

Monthly water situation report: Devon and Cornwall Area

1 Summary - January 2025

Devon and Cornwall received 136% of the January long term average (LTA) rainfall, which was above normal for the time of year. Soil moisture deficit (SMD) increased slightly during the middle of January before decreasing again in the second half of the month, ending the month similar to the LTA for the time of year. Monthly mean river flows recorded normal to above 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 94% net storage, with Wimbleball, Colliford and Roadford reservoirs at 96%, 85%, and 100% of net storage respectively at the end of January.

1.1 Rainfall

Devon and Cornwall received 189mm of rain during January (136% of the January LTA), which is classed as above normal for the time of year. Rain fell throughout the month, but the most significant periods of rain occurred between 4 to 12 January and 21 to 30 January. January was the 3rd month since the start of the water year in October to have experienced above average rainfall.

In January, rainfall was above normal or notably high in all hydrological areas. Cumulative rainfall in the last 3 and 6 months has been normal for the time of year across most areas. In the last 12 months, all hydrological areas recorded exceptionally high cumulative rainfall, except for the Taw and North Devon Streams hydrological area, where cumulative rainfall was notably high for the time of year.

1.2 Soil moisture deficit

SMD increased in the first part of January, before decreasing again in the second half of the month. The average deficit for Devon and Cornwall remained below 10mm for the whole of January, meaning the average deficit was similar to the LTA for the time of year. The SMD at the end of January was similar to the SMD at the end of January 2024.

SMD was less than 10mm across the whole Devon and Cornwall area on 28 January, which is close to the LTA.

1.3 River flows

January monthly mean river flows were normal for the time of year at all sites across the area for the time of year, except for Whitford on the River Axe, which recorded above normal monthly mean river flows for the time of year. Most reporting stations experienced a decrease in daily mean flows over the month with some peaks in response to rainfall. On 31 January, all reporting sites recorded normal to above normal daily mean flows for the time of year.

1.4 Groundwater levels

On 31 January, 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 Bussels No7A (monitoring the Dawlish Sandstone), Coleford Production (monitoring the Permian Breccias and Sandstones) and Woodleys No1 (monitoring the Otterton Sandstone Formation).
- Normal at Winnards Perch (monitoring the Staddon Formation).

1.5 Reservoir stocks

Total reservoir storage was 94% at the end of January, which is an increase of 5% in storage since the end of December. This is higher than the total storage at the same time last year and in 2022. At the end of the month, storage at Wimbleball, Colliford and Roadford was 96%, 85% and 100% of net storage respectively, compared to 100%, 78% and 89% this time last year.

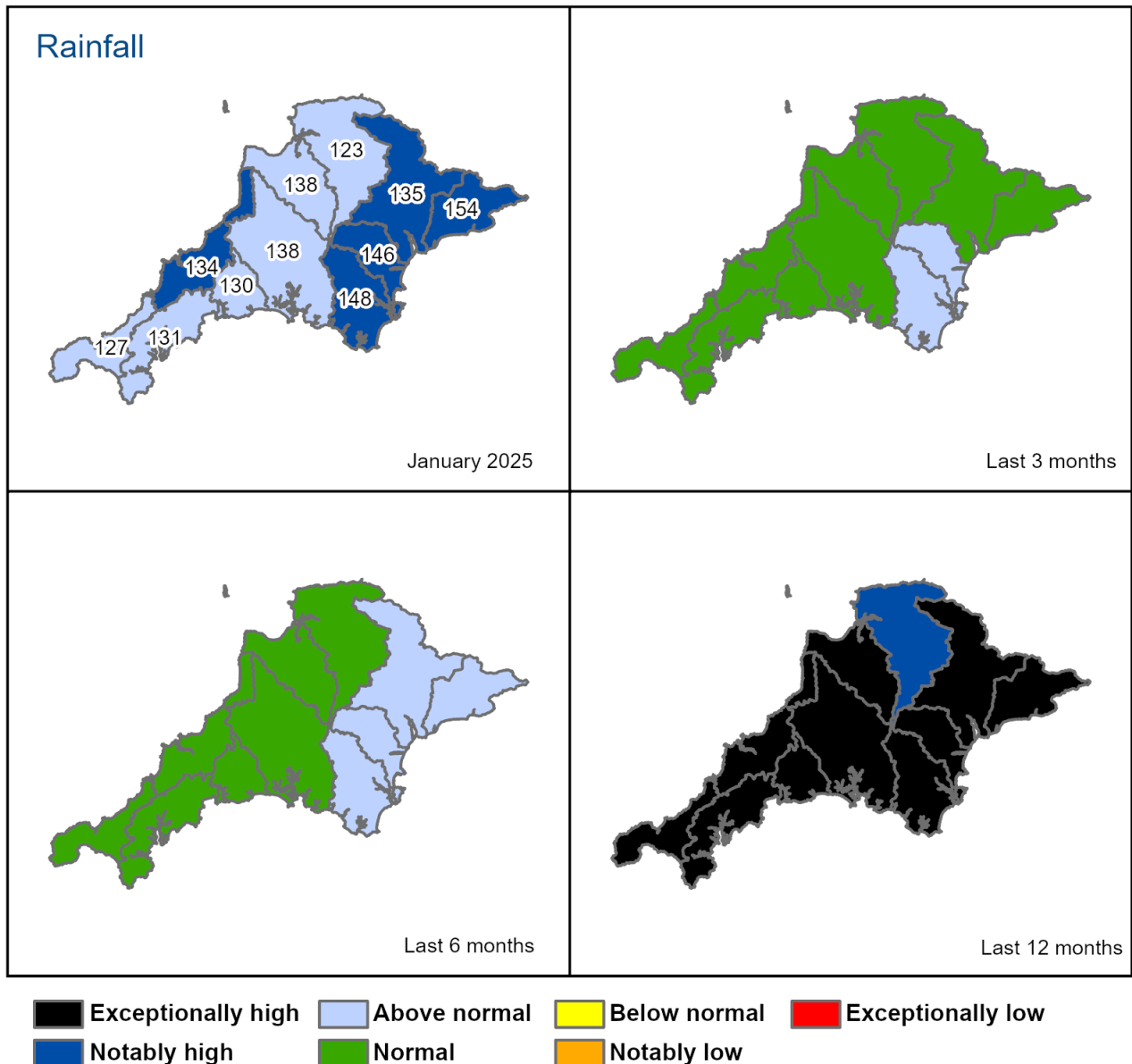
Author: Environment Agency, hydrology.dandc@environment-agency.gov.uk

