Monthly water situation report: Midlands

1 Summary - February 2025

Please see Section 7.3 for a map detailing the Midlands regional coverage of this report.

Rainfall - During February, the majority of the hydrological catchments in the Midlands received normal rainfall totals, ranging from 66% to 98% of the long term average (LTA).

Soil moisture deficit - By the end of February, all hydrological catchments in the Midlands recorded a soil moisture deficit (SMD) of less than or equal to 10mm. This means that soils are at field capacity.

River flows - In February, the majority of flow monitoring sites in the Midlands recorded normal monthly mean flows compared to the LTA. Wedderburn Bridge is still showing unreliable data from September 2024 onwards.

Groundwater levels - As of the end of February, groundwater levels recorded at monitoring sites were normal or above compared to the LTA. There was no data recorded at Southards Lane for the majority of February.

Reservoir stocks - As of the end of February, the majority of the Midlands reservoirs, with the exception of Derwent reservoir, recorded above average storage for the time of year. Data has been interpolated for Blithfield reservoir due to data being missing from 26 February onwards.

1.1 Rainfall

During February, the majority of the Midlands hydrological catchments received normal rainfall totals, ranging from 66% to 98% of the LTA. Four catchments in the northern parts of the Midlands received below normal rainfall totals. These were the Shropshire Plains, Upper Trent, Dove and Derwent catchments which received rainfall totals ranging from 48% to 64% of the LTA.

During the last 3 months, the majority of the Midlands hydrological catchments received normal rainfall totals, ranging from 97% to 110% of the LTA. Only 2 hydrological catchments, situated in the north-eastern parts of the Midlands, received above normal rainfall totals. These were the Lower Trent and Soar hydrological catchments which received 121% and 117% of the 3-month LTA rainfall totals, respectively.

Over the past 6 months, the majority of the Midlands hydrological catchments received notably high rainfall totals, ranging from 128% to 156% of the LTA. The Derwent and Dove

hydrological catchments both received above normal rainfall totals of 114% and 117% of the LTA, respectively. Only 1 hydrological catchment, the Welsh Mountains in the west of the Midlands area, received normal rainfall totals of 104% of the LTA.

Over the last 12 months, all of the Midlands hydrological catchments received higher than normal rainfall totals. Two hydrological catchments, the Shropshire Plains and the Lower Severn, received exceptionally high rainfall totals. A further 6 hydrological catchments received notably high rainfall totals ranging from 117% to 129% of the LTA. These were the Lower Wye, Upper Trent, Dove, Tame, Avon and Soar hydrological catchments. Four hydrological catchments received above normal rainfall totals, ranging from 108% to 120% of the LTA. These were the Derwent, Lower Trent, Welsh Mountains and Mid Severn hydrological catchments.

1.2 Soil moisture deficit and recharge

By the end of February, all hydrological catchments in the Midlands recorded a SMD of less than or equal to 10mm. This means that soils are at field capacity. This was the same as January, therefore, there has been no major changes in SMD.

The majority of hydrological catchments in February had a -5mm to 5mm difference from the LTA, meaning that SMD was as expected for the time of year. The only hydrological catchment with wetter than expected soils for the time of year was the Soar situated in the north-east of the Midlands. This catchment had a -25mm to -6mm difference in SMD from the LTA.

1.3 River flows

In February, the majority of flow monitoring sites in the Midlands recorded normal monthly mean flows ranging from 70% to 109% of the LTA. One flow monitoring site in the south of the Midlands, Ebley Mill, recorded above normal monthly mean flows at 117% of the LTA. A further 2 flow monitoring sites recorded below normal monthly mean flows relative to the LTA. These were Whatstandwell and Marston On Dove which recorded 67% and 66% of the LTA monthly mean flows, respectively. Wedderburn Bridge has been showing unreliable data from September 2024 onwards, therefore, data has been removed from this report.

1.4 Groundwater levels

As of the end of February, groundwater levels recorded at monitoring sites were normal or above compared to the LTA. Two groundwater monitoring sites, Coxmoor and Weir Farm,

recorded exceptionally high groundwater levels compared to the LTA. Three sites, Four Crosses, Ram Hall and Anthony's Cross, recorded notably high groundwater levels compared to the LTA. A further 2 sites recorded above normal groundwater levels compared to the LTA. These were Crossley Hill situated in the northern part of the Midlands, and St Mary's Church situated in the central part of the Midlands. The remaining site, Rider Point, recorded normal groundwater levels relative to the LTA. There was no data recorded at Southards Lane for the majority of February, therefore, data has been removed from this report.

1.5 Reservoir stocks

As of the end of February, the majority of the Midlands reservoirs recorded above average storage for the time of year. The only exception is the Derwent reservoir which recorded slightly below average storage for the time of year.

All of the Midlands reservoirs storage levels were similar at the end of the month to the start. Storage levels for two reservoirs in Wales, Elan and Vyrnwy, have remained at 100% since January. This means that both reservoirs have remained full and spilling.

Due to ongoing works at Blithfield reservoir, data was missing from 26 February to the end of the month. Therefore, data has been interpolated for Blithfield for this period.

1.6 River Severn operations

The River Severn is regulated to maintain a minimum flow at Bewdley gauging station. This ensures sufficient water flows along the river to support environmental and water supply requirements. Regulation is instigated when flows drop below a threshold.

In February, the River Severn regulation was not instigated.

1.7 River Wye operations

In February, the River Wye regulation was not instigated even though from 12 February to 24 February, storage in Elan reservoirs was below the release control line. This was because flows at Redbrook gauging station remained above the regulation threshold throughout this period.

1.8 Water abstraction restrictions

As of the end of February, there were 6 restrictions in place across the Midlands affecting 7 licences.

Table 1.1: Water abstraction licence restrictions

Area	Rivers and stations restricted
West Midlands	River Leadon at Wedderburn Bridge River Worfe at Burlington Weir River Stour at Puxton River Wye at Three Elms River Wye at Marstow Mill
East Midlands	River Torne at Auckley

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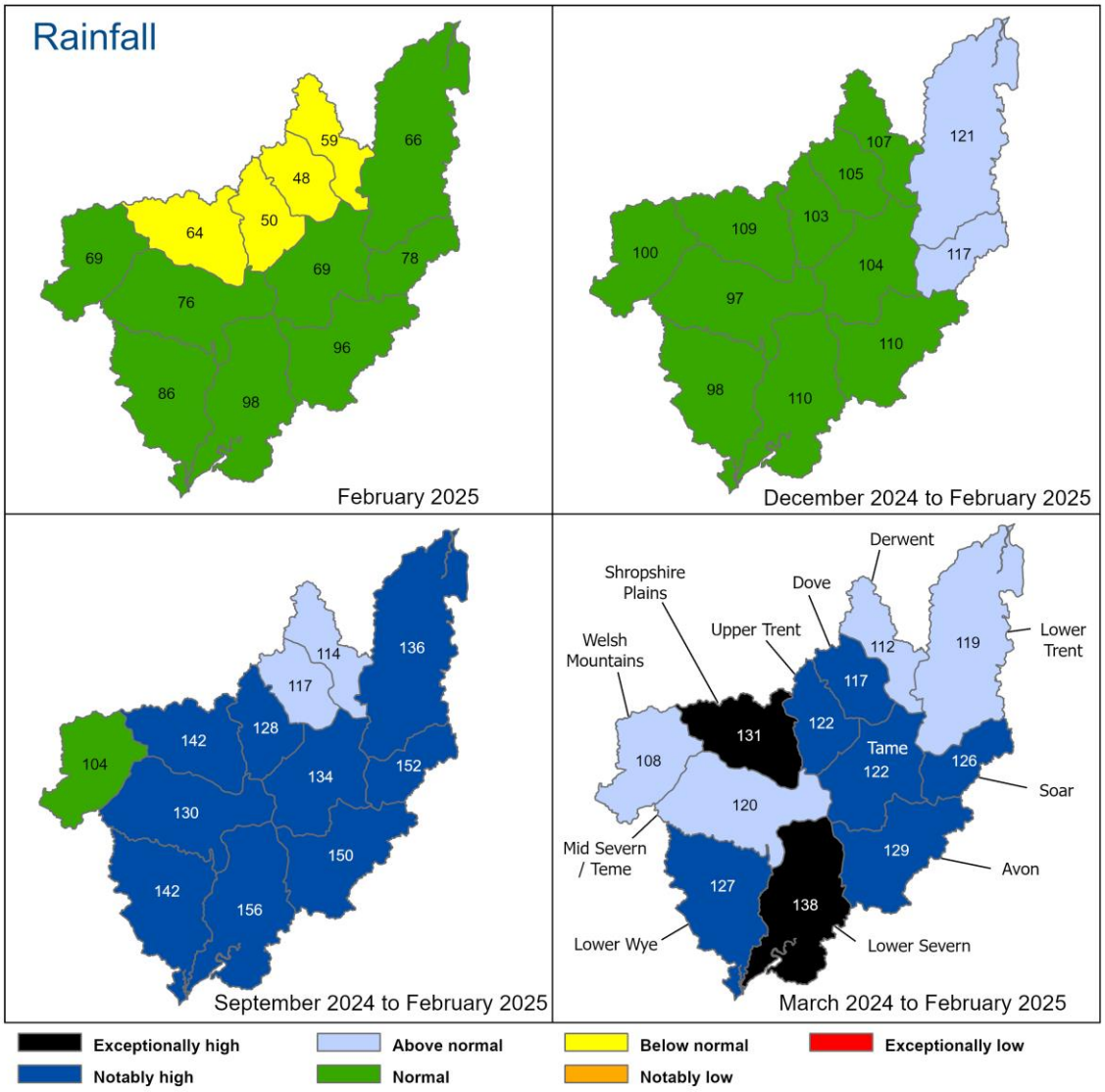
Contact Details: 03708 506 506

