Monthly water situation report:

South-east England

1 Summary - September 2025

September was a wetter than average month, with 128% of the long term average (LTA) recorded across the south-east of England. Hertfordshire and North London (HNL) was the driest area, recording below average rainfall (96%). All the other areas were above average, with Solent and South Downs (SSD) being the wettest with 153% rainfall. September brought the hydrological summer to a close, when around three quarters of the LTA summer rainfall across the south-east was recorded over the last 6 months. The total effective rainfall (that contributes to recharge) across the south-east was well below the LTA for the summer period (March to September). All areas were below 50%, with Kent and South London (KSL) having 47% of the LTA and Thames (THM) only 25% of the LTA for the last 6 months.

Soil moisture deficits (SMDs) generally fell during the first half of the month in response to the rainfall but ended the month more or less where they were at the beginning of the month. There was also some recharge during September due to the heavy rain at the beginning of the month.

River flows ranged from notably high to exceptionally low for September. Most key indicator sites were normal for the time of year. The Coln at Bibury (THM) was the only site across the south-east that was exceptionally low which was at its third lowest September flows since 1976. Only one fluvial flood alert was issued in SSD on the 9 September.

Groundwater levels continued to fall at most of the key indicator sites across the south-east. By the end of September, groundwater levels ranged from above normal to notably low. Half of the key indicator sites remain at normal levels for the time of year.

1.1 Rainfall

September was a wetter than average month, with 128% of the LTA recorded across the south-east of England. Several frontal systems brought bands of heavy rain at the start of the month. The highest daily total was 44.4mm recorded at Folkington RG (Pevensey Levels, SSD) on 12 September. However, the wettest day was the 2 September, closely followed by the 3 September. Both of these days combined recorded around a third of the monthly total rainfall.

HNL was the driest area with below average rainfall being recorded (96% of the LTA). All the other areas were above average, with SSD being the wettest with 153% of the LTA which was received there.

September brought the hydrological summer to a close; around three quarters of the LTA summer rainfall across the south-east was recorded between April and September. There was also a north-south divide during the summer when both THM and HNL had 66% LTA rainfall whereas KSL and SSD recorded 80% and 88% respectively. The Cherwell (THM) and Roding (HNL) both recorded their lowest summer rainfall since 1996. Most of the remaining areal units recorded their driest summer since 2022.

The total effective rainfall (that contributes to recharge) across the south-east was well below the LTA for the summer period (April to September). All areas were below 50%, KSL had 47% LTA and THM only 25% LTA for September.

1.2 Soil moisture deficit and recharge

SMDs generally fell during the first half of the month in response to the rainfall. However, deficits then began to rise again when the weather became drier later in September. SMDs ended the month more or less where they were at the beginning of the month and were above the end of month LTA, significantly so in THM, HNL and KSL, but closer to the average in SSD. There was also some recharge during September due to the heavy rain at the beginning of the month.

1.3 River flows

River flows ranged from notably high to exceptionally low for September. Most key indicator sites were normal for the time of year. Most of the rivers responded to the rainfall during the beginning of the month, but flows quickly returned to levels seen at the end of August afterwards. The two sites that were notably high were the Mimram at Panshanger and Ver at Colney Street, both in HNL. These are both chalk fed streams where groundwater levels have been higher than normal for most of the year so far. They were also the sixth and tenth highest (respectively) September flows since 1979. At the other end of the flow scale were the Thames at Farmoor and Kennet at Marlborough (both in THM), that recorded below normal flows due to groundwater levels falling faster than elsewhere in the south-east during the summer. The Coln at Bibury (THM) was the only site across the south-east that was exceptionally low which was the third lowest September flows since 1976. Only one fluvial flood alert was issued in SSD on 9 September.

	HNL	THM	SSD	KSL	Total
Flood Alerts	0	0	1	0	1

1.4 Groundwater levels

Groundwater levels continued to fall at all key indicator sites across the south-east, with two exceptions: Carisbrooke (Isle of Wight, SSD) and Chilgrove (SSD). At Carisbrooke, levels rose in response to the heavy rainfall at the beginning of the month and at Chilgrove, levels have flattened out at notably low levels. By the end of September, groundwater levels ranged from above normal at Lilley Bottom (Lee chalk, HNL) and Stonor Park (Chilterns, THM) to notably low at Jackaments (Oolites, THM) and Chilgrove (West Sussex chalk, SSD). Half of the key indicator sites remain at normal levels for the time of year.

1.5 Reservoir stocks

Reservoir stocks generally continued to decline during the month. All of the reservoirs remained below the LTA for September with just the exceptions of Weir Wood (KSL) and the Lee Valley (HNL) that ended the month above the LTA.

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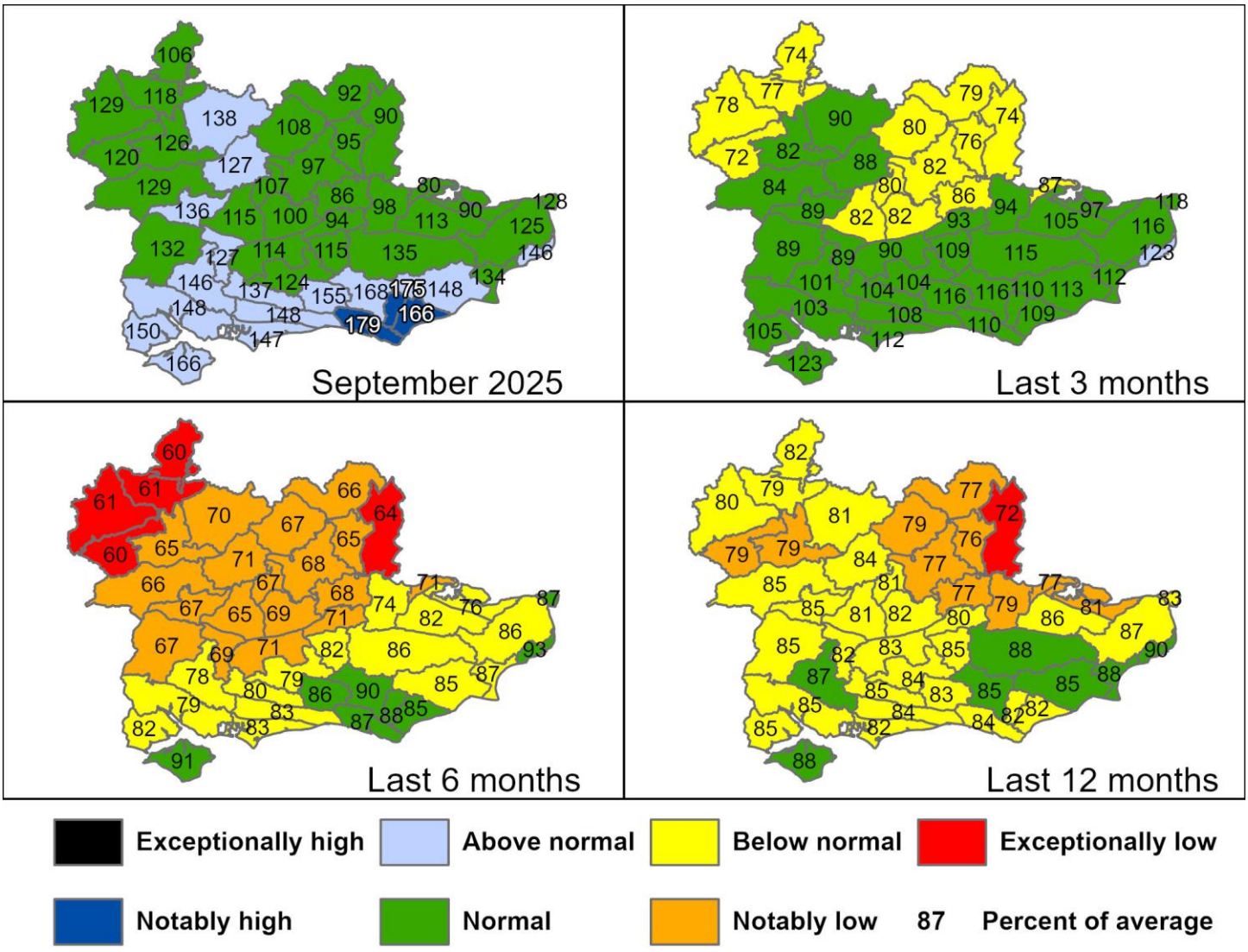
2 Maps

2.1 Rainfall map

Figure 2.1: Total rainfall for hydrological areas for the current month (up to 30 September 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.