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2 Rainfall

2.1 Rainfall map

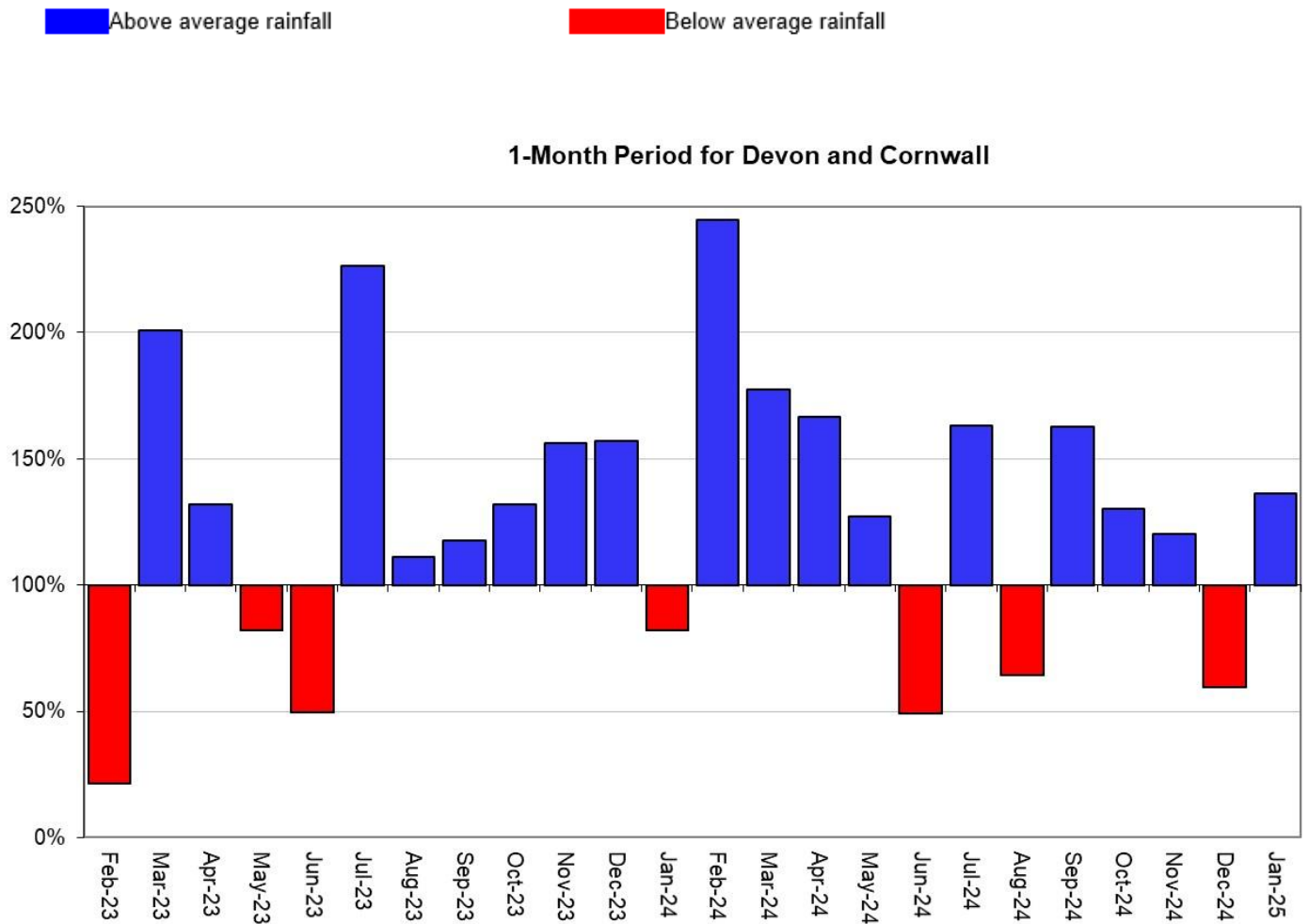
Figure 2.1: Total rainfall for hydrological areas for the current month (up to 31 January 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.



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.

