Monthly water situation report: Thames Area

1 Summary - February 2025

Thames area received 62mm of rainfall through February, 130% of the long term average (LTA). River flows increased at only one of our key indicator sites in comparison with last month. Seven of our areal rainfall units were above normal, four sites were normal and the remaining four sites had notably high rainfall throughout the month. Groundwater levels declined at six of our indicator sites in February. Ampney Crucis, Fringford and Jackaments Bottom, all located in the Oolitic aquifer all decreased from the previous month's levels. The Lower Thames and Farmoor reservoirs both decreased during February to end the month below the average for the time of year. There were 35 fluvial flood alerts, and two flood warnings issued in Thames Area in February.

1.1 Rainfall

Thames area received 62mm of rainfall through February, 130% of the long term average (LTA). The majority of areal units received normal rainfall, while in the west of Thames area, Berkshire Downs and Enbourne received above normal precipitation. Nearly half the month's rainfall fell over four days (09, 21, 23, 26 of February), with a quarter of the month's rainfall (16mm) falling on 23 January. In the past 6 to 12 months across most of Thames area we have had exceptionally high rainfall.

1.2 Soil moisture deficit and recharge

Soil moisture deficits (SMD) increased slightly from January at 2mm across Thames area however this is still below the LTA of 4mm. Effective rainfall for February was 139% of the LTA, and over the winter period so far (October to February) 185% of LTA effective rainfall occurred.

1.3 River flows

Monthly mean flow increased at just one of our key indicator sites compared to last month. Marlborough (above normal) was the only site that measured a monthly mean flow increase on last month. The remaining 14 indicator sites showed a decrease in monthly mean flow. Across the total number of indicator sites, seven were above normal, four were normal and the remaining four sites were notably high in February. Bourne End Hedsor recorded its fifth highest February flow since records began in 1965.

1.4 Groundwater levels

Groundwater levels decreased at six of our indicator sites in February. Ampney Crucis, Fringford and Jackaments Bottom, our three Oolite sites, all decreased from the previous

month’s levels. Nonetheless many boreholes record higher levels; The Flashes, in the Lower Greensands, alongside Ampney Crucis and Stonor Estate in the Chalk measured as exceptionally high. Marcham in the Corallian, Gibbet Cottage in the Chalk and Frith Cottage in the Lower Greensands are measured as notably high.

1.5 Reservoir stocks

Reservoir stocks rose in the Lower Thames reservoirs and ended the month at 88.2%, compared to 91.5% at the end of January. Stocks in Farmoor reservoir decreased from 96.3% to 93.1% during February. The Lower Thames reservoirs and Farmoor ended the month below average for the time of year.

1.6 Environmental impact

During February there were 35 fluvial flood alerts, and two flood warnings issued in Thames Area. At the end of the month, no abstraction licences were being constrained in the area to protect water resources and the environment.

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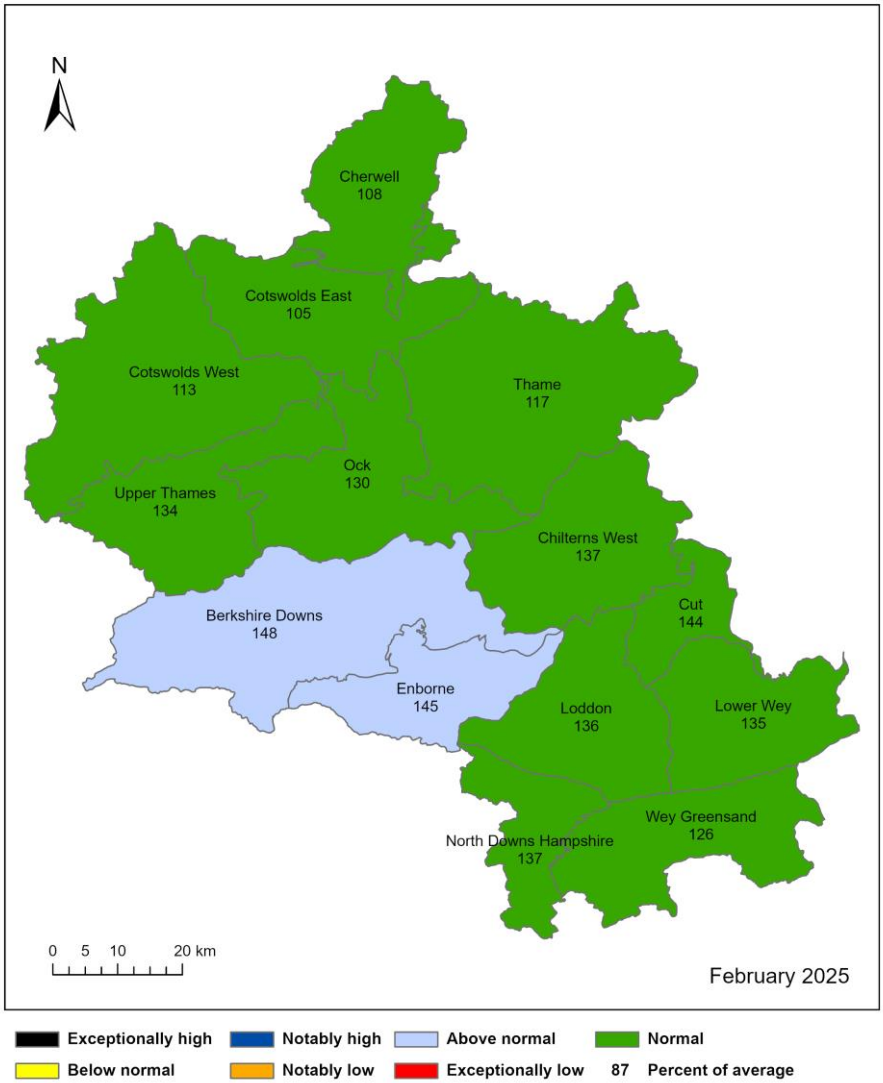
Contact Details: 030708 506 506

2 Rainfall

2.1 Rainfall map

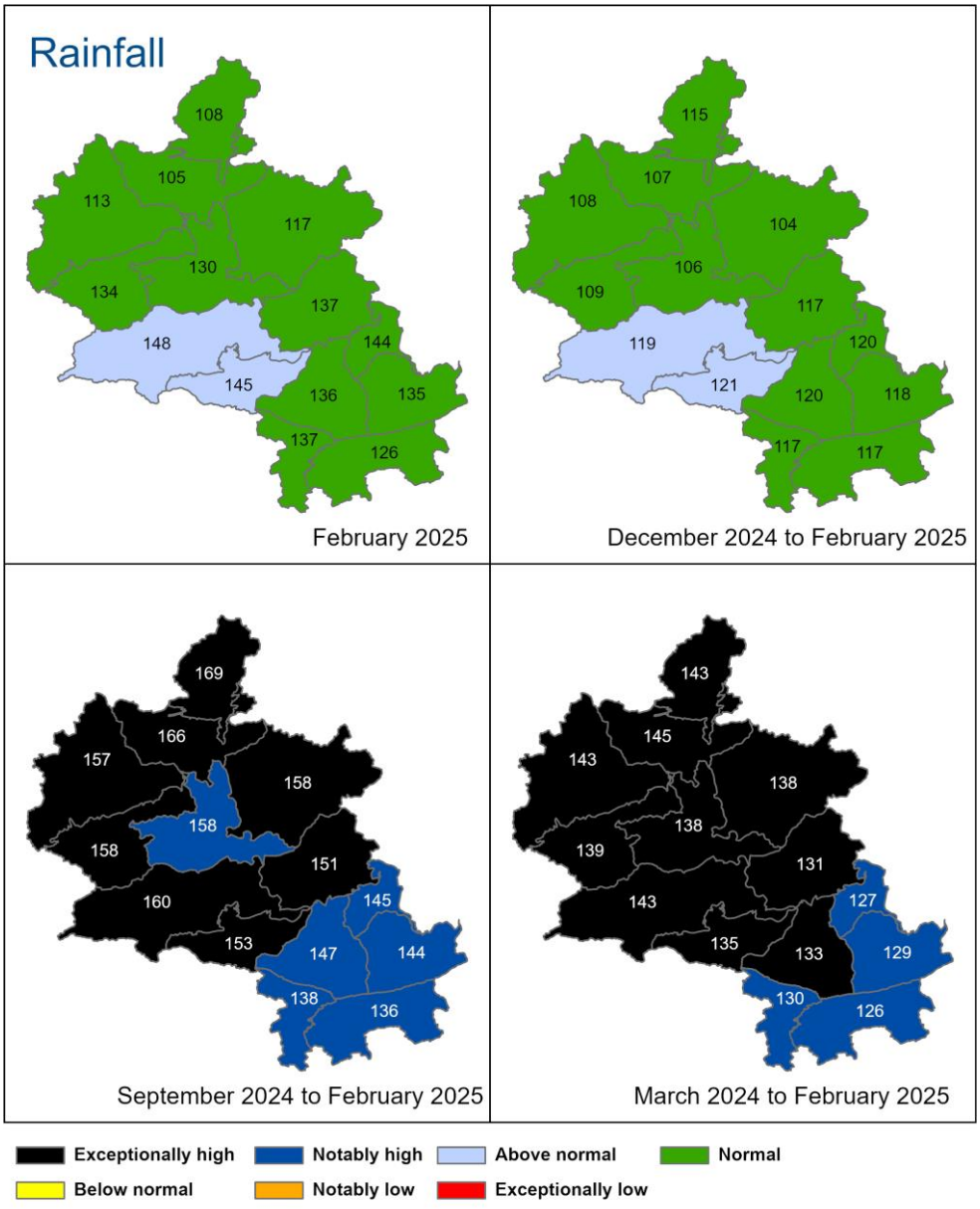
Figure 2.1: Total rainfall for hydrological areas for the current month (up to 28 February 2025), classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.



