

Monthly water situation report: Thames Area

1 Summary - January 2025

Thames are received 104mm of rainfall in January, 153% of the long term average (LTA). River flows increased at around three-quarters of our key indicator sites. Bourne End Hedsor, Sheepbridge, and Tilford all had exceptionally high flow for the time of year. Five sites recorded in the top six highest recorded January flows for their respective periods of record, including Bourne End Hedsor which recorded its second highest January flows since records began in 1965. Groundwater levels increased at all our key indicator sites. Stonor Estate in the Chalk recorded it's third highest level on record. Reservoir stocks rose in the Lower Thames reservoirs and ended the month above average, while stocks in Farmoor reservoir decreased and is now below average, for the time of year. There were 90 fluvial flood alerts, 4 groundwater flood alerts, and 8 flood warnings issued during January.

1.1 Rainfall

Thames area received 104mm of rainfall in January, 153% of LTA. There was a north-south split, with all of the southern half of Thames area receiving notably high rainfall, while the northern half had above normal for the time of year. Just over two-thirds of the month's rain fell over four days, (4, 5, 23, 26 January), with 26 January receiving 23mm on average, accounting for 22% of the January's rain. Shalbourne rain gauge (Berkshire Downs) received the month's highest daily total of 34.2mm on 26 January.

1.2 Soil moisture deficit and recharge

With the increase in rainfall, soil moisture deficits (SMD) reduced to 0mm across Thames area, which was below the 4mm usually calculated in January. Effective rainfall for the month was 171% of LTA, and over the winter period so far (October to January), 191% of LTA effective rainfall occurred.

1.3 River flows

Monthly mean flows increased at just under three-quarters (11) of our key indicators sites compared to last month. Just over half of our indicator sites were above normal or higher, with three, Bourne End Hedsor (Wye), Sheepbridge (Loddon), and Tilford (Wey), being exceptionally high. A number of January flows have been notable - Bourne End Hedsor recorded its second highest January flows since records began in 1965, Sheepbridge, and Tilford, their fourth highest flow since 1966 and 1955 respectively, Swallowfield (Blackwater) fifth highest flow since 1953, and Banbury (Cherwell) recorded its sixth highest flow since 1967.

1.4 Groundwater levels

Groundwater levels increased at all of our key indicator sites, the expected steady rise continued during the month. All of the indicator sites are above normal or higher, with two, Stonor Estate in the Chalk (third highest level on record), and The Flashes in the Lower Greensands being exceptionally high. Jackaments Bottom in the Great Oolites remained normal for the time of year.

1.5 Reservoir stocks

Reservoir stocks rose in the Lower Thames reservoirs and ended the month at 96.3%, compared to 95% at the end of December. Stocks in Farmoor reservoir decreased from 97% to 91.5% during January. The Lower Thames reservoirs are above average, while Farmoor is below average, for the time of year.

1.6 Environmental impact

During January there were 90 fluvial flood alerts, 4 groundwater flood alerts, and 8 flood warnings issued in Thames Area. At the end of the month, 0 abstraction licences were being constrained in the area to protect water resources and the environment.

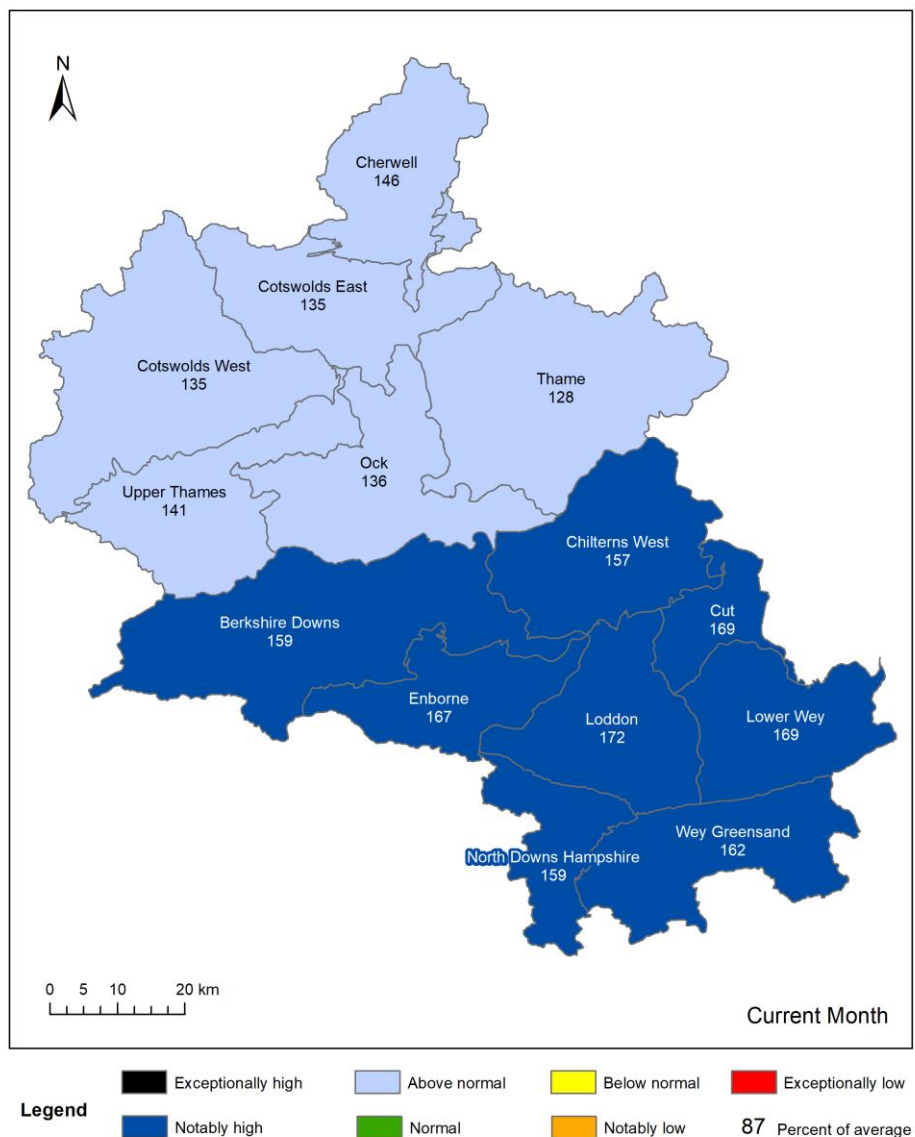
Author: Thames Area Groundwater Resources and Hydrology, enquiriesWT@environment-agency.gov.uk

Contact Details: 030708 506 506

2 Rainfall

2.1 Rainfall map

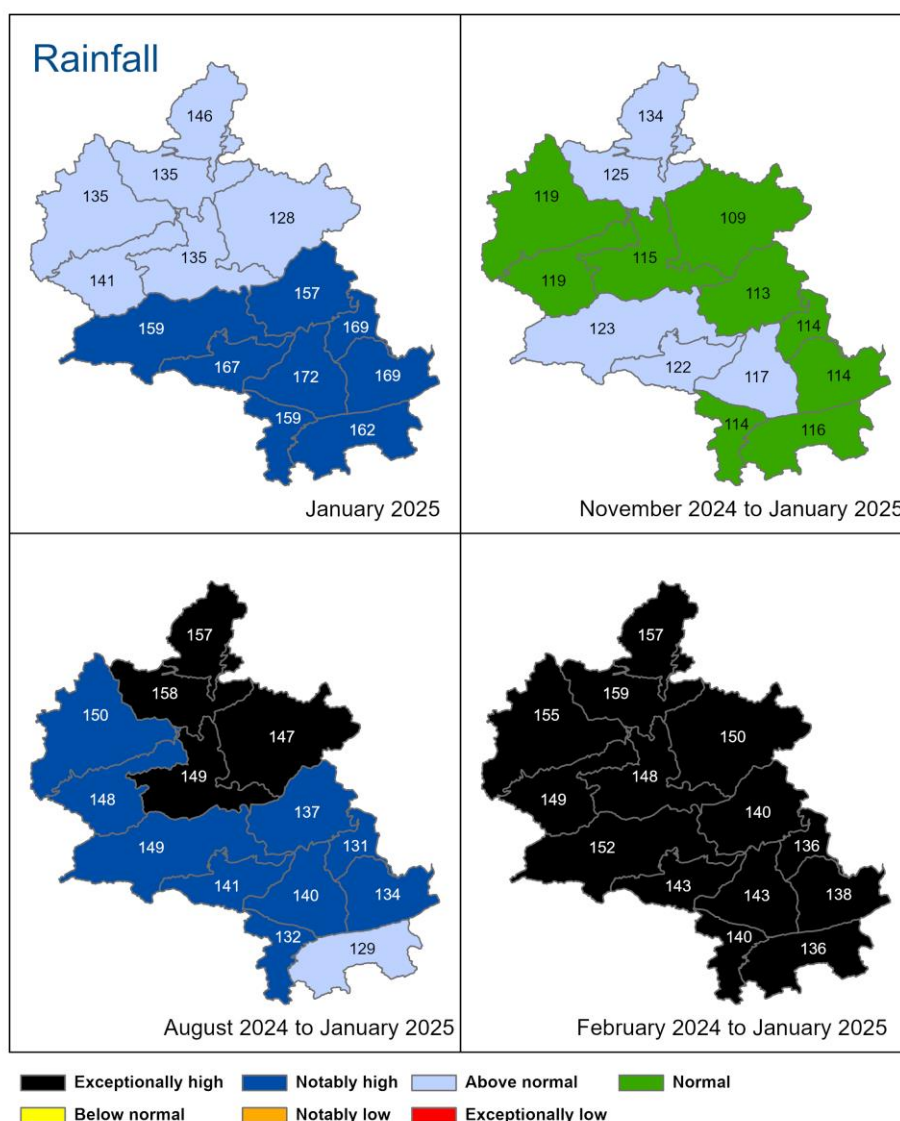
Figure 2.1: Total rainfall for hydrological areas for the current month (up to 31 January 2025), classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.



