Monthly water situation report: Midlands

1 Summary - May 2025

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

Rainfall - For the fourth consecutive month all Midlands areas received less than 100% of their Long Term Average (LTA) rainfall. In May the amount of rainfall received varied across the region, with the driest parts in the south of the region.

Soil moisture deficit - Soil moisture deficit (SMD) across the Midlands has increased in May. By the end of the month the SMD were much larger than their respective LTA for the time of year reflecting the dry and warm spring.

River flows - Exceptionally low mean monthly flows occurred at 9 of the reported sites, these were not limited to one basin and occurred in the Wye, Severn and Trent. In addition, 6 sites were classed as notably low and 4 as below normal, again these were not limited to an individual basin.

Groundwater levels - As of the end of May, the majority of groundwater levels recorded normal or higher compared to the LTA. The exception to this being 2 sites which are now classed as below normal.

Reservoir stocks - Most reservoirs have experienced a reduction in storage during May due to dry weather conditions reducing refill and increases in water demand.

1.1 Rainfall

In May, whilst all Midlands had less than 100% Long Term Average (LTA) the amount of rainfall received varied across the region.

The driest part was in the south of the region, with the rainfall totals being exceptionally low for the Lower Severn and notably low in the Lower Wye and Avon. The rainfall totals for this southern part being 29% to 38% of its May LTA. Much of the rest of the region received below normal rainfall, ranging from 46% to 72% of its LTA. The exception being the Shropshire Plains, Upper Trent and Dove whom had normal rainfall classification with 75% to 94% of their LTA rainfall.

Looking back at the metrological spring (March to May) as a whole, most Midlands hydrological catchments received exceptionally low rainfall amounts ranging between 33%

and 46% of their LTA. In fact, the Midlands region had its second driest 3-month period on record, with only the same months in 1990 being drier. The Upper Trent, Dove and Shropshire Plains received slightly more rainfall relative to their LTA (54% to 56% respectively) and thus classified as notably low.

Looking back at the metrological winter and spring (December to May) as a whole, most Midlands hydrological catchments received below normal rainfall totals ranging between 71% and 82% of their LTA. In the south-west of the region it was even drier relative to their LTA, with Lower and Mid Severn receiving 68% to 71% of their normal rainfall. In contrast, in the north-east of the region rainfall totals reached 85% of its LTA and thus was classified as normal.

Looking at the last 12 months' rainfall totals combined, rainfall has been normal for most of the Midlands ranging from 85% to 103% of its LTA. The only exception being the Welsh Mountains which had below normal rainfall totals with 83% of its LTA.

1.2 Soil moisture deficit and recharge

Soil moisture deficit (SMD) across the Midlands has increased in May. By the end of May, the driest soils occurred in the east and south-east of the region, with SMDs of between 101mm to 130mm occurring in the Lower Trent, Soar and Avon. Whilst the rest of the region had SMDs at 71mm to 100mm with the exception of the Welsh mountains.

Throughout the Midlands the SMDs are much larger than their respective LTAs. For the Middle Severn and Lower Wye the deficits are 51mm to 75mm larger than LTA and throughout the rest of the region 26mm to 50mm. The soils were drier than typically expected for the time of year, reflecting the dry and warm spring.

1.3 River flows

In May, of the 21 monthly river flow sites reported here, 9 of the sites were classed as exceptionally low. These exceptionally low sites occurring on the Lower Wye, Frome (Gloucester) Middle and Lower Severn, Teme, Dove and Derwent. The sites with the lowest flow relative to their LTA being Tenbury (Teme) and Redbrook (Lower Wye) at 28% and 30% respectively.

Notably low mean monthly flows occurred at 6 sites occurring in the Tanat, Leadon, Sow, Soar, Lower Trent and Torne. Whilst below normal flows occurred at 4 sites including Tern, Upper Avon, Mease and Upper Trent. Only 2 sites, Evesham and Worksop, were classed as

having normal monthly mean flows and even these had flows of 60% to 66% of their LTA respectively.

Some rivers showed a mild response to the rainfall that occurred towards the end of the month. However, due to the dry antecedent conditions any river level rise that did occur was limited and recession quickly followed.

1.4 Groundwater levels

As of the end of May, the majority of groundwater levels recorded normal or higher compared to the LTA. The exceptions being Rider Point (Carboniferous limestone) and Southards Lane (Magnesian limestone), which are now both classed as below normal.

About 7 of the 9 reported groundwater sites have had a reduction in groundwater level during May, however in most cases this was insufficient to change the sites class. Similar to last month, normal groundwater levels compared to the LTA were recorded at Ram Hall and St Mary's Church. There was however an additional site to be classed as above normal due to Anthony's Cross changing from notably high, resulting from a decrease in groundwater level. Thus bringing the number of above normal sites to three, the others being Four Crosses and Crossley Hill.

Coxmoor remains as notably high compared to the LTA, with its groundwater level remaining similar to the previous month. Also Weir Farm remains exceptionally high for groundwater levels compared to the LTA, despite a decrease in groundwater level.

1.5 Reservoir stocks

Most reservoirs have experienced a reduction in current storage during May. The dry weather conditions and warm temperatures have reduced reservoir refill and increased water use demand.

Only Draycote has remained above its LTA. In addition, Clywedog and the Dove (Formark, Staunton) reservoirs have managed to end the month above 90% full. The lowest reservoirs percentage storage at the end of May were Derwent (65%), Tittesworth (68%) Charnwood (69%), Elan (70%) and Blithfield (72%).

Updated reservoirs levels can be found and on the relevant water company's website.

1.6 Environmental impact

East Midlands Area moved to prolonged dry weather (PDW) incident status on 15 May 2025 whilst West Midlands moved on 21 May 2025. We continue to work with water companies and other abstractors to manage water resources and take precautionary actions to ensure the needs of water users and the environment are met.

1.7 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. River Severn Regulation began Friday 9 May but was paused on Tuesday 27 May following rainfall in the Welsh Mountains; there have been 15 Regulation days so far this season.

1.8 River Wye operations

Wye Regulation began Friday 2 May and continued for the remainder of the month as flows at Redbrook remained below the Regulation threshold.

1.9 Water abstraction restrictions

As of the end of May there were 23 water abstraction licence restrictions in place across the Midlands affecting 86 licences in total.

Table 1.1: Water abstraction licence restrictions

Area	Rivers and stations restricted
East Midlands	Derwent Derby St Marys Rothley Brook, Rothley
West Midlands	Badsey Brook, Offenham River Dene, Wellesbourne River Severn, Bewdley River Severn, Deerhurst

	River Leadon, Wedderburn Bridge River Perry, Yeaton Coley Brook, Coley Mill River Strine, Crudgington River Tern, Walcot River Sow, Great Bridgford River Trent, Darlaston River Teme, Tenbury River Tanat, Llanyblodwel Dowles Brook, Oak Cottage River Stour, Puxton River Wye, Belmont River Garren, Marstow Mill River Wye, Redbrook River Arrow, Titley Mill River Lugg, Butts Bridge

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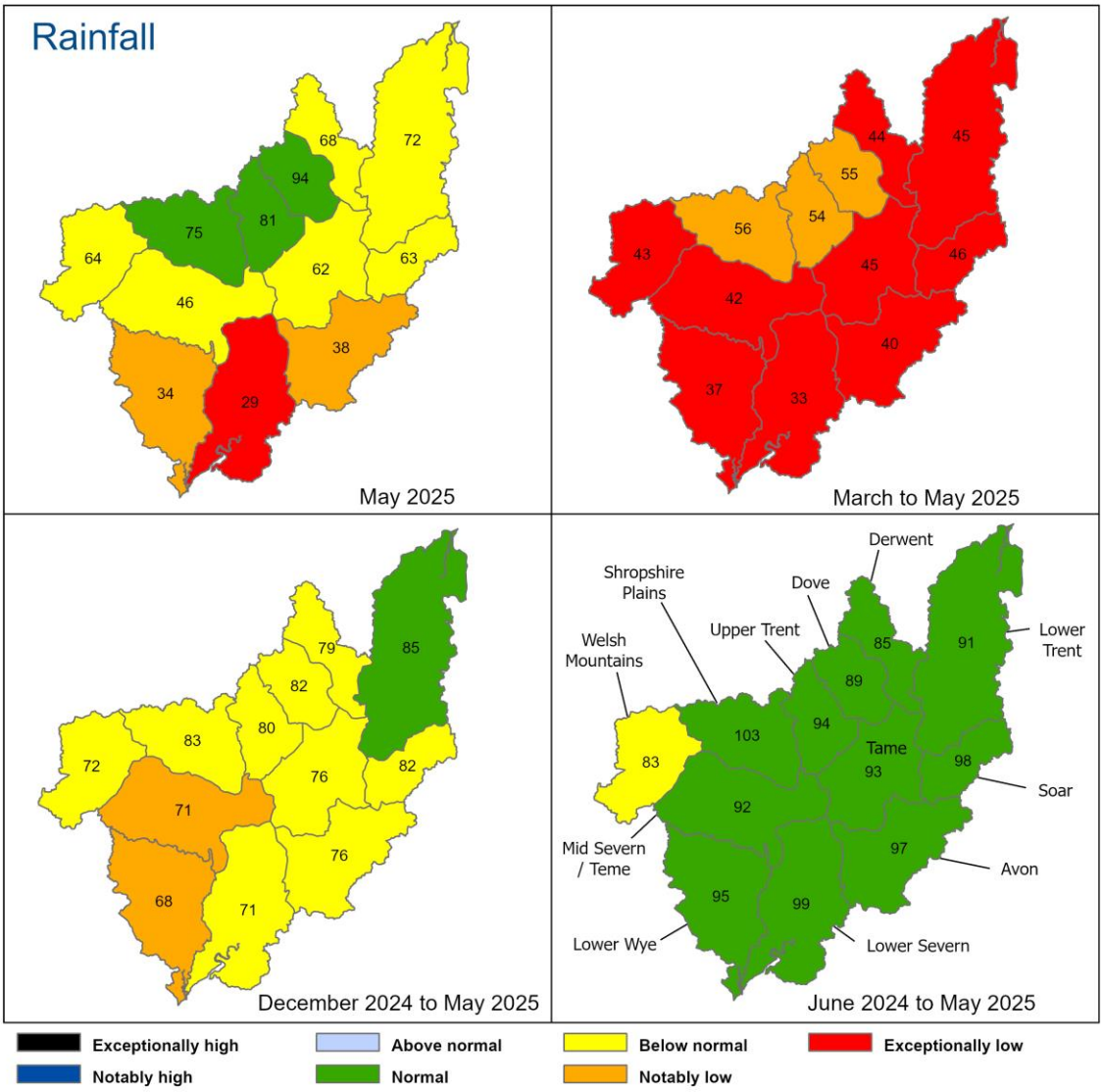
Contact Details: 03708 506 506