2 Rainfall

2.1 Rainfall map

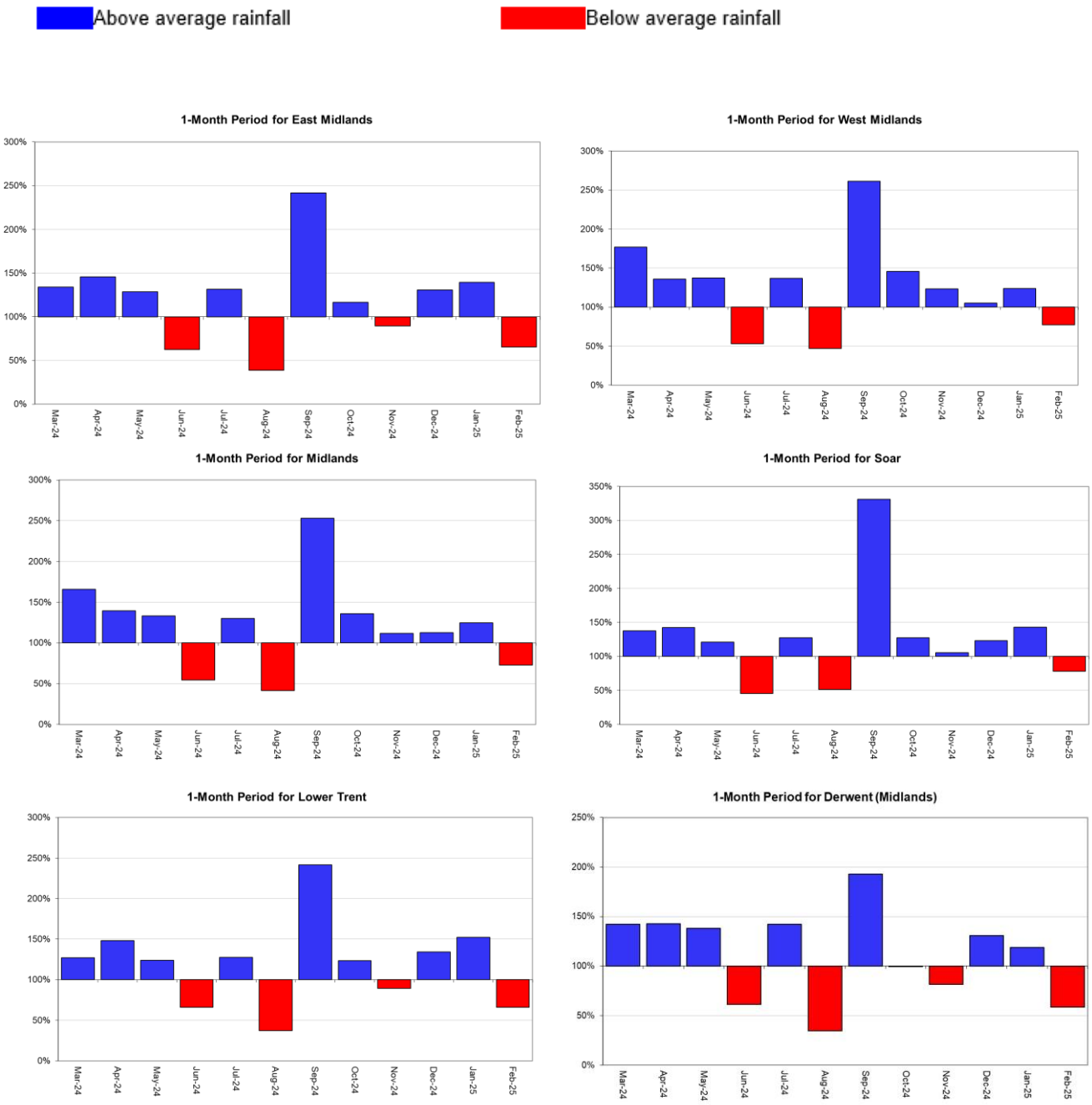
Figure 2.1: Total rainfall for hydrological areas for the current month (up to 28 February 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.

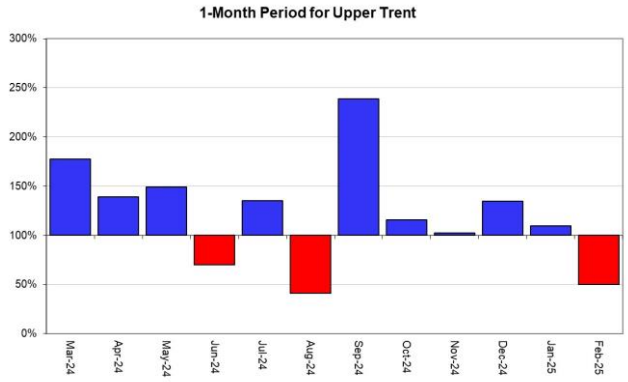


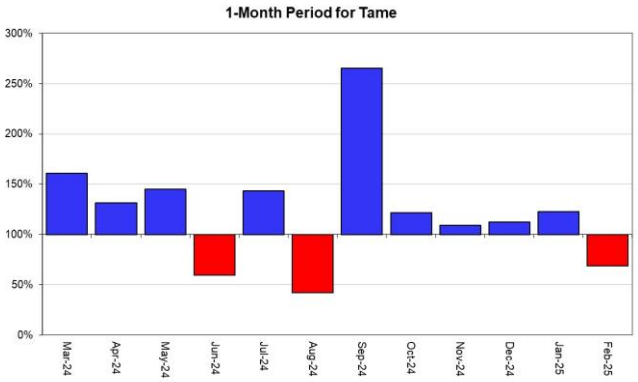
Rainfall data for Oct 2023 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to Oct 2023, extracted from Met Office HadUK 1km gridded rainfall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

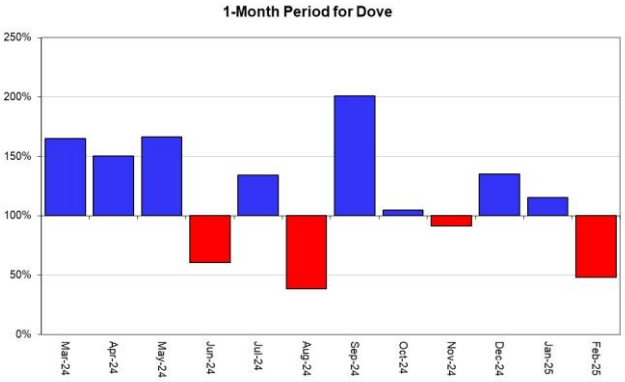
2.2 Rainfall charts

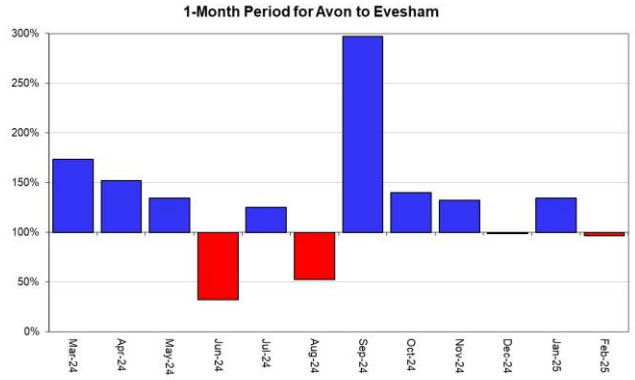
Figure 2.2: Monthly rainfall totals for the past 12 months as a percentage of the 1961 to 1990 long term average for hydrological areas across the Midlands region.

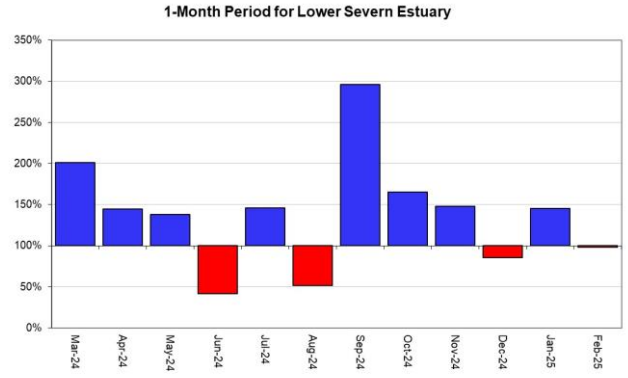


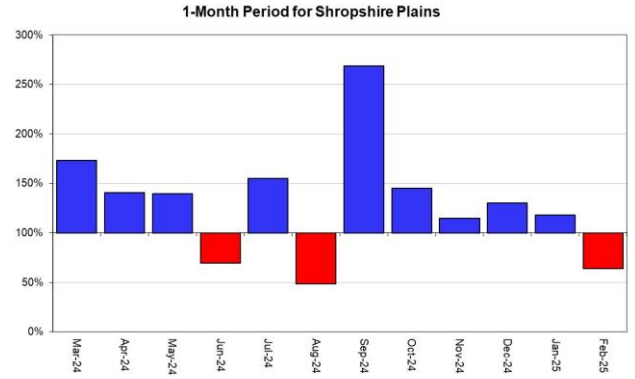

1-Month Period for Upper Trent
300%
250%
200%
150%
100%
50%
0%
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25

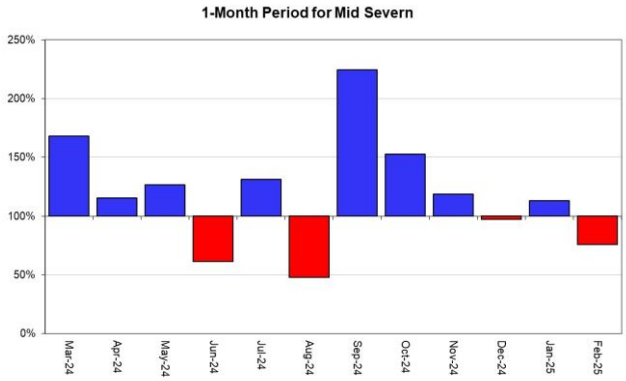

1-Month Period for Tame
300%
250%
200%
150%
100%
50%
0%
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25

