Monthly water situation report: Devon and Cornwall Area

1 Summary - May 2025

Devon and Cornwall received 56% of the May long term average (LTA) rainfall, which was below normal for the time of year. Soil moisture deficit increased overall during May, ending the month higher (drier) than the LTA for the time of year. Monthly mean river flows were below normal to normal for the time of year across the area. Groundwater levels ended the month between normal and exceptionally high for the time of year. Total reservoir storage across Devon and Cornwall ended the month at 86%, with Wimbleball, Colliford and Roadford reservoirs at 85%, 81% and 91% respectively at the end of May.

1.1 Rainfall

Devon and Cornwall received 40mm of rain during May (56% of the May LTA), which is below normal for the time of year. The first third of May was mostly dry, with the most significant periods of rain taking place on 10 to 11 May and 24 to 29 May. May was the second month out of the last 3 to have experienced below average rainfall.

In May, rainfall was notably low to normal across Devon and Cornwall, with most regions receiving below normal rainfall. Seaton Looe and Fowey and Avon Dart and Erme hydrological areas received normal rainfall for the time of year, and the Otter Sid Axe and Lim hydrological area received notably low rainfall for the time of year. Cumulative rainfall was notably low to normal in the last 3 months, with the hydrological areas becoming relatively drier towards the east; and was below normal to normal in the last 6 months. In the last 12 months, cumulative rainfall was normal for the time of year across all hydrological areas.

1.2 Soil moisture deficit

SMD increased at a steady rate for most of May, with a slight decrease recorded between 20 May and 27 May in response to the rainfall from 24 May onwards. The average deficit for most of Devon and Cornwall was between 41mm to 70mm, apart from west Cornwall, east Devon and parts of north Devon recording a deficit of 71mm to 100mm.

The SMD at the end of May was 26mm to 50mm above (drier than) the LTA across Devon and Cornwall for the time of year, except for the Otter Sid Axe and Lim catchment, where SMD was 51mm to 75mm above the LTA for the time of year.

The SMD at the end of May was higher (drier) than the LTA for the time of year and higher (drier) than the SMD at the end of May 2024.

1.3 River flows

May monthly mean river flows were below normal to normal for the time of year at all sites across the area.

Daily mean flows showed minimal response to the sporadic periods of rainfall throughout May, and ended the month lower than they were at the beginning. On 31 May, all reporting sites recorded notably low to normal daily mean river flows for the time of year.

Due to data accuracy concerns, Chudleigh Bridge on the River Teign, Gunnislake on the River Tamar and St Erth on the River Hayle have been excluded from the May report.

1.4 Groundwater levels

On 31 May, groundwater levels were classed as follows:

- Normal at Bussels No7A (monitoring the Dawlish Sandstone), Coleford Production (monitoring the Permian Breccias and Sandstones), Winnards Perch (monitoring the Staddon Formation), Woodbury Common No2 (monitoring the Budleigh Salterton Pebble Beds) and Woodleys No1 (monitoring the Otterton Sandstone Formation)
- Above normal at Branscombe Lane (monitoring the Dawlish Sandstone)
- Exceptionally high at Whitlands (monitoring the Upper Greensand).

Groundwater levels at all sites continue to be in recession, which is normal for the time of year.

1.5 Reservoir stocks

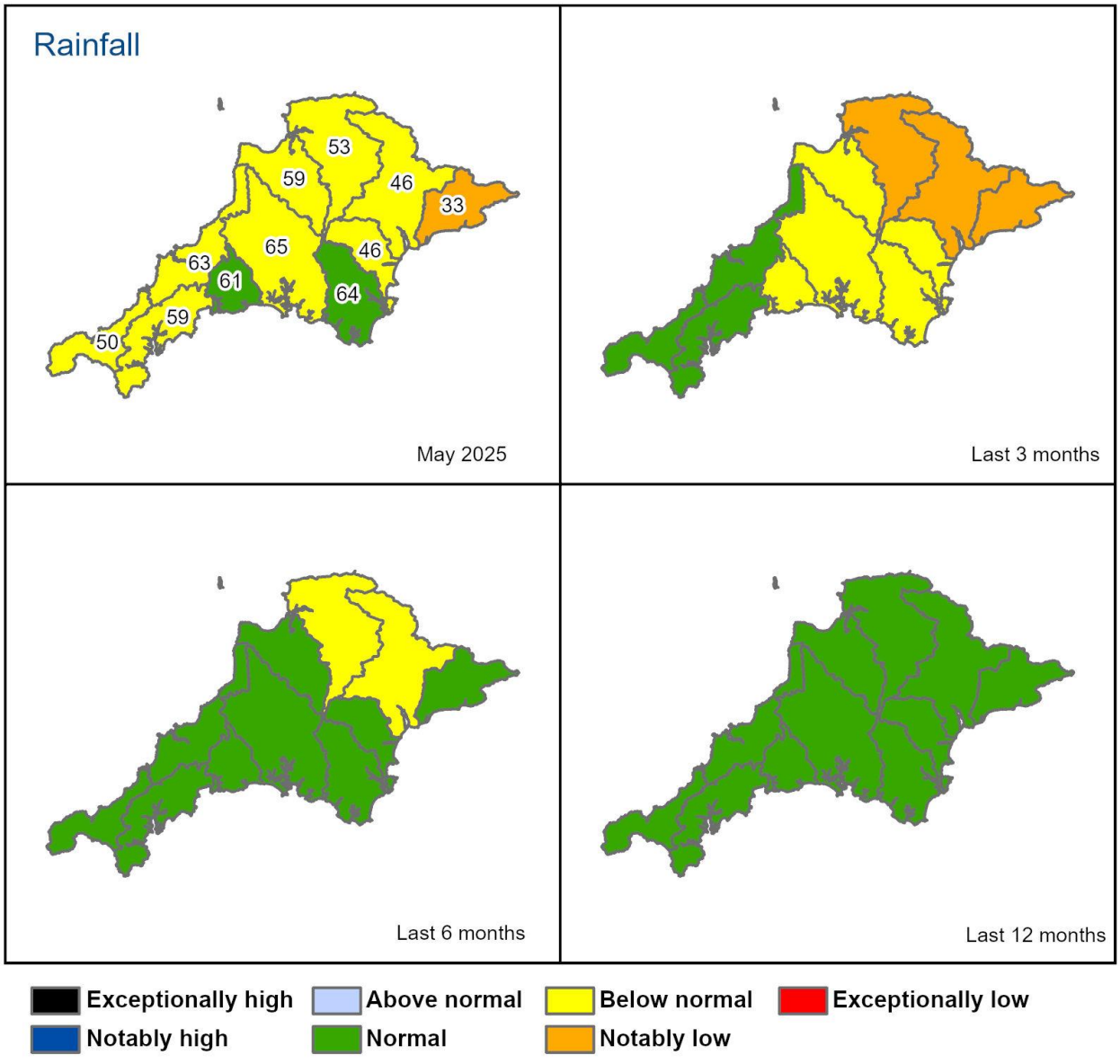
Total reservoir storage was 86% at the end of May, which is an overall decrease in storage by 6% since the end of April. This is less than the storage at the same time last year (98%). At the end of May, storage at Wimbleball (85%) was higher than it was at the same time in 2022 (82%) (the most recent drought year) and Roadford storage (91%) was similar to the same time in 2022 (89%). Total storage at Colliford at the end of May (81%) was higher than it was at the same time in 2022 (69%).