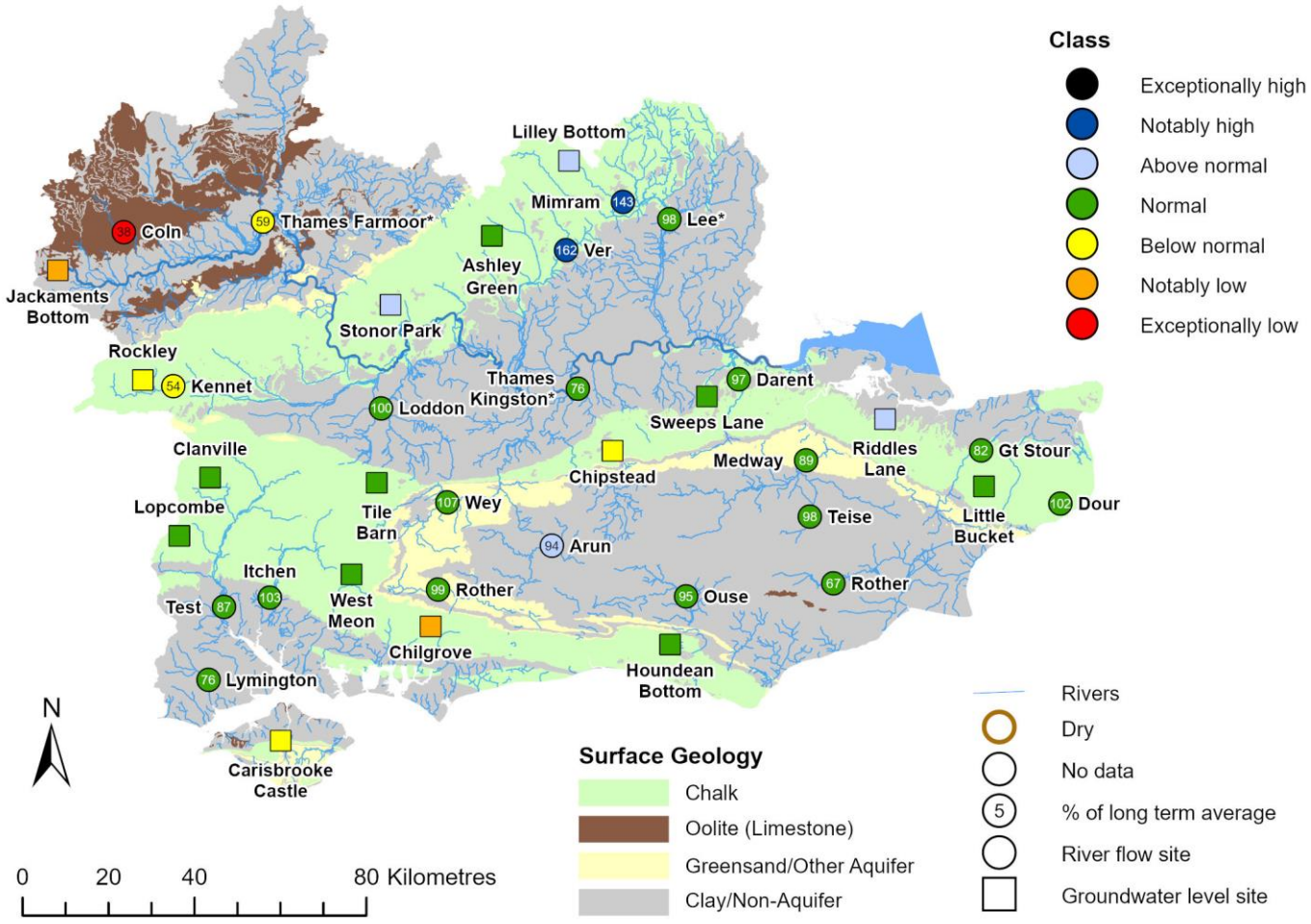


Rainfall data for 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: © Ordnance Survey Crown Copyright and Database Rights 2025 AC0000807064). Rainfall data prior to 2025, extracted from Met Office HadUK 1km gridded rainfall 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 September 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic September monthly means Table available in the appendices with detailed information. Groundwater levels for indicator sites at the end of September 2025, classed relative to an analysis of respective historic September 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.



(Source: Environment Agency). © Ordnance Survey Crown Copyright and Database Rights 2025 AC0000807064. Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. © Ordnance Survey Crown Copyright and Database Rights 2025 AC0000807064.

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) 30 day Total	September % LTA	Effective Rainfall (mm) 30 day total	September % LTA	SMD (mm) Day 30	End Sep LTA
6010TH	Cotswolds - West (A)	83	129%	8	71%	127	63
6070TH	Berkshire Downs (G)	77	130%	8	111%	157	102
6130TH	Chilterns - West (M)	74	127%	7	113%	157	107
6162TH	North Downs - Hampshire (P)	85	127%	9	116%	147	98
6190TH	Wey - Greensand (S)	74	114%	7	99%	152	100
	Thames Average	69	121%	3	87%	160	99
	Thames Catchment Average	68	118%	3	85%	158	99
6140TH	Chilterns - East - Colne (N)	61	107%	6	85%	172	107
6600TH	Lee Chalk	47	92%	3	65%	186	124
6507TH	North London	51	97%	0	-	181	118
6509TH	Roding	45	90%	0	-	186	117
	Herts and North London	51	96%	2	77%	181	116
6230TH	North Downs - South London (W)	58	93%	5	75%	159	102
6706So	Darent	54	97%	4	74%	173	117

6707So	North Kent Chalk	64	113%	6	95%	161	112
6708So	Stour	74	125%	7	112%	150	109
6809So	Medway	78	135%	0	-	125	96
	Kent & South London Average	65	116%	3	96%	155	120
6701So	Test Chalk	83	132%	8	122%	151	100
6702So	East Hampshire Chalk	103	147%	11	135%	121	91
6703So	West Sussex Chalk	110	147%	13	130%	97	86
6804So	Arun	82	124%	0	0%	117	90
6805So	Adur	98	155%	0	0%	93	87
	Solent & South Downs Average	101	153%	5	124%	109	92
	South East Average	76	128%	4	101%	145	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 30/09/2025

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)	232	61%	16	24%
6070TH	Berkshire Downs (G)	233	66%	17	35%
6130TH	Chilterns - West (M)	239	72%	18	45%
6162TH	North Downs - Hampshire (P)	256	70%	21	37%
6190TH	Wey - Greensand (S)	250	71%	21	41%
	Thames Average	220	66%	8	25%

	Thames Catchment Average	225	67%	9	28%
6140TH	Chilterns - East - Colne (N)	224	67%	18	43%
6600TH	Lee Chalk	205	66%	15	46%
6507TH	North London	205	68%	0	0%
6509TH	Roding	188	64%	0	0%
	Herts and North London	204	66%	7	35%
6230TH	North Downs - South London (W)	244	71%	21	45%
6706So	Darent	227	74%	18	51%
6707So	North Kent Chalk	253	81%	22	60%
6708So	Stour	275	86%	26	70%
6809So	Medway	274	85%	0	0%
	Kent & South London Average	249	80%	11	47%
6701So	Test Chalk	239	67%	19	36%

6702So	East Hampshire Chalk	297	78%	27	44%
6703So	West Sussex Chalk	318	83%	31	50%
6804So	Arun	274	79%	0	0%
6805So	Adur	295	86%	0	0%
	Solent & South Downs Average	289	83%	12	32%