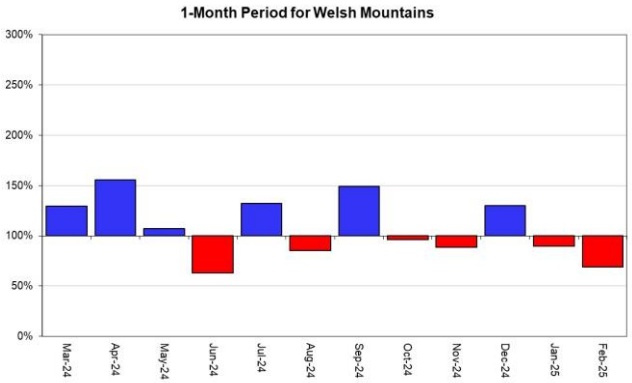

1-Month Period for Dove
250%
200%
150%
100%
50%
0%
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25

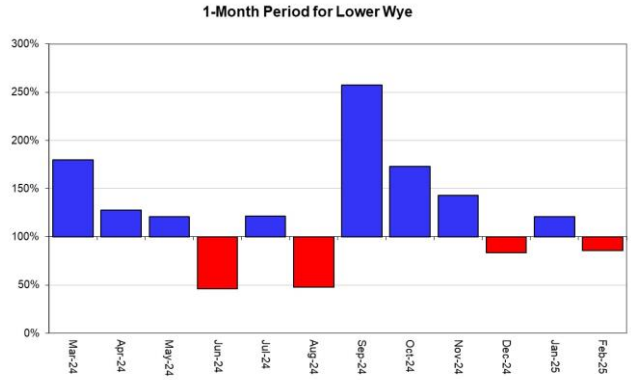

1-Month Period for Avon to Evesham
300%
250%
200%
150%
100%
50%
0%
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25


1-Month Period for Lower Severn Estuary
350%
300%
250%
200%
150%
100%
50%
0%
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25


1-Month Period for Shropshire Plains
300%
250%
200%
150%
100%
50%
0%
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25





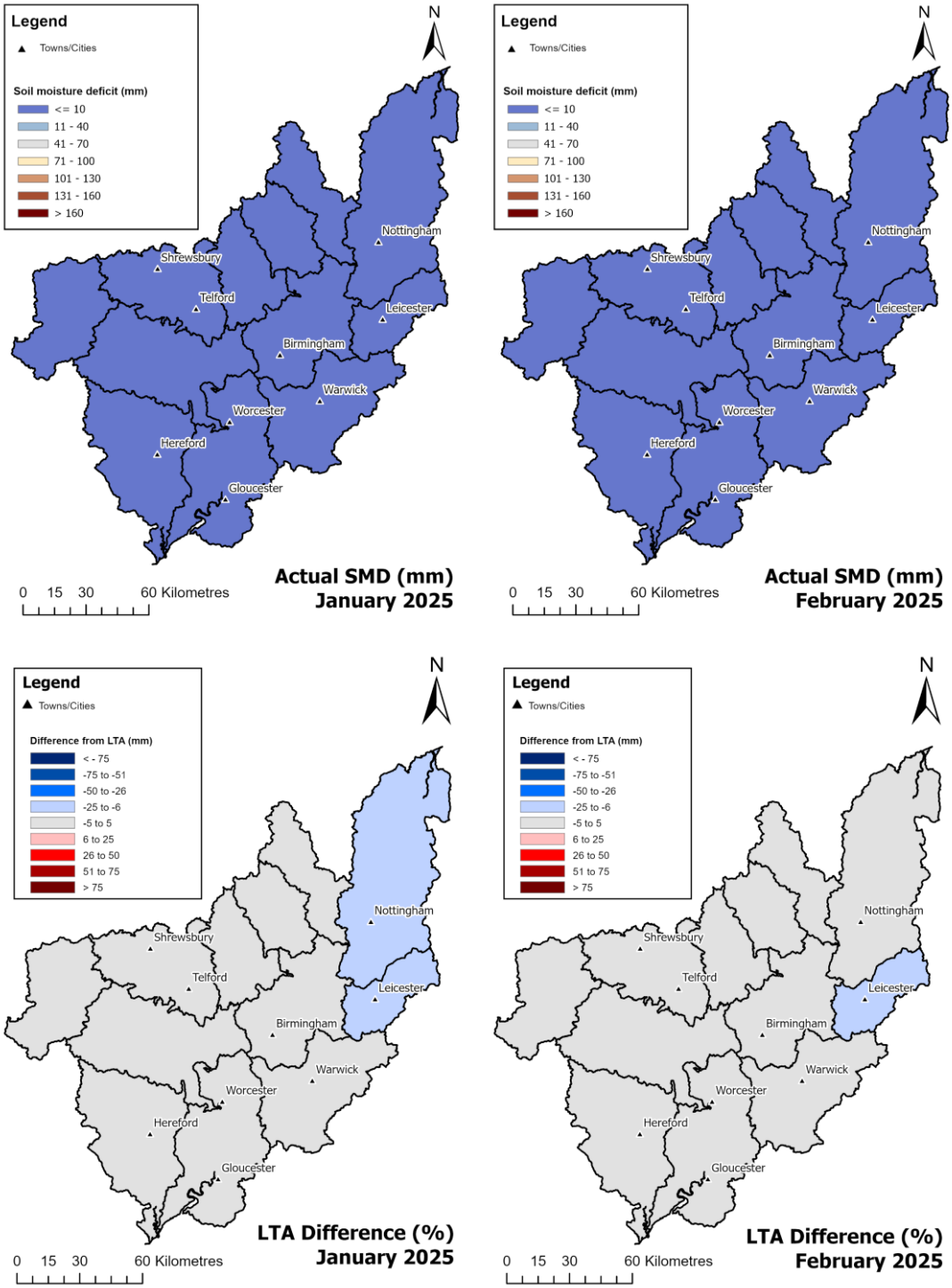


Rainfall data for October 2023 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to October 2023, extracted from Met Office HadUK 1km gridded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

3 Soil moisture deficit

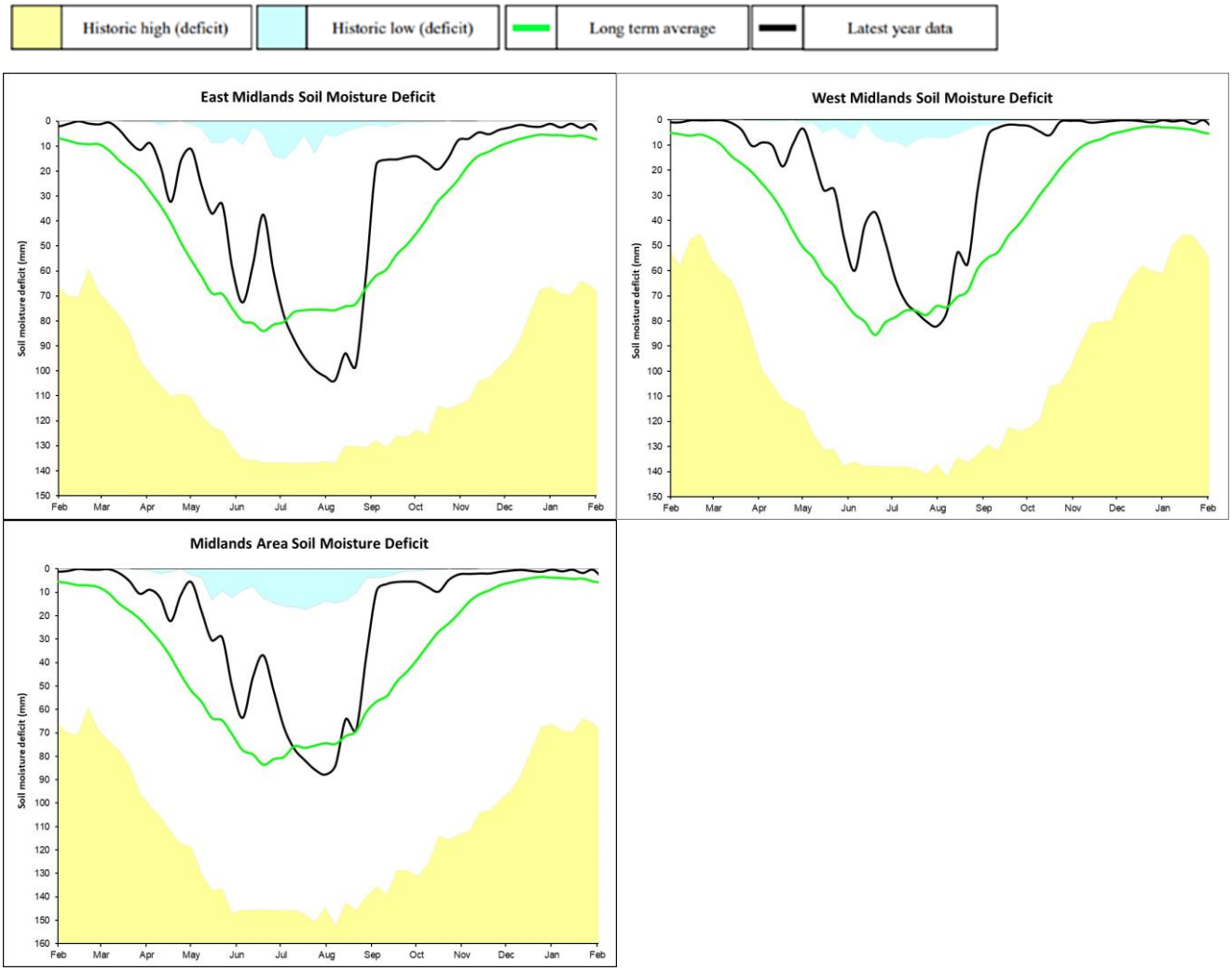
3.1 Soil moisture deficit map

Figure 3.1: Soil moisture deficits for weeks ending 28 February 2025. Shows the difference (mm) of the actual soil moisture deficit from the 1961 to 1990 long term average soil moisture deficits. MORECS data for real land use.



