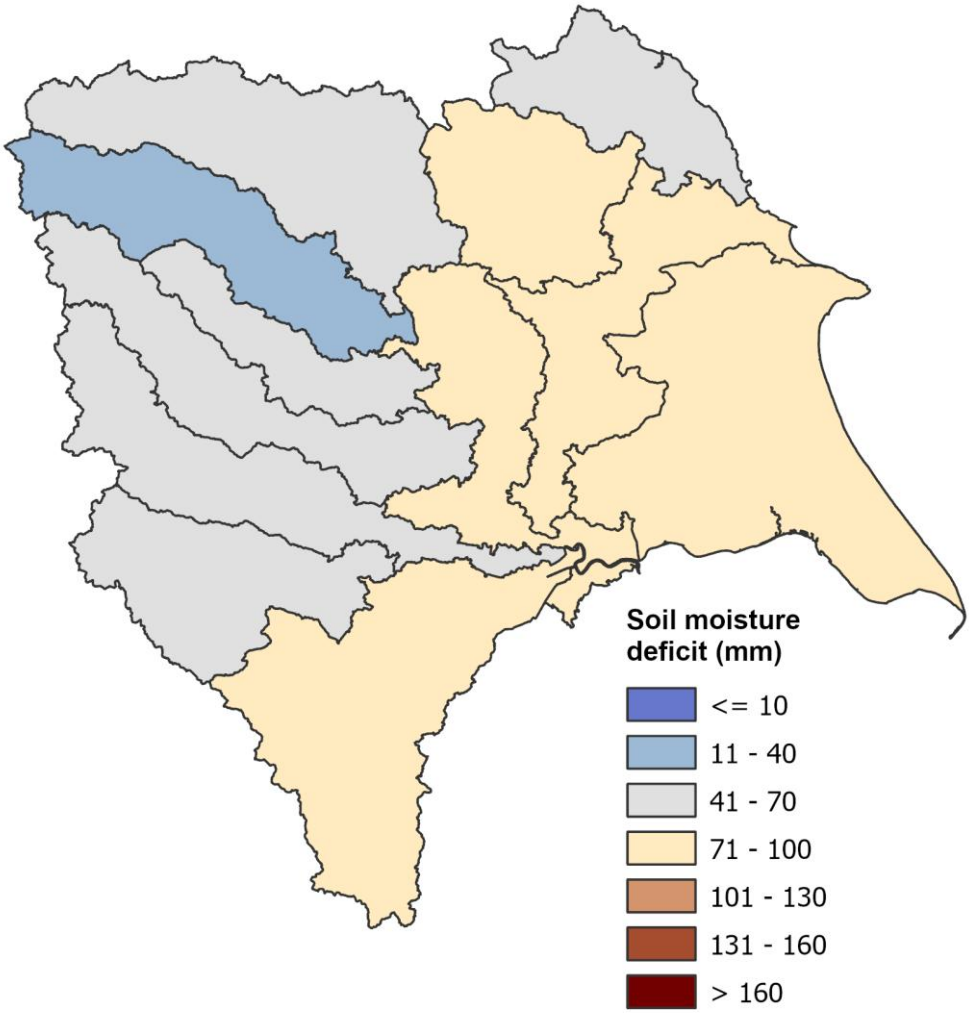
Rainfall data for January 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment

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

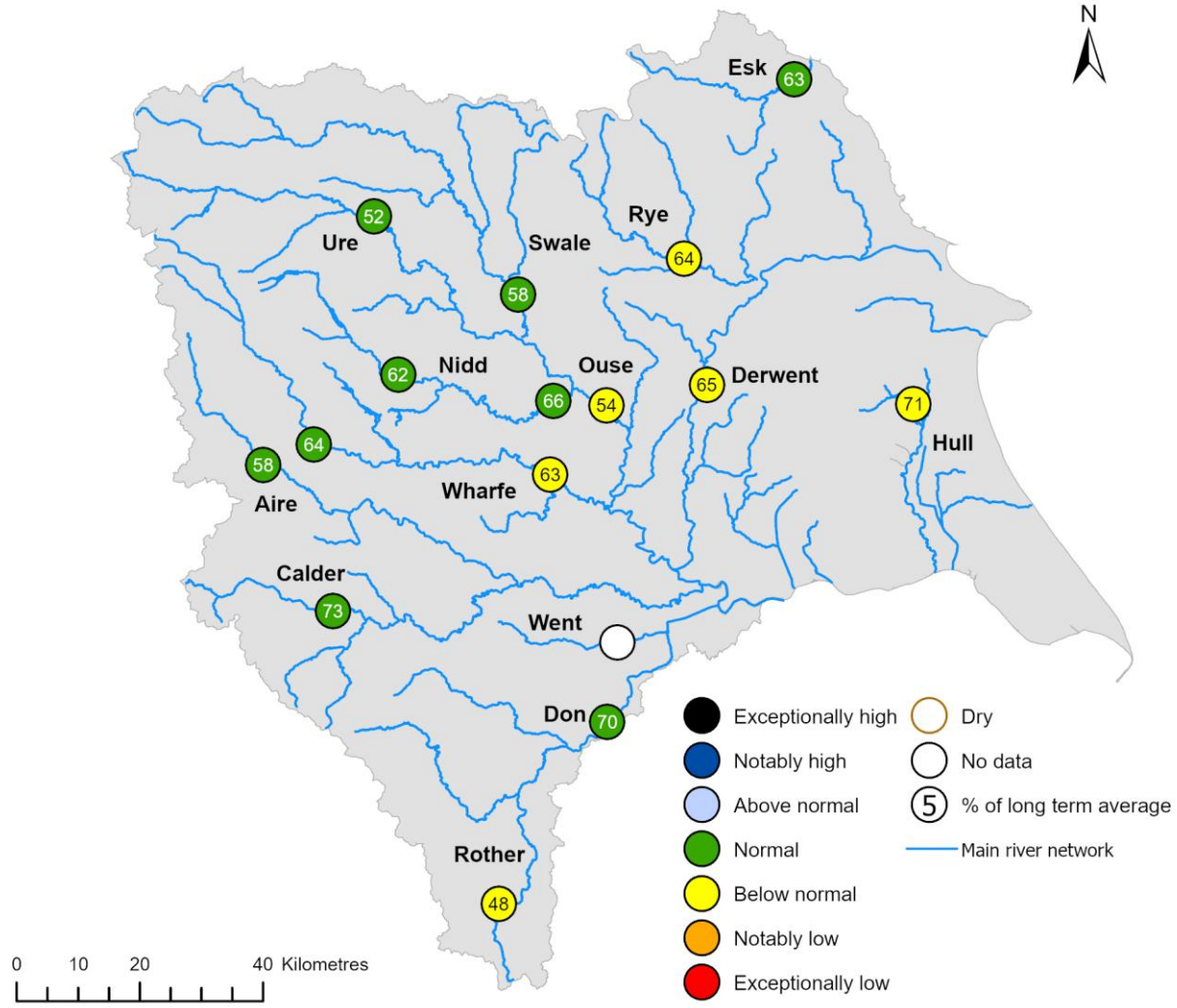
Figure 3.1: Soil moisture deficits for weeks ending 31 May 2026. Shows the actual soil moisture deficits (mm) within each hydrological area. Calculated from MORECS data for real land use.



