Monthly water situation report:

South-east England

1 Summary - August 2025

The very hot and dry weather returned in August until the end of the month when the high pressure was replaced by frontal rainfall from the south west. The south-east received 48% of the long term average (LTA) rainfall for August. There was widespread rainfall from 27 to 30 August, with particularly high daily rainfall totals recorded on 28 August. The soil moisture deficits (SMDs) rose steadily up to 26 August then dropped slightly in response to the rainfall at the end of the month. The SMDs remained significantly above the LTA for the end of August and there was negligible recharge during the month. The seasonal decline of the flow in the rivers continued until the rainfall at the end of the month. Despite how much rainfall fell, the response of all rivers was muted as the catchments absorbed the rainfall. Only 4 fluvial flood alerts were issued during August. The expected steady decline of groundwater levels for this time of year continued during the month with no response to the rainfall. Hosepipe bans have been issued in parts of the south-east of England supplied by Thames Water and South East Water to preserve stocks and manage demand.

1.1 Rainfall

The very hot and dry weather returned in August until the end of the month when the high pressure was replaced by frontal rainfall from the south west. The south-east received 48% of the LTA rainfall for August. Solent and South Downs (SSD) received 61% and Kent and South London (KSL) received 37% of the LTA rainfall for the month.

There was widespread rainfall from 27 to 30 August, with particularly high daily rainfall totals recorded on 28 August. The highest totals were about 58mm, measured at both Westergate, Solent and South Downs (SSD) and Pease Pottage (KSL). The 28 August represented the wettest day for all four areas. The rainfall recorded between 27 and 30 August accounted for 84% of the rainfall which fell across the south-east. There was an average of 23 ‘dry’ days when less than 0.2mm daily rainfall was recorded during the month.

It was the driest August since 2003 for the south-east, KSL and a small number of areal units, including Wey Greensand, Cherwell (both Thames, THM), North London (Hertfordshire and North London, HNL) and Cuckmere (SSD). Most of the remaining areal units had the driest August since 2022, particularly those in THM and SSD.

1.2 Soil moisture deficit and recharge

The SMDs rose steadily up to 26 August then dropped slightly in response to the rainfall at the end of the month. However, the SMDs ended significantly above the LTA for August. Matching

the rainfall, the end of month SMDs for a number of the areal units were the highest since August 2022, including Chilterns West (THM), Chilterns East, Lee Chalk (both HNL), North Downs South London (KSL) and East Hampshire Chalk (SSD). As would be expected with such high SMDs, there was negligible recharge during August.

1.3 River flows

The seasonal decline of the flow in the rivers continued until the rainfall at the end of the month. Despite how much rainfall fell, the response of all rivers was muted as the catchments absorbed the rainfall. However, the key indicator flow sites with impermeable catchments showed very little response to the rainfall. The Coln at Bibury and the Thames at Farmoor (both THM) recorded their third lowest flows on record, the lowest since 2022.
The key indicator flow sites recorded flows which ranged from exceptionally low (Coln at Bibury, THM) to notably high (Mimram at Panshanger, HNL). Over half of the sites were in the normal category during the month. Only 4 fluvial flood alerts were issued on either 28 and 29 August.

	HNL	THM	SSD	KSL	Total
Fluvial flood alerts	0	0	3	1	4

1.4 Groundwater levels

The expected steady decline of groundwater levels for this time of year continued during the August with no response to the rainfall. Levels ranged from exceptionally low to above normal. Carisbrooke (SSD) recorded the lowest August level on record. Jackaments (THM) was at the lowest August level since 1976 and Chilgrove (SSD) was at the lowest level since 2005. Nine of the 16 key indicator sites were in the normal range for the time of year. Stonor.(THM) and Lilley Bottom (HNL) both continued to reflect the legacy of the wet winters with levels in the above normal range.

1.5 Reservoir stocks

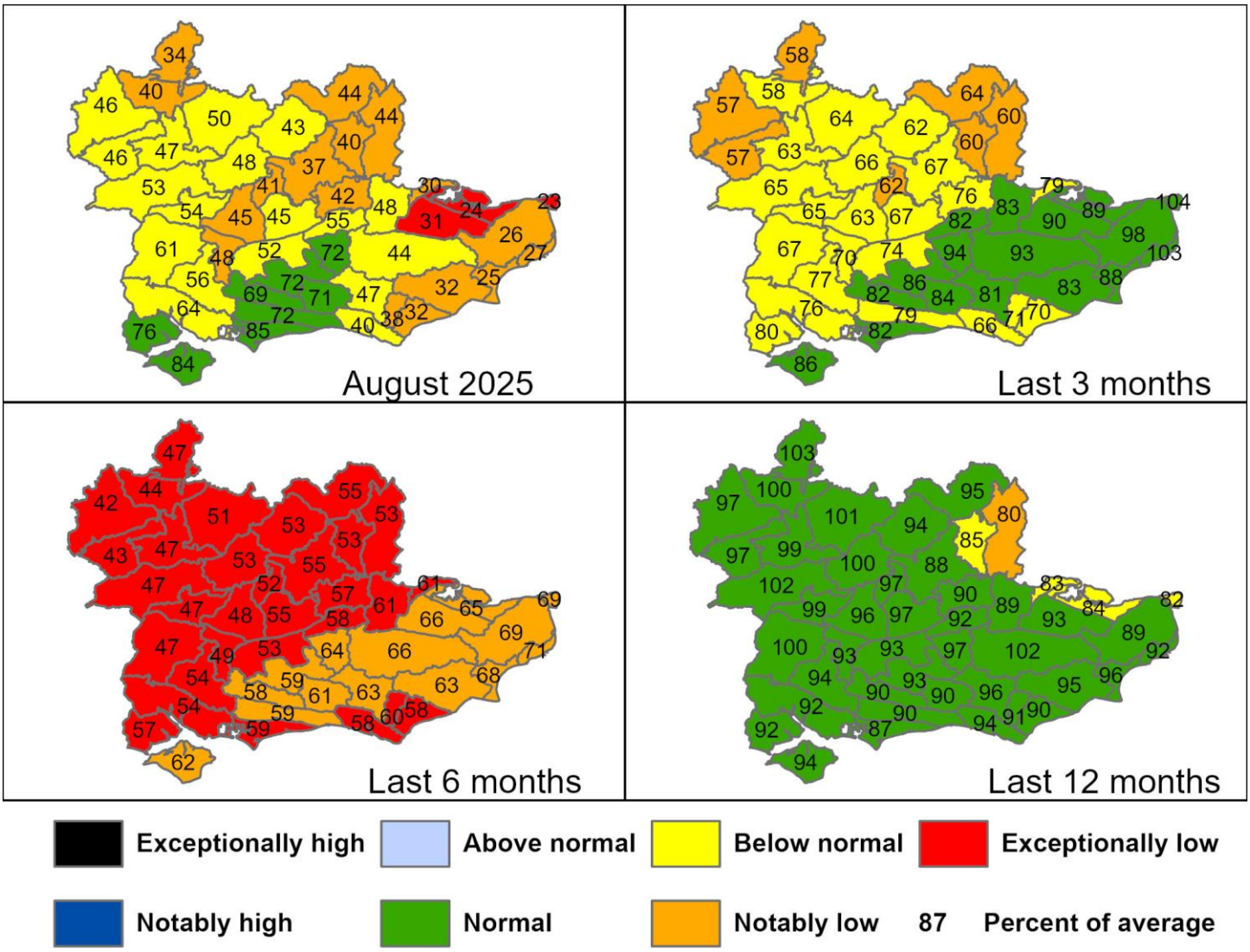
The high temperatures and lack of rainfall over the last few months has resulted in significant declines in reservoir storage. Lower Lee (HNL) and Weir Wood (KSL) reservoirs remained above the LTA and both had storage similar to August 2017.The remaining reservoirs had levels below the August LTA and similar to August 2022. Hosepipe bans have been issued in parts of the south-east of England supplied by Thames Water and South East Water to preserve stocks and manage demand.

Author: groundwaterhydrology@environment-agency.gov.uk

2 Maps

2.1 Rainfall map

Figure 2.1: Total rainfall for hydrological areas for the current month (up to 31 August 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. The numbers refer to percentage of the 1991-2020 long term average.

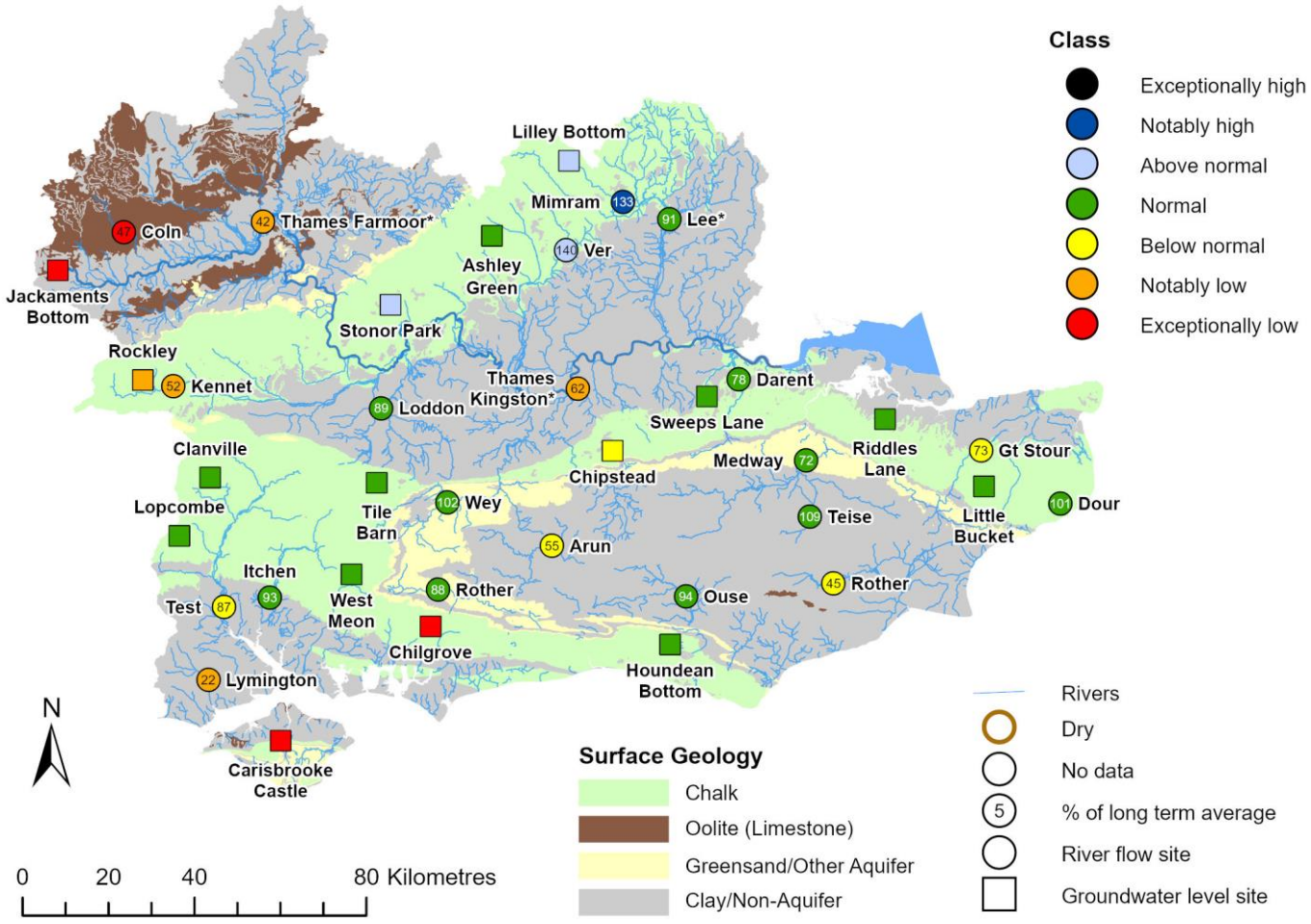


Rainfall data for 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to 2025, extracted from Met Office HadUK 1km gridded rainfall dataset derived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

2.2 River flows and groundwater levels map

Figure 2.2: Monthly mean river flow for indicator sites for August 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic August monthly means. Table available in the appendices with detailed information. Groundwater levels for indicator sites at the end of August 2025, classed relative to an analysis of respective historic August levels. Table available in the appendices with detailed information.

