Monthly water situation report: Thames Area

1 Summary - April 2025

Thames area received 21mm of rainfall through April, 41% of the long term average (LTA). All our areal rainfall units were either notably low or below normal by the month's end. Soil moisture deficits (SMD) increased significantly across the Thames area, rising from 31mm in March to 70mm by the end of April. River flows responded to the lack of rainfall by decreasing at all our key indicator sites compared with last month. Likewise, groundwater levels declined at all indicator sites in April and ranged from exceptionally low (Inferior Oolite) to exceptionally high (Chalk). The Lower Thames reservoirs ended the month remaining below average for the time of year however Farmoor ended the month with a value which exceeded the LTA.

1.1 Rainfall

April was another dry month across Thames area, with only 21mm of rainfall recorded. All our areal units received either notably low or below normal precipitation and this amounted to 41% of the LTA. Rainfall over the previous 3 months was notably low across the area, but was mostly above normal over the previous 12 months.

1.2 Soil moisture deficit and recharge

Soil moisture deficits (SMD) increased significantly across Thames area, rising from 31mm in March to 70mm by the end of April. This is significantly higher than the LTA of 20mm for this time of year, indicating that soils are much drier than usual. This sharp increase reflects a sustained lack of effective rainfall — only 7% of the LTA fell during April, and this was due to a combination of low rainfall and increased sunshine hours.

1.3 River flows

Monthly mean flows decreased at all of our key indicator sites compared to last month. Across the total number of indicator sites, 7 recorded normal flow, whilst 6 sites were below normal. Cassington (Evenlode) measured as notably low, in part due to declining groundwater levels in the Oolitic limestones that support it, whilst Bourne End Hedsor (Wye) remained the only site in above normal banding.

1.4 Groundwater levels

Groundwater levels decreased at all of our indicator sites in April and ranged from exceptionally low (Jackaments Bottom, Inferior Oolite) to exceptionally high (Stonor Estate, Chalk). Groundwater levels of the Chalk at Rockley and Tile Barn Farm dropped into the normal banding, whilst Stonor Estate remained in the exceptionally high banding for the 15th

month in a row, despite the decline. Groundwater levels of the slower responding Lower Greensands remained notably high for the time of year.

1.5 Reservoir stocks

Reservoir stocks rose in the Lower Thames reservoirs and ended the month at 95.3%, compared to 94.8% at the end of March. Stocks in Farmoor reservoir decreased from 99.3% to 97.2% during April. The Lower Thames reservoirs ended the month remaining below average for the time of year however Farmoor ended the month above the LTA.

1.6 Environmental impact

At the end of the month, 2 abstraction licences were being constrained in the area to protect water resources and the environment. There was one groundwater flood alert in force by the end of April.

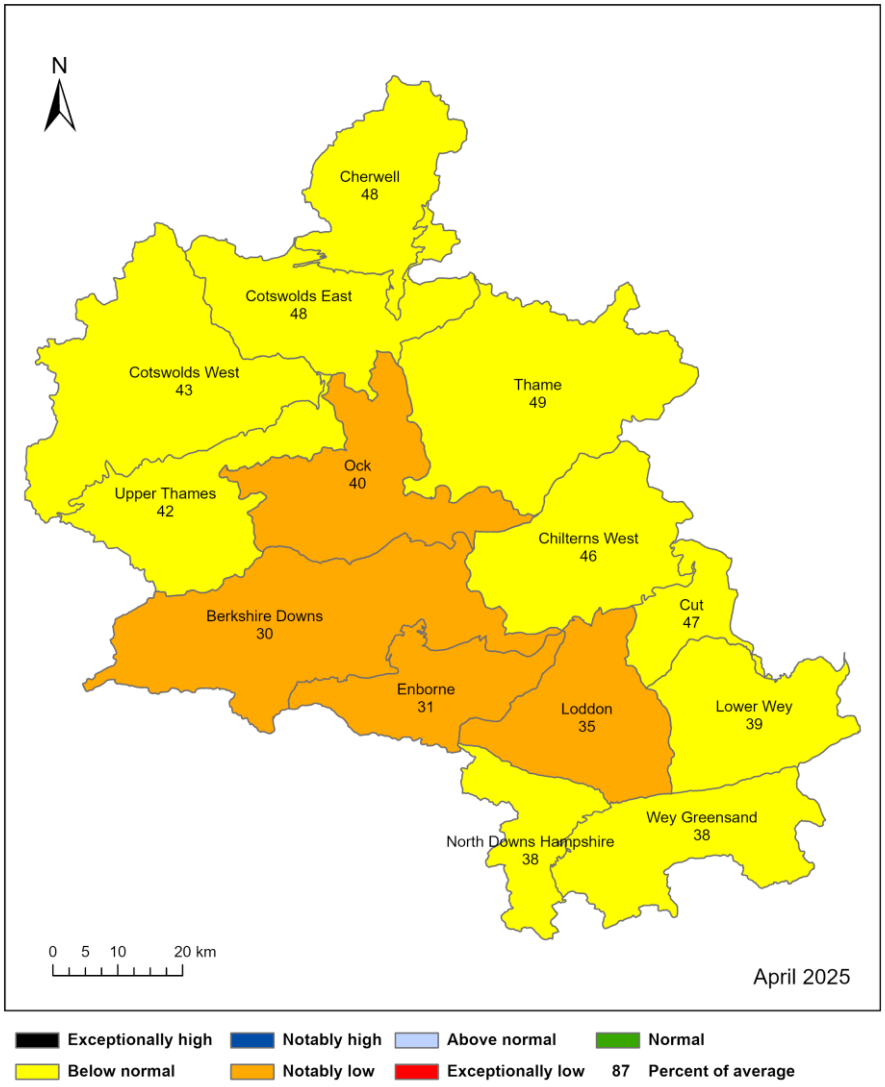
Author: Thames Area Groundwater Resources and Hydrology, enquiriesWT@environment-agency.gov.uk

Contact Details: 030708 506 506

2 Rainfall

2.1 Rainfall map

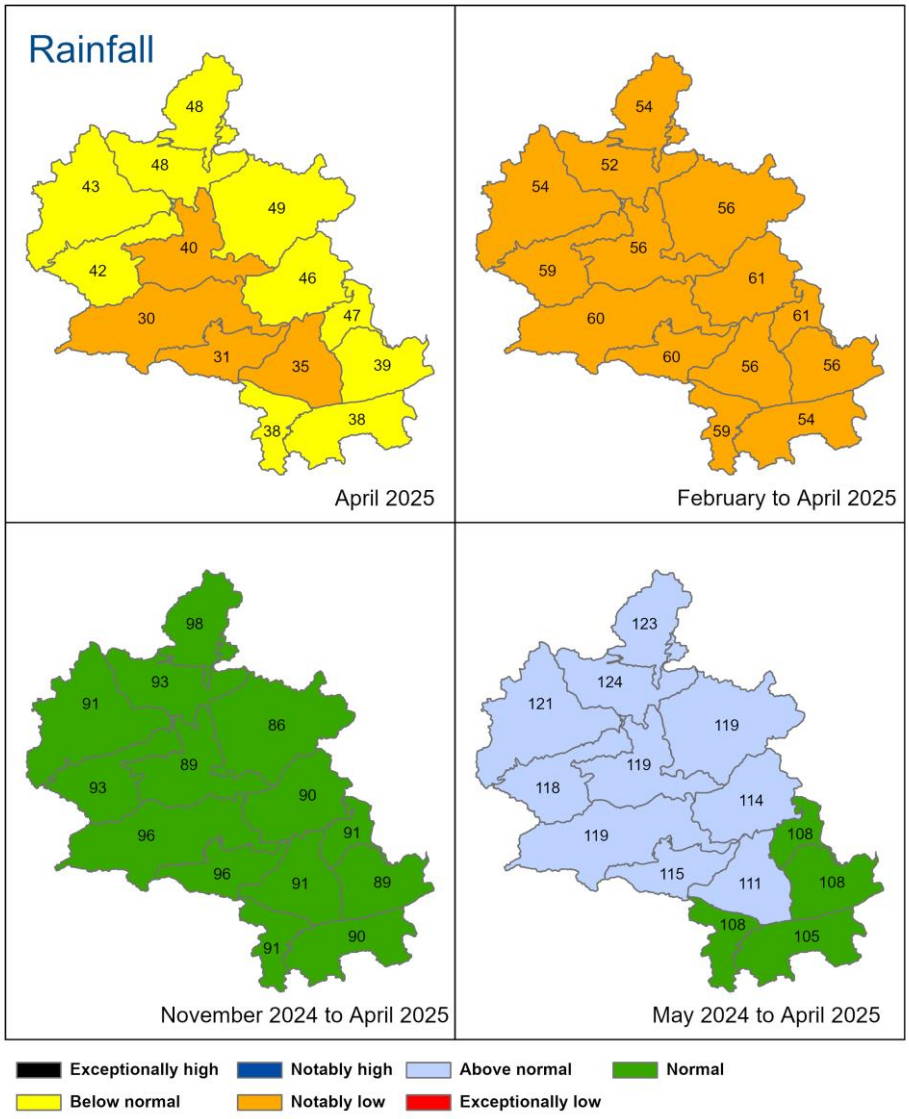
Figure 2.1: Total rainfall for hydrological areas for the current month (up to 30 April 2025), classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.