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 map (2)

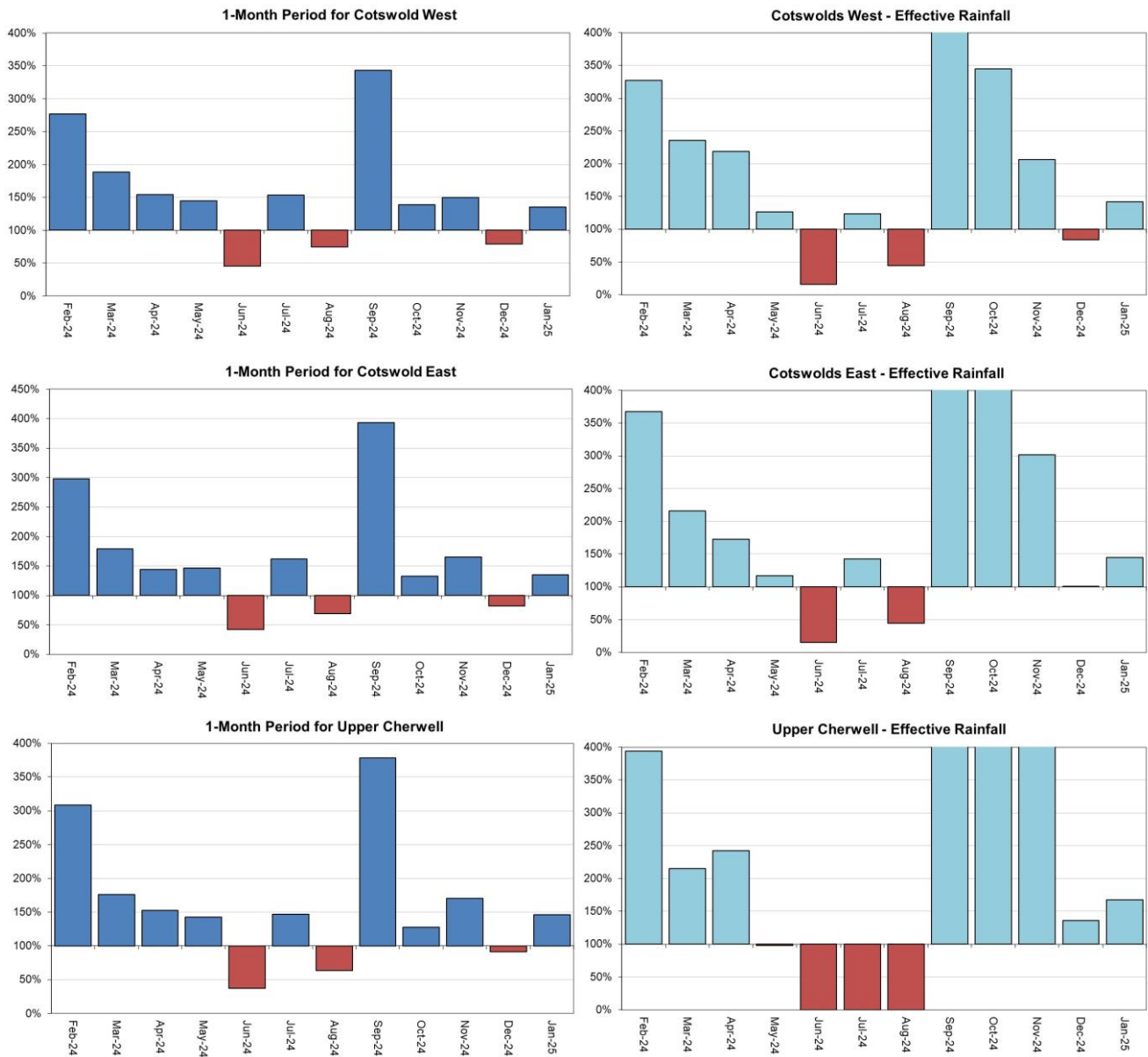
Figure 2.2: Total rainfall for hydrological areas for the current month (up to 31 January 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.



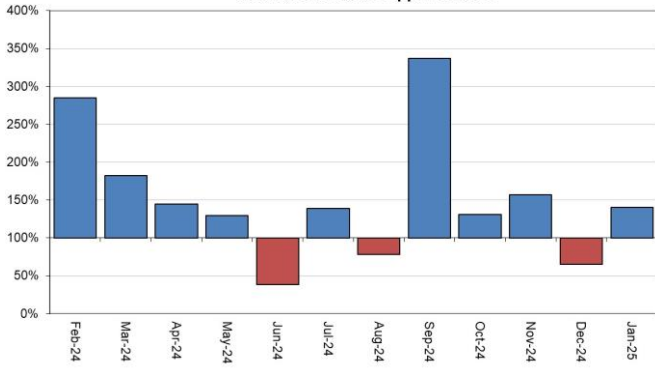
HadUK data based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Crown copyright. All rights reserved.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

2.3 Rainfall charts

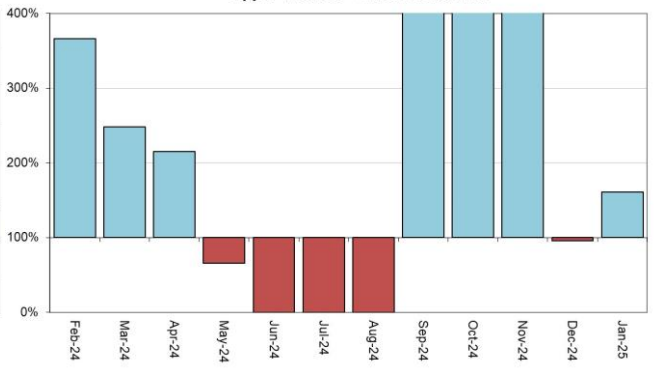
Figure 2.3: Monthly rainfall totals for the past 12 months as a percentage of the 1961 to 1990 long term average for each areal unit.