Flows at gauging stations in the Medway catchment (KSL) might be affected by upstream reservoir releases.



3 Rainfall, effective rainfall and soil moisture deficit tables

3.1 Rainfall, effective rainfall and soil moisture deficit table

Figure 3.1: This is a second estimate of areal rainfall, effective rainfall (percolation or runoff) and SMDs for a selection of the hydrological areas across the South-east of England. There may be significant variation within each area which must be considered when interpreting these data. When additional meteorological data is available estimates are revised which will affect the period totals in Figure 3.2.

Number	Hydrological Area	Rainfall (mm) 31 day Total	August % LTA	Effective Rainfall (mm) 31 day total	August % LTA	SMD (mm) Day 31	End Aug LTA
6010TH	Cotswolds - West (A)	32	46%	2	32%	140	63
6070TH	Berkshire Downs (G)	34	53%	3	49%	167	100
6130TH	Chilterns - West (M)	30	48%	2	42%	164	104
6162TH	North Downs - Hampshire (P)	32	48%	3	41%	165	100
6190TH	Wey - Greensand (S)	34	52%	3	48%	161	101
	Thames Average	29	46%	1	39%	166	97
	Thames Catchment Average	30	48%	1	40%	163	98
6140TH	Chilterns - East - Colne (N)	27	42%	2	33%	169	105
6600TH	Lee Chalk	28	44%	2	32%	172	118
6507TH	North London	21	37%	0	-	173	114
6509TH	Roding	25	43%	0	-	172	112
	Herts and North London	25	41%	1	32%	171	112
6230TH	North Downs - South London (W)	35	54%	4	56%	155	102
6706So	Darent	28	48%	2	44%	164	113

6707So	North Kent Chalk	18	31%	1	23%	161	111
6708So	Stour	16	26%	1	15%	158	109
6809So	Medway	27	44%	0	-	146	99
	Kent & South London Average	22	37%	1	27%	161	119
6701So	Test Chalk	39	61%	4	60%	167	100
6702So	East Hampshire Chalk	40	56%	4	52%	154	95
6703So	West Sussex Chalk	53	72%	6	77%	137	92
6804So	Arun	47	73%	0	-	141	95
6805So	Adur	46	70%	0	-	135	92
	Solent & South Downs Average	41	61%	2	64%	147	97
	South East Average	30	48%	1	43%	159	105

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

EA effective rainfall and soil moisture deficit data (Source EA Soil Moisture Model 2025.)

3.2 Seasonal summary table of rainfall and effective rainfall

Figure 3.2 This is a seasonal estimate of areal rainfall and effective rainfall (percolation or runoff) for a selection of the hydrological areas across the South-east of England, expressed as totals and as a percentage of the LTA. There may be significant variation within each area which must be considered when interpreting these data. When additional meteorological data is available estimates are revised which will affect the period totals.

Summer period 01/04/2025 to 31/08/2025

Number	Hydrological Area	Seasonal Rainfall (mm) Total	Seasonal Rainfall as % LTA	Seasonal Effective Rainfall (mm) Total	Seasonal Effective Rainfall as % LTA
6010TH	Cotswolds - West (A)	149	47%	8	15%
6070TH	Berkshire Downs (G)	156	53%	10	23%
6130TH	Chilterns - West (M)	164	60%	11	32%
6162TH	North Downs - Hampshire (P)	171	57%	12	25%
6190TH	Wey - Greensand (S)	176	61%	13	30%
	Thames Average	151	54%	4	17%
	Thames Catchment Average	157	56%	5	19%
6140TH	Chilterns - East - Colne (N)	163	58%	12	36%
6600TH	Lee Chalk	158	60%	12	43%
6507TH	North London	154	61%	0	0%
6509TH	Roding	143	58%	0	0%
	Herts and North London	153	59%	5	29%
6230TH	North Downs - South London (W)	186	66%	16	39%

6706So	Darent	174	69%	14	46%
6707So	North Kent Chalk	189	74%	16	53%
6708So	Stour	202	77%	19	62%
6809So	Medway	196	74%	0	0%
	Kent & South London Average	184	73%	8	39%
6701So	Test Chalk	156	53%	10	23%
6702So	East Hampshire Chalk	194	63%	16	29%
6703So	West Sussex Chalk	208	68%	19	35%
6804So	Arun	193	69%	0	0%
6805So	Adur	196	71%	0	0%
	Solent & South Downs Average	188	66%	7	21%
	South East Average	172	64%	6	24%

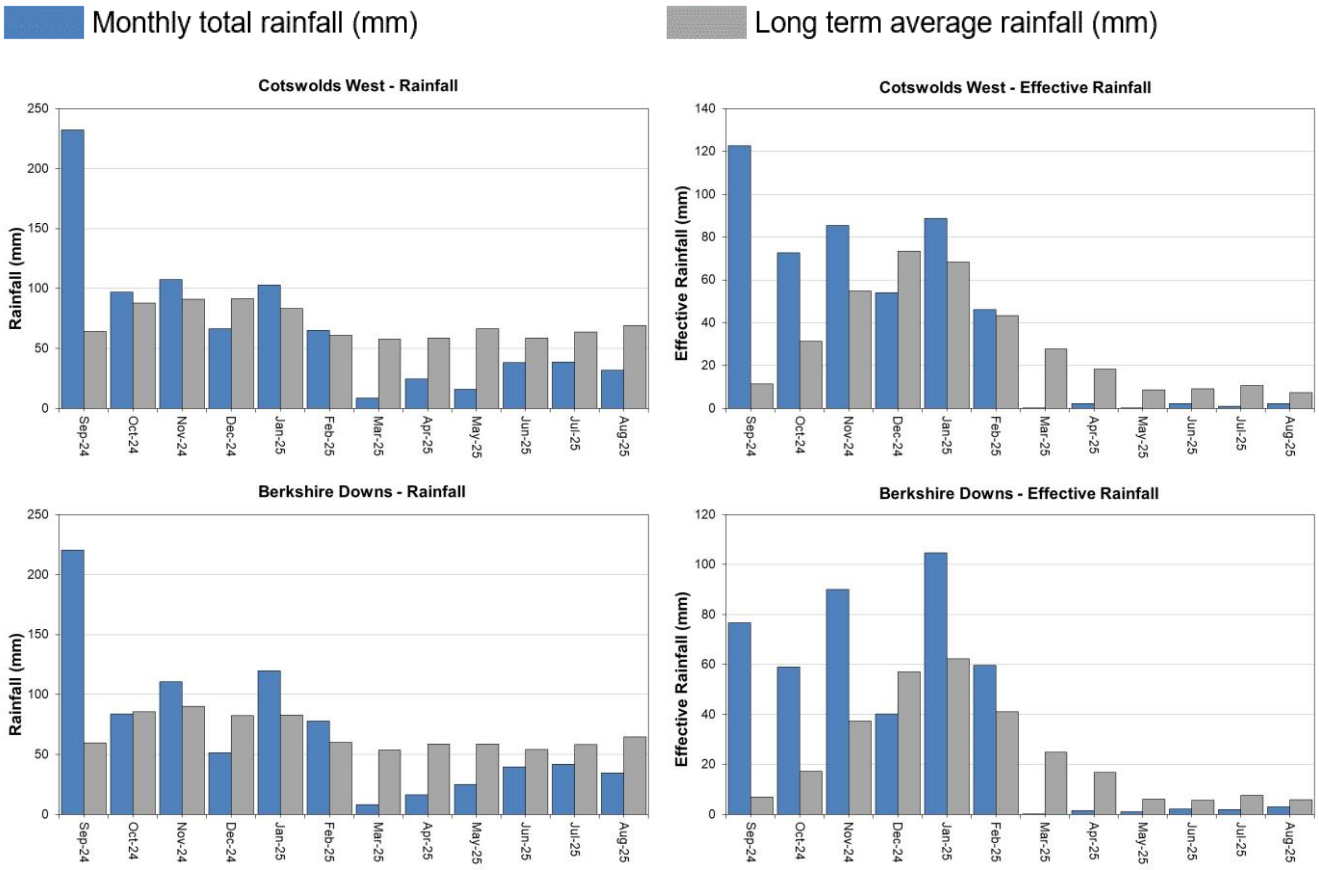
HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

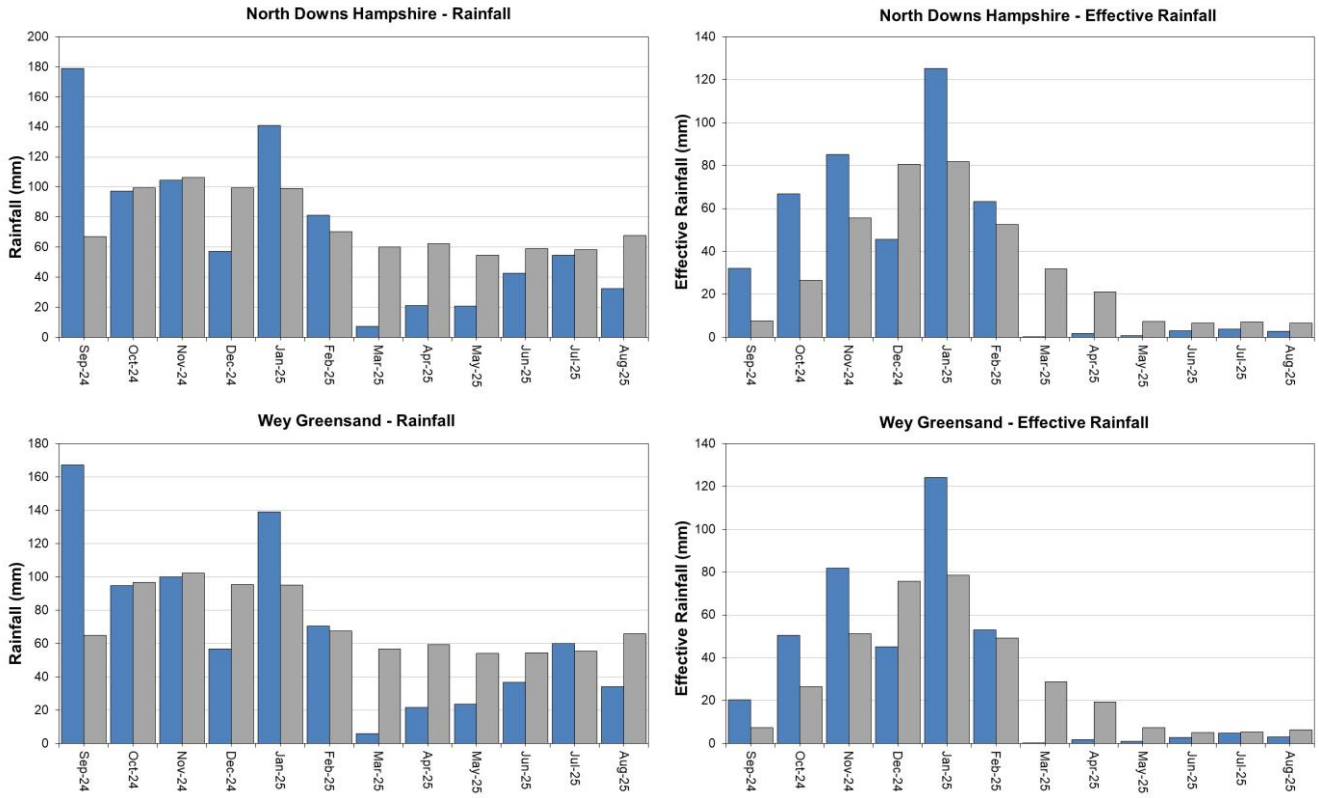
EA effective rainfall data (Source EA Soil Moisture Model 2025.)