Rainfall data for 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 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)

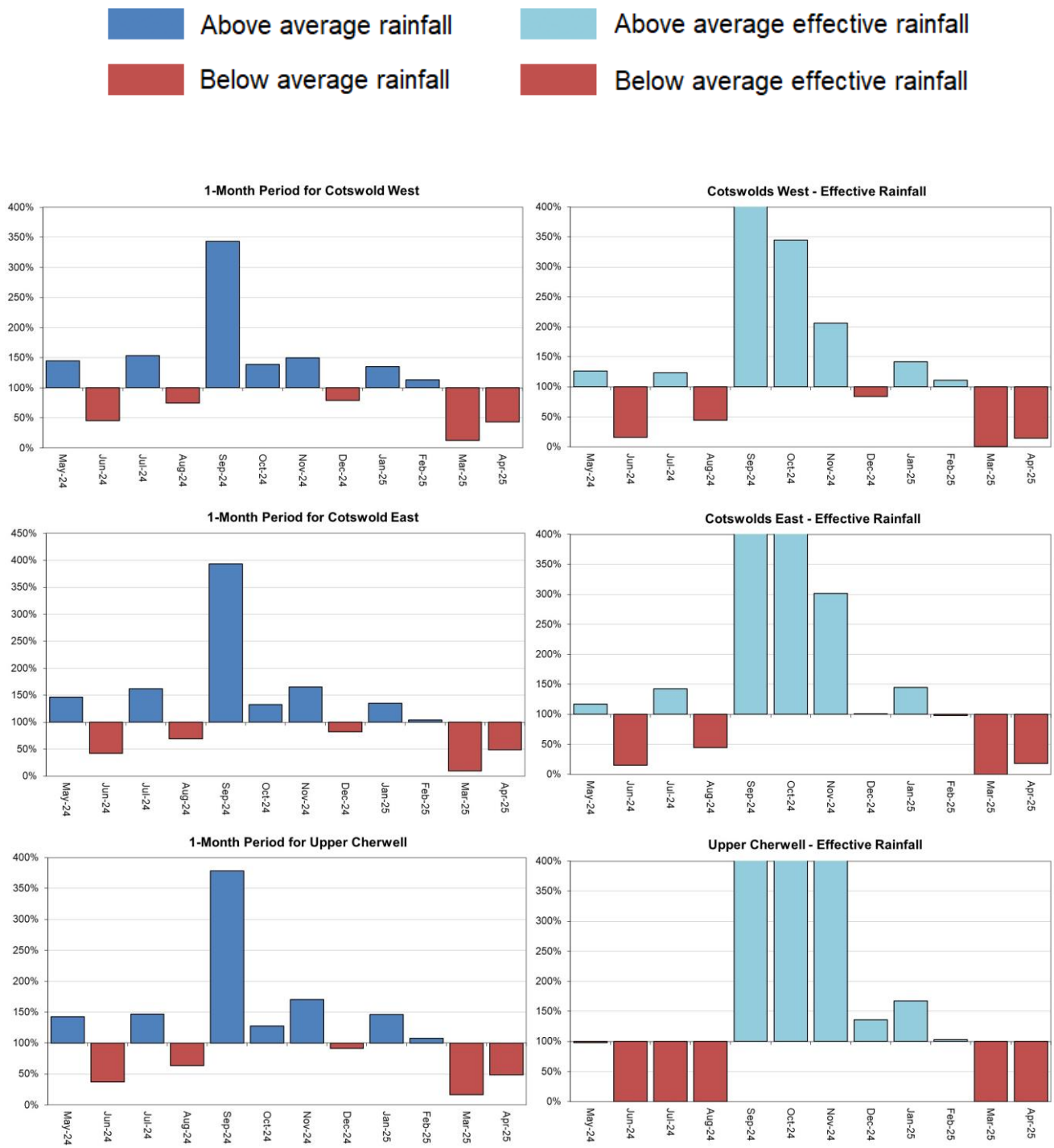
Figure 2.2: Total rainfall for hydrological areas for the current month (up to 30 April 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.

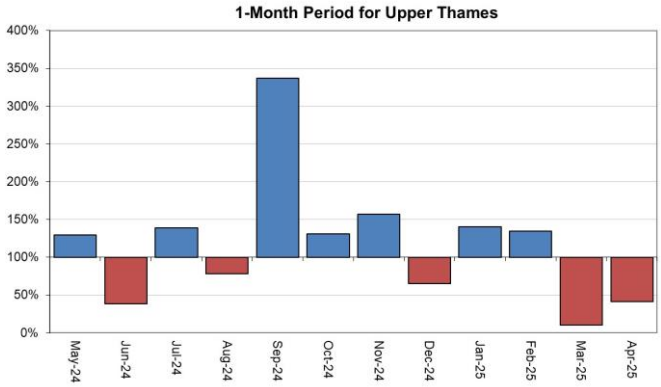


HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved.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




1-Month Period for Upper Thames
400%
350%
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May-24
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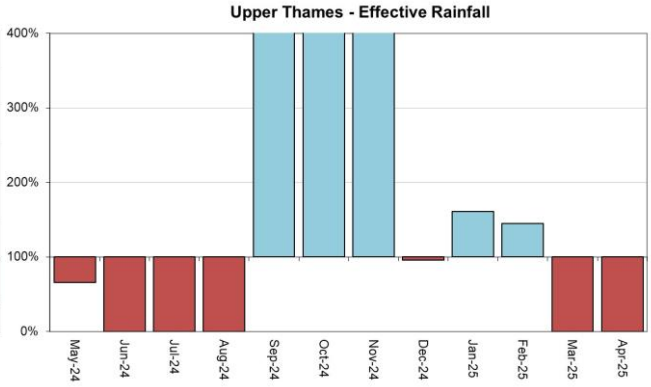
Apr-25