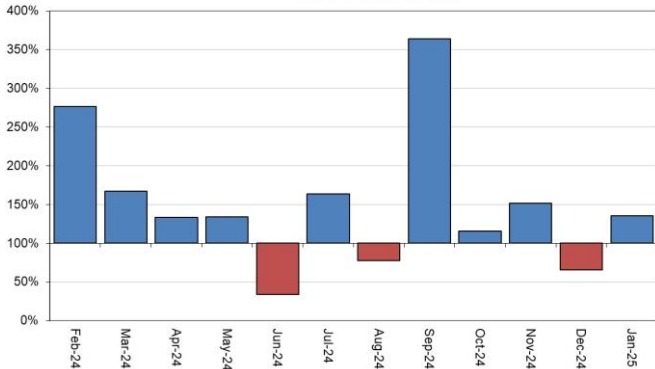
1-Month Period for Upper Thames



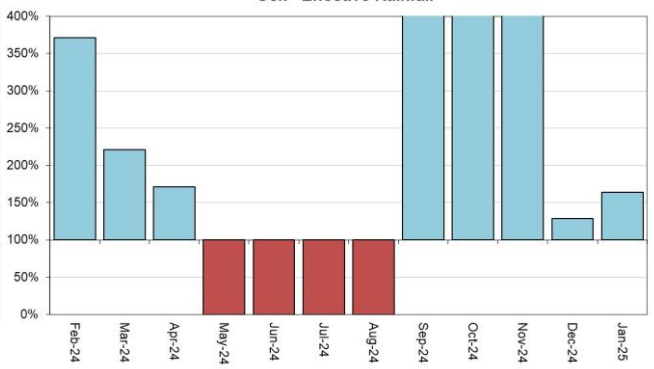
Upper Thames - Effective Rainfall



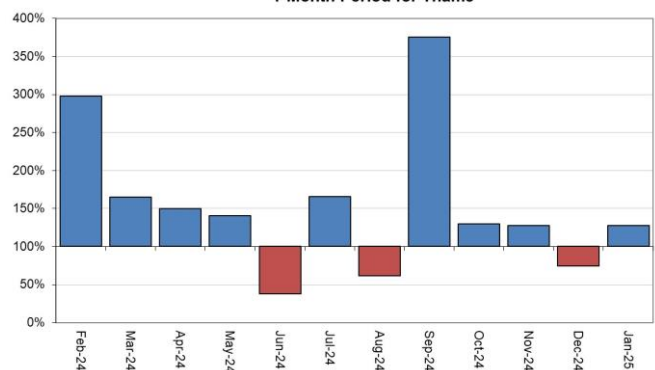
1-Month Period for Ock



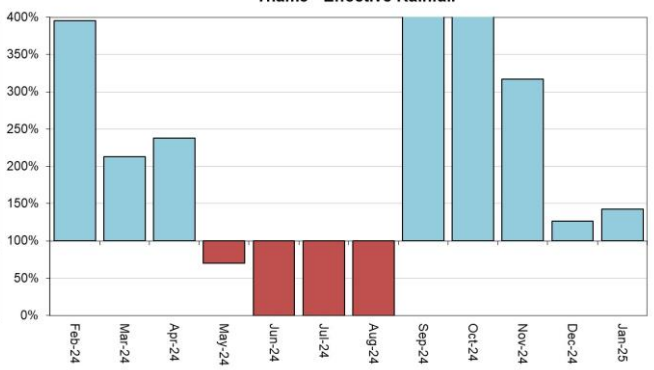
Ock - Effective Rainfall



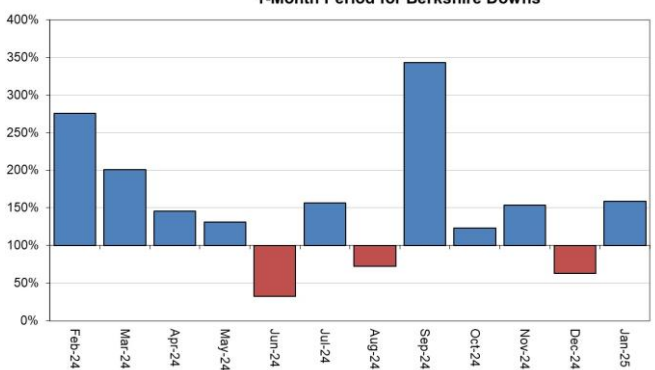
1-Month Period for Thame



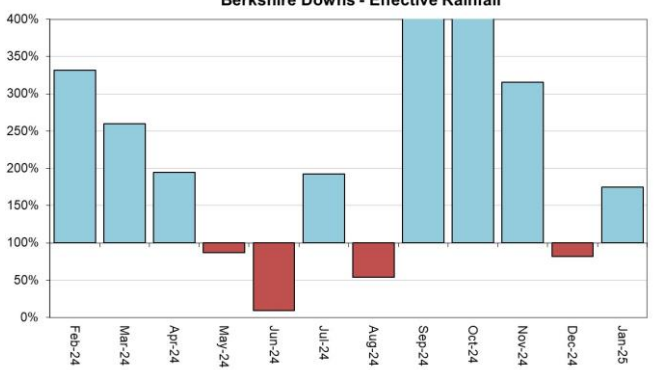
Thame - Effective Rainfall



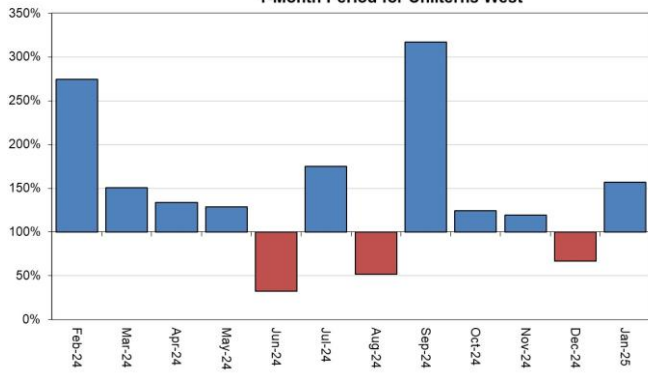
1-Month Period for Berkshire Downs



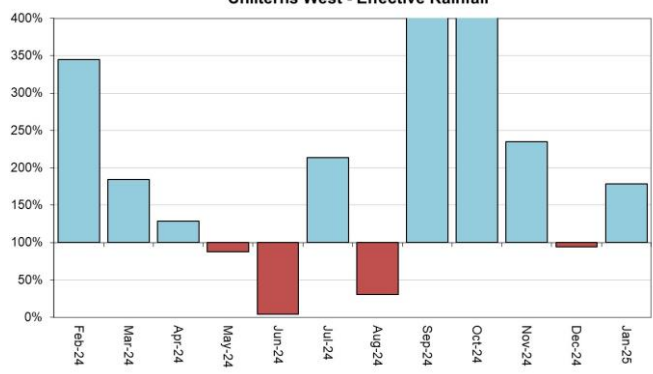
Berkshire Downs - Effective Rainfall



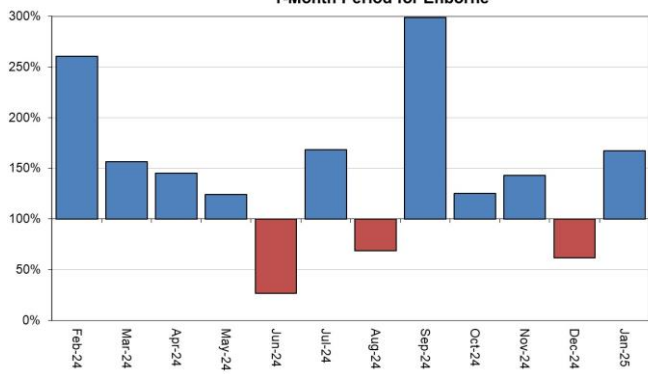
1-Month Period for Chilterns West



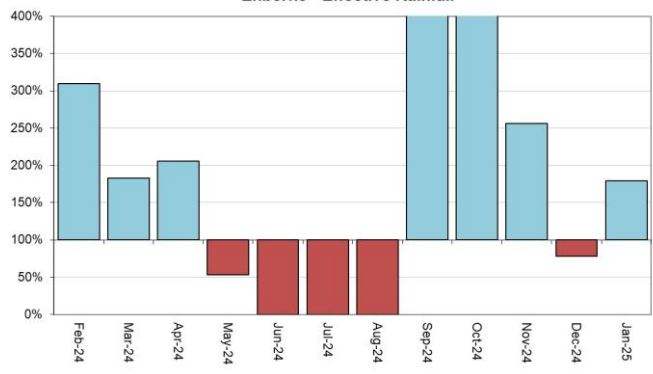
Chilterns West - Effective Rainfall



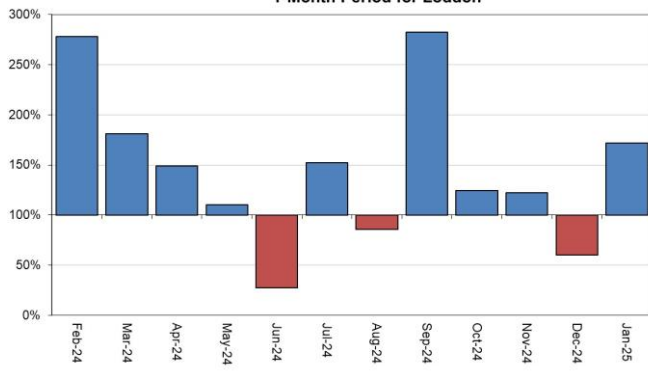