4 Thames

4.1 Thames Rainfall and effective rainfall charts

Figure 4.1: Monthly rainfall and effective rainfall totals for the past 24 months compared to the 1991 to 2020 long term average for a selection of areal units.



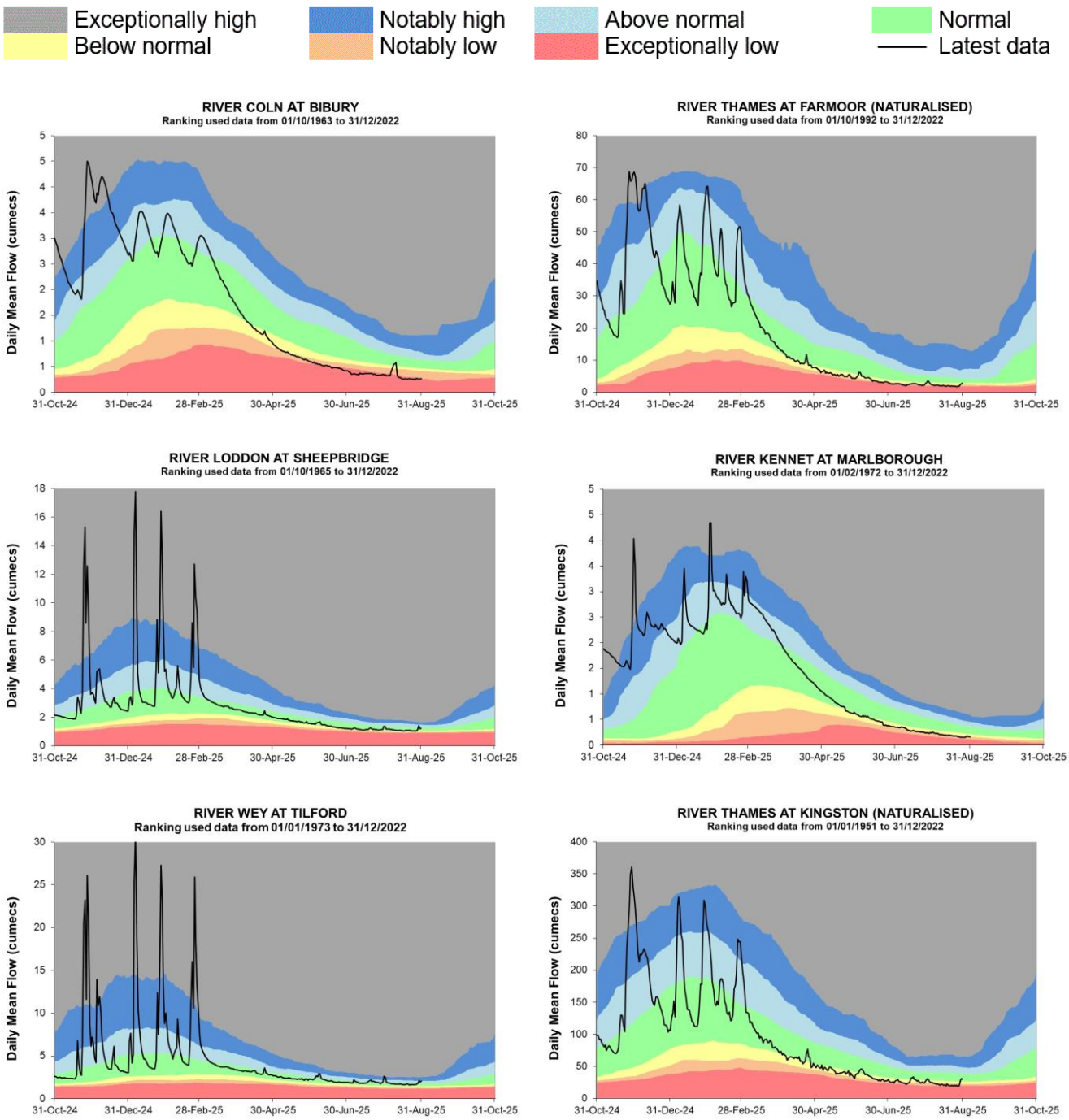


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

EA effective rainfall data (Source EA Soil Moisture Model, 2025).

4.2 Thames River flow charts

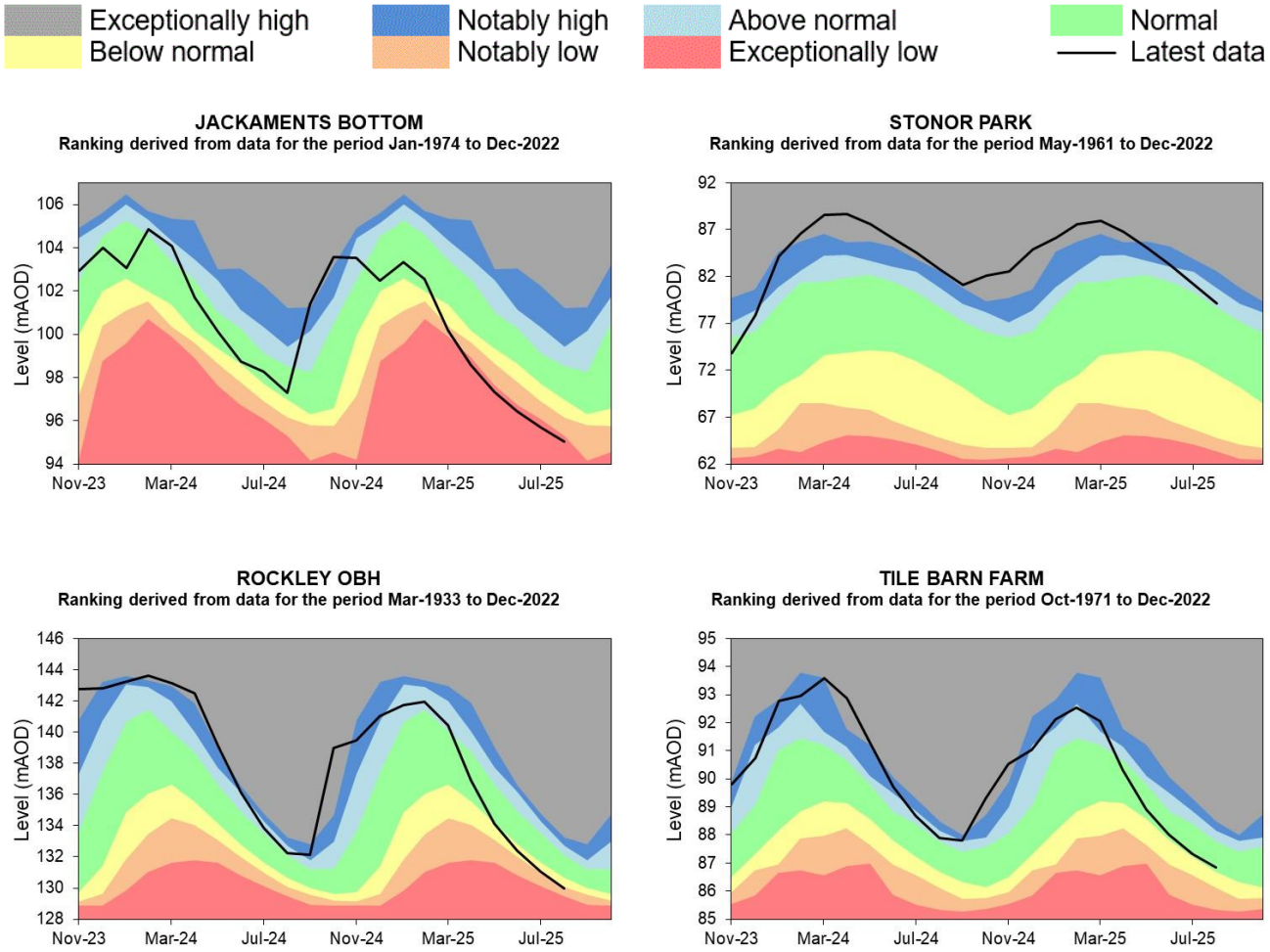
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency. 2025

4.3 Thames Groundwater level charts

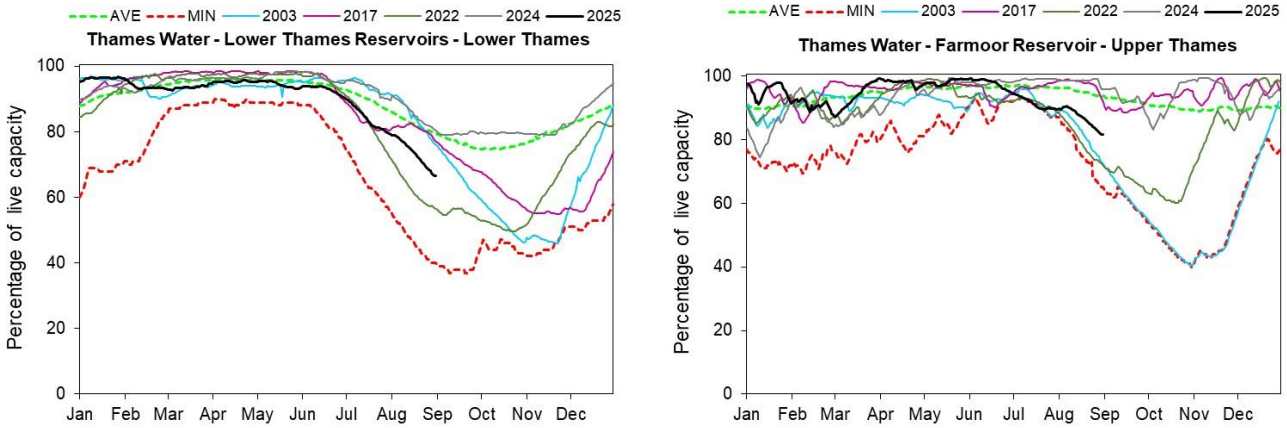
Figure 4.3: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels. Tile Barn Farm data has been estimated from 2 local sites since April 2022. A replacement is planned.