Upper Thames - Effective Rainfall
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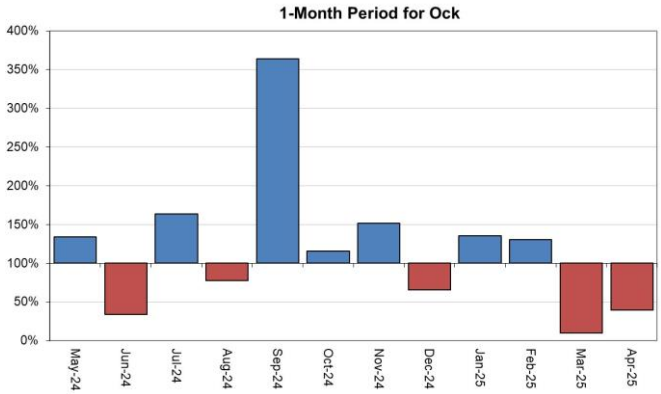
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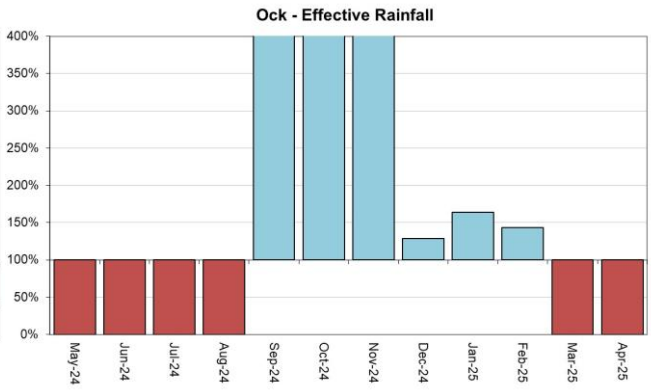
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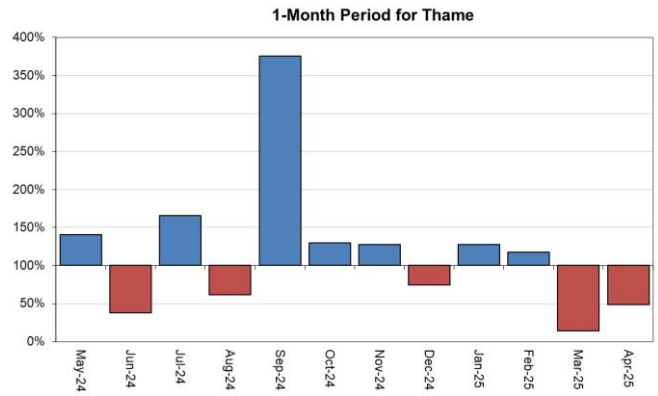
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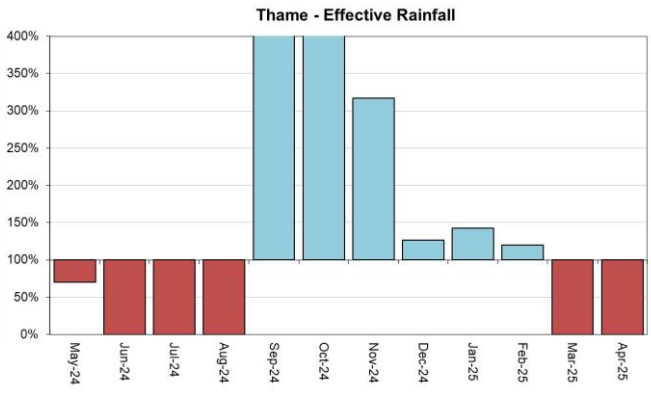
Thame - Effective Rainfall
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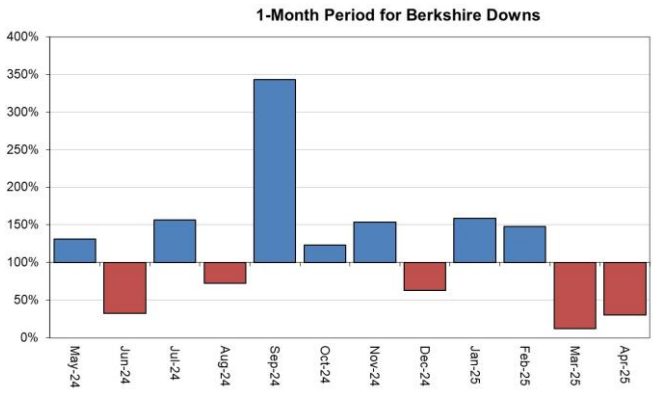
1-Month Period for Berkshire Downs
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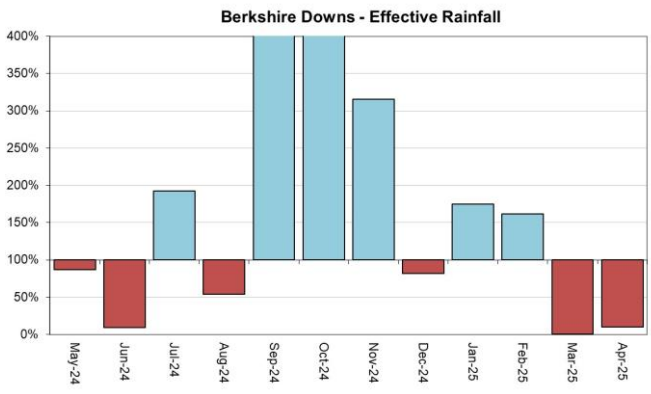
Berkshire Downs - Effective Rainfall
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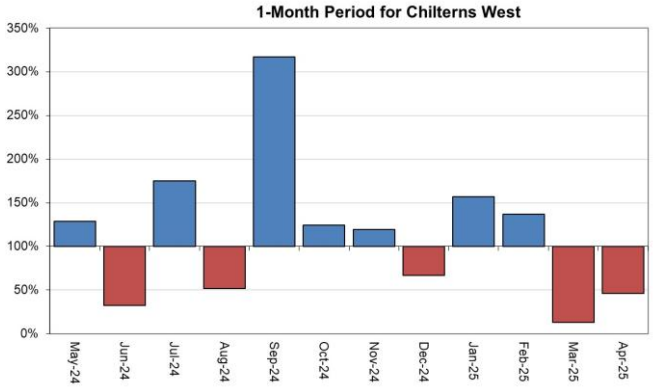
1-Month Period for Chilterns West
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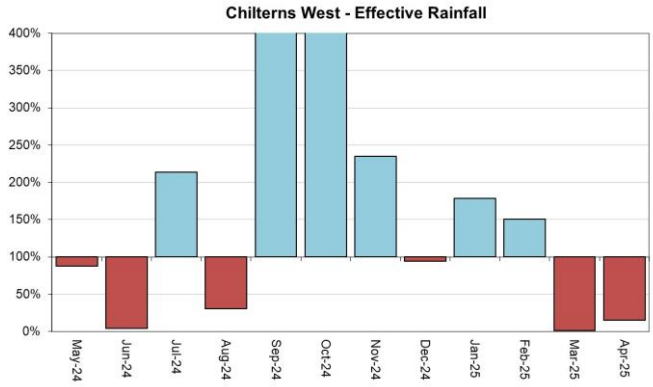
Chilterns West - Effective Rainfall
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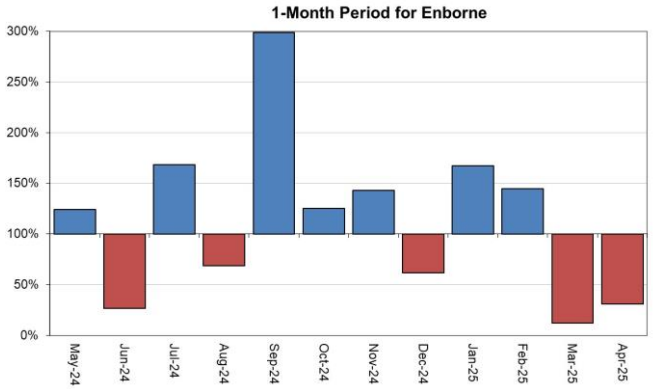
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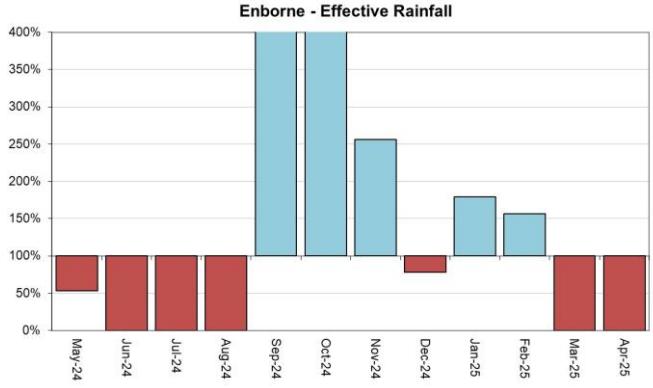
Enborne - Effective Rainfall
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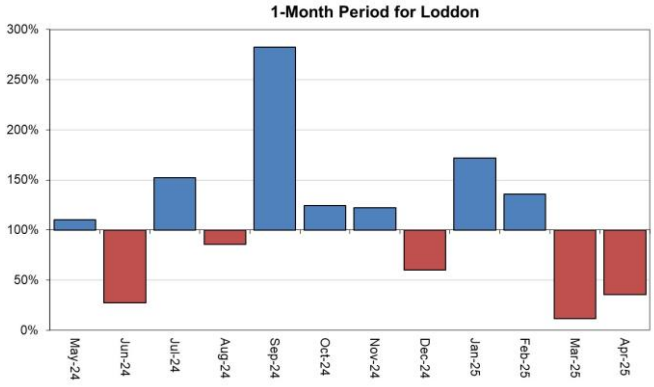
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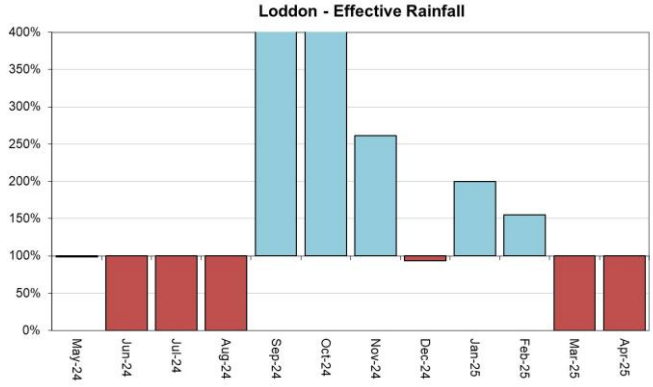
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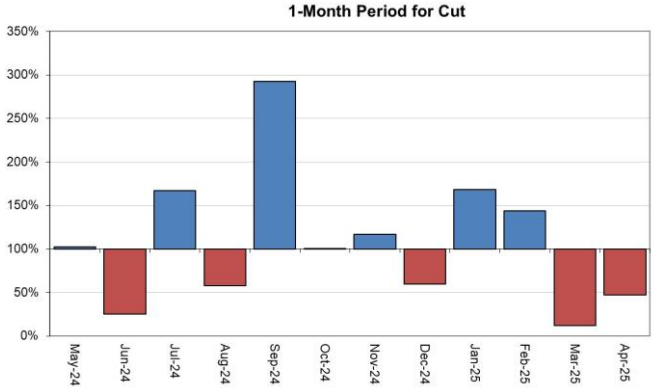
1-Month Period for Cut
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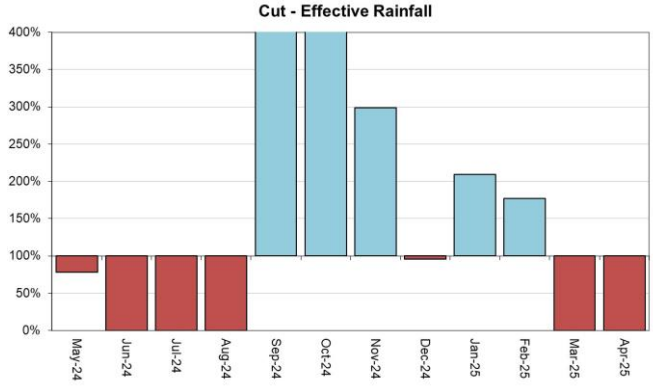
Cut - Effective Rainfall
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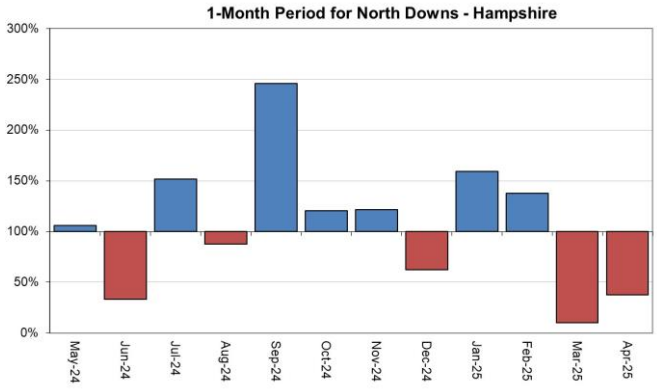
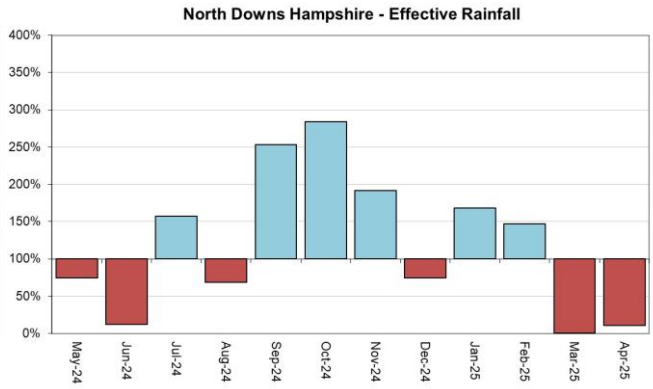
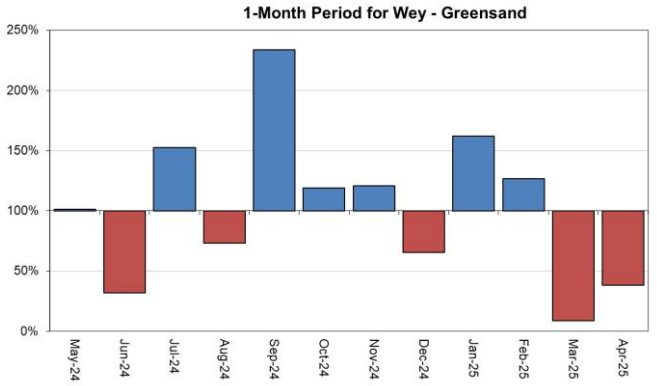
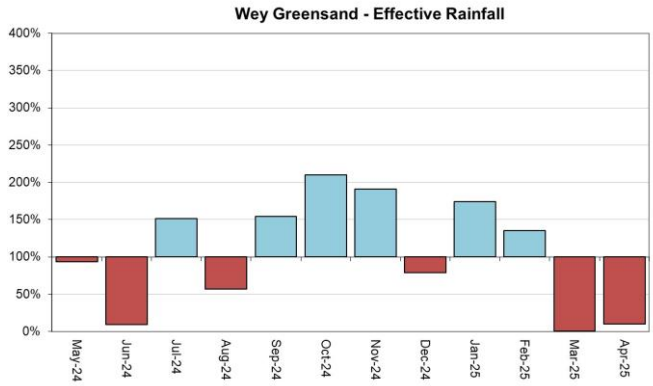
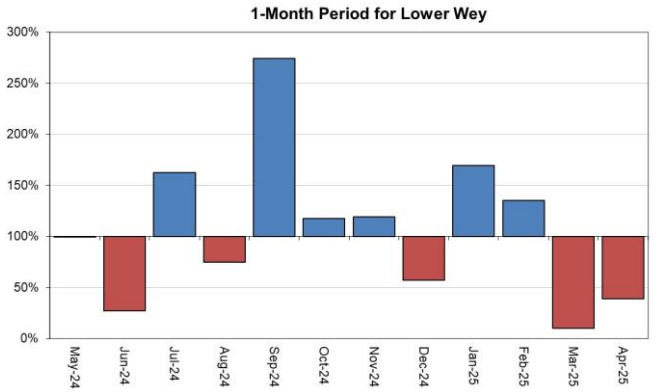
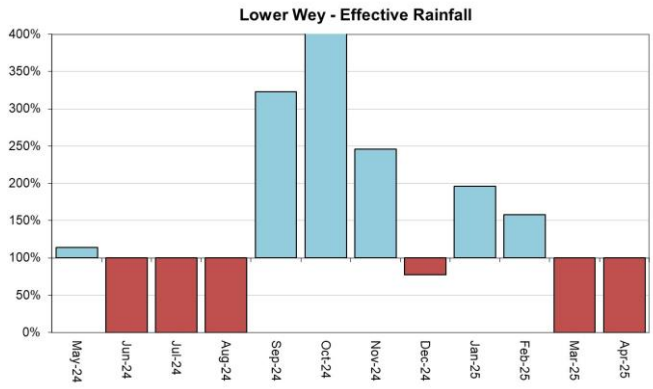