Author: Environment Agency, Hydrology.dandc@environment-agency.gov.uk

2 Rainfall

2.1 Rainfall map

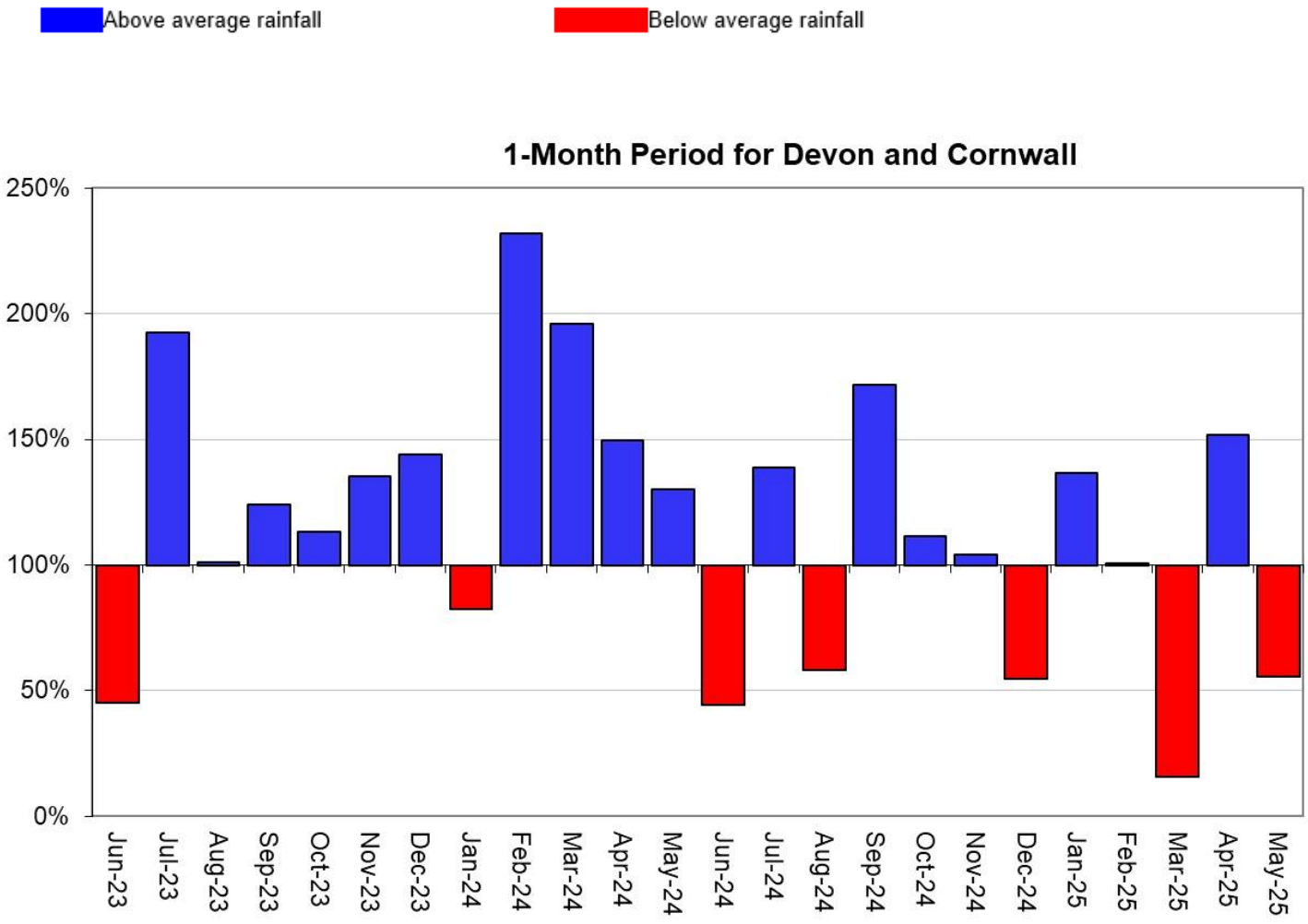
Figure 2.1: Total rainfall for hydrological areas for the current month (up to 31 May 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.



HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

2.2 Rainfall charts

Figure 2.2: Monthly rainfall totals for the past 24 months as a percentage of the 1991 to 2020 long term average for Devon and Cornwall area.