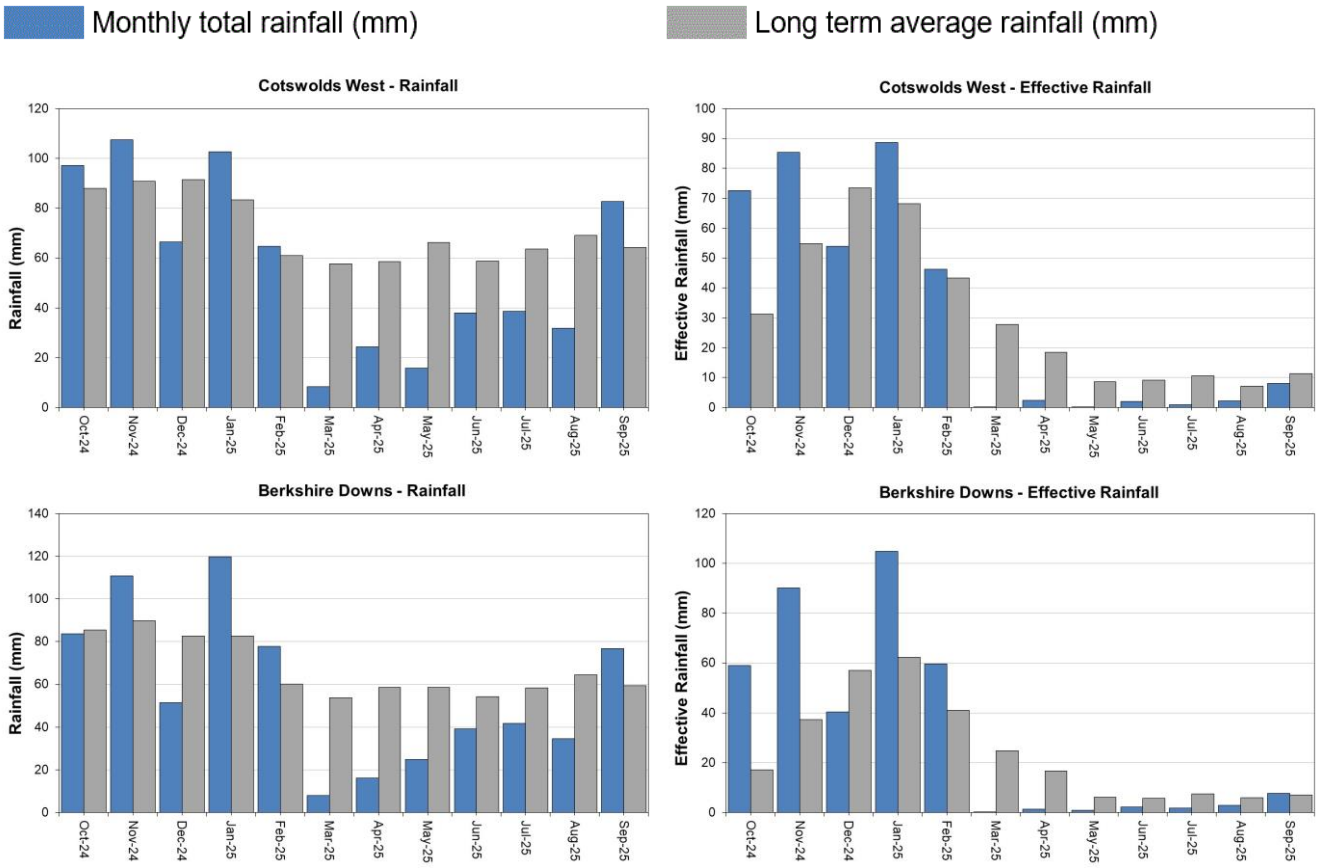
HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

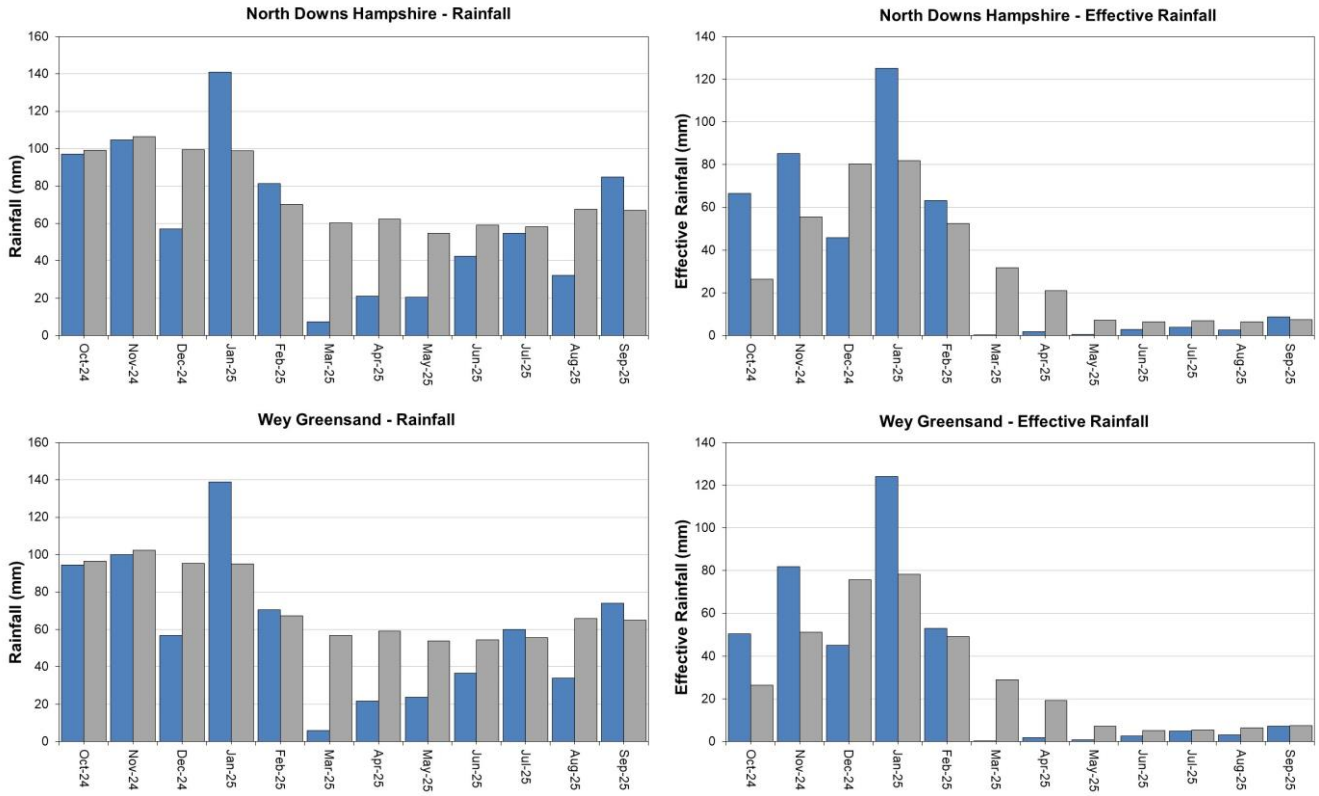
EA effective rainfall data (Source EA Soil Moisture Model 2025.)

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.