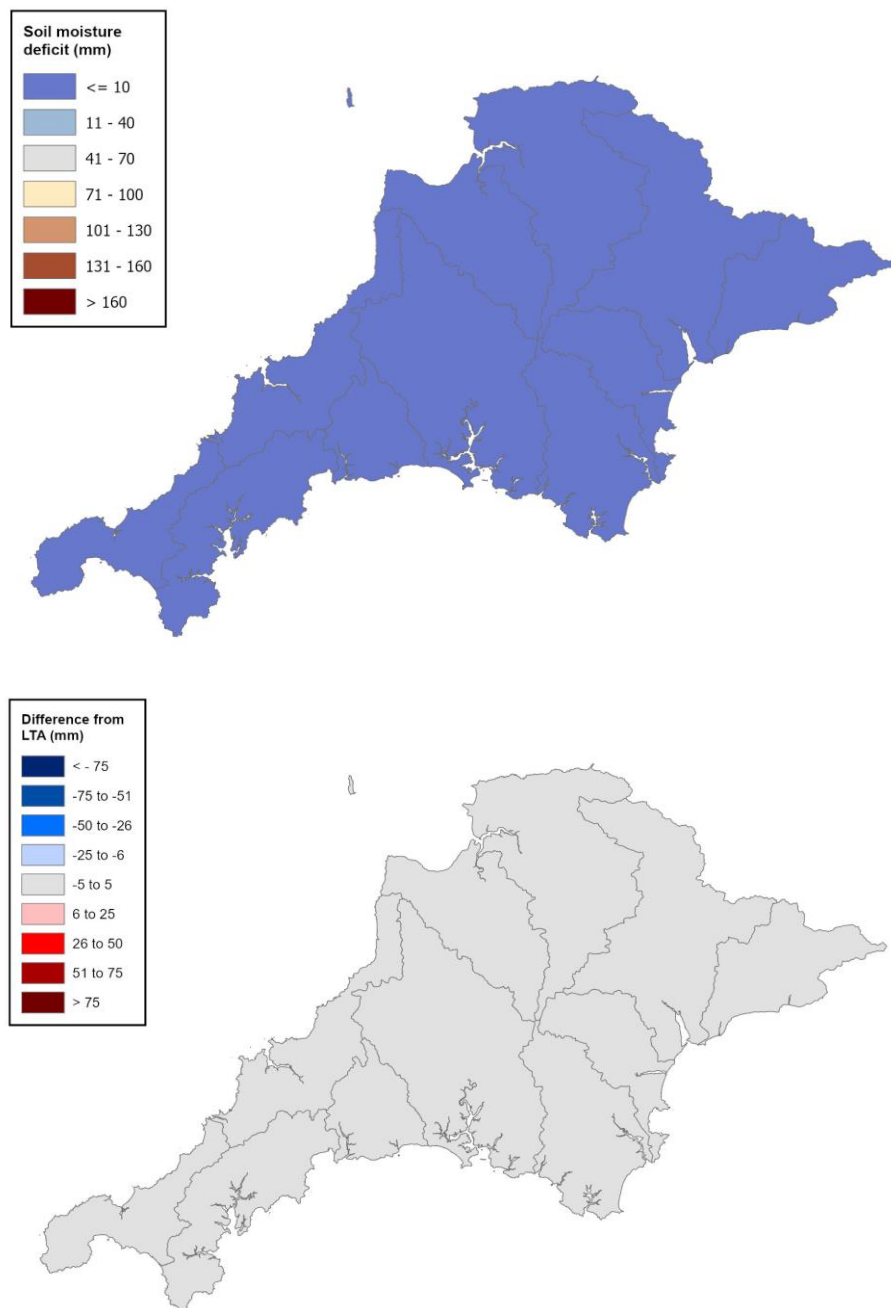


Rainfall data for 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to 2023, extracted from Met Office HadUK 1km gridded rainfall dataset derived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

3 Soil moisture deficit

3.1 Soil moisture deficit map

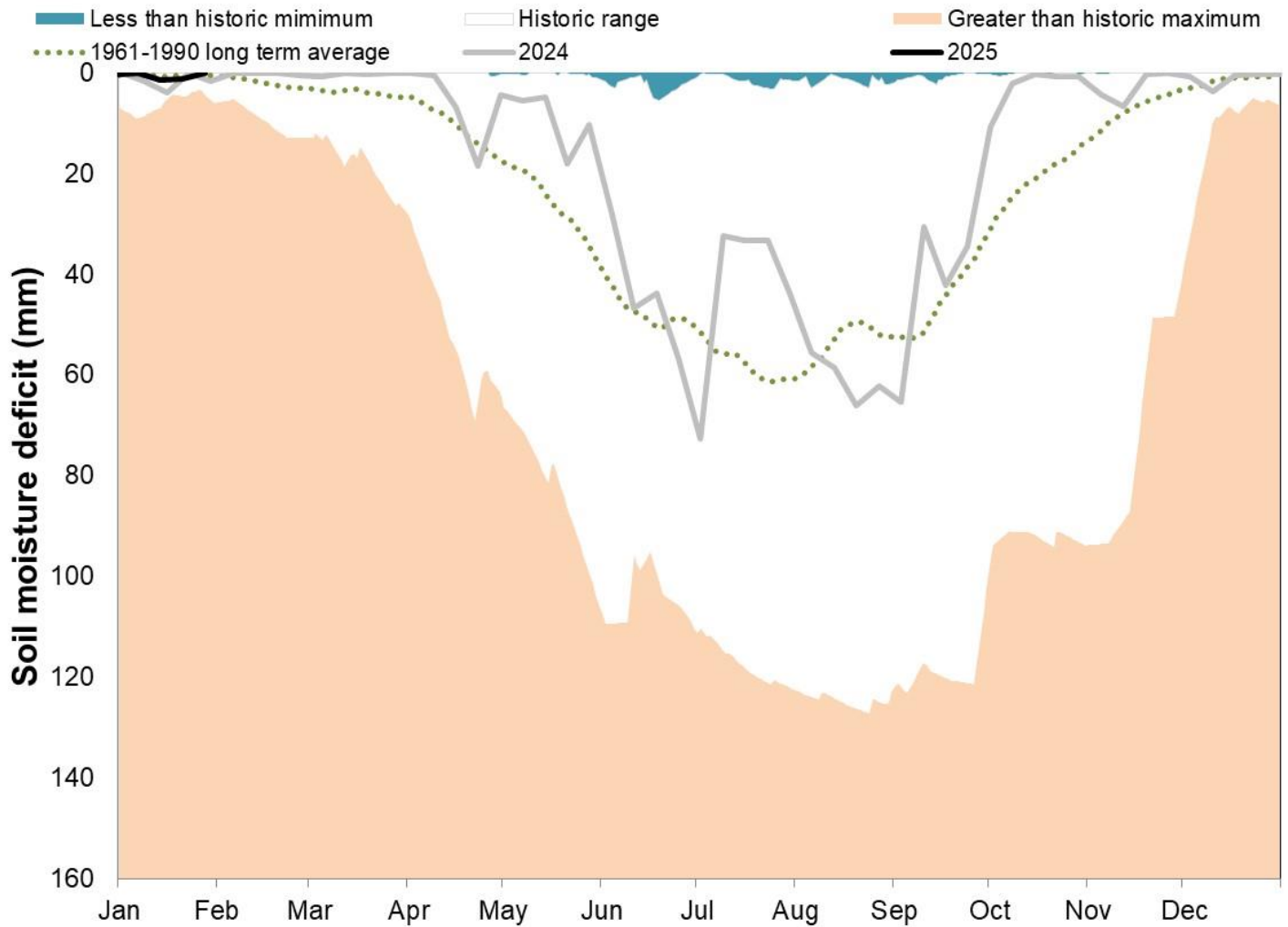
Figure 3.1: Top map shows soil moisture deficit for week ending 31 January 2025. Bottom map shows the difference (mm) between the actual soil moisture deficit and the 1961 to 1990 long term average soil moisture deficits. MORECS data for real land use.



(Source: Met Office. Crown copyright, 2025). All rights reserved. Environment Agency, 100024198, 2025.

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.