2 Rainfall

2.1 Rainfall map

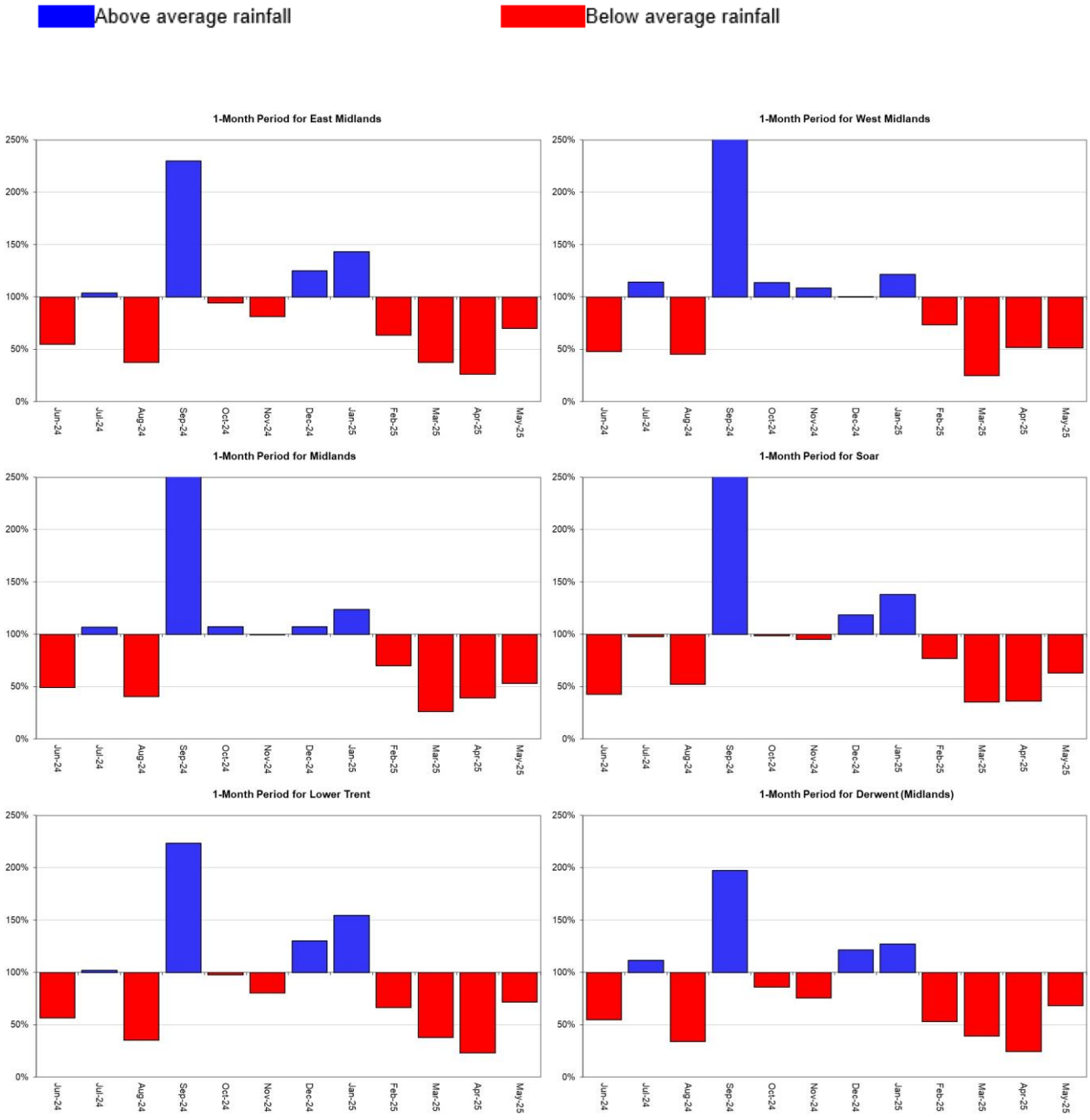
Figure 2.1: Rainfall as % LTA for hydrological areas for the current month (up to 31 May 2025), the last 3 months, the last 6 months, and the last 12 months, relative to an analysis of respective historic totals from 1991 to 2020. Detailed information available in the appendices.

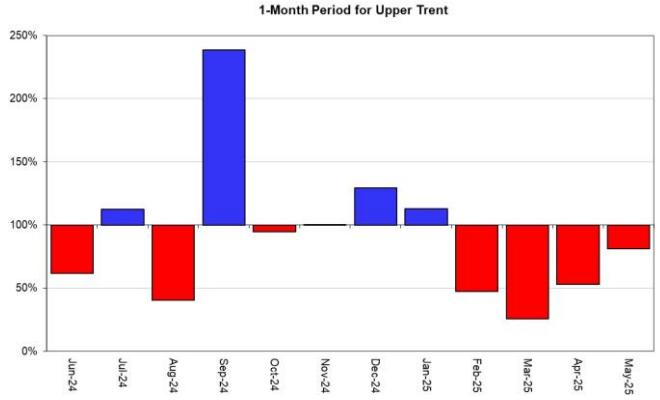


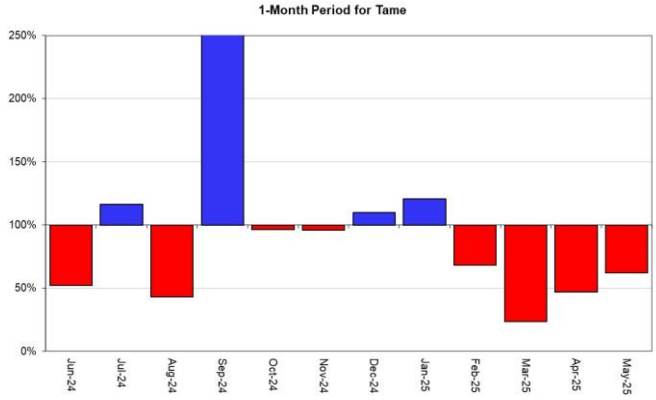
Rainfall data for Oct 2023 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to Oct 2023, extracted from Met Office HadUK 1km gridded rainfall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

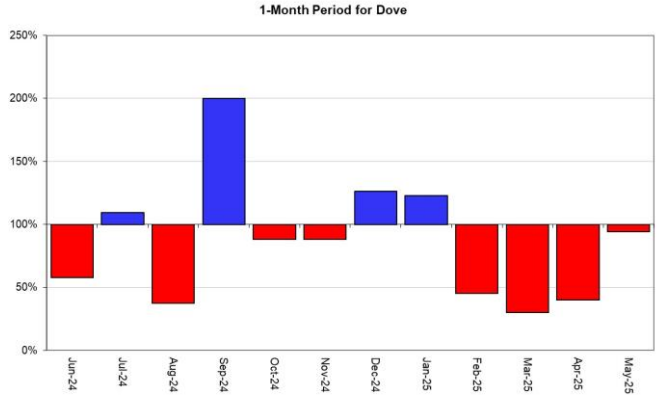
2.2 Rainfall charts

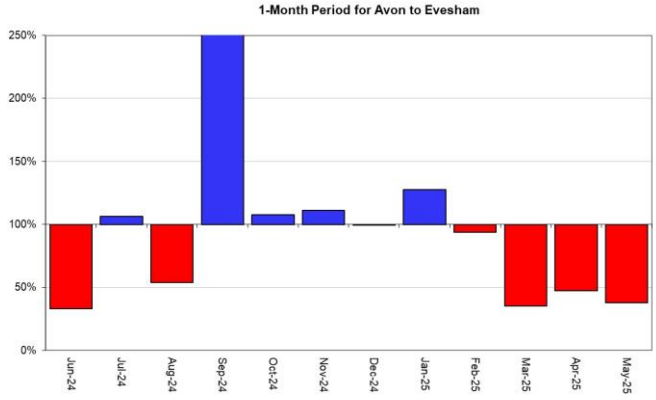
Figure 2.2: Monthly rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average for hydrological areas across the Midlands region.