1-Month Period for Enborne



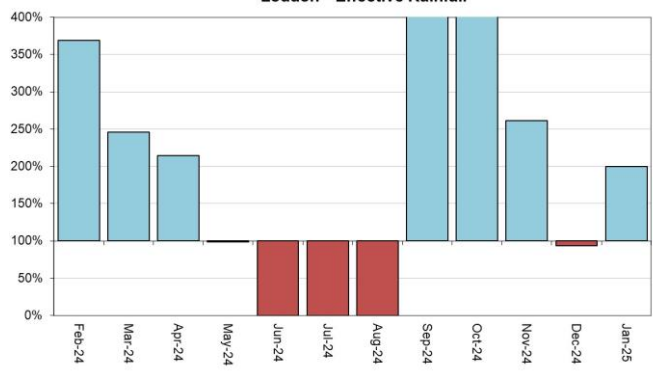
Enborne - Effective Rainfall



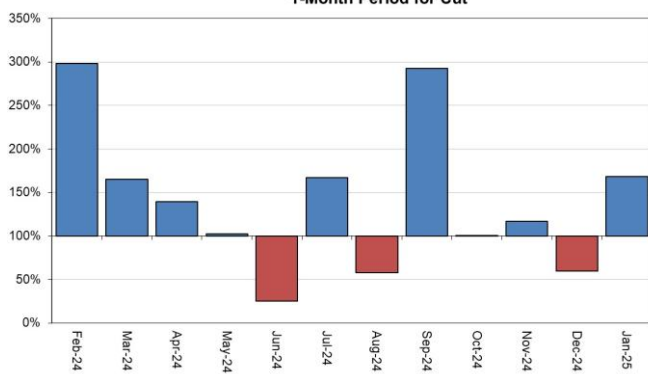
1-Month Period for Loddon



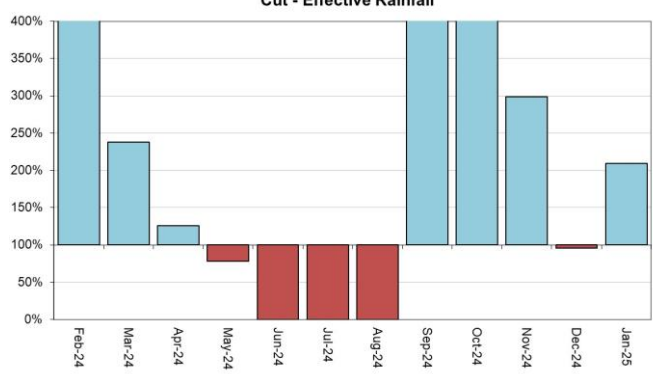
Loddon - Effective Rainfall

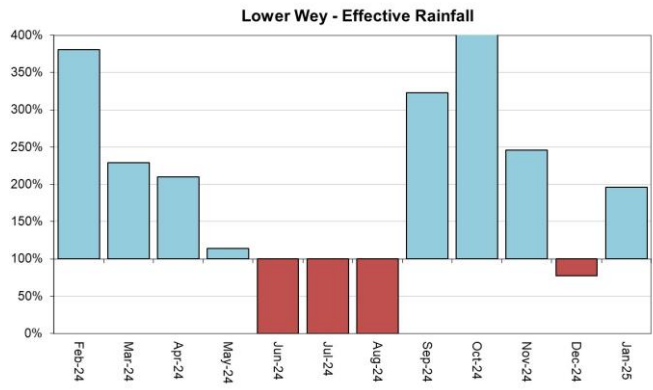
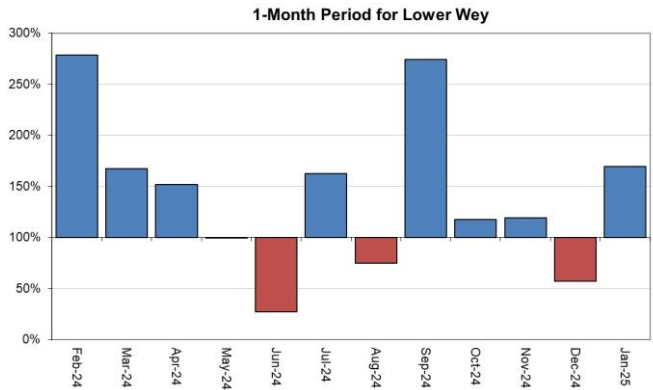
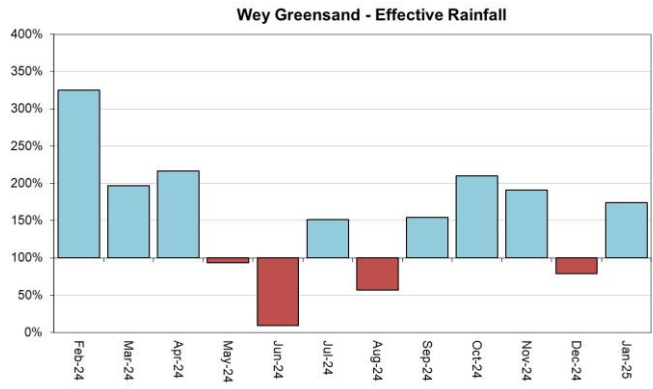
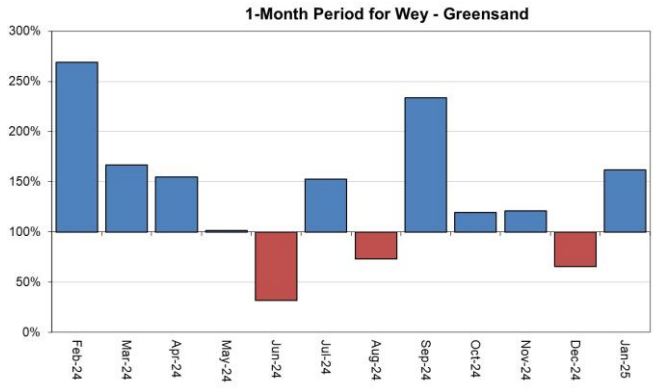
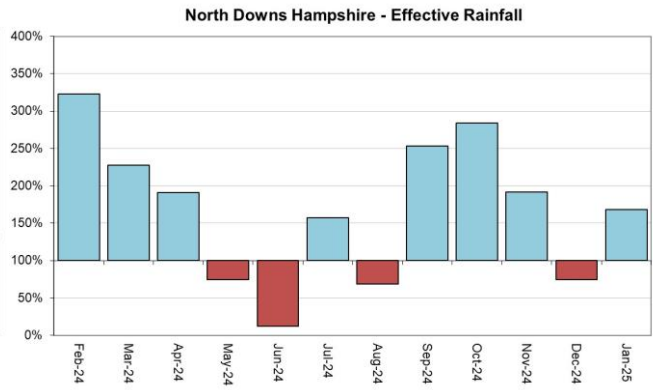
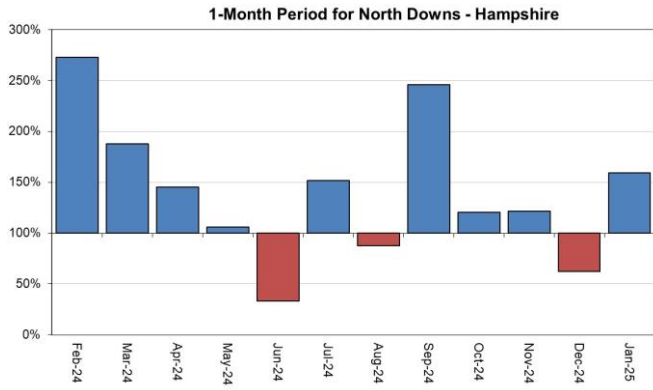


1-Month Period for Cut



Cut - Effective Rainfall





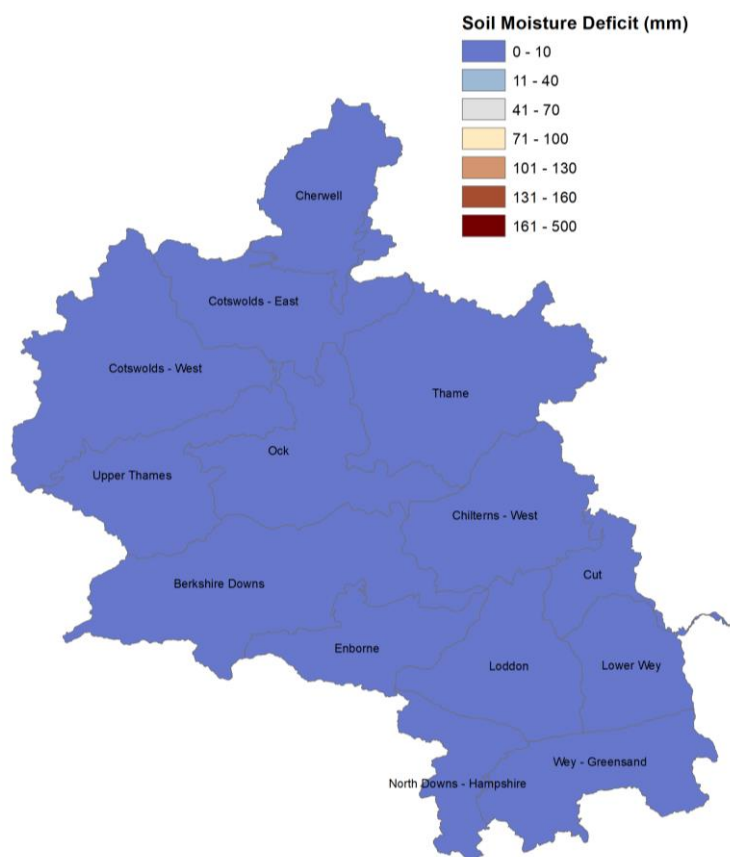
HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

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 31 January 2025. Shows the areal SMD estimate in millimetres.