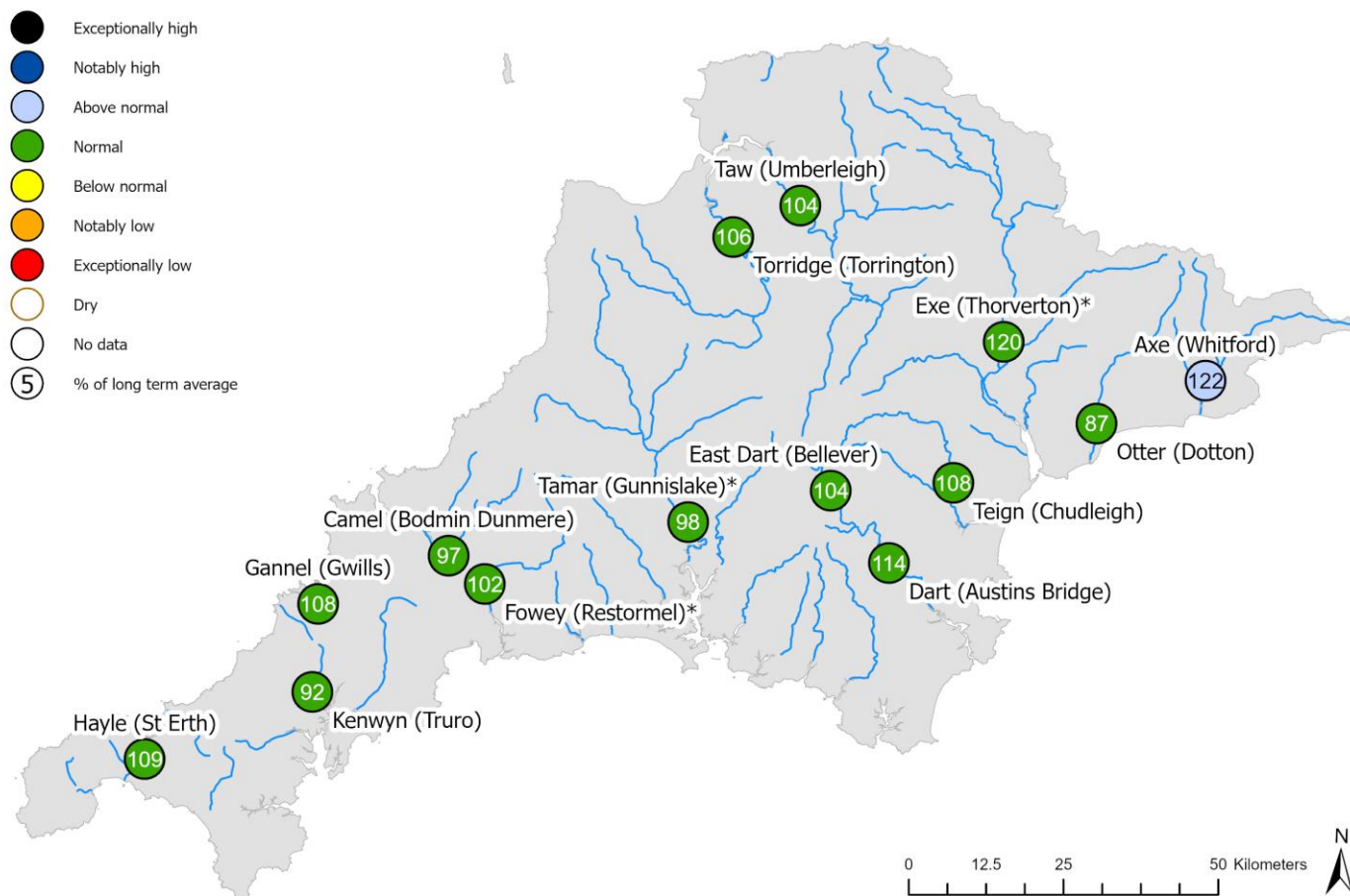


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4 River flows

4.1 River flows map

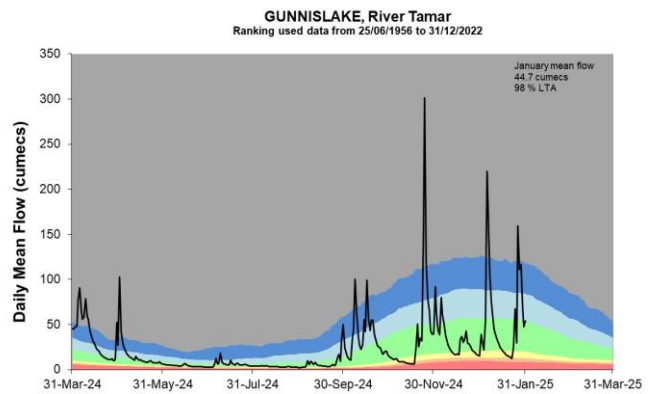
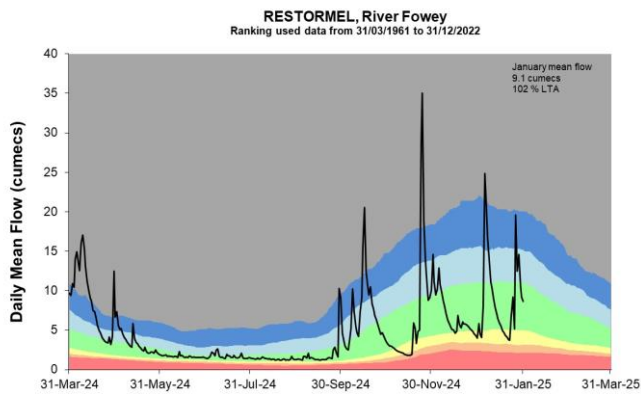
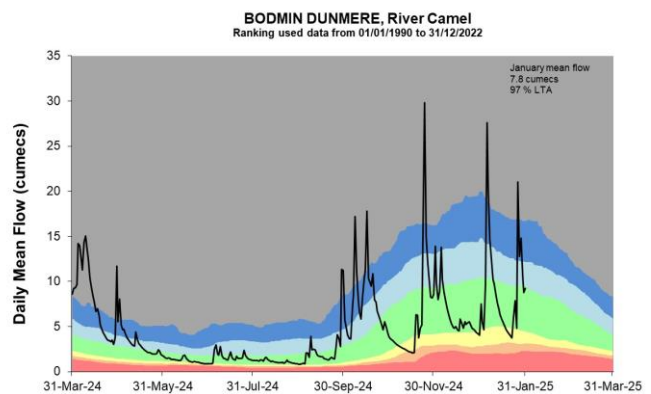
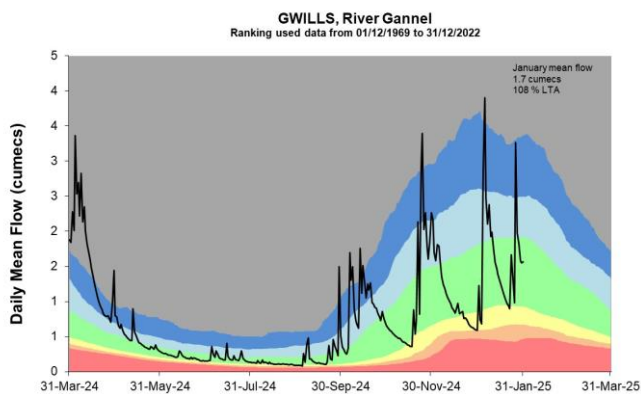
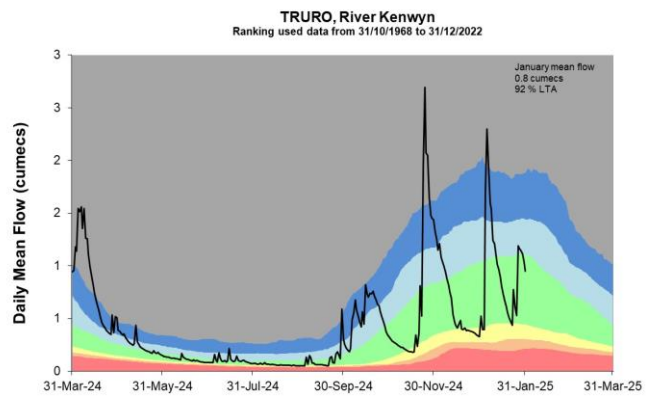
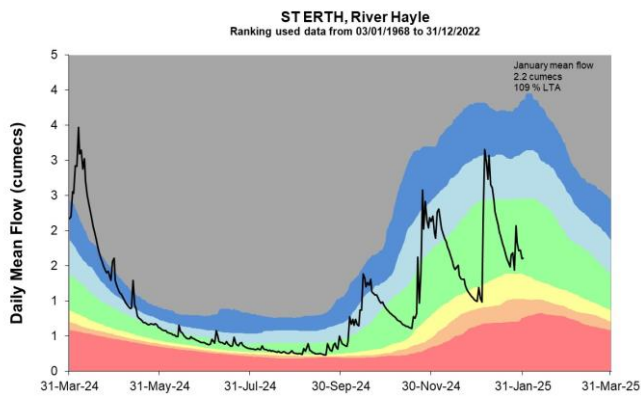
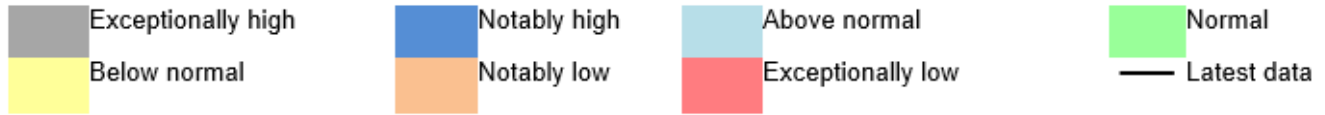
Figure 4.1: Monthly mean river flow for indicator sites for January 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic January monthly means. Table available in the appendices with detailed information.