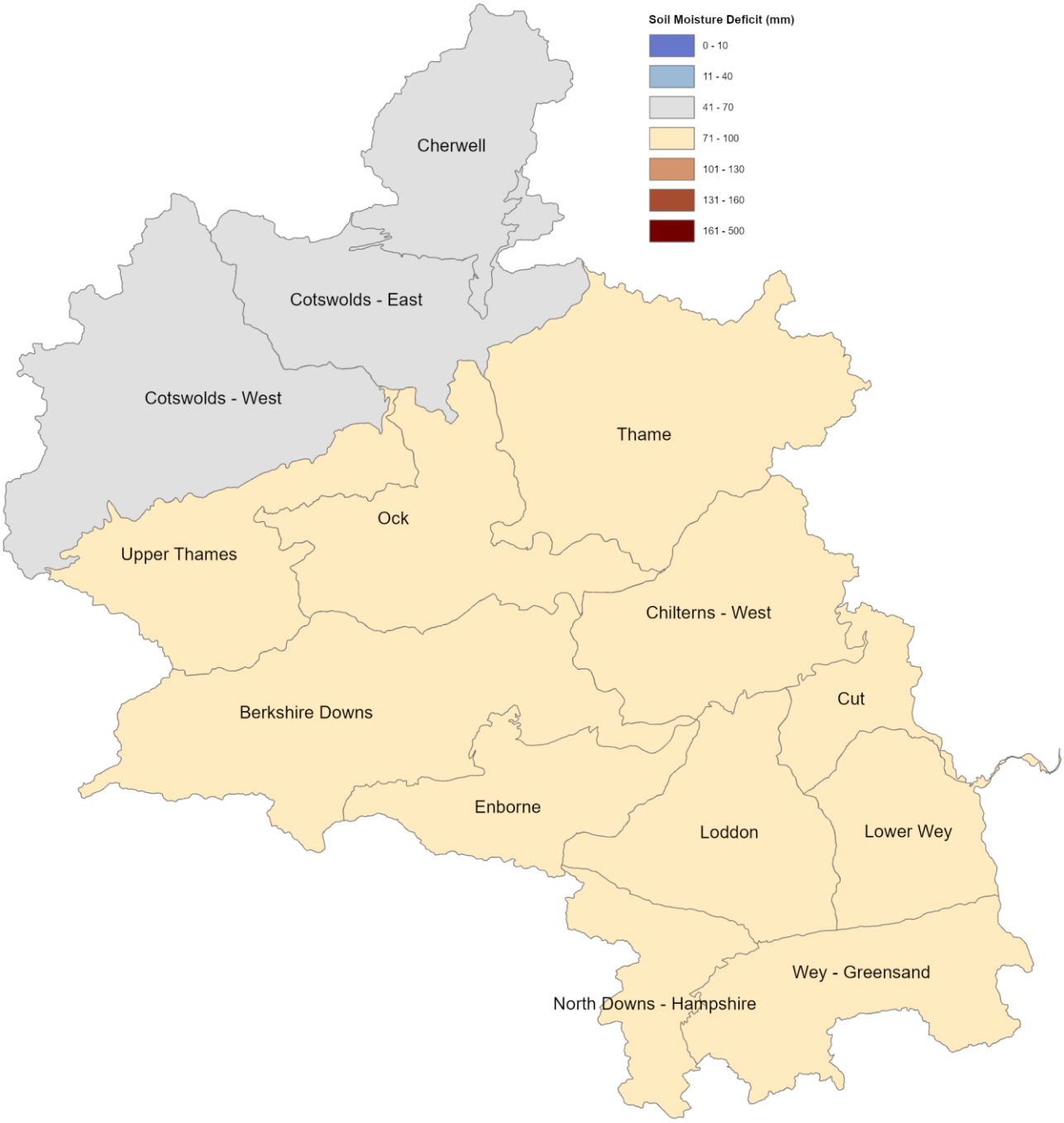
HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