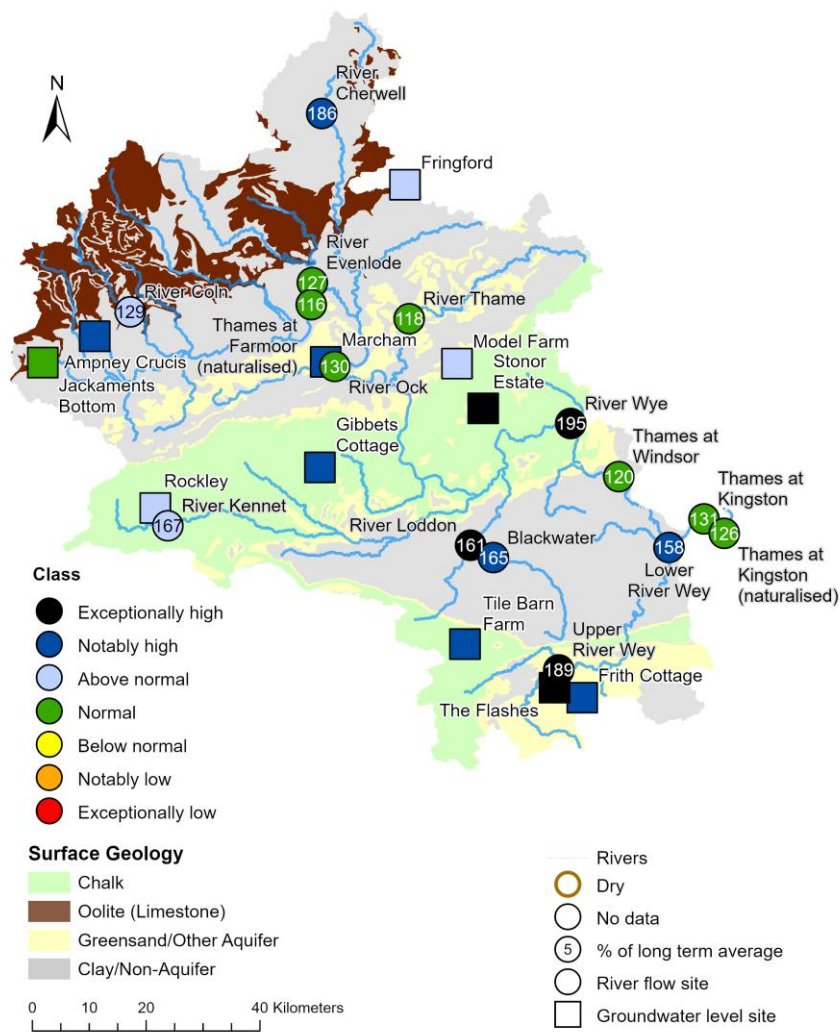


(Source: Met Office. Crown copyright, 2025). All rights reserved. Environment Agency, 100024198, 2025.

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 January 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic January means.

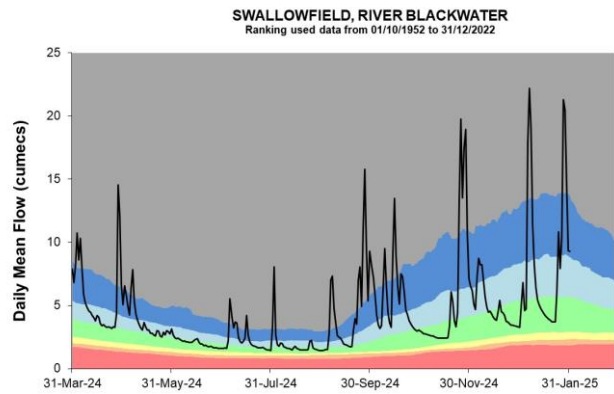
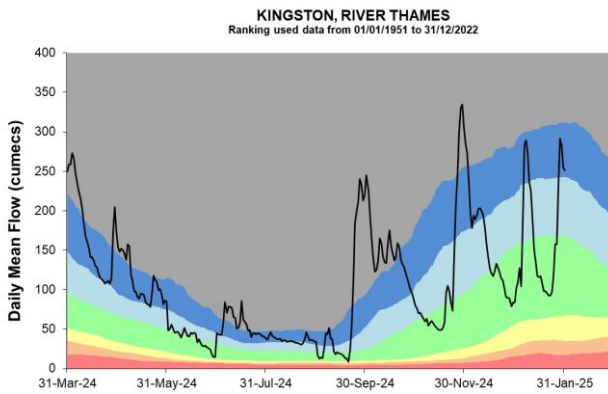
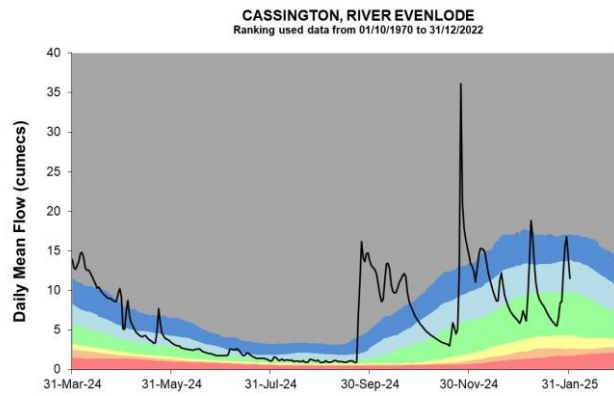
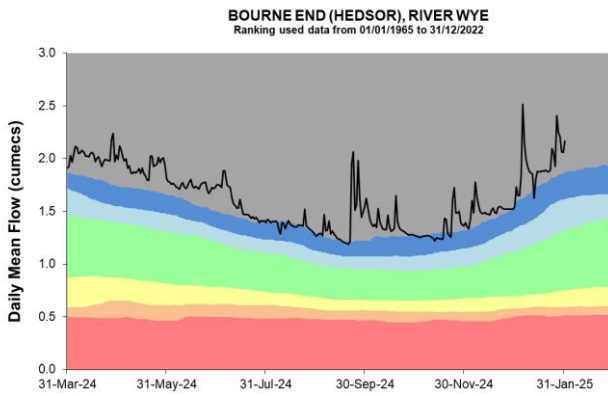
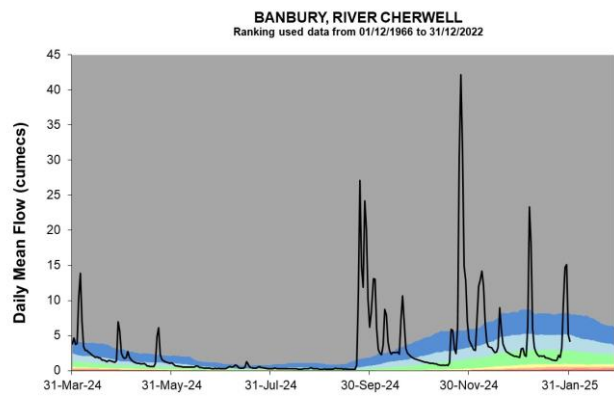
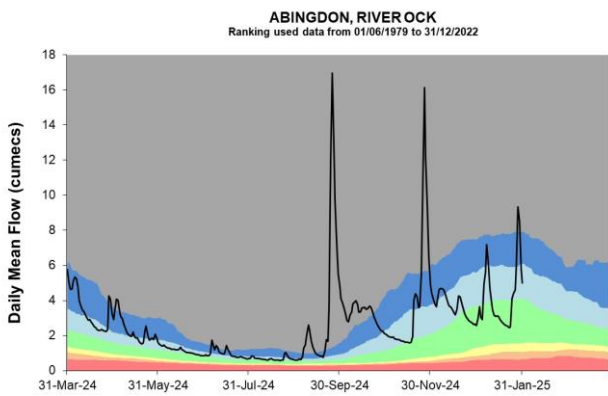
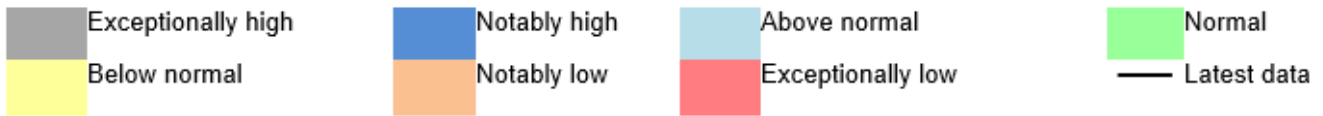


(Source: Environment Agency). Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

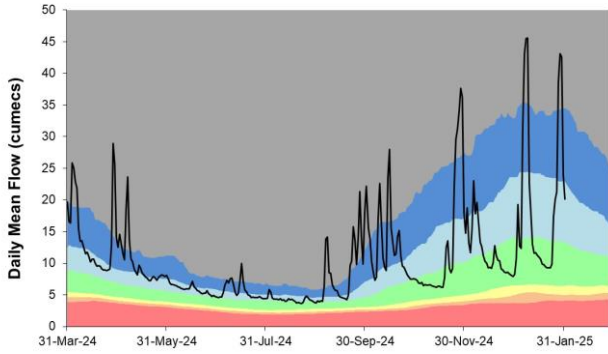
5 River flows

5.1 River flow charts

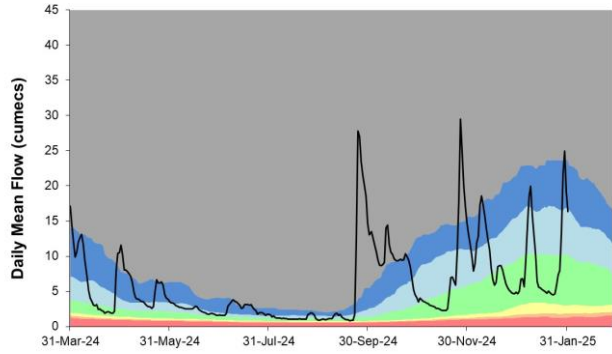
Figure 5.1: Daily mean river flows for indicator sites compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