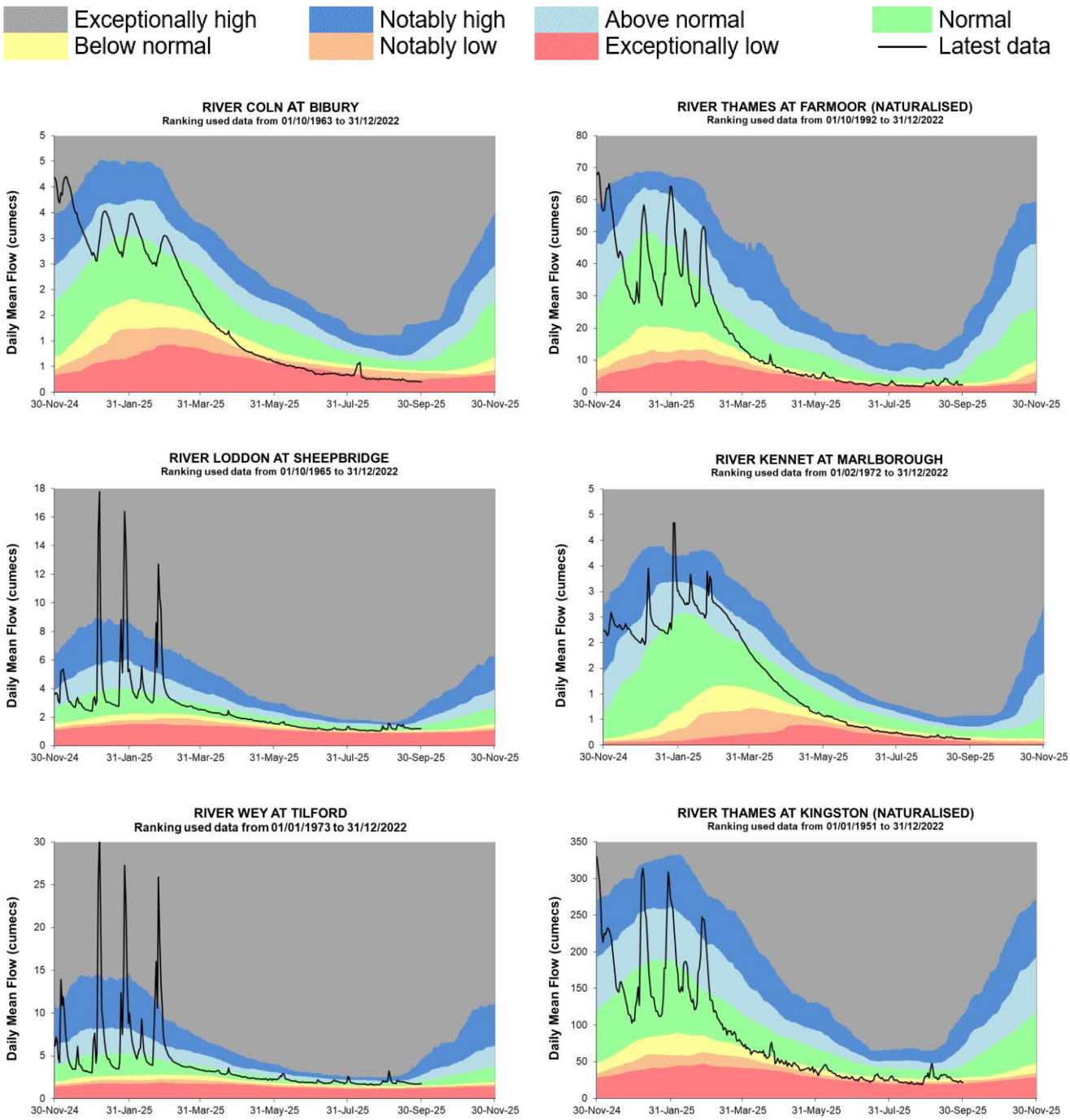


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

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

4.2 Thames River flow charts

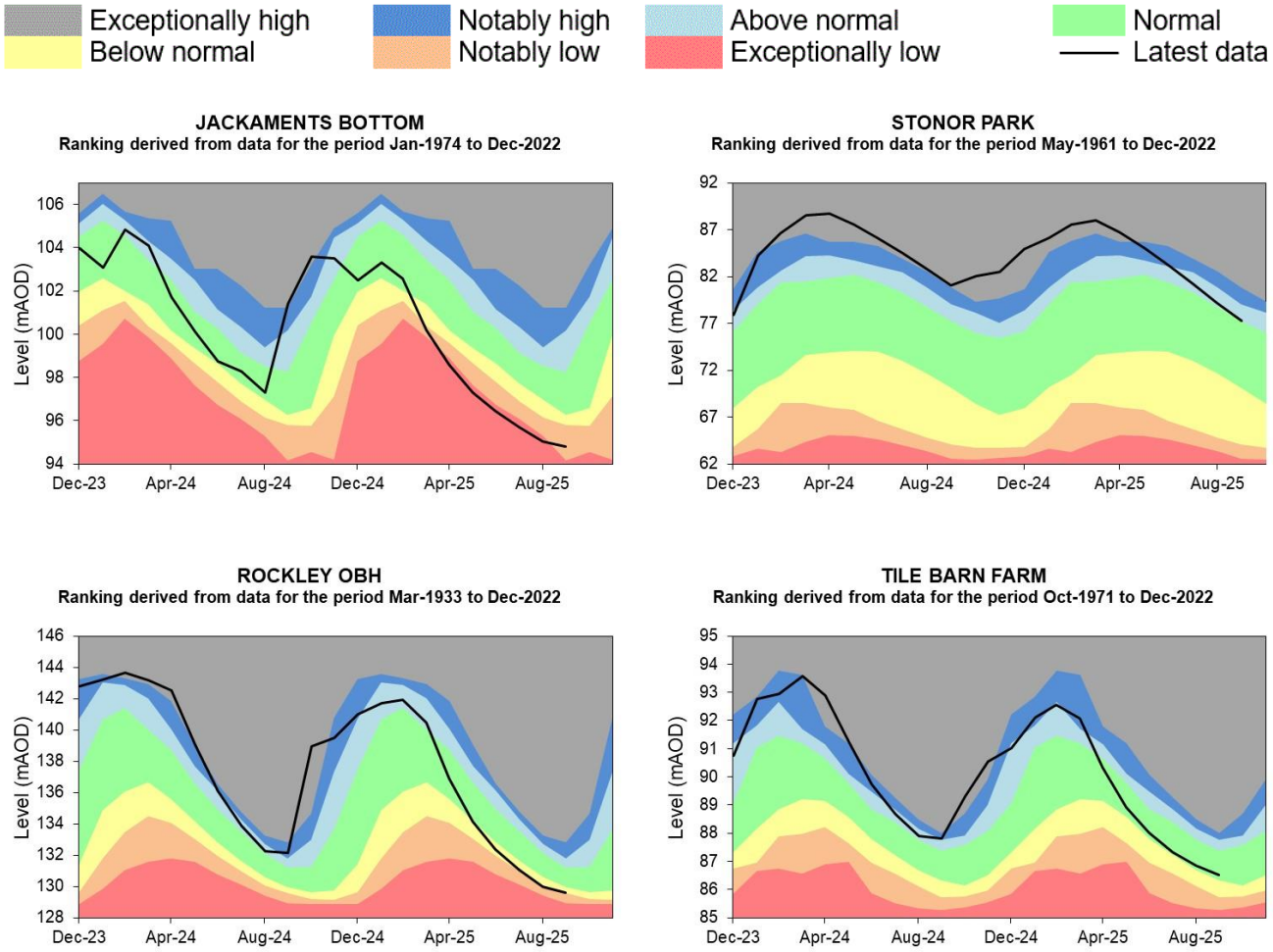
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency. 2025

4.3 Thames Groundwater level charts

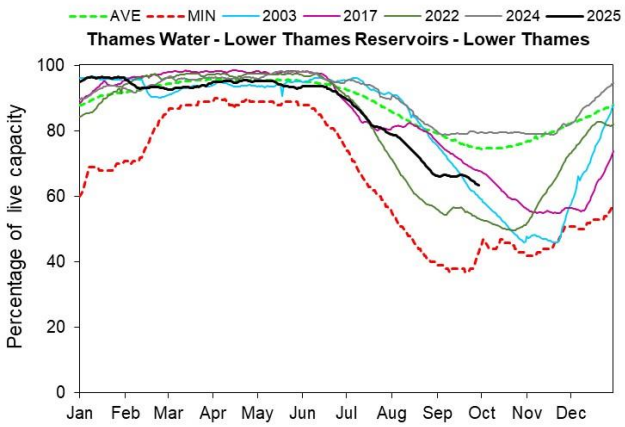
Figure 4.3: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels. Tile Barn Farm data has been estimated from 2 local sites since April 2022. A replacement is planned.