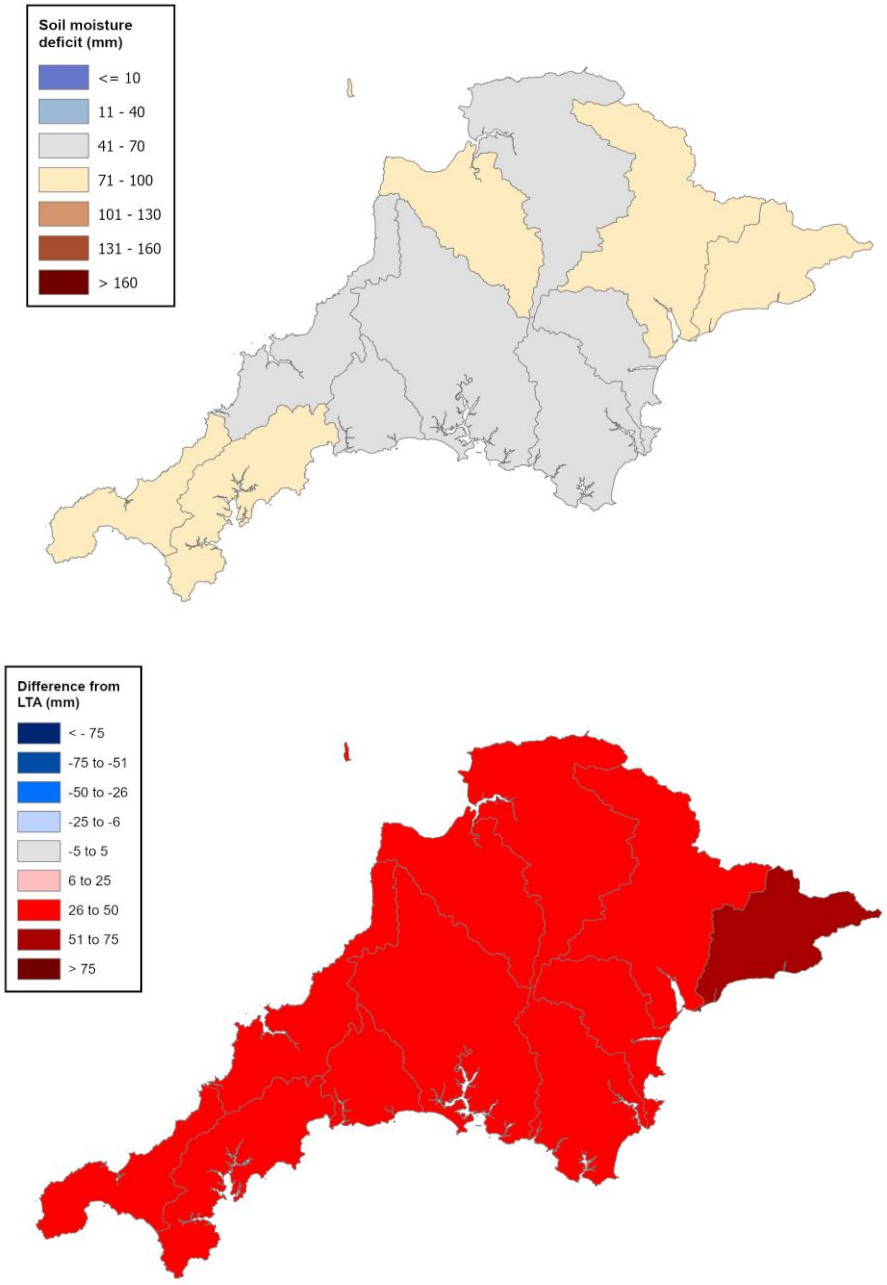


Rainfall data for 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to 2023, extracted from Met Office HadUK 1km gridded rainfall dataset derived from registered rain gauges (Source: Met Office. Crown copyright, 2025).