3.2 Soil moisture deficit charts

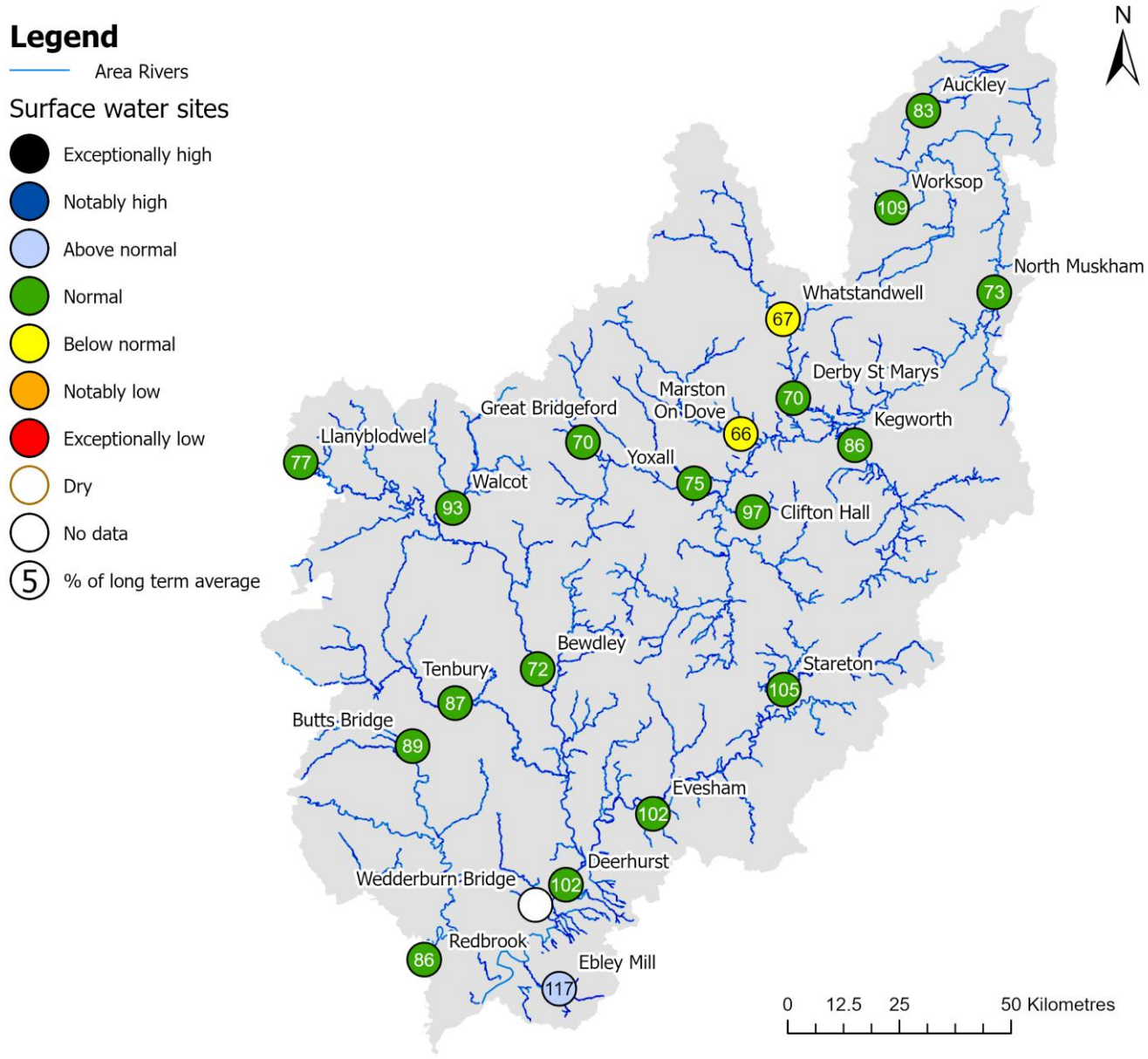
Figure 3.2: Latest soil moisture deficit charts for selected areas across the Midlands.



4 River flows

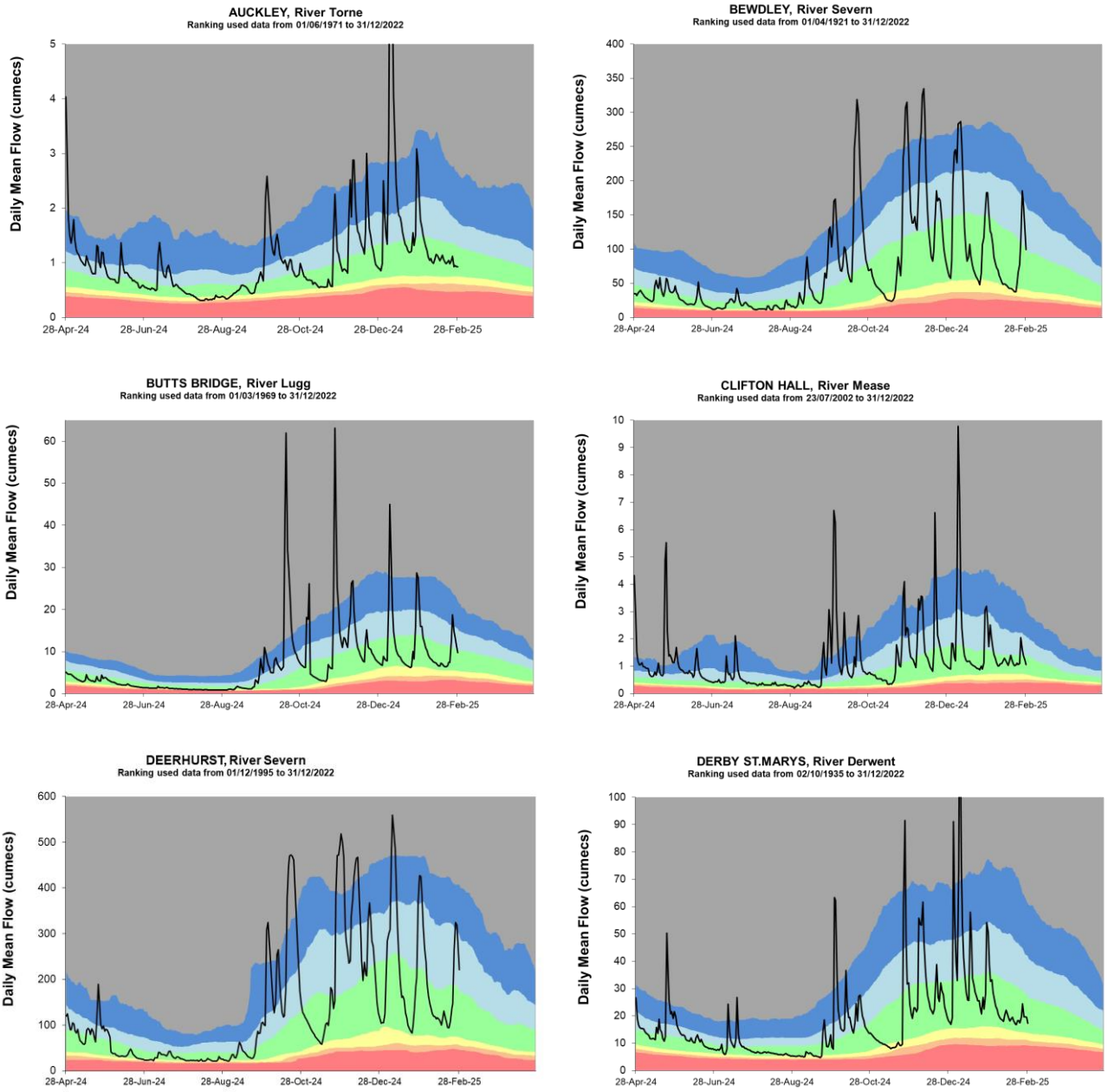
4.1 River flows map

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

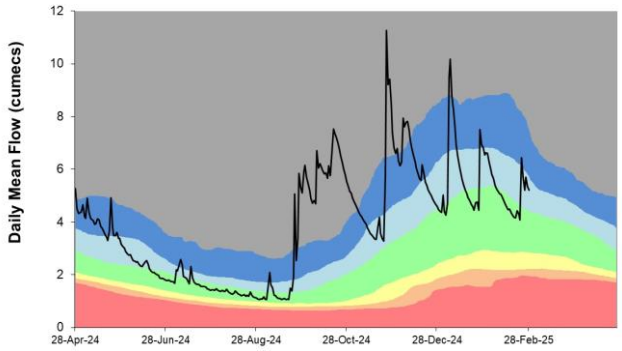


4.2 River flow charts

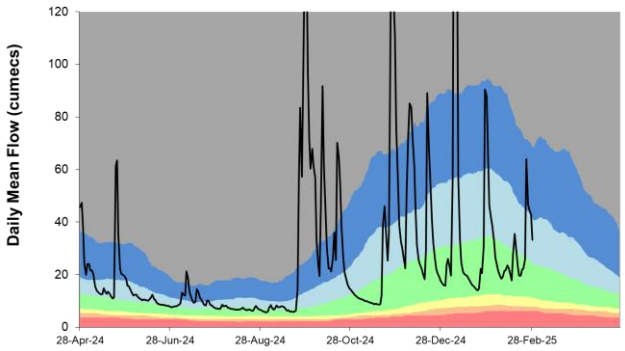
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