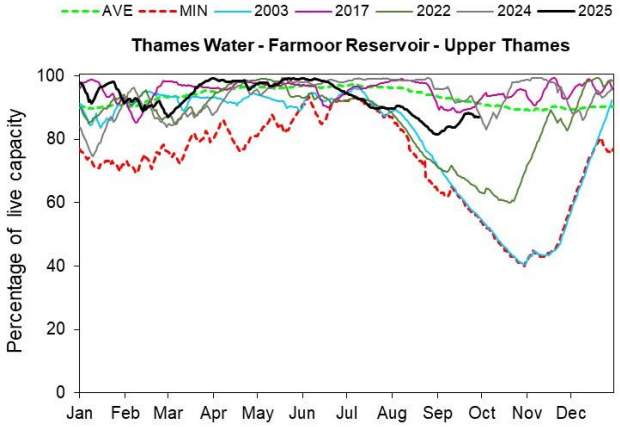


Source: Environment Agency, 2025.

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.



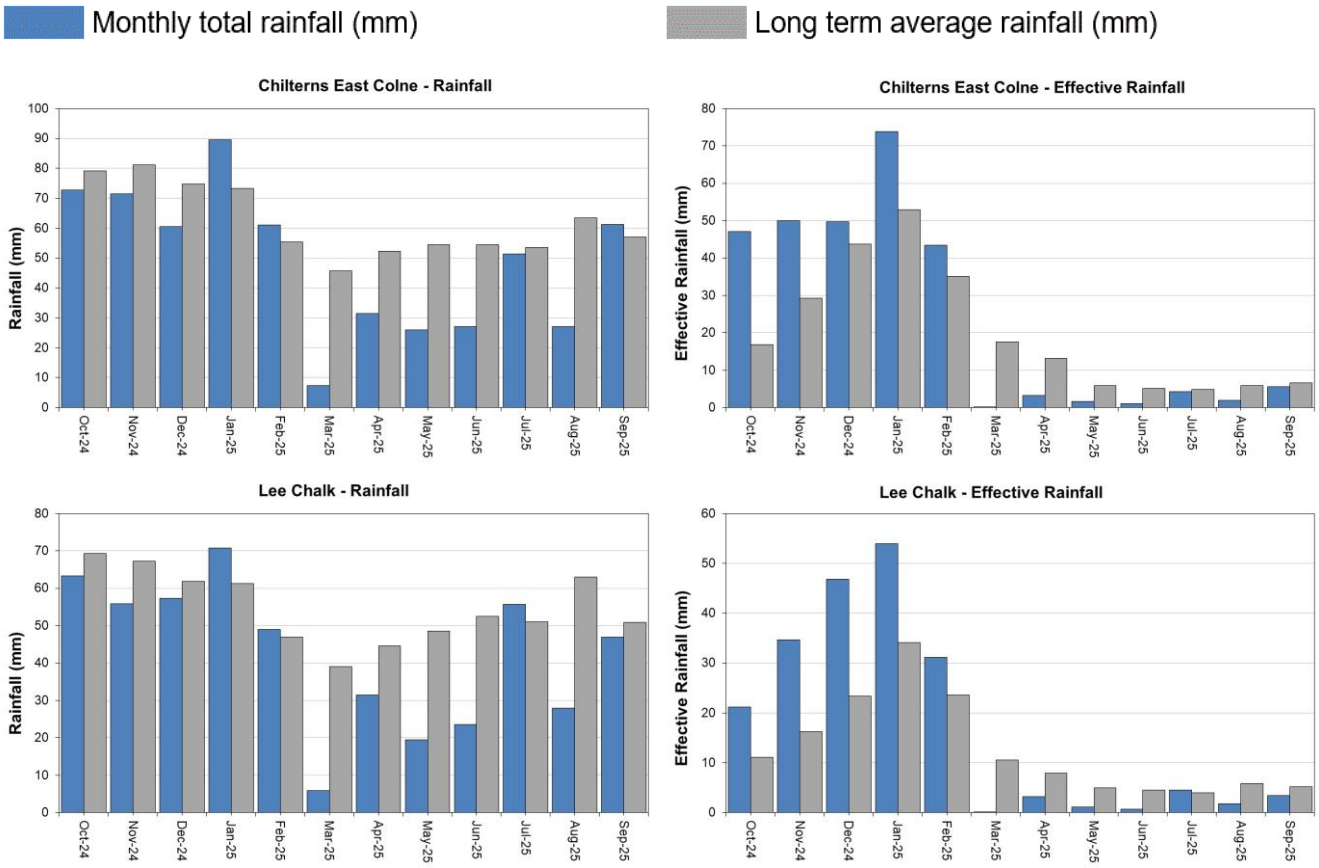


(Source: water companies).

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.