Rainfall data for Oct 2023, 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 map (2)

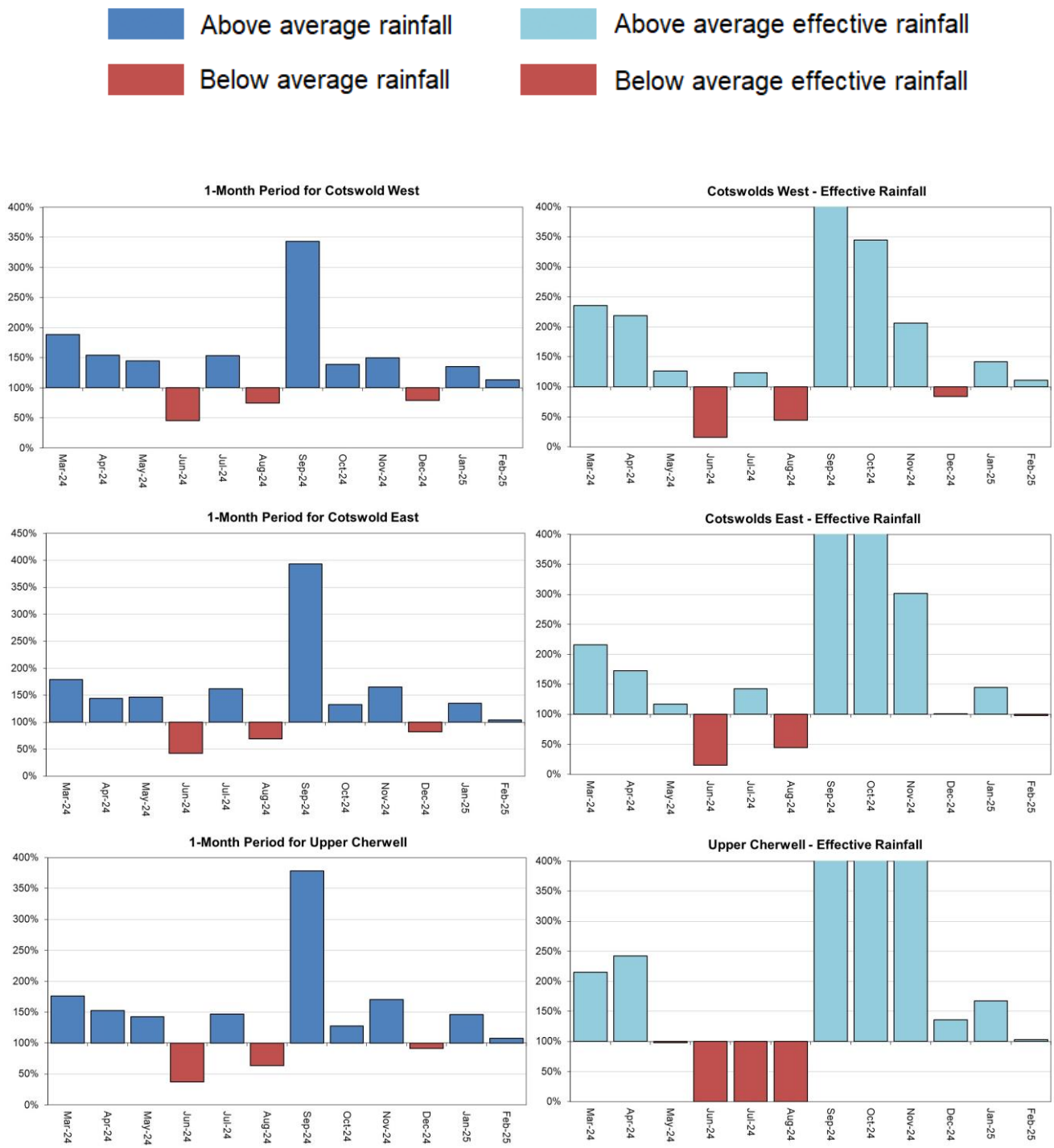
Figure 2.2: Total rainfall for hydrological areas for the current month (up to 28 February 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.

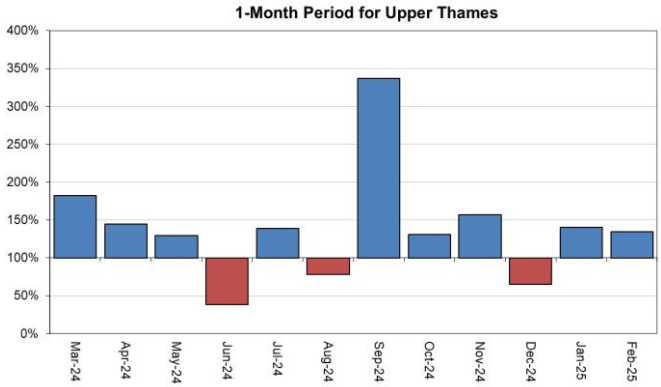


HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved.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

2.3 Rainfall charts

Figure 2.3: Monthly rainfall totals for the past 12 months as a percentage of the 1961 to 1990 long term average for each areal unit.