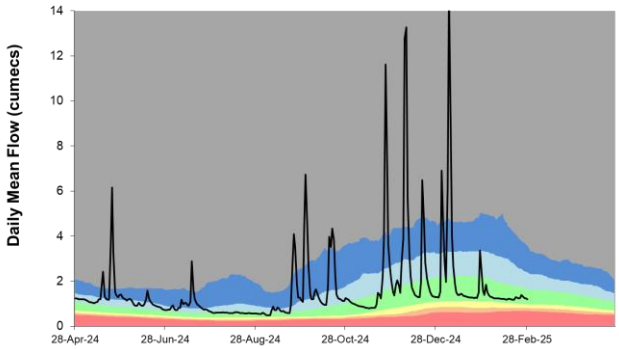
EBLEY MILL, River Frome
Ranking used data from 01/04/1969 to 31/12/2022



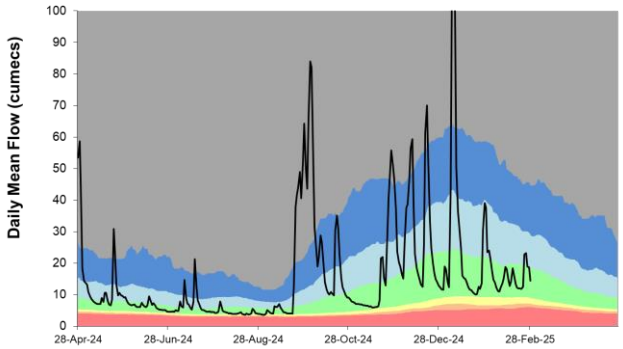
EVESHAM, River Avon
Ranking used data from 01/12/1936 to 31/12/2022



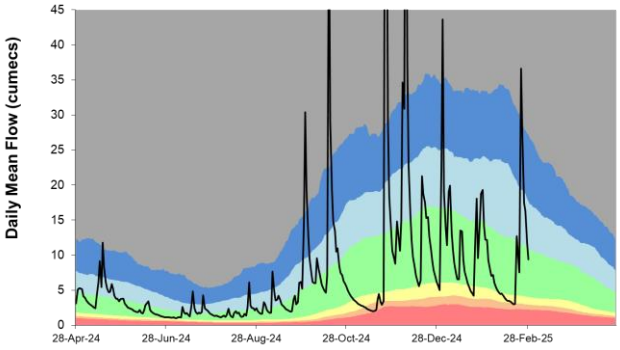
GREAT BRIDGFORD, River Sow
Ranking used data from 18/01/1971 to 31/12/2022



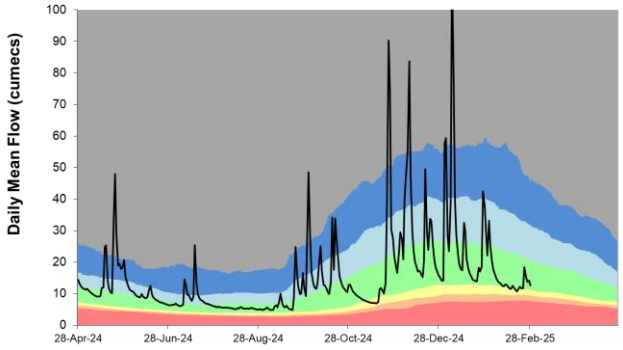
KEGWORTH, River Soar
Ranking used data from 01/12/1978 to 31/12/2022



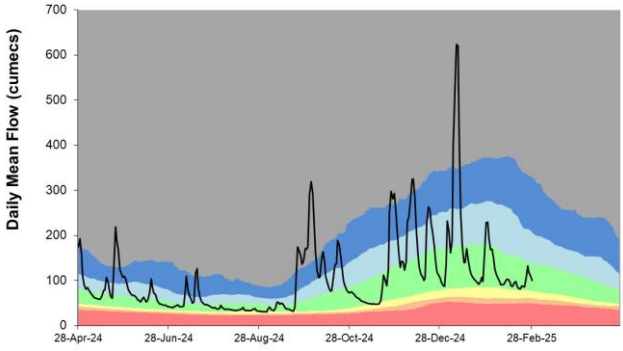
LLANYBLODWEL, Afon Tanat
Ranking used data from 01/06/1973 to 31/12/2022



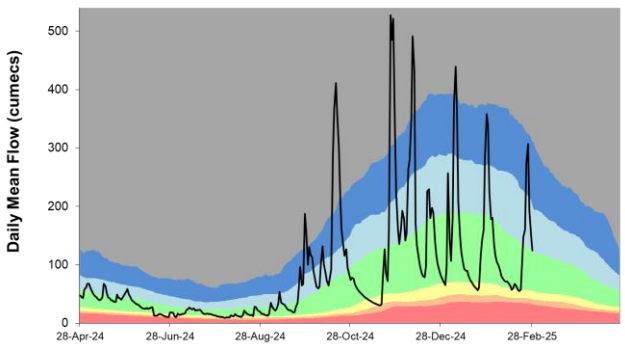
MARSTON ON DOVE, River Dove
Ranking used data from 01/07/1965 to 31/12/2022



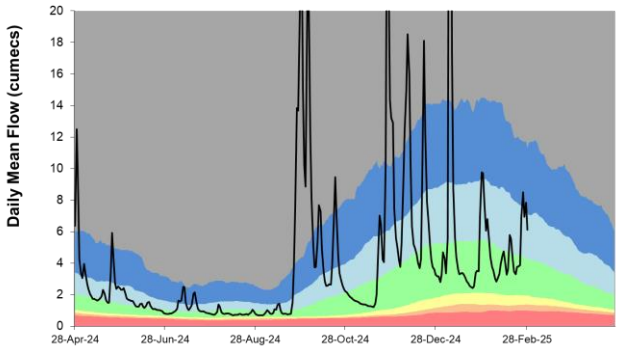
NORTH MUSKHAM, River Trent
Ranking used data from 03/10/1969 to 31/12/2022



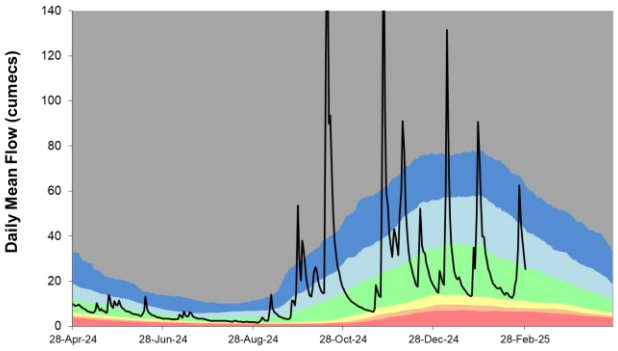
REDBROOK, River Wye
Ranking used data from 01/10/1969 to 31/12/2022



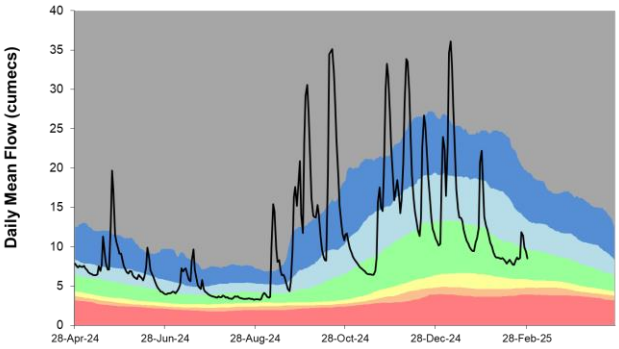
STARETON, River Avon
Ranking used data from 01/10/1962 to 31/12/2022



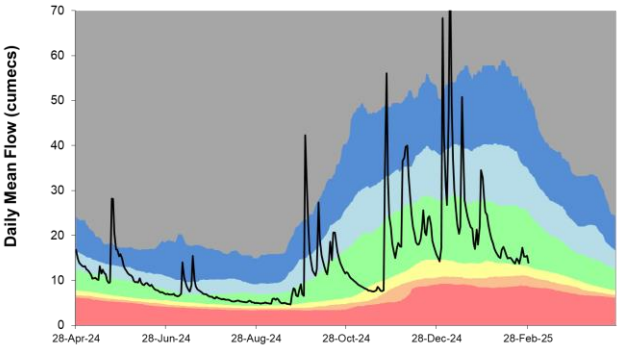
TENBURY, River Teme
Ranking used data from 01/10/1956 to 31/12/2022



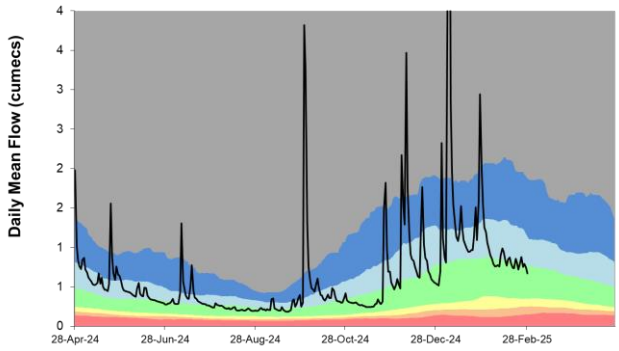
WALCOT, River Tern
Ranking used data from 01/10/1960 to 31/12/2022



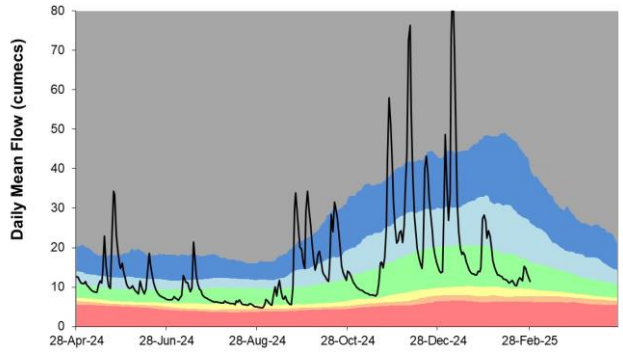
WHATSTANDWELL, River Derwent
Ranking used data from 01/10/1992 to 31/12/2022