3 Soil moisture deficit

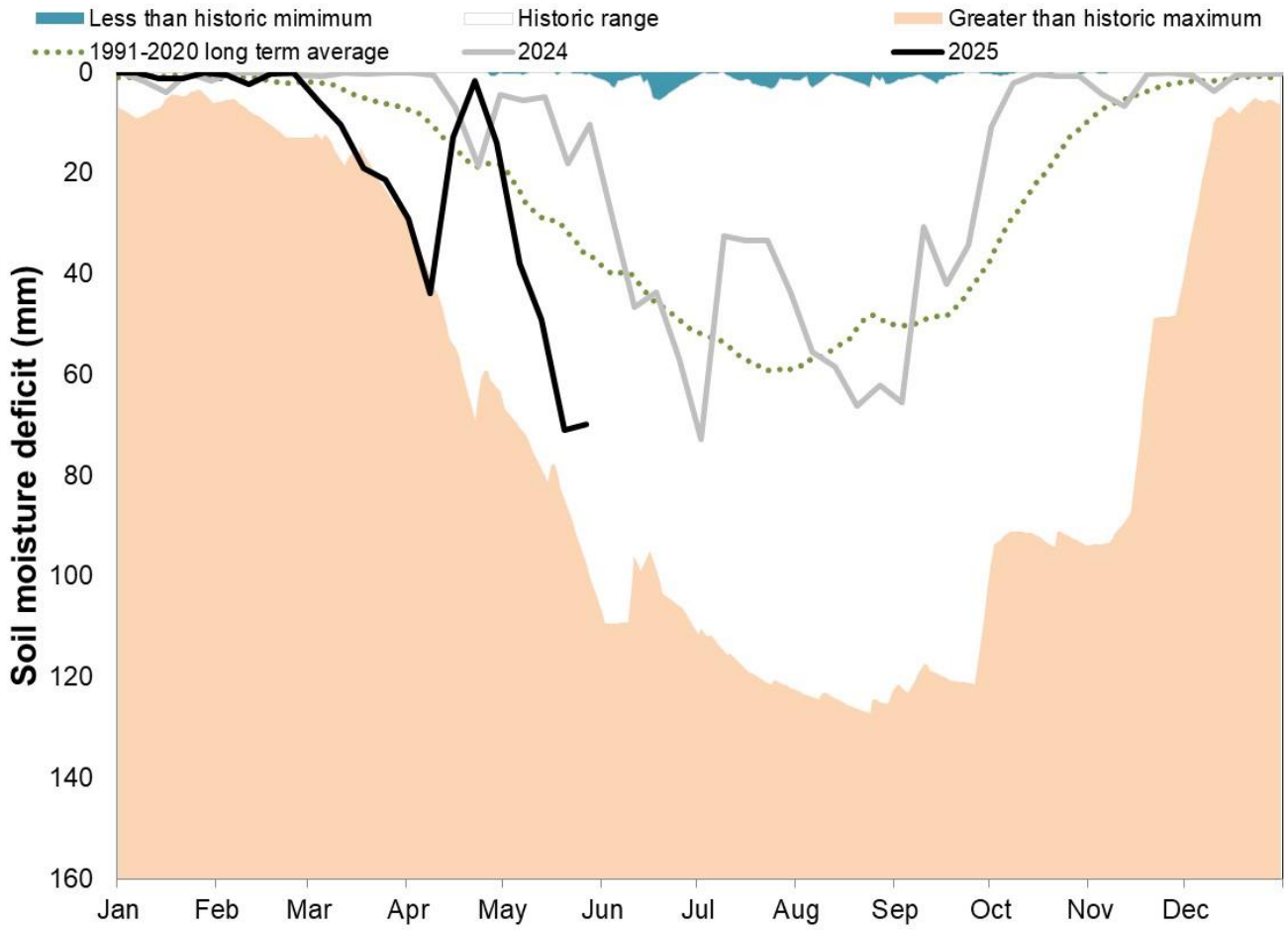
3.1 Soil moisture deficit map

Figure 3.1: Top map shows soil moisture deficit for week ending 31 May 2025. Bottom map shows the difference (mm) between the actual soil moisture deficit and the 1991 to 2020 long term average soil moisture deficits. MORECS data for real land use.



3.2 Soil moisture deficit charts

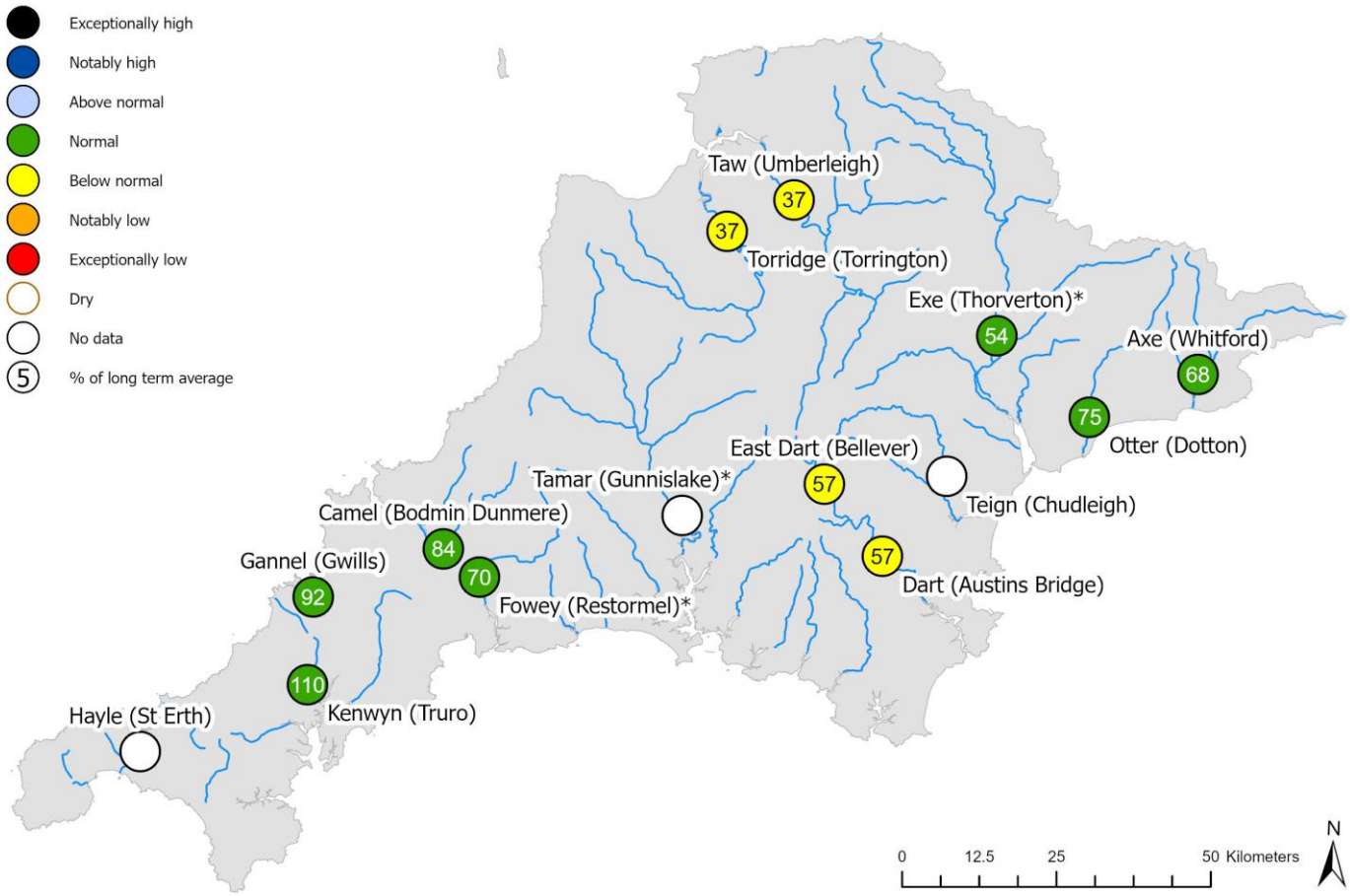
Figure 3.2: Latest soil moisture deficit compared to previous year, maximum, minimum, and 1991 to 2020 long term average. Weekly MORECS data for real land use.