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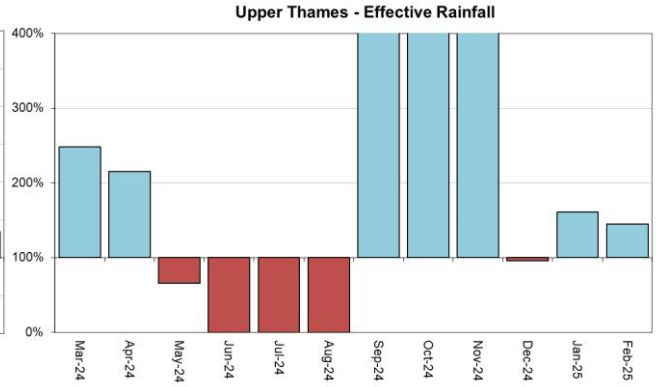
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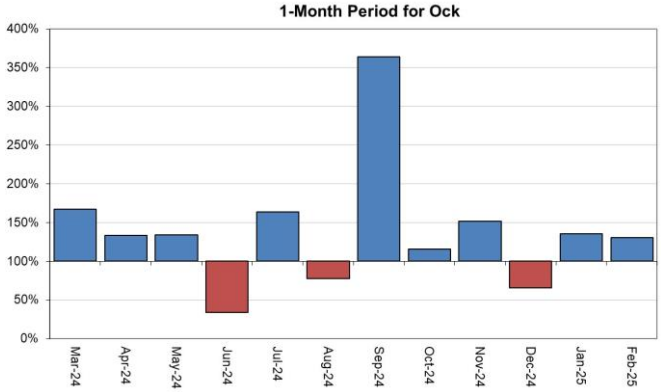
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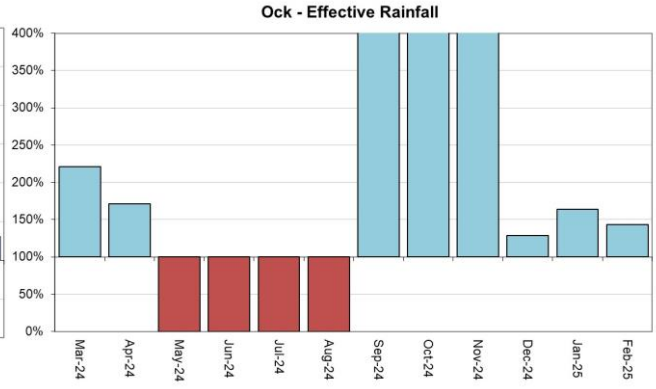
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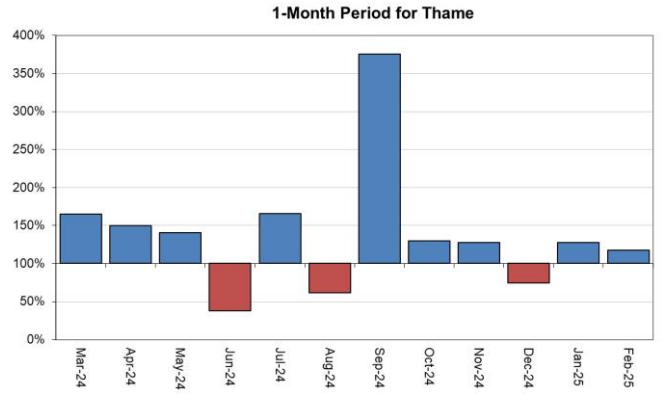
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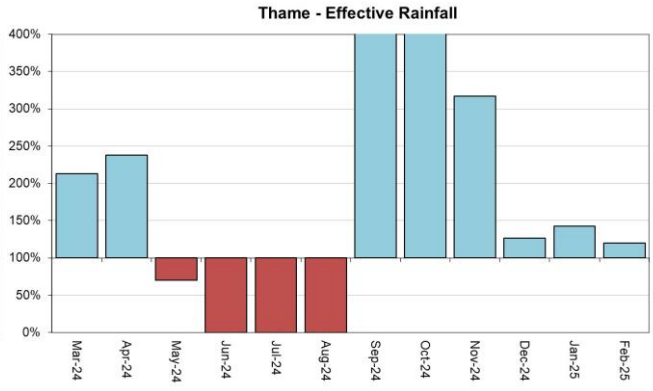
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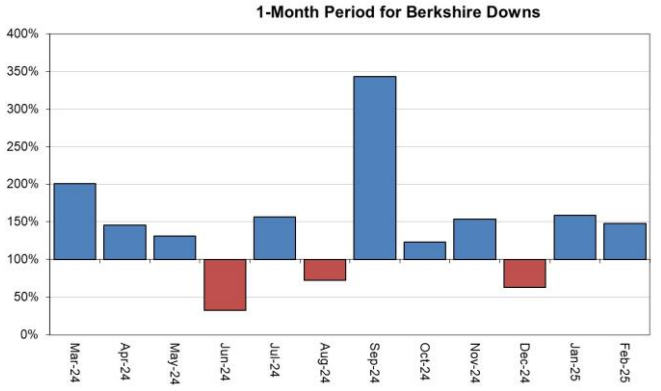
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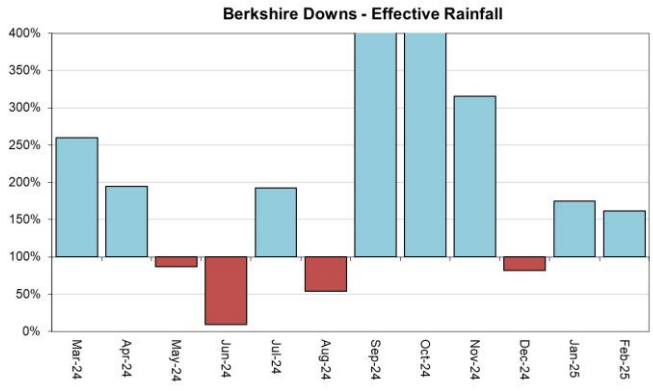
Berkshire Downs - Effective Rainfall
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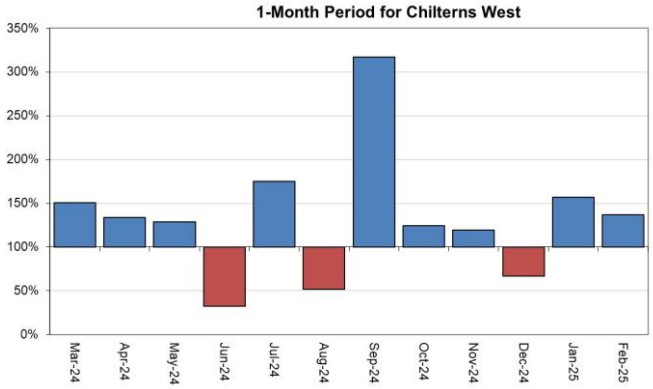
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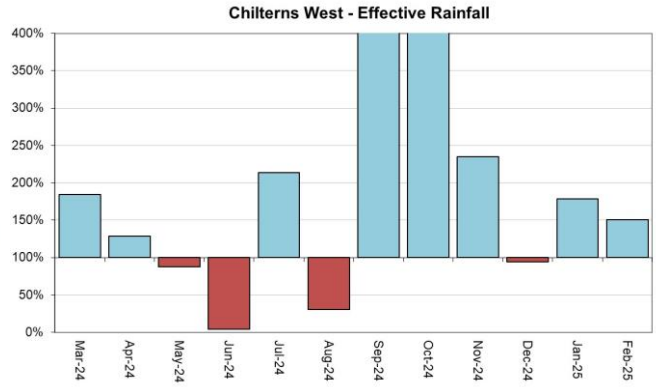
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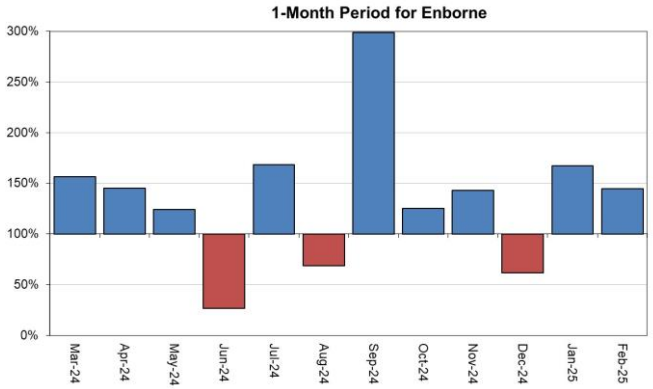
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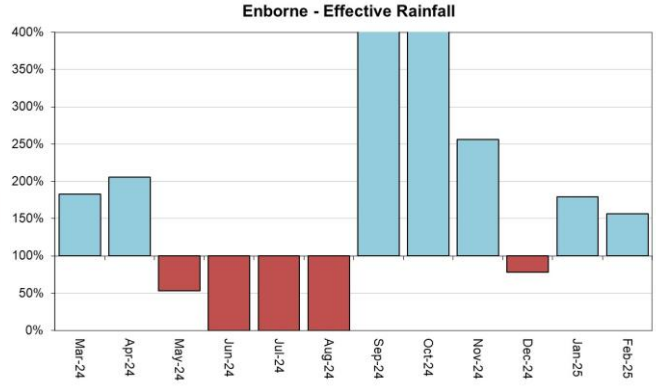
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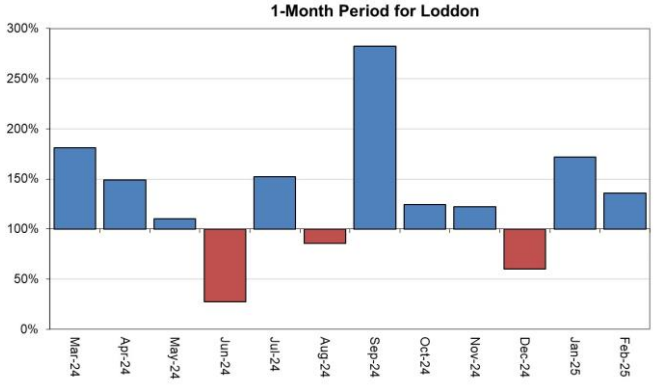
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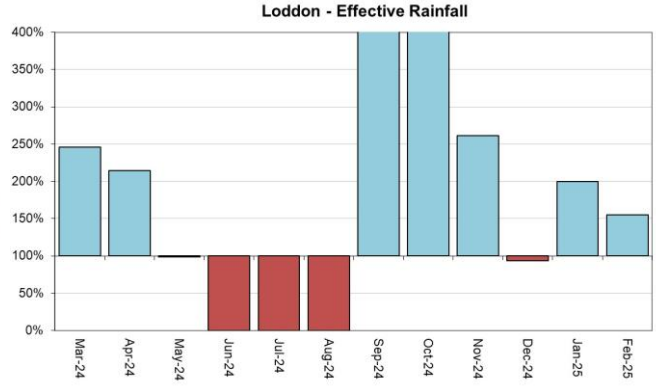
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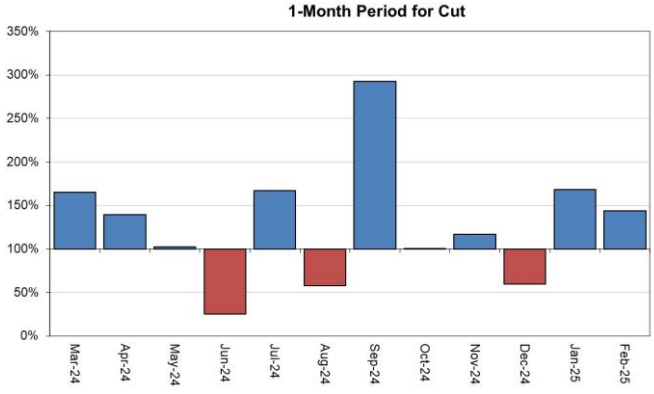
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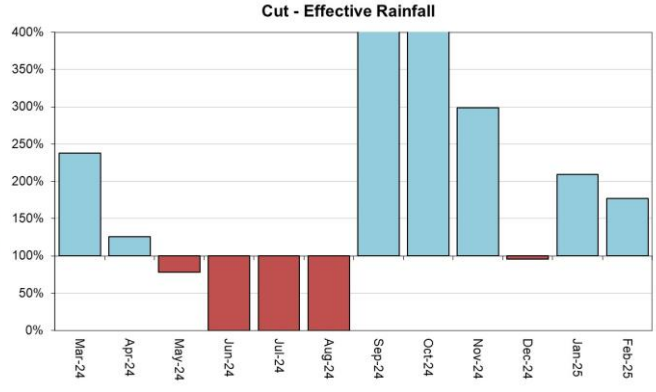
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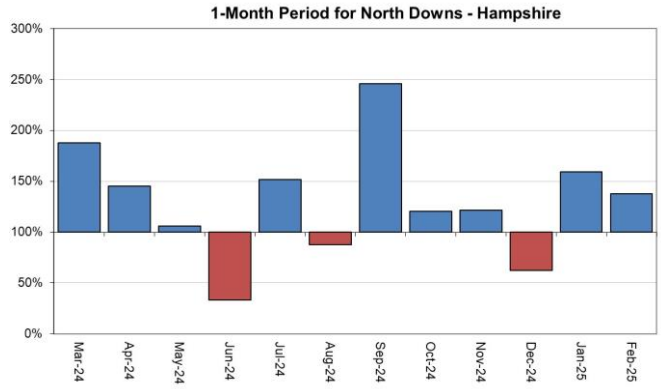
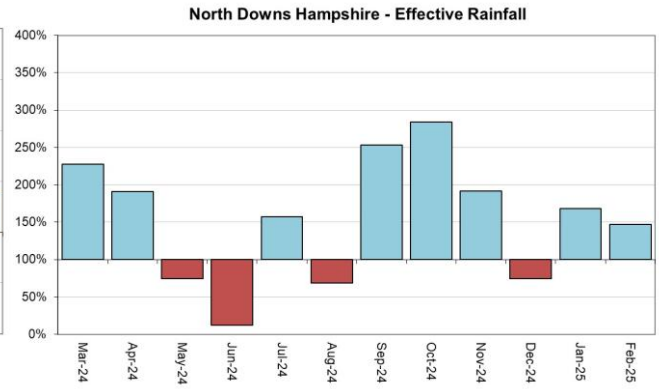
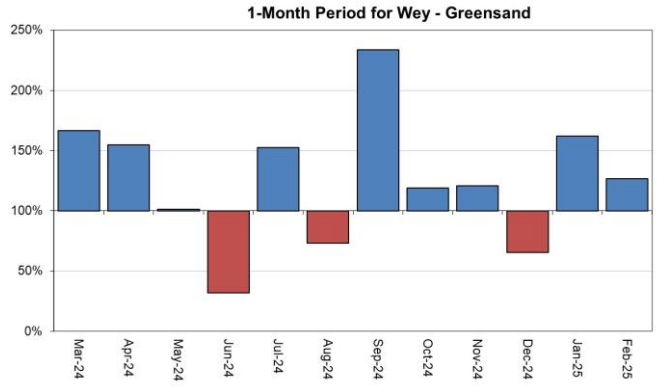
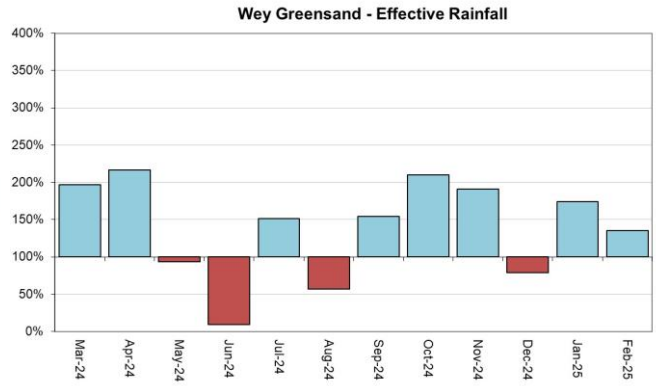
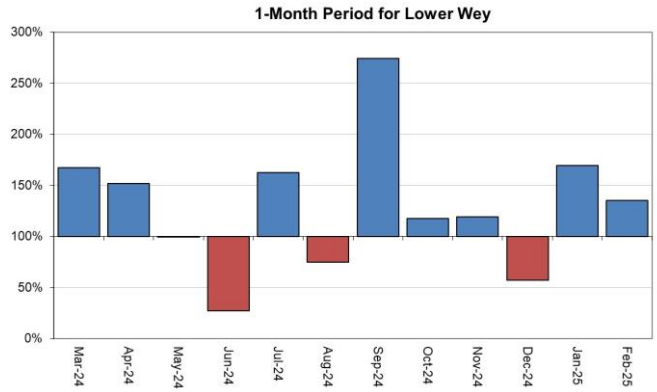
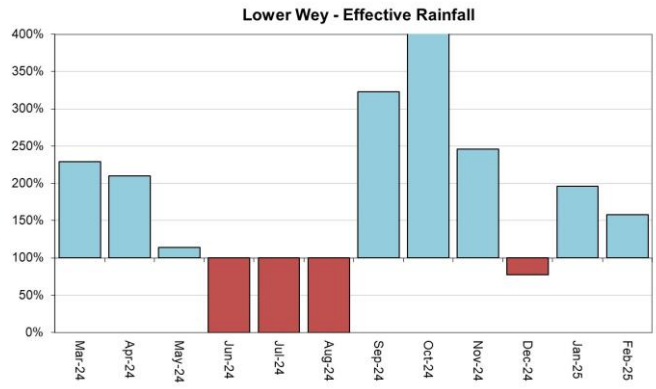