4 River flows

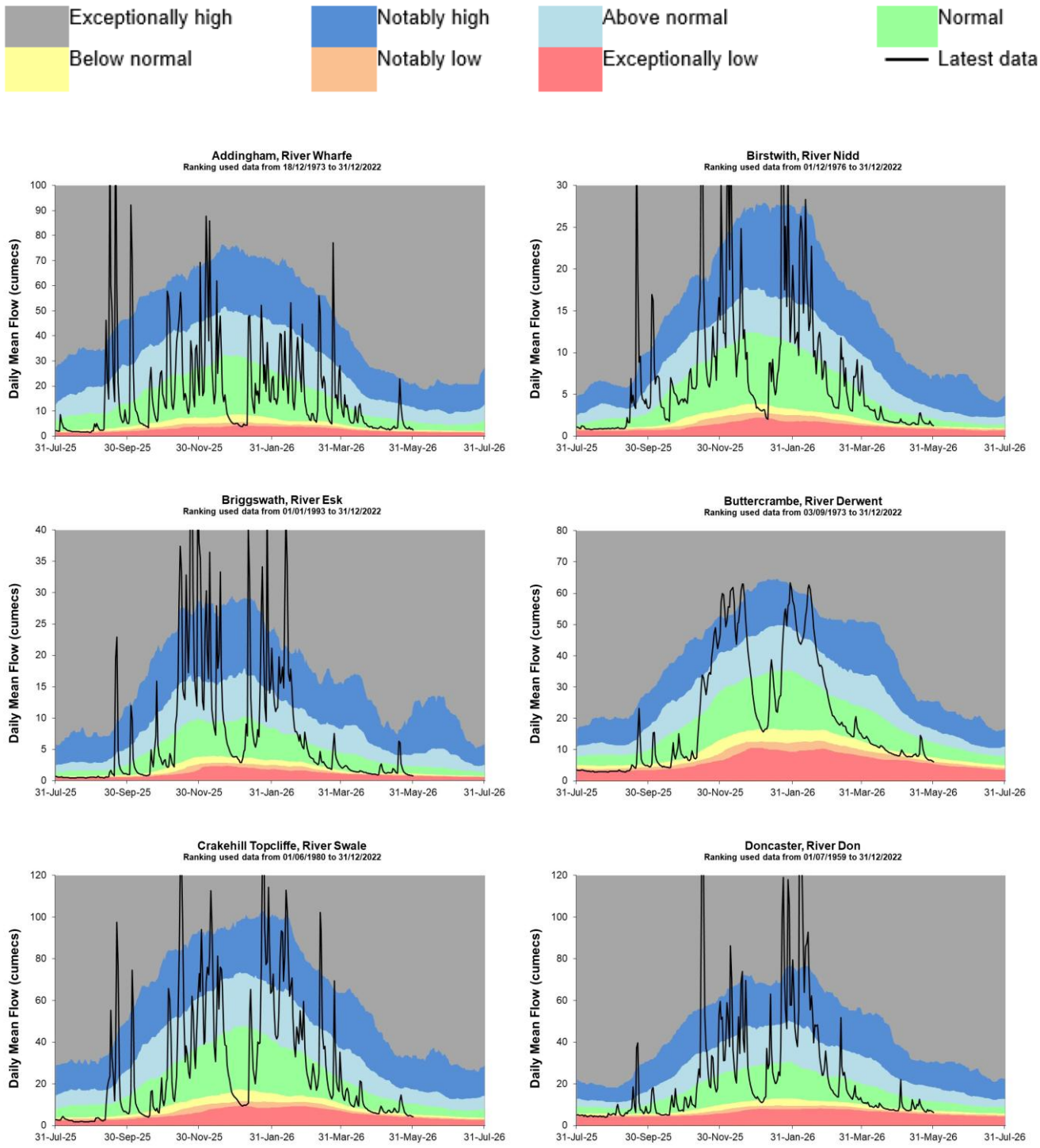
4.1 River flows map

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

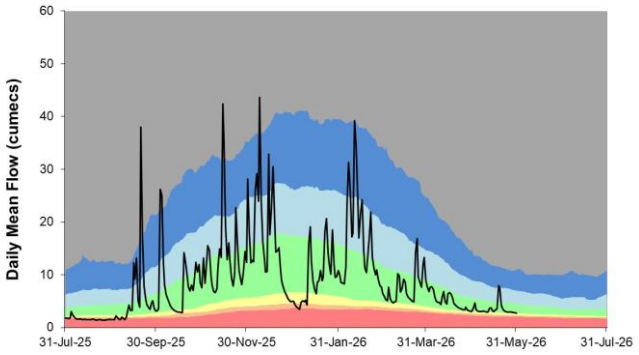


4.2 River flow charts

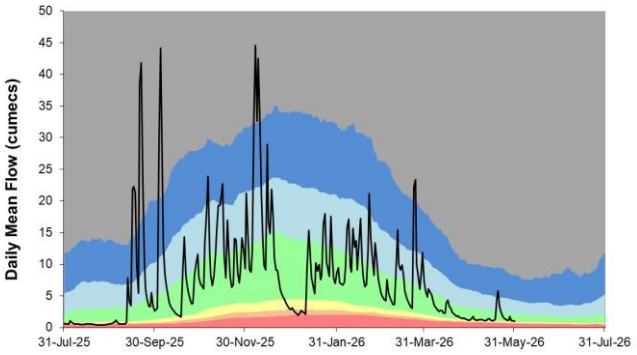
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