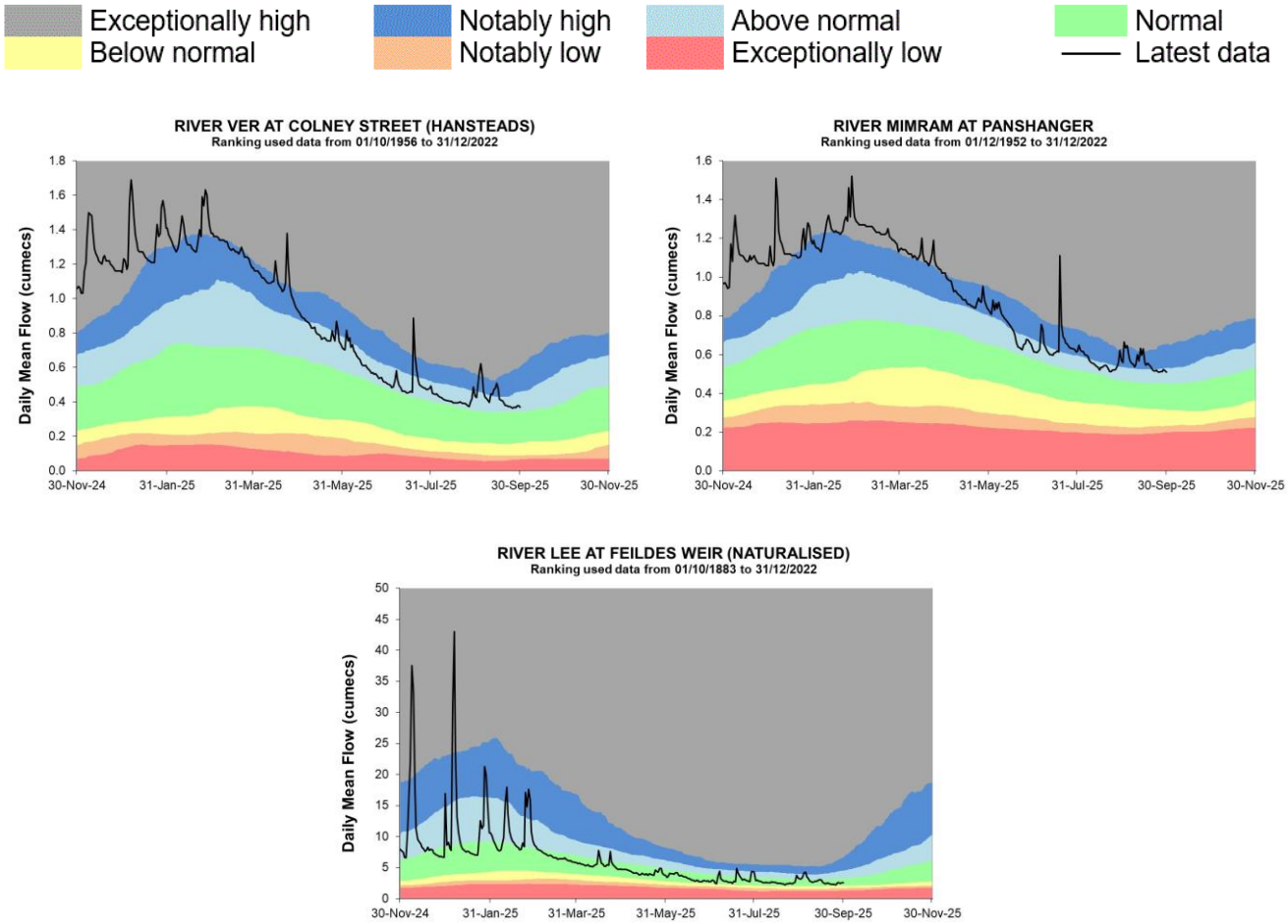


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

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

5.2 HNL River flow charts

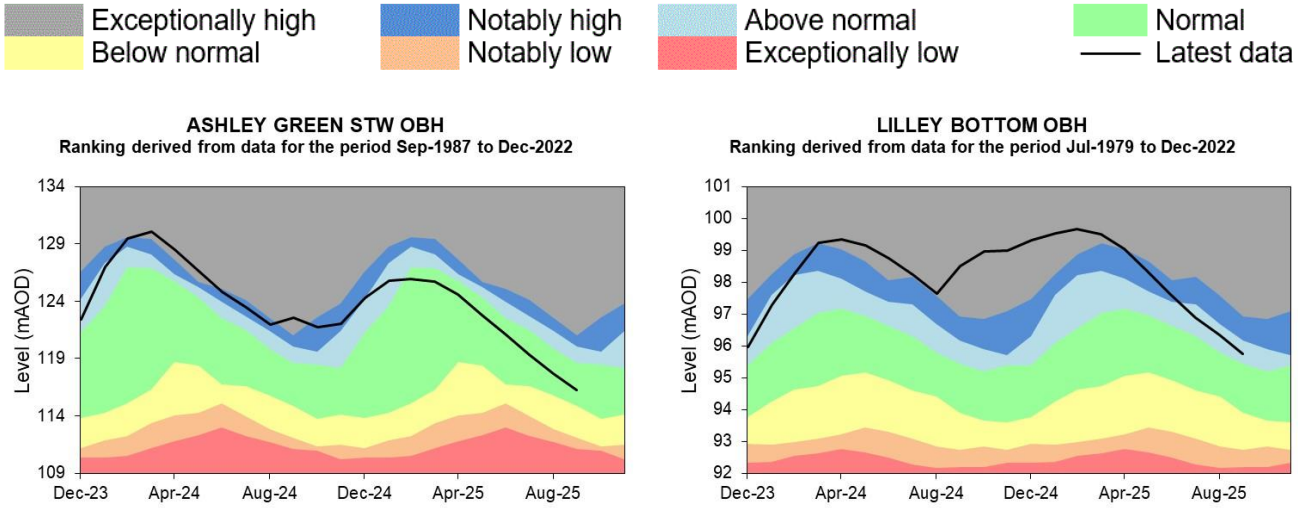
Figure 5.2 Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency. 2025

5.3 HNL Groundwater level charts

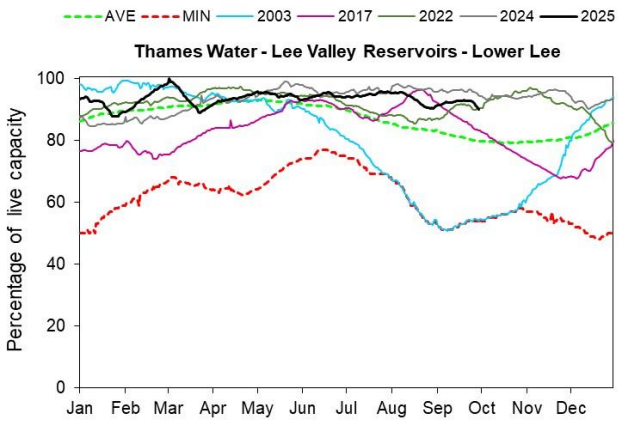
Figure 5.3: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



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.

