Monthly water situation report: Devon and Cornwall Area

1 Summary - March 2025

Devon and Cornwall received 14% of the March long term average (LTA) rainfall, which is exceptionally low for the time of year. Soil moisture deficit increased overall in March, ending the month higher (drier) than the LTA for the time of year. Monthly mean river flows were exceptionally low to normal for the time of year across the area. Groundwater levels were below normal to exceptionally high for the time of year. Total reservoir storage across Devon and Cornwall ended the month at 94%, with Wimbleball, Colliford and Roadford at 97%, 87% and 97% respectively at the end of March.

1.1 Rainfall

Devon and Cornwall received 14mm of rain during March (14% of the March LTA), which is classed as exceptionally low for the time of year. It was the 6th driest March on record in Devon and Cornwall and the driest March on record for the Teign and Torbay hydrological area, in a record starting 1871. Many other areas recorded a significantly dry March, including the Exe, Taw and North Devon Streams, Torridge and Hartland Streams and the Avon Dart and Erme hydrological areas recording the 2nd driest March for those areas in a record starting 1871.

Rainfall was slightly higher in the west of the area, with West Cornwall and the Fal and St Austell hydrological areas recording below normal and notably low rainfall for the time of year respectively. Cumulative rainfall was normal across all hydrological areas in the last 3 and 6 months. In the last 12 months, cumulative rainfall ranged from normal to above normal across the area.

1.2 Soil moisture deficit

SMD increased overall in March in response to the dry weather. The average deficit for Devon and Cornwall was between 11 and 40mm at the end of March across the whole area. The SMD at the end of March was higher (drier) than the SMD at the end of March 2024 and significantly higher (drier) than the LTA, close to the historic maximum for the time of year.

1.3 River flows

March monthly mean river flows ranged from exceptionally low to normal across the area.

Daily mean river flows decreased at all sites during the month of March in response to the lack of rainfall. On 31 March, all reporting sites recorded exceptionally low to below normal daily

mean flows, except for Whitford on the River Axe, which recorded normal daily mean flows for the time of year.

Due to data accuracy concerns, Chudleigh Bridge on the River Teign has been excluded from the March report.

1.4 Groundwater levels

On 31 March, groundwater levels were classed as follows:

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

1.5 Reservoir stocks

Total reservoir storage was 94% at the end of March, which was a decrease in storage of 2% since the end of February. This is less than the total storage at the same time last year and similar to the total storage at the time in 2022. At the end of the month, storage at Wimbleball, Colliford and Roadford was 97%, 87% and 97% respectively, compared to 100%, 98% and 100% this time last year.

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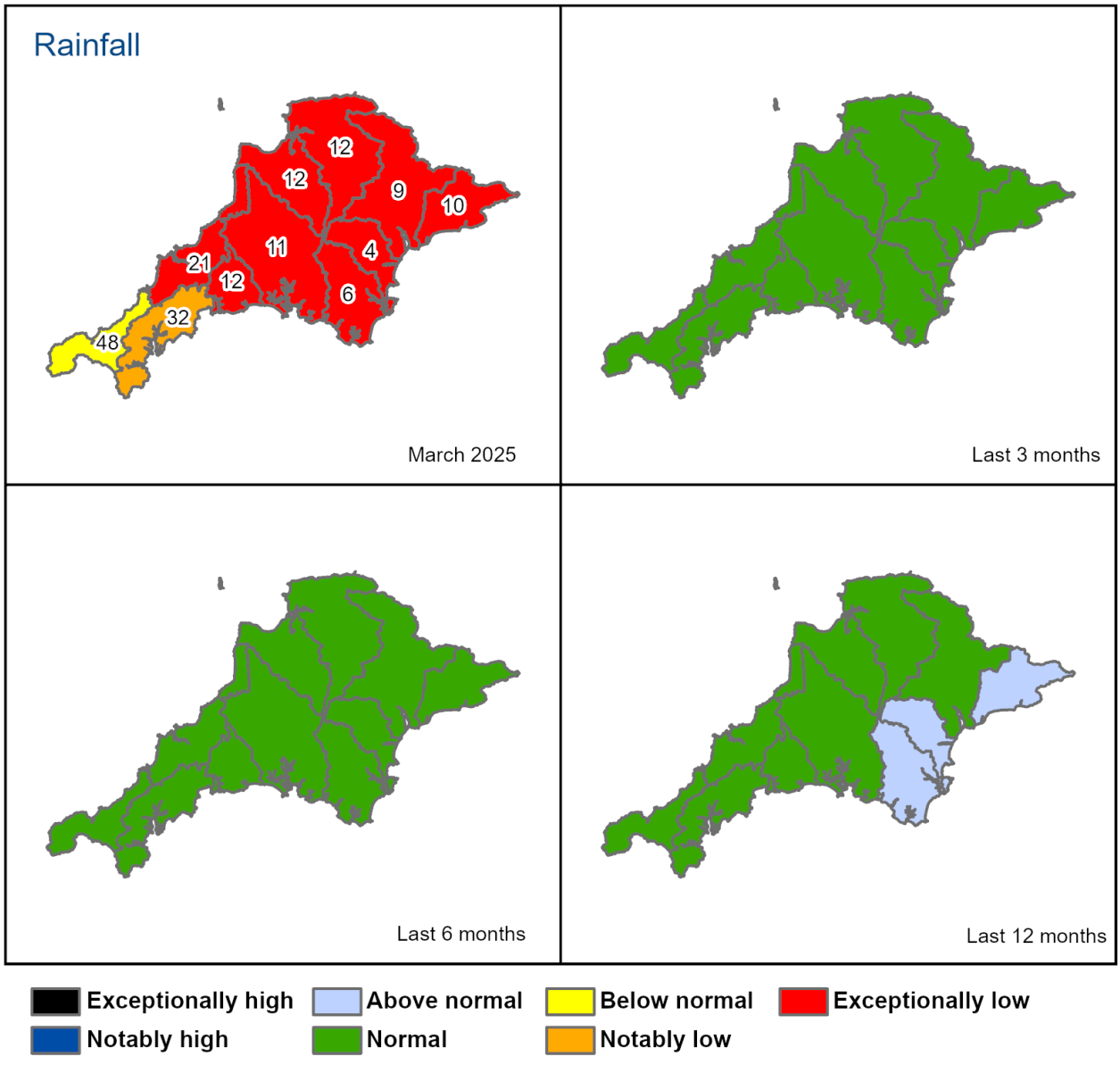
2 Rainfall