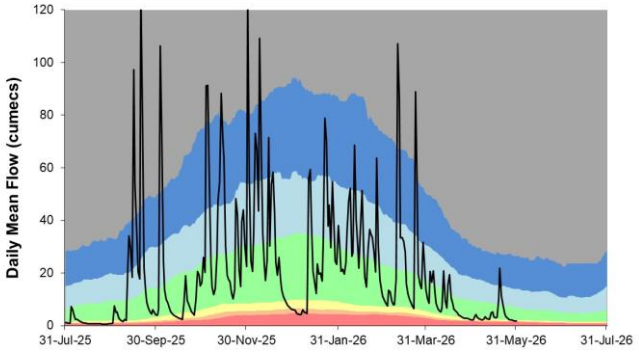
Elland, River Calder
Ranking used data from 01/07/1971 to 31/12/2022



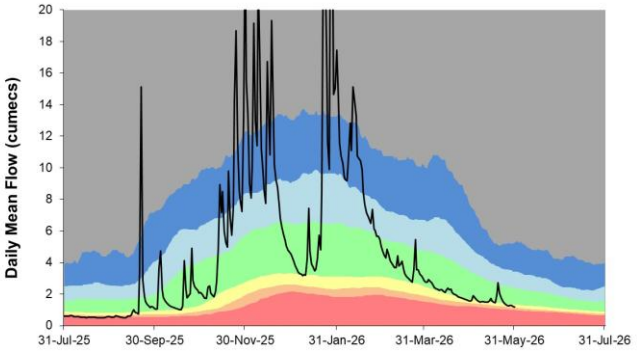
Kildwick, River Aire
Ranking used data from 01/01/1970 to 31/12/2022



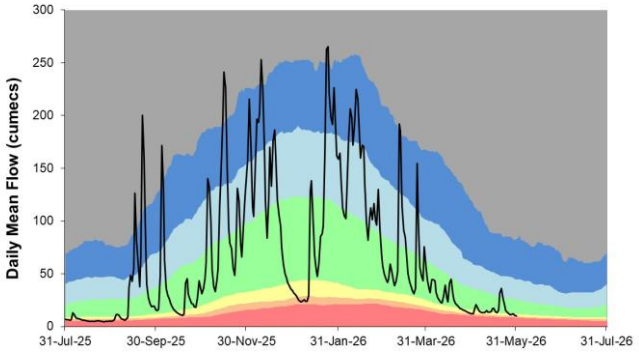
Kilgram Bridge, River Ure
Ranking used data from 01/01/1968 to 31/12/2022



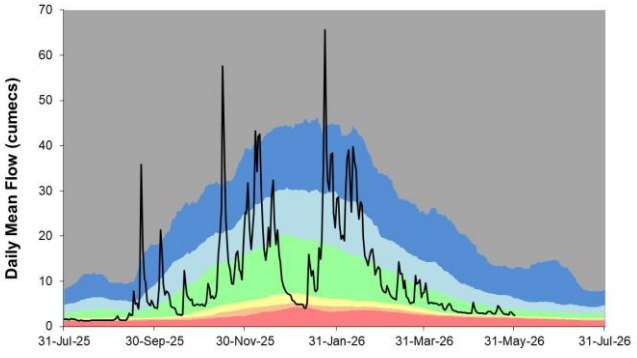
Ness, River Rye
Ranking used data from 07/08/1974 to 31/12/2022

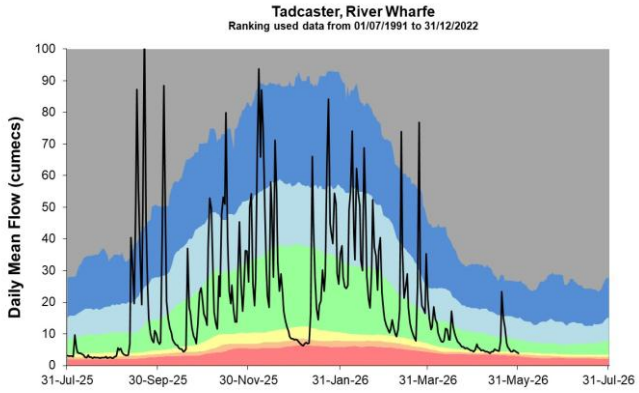


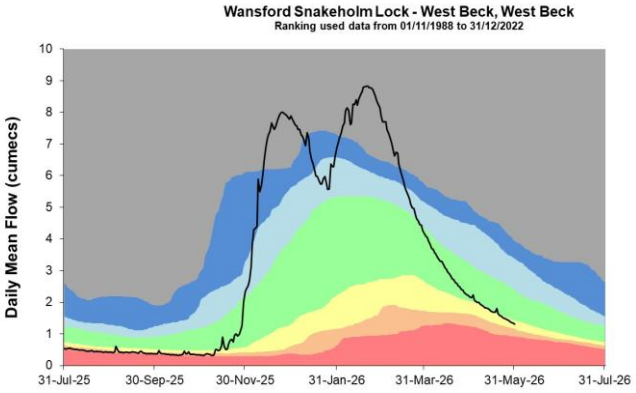
Skelton, River Ouse
Ranking used data from 18/09/1969 to 31/12/2022