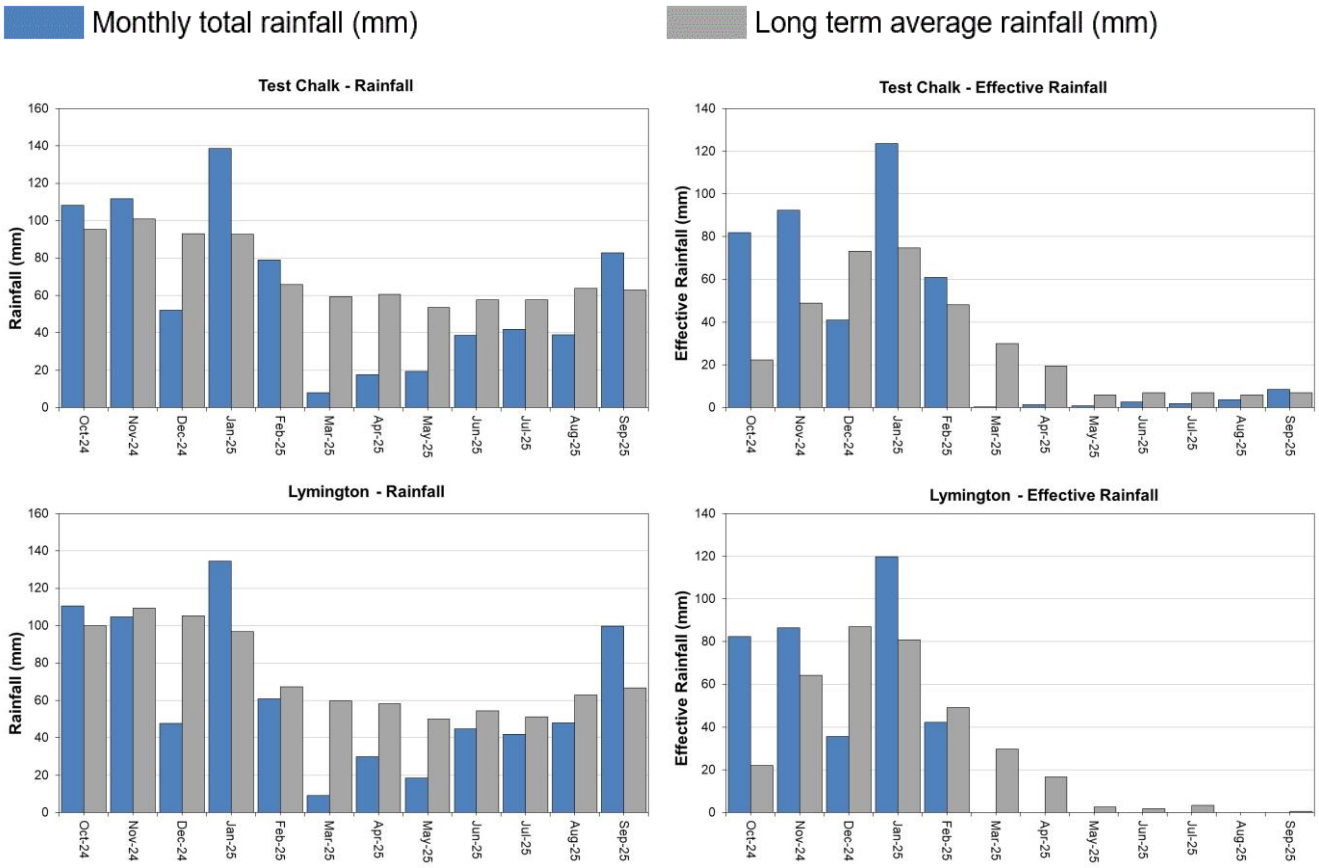


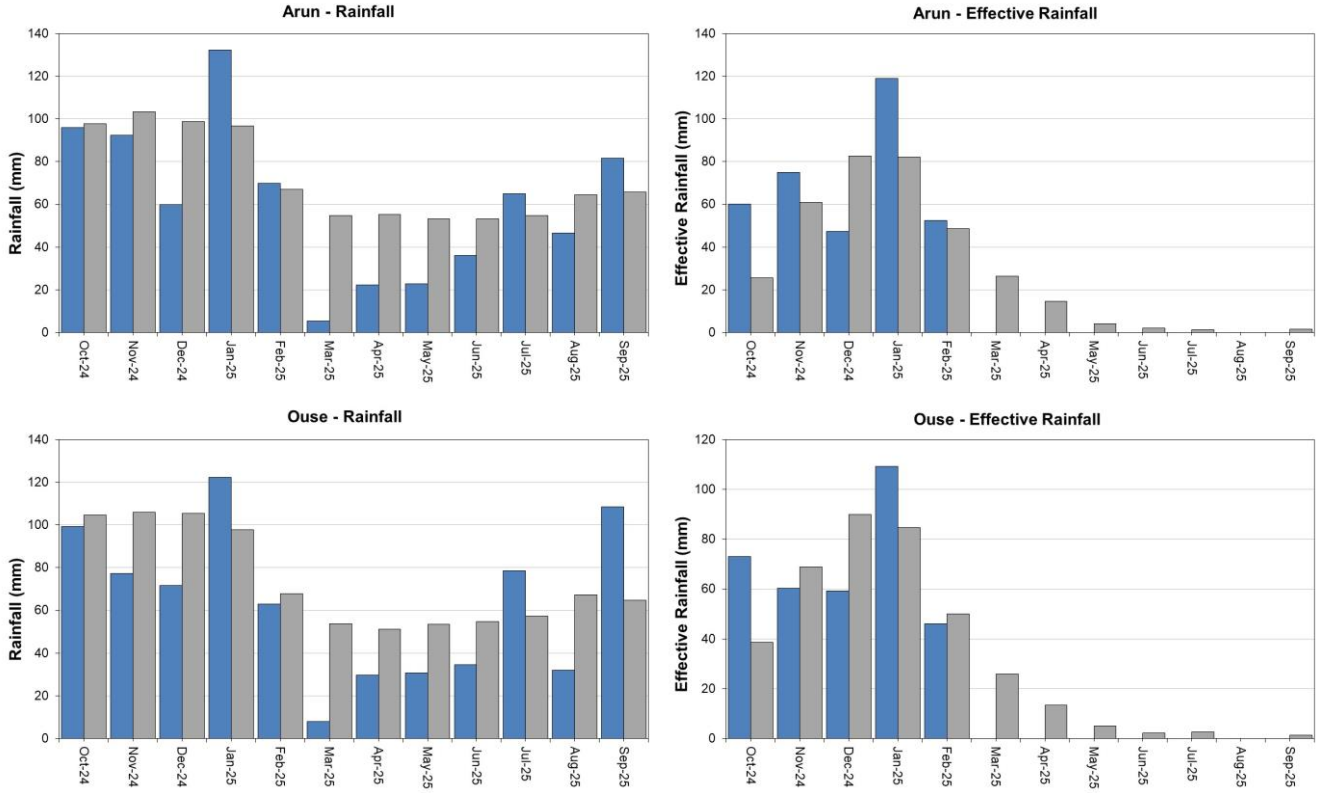
(Source: water companies).

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.