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

3 Soil moisture deficit

3.1 Soil moisture deficit map

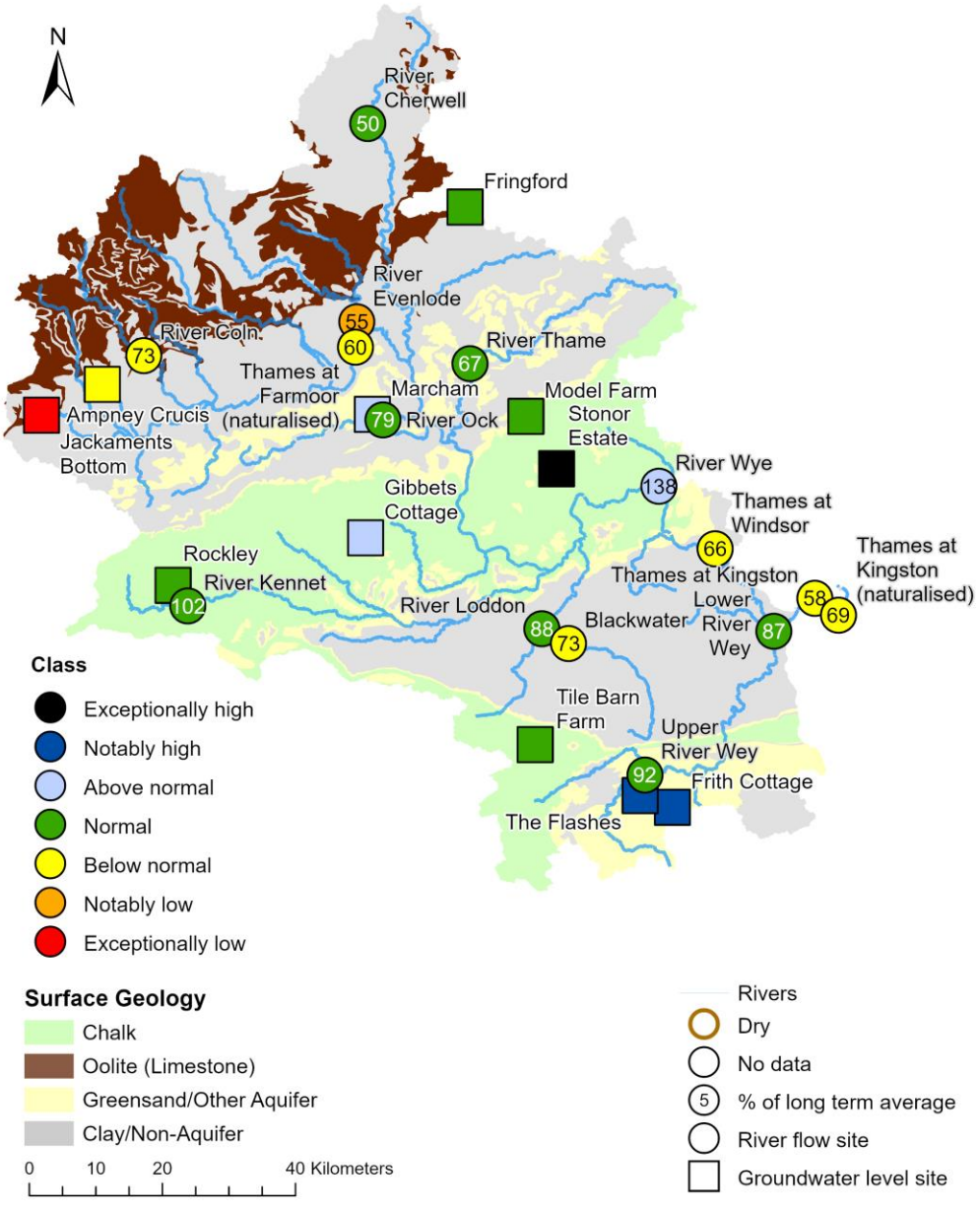
Figure 3.1: Soil moisture deficits for the week ending 30 April 2025. Shows the areal SMD estimate in millimetres.



4 River Flow and Groundwater Status

4.1 River flow and groundwater level map

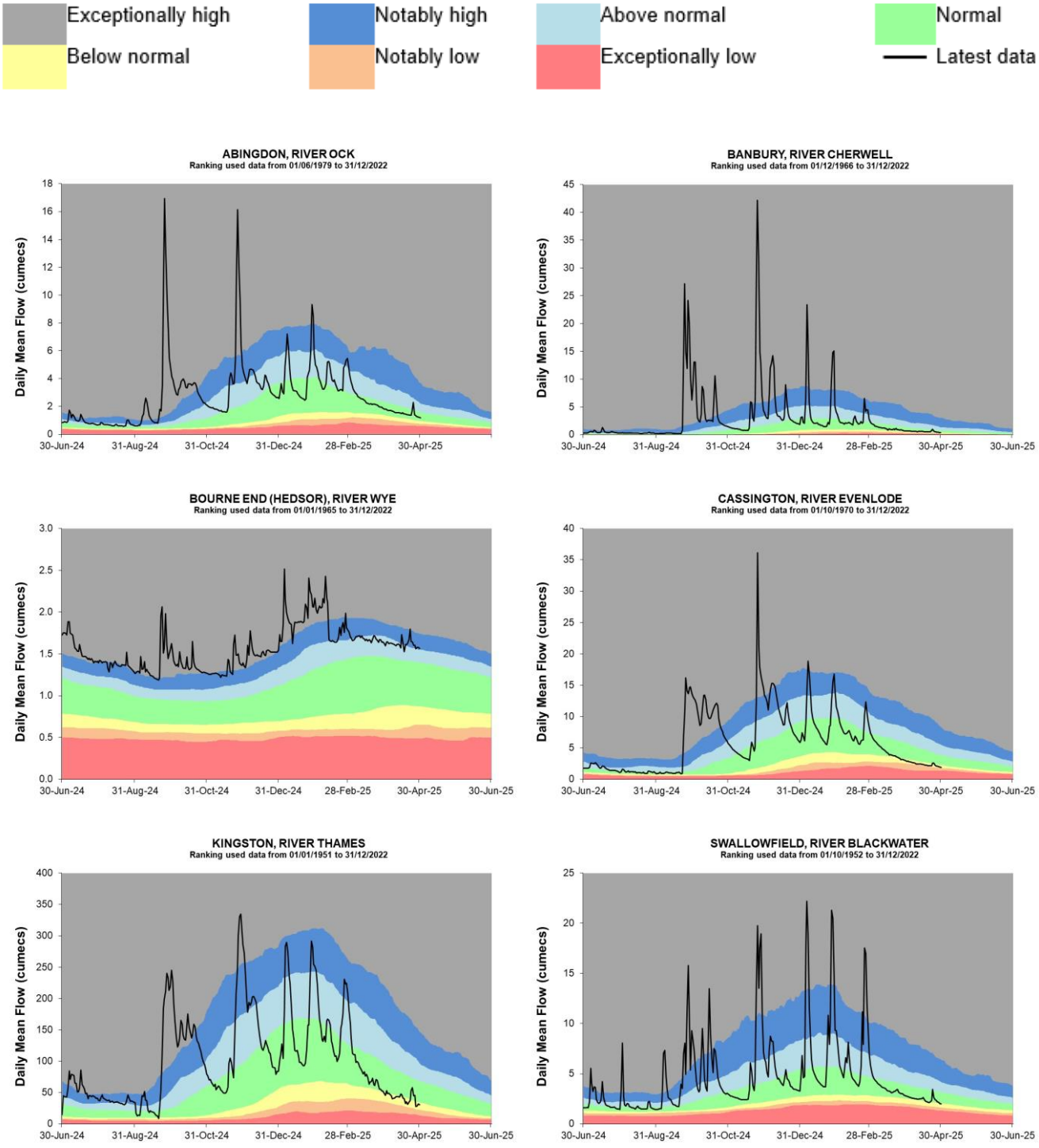
Figure 4.1: Monthly mean river flow for indicator sites and end of month groundwater levels for indicator sites for April 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic April means.