4 River flows

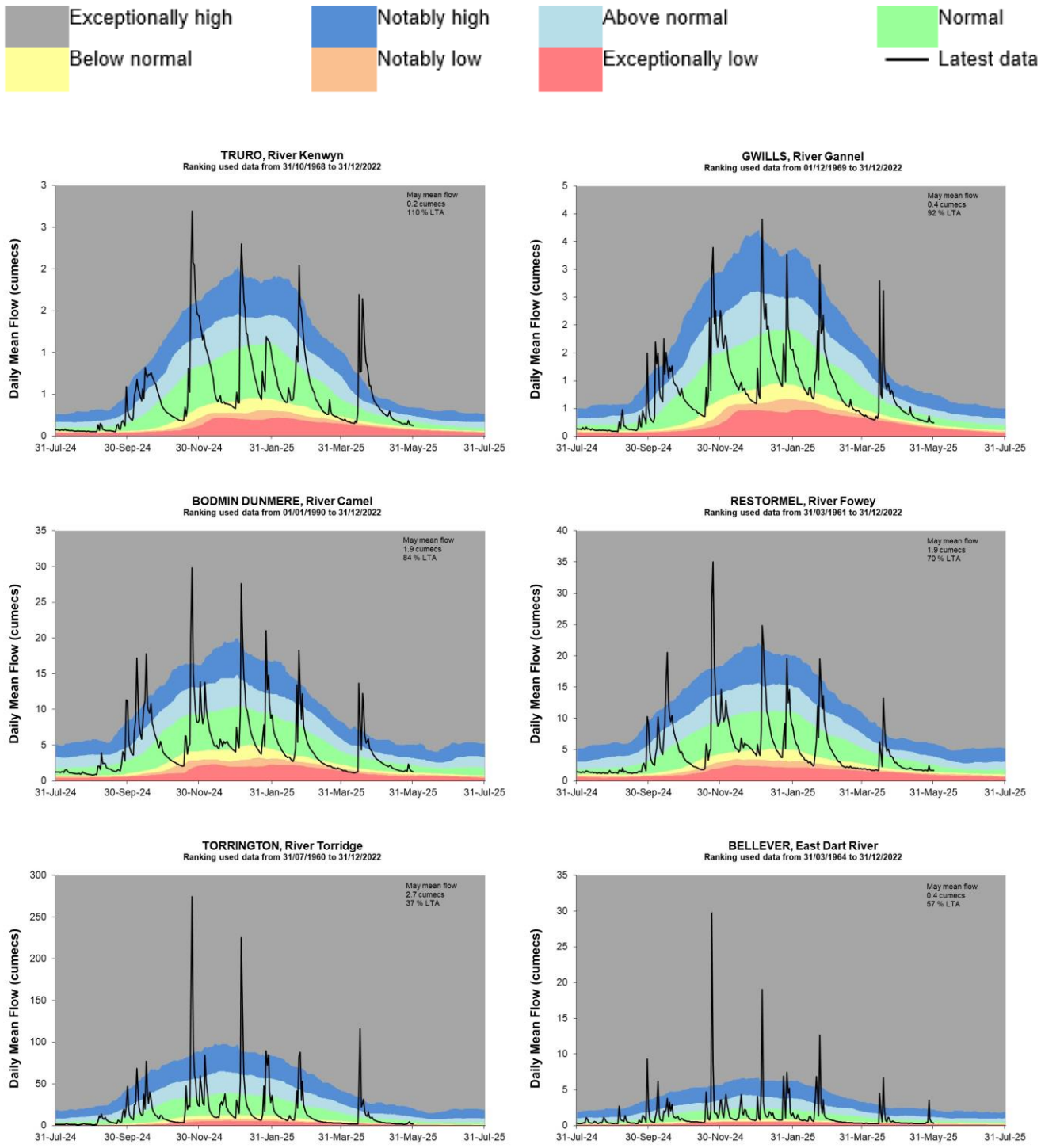
4.1 River flows map

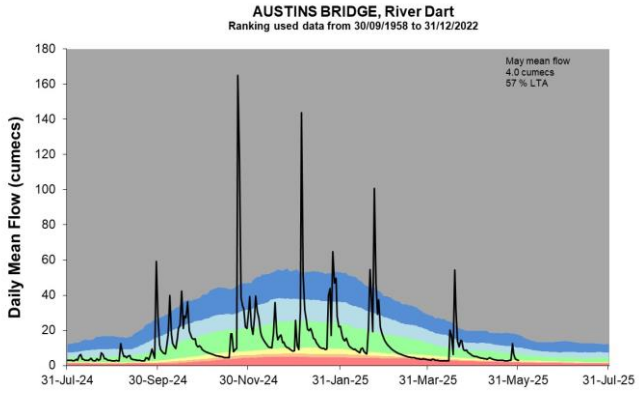
Figure 4.1: Monthly mean river flow for indicator sites for May 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic May monthly means. Table available in the appendices with detailed information.