2.1 Rainfall map

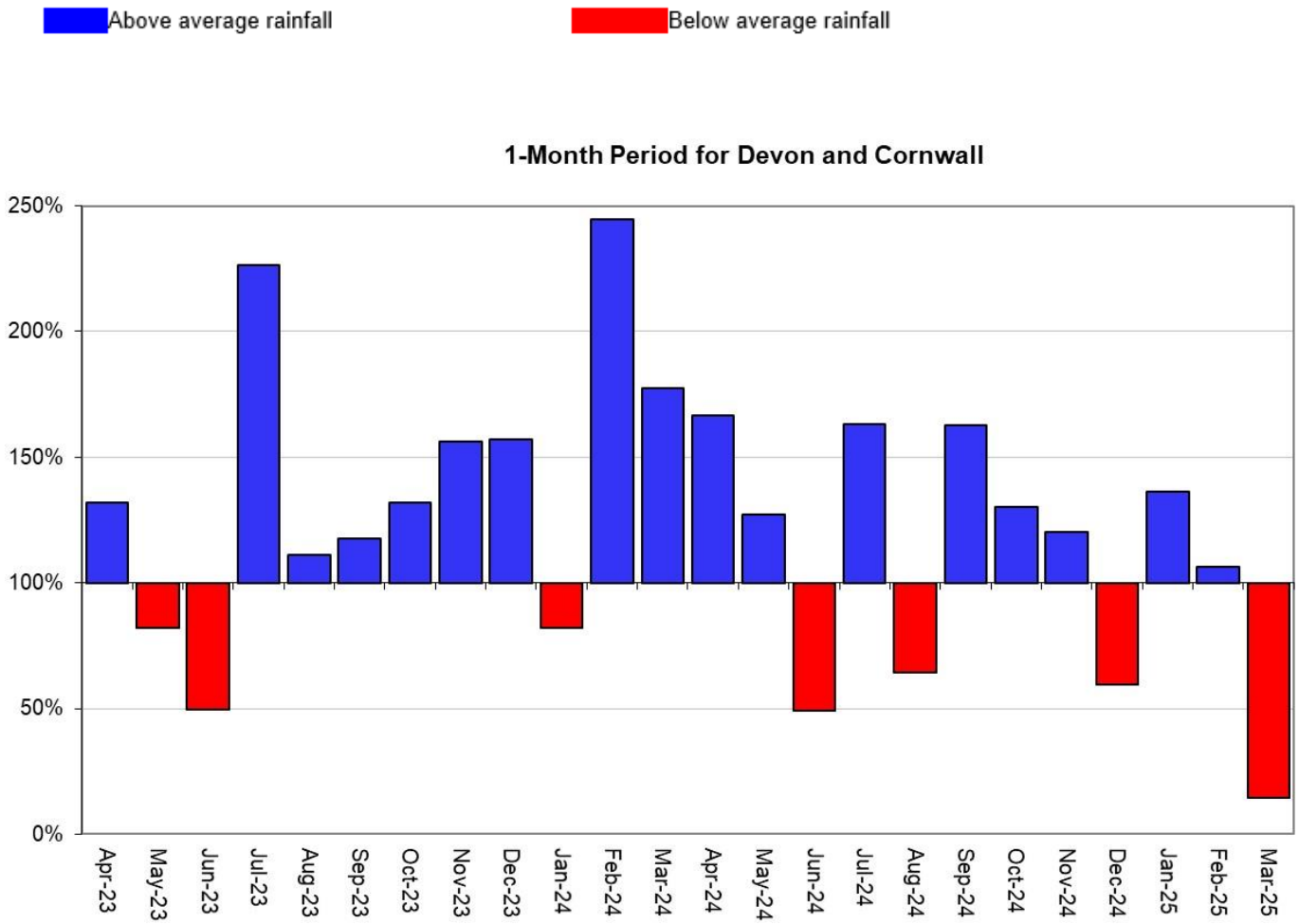
Figure 2.1: Total rainfall for hydrological areas for the current month (up to 31 March 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.



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 1961 to 1990 long term average for Devon and Cornwall area.