Source: Environment Agency, 2025.

4.4 Thames Reservoir stocks

Figure 4.4: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.

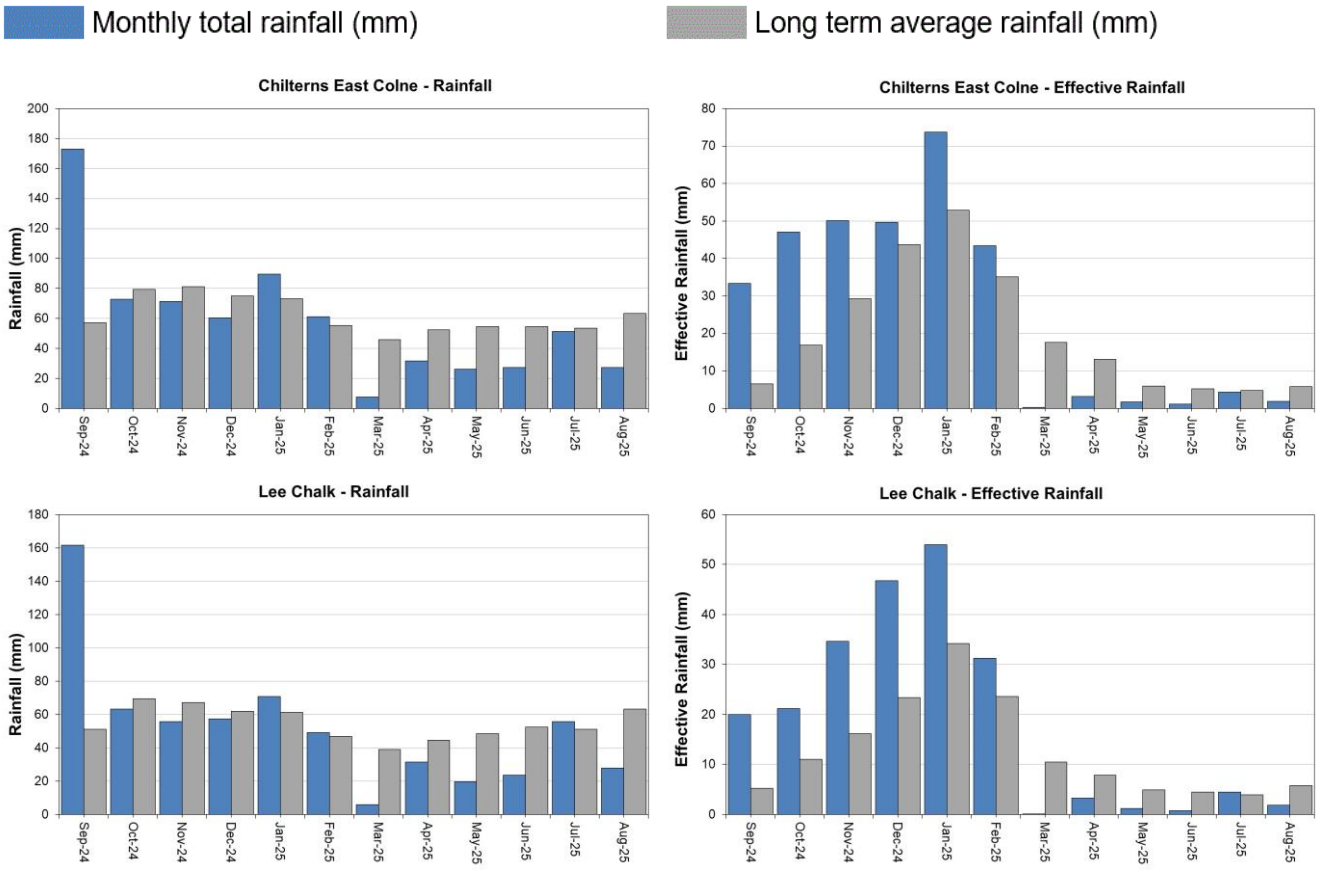


(Source: water companies).

5 Hertfordshire and North London (HNL)

5.1 HNL Rainfall and Effective rainfall charts

Figure 5.1: Monthly rainfall and effective rainfall totals for the past 24 months compared to the 1991 to 2020 long term average for a selection of areal units.

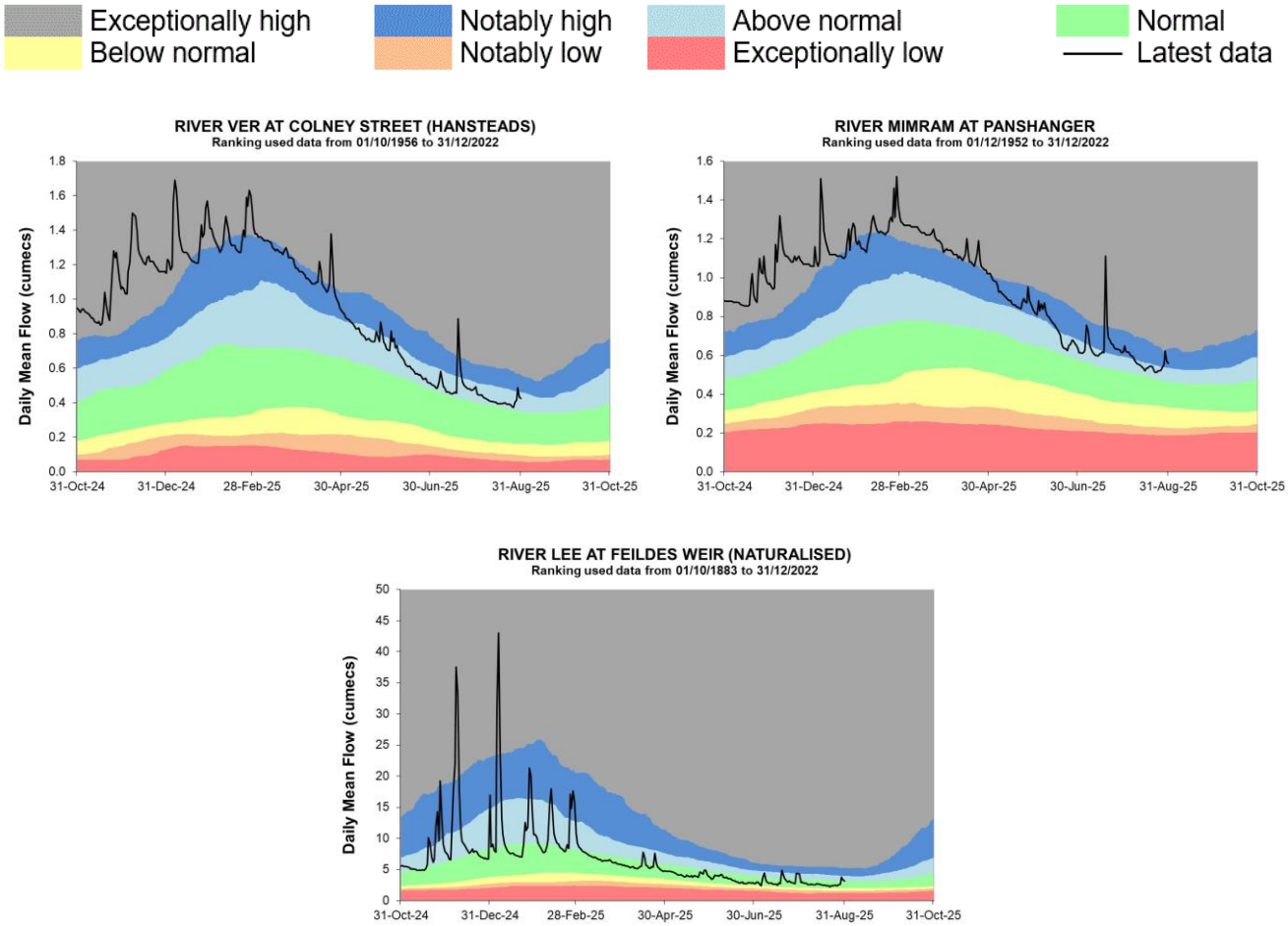


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

EA effective rainfall data (Source EA Soil Moisture Model, 2025).

5.2 HNL River flow charts

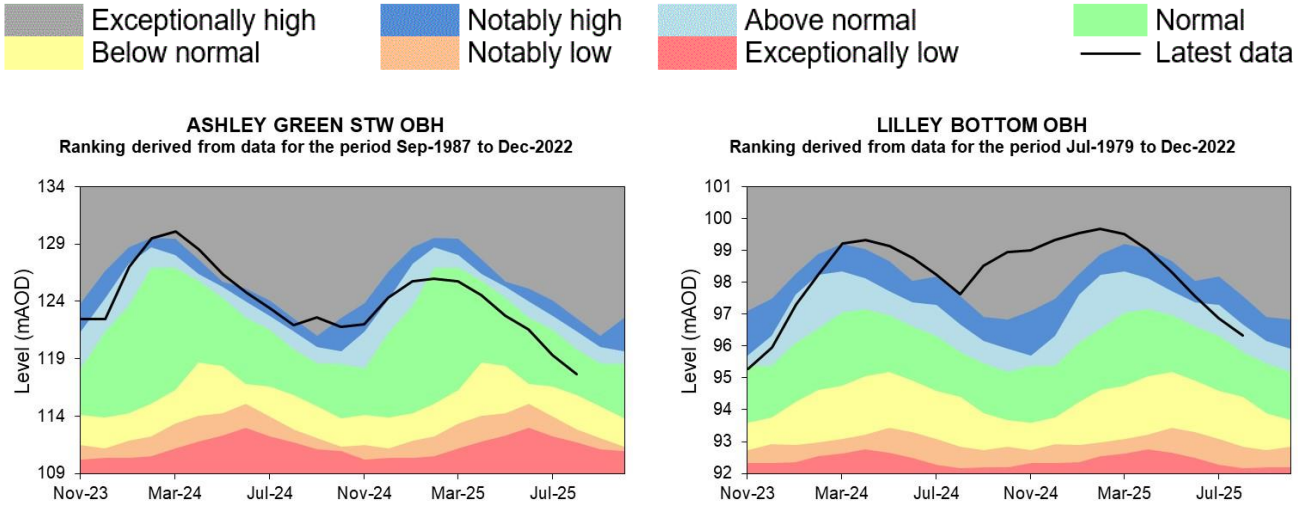
Figure 5.2 Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency. 2025

5.3 HNL Groundwater level charts

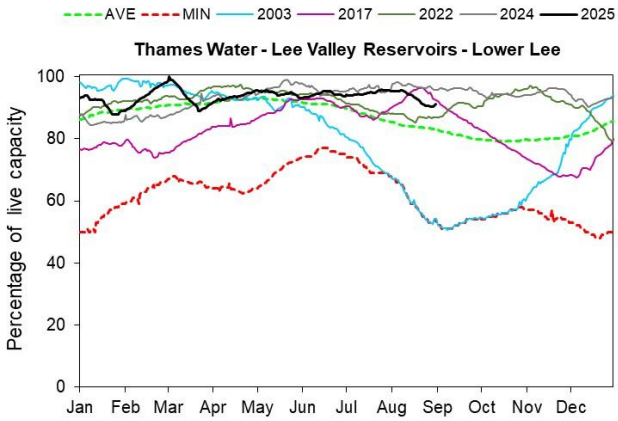
Figure 5.3: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



Source: Environment Agency, 2025.