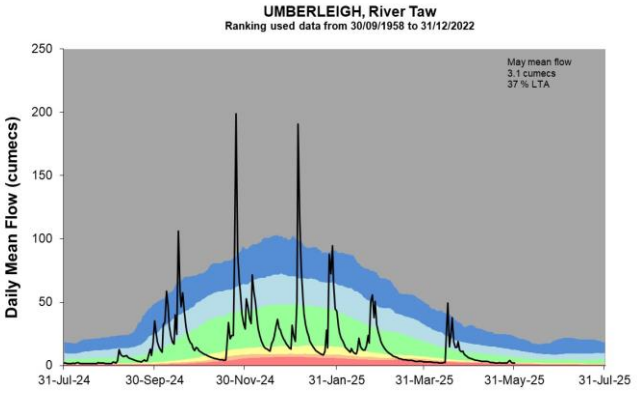


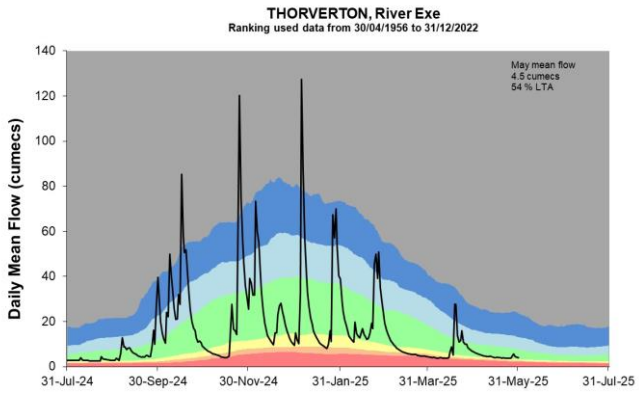
4.2 River flow charts

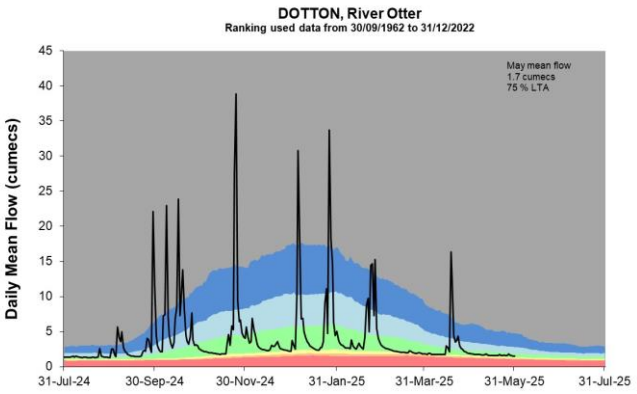
Figure 4.2: Daily mean river flow for indicator sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

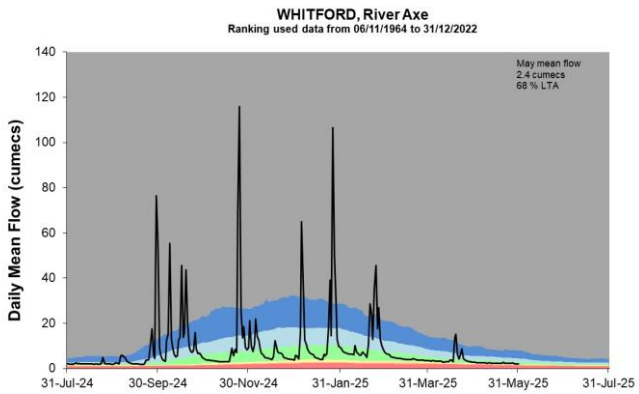










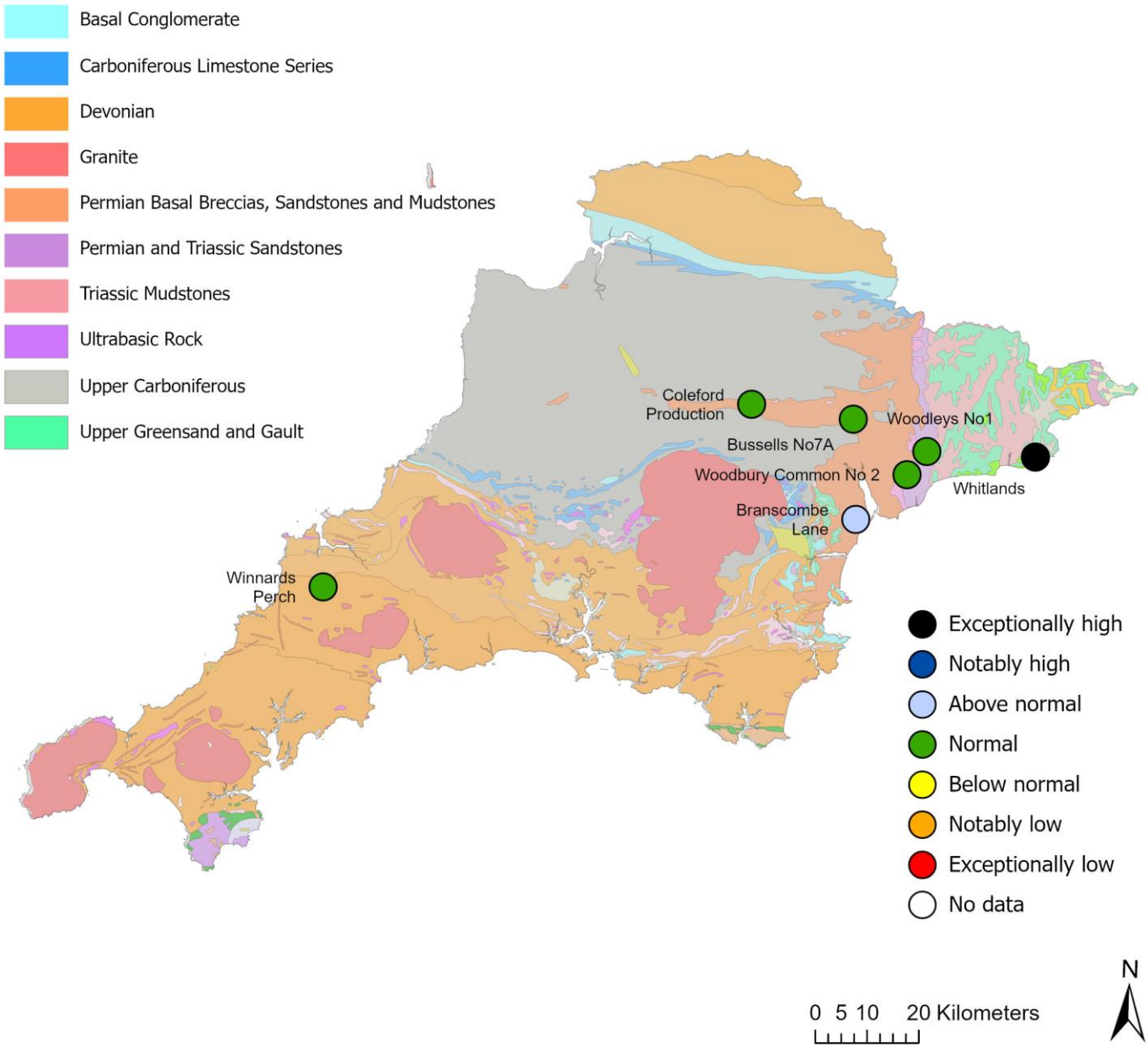


Source: Environment Agency.