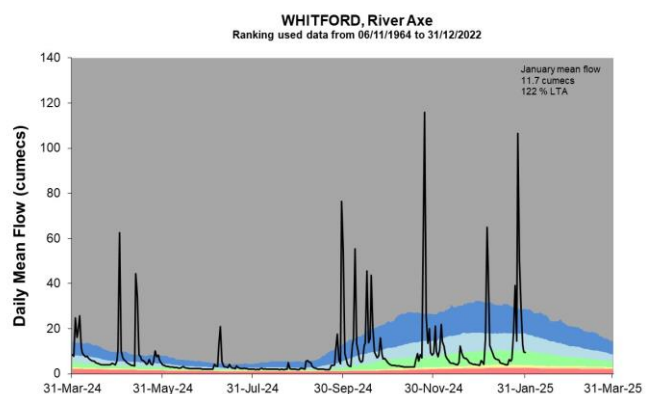
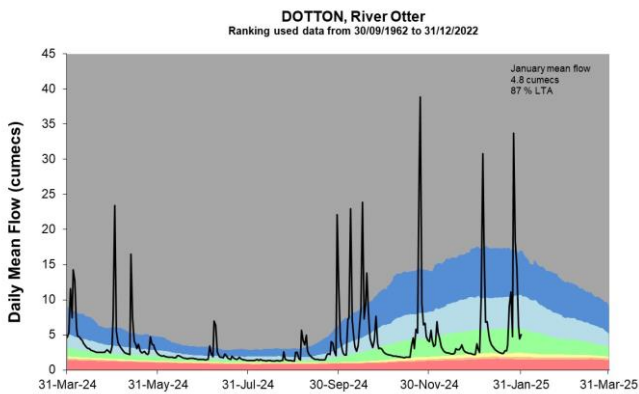
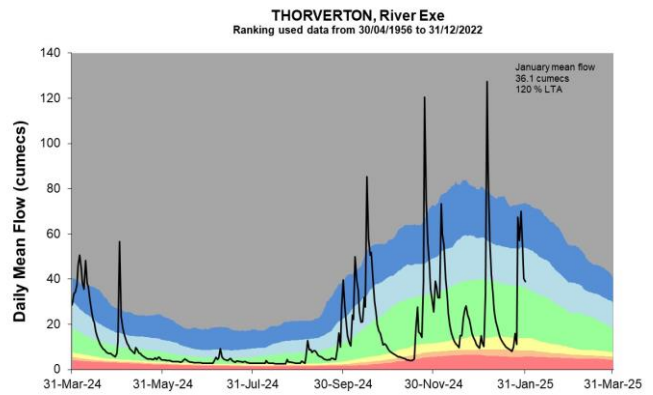
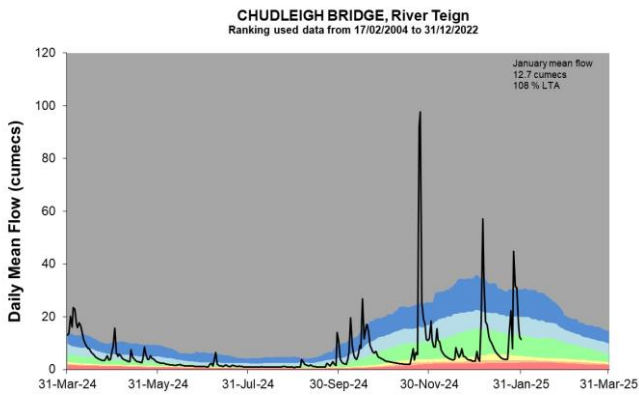
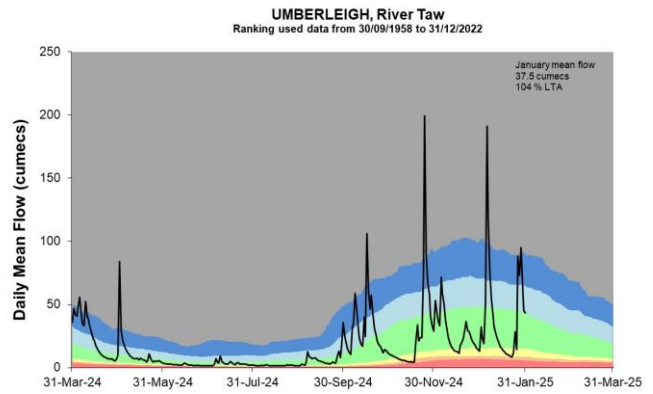
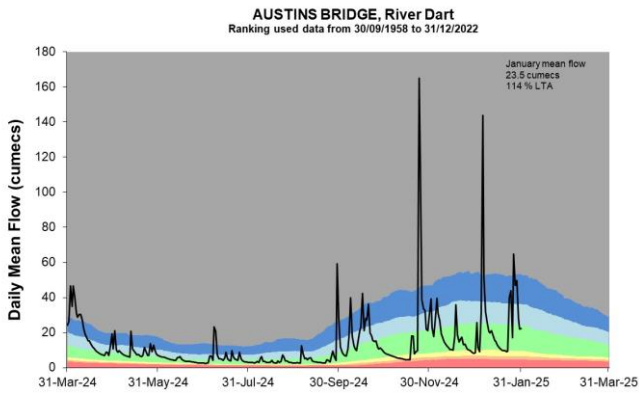
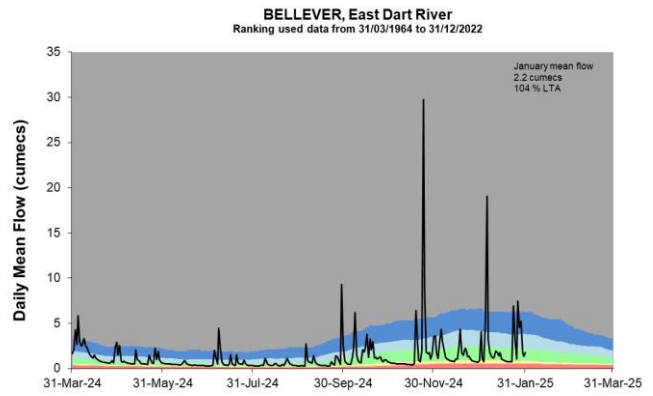
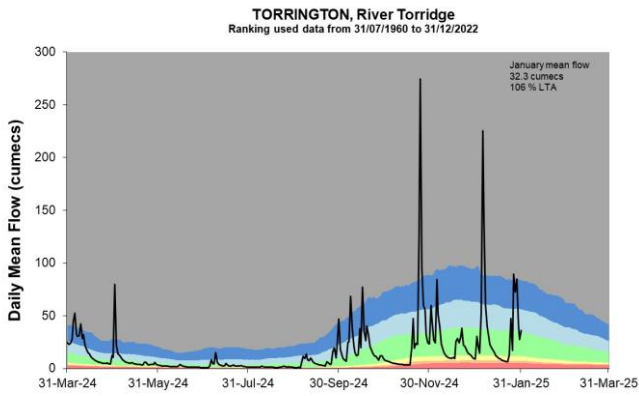