5.4 HNL Reservoir stocks

Figure 5.4: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.

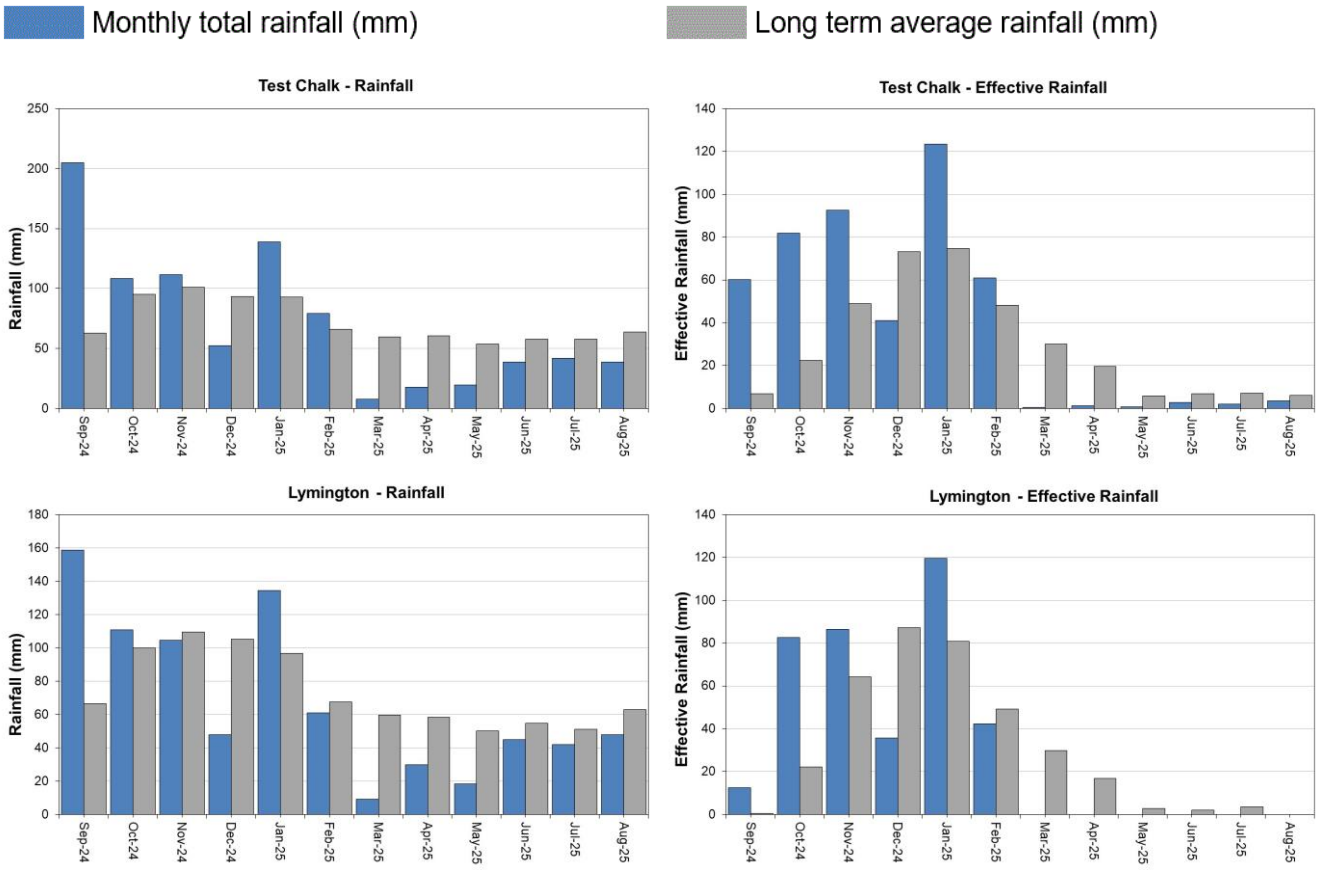


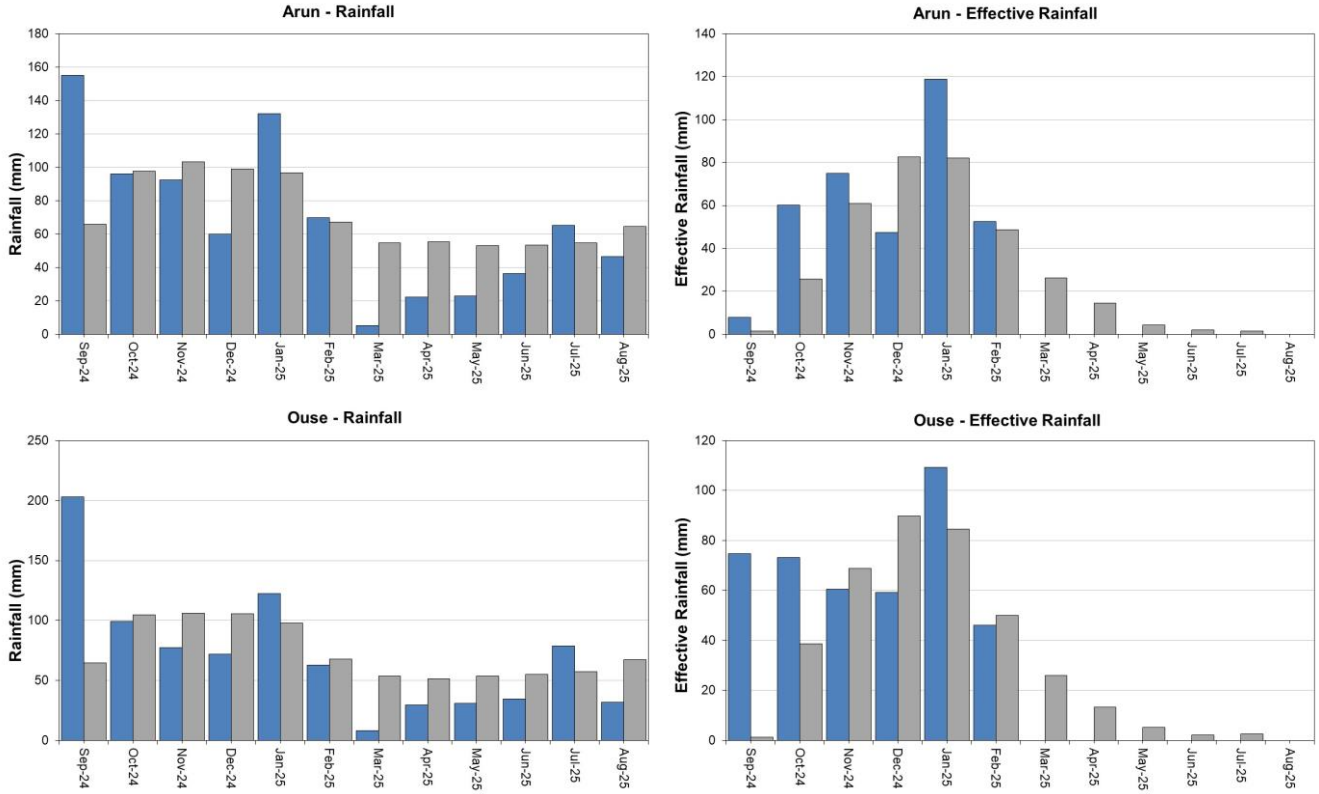
(Source: water companies).

6 Solent and South Downs (SSD)

6.1 SSD Rainfall and Effective Rainfall charts

Figure 6.1: Monthly rainfall and effective rainfall totals for the past 24 months as a percentage of the 1991 to 2020 long term average for a selection of areal units.



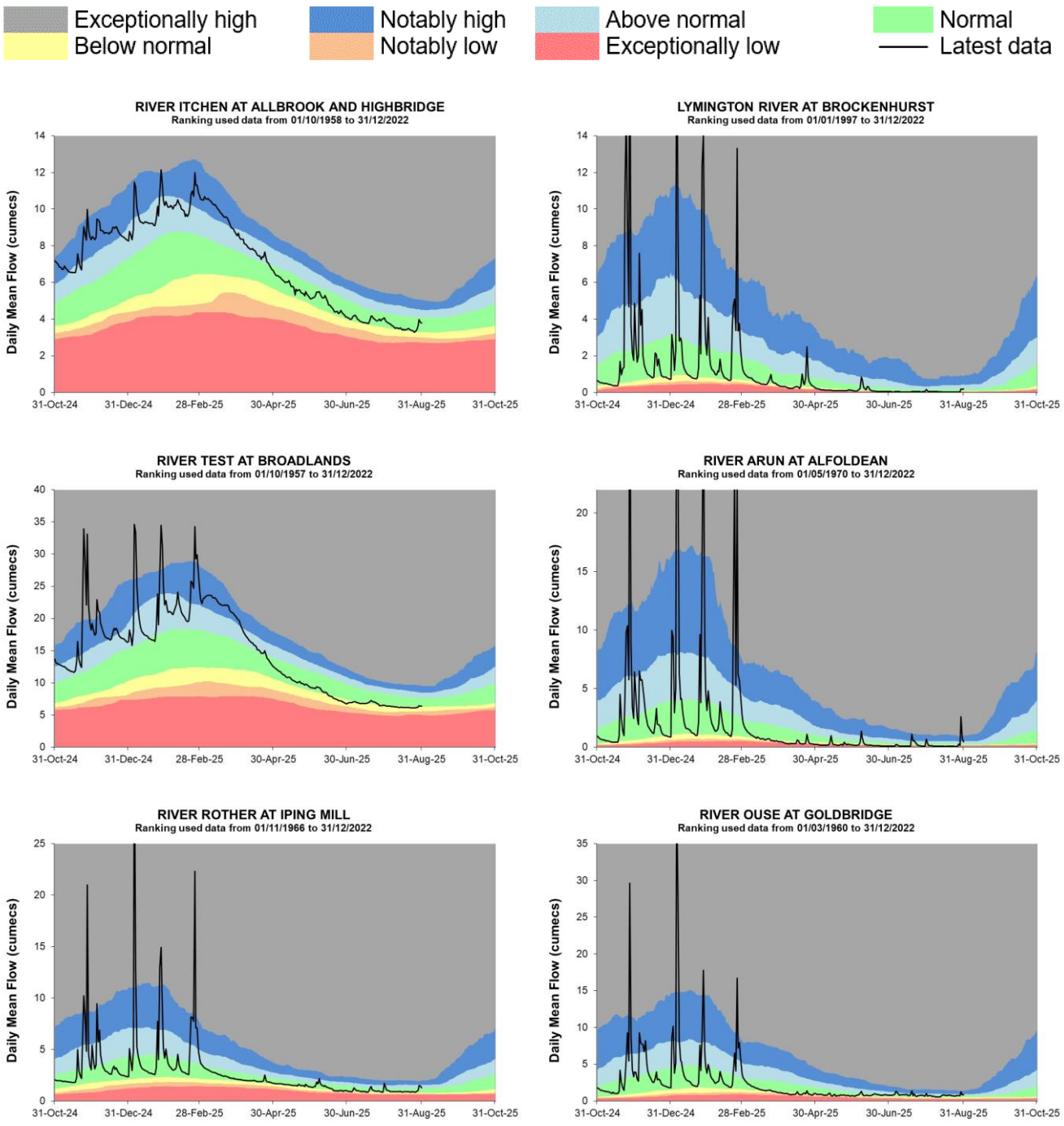


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

EA effective rainfall data (Source EA Soil Moisture Model, 2025).