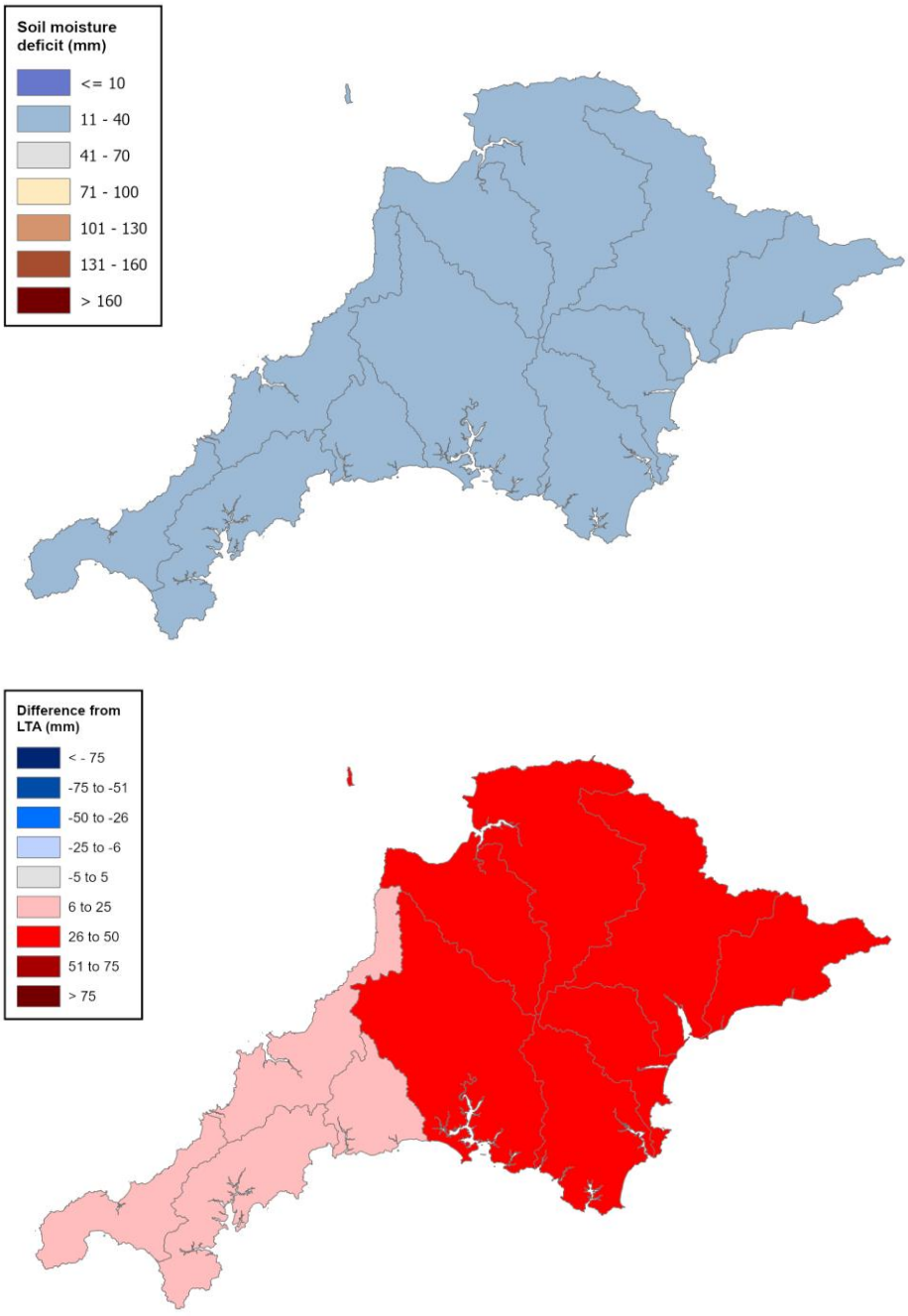


Rainfall data for 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to 2023, extracted from Met Office HadUK 1km gridded rainfall dataset derived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

3 Soil moisture deficit

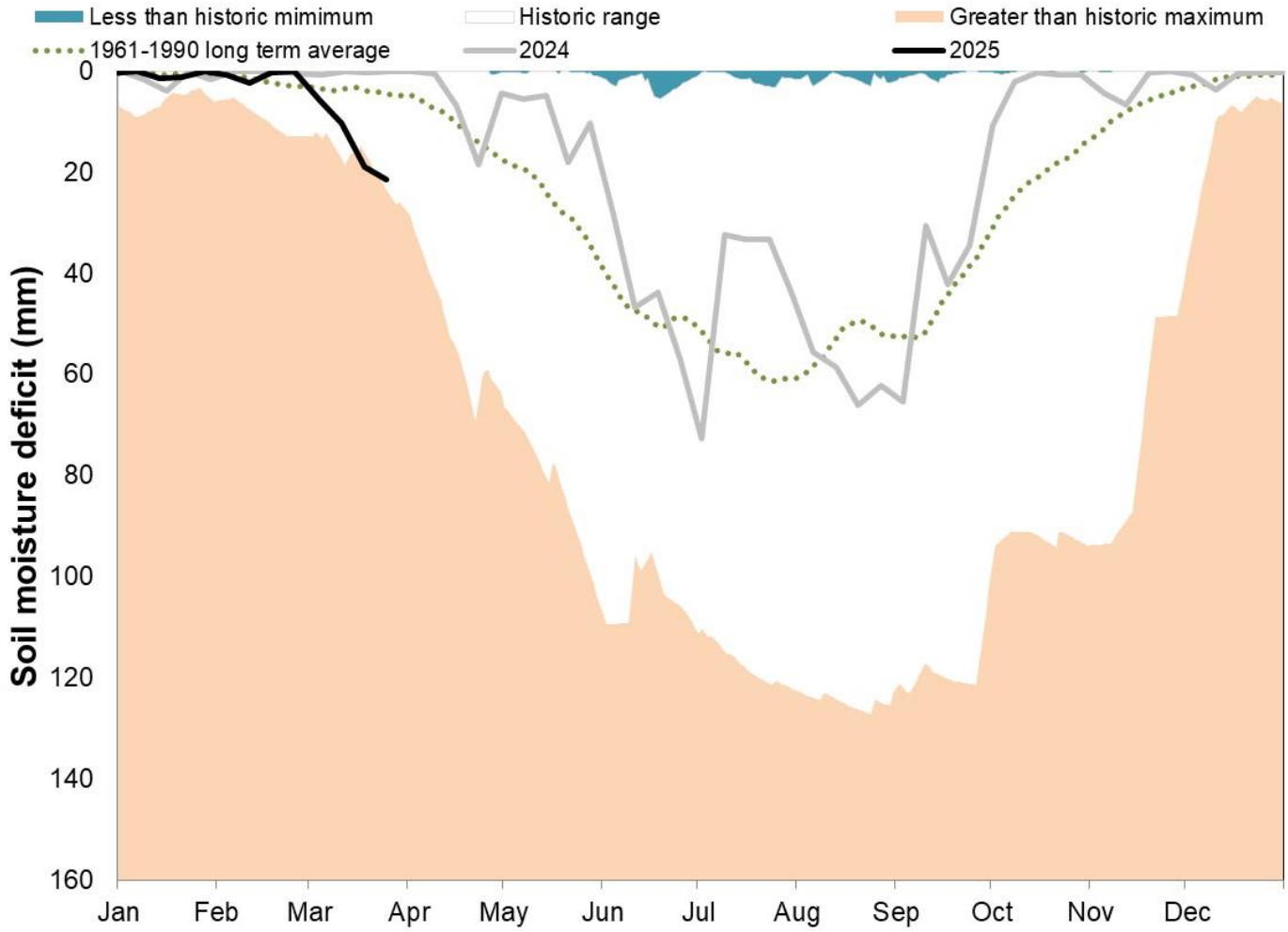
3.1 Soil moisture deficit map

Figure 3.1: Top map shows soil moisture deficit for week ending 31 March 2025. Bottom map shows the difference (mm) between the actual soil moisture deficit and the 1961 to 1990 long term average soil moisture deficits. MORECS data for real land use.