WORKSOP, River Ryton
Ranking used data from 18/06/1970 to 31/12/2020



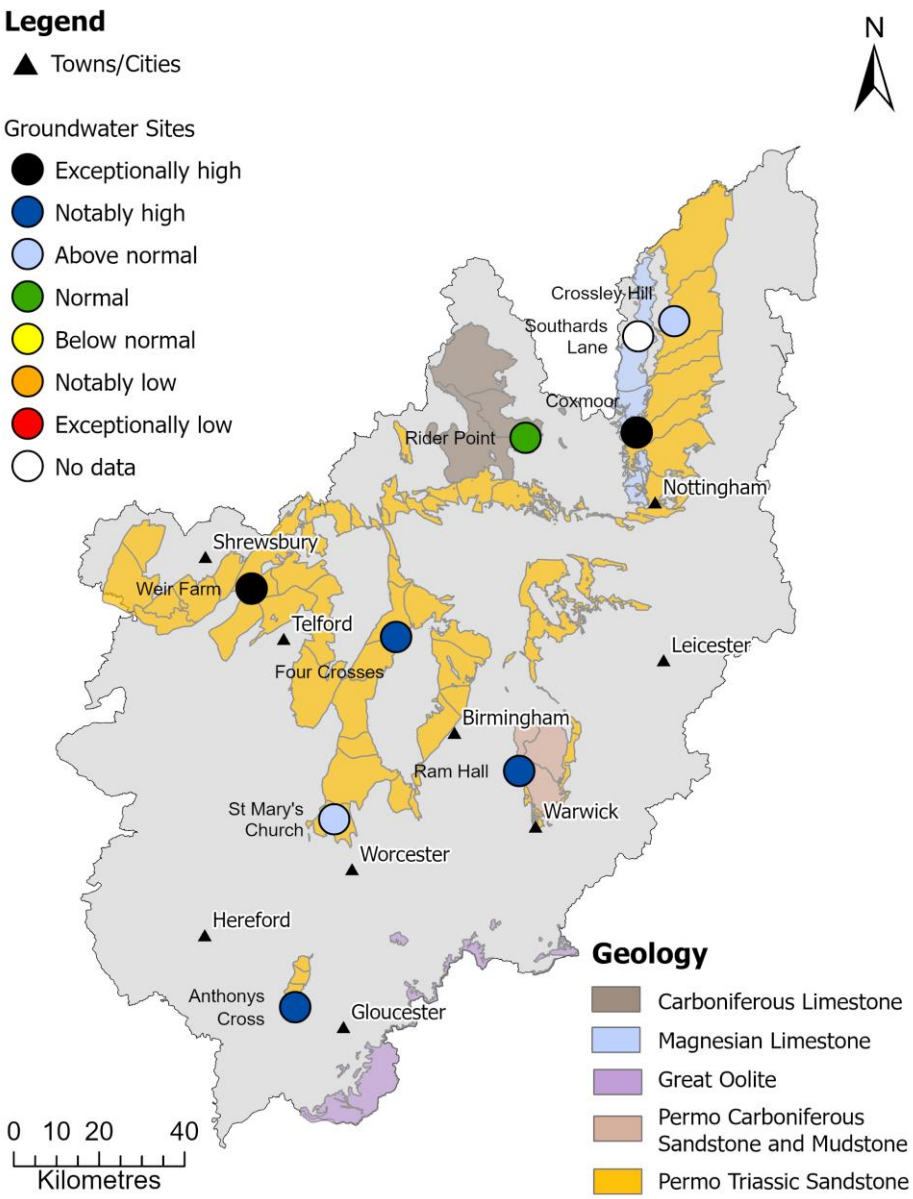
YOXALL, River Trent
Ranking used data from 01/10/1959 to 31/12/2022



5 Groundwater levels

5.1 Groundwater levels map

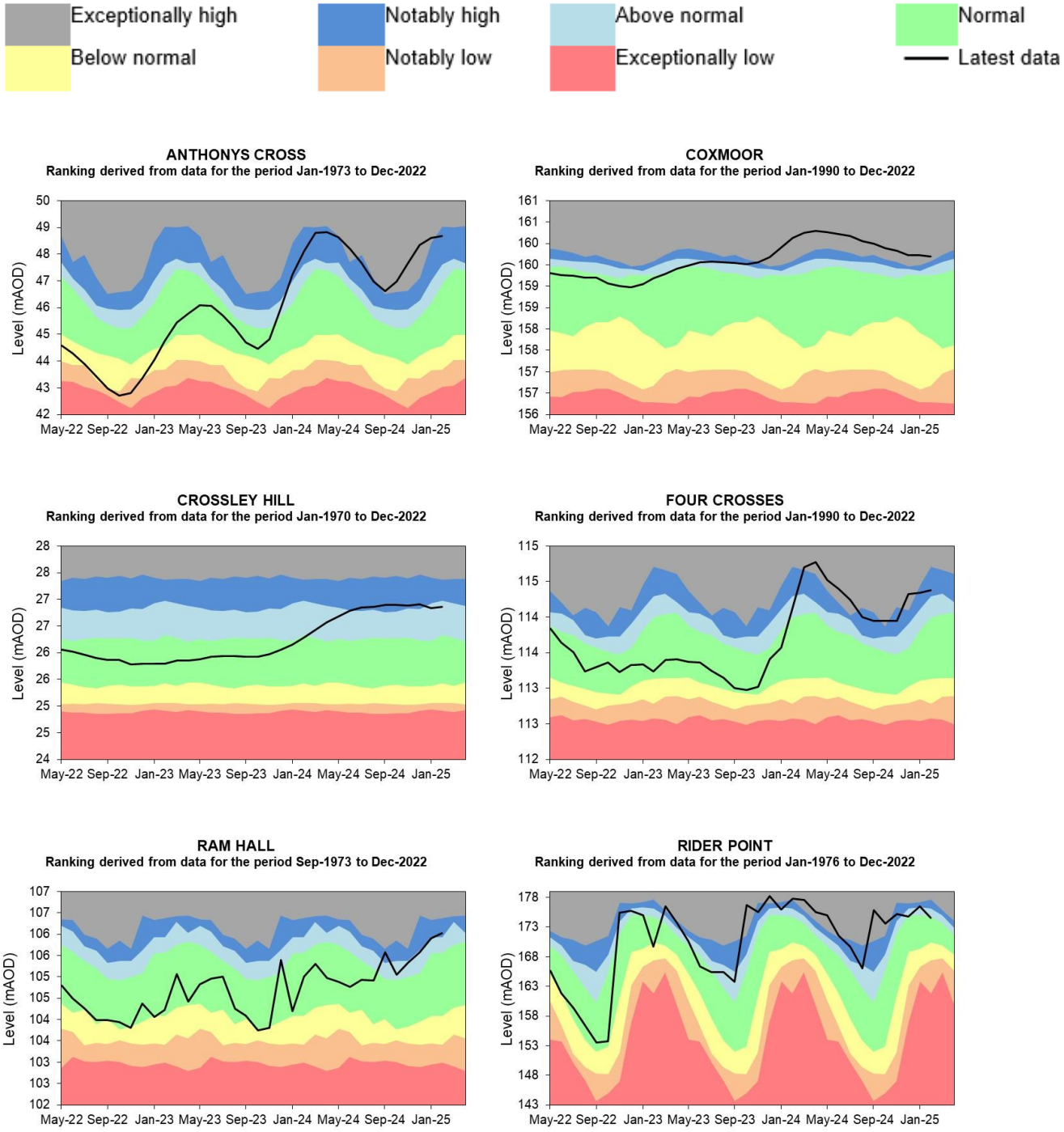
Figure 5.1: Groundwater levels for indicator sites at the end of February 2025, classed relative to an analysis of respective historic February levels. Table available in the appendices with detailed information, including aquifer type.

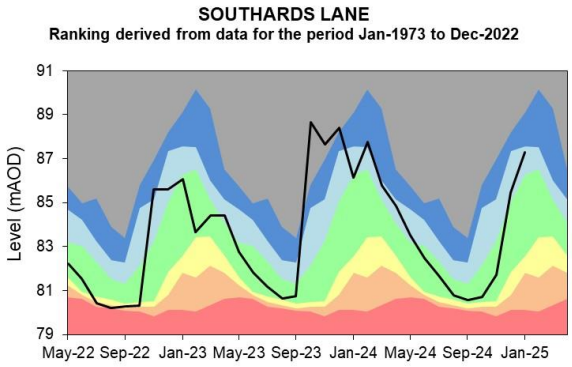


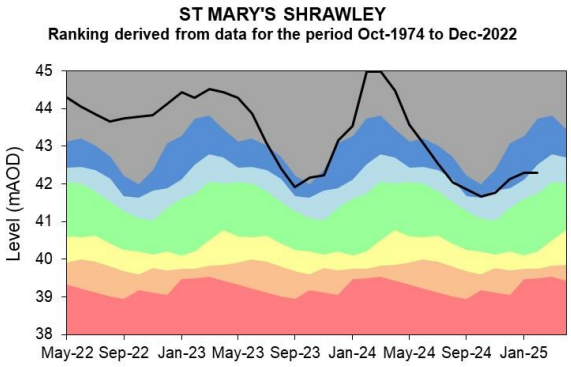
(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

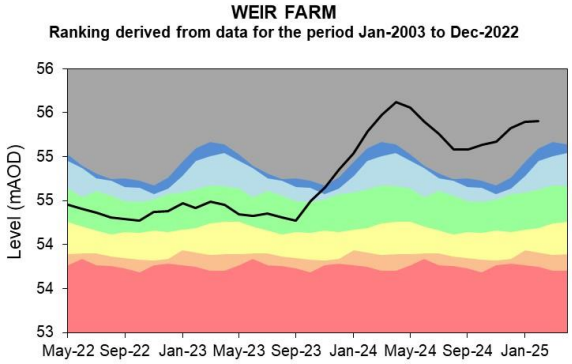
5.2 Groundwater level charts

Figure 5.2: End of month groundwater levels at index groundwater level sites for major aquifers. 34 months compared to an analysis of historic end of month levels.