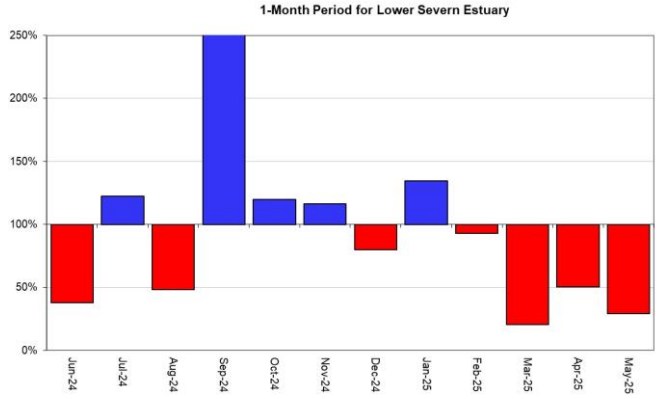


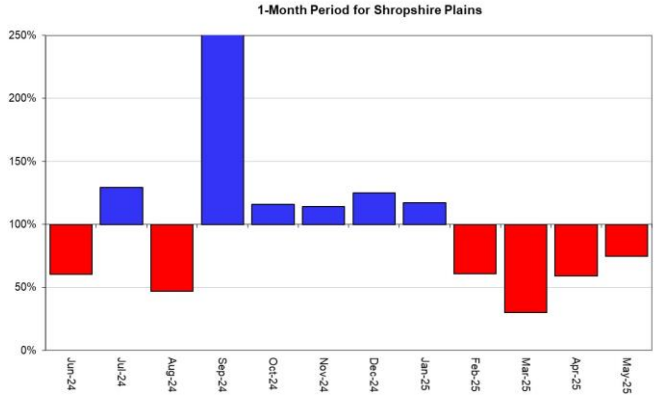

1-Month Period for Upper Trent
250%
200%
150%
100%
50%
0%
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25

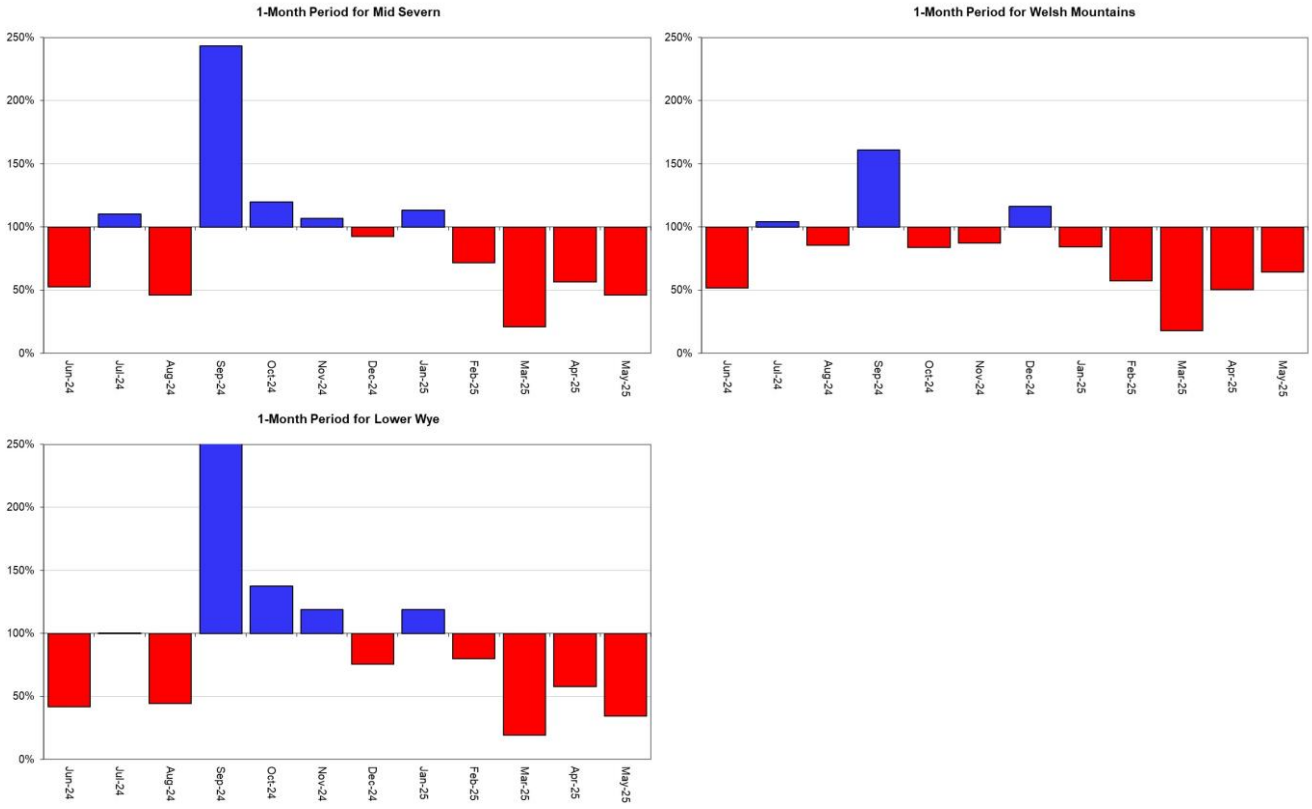

1-Month Period for Tame
250%
200%
150%
100%
50%
0%
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25


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


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


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


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

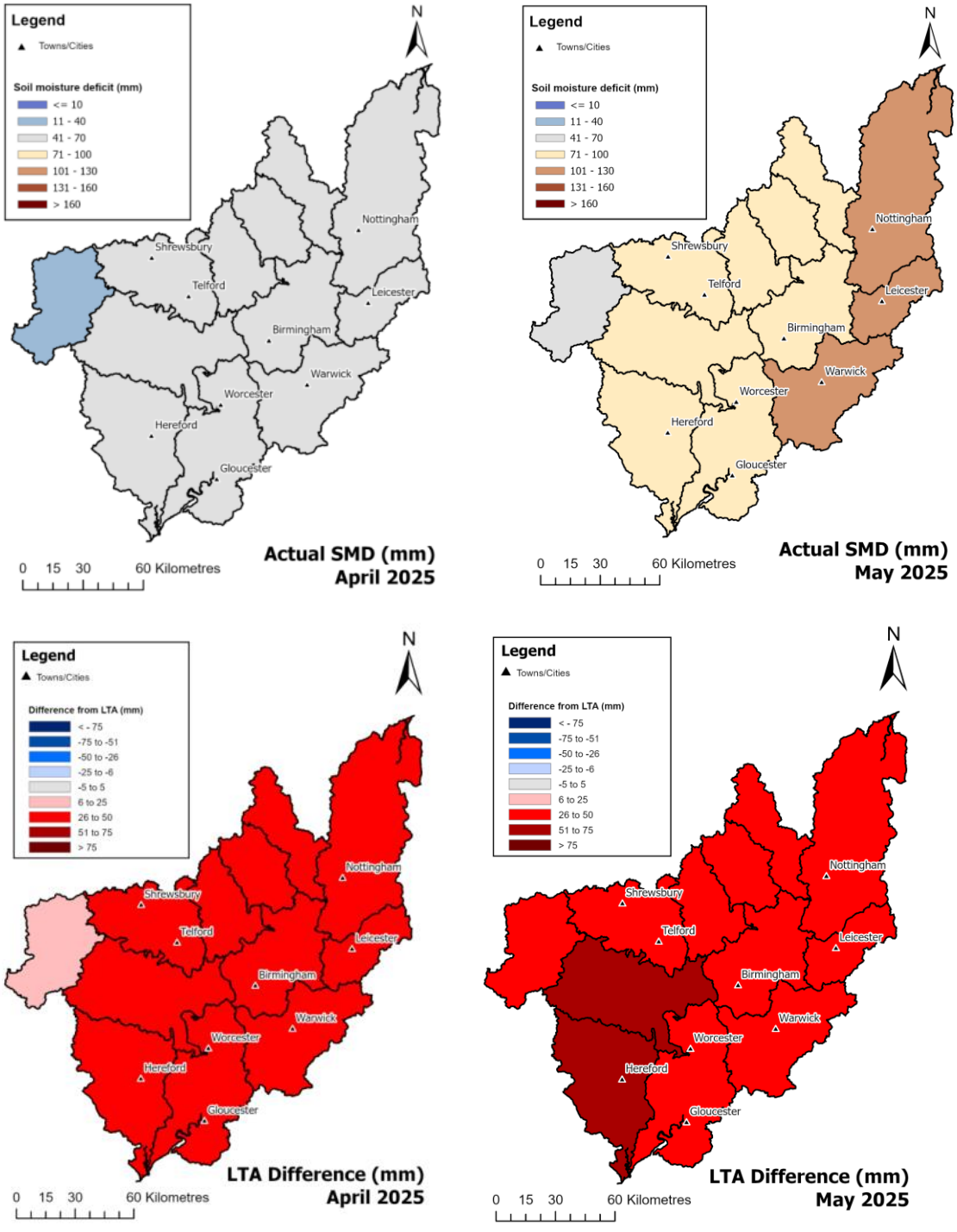


Rainfall data for Oct 2023 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to Oct 2023, extracted from Met Office HadUK 1km gridded rainfall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