3.2 Soil moisture deficit charts

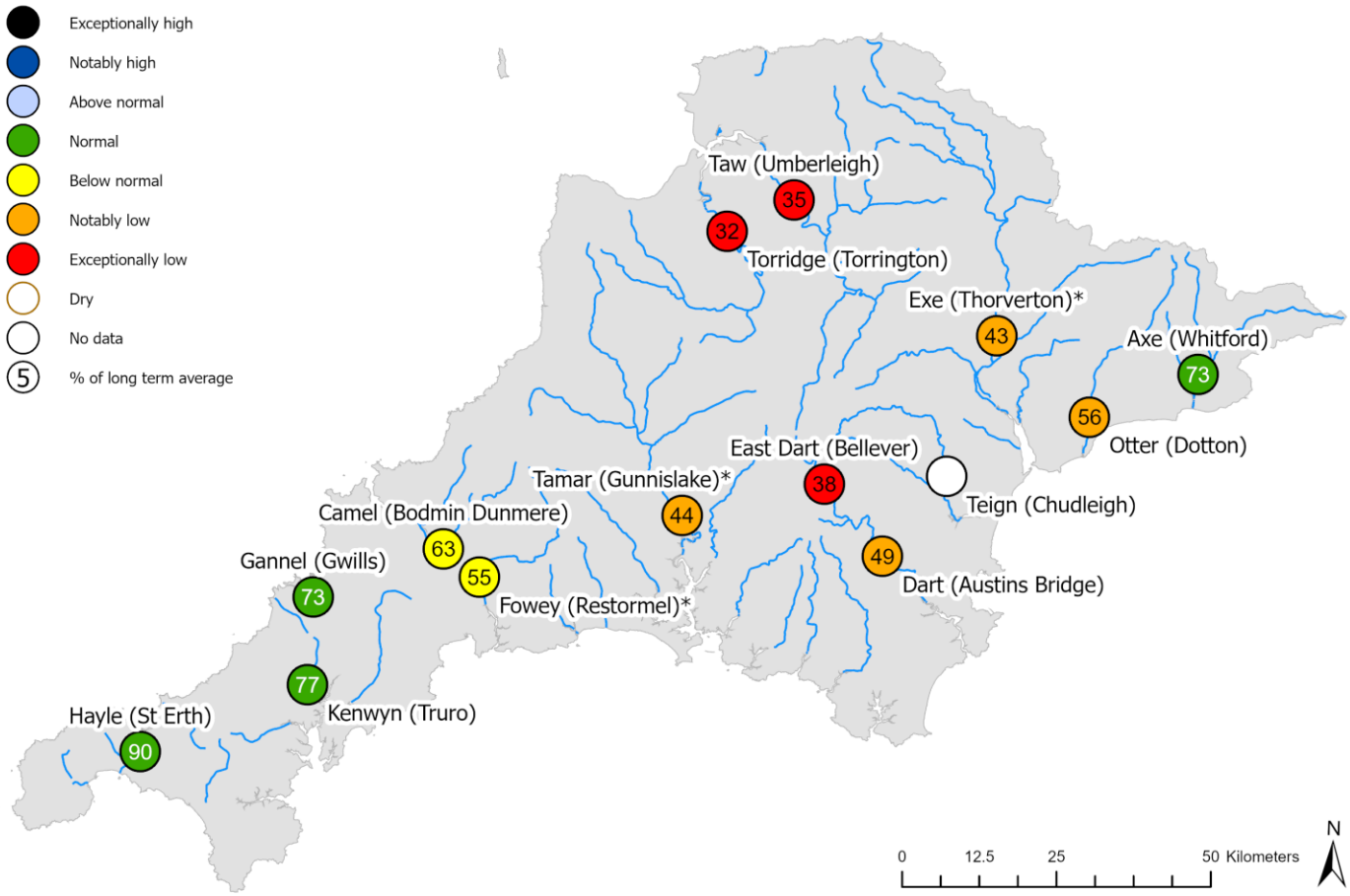
Figure 3.2: Latest soil moisture deficit compared to previous year, maximum, minimum, and 1961 to 1990 long term average. Weekly MORECS data for real land use.