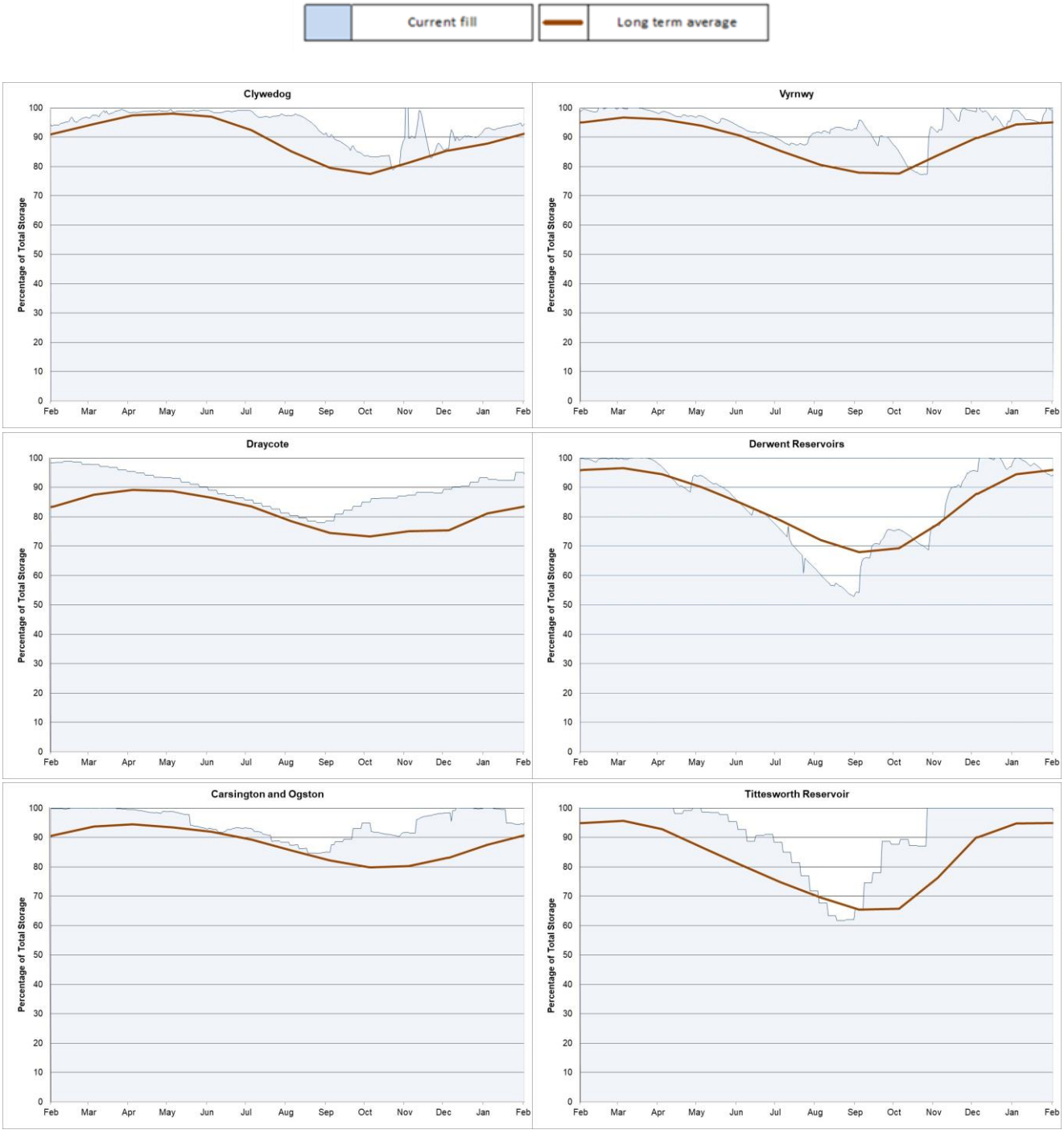


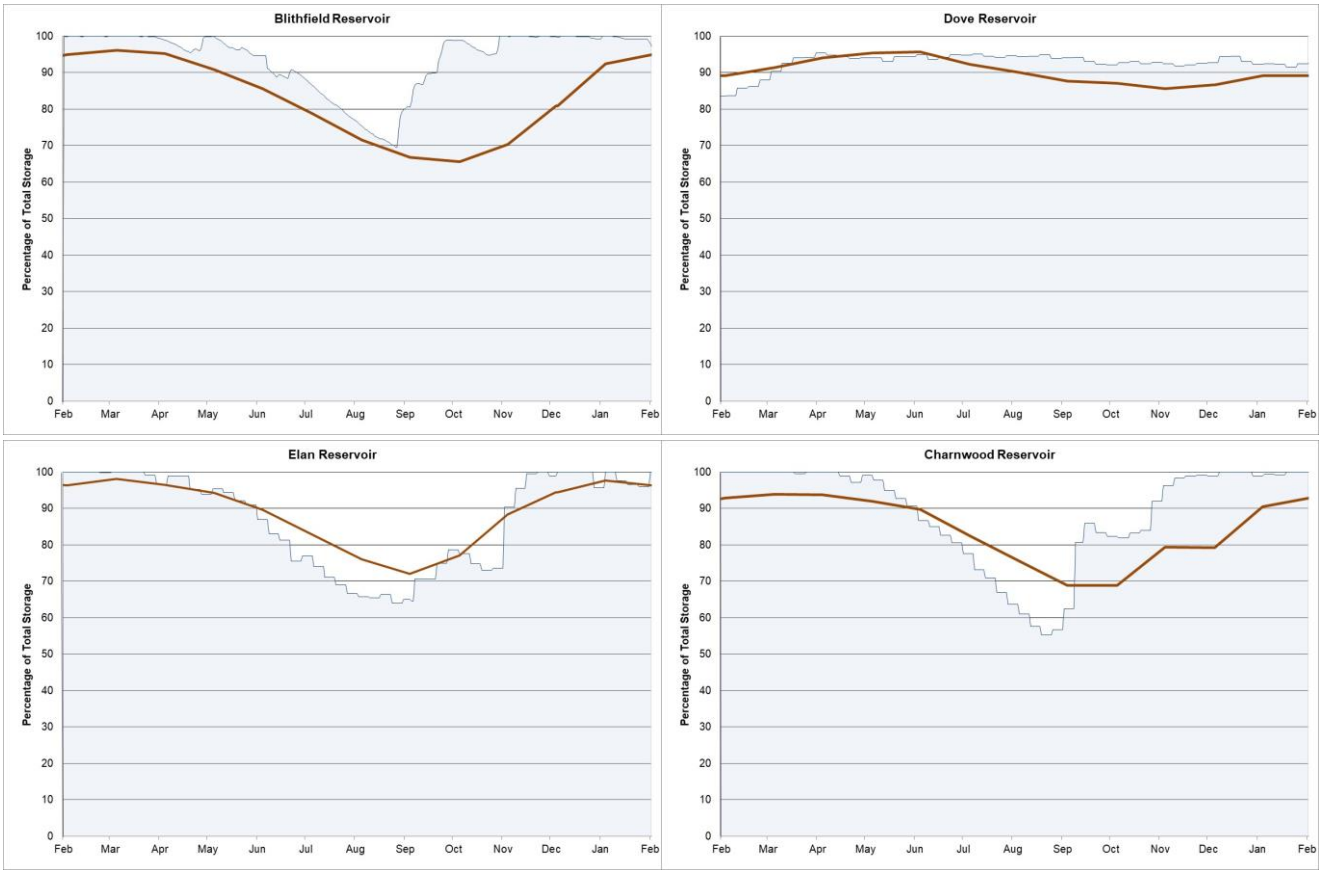


Source: Environment Agency, 2025.

6 Reservoir stocks

Figure 6.1: End of month regional reservoir stocks compared to long term average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length. Please see Section 7.4 for a map detailing the locality of the Midlands reservoirs reported on.





(Source: water companies).

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).

Field capacity

Soil at field capacity is holding all of the water which it can hold against gravity.