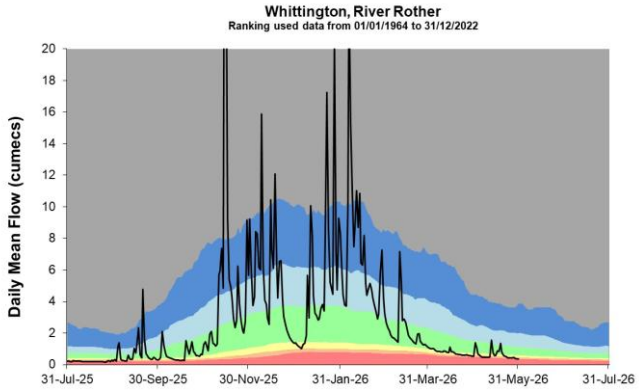


Skip Bridge Kirk Hammerton, River Nidd
Ranking used data from 12/06/1979 to 31/12/2022







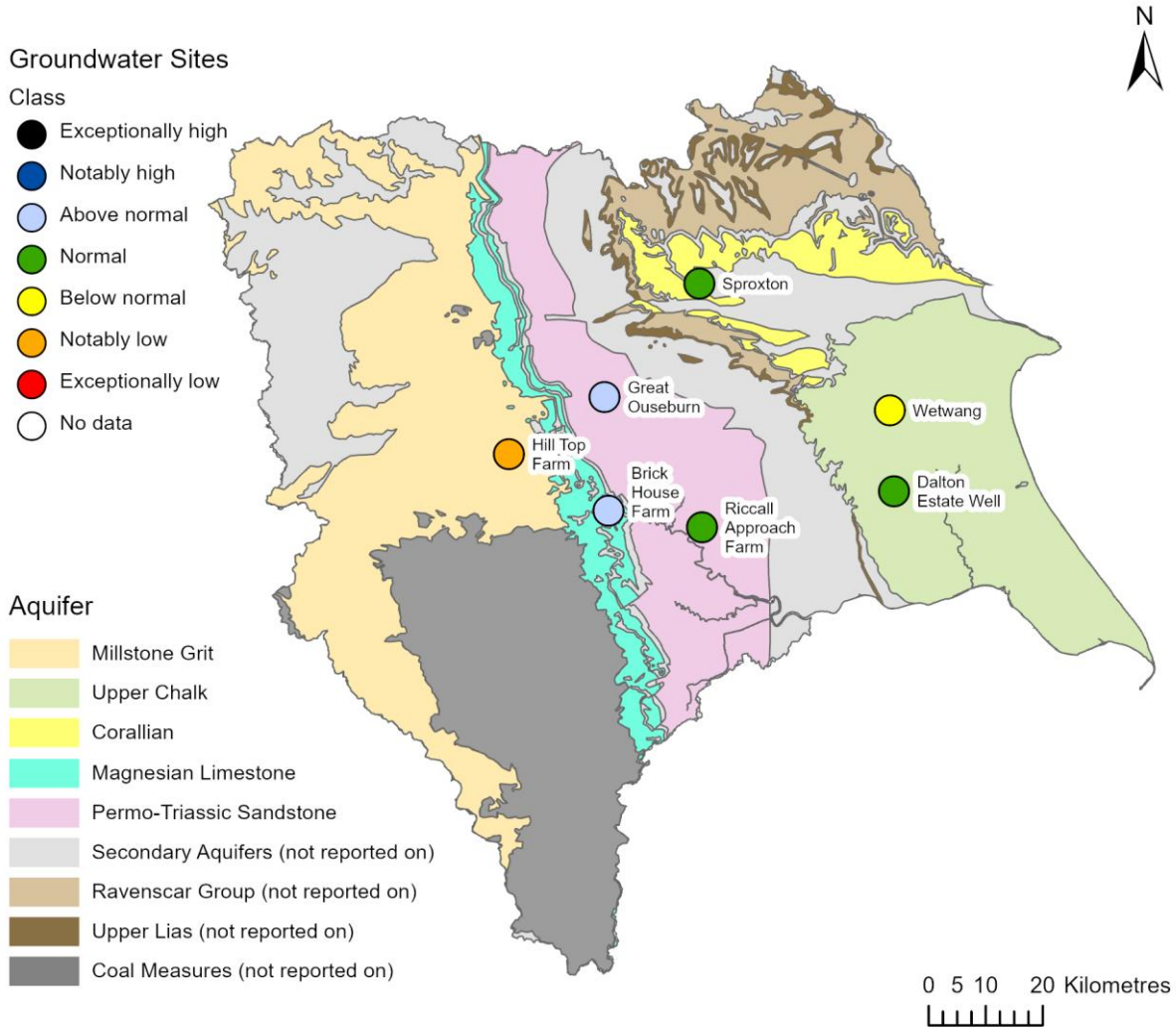


(Source: Environment Agency).

5 Groundwater levels

5.1 Groundwater levels map