4 River flows

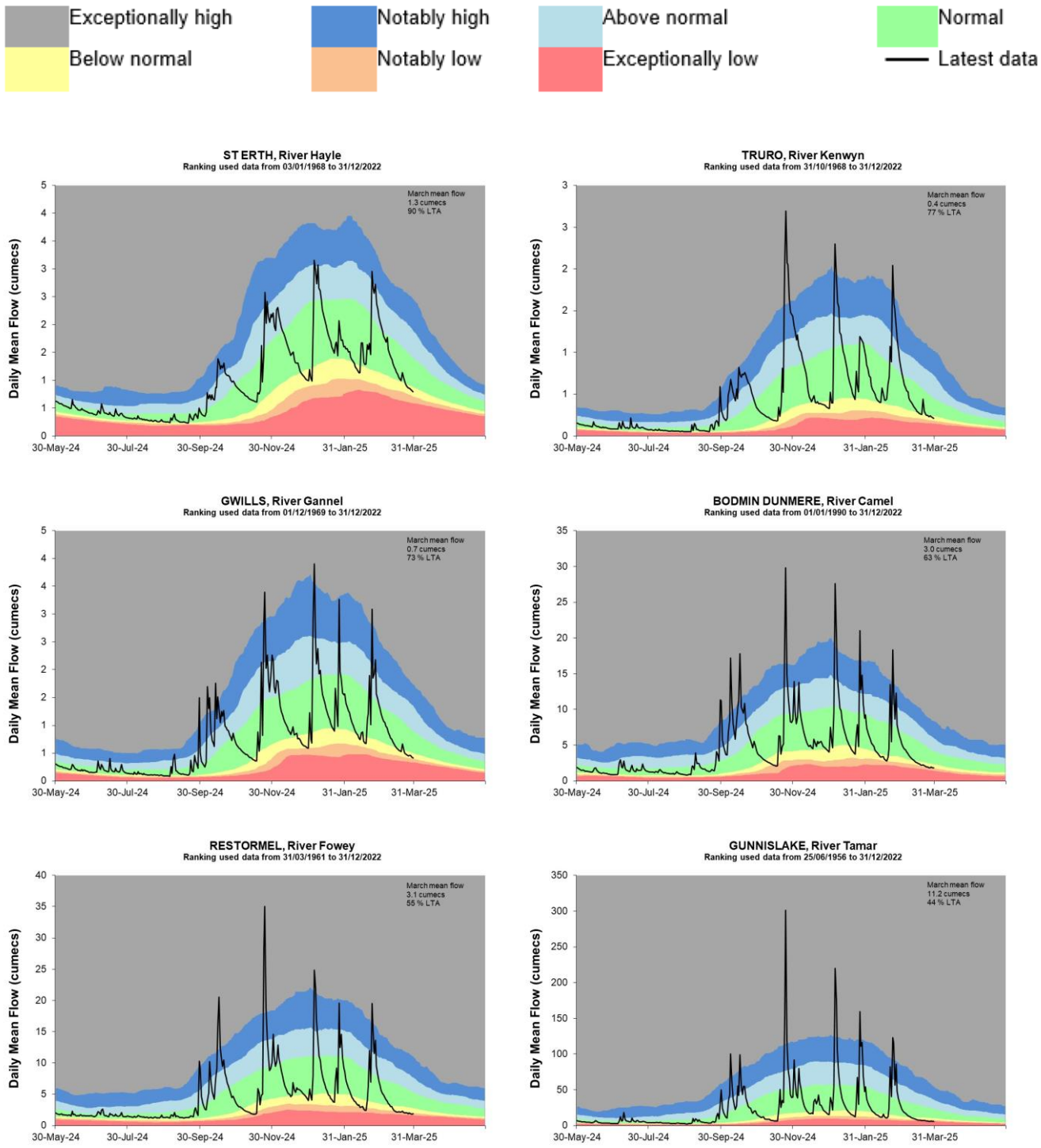
4.1 River flows map

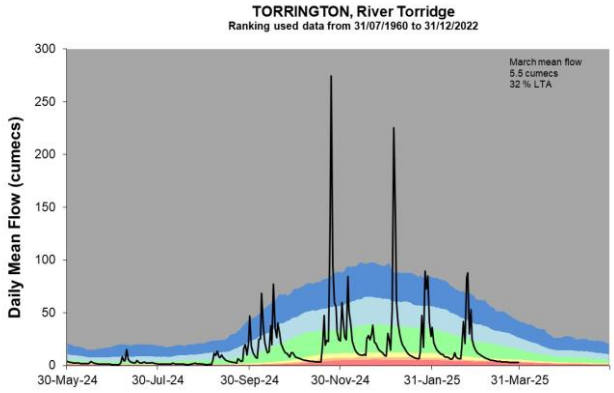
Figure 4.1: Monthly mean river flow for indicator sites for March 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic March monthly means. Table available in the appendices with detailed information.

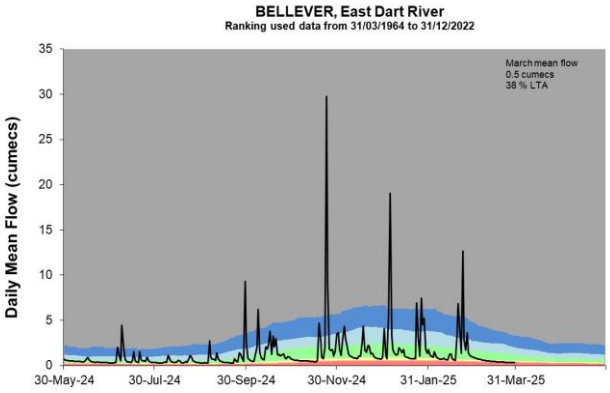


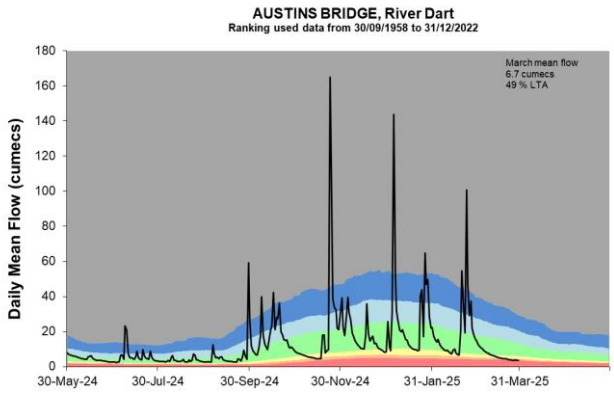
4.2 River flow charts

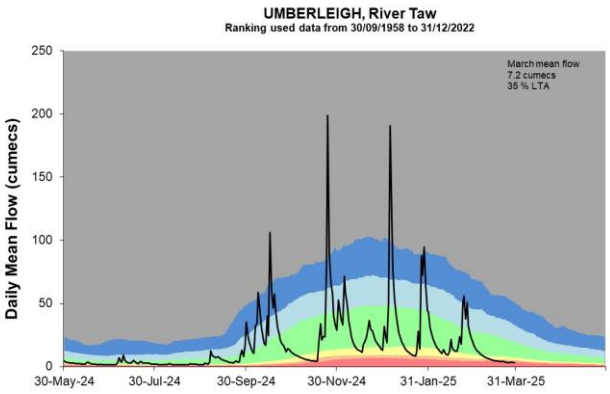
Figure 4.2: Daily mean river flow for indicator sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