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4.2 River flow charts

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.



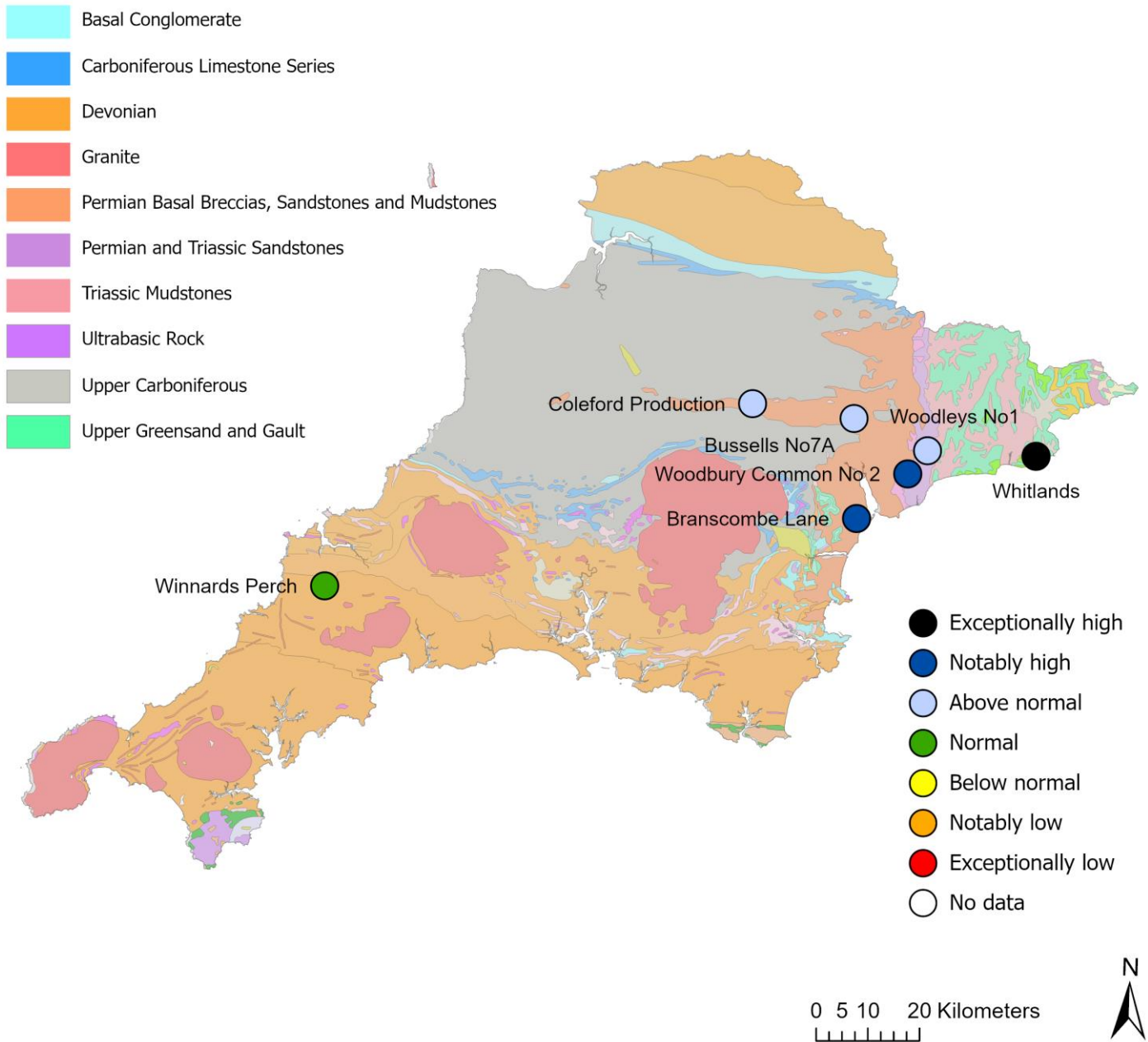


Source: Environment Agency.