3 Soil moisture deficit

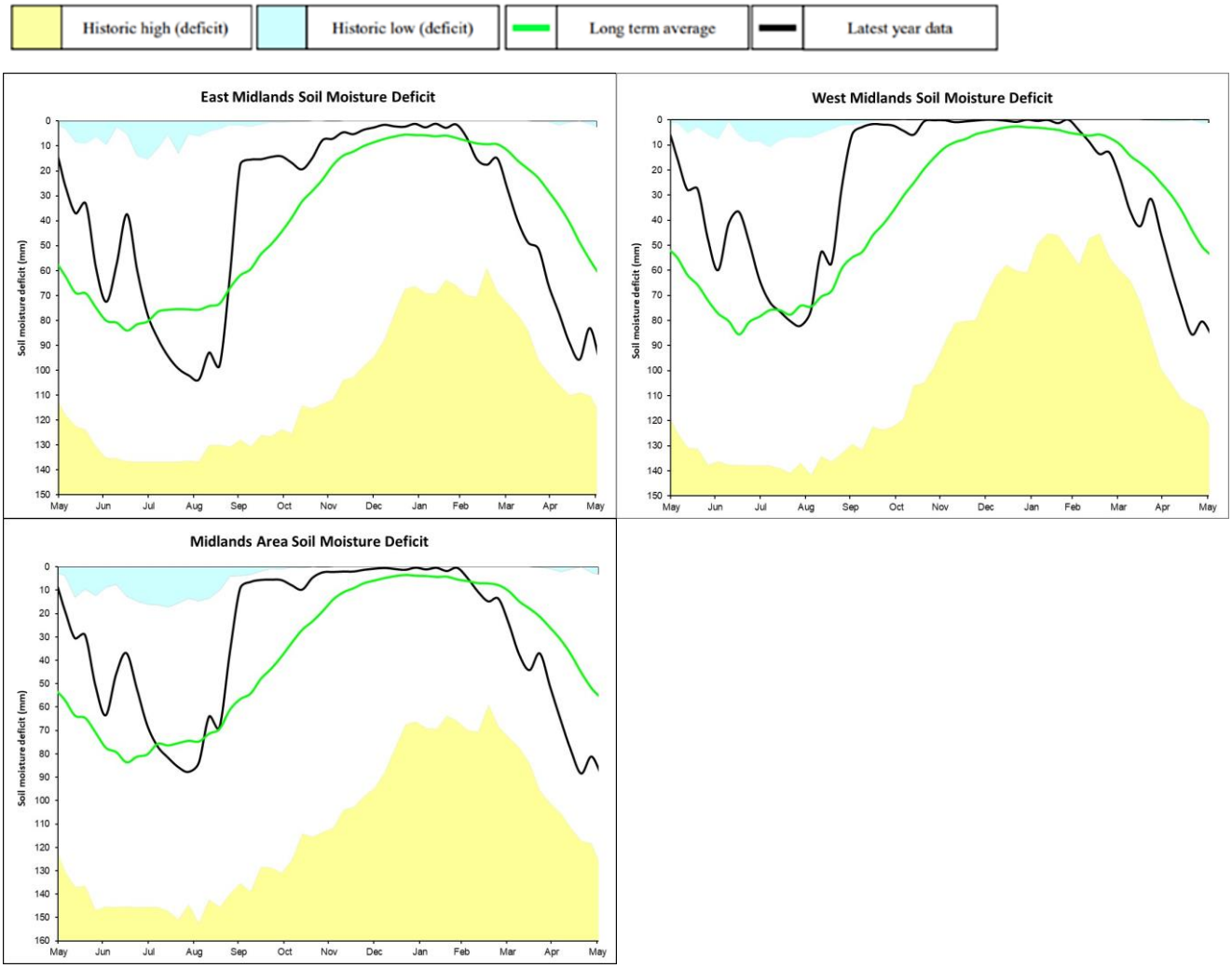
3.1 Soil moisture deficit map

Figure 3.1: Soil moisture deficits for weeks ending 30 April 2025 and 31 May 2025. The map shows the difference (mm) of the actual soil moisture deficit from the 1991 to 2020 long term average soil moisture deficits. MORECS data for real land use.



3.2 Soil moisture deficit charts

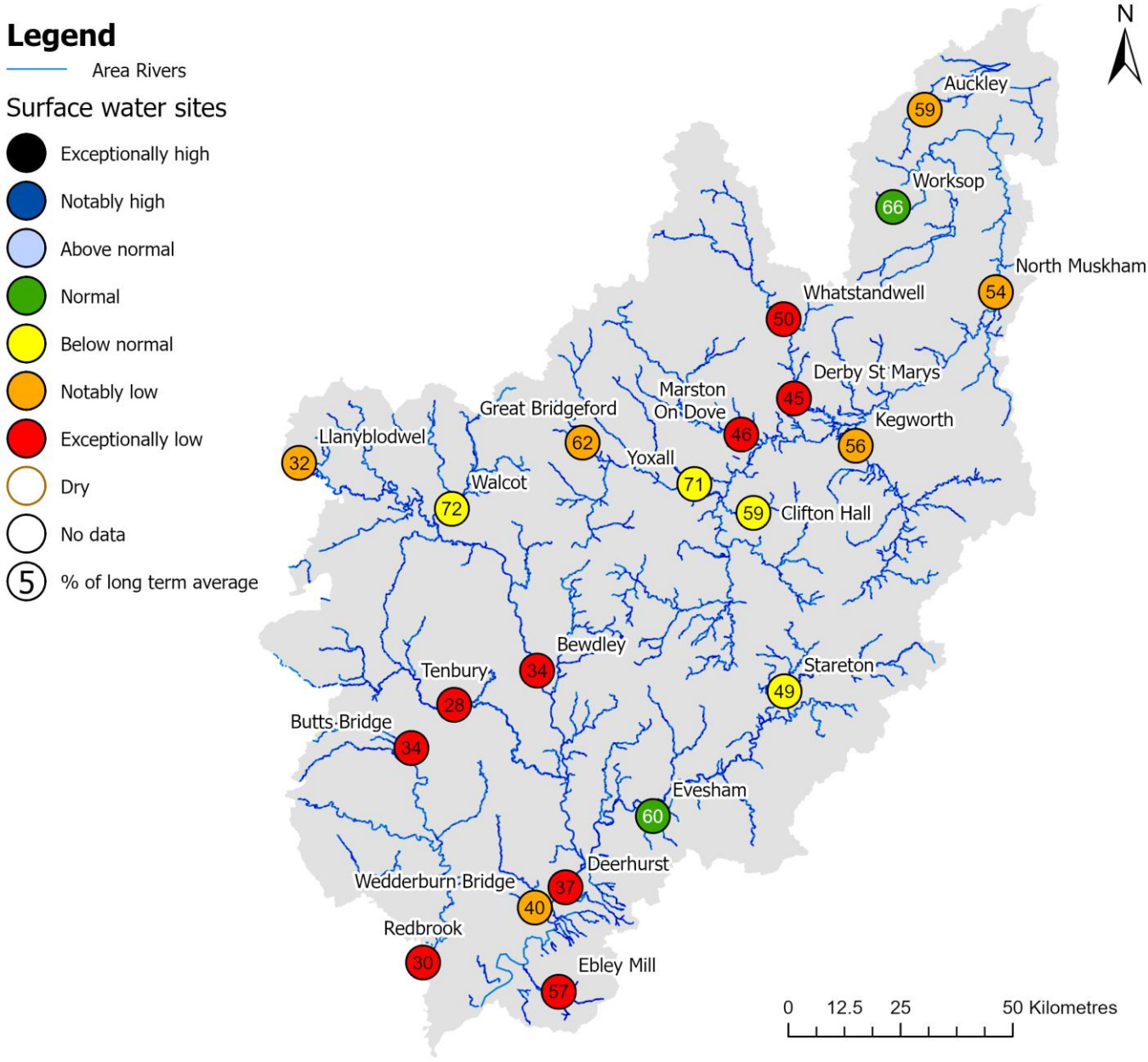
Figure 3.2: Latest soil moisture deficit charts for selected areas across the Midlands.



4 River flows

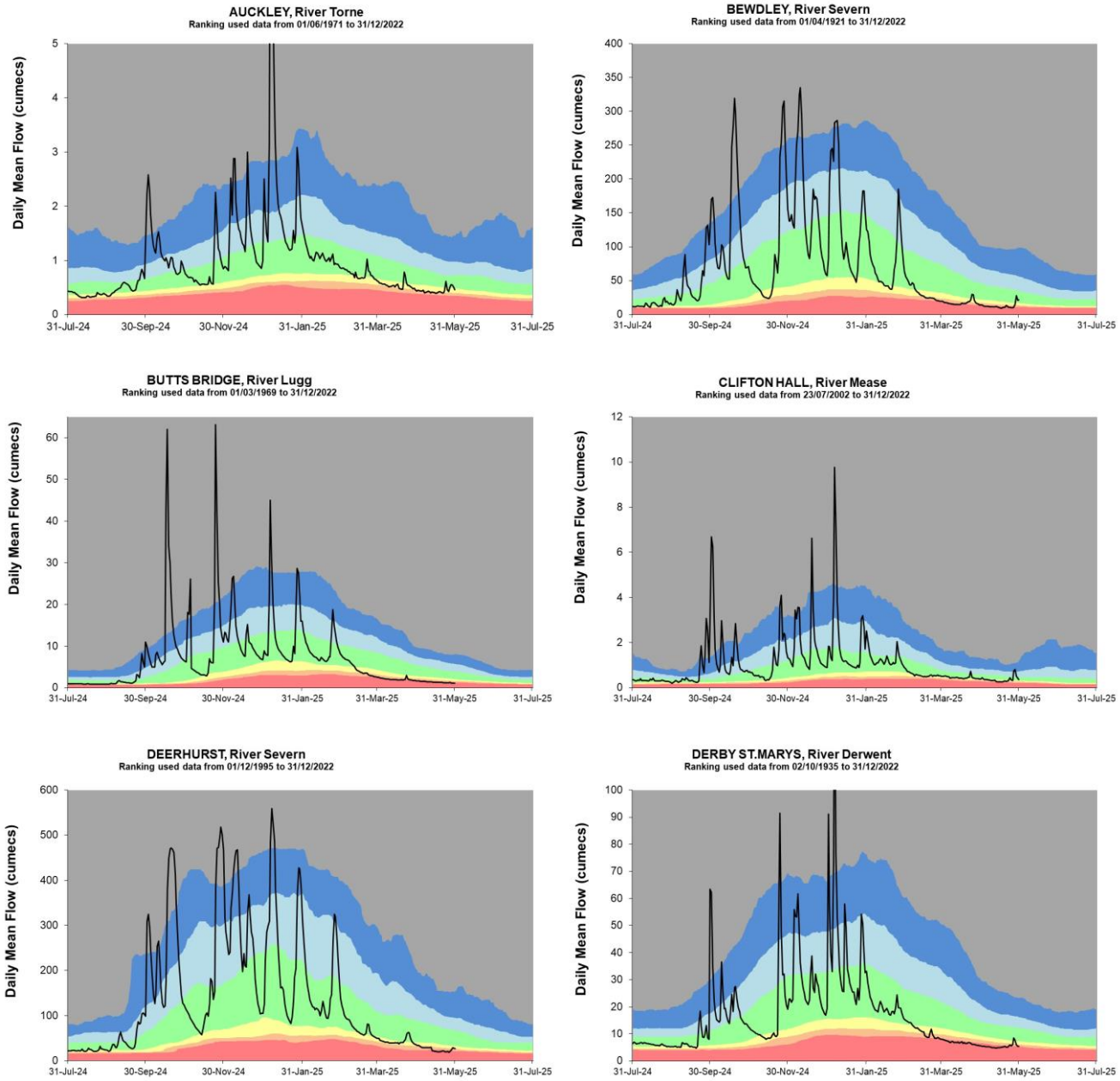
4.1 River flows map

Figure 4.1: Monthly mean river flow for indicator sites for 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.