5 Groundwater levels

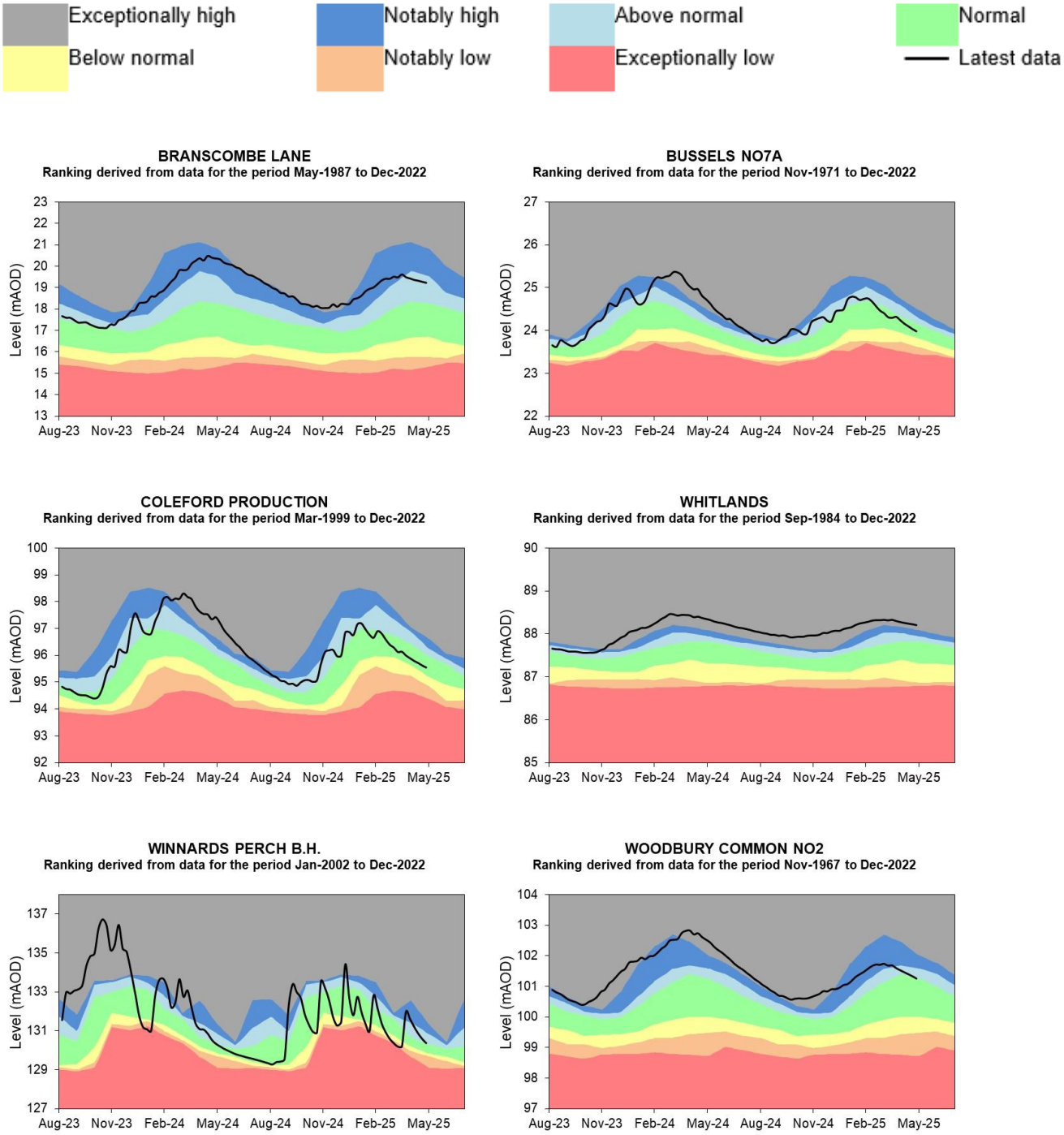
5.1 Groundwater levels map

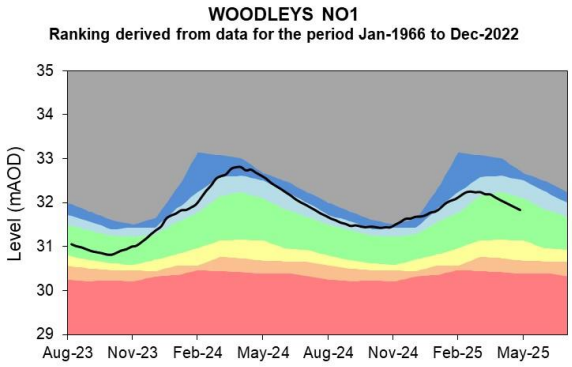
Figure 5.1: Groundwater levels for indicator sites at the end of May 2025, classed relative to an analysis of respective historic May levels. Table available in the appendices with detailed information.



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.