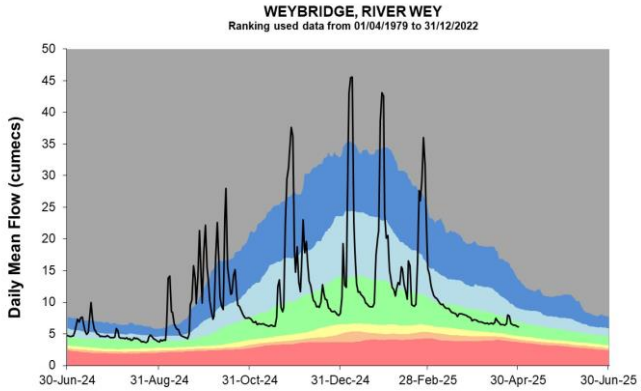


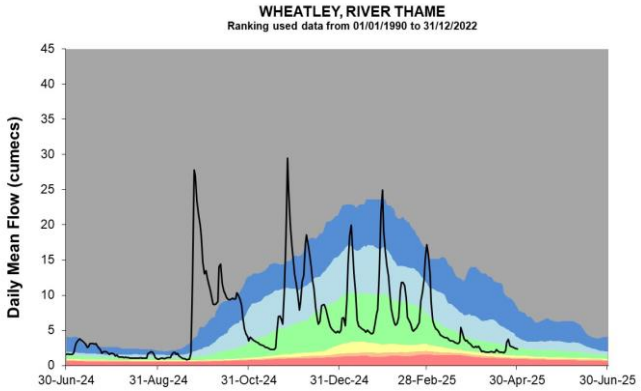
5 River flows

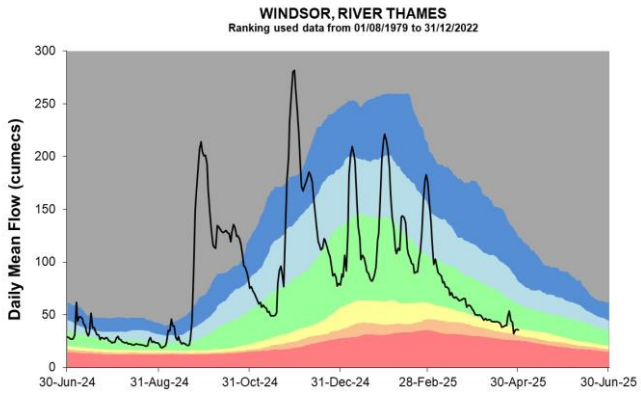
5.1 River flow charts

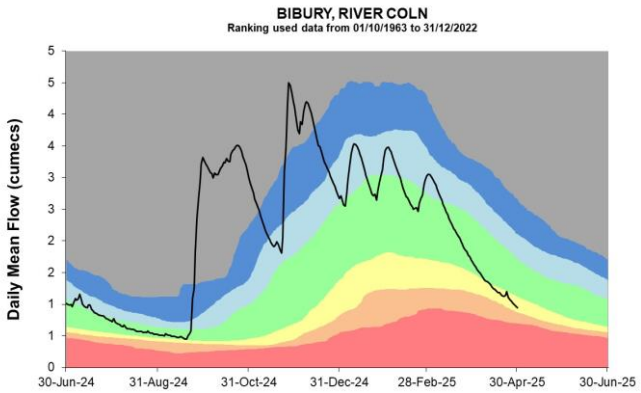
Figure 5.1: Daily mean river flows for indicator sites compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

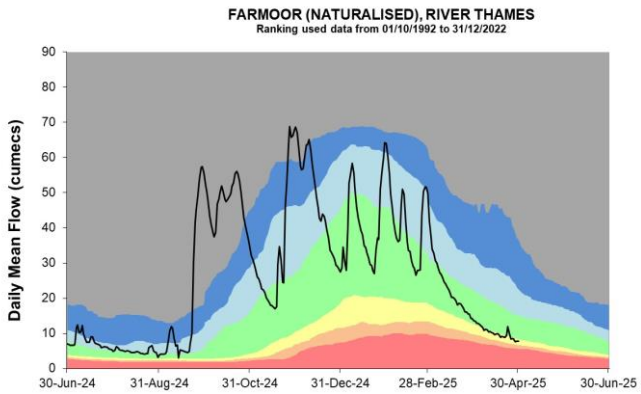


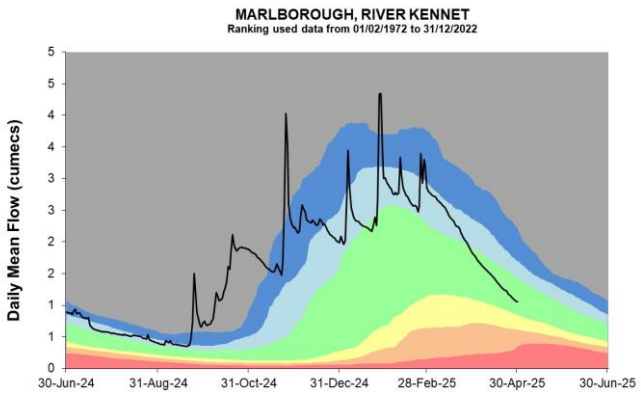

WEYBRIDGE, RIVER WEY
Ranking used data from 01/04/1979 to 31/12/2022
Daily Mean Flow (cumecs)
0
5
10
15
20
25
30
35
40
45
50
30-Jun-24
31-Aug-24
31-Oct-24
31-Dec-24
28-Feb-25
30-Apr-25
30-Jun-25

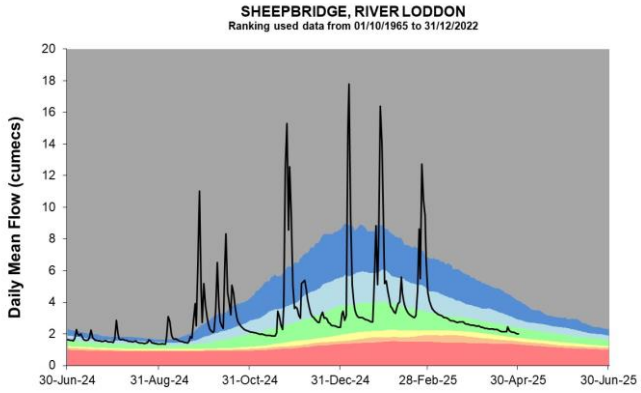

WHEATLEY, RIVER THAME
Ranking used data from 01/01/1990 to 31/12/2022
Daily Mean Flow (cumecs)
0
5
10
15
20
25
30
35
40
45
30-Jun-24
31-Aug-24
31-Oct-24
31-Dec-24
28-Feb-25
30-Apr-25
30-Jun-25

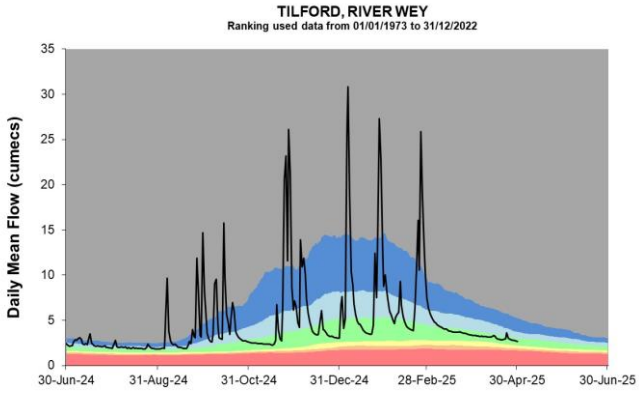

WINDSOR, RIVER THAMES
Ranking used data from 01/08/1979 to 31/12/2022
Daily Mean Flow (cumecs)
0
50
100
150
200
250
300
30-Jun-24
31-Aug-24
31-Oct-24
31-Dec-24
28-Feb-25
30-Apr-25
30-Jun-25

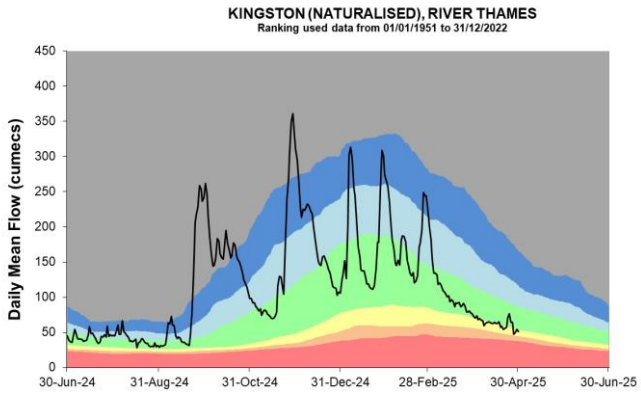

BIBURY, RIVER COLN
Ranking used data from 01/10/1963 to 31/12/2022
Daily Mean Flow (cumecs)
0
1
1
2
2
3
3
4
4
5
5
30-Jun-24
31-Aug-24
31-Oct-24
31-Dec-24
28-Feb-25
30-Apr-25
30-Jun-25


FARMOOR (NATURALISED), RIVER THAMES
Ranking used data from 01/10/1992 to 31/12/2022
Daily Mean Flow (cumecs)
0
10
20
30
40
50
60
70
80
90
30-Jun-24
31-Aug-24
31-Oct-24
31-Dec-24
28-Feb-25
30-Apr-25
30-Jun-25


MARLBOROUGH, RIVER KENNET
Ranking used data from 01/02/1972 to 31/12/2022
Daily Mean Flow (cumecs)
0
1
1
2
2
3
3
4
4
5
5
30-Jun-24
31-Aug-24
31-Oct-24
31-Dec-24
28-Feb-25
30-Apr-25
30-Jun-25