6.2 SSD River flow charts

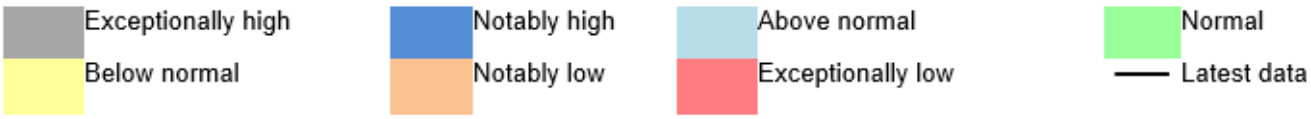
Figure 6.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

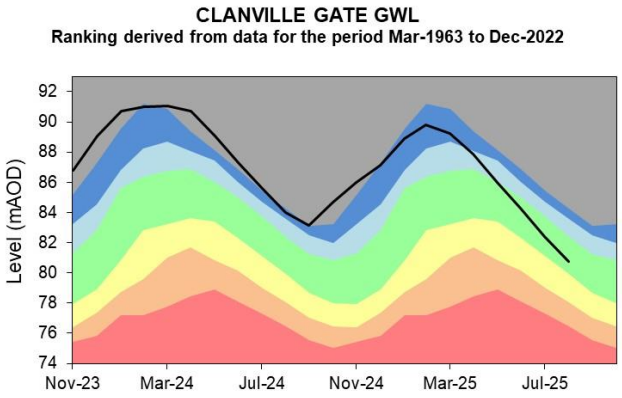


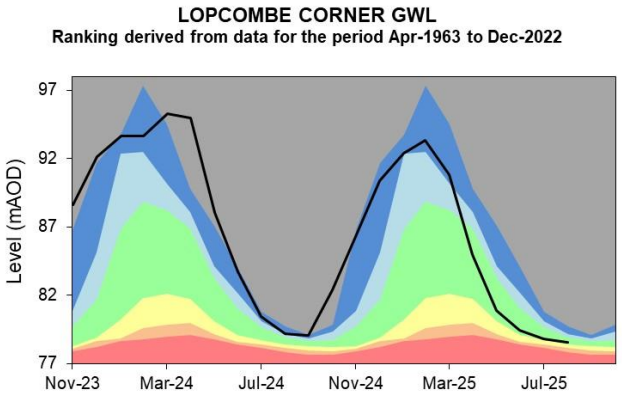
Source: Environment Agency. 2025

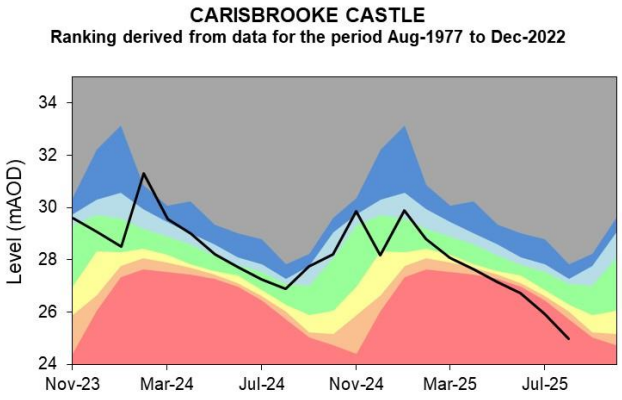
6.3 SSD Groundwater levels

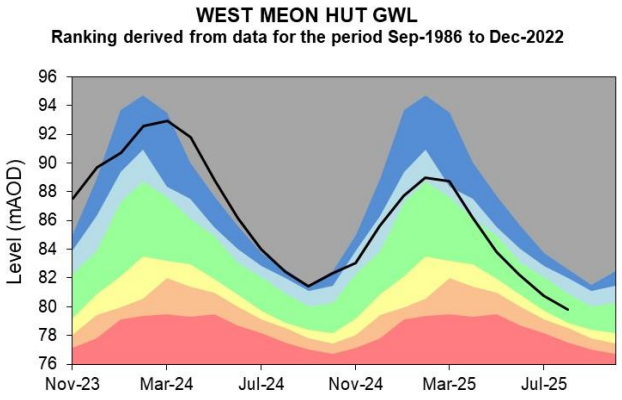
Figure 6.3: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.

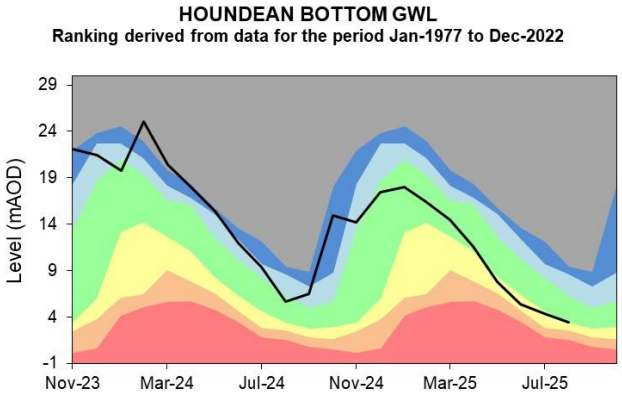


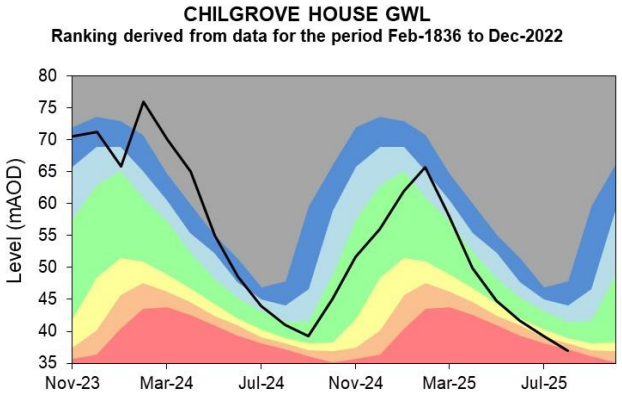








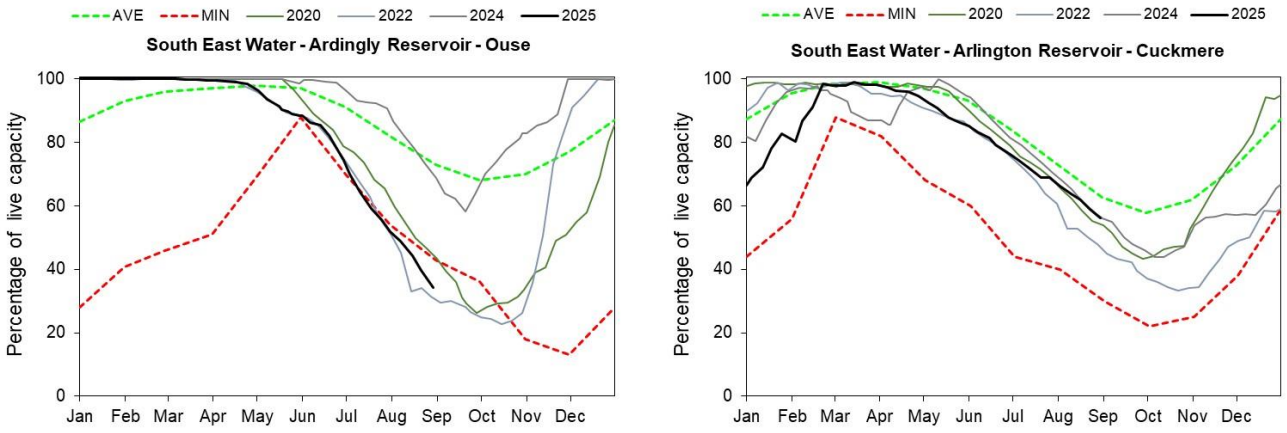




Source: Environment Agency, 2025.

6.4 SSD Reservoir stocks

Figure 6.4: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.