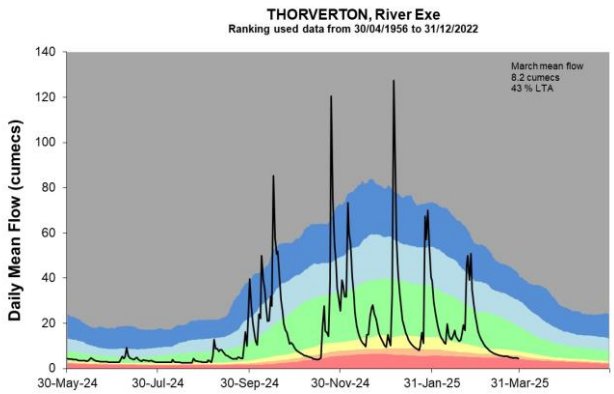


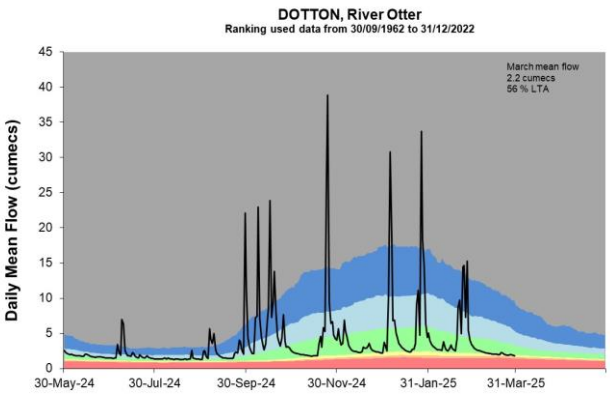


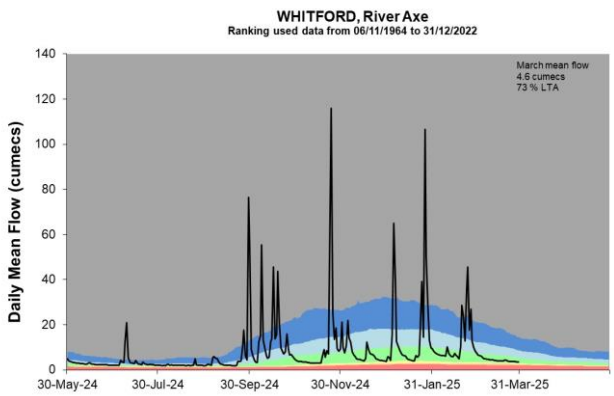










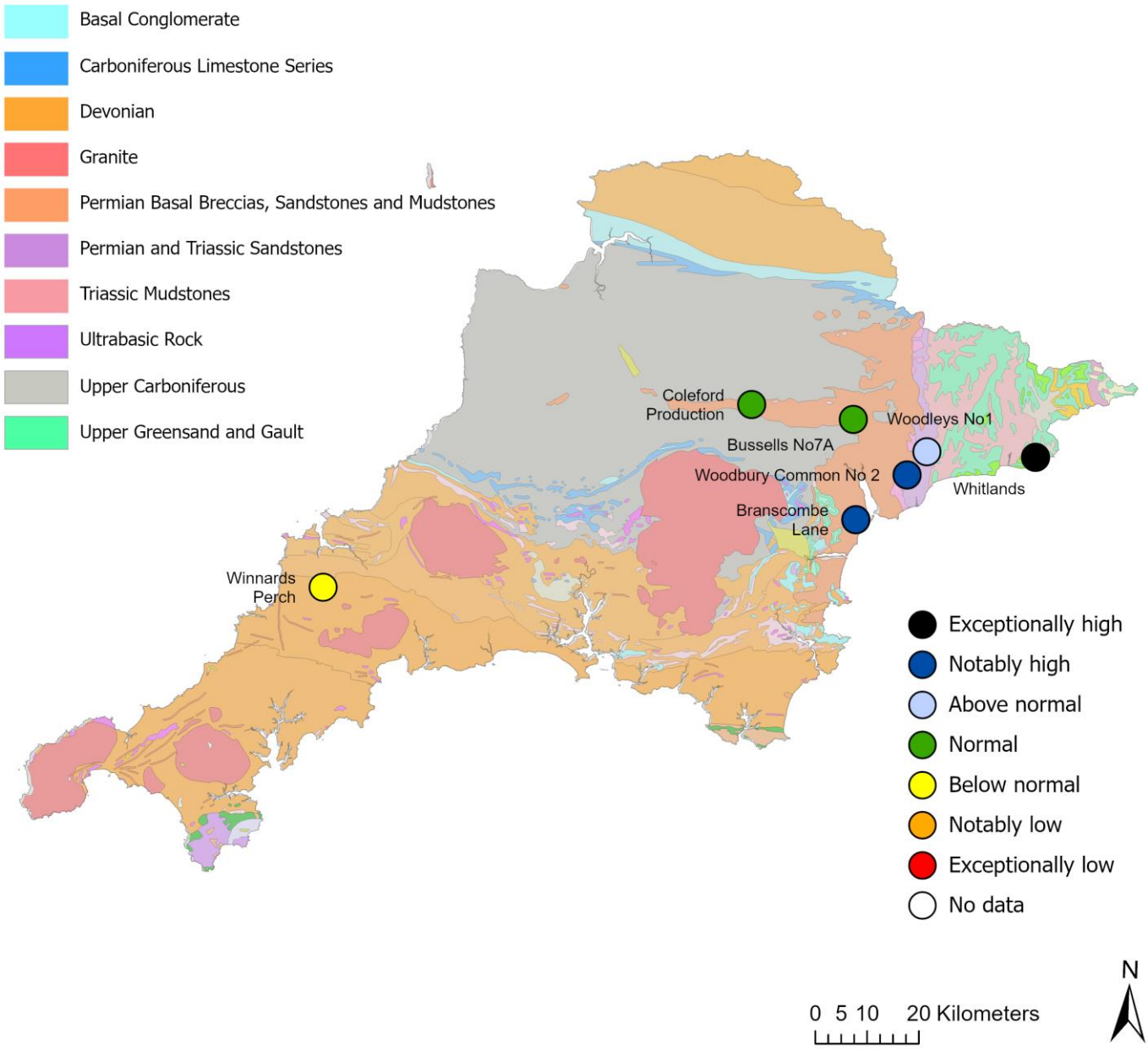


Source: Environment Agency.