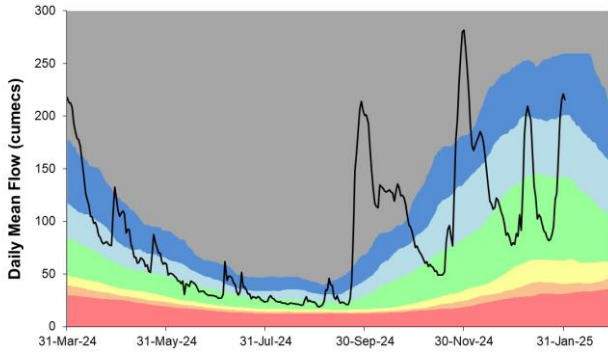
WEYBRIDGE, RIVER WEY
Ranking used data from 01/04/1979 to 31/12/2022



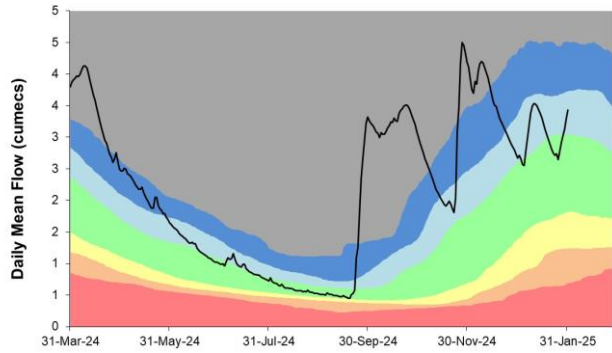
WHEATLEY, RIVER THAME
Ranking used data from 01/01/1990 to 31/12/2022



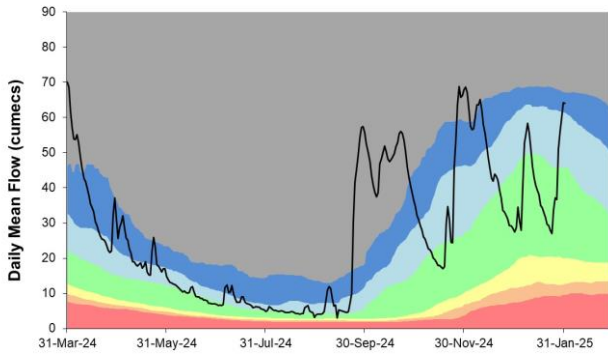
WINDSOR, RIVER THAMES
Ranking used data from 01/08/1979 to 31/12/2022



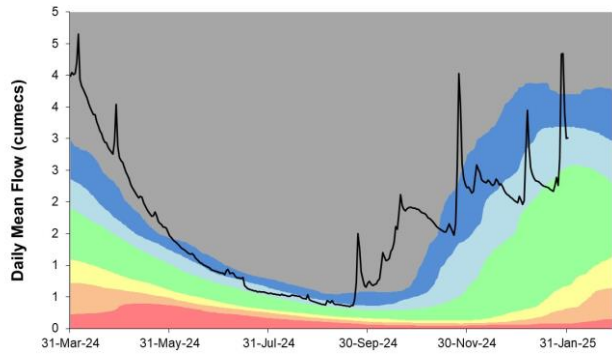
BIBURY, RIVER COLN
Ranking used data from 01/10/1963 to 31/12/2022

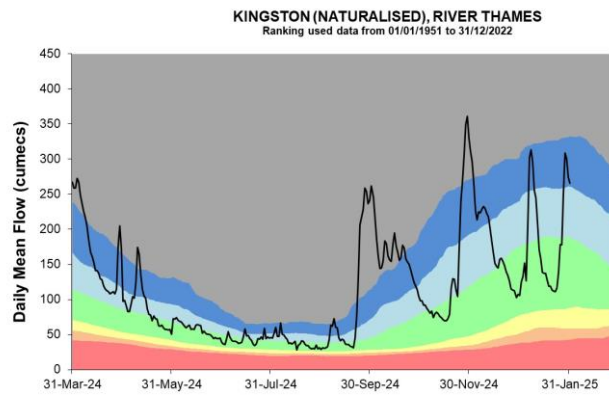
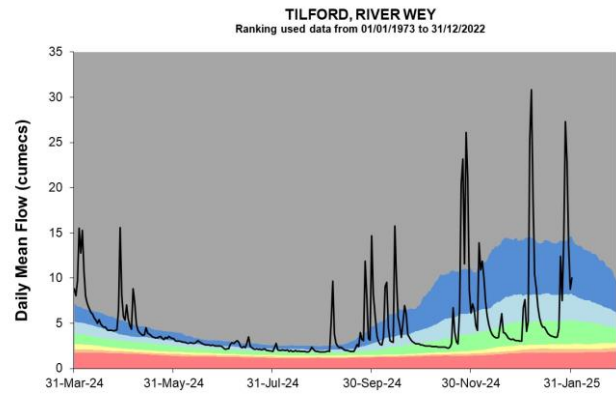
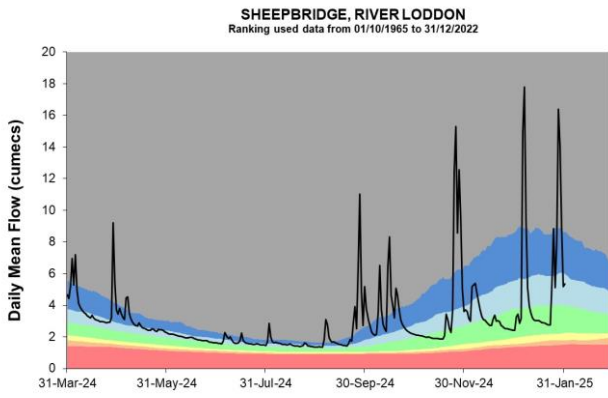


FARMOOR (NATURALISED), RIVER THAMES
Ranking used data from 01/10/1992 to 31/12/2022



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



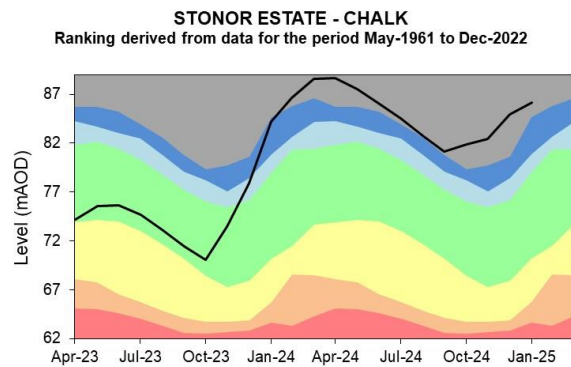
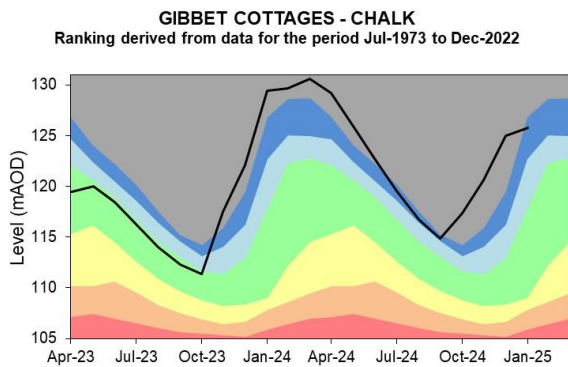
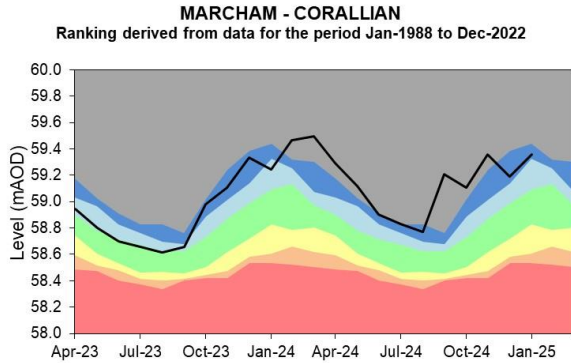
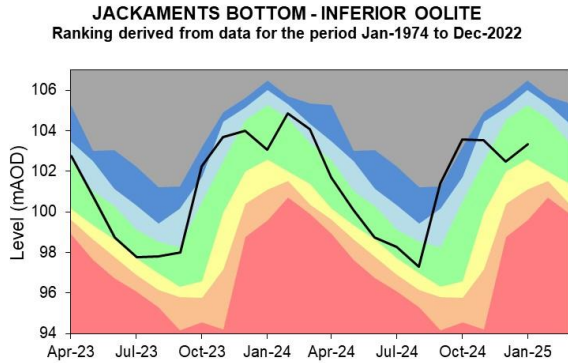
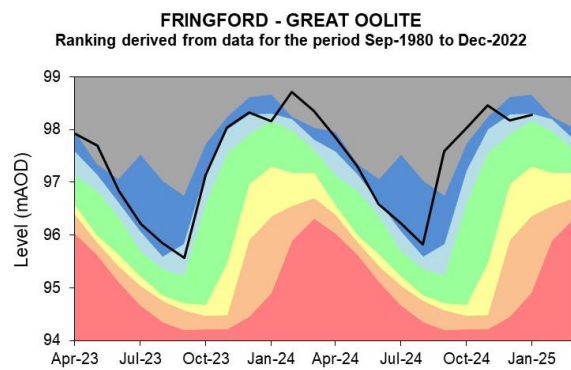
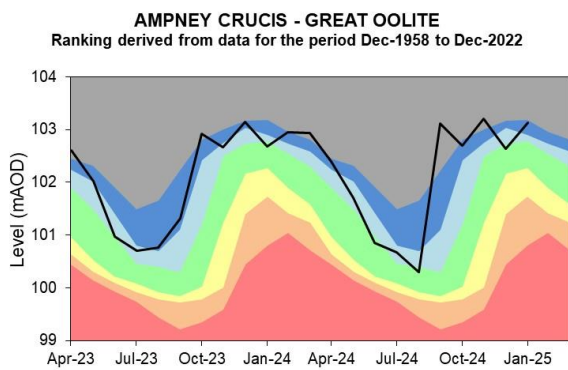
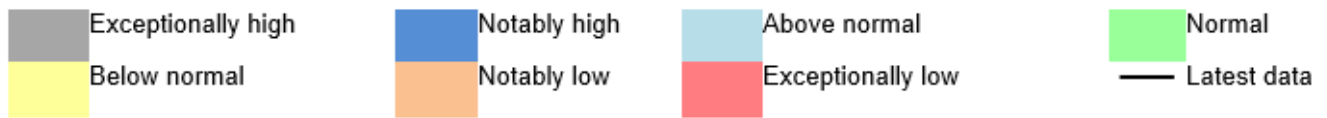