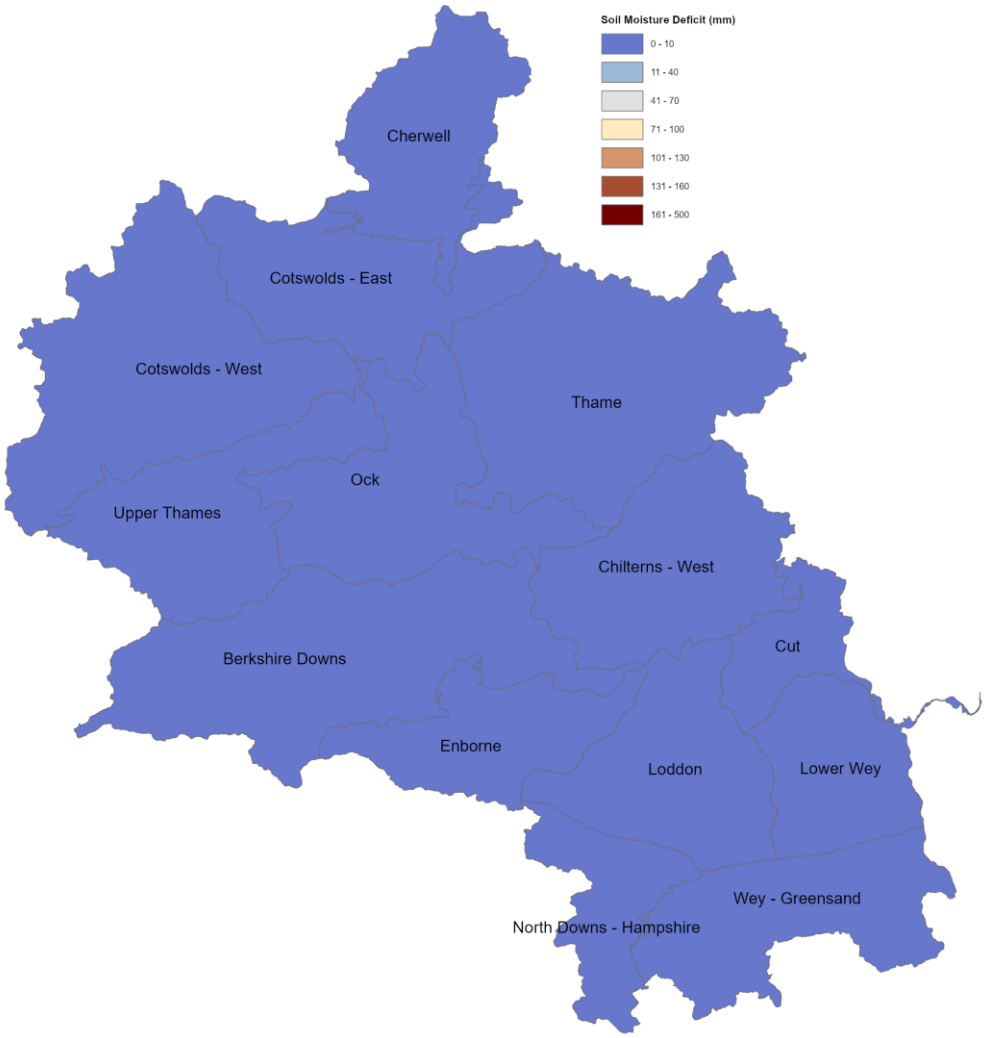
HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

EA effective rainfall data (Source: EA Soil Moisture Model)