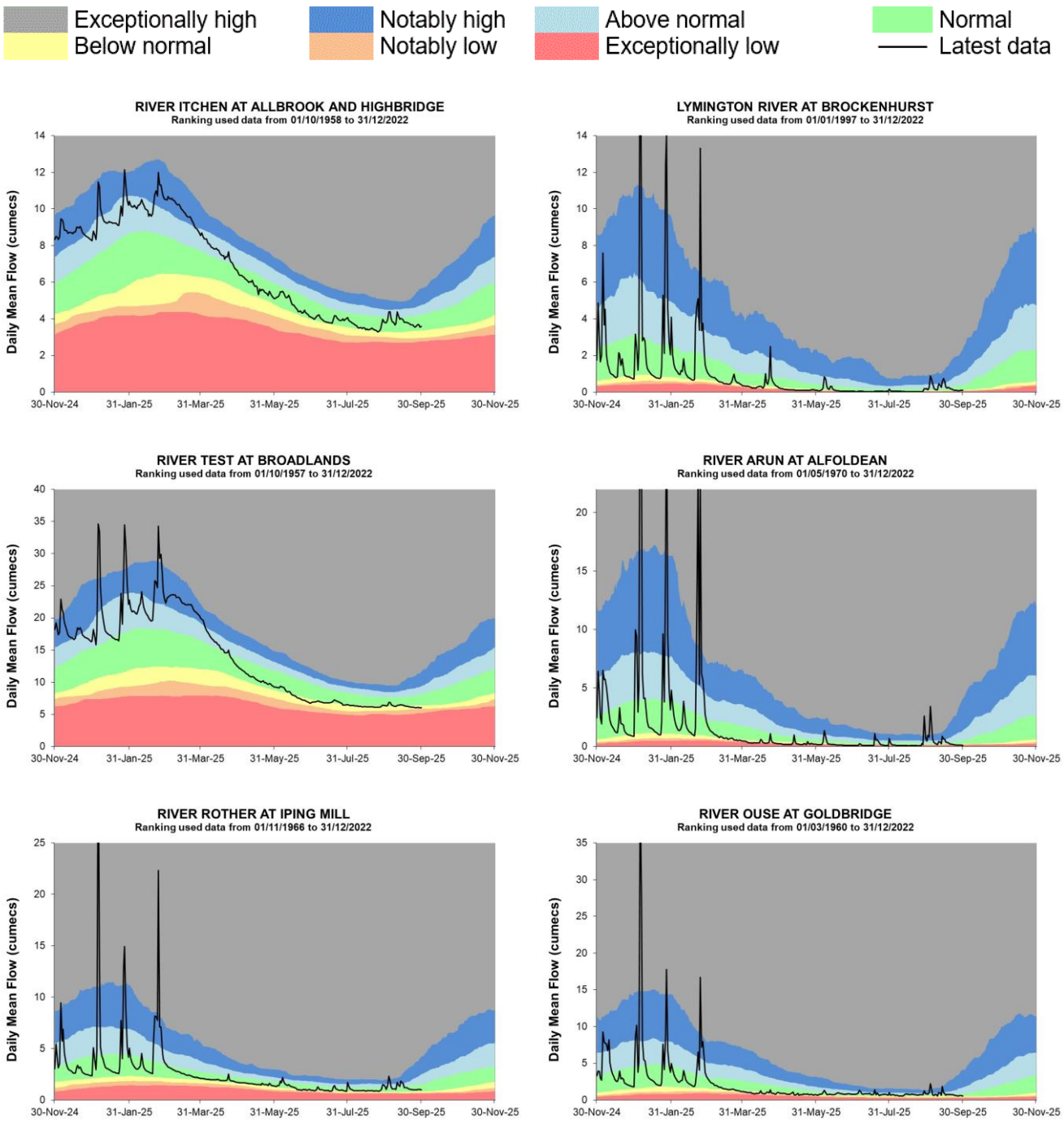


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

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

6.2 SSD River flow charts

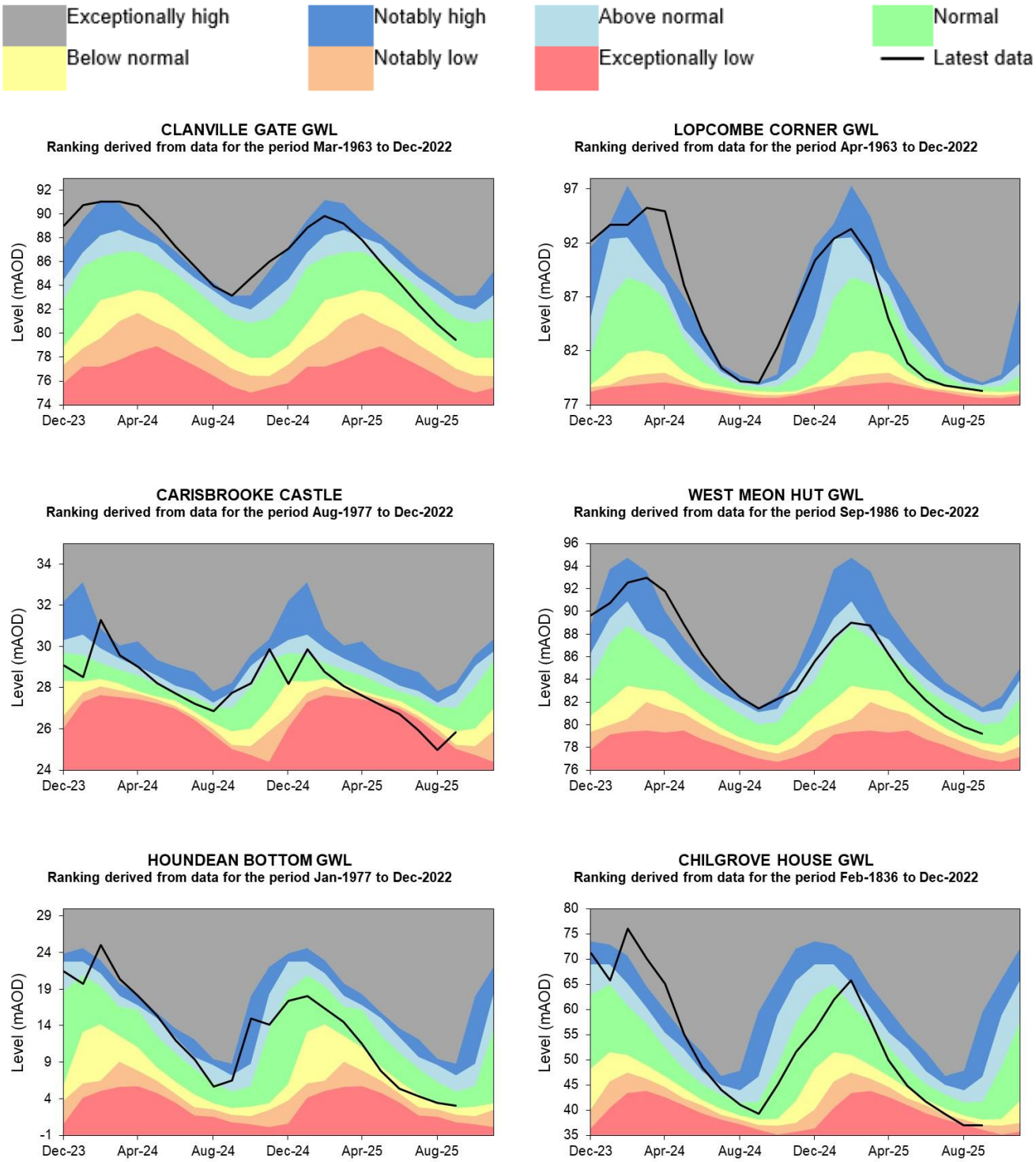
Figure 6.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency. 2025

6.3 SSD Groundwater levels

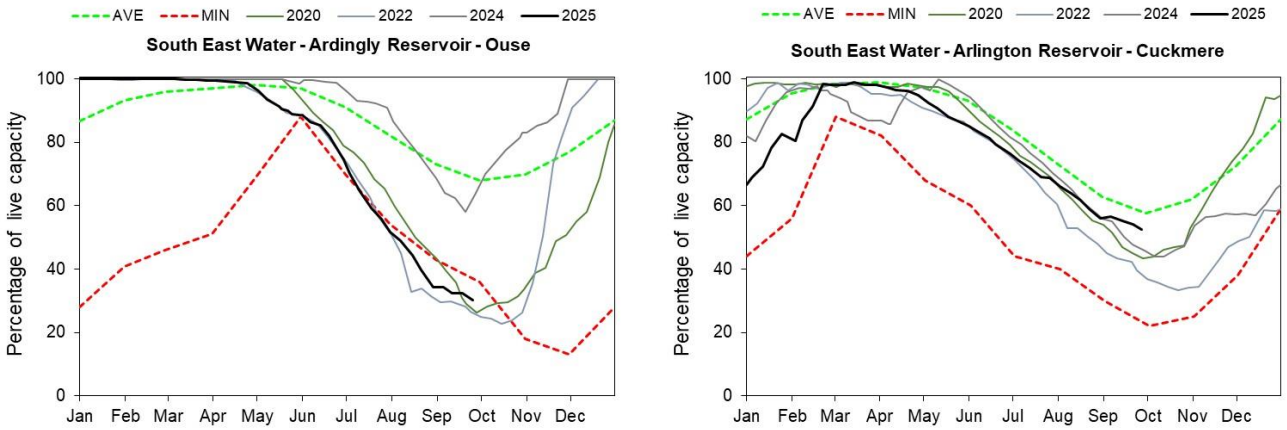
Figure 6.3: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



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.

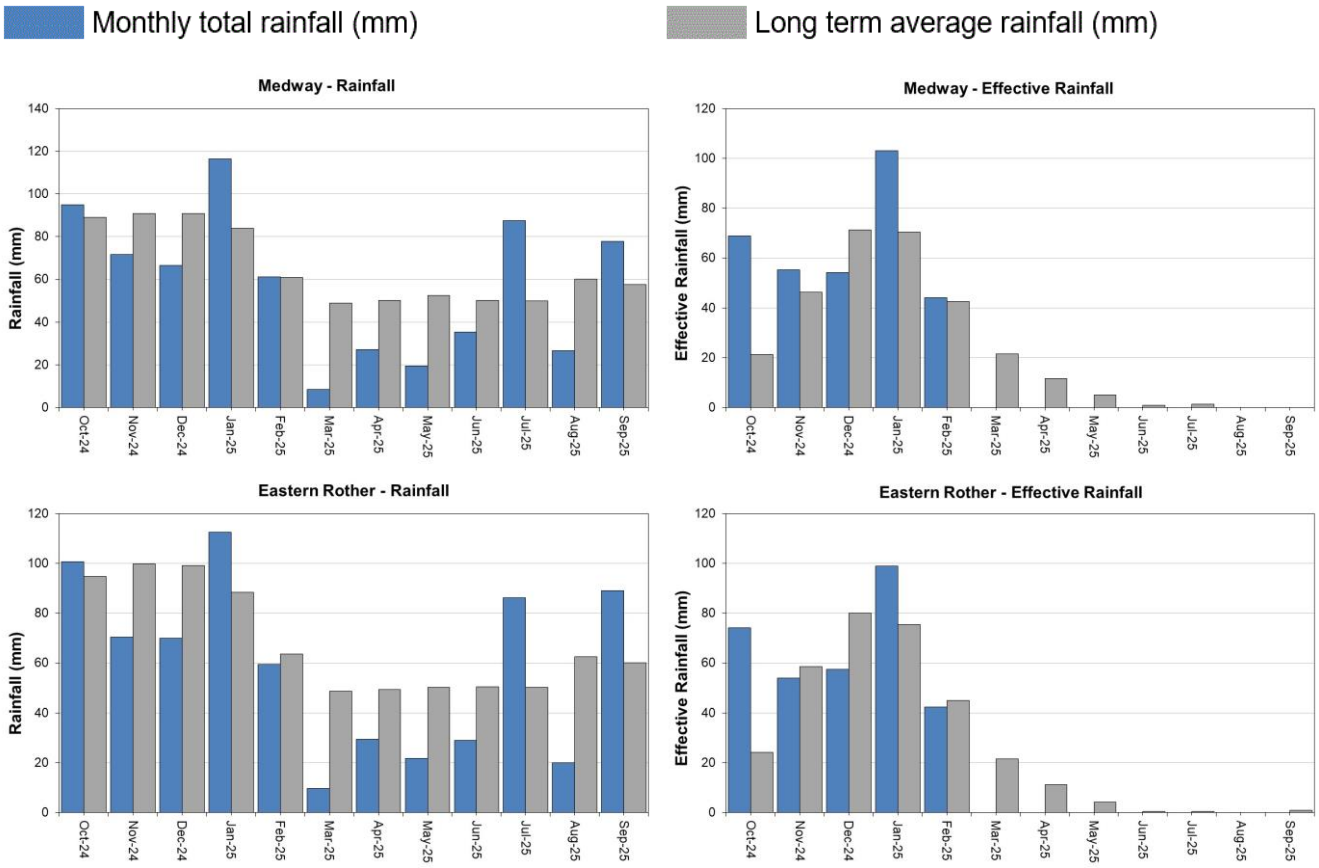