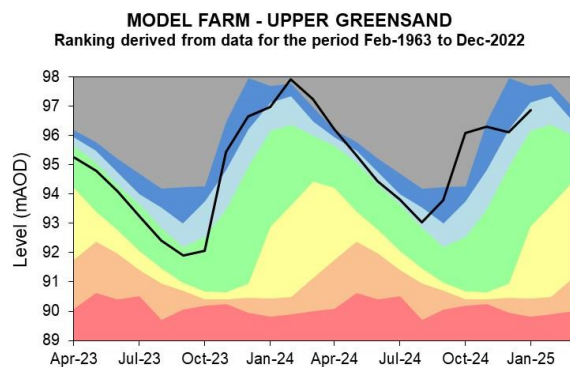
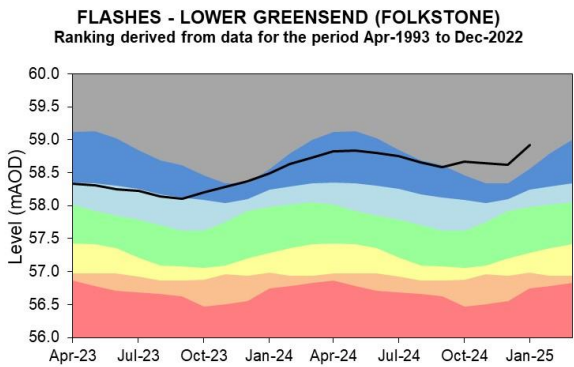
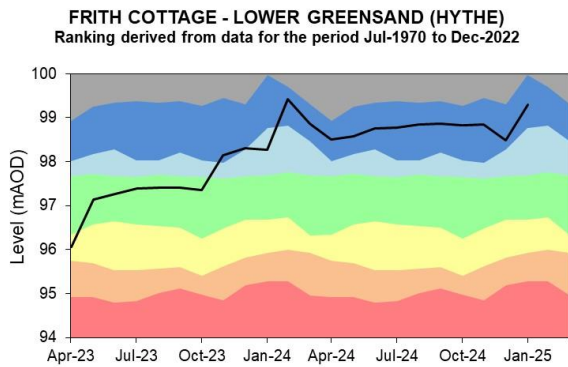
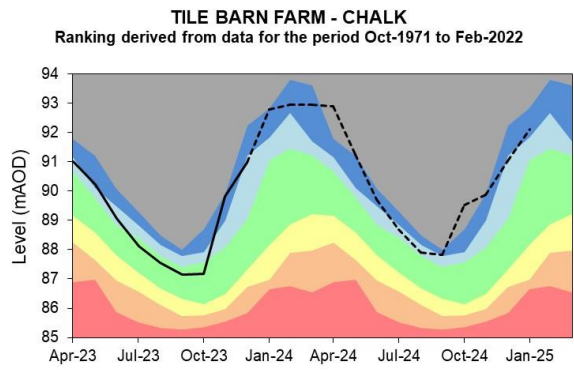
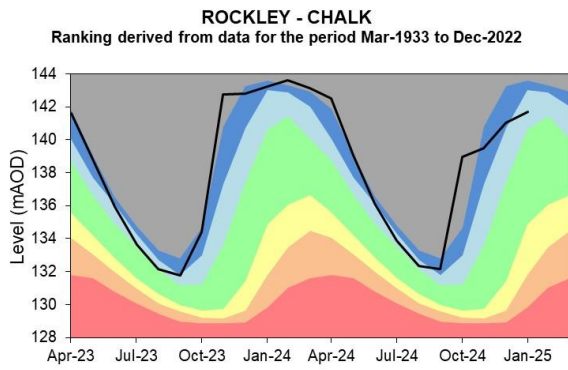
Source: Environment Agency.

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.



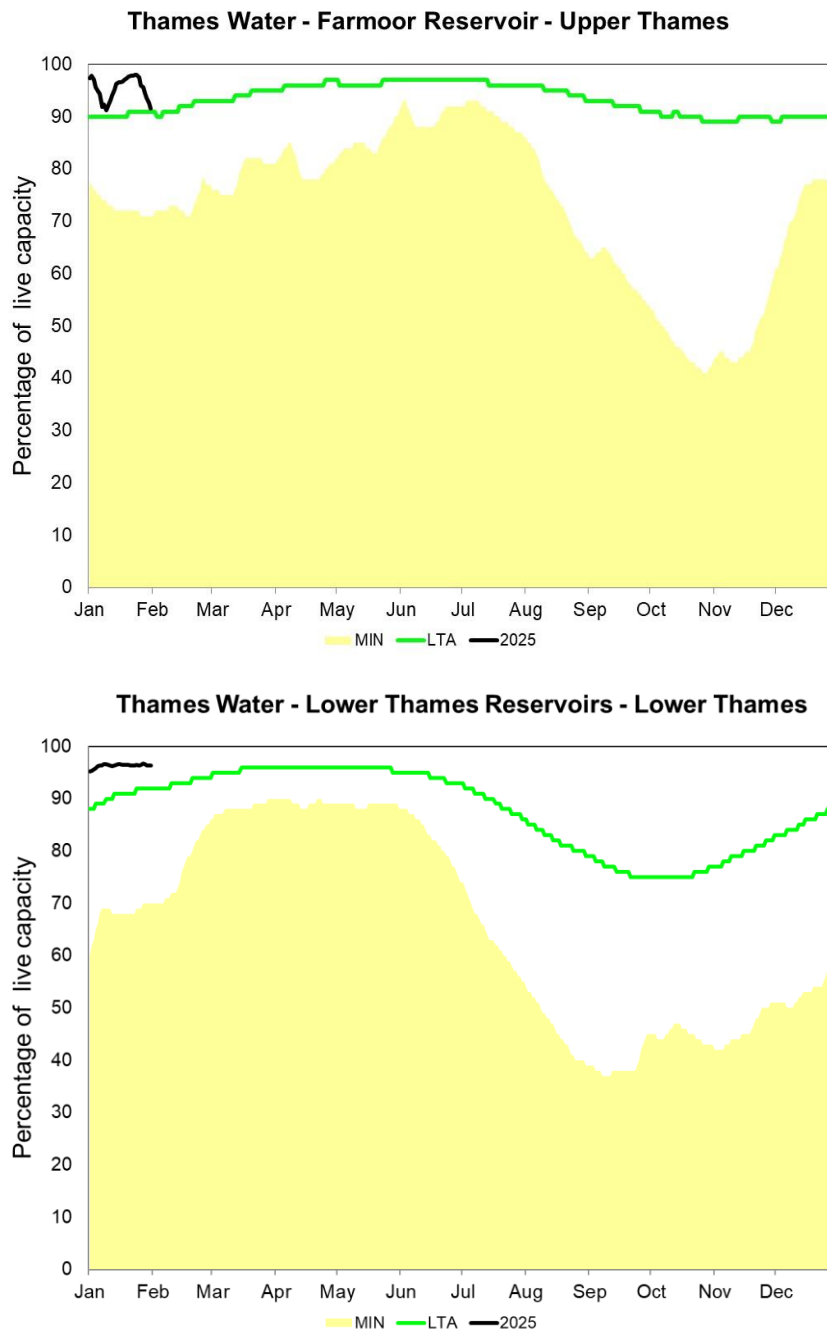


*Tile Barn Farm data has been estimated from two local sites since April 2022. A replacement is planned

Source: Environment Agency, 2025.