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

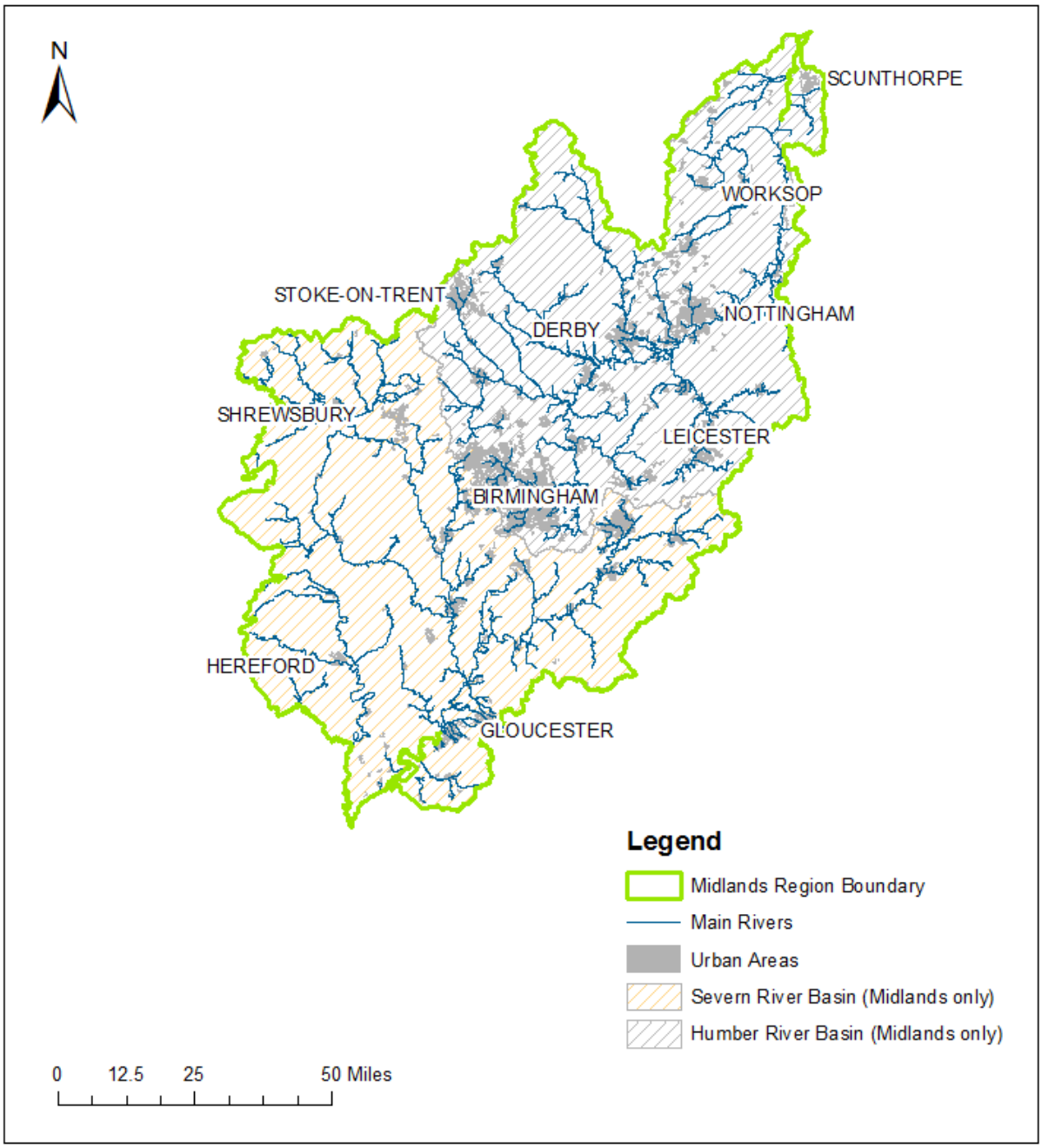
Value likely to fall within this band 8% of the time.

Exceptionally low

Value likely to fall within this band 5% of the time.

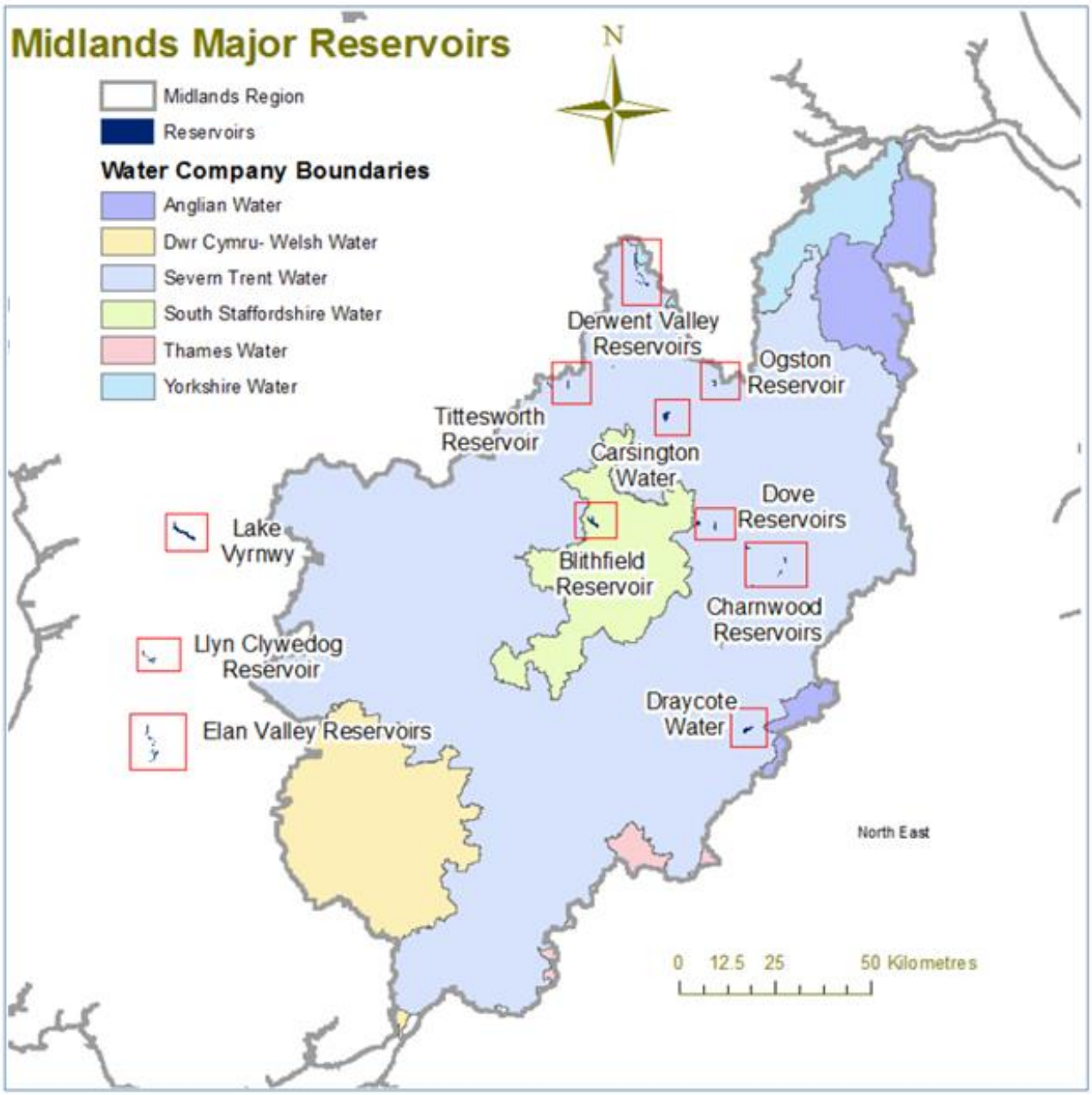
7.3 Midlands regional coverage

Figure 7.1: The Midlands regional boundary and the hydrological boundaries of the River Severn and River Trent.



7.4 Midlands major reservoirs

Figure 7.2: Location of major reservoirs in the Midlands.



8 Appendices

8.1 Rainfall table

Hydrological area	Feb 2025 rainfall % of long term average 1961 to 1990	Feb 2025 band	Dec 2024 to February cumulative band	Sep 2024 to February cumulative band	Mar 2024 to February cumulative band
Avon To Evesham	96	Normal	Normal	Notably high	Notably high
Derwent (Midlands)	59	Below Normal	Normal	Above normal	Above normal
Dove	48	Below Normal	Normal	Above normal	Notably high
Lower Severn Estuary	98	Normal	Normal	Notably high	Exceptionally high
Lower Trent	66	Normal	Above normal	Notably high	Above normal
Lower Wye	86	Normal	Normal	Notably high	Notably high
Mid Severn	76	Normal	Normal	Notably high	Above normal
Shropshire Plains	64	Below Normal	Normal	Notably high	Exceptionally high
Soar	78	Normal	Above normal	Notably high	Notably high
Tame	69	Normal	Normal	Notably high	Notably high
Upper Trent	50	Below Normal	Normal	Notably high	Notably high

Welsh Mountains	69	Normal	Normal	Normal	Above normal

8.2 River flows table

Site name	River	Catchment	Feb 2025 band	Jan 2025 band
Auckley	Torne	Torne	Normal	Notably high
Bewdley	Severn	Severn Lower Mid	Normal	Above normal
Butts Bridge	Lugg	Lugg	Normal	Normal
Clifton Hall	River Mease	Mease	Normal	Above normal
Deerhurst	Severn	Severn Lower	Normal	Above normal
Derby St. Marys	Derwent	Derwent Der to Markeaton confl.	Normal	Above normal
Ebley Mill	Frome (Gloucs.)	Frome Gloucs.	Above normal	Above normal
Evesham	Avon (Midlands)	Avon Warwks. Lower	Normal	Above normal
Great Bridgeford	Sow	Sow Upper	Normal	Notably high
Kegworth	Soar	Soar to Kingston Brook confl.	Normal	Above normal
Llanyblodwel	Tanat	Severn Upper River Tanat	Normal	Normal
Marston On Dove	Dove (Midlands)	Dove Derb to Hilton Br confl.	Below normal	Above normal

North Muskham	Trent	Trent to Cromwell	Normal	Above normal
Redbrook	Wye (Herefordshire)	Wye H and W d s Lugg	Normal	Normal
Stareton	Avon (Midlands)	Avon Warwks. Upper	Normal	Above normal
Tenbury	Teme	Teme	Normal	Normal
Walcot	Tern	Tern	Normal	Notably high
Wedderburn Bridge	Leadon	Leadon	No Data	No Data
Whatstandwell	Derwent	Derwent Derb to Amber confl.	Below normal	Normal
Worksop	Ryton	Ryton Upper to Oldcoates Dyke	Normal	Exceptionally high
Yoxall	Trent	Trent to Tame Mease confl.	Normal	Above normal

8.3 Groundwater table

Site name	Aquifer	End of Feb 2025 band	End of Jan 2025 band
Anthony's Cross	Severn Vale Permo Triassic Sandstone	Notably high	Exceptionally high
Coxmoor	Permo Triassic Sandstone	Exceptionally high	Exceptionally high
Crossley Hill	Permo Triassic Sandstone	Above normal	Above normal
Four Crosses	Grimsby Ancholme Louth Limestone	Notably high	Notably high
Ram Hall, Meriden	Grimsby Ancholme Louth Limestone	Notably high	Above normal
Rider Point Via Gellia	Carboniferous Limestone	Normal	Notably high
Southards Lane, Bolsover	Magnesian Limestone	No Data	Above normal
Weir Farm	Bridgnorth Sandstone Formation	Exceptionally high	Exceptionally high