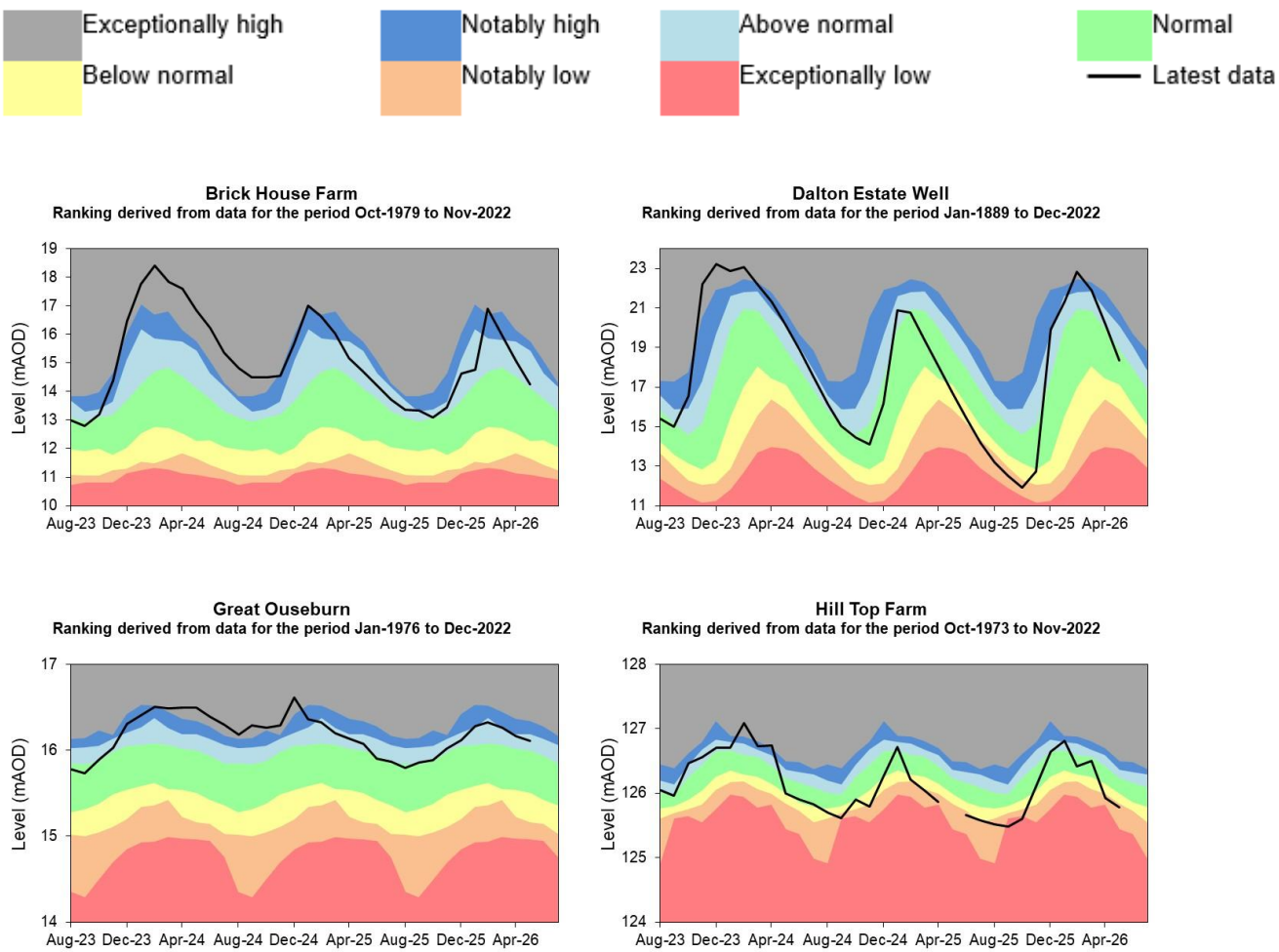
Figure 5.1: Groundwater levels for indicator sites at the end of May 2026, classed relative to an analysis of respective historic May levels. Table available in the appendices with detailed information.