7 Reservoir stocks

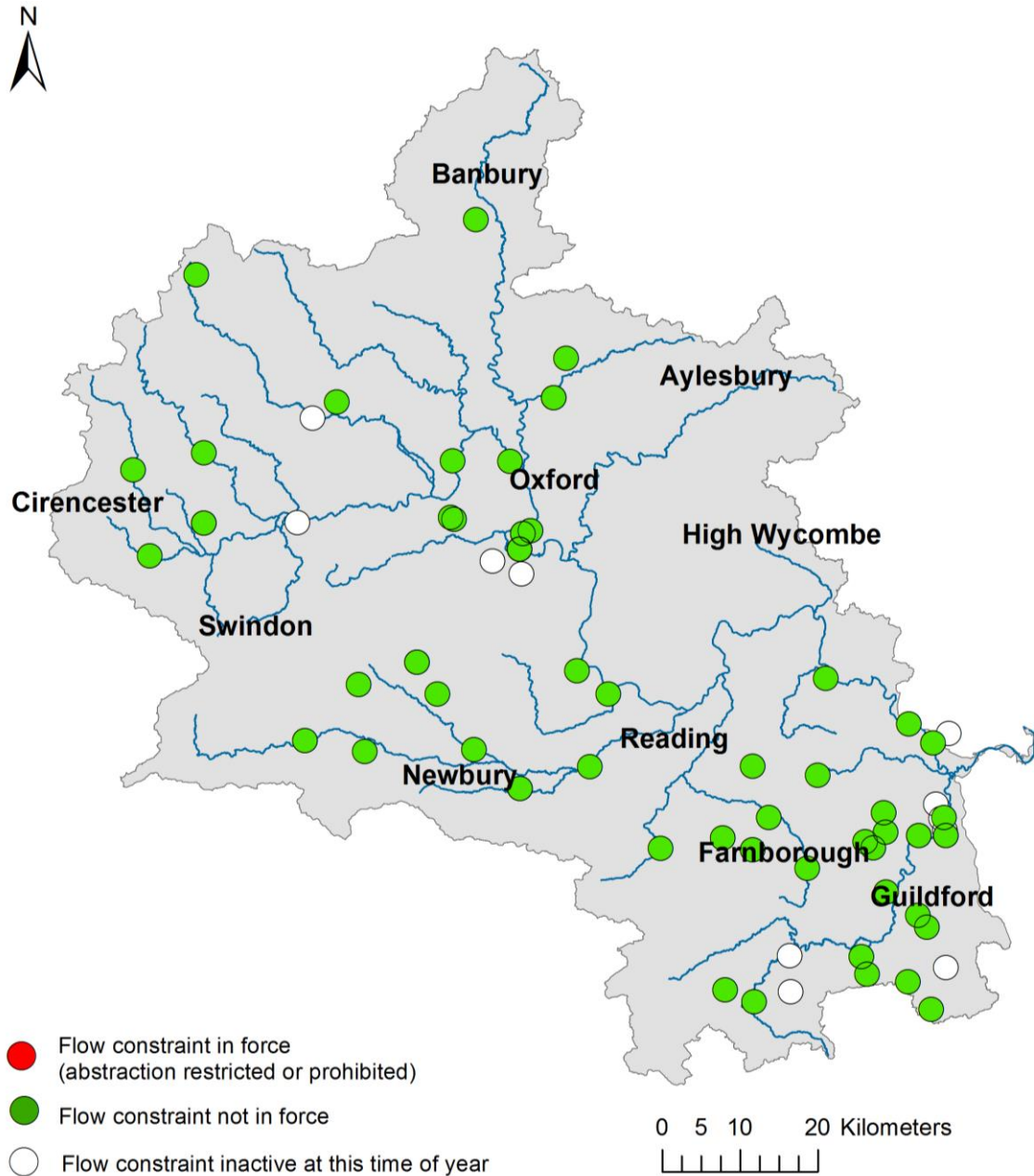
Figure 7.1: End of month regional reservoir stocks compared to minimum and average stocks.



(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

Week ending	05/01/25	12/01/25	19/01/25	26/01/25
Constraint	0	1	1	0

9 Summary of rainfall, effective rainfall and soil moisture deficit

9.1 Rainfall and effective rainfall

Area	Rainfall (mm) 31 day Total	Rainfall (mm) January LTA	Rainfall (mm) % LTA	Effective Rainfall (mm) 31 day total	Effective Rainfall (mm) January LTA	Effective Rainfall (mm) % LTA
Cotswolds - West	103	76	135	89	63	142
Cotswolds - East	89	66	135	74	51	144
Berkshire Downs	120	75	160	105	60	175
Chilterns - West	105	67	157	89	50	179
North Downs - Hampshire	141	88	159	125	75	168
Wey - Greensand	139	86	162	124	71	174
Upper Thames	88	63	141	73	45	161
Cherwell	88	60	146	73	44	167
Thame	72	57	127	56	40	143
Loddon	113	66	171	96	48	199
Lower Wey	106	63	169	89	45	196
Ock	77	56	136	60	37	164
Enborne	122	74	165	106	59	179
Cut	98	58	168	81	39	210
Thames Area	104	68	153	89	52	171

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 31	SMD (mm) LTA
Cotswolds - West	1	2
Cotswolds - East	0	4
Berkshire Downs	0	3
Chilterns - West	0	4
North Downs - Hampshire	0	1
Wey - Greensand	0	2
Upper Thames	1	4
Cherwell	0	4
Thame	0	5
Loddon	0	3
Lower Wey	0	3
Ock	0	8
Enborne	0	1
Cut	0	7
Thames Area	0	4

HadUK rainfall data (Source: Met Office Crown copyright 2023)

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

9.3 Winter rainfall and effective rainfall

Winter period: 01/10/2024 to 31/01/2025						
Area	Rainfall (mm) Total	Rainfall (mm) LTA	Rainfall (mm) % LTA	Effective Rainfall (mm) Total	Effective Rainfall (mm) LTA	Effective Rainfall (mm) % LTA
Cotswolds - West	373	302	124	301	189	159
Cotswolds - East	329	260	127	258	139	185
Berkshire Downs	366	296	124	294	152	193
Chilterns - West	315	273	115	243	129	188
North Downs - Hampshire	399	346	115	323	204	158
Wey - Greensand	390	335	116	301	195	155
Upper Thames	310	255	122	235	102	231
Cherwell	322	244	132	252	105	240
Thame	266	233	114	194	90	215
Loddon	314	265	119	239	112	214
Lower Wey	292	255	115	215	111	194
Ock	265	230	115	190	73	261
Enborne	353	292	121	280	148	190
Cut	268	243	110	184	88	211
Thames Area	326	273	119	251	131	191

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	Jan 2025 rainfall % of long term average 1961 to 1990	Jan 2025 band	Nov 2024 to January cumulative band	Aug 2024 to January cumulative band	Feb 2024 to January cumulative band
Berkshire Downs	159	Notably High	Above normal	Notably high	Exceptionally high
Chilterns West	157	Notably High	Normal	Notably high	Exceptionally high
Cotswold East	135	Above Normal	Above normal	Exceptionally high	Exceptionally high
Cotswold West	135	Above Normal	Normal	Notably high	Exceptionally high
Cut	169	Notably High	Normal	Notably high	Exceptionally high
Enborne	167	Notably High	Above normal	Notably high	Exceptionally high
Loddon	172	Notably High	Above normal	Notably high	Exceptionally high
Lower Wey	169	Notably High	Normal	Notably high	Exceptionally high
North Downs - Hampshire	159	Notably High	Normal	Notably high	Exceptionally high
Ock	136	Above Normal	Normal	Exceptionally high	Exceptionally high
Thame	128	Above Normal	Normal	Exceptionally high	Exceptionally high

Upper Cherwell	146	Above Normal	Above normal	Exceptionally high	Exceptionally high
Upper Thames	141	Above Normal	Normal	Notably high	Exceptionally high
Wey - Greensand	162	Notably High	Normal	Above normal	Exceptionally high

11.2 River flows table

Site name	River	Catchment	Jan 2025 band	Dec 2024 band
Abingdon	River Ock	Ock	Normal	Above normal
Banbury	River Cherwell	Cherwell Upper	Notably high	Notably high
Bibury	River Coln	Cotswolds West	Above normal	Notably high
Bourne End (Hedsor)	River Wye	Wye Bucks	Exceptionally high	Exceptionally high
Cassington	River Evenlode	Evenlode	Normal	Notably high
Farmoor (naturalised)	River Thames	Thames	Normal	Notably high
Kingston	River Thames	Thames North Bank	Normal	Above normal
Marlborough	River Kennet	Kennet	Above normal	Notably high
Sheepbridge	River Loddon	Loddon	Exceptionally high	Normal
Swallowfield	River Blackwater	Loddon	Notably high	Normal
Tilford	River Wey	Wey Addleston Bourne	Exceptionally high	Above normal
Weybridge	River Wey	Wey Addleston Bourne	Notably high	Normal
Wheatley	River Thame	Thame	Normal	Above normal
Windsor	River Thames	Thames	Normal	Notably high
Kingston (naturalised)	River Thames	Thames North Bank	Normal	Above normal

11.3 Groundwater table

Site name	Aquifer	End of Jan 2025 band	End of Dec 2024 band
Ampney Crucis OBH	Burford Oolitic Limestone (great)	Notably high	Normal
Frith Cottage	Godalming Lower Greensand	Notably high	Notably high
Gibbet Cottages OBH	Berkshire Downs Chalk	Notably high	Exceptionally 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	Notably high
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	Notably high	Above normal
Fringford P.S.	Upper Bedford Ouse Oolitic Limestone (great)	Above normal	Above normal