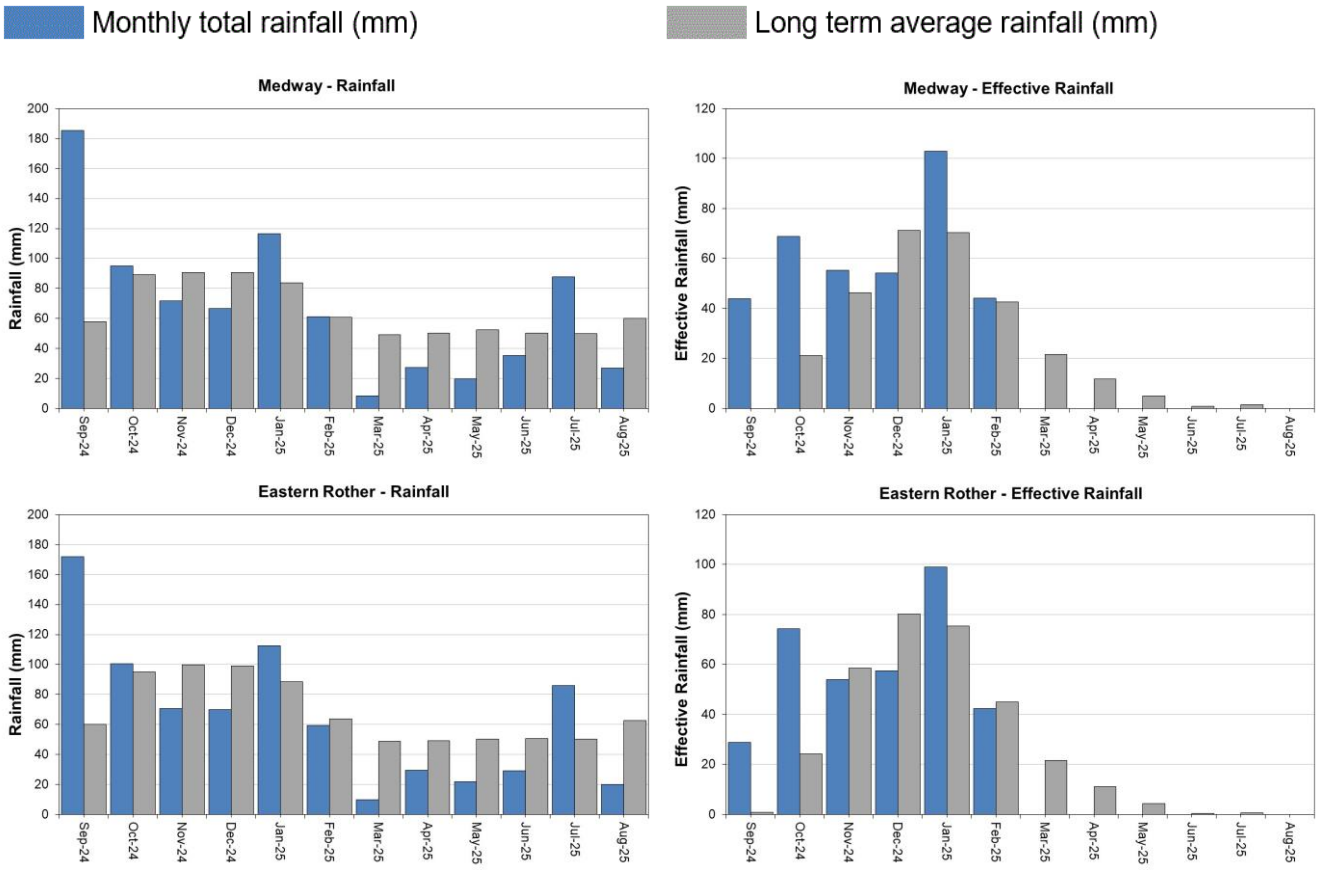


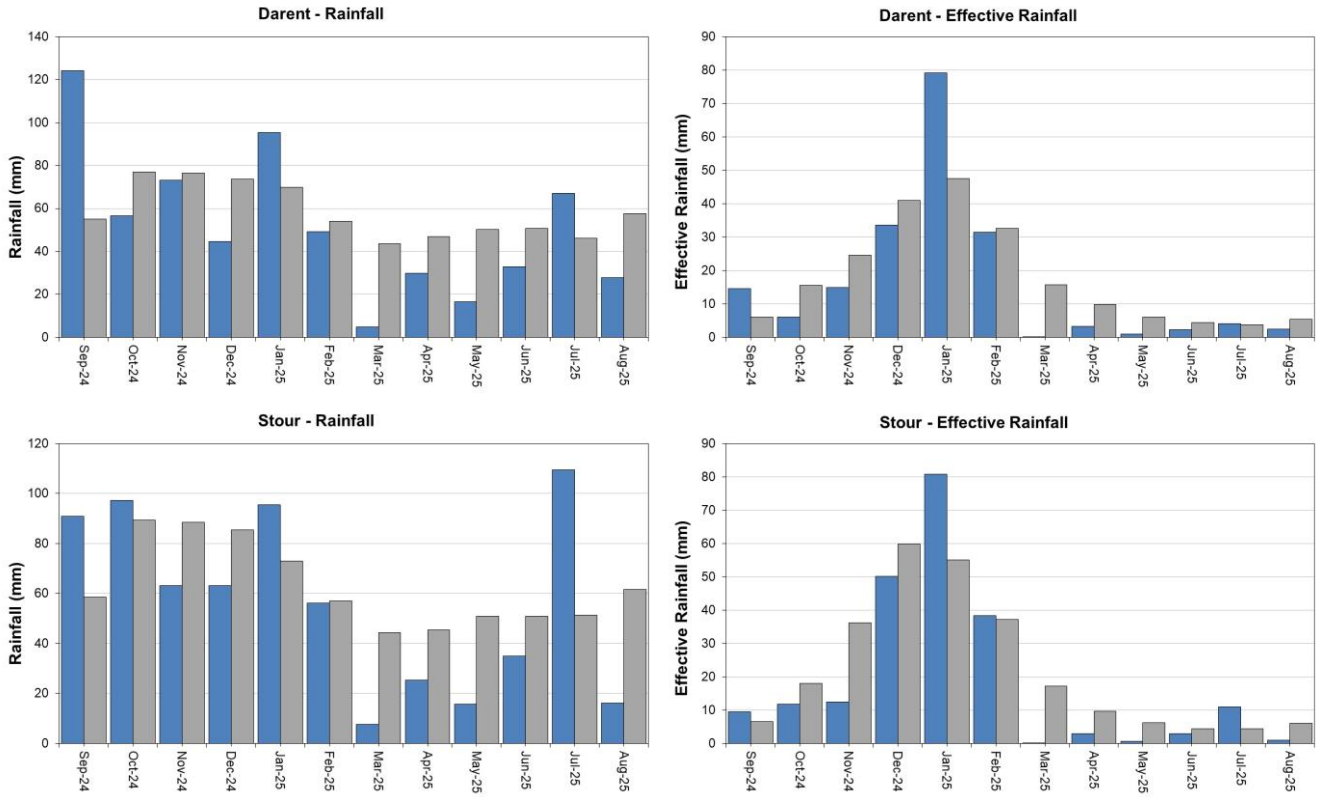
(Source: water companies).

7 Kent and South London (KSL)

7.1 KSL Rainfall and Effective Rainfall charts

Figure 7.1: Monthly rainfall and effective rainfall totals for the past 24 months compared to the 1991 to 2020 long term average for a selection of areal units.



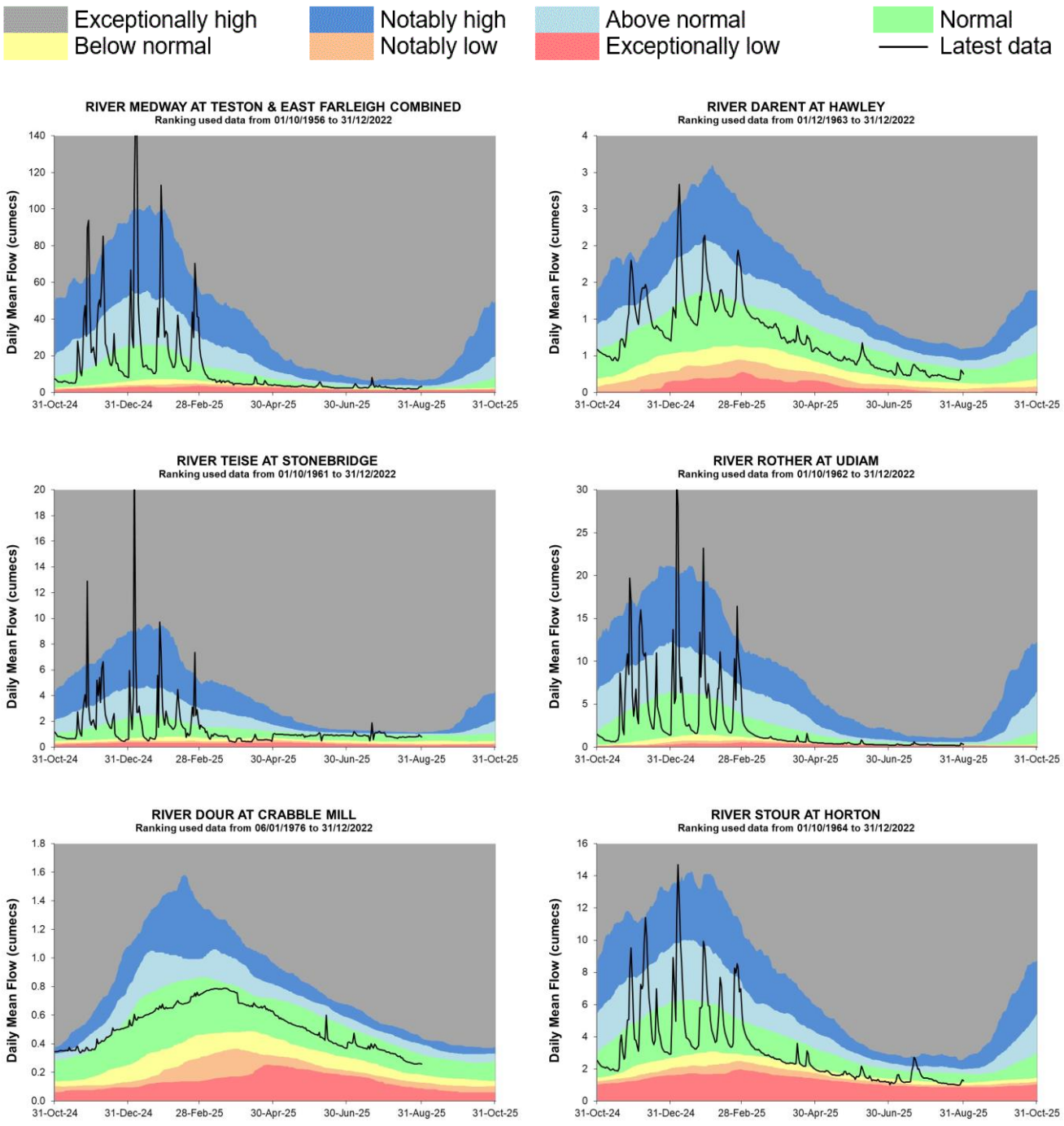


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

EA effective rainfall data (Source EA Soil Moisture Model, 2025).

7.2 KSL River flow charts

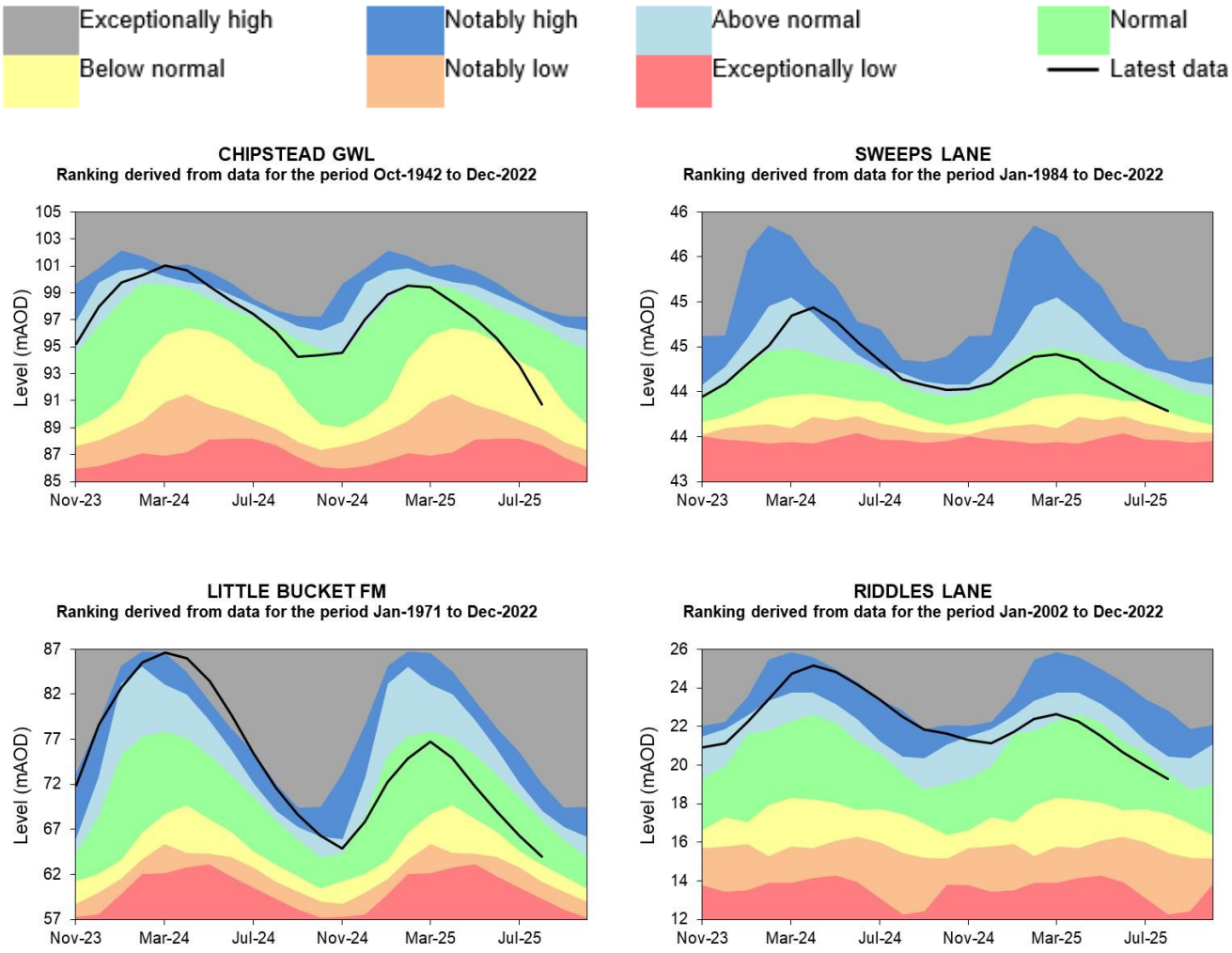
Figure 7.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency. 2025 .