5 Groundwater levels

5.1 Groundwater levels map

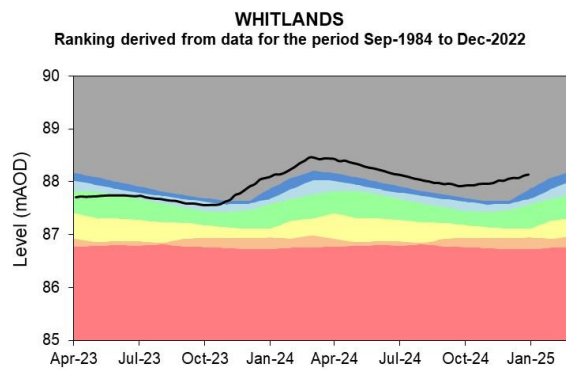
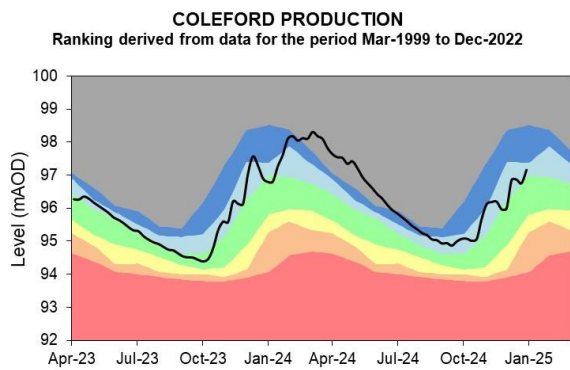
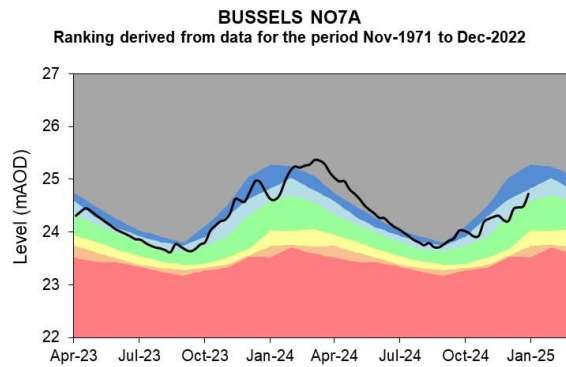
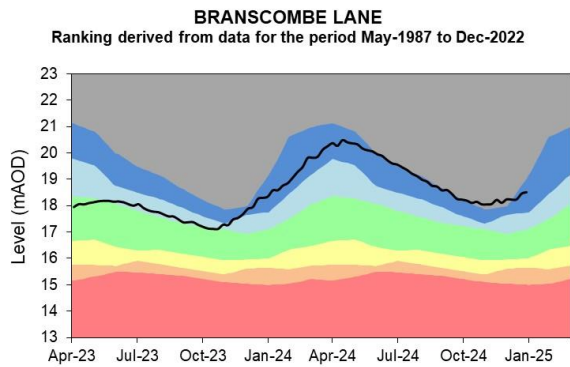
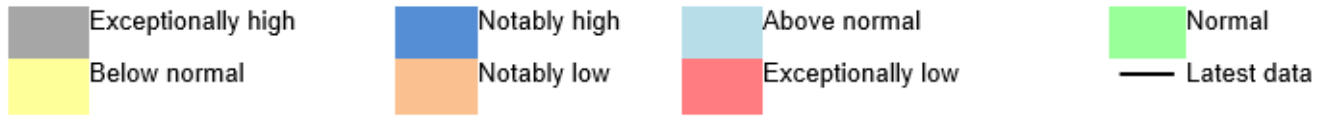
Figure 5.1: Groundwater levels for indicator sites at the end of January 2025, classed relative to an analysis of respective historic January levels. Table available in the appendices with detailed information.



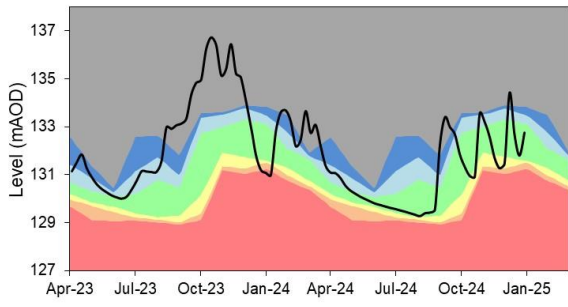
(Source: Environment Agency). Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

5.2 Groundwater level charts

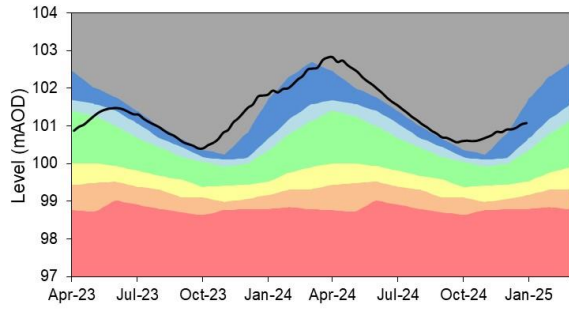
Figure 5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



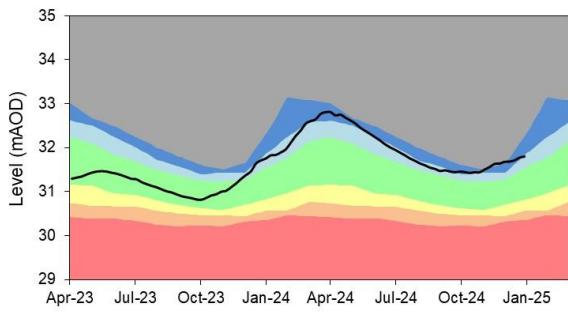
WINNARDS PERCH B.H.
Ranking derived from data for the period Jan-2002 to Dec-2022



WOODBURY COMMON NO2
Ranking derived from data for the period Nov-1967 to Dec-2022