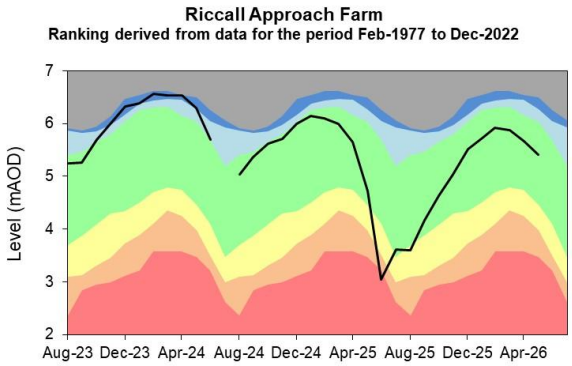


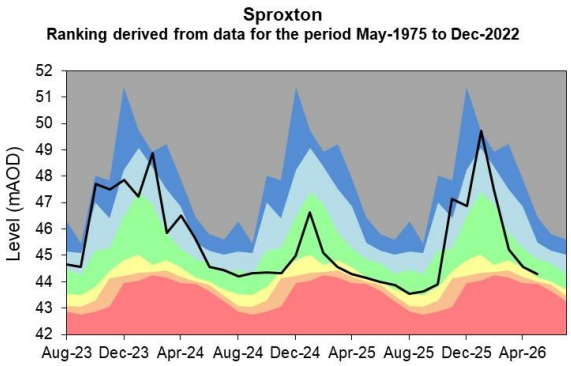
(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, AC0000807064, 2026.

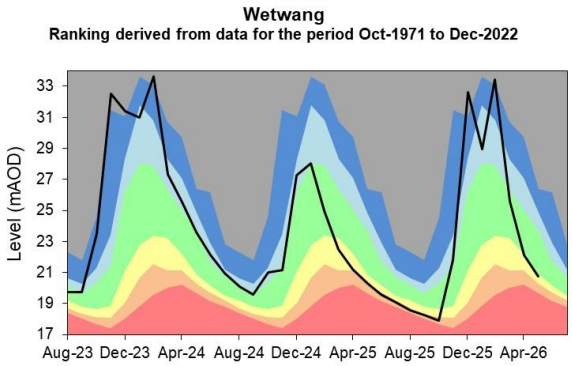
5.2 Groundwater level charts

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.