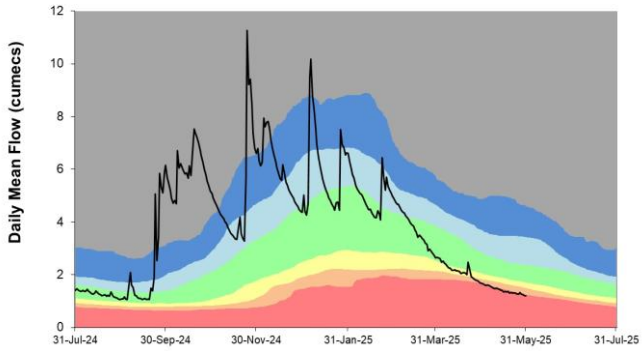


4.2 River flow charts

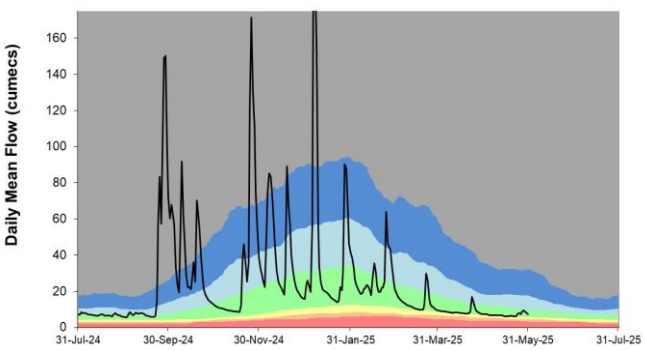
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



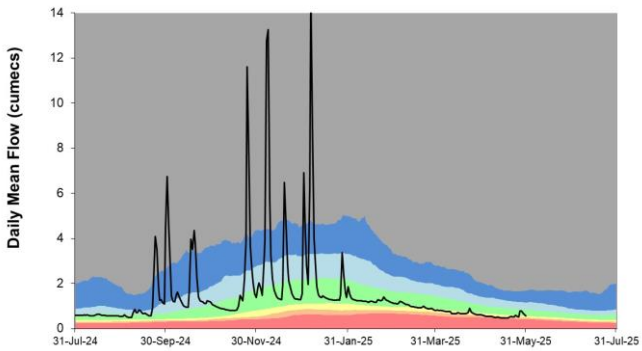
EBLEY MILL, River Frome
Ranking used data from 01/04/1969 to 31/12/2022



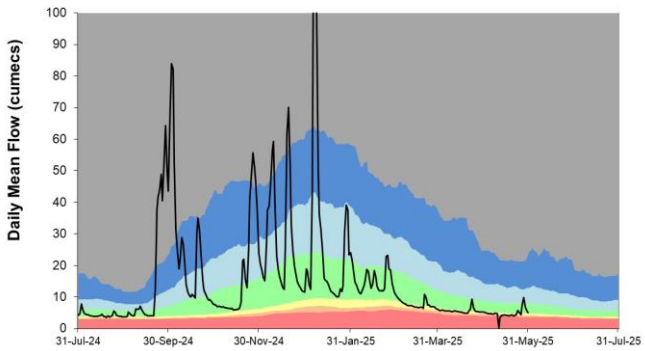
EVESHAM, River Avon
Ranking used data from 01/12/1936 to 31/12/2022



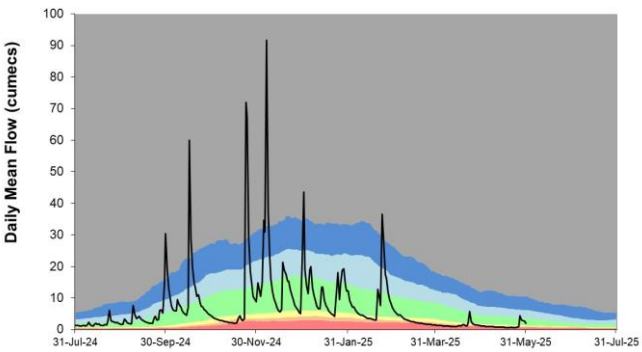
GREAT BRIDGFORD, River Sow
Ranking used data from 18/01/1971 to 31/12/2022



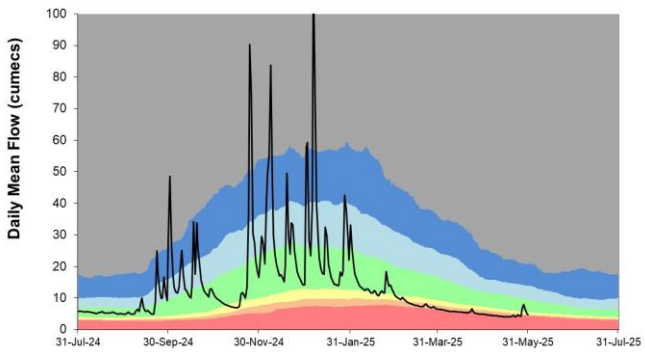
KEGWORTH, River Soar
Ranking used data from 01/12/1978 to 31/12/2022



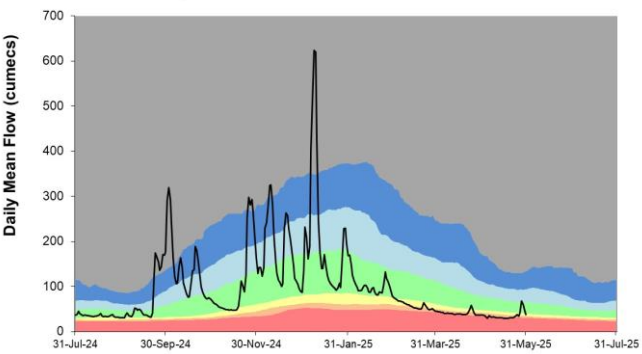
LLANYBLODWEL, Afon Tanat
Ranking used data from 01/06/1973 to 31/12/2022



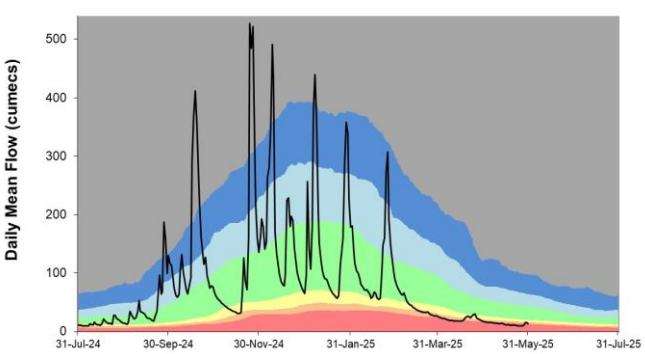
MARSTON ON DOVE, River Dove
Ranking used data from 01/07/1965 to 31/12/2022