7.3 KSL Groundwater levels

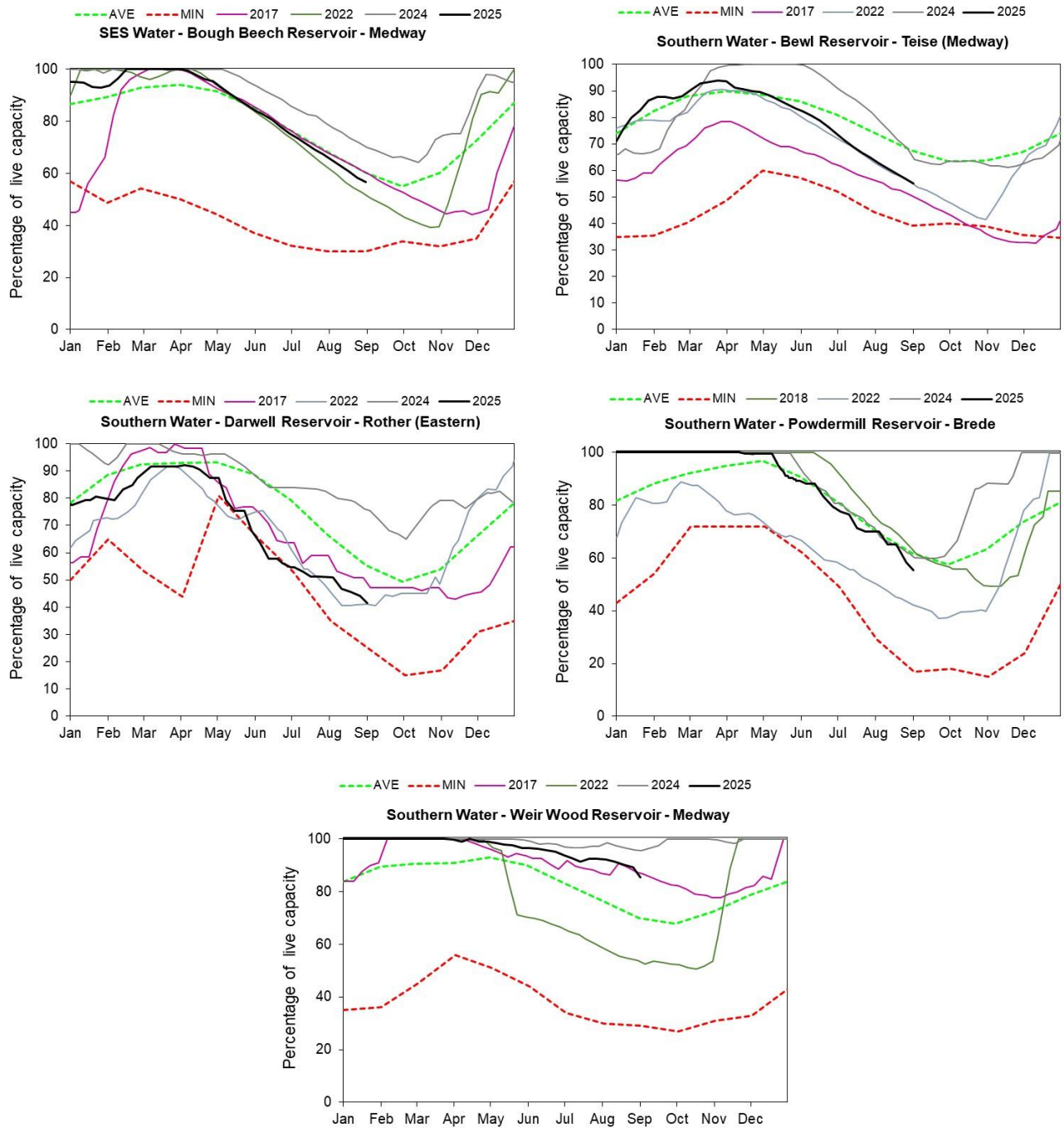
Figure 7.3: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



Source: Environment Agency. 2025

7.4 KSL Reservoir stocks

Figure 7.4: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.



(Source: water companies).

8 Glossary

8.1 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 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).

8.2 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.

9 Appendices

9.1 Rainfall table

Hydrological area	Aug 2025 rainfall % of long term average 1991 to 2020	Aug 2025 band	Jun 2025 to August cumulative band	Mar 2025 to August cumulative band	Sep 2024 to August cumulative band
Cotswold West	46	Below Normal	Notably low	Exceptionally low	Normal
Cotswold East	40	Notably Low	Below normal	Exceptionally low	Normal
Berkshire Downs	53	Below Normal	Below normal	Exceptionally low	Normal
Chilterns West	48	Below Normal	Below normal	Exceptionally low	Normal
Chilterns East Colne	43	Below Normal	Below normal	Exceptionally low	Normal
North Downs - Hampshire	48	Notably Low	Below normal	Exceptionally low	Normal
North Downs - South London	55	Below Normal	Normal	Exceptionally low	Normal
Upper Thames	46	Below Normal	Notably low	Exceptionally low	Normal
Upper Cherwell	34	Notably Low	Notably low	Exceptionally low	Normal
Thame	50	Below Normal	Below normal	Exceptionally low	Normal
Loddon	45	Notably Low	Below normal	Exceptionally low	Normal
Lower Wey	45	Below Normal	Below normal	Exceptionally low	Normal
Upper Mole	72	Normal	Normal	Notably low	Normal
Lower Lee	40	Notably Low	Notably low	Exceptionally low	Below normal
North London	37	Notably Low	Below normal	Exceptionally low	Normal
South London	42	Notably Low	Below normal	Exceptionally low	Normal
Roding	44	Notably Low	Notably low	Exceptionally low	Notably low

Ock	47	Below Normal	Below normal	Exceptionally low	Normal
Enborne	54	Below Normal	Below normal	Exceptionally low	Normal
Cut	41	Notably Low	Notably low	Exceptionally low	Normal
Lee Chalk	44	Notably Low	Notably low	Exceptionally low	Normal
River Test	61	Below Normal	Below normal	Exceptionally low	Normal
East Hampshire Chalk	56	Below Normal	Below normal	Exceptionally low	Normal
West Sussex Chalk	72	Normal	Below normal	Notably low	Normal
East Sussex Chalk	40	Below Normal	Below normal	Exceptionally low	Normal
Sw Isle Of Wight	84	Normal	Normal	Notably low	Normal
River Darent	48	Below Normal	Normal	Exceptionally low	Normal
North Kent Chalk	31	Exceptionally Low	Normal	Notably low	Normal
Stour	26	Notably Low	Normal	Notably low	Normal
Dover Chalk	27	Notably Low	Normal	Notably low	Normal
Thanet Chalk	23	Exceptionally Low	Normal	Notably low	Below normal
Western Rother Greensand	69	Normal	Normal	Notably low	Normal
Hampshire Tertiaries	64	Below Normal	Below normal	Exceptionally low	Normal
Lymington River Avon Water And O	76	Normal	Below normal	Exceptionally low	Normal
Sussex Coast	85	Normal	Normal	Exceptionally low	Normal
River Arun	72	Normal	Normal	Notably low	Normal
River Adur	71	Normal	Normal	Notably low	Normal
River Ouse	47	Below Normal	Normal	Notably low	Normal
Cuckmere River	38	Notably Low	Below normal	Exceptionally low	Normal
Pevensey Levels	32	Notably Low	Below normal	Exceptionally low	Normal

River Medway	44	Below Normal	Normal	Notably low	Normal
Eastern Rother	32	Notably Low	Normal	Notably low	Normal
Romney Marsh	25	Notably Low	Normal	Notably low	Normal
North West Grain	30	Notably Low	Below normal	Exceptionally low	Below normal
Sheppy	24	Exceptionally Low	Normal	Notably low	Below normal

9.2 River flows table

Site name	River	Catchment	Aug 2025 band	Jul 2025 band
Colney Street_hansteads	Ver	Colne	Above normal	Above normal
Feildes Weir (nat)	Lee (middle)	Lee	Normal	Normal
Panshanger	Mimram	Lee	Notably high	Notably high
Crabble Mill Gs	Dour	Little Stour	Normal	Normal
Hawley Gs	Darent	Darent and Cray	Normal	Normal
Horton Gs	Great Stour	Stour Kent	Below normal	Normal
Stonebridge Gs	Teise	Teise	Normal	Above normal
Teston Farleigh Combined	Medway100	Medway Estuary	Normal	Normal
Udiam Gs	Rother	Rother Kent Lower	Below normal	Below normal
Alfoldean Gs	Arun	Arun	Below normal	Below normal
Allbrook Gs And Highbridge	Itchen (so)	Itchen	Normal	Normal
Broadlands	Test	Test Lower	Below normal	Normal
Brockenhurst Gs	Lymington	New Forest	Notably low	Notably low
Goldbridge Gs	Ouse (so)	Ouse Sussex	Normal	Above normal
Iping Mill Gs	Rother	West Rother	Normal	Normal
Farmoor (naturalised)	River Thames	Thames	Notably low	Notably low
Kingston (naturalised)	River Thames	Thames North Bank	Notably low	Notably low
Marlborough	River Kennet	Kennet	Notably low	Notably low
Sheepbridge	River Loddon	Loddon	Normal	Below normal
Tilford	River Wey	Wey Addleston Bourne	Normal	Normal

9.3 Groundwater table

Site name	Aquifer	End of Aug 2025 band	End of Jul 2025 band
Ashley Green Stw	Mid-chilterns Chalk	Normal	Normal
Lilley Bottom	Upper Lee Chalk	Above normal	Above normal
Little Bucket Fm	East Kent Chalk - Stour	Normal	Normal
Chipstead Gwl	Epsom North Downs Chalk	Below normal	Below normal
Riddles Lane	North Kent Swale Chalk	Normal	Normal
Sweeps Lane Gwl	West Kent Chalk	Normal	Normal
Houndean Bottom Gwl	Brighton Chalk Block	Normal	Below normal
Chilgrove House Gwl	Chichester-worthing-portsdown Chalk	Exceptionally low	Below normal
Carisbrooke Castle	Isle Of Wight Central Downs Chalk	Exceptionally low	Exceptionally low
West Meon Hut Gwl	River Itchen Chalk	Normal	Normal
Clanville Gate Gwl	River Test Chalk	Normal	Normal
Lopcombe Corner Gwl	River Test Chalk	Normal	Normal
Tile Barn Farm	Basingstoke Chalk	Normal	Normal
Rockley Obh	Berkshire Downs Chalk	Notably low	Below normal
Jackaments Bottom Obh	Burford Oolitic Limestone (inferior)	Exceptionally low	Exceptionally low
Stonor Estate	South-west Chilterns Chalk	Above normal	Above normal

9.4 South-east England areal units for reference