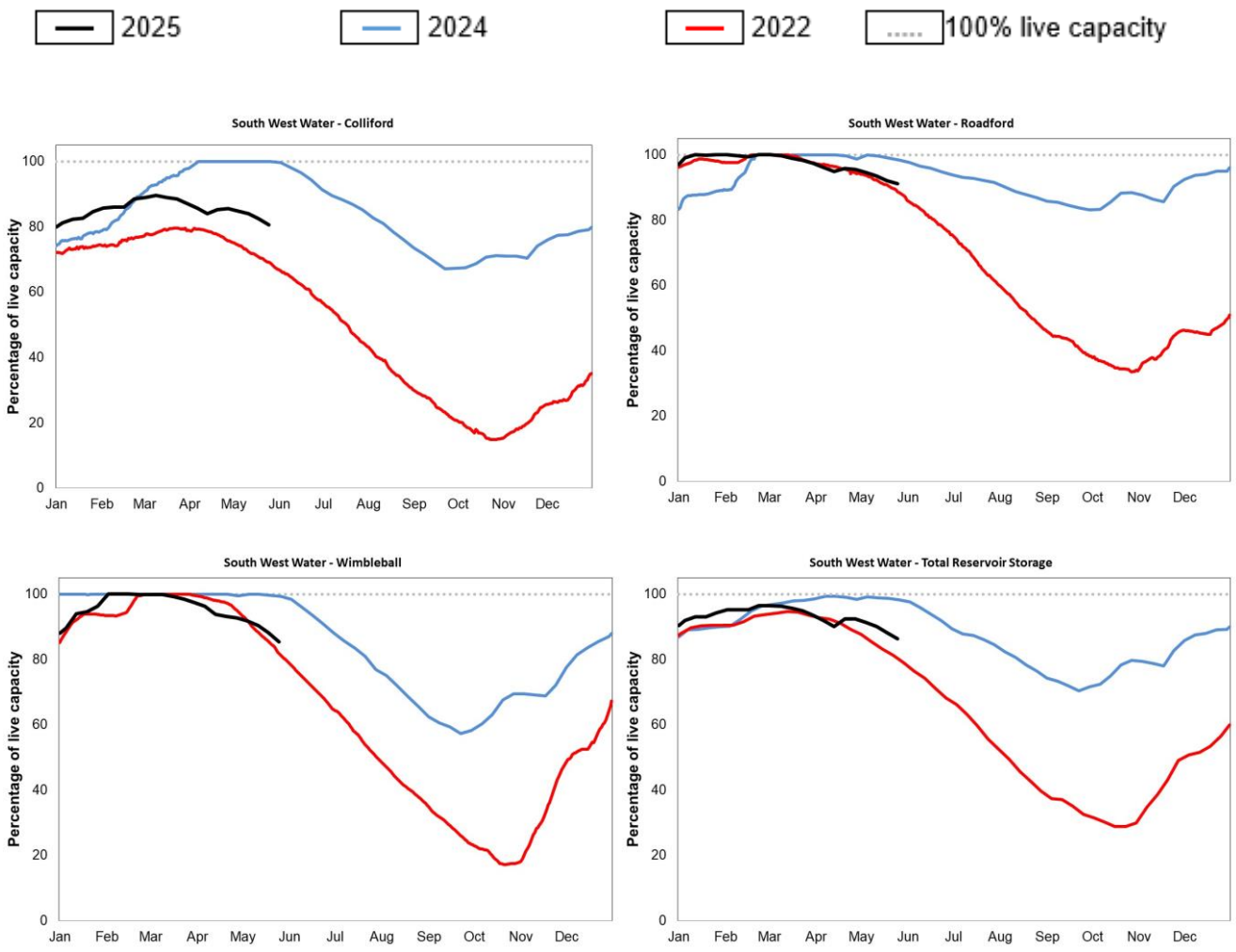




Source: Environment Agency, 2025.

6 Reservoir stocks

Figure 6.1: End of month reservoir storage compared to previous year and a historic drought year. Note: Historic records of individual reservoirs vary in length.



(Source: South West 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 2025 rainfall % of long term average 1991 to 2020	May 2025 band	Mar 2025 to May cumulative band	Dec 2024 to May cumulative band	Jun 2024 to May cumulative band
Avon Dart And Erme	64	Normal	Below normal	Normal	Normal
Exe	46	Below Normal	Notably low	Below normal	Normal
Fal And St Austell	59	Below Normal	Normal	Normal	Normal
North Cornwall	63	Below Normal	Normal	Normal	Normal
Otter Sid Axe And Lim	33	Notably Low	Notably low	Normal	Normal
Seaton Looe And Fowey	61	Normal	Below normal	Normal	Normal
Tamar	65	Below Normal	Below normal	Normal	Normal
Taw And North Devon Streams	53	Below Normal	Notably low	Below normal	Normal
Teign And Torbay	46	Below Normal	Below normal	Normal	Normal

Torridge And Hartland Streams	59	Below Normal	Below normal	Normal	Normal
West Cornwall	50	Below Normal	Normal	Normal	Normal

8.2 River flows table

Site name	River	Catchment	May 2025 band	Apr 2025 band
Austins Bridge	Dart	Dart	Below normal	Normal
Bellever	East Dart	Dart	Below normal	Normal
Bodmin Dunmere	Camel	Camel	Normal	Above normal
Chudleigh Bridge	Teign	Teign Upper	No data	Normal
Dotton	Otter	Otter	Normal	Normal
Gunnislake	Tamar	Tamar Lower	No data	Normal
Gwills	Gannel	Gannel	Normal	Above normal
Restormel	Fowey	Fowey	Normal	Normal
St Erth	Hayle	Hayle	No data	Normal
Thorverton	Exe	Exe Lower	Normal	Normal
Torrington	Torridge	Torridge Middle	Below normal	Normal
Truro	Kenwyn	Tresillian Trevella Kenwyn	Normal	Notably high
Umberleigh	Taw	Taw Middle	Below normal	Normal
Whitford	Axe	Axe Devon Middle	Normal	Normal

8.3 Groundwater table

Site name	Aquifer	End of May 2025 band	End of Apr 2025 band
Branscombe Lane	Dawlish Sandstone	Above normal	Above normal
Bussels No7a	Dawlish Sandstone	Normal	Normal
Coleford Production	Permian Breccias And Sandstones	Normal	Normal
Whitlands	Upper Greensand	Exceptionally high	Exceptionally high
Winnards Perch B.h.	Staddon Formation	Normal	Notably high
Woodbury Common No2	Budleigh Salterton Pebble Beds	Normal	Above normal
Woodleys No1	Otterton Sandstone Formation	Normal	Normal