5 Groundwater levels

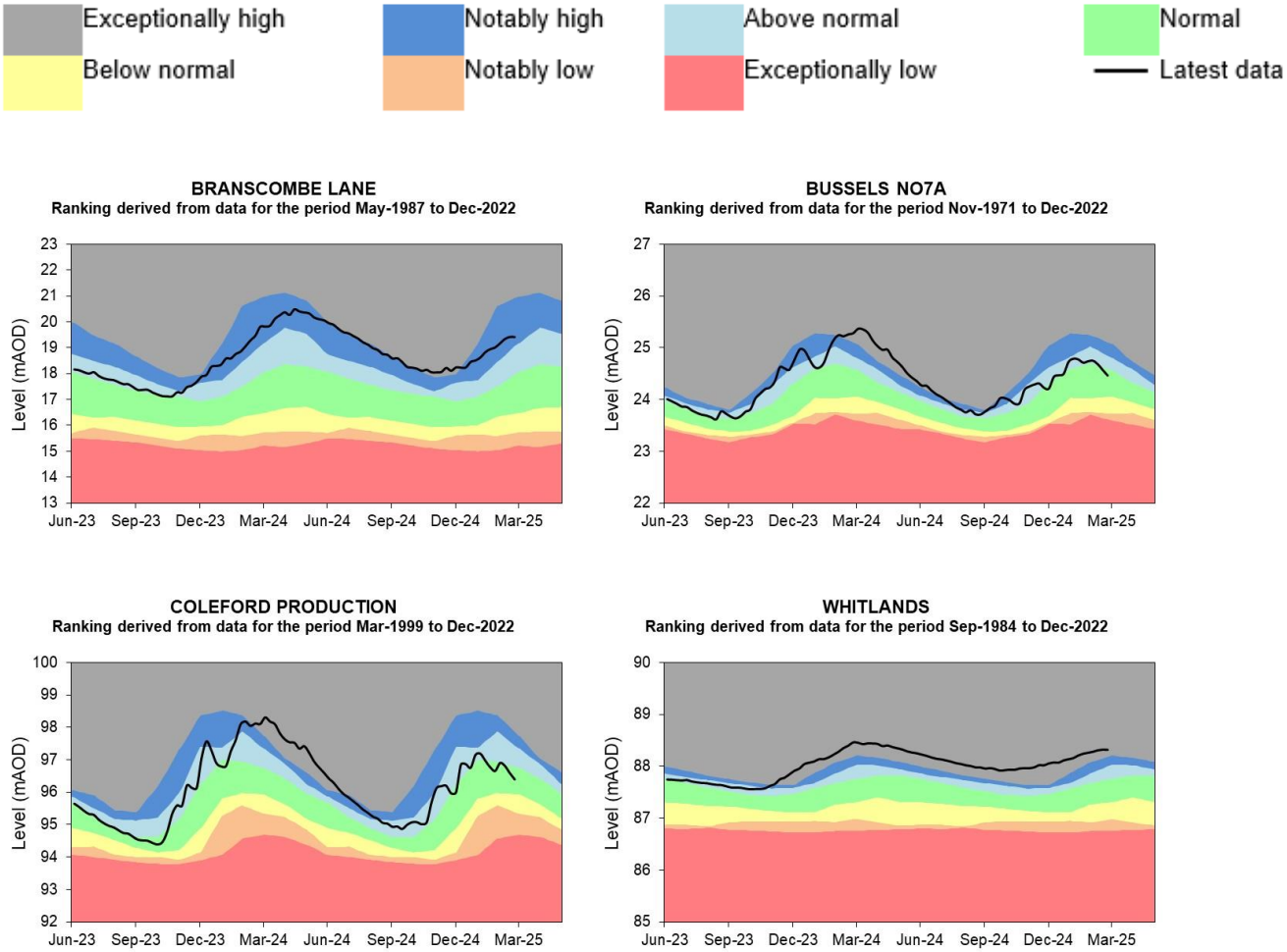
5.1 Groundwater levels map

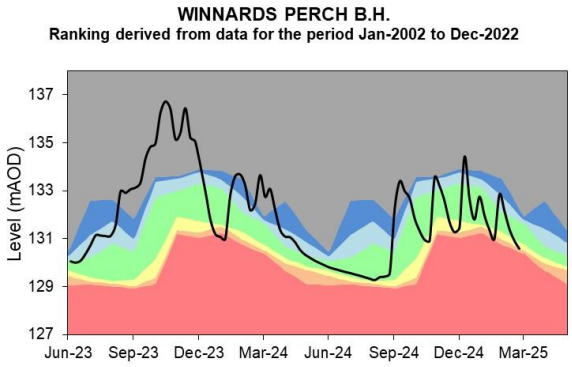
Figure 5.1: Groundwater levels for indicator sites at the end of March 2025, classed relative to an analysis of respective historic March levels. Table available in the appendices with detailed information.