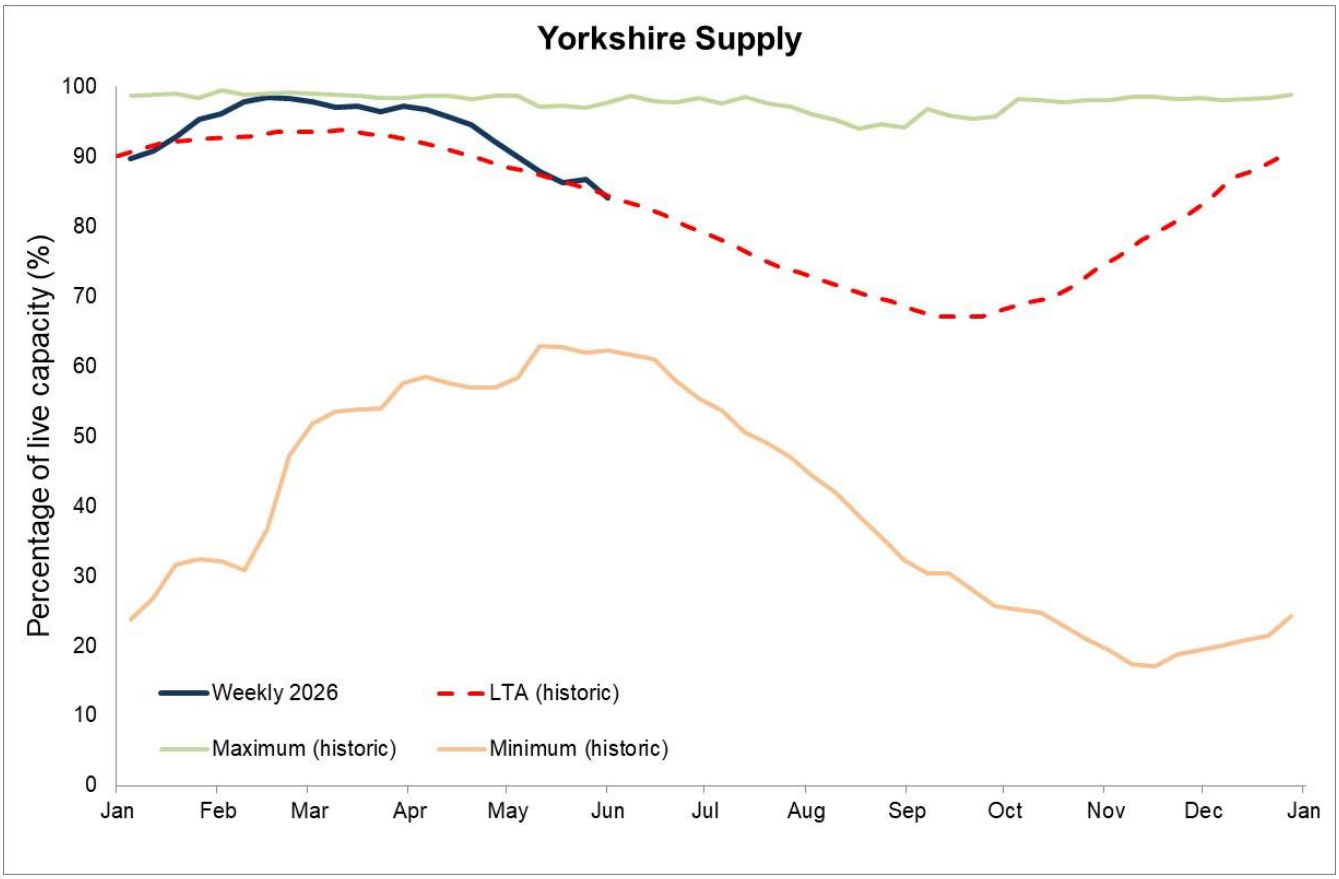


(Source: Environment Agency, 2026).

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 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	May 2026 rainfall % of long term average 1991 to 2020	May 2026 band	Mar 2026 to May cumulative band	Dec 2025 to May cumulative band	Jun 2025 to May cumulative band
Aire	111	Normal	Normal	Above normal	Above normal
Calder	113	Normal	Normal	Above normal	Above normal
Dales North Sea Tributaries	123	Normal	Below normal	Normal	Normal
Derwent (NE)	105	Normal	Below normal	Normal	Normal
Don	104	Normal	Below normal	Notably high	Notably high
Hull and Humber	89	Normal	Notably low	Normal	Normal
Nidd	108	Normal	Below normal	Above normal	Above normal
Ouse	108	Normal	Below normal	Above normal	Above normal
Rye	122	Normal	Below normal	Normal	Normal
Swale (NE)	121	Normal	Normal	Above normal	Above normal
Ure	107	Normal	Normal	Above normal	Above normal
Wharfe	109	Normal	Normal	Above normal	Above normal

8.2 River flows table

Site name	River	Catchment	May 2026 band	Apr 2026 band
Addingham	Wharfe	Wharfe Middle	Normal	Normal
Birstwith	Nidd	Nidd Middle	Normal	Normal
Briggswath	Esk	Esk Yorks	Normal	Normal
Buttercrambe	Derwent	Derwent Yorks Middle	Below normal	Below normal
Crakehill Topcliffe	Swale	Swale Lower	Normal	Normal
Doncaster	Don	Don Lower	Normal	Below 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	Normal	Normal
Ness	Rye	Rye	Below normal	Normal
Skelton	Ouse	Ouse Yorks	Below normal	Normal
Tadcaster	Wharfe	Wharfe Lower	Below normal	Normal

Site name	River	Catchment	May 2026 band	Apr 2026 band
Wansford Snakeholm Lock	West Beck	Hull Upper	Below normal	Normal
Whittington	Rother	Rother Yorks	Below normal	Below normal

8.3 Groundwater table

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