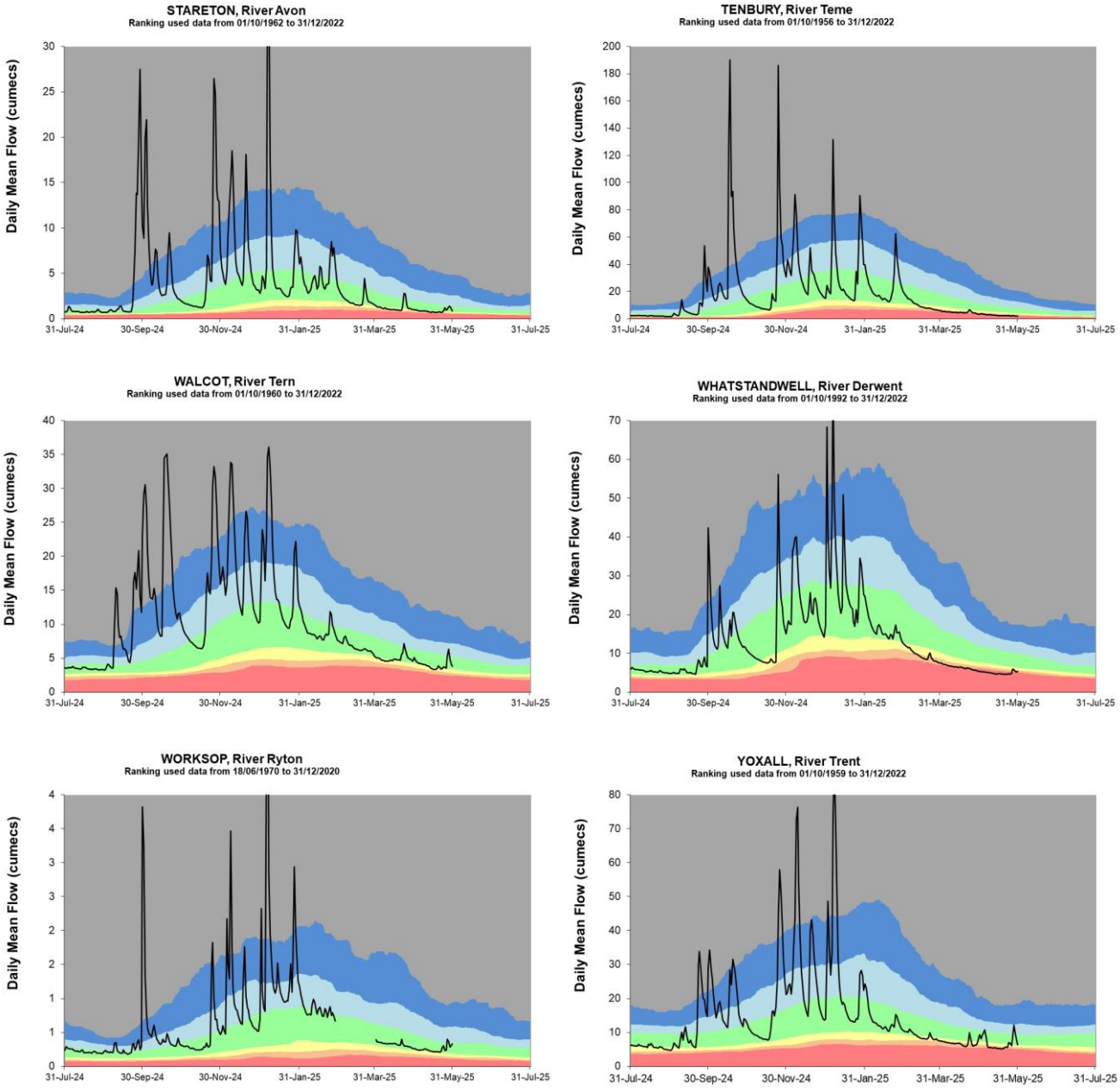


NORTH MUSKHAM, River Trent
Ranking used data from 03/10/1969 to 31/12/2022



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

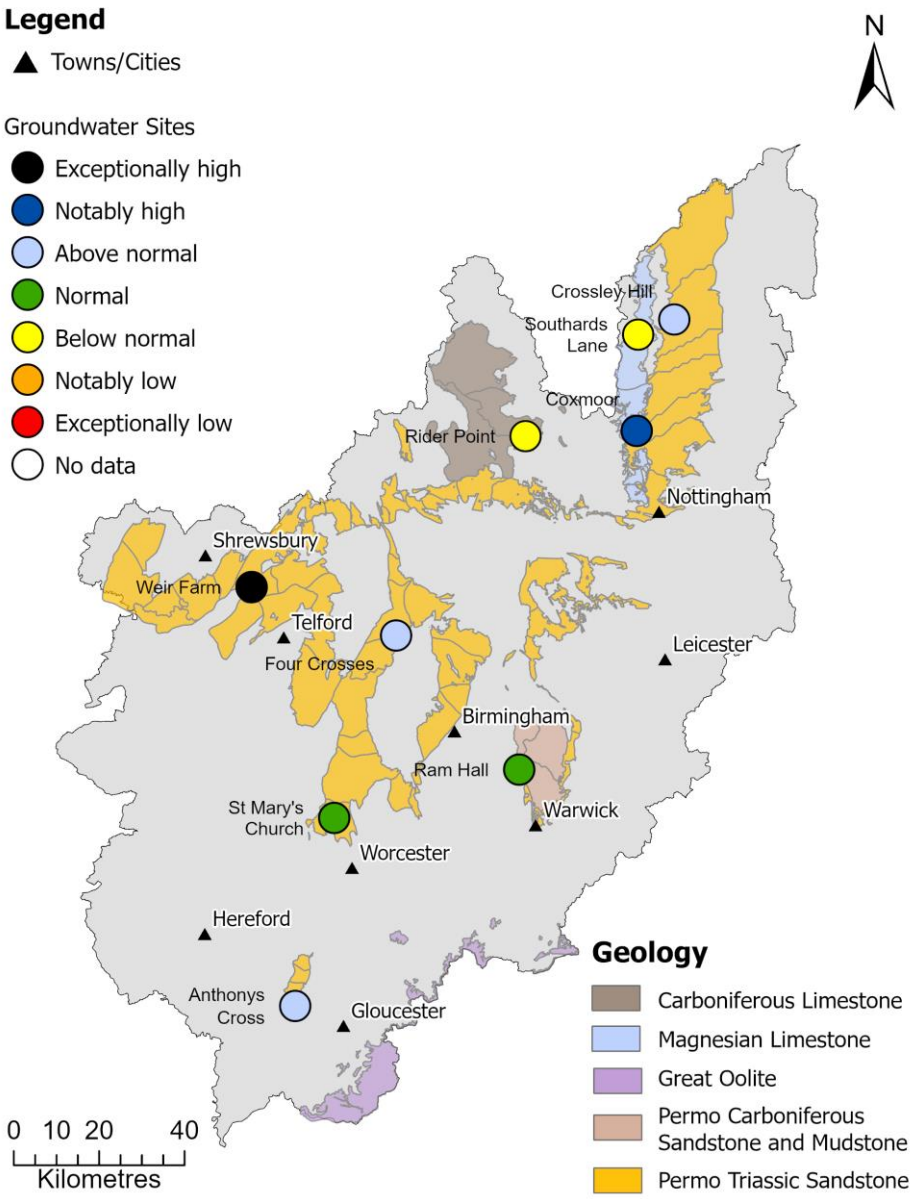




5 Groundwater levels

5.1 Groundwater levels map

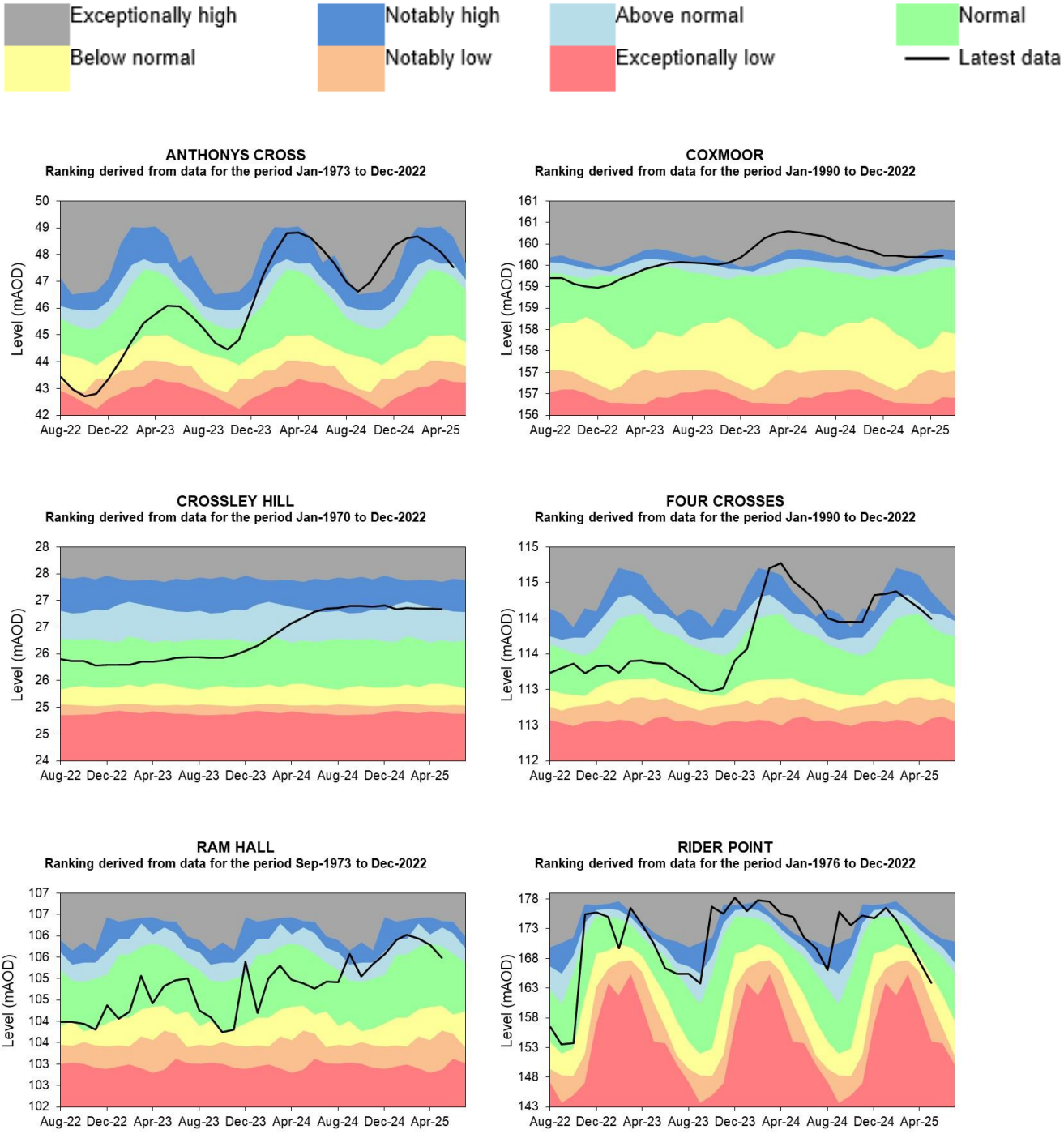
Figure 5.1: Groundwater levels for indicator sites at the end of May 2025, classed relative to an analysis of respective historic May levels. Table available in the appendices with detailed information, including aquifer type.