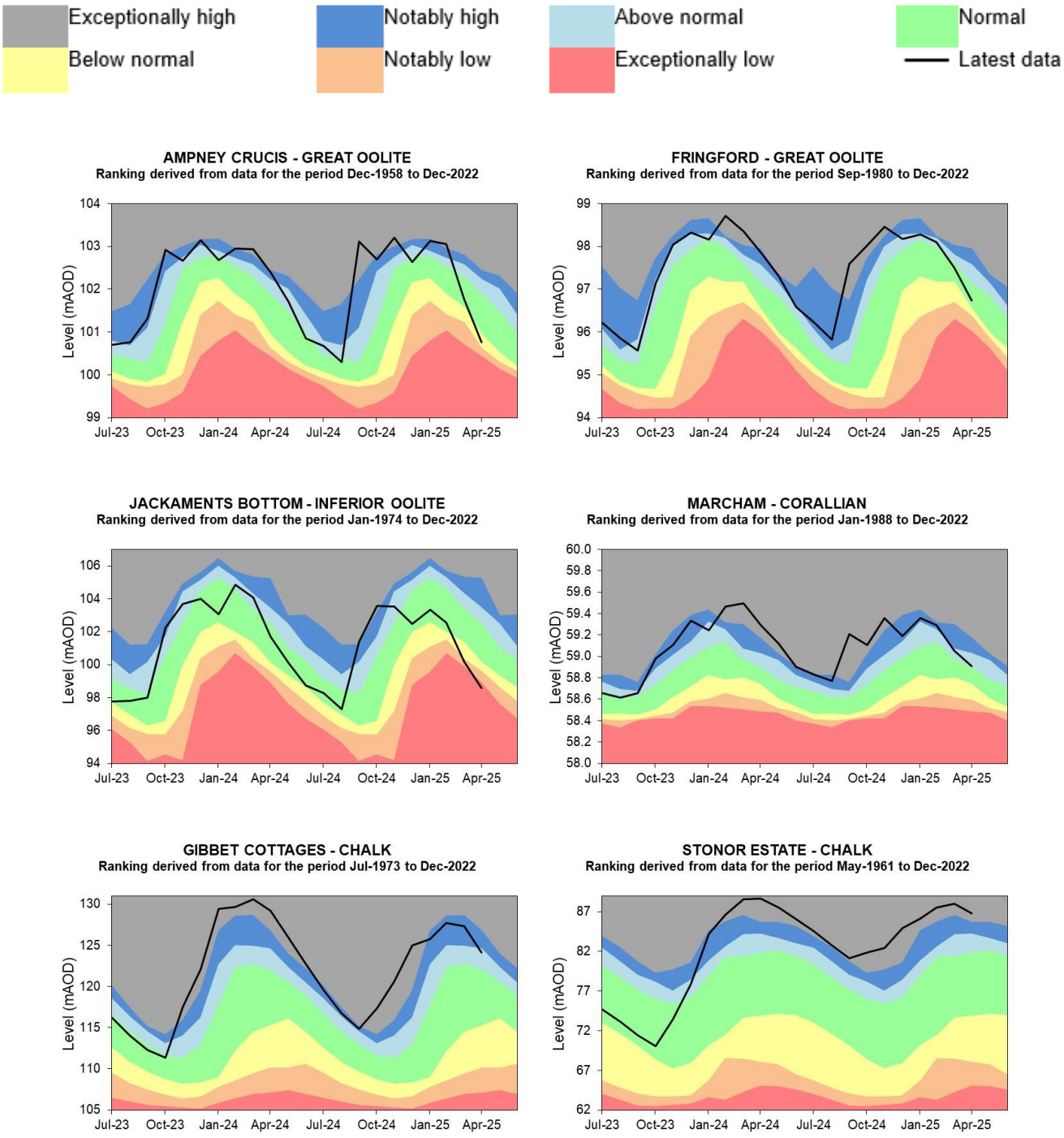


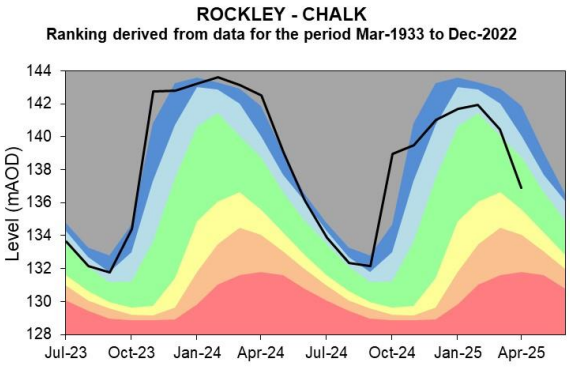
Source: Environment Agency.

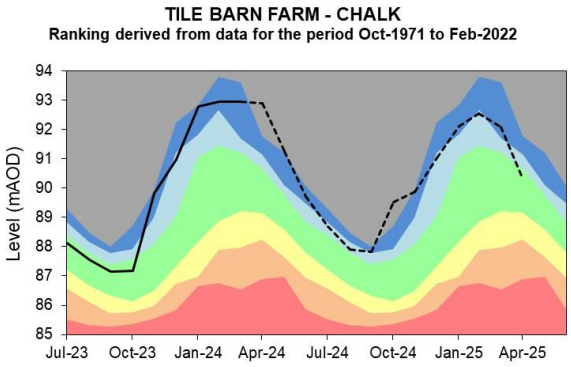
6 Groundwater levels

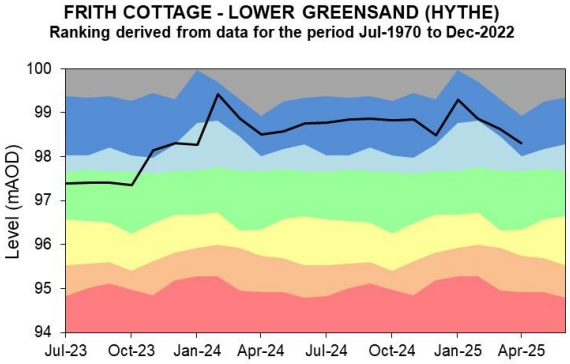
6.1 Groundwater level charts

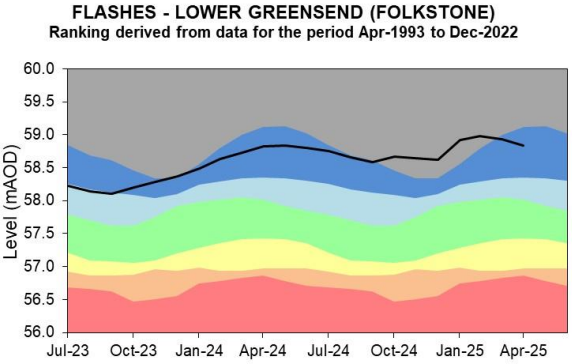
Figure 6.1: End of month groundwater levels for indicator sites, compared to an analysis of historic end of month levels, and long term maximum and minimum levels.

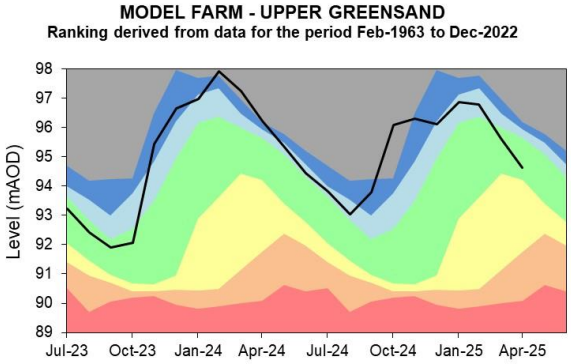










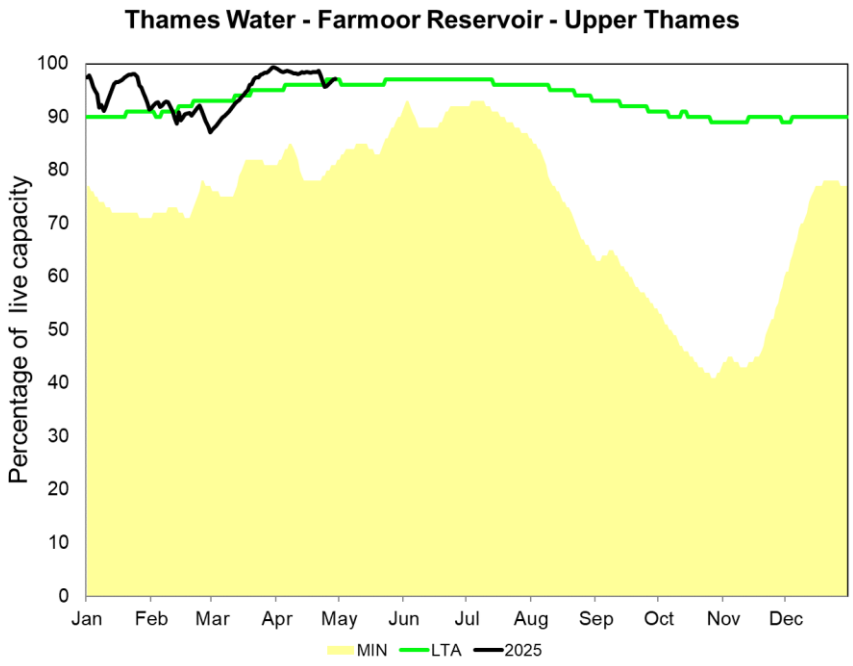


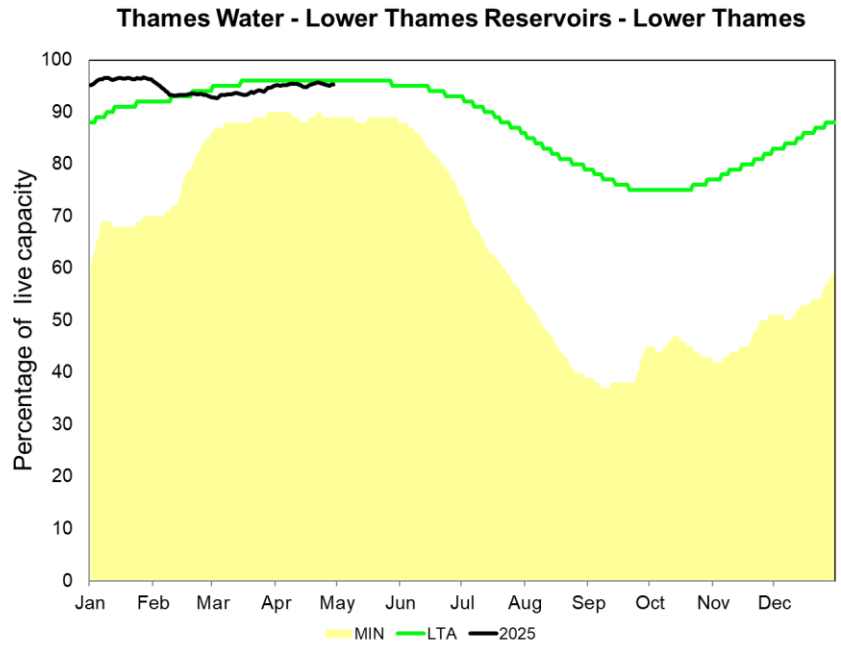
*Tile Barn Farm data has been estimated from two local sites since April 2022. A replacement is planned

Source: Environment Agency, 2025.