3 Soil moisture deficit

3.1 Soil moisture deficit map

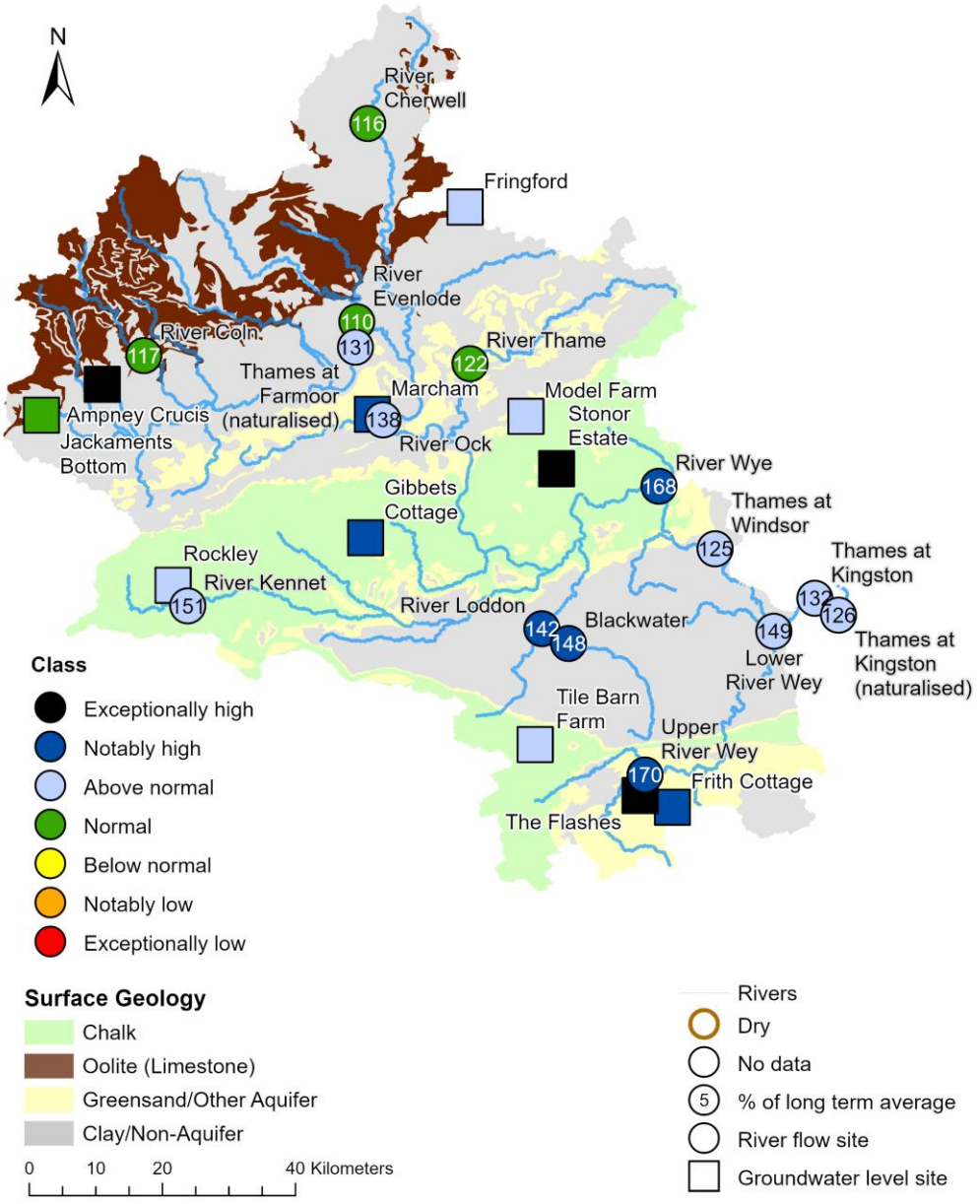
Figure 3.1: Soil moisture deficits for the week ending 28 February 2025. Shows the areal SMD estimate in millimetres.



4 River Flow and Groundwater Status

4.1 River flow and groundwater level map

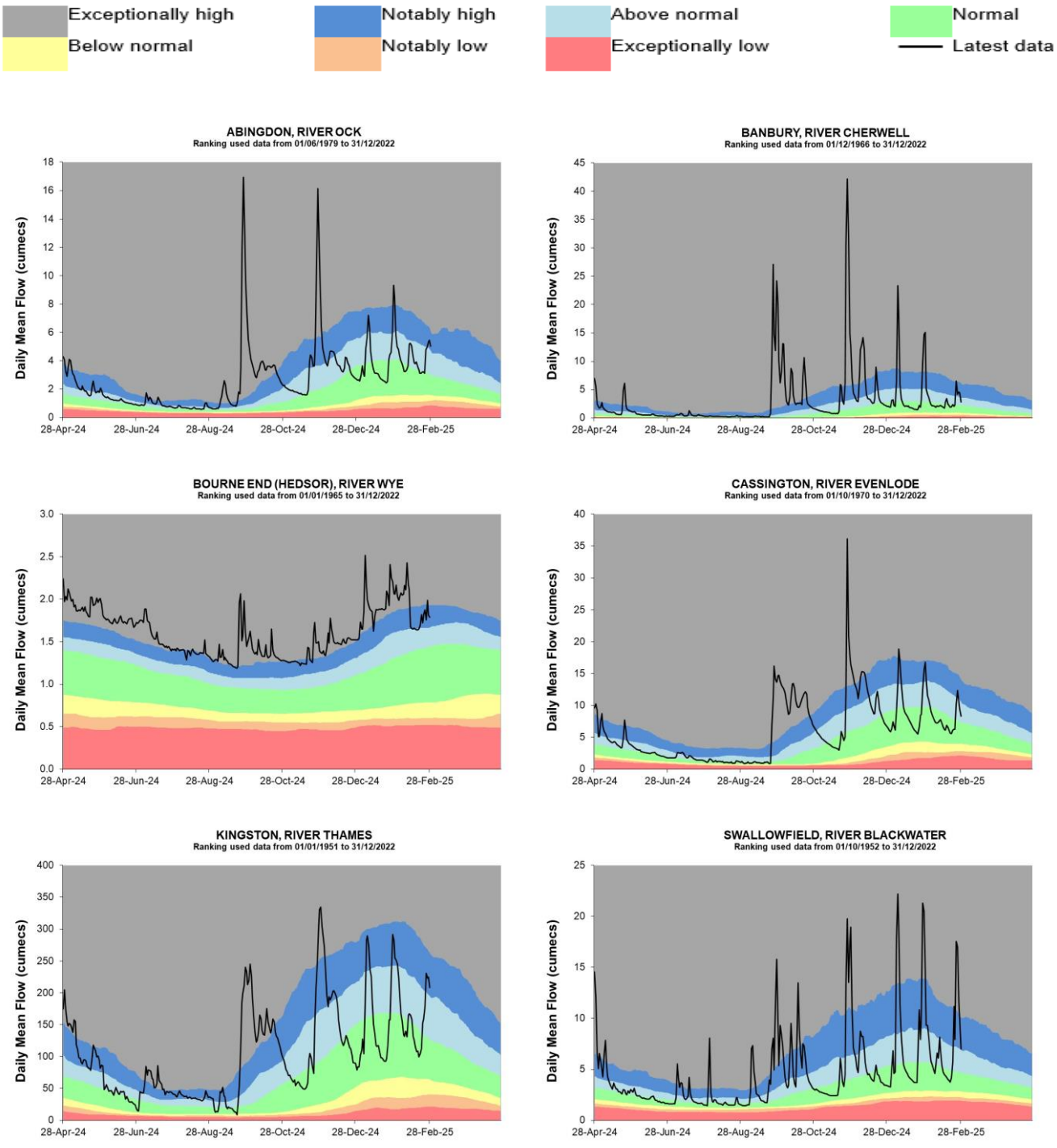
Figure 4.1: Monthly mean river flow for indicator sites and end of month groundwater levels for indicator sites for February 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic February means.



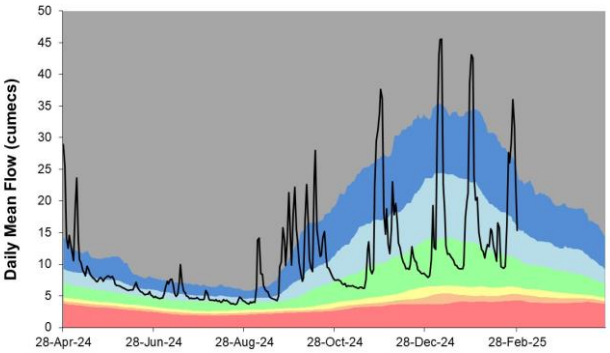
5 River flows

5.1 River flow charts

Figure 5.1: Daily mean river flows for indicator sites compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



WEYBRIDGE, RIVER WEY
Ranking used data from 01/04/1979 to 31/12/2022



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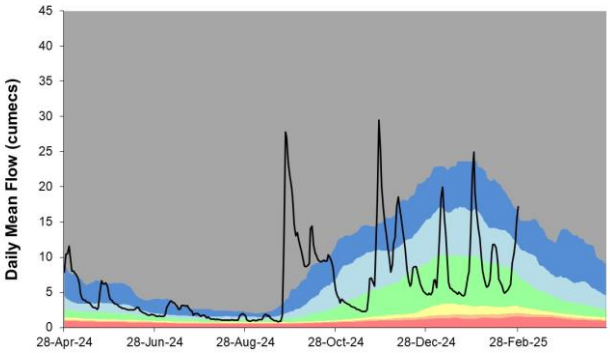
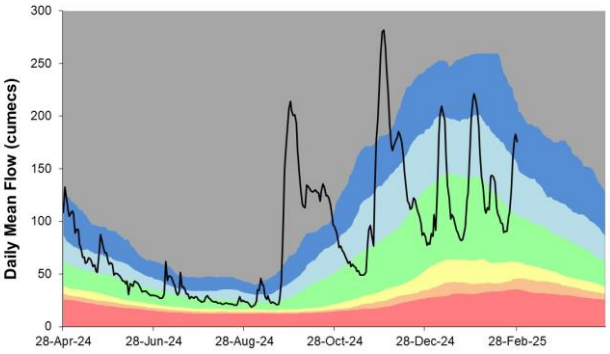
Ranking used data from 01/01/1990 to 31/12/2022