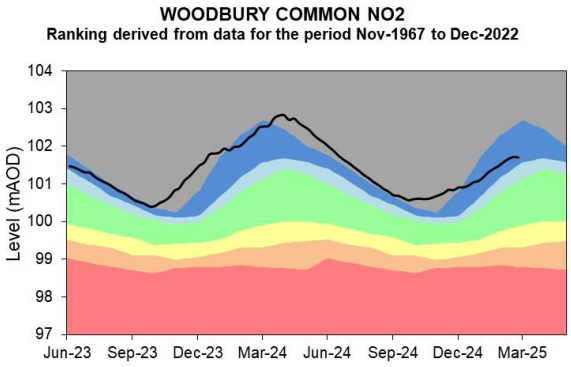


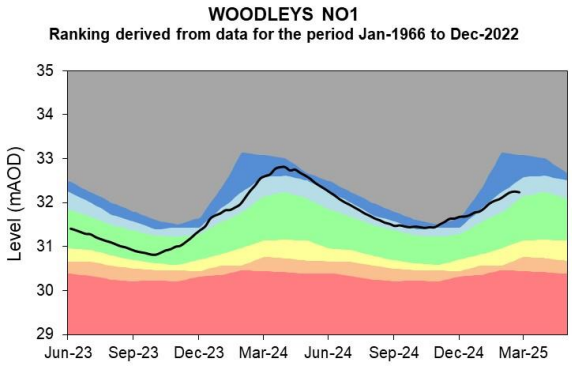
5.2 Groundwater level charts

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.





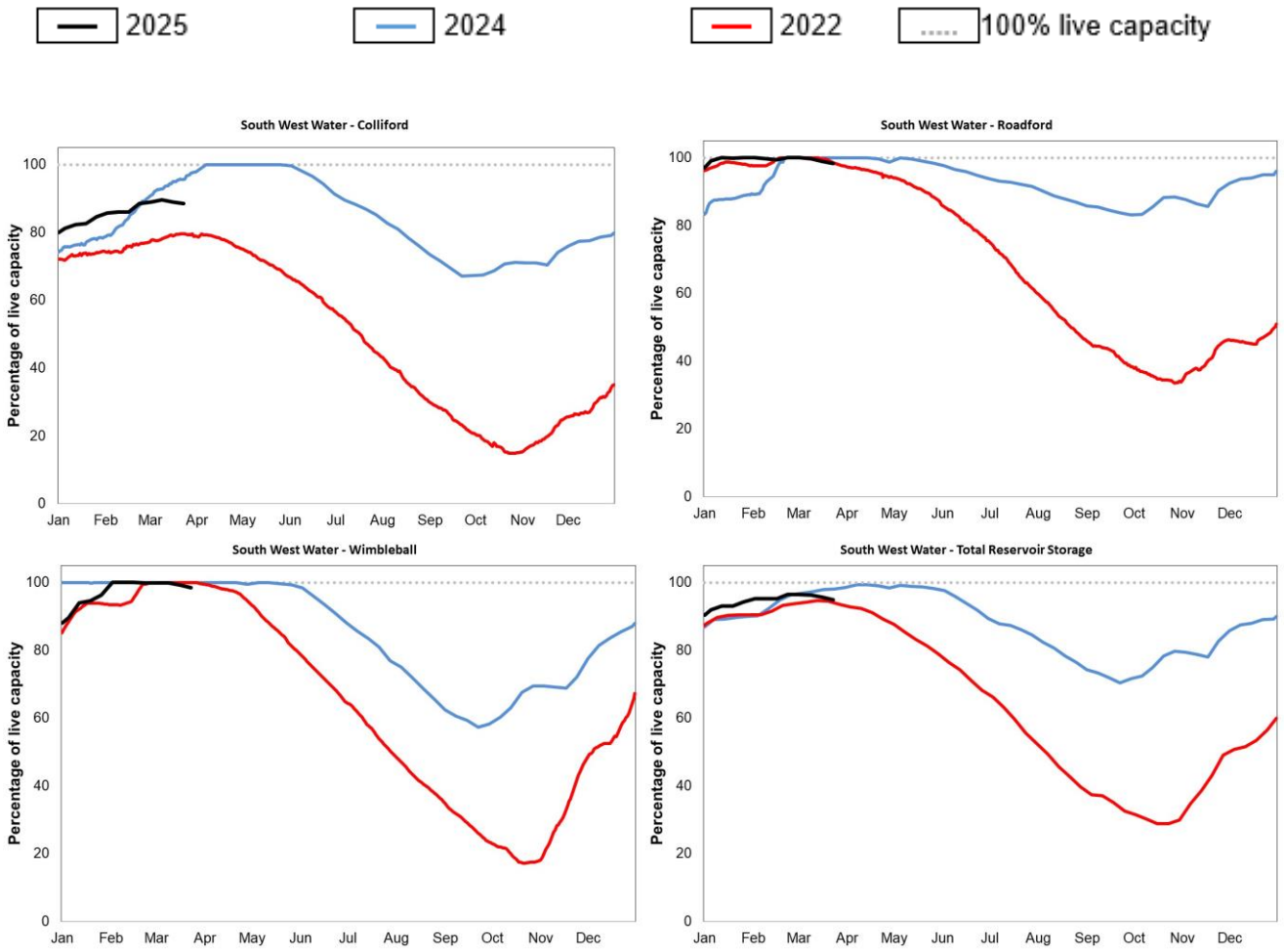




Source: Environment Agency, 2025.

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 1961 to 1990. 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	Mar 2025 rainfall % of long term average 1961 to 1990	Mar 2025 band	Jan 2025 to March cumulative band	Oct 2024 to March cumulative band	Apr 2024 to March cumulative band
Avon Dart And Erme	6	Exceptionally Low	Normal	Normal	Above normal
Exe	9	Exceptionally Low	Normal	Normal	Normal
Fal And St Austell	32	Notably Low	Normal	Normal	Normal
North Cornwall	21	Exceptionally Low	Normal	Normal	Normal
Otter Sid Axe And Lim	10	Exceptionally Low	Normal	Normal	Above normal
Seaton Looe And Fowey	12	Exceptionally Low	Normal	Normal	Normal
Tamar	11	Exceptionally Low	Normal	Normal	Normal
Taw And North Devon Streams	12	Exceptionally Low	Normal	Normal	Normal
Teign And Torbay	4	Exceptionally Low	Normal	Normal	Above normal

Torridge And Hartland Streams	12	Exceptionally Low	Normal	Normal	Normal
West Cornwall	48	Below Normal	Normal	Normal	Normal

8.2 River flows table

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

Whitford	Axe	Axe Devon Middle	Normal	Above normal

8.3 Groundwater table

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