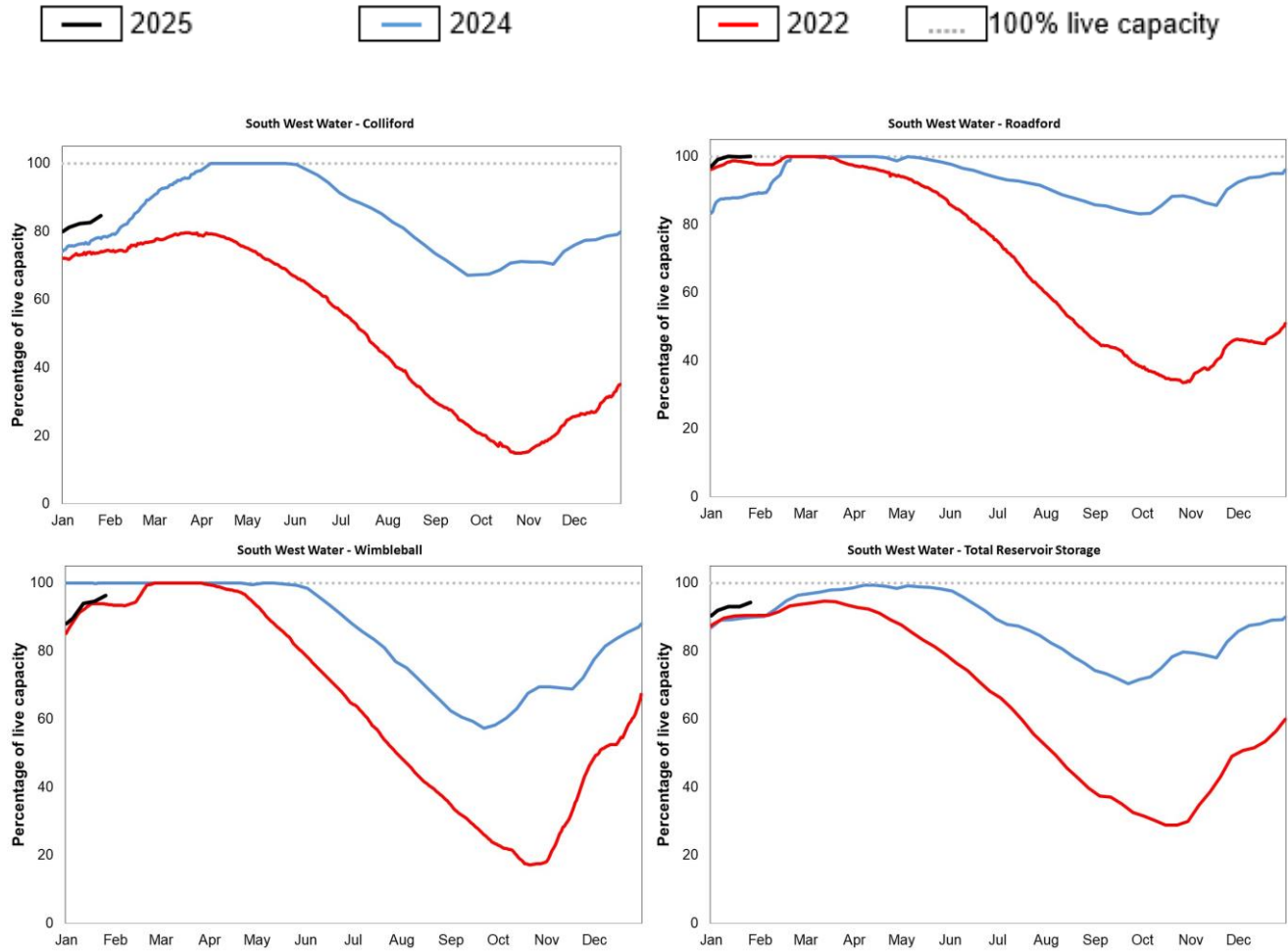
WOODLEYS NO1
Ranking derived from data for the period Jan-1966 to Dec-2022



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	Jan 2025 rainfall % of long term average 1961 to 1990	Jan 2025 band	Nov 2024 to January cumulative band	Aug 2024 to January cumulative band	Feb 2024 to January cumulative band
Avon Dart And Erme	148	Notably High	Above normal	Above normal	Exceptionally high
Exe	135	Notably High	Normal	Above normal	Exceptionally high
Fal And St Austell	131	Above Normal	Normal	Normal	Exceptionally high
North Cornwall	134	Notably High	Normal	Normal	Exceptionally high
Otter Sid Axe And Lim	154	Notably High	Normal	Above normal	Exceptionally high
Seaton Looe And Fowey	130	Above Normal	Normal	Normal	Exceptionally high
Tamar	138	Above Normal	Normal	Normal	Exceptionally high
Taw And North Devon Streams	124	Above Normal	Normal	Normal	Notably high
Teign And Torbay	146	Notably High	Above normal	Above normal	Exceptionally high

Torridge And Hartland Streams	138	Above Normal	Normal	Normal	Exceptionally high
West Cornwall	127	Above Normal	Normal	Normal	Exceptionally high

8.2 River flows table

Site name	River	Catchment	Jan 2025 band	Dec 2024 band
Austins Bridge	Dart	Dart	Normal	Above normal
Bellever	East Dart	Dart	Normal	Above normal
Bodmin Dunmere	Camel	Camel	Normal	Above normal
Chudleigh Bridge	Teign	Teign Upper	Normal	Normal
Dotton	Otter	Otter	Normal	Notably high
Gunnislake	Tamar	Tamar Lower	Normal	Above normal
Gwills	Gannel	Gannel	Normal	Notably high
Restormel	Fowey	Fowey	Normal	Above normal
St Erth	Hayle	Hayle	Normal	Notably high
Thorverton	Exe	Exe Lower	Normal	Above normal
Torrington	Torrige	Torrige Middle	Normal	Above normal
Truro	Kenwyn	Tresillian Trevella Kenwyn	Normal	Above normal
Umberleigh	Taw	Taw Middle	Normal	Normal
Whitford	Axe	Axe Devon Middle	Above normal	Exceptionally high

Groundwater table

Site name	Aquifer	End of Jan 2025 band	End of Dec 2024 band
Branscombe Lane	Dawlish Sandstone	Notably high	Exceptionally high
Bussels No7a	Dawlish Sandstone	Above normal	Normal
Coleford Production	Permian Breccias And Sandstones	Above normal	Normal
Whitlands	Upper Greensand	Exceptionally high	Exceptionally high
Winnards Perch B.h.	Staddon Formation	Normal	Below normal
Woodbury Common No2	Budleigh Salterton Pebble Beds	Notably high	Exceptionally high
Woodleys No1	Otterton Sandstone Formation	Above normal	Exceptionally high