WINDSOR, RIVER THAMES
Ranking used data from 01/08/1979 to 31/12/2022



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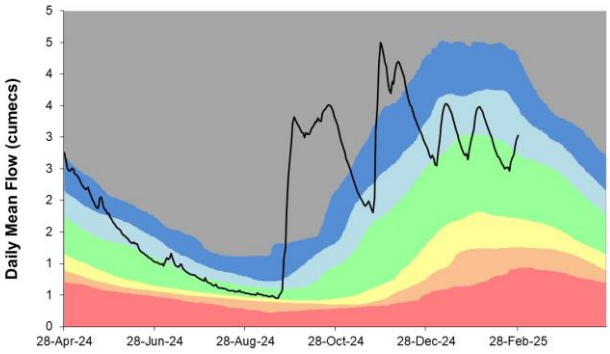
Ranking used data from 01/10/1963 to 31/12/2022



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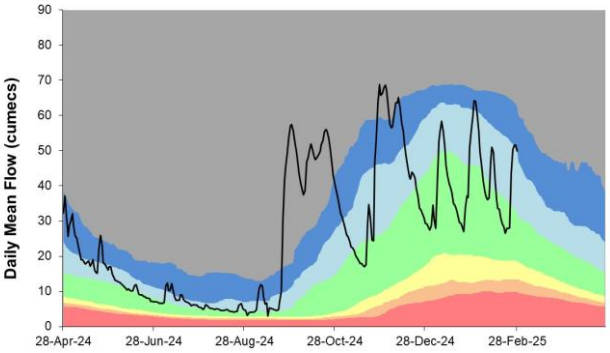
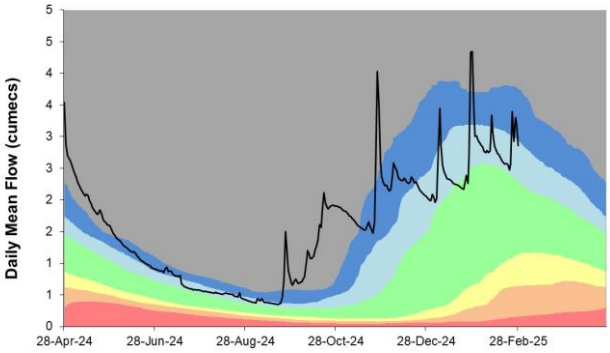
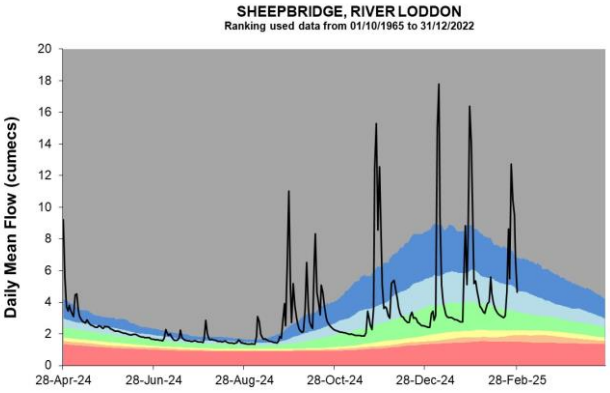
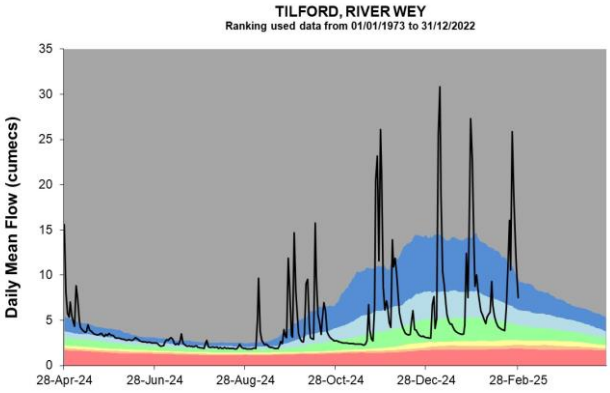
Ranking used data from 01/10/1992 to 31/12/2022