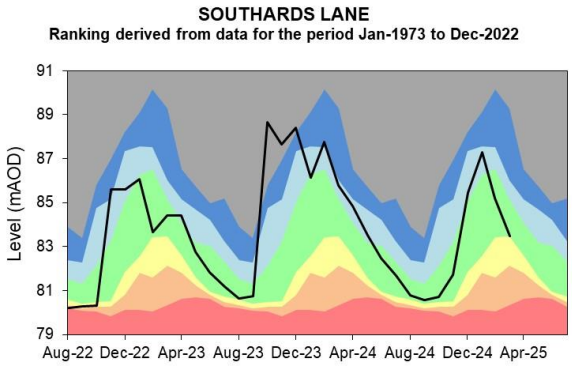


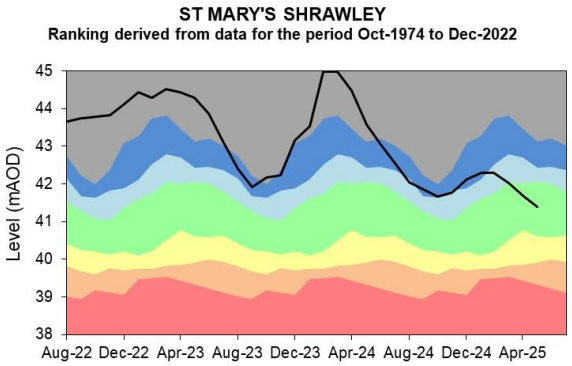
(Source: Environment Agency). Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

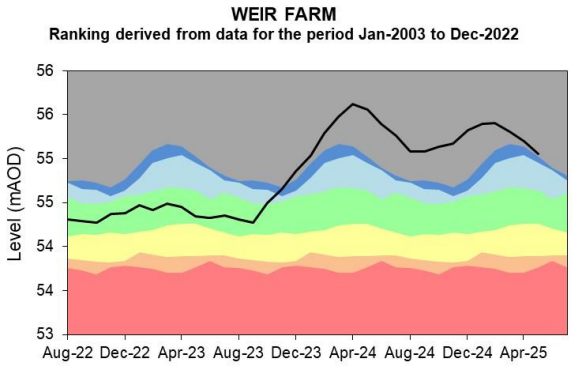
5.2 Groundwater level charts

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.





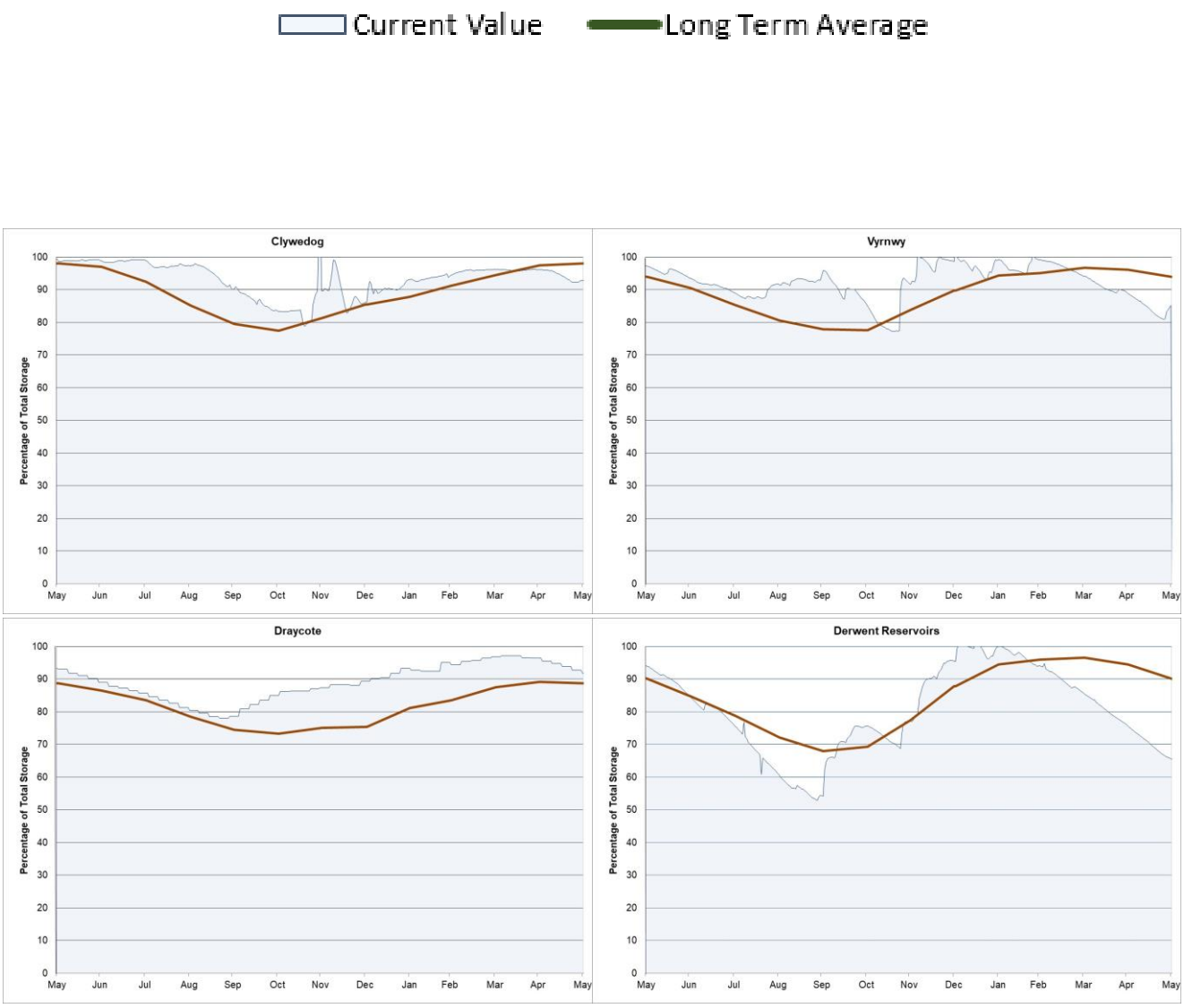


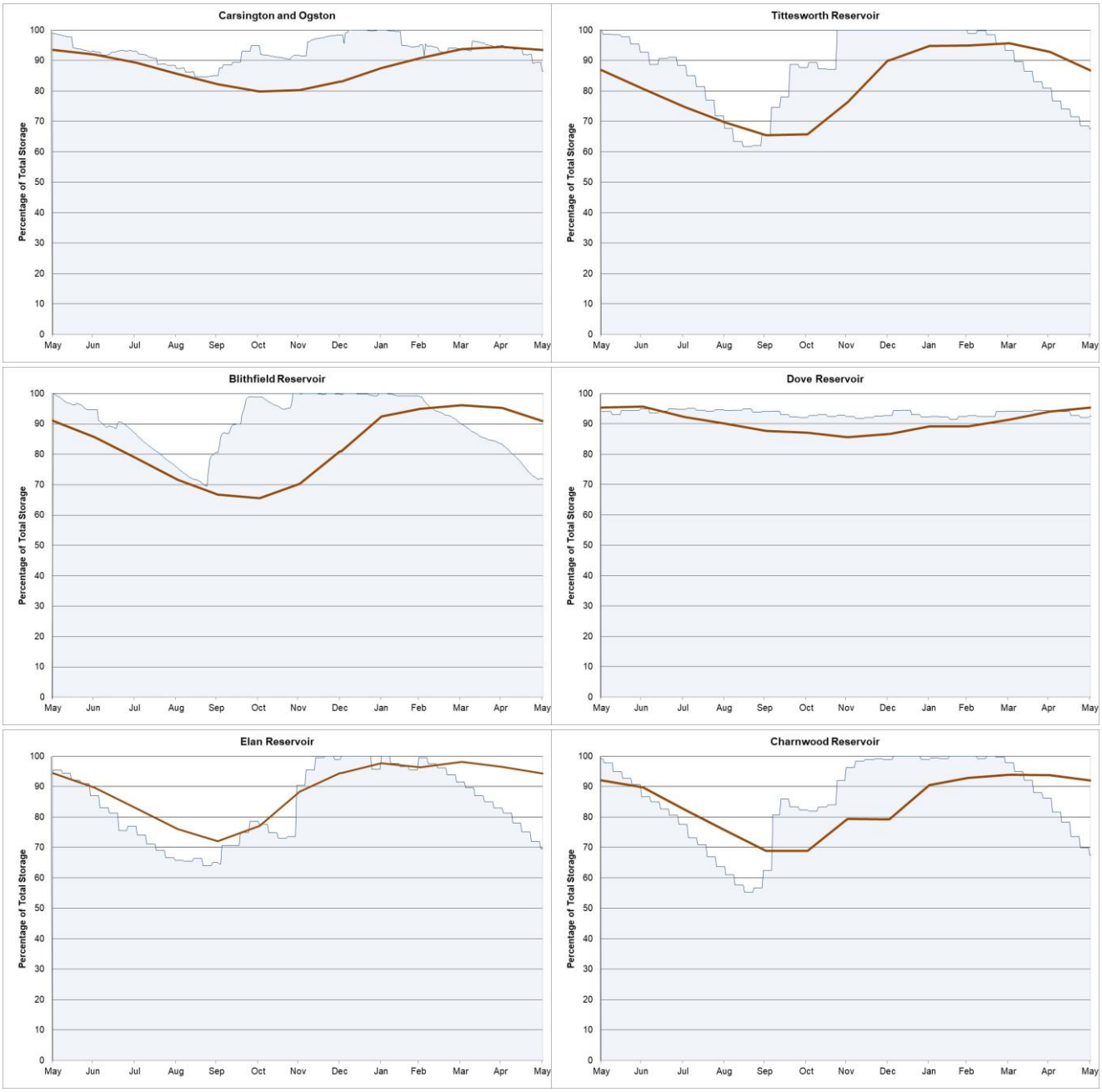


Source: Environment Agency, 2025.