7 Reservoir stocks

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

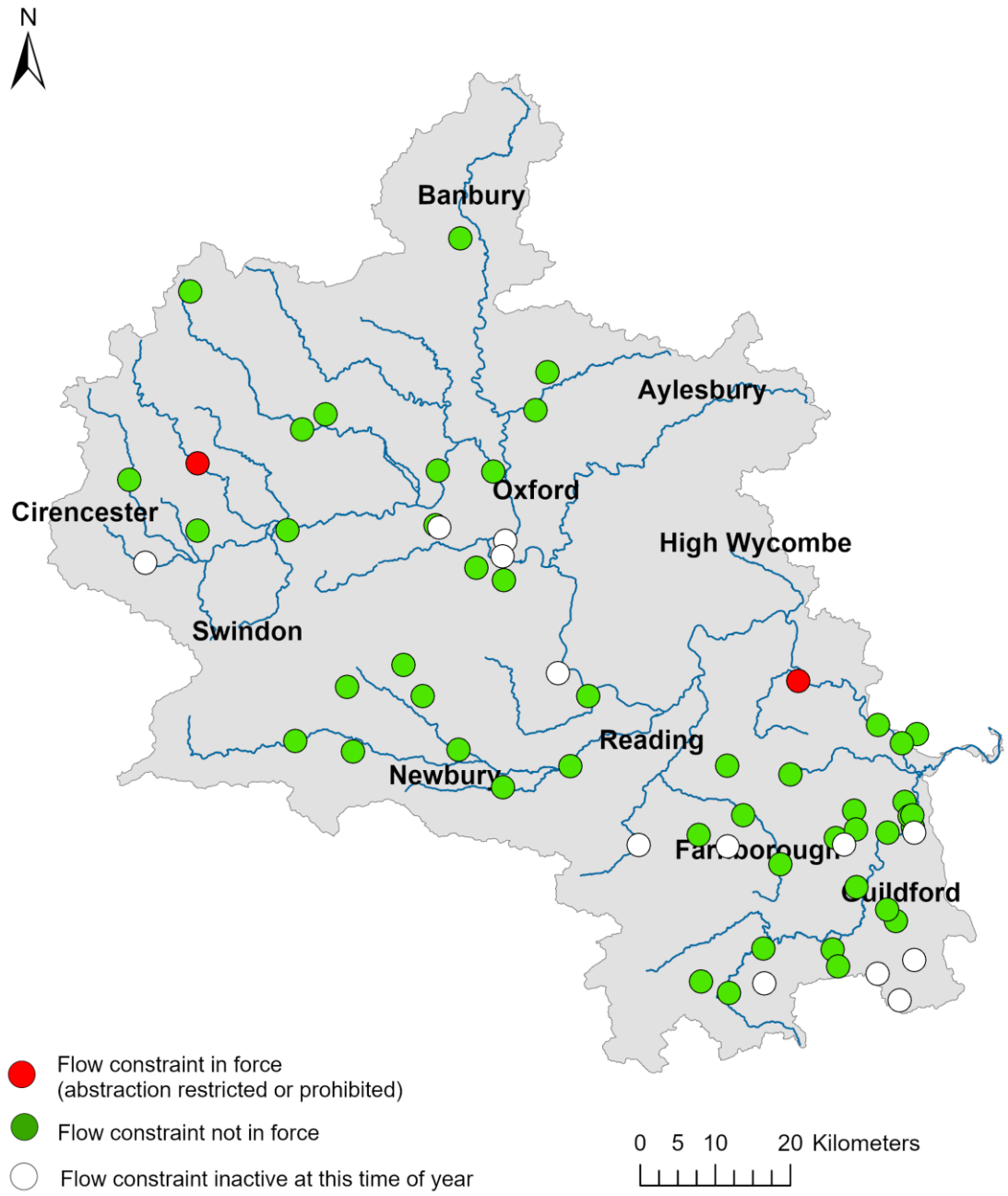




(Source: water companies).

8 Flow Constraints

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



8.2 Summary of flow constraints

Week ending	06/04/25	13/04/25	20/04/25	27/04/25

9 Summary of rainfall, effective rainfall and soil moisture deficit

9.1 Rainfall and effective rainfall

Area	Rainfall (mm) 30 day Total	Rainfall (mm) April LTA	Rainfall (mm) % LTA	Effective Rainfall (mm) 30 day total	Effective Rainfall (mm) April LTA	Effective Rainfall (mm) % LTA
Cotswolds - West	24	56	43	2	17	14
Cotswolds - East	24	50	49	2	13	18
Berkshire Downs	16	53	30	1	15	10
Chilterns - West	24	53	46	2	15	15
North Downs - Hampshire	21	56	38	2	17	10
Wey - Greensand	22	57	38	2	18	10
Upper Thames	19	46	41	0	7	0
Cherwell	23	48	48	0	10	0
Thame	23	47	49	0	9	0
Loddon	17	49	35	0	9	0
Lower Wey	19	48	39	0	10	0
Ock	18	45	39	0	6	0
Enborne	15	50	31	0	11	0
Cut	22	48	47	0	9	0
Thames Area	**21**	**50**	**41**	**1**	**12**	**7**

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 30	SMD (mm) LTA
Cotswolds - West	43	15
Cotswolds - East	44	18
Berkshire Downs	77	19
Chilterns - West	70	19
North Downs - Hampshire	75	17
Wey - Greensand	75	17
Upper Thames	77	22
Cherwell	68	19
Thame	70	20
Loddon	77	20
Lower Wey	75	20
Ock	77	25
Enborne	77	18
Cut	75	24
Thames Area	**70**	**20**

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

9.3 Summer rainfall and effective rainfall

Summer period: 01/04/2025 to 30/04/2025						
Area	Rainfall (mm) Total	Rainfall (mm) LTA	Rainfall (mm) % LTA	Effective Rainfall (mm) Total	Effective Rainfall (mm) LTA	Effective Rainfall (mm) % LTA
Cotswolds - West	24	56	43	2	17	14
Cotswolds - East	24	50	49	2	13	18
Berkshire Downs	16	53	30	1	15	10
Chilterns - West	24	53	46	2	15	15
North Downs - Hampshire	21	56	38	2	17	10
Wey - Greensand	22	57	38	2	18	10
Upper Thames	19	46	41	0	7	0
Cherwell	23	48	48	0	10	0
Thame	23	47	49	0	9	0
Loddon	17	49	35	0	9	0
Lower Wey	19	48	39	0	10	0
Ock	18	45	39	0	6	0
Enborne	15	50	31	0	11	0
Cut	22	48	47	0	9	0
Thames Area	**21**	**50**	**41**	**1**	**12**	**7**

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	Apr 2025 rainfall % of long term average 1961 to 1990	Apr 2025 band	Feb 2025 to April cumulative band	Nov 2024 to April cumulative band	May 2024 to April cumulative band
Berkshire Downs	12	Exceptionally Low	Notably low	Normal	Above normal
Chilterns West	13	Exceptionally Low	Notably low	Normal	Above normal
Cotswold East	10	Exceptionally Low	Notably low	Normal	Above normal
Cotswold West	13	Exceptionally Low	Notably low	Normal	Above normal
Cut	12	Exceptionally Low	Notably low	Normal	Normal
Enborne	12	Exceptionally Low	Notably low	Normal	Above normal
Loddon	11	Exceptionally Low	Notably low	Normal	Above normal
Lower Wey	10	Exceptionally Low	Notably low	Normal	Normal
North Downs - Hampshire	10	Exceptionally Low	Notably low	Normal	Normal
Ock	10	Exceptionally Low	Notably low	Normal	Above normal
Thame	14	Exceptionally Low	Notably low	Normal	Above normal
Upper Cherwell	17	Exceptionally Low	Notably low	Normal	Above normal
Upper Thames	10	Exceptionally Low	Notably low	Normal	Above normal
Wey - Greensand	9	Exceptionally Low	Notably low	Normal	Normal

11.2 River flows table

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

11.3 Groundwater table

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