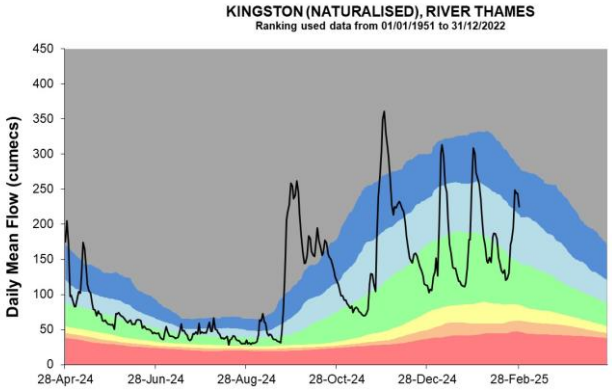


MARLBOROUGH, RIVER KENNET
Ranking used data from 01/02/1972 to 31/12/2022







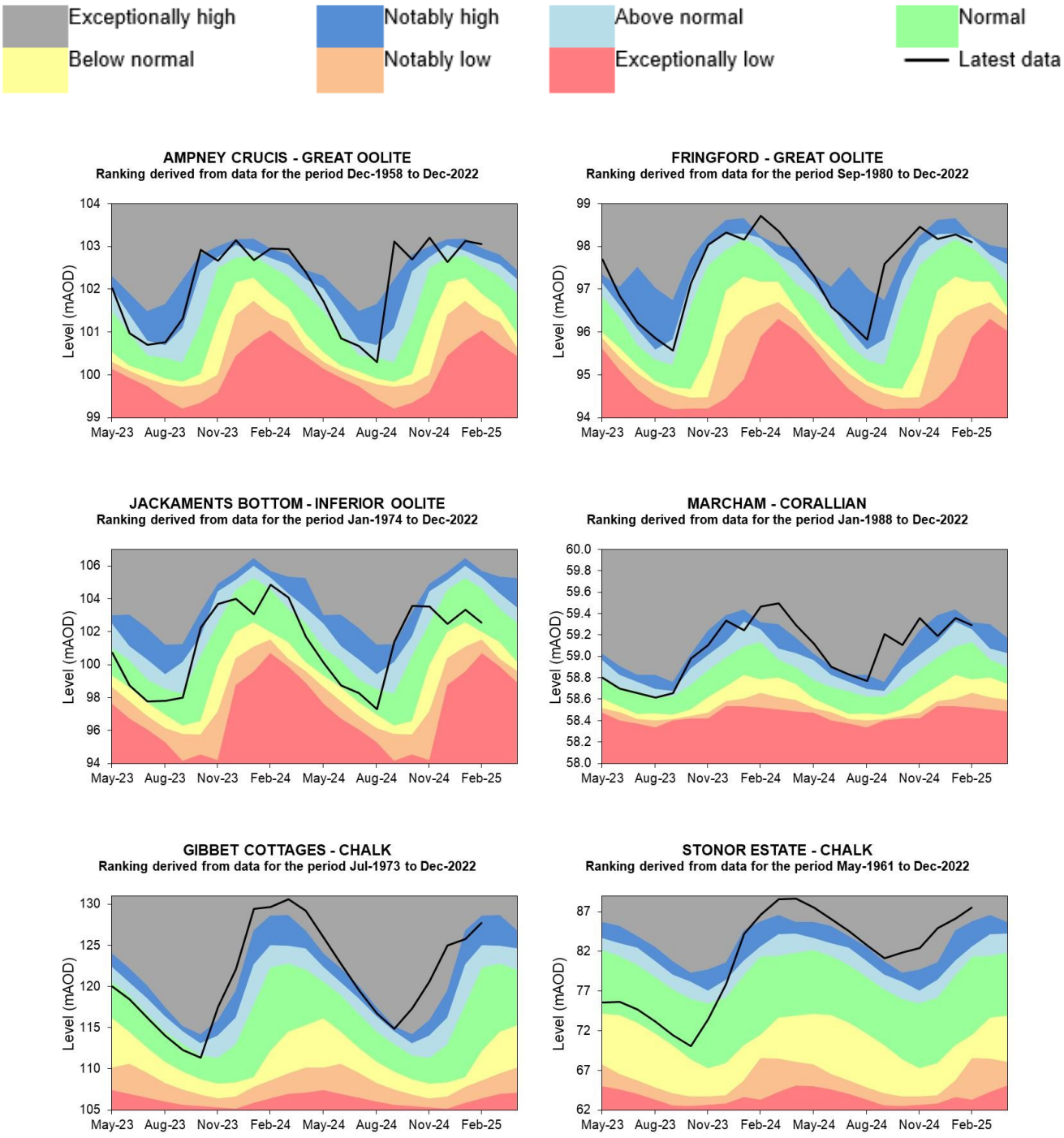


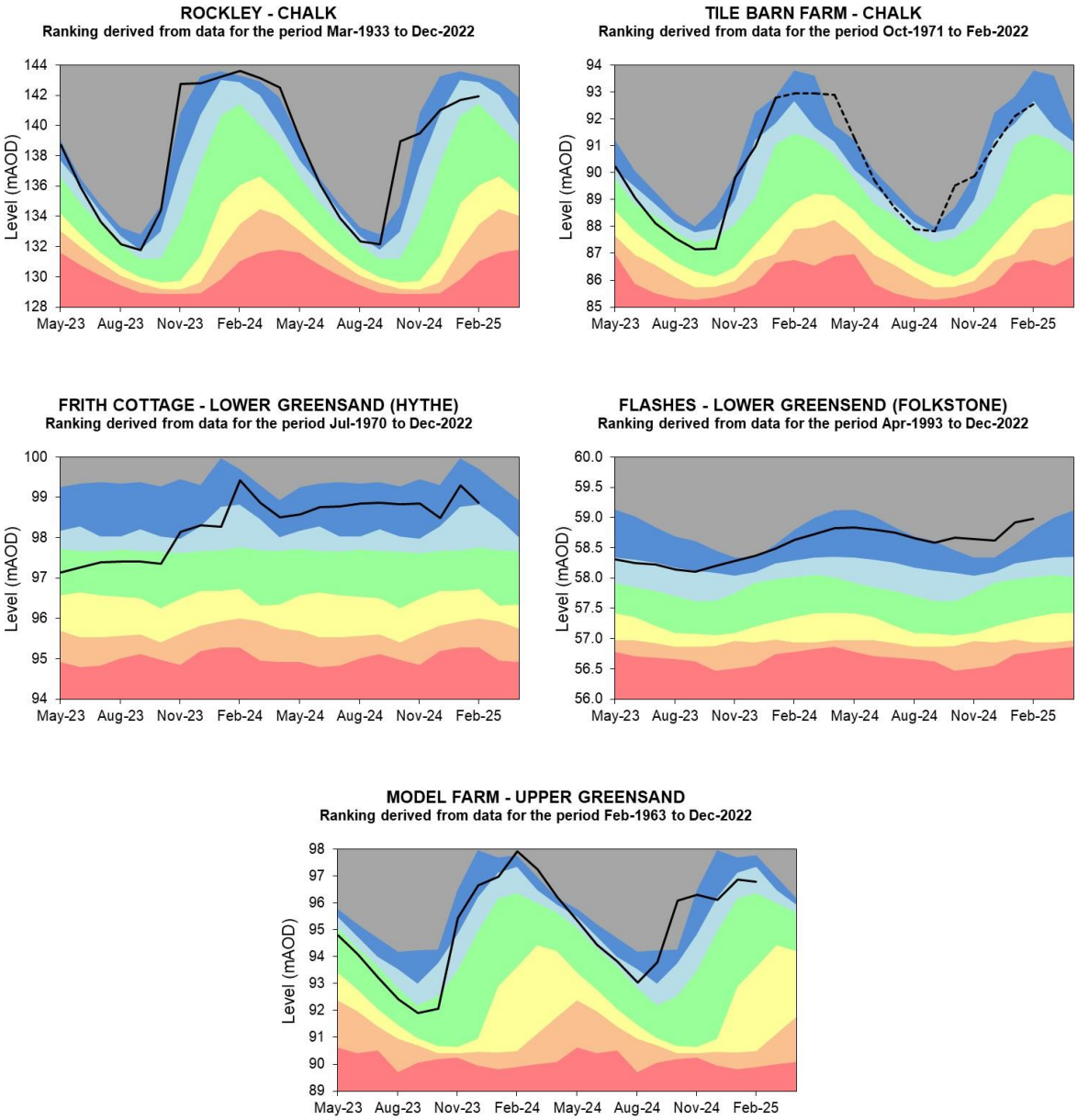
Source: Environment Agency.

6 Groundwater levels

6.1 Groundwater level charts

Figure 6.1: End of month groundwater levels for indicator sites, compared to an analysis of historic end of month levels, and long term maximum and minimum levels.



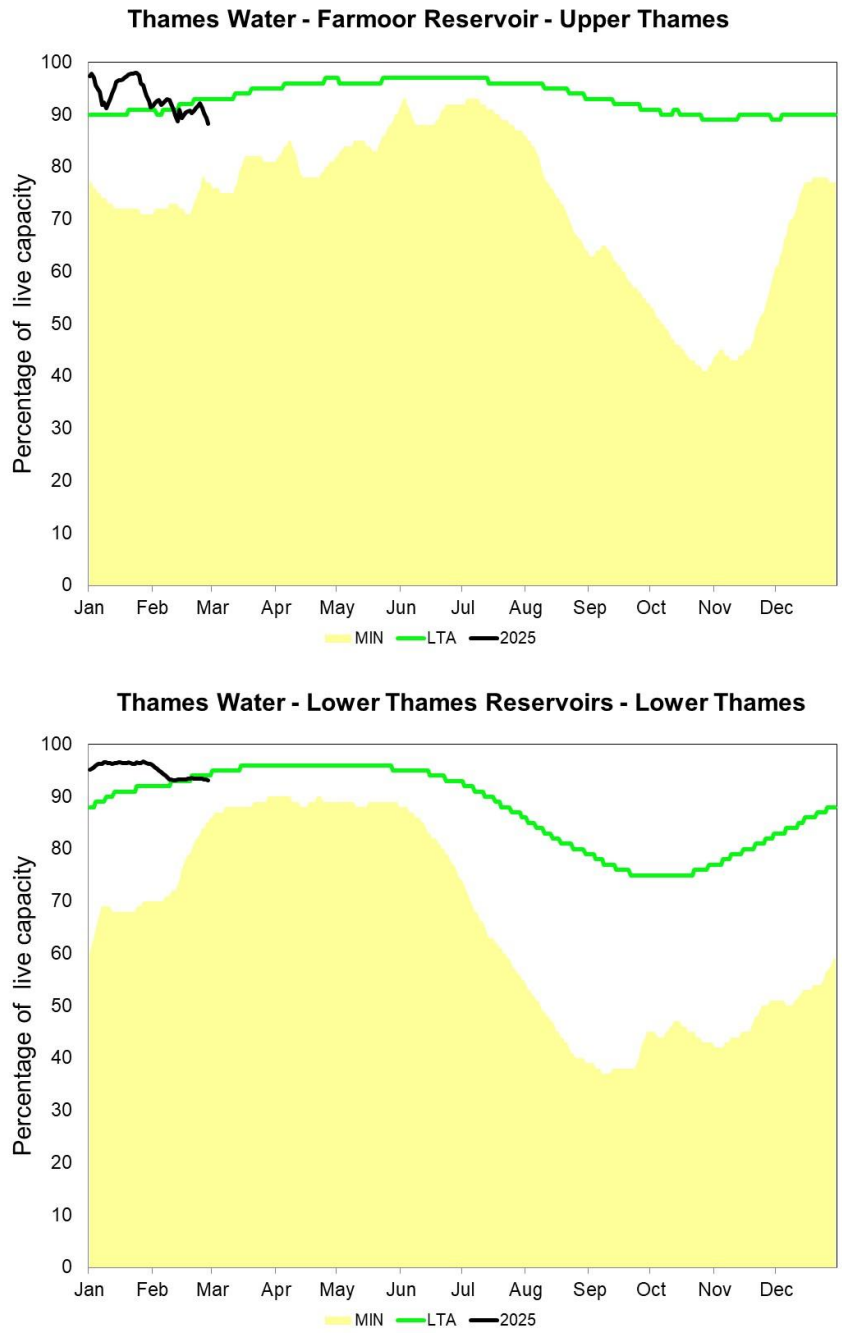


*Tile Barn Farm data has been estimated from two local sites since April 2022. A replacement is planned

Source: Environment Agency, 2025.