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 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

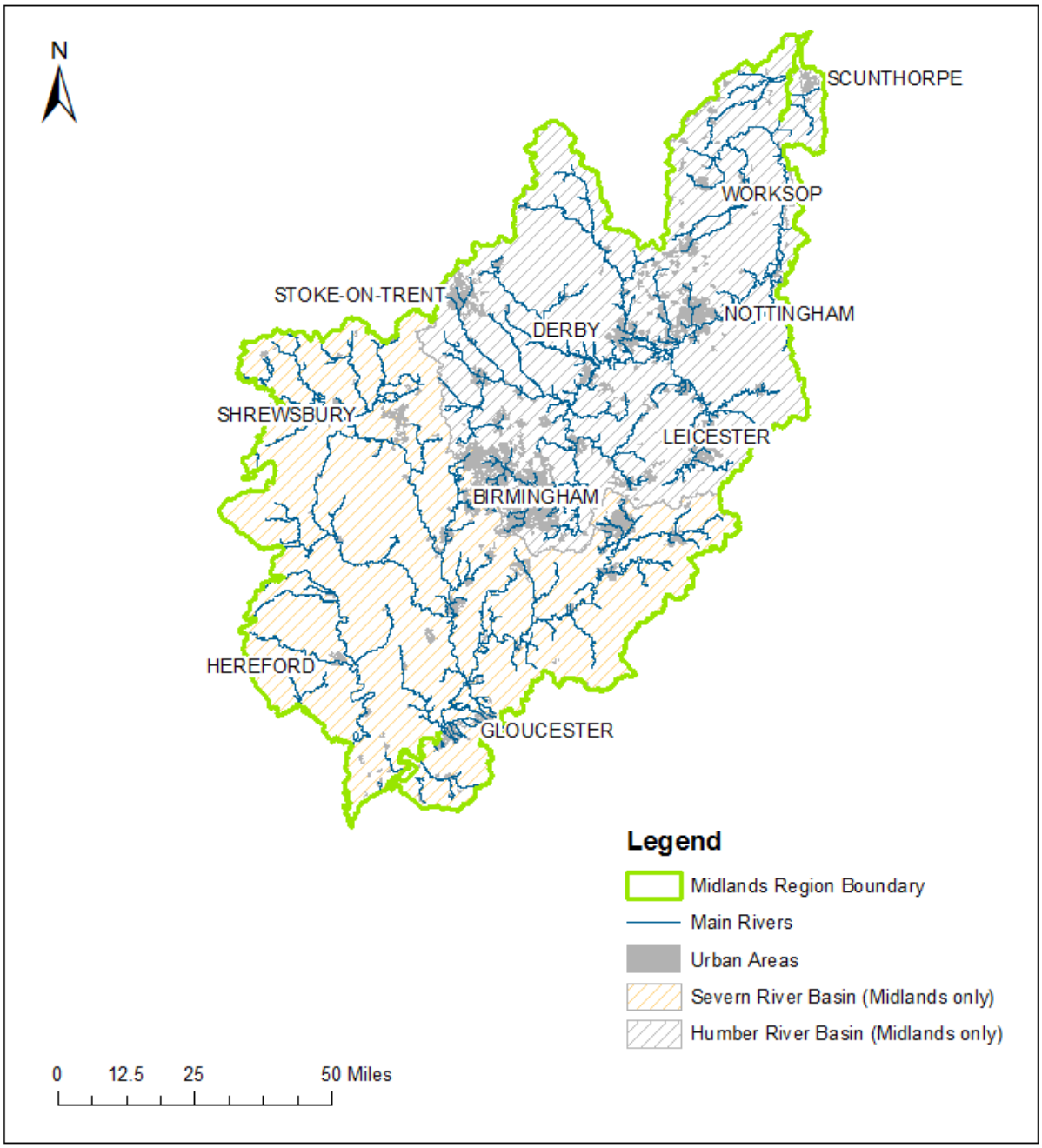
Value likely to fall within this band 8% of the time.

Exceptionally low

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

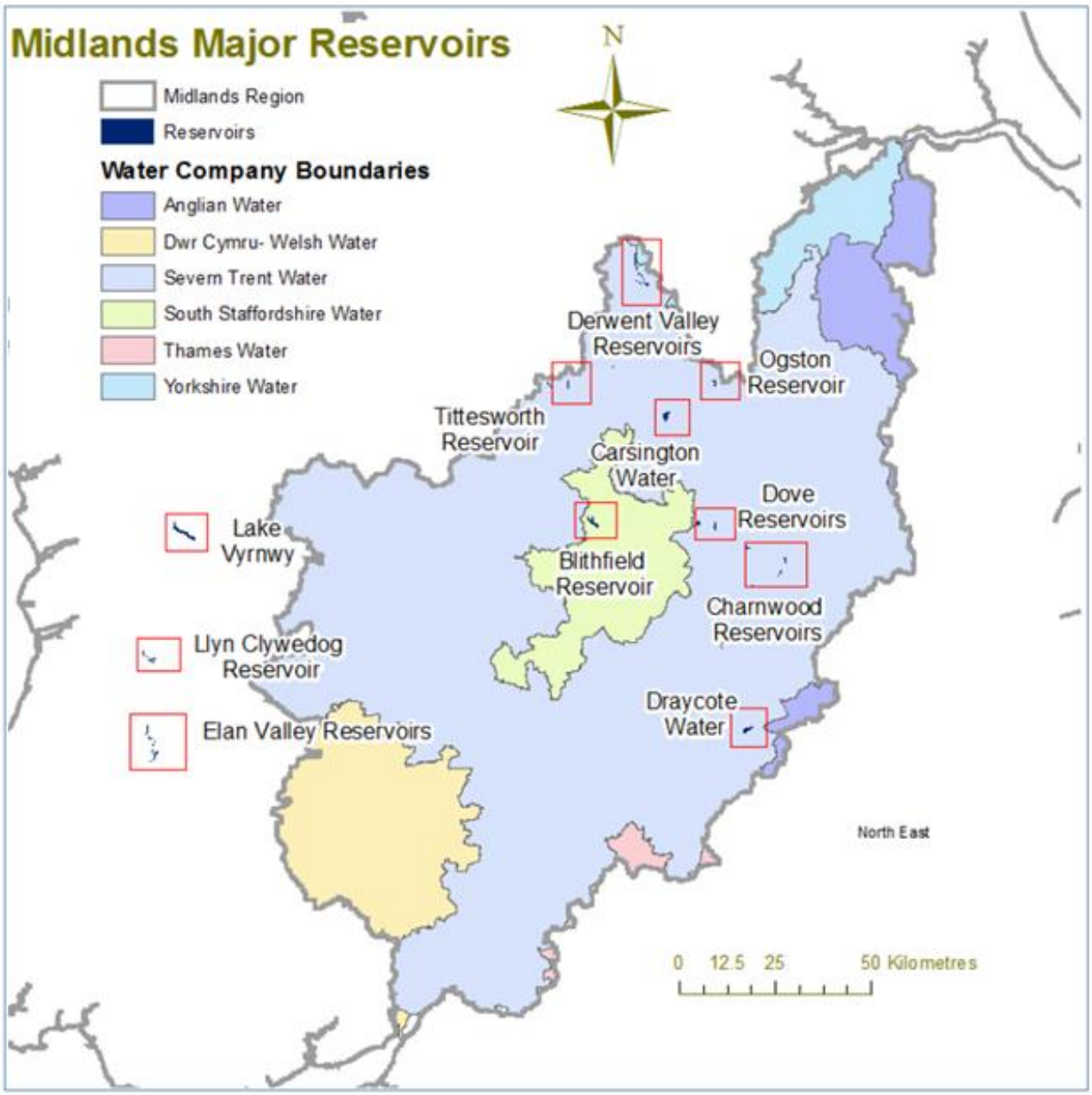
7.3 Midlands regional coverage

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	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 To Evesham	38	Notably Low	Exceptionally low	Below normal	Normal
Derwent (Midlands)	68	Below Normal	Exceptionally low	Below normal	Normal
Dove	94	Normal	Notably low	Below normal	Normal
Lower Severn Estuary	29	Exceptionally Low	Exceptionally low	Below normal	Normal
Lower Trent	72	Below Normal	Exceptionally low	Normal	Normal
Lower Wye	34	Notably Low	Exceptionally low	Notably low	Normal
Mid Severn	46	Below Normal	Exceptionally low	Notably low	Normal
Shropshire Plains	75	Normal	Notably low	Below normal	Normal
Soar	63	Below Normal	Exceptionally low	Below normal	Normal

Tame	62	Below Normal	Exceptionally low	Below normal	Normal
Upper Trent	81	Normal	Notably low	Below normal	Normal
Welsh Mountains	64	Below Normal	Exceptionally low	Below normal	Below normal

8.2 River flows table

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

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

8.3 Groundwater table

Site name	Aquifer	End of May 2025 band	End of Apr 2025 band
Anthony's Cross	Severn Vale Permo Triassic Sandstone	Above normal	Notably high
Coxmoor	Permo Triassic Sandstone	Notably high	Notably high
Crossley Hill	Permo Triassic Sandstone	Above normal	Above normal
Four Crosses	Grimsby Ancholme Louth Limestone	Above normal	Above normal
Ram Hall, Meriden	Grimsby Ancholme Louth Limestone	Normal	Normal
Rider Point Via Gellia	Carboniferous Limestone	Below normal	Below normal
Southards Lane, Bolsover	Magnesian Limestone	Below normal	Above normal
St Mary's Church, Shrawley	East Shropshire Permo-triassic Sandstone	Normal	Normal
Weir Farm	Bridgnorth Sandstone Formation	Exceptionally high	Exceptionally high