7 Reservoir stocks

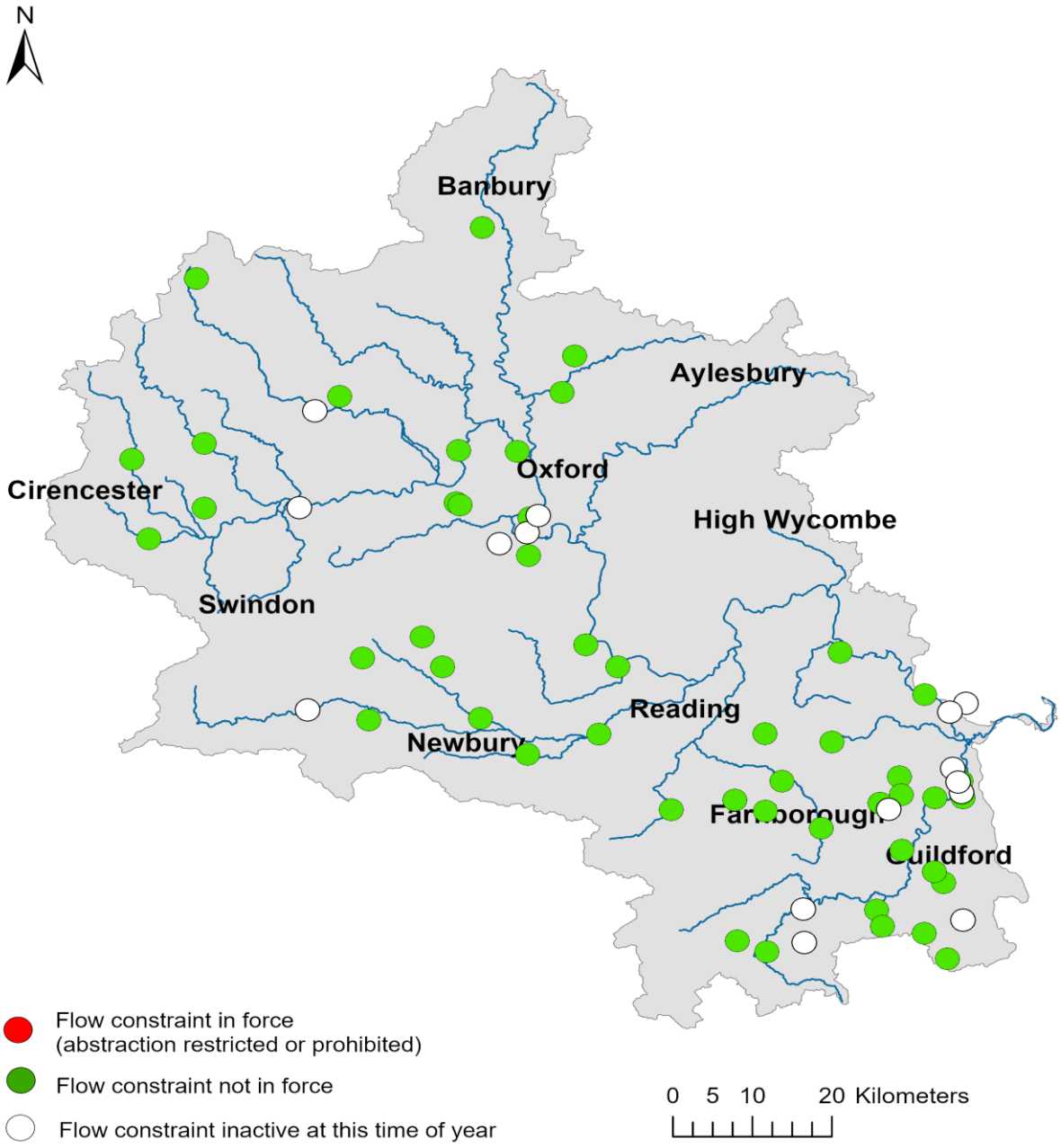
Figure 7.1: End of month regional reservoir stocks compared to minimum and average stocks.



(Source: water companies).

8 Flow Constraints

8.1 Figure 8.1: End of month flow constraints in Thames Area.



8.2 Summary of flow constraints

Date	02/02/25	09/02/25	16/02/25	23/02/25
Constraint	0	0	0	0

9 Summary of rainfall, effective rainfall and soil moisture deficit

9.1 Rainfall and effective rainfall

Area	Rainfall (mm) 28 day Total	Rainfall (mm) February LTA	Rainfall (mm) % LTA	Effective Rainfall (mm) 28 day total	Effective Rainfall (mm) February LTA	Effective Rainfall (mm) % LTA
Cotswolds - West	65	57	113	46	42	111
Cotswolds - East	51	48	104	32	33	98
Berkshire Downs	78	52	149	60	37	161
Chilterns - West	65	47	137	47	31	151
North Downs - Hampshire	81	59	137	63	43	147
Wey - Greensand	71	56	126	53	39	135
Upper Thames	61	45	135	42	29	144
Cherwell	48	45	108	30	30	103
Thame	48	41	117	30	25	119
Loddon	60	44	135	42	27	155
Lower Wey	56	42	135	38	24	158
Ock	53	41	131	34	24	143
Enborne	73	51	143	54	35	156
Cut	57	40	144	38	21	177
Thames Area	**62**	**48**	**130**	**44**	**31**	**139**

HadUK rainfall data (Source: Met Office Crown copyright 2023)
EA effective rainfall data (Source: EA Soil Moisture Model)

9.2 Soil moisture deficit

Area	SMD (mm) Day 28	SMD (mm) LTA
Cotswolds - West	2	3
Cotswolds - East	2	4
Berkshire Downs	2	3
Chilterns - West	2	4
North Downs - Hampshire	1	3
Wey - Greensand	2	3
Upper Thames	2	5
Cherwell	2	4
Thame	2	5
Loddon	2	3
Lower Wey	2	4
Ock	2	7
Enborne	2	3
Cut	2	7
Thames Area	**2**	**4**

HadUK rainfall data (Source: Met Office Crown copyright 2023)
EA effective rainfall data (Source: EA Soil Moisture Model)

9.4 Winter rainfall and effective rainfall

Winter period: 01/10/2024 to 28/02/2025 Area	Rainfall (mm) Total	Rainfall (mm) LTA	Rainfall (mm) % LTA	Effective Rainfall (mm) Total	Effective Rainfall (mm) LTA	Effective Rainfall (mm) % LTA
Cotswolds - West	438	359	122	347	231	150
Cotswolds - East	380	308	123	290	172	168
Berkshire Downs	444	348	128	354	189	187
Chilterns - West	380	321	119	291	160	181
North Downs - Hampshire	480	406	118	386	247	156
Wey - Greensand	460	391	118	355	234	151
Upper Thames	371	300	124	277	131	211
Cherwell	370	288	128	282	134	210
Thame	313	274	114	224	115	194
Loddon	374	309	121	281	139	202
Lower Wey	348	297	117	254	135	187
Ock	318	271	117	224	97	232
Enborne	426	342	124	334	182	183
Cut	324	283	115	222	109	204
Thames Area	**388**	**321**	**121**	**294**	**163**	**181**

HadUK rainfall data (Source: Met Office Crown copyright 2023)
EA effective rainfall data (Source: EA Soil Moisture Model)

10 Glossary

10.1 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).

10.2 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.

11 Appendices

11.1 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
Berkshire Downs	148	Above Normal	Above normal	Exceptionally high	Exceptionally high
Chilterns West	137	Normal	Normal	Exceptionally high	Exceptionally high
Cotswold East	105	Normal	Normal	Exceptionally high	Exceptionally high
Cotswold West	113	Normal	Normal	Exceptionally high	Exceptionally high
Cut	144	Normal	Normal	Notably high	Notably high
Enborne	145	Above Normal	Above normal	Exceptionally high	Exceptionally high
Loddon	136	Normal	Normal	Notably high	Exceptionally high
Lower Wey	135	Normal	Normal	Notably high	Notably high
North Downs - Hampshire	138	Normal	Normal	Notably high	Notably high
Ock	130	Normal	Normal	Notably high	Exceptionally high
Thame	117	Normal	Normal	Exceptionally high	Exceptionally high
Upper Cherwell	108	Normal	Normal	Exceptionally high	Exceptionally high
Upper Thames	134	Normal	Normal	Exceptionally high	Exceptionally high
Wey - Greensand	127	Normal	Normal	Notably high	Notably high

11.2 River flows table

Site name	River	Catchment	Feb 2025 band	Jan 2025 band
Abingdon	River Ock	Ock	Above normal	Normal
Banbury	River Cherwell	Cherwell Upper	Normal	Notably high
Bibury	River Coln	Cotswolds West	Normal	Above Normal
Bourne End (hedsor)	River Wye	Wye Bucks	Notably high	Exceptionally high
Cassington	River Evenlode	Evenlode	Normal	Normal
Farmoor (naturalised)	River Thames	Thames	Above normal	Normal
Kingston	River Thames	Thames North Bank	Above normal	Normal
Marlborough	River Kennet	Kennet	Above normal	Above normal
Sheepbridge	River Loddon	Loddon	Notably high	Exceptionally high
Swallowfield	River Blackwater	Loddon	Notably high	Notably high
Tilford	River Wey	Wey Addleston Bourne	Notably high	Exceptionally high
Weybridge	River Wey	Wey Addleston Bourne	Above normal	Notably high
Wheatley	River Thame	Thame	Normal	Normal
Windsor	River Thames	Thames	Above normal	Normal
Kingston (naturalised)	River Thames	Thames North Bank	Above normal	Normal

11.3 Groundwater table

Site name	Aquifer	End of Feb 2025 band	End of Jan 2025 band
Ampney Crucis Obh	Burford Oolitic Limestone (great)	Exceptionally high	Notably high
Frith Cottage	Godalming Lower Greensand		Notably high
Gibbet Cottages Obh	Berkshire Downs Chalk	Notably high	Notably high
Jackaments Bottom Obh	Burford Oolitic Limestone (inferior)	Normal	Normal
Marcham Obh	Shrivenham Corallian	Notably high	Notably high
Model Farm	Chiltern Upper Greensand	Above normal	Above normal
Rockley Obh	Berkshire Downs Chalk	Above normal	Above normal
Stonor Estate	South-west Chilterns Chalk	Exceptionally high	Exceptionally high
The Flashes Obh	Godalming Lower Greensand	Exceptionally high	Exceptionally high
Tile Barn Farm	Basingstoke Chalk	Above normal	Notably high
Fringford P.s.	Upper Bedford Ouse Oolitic Limestone (great)	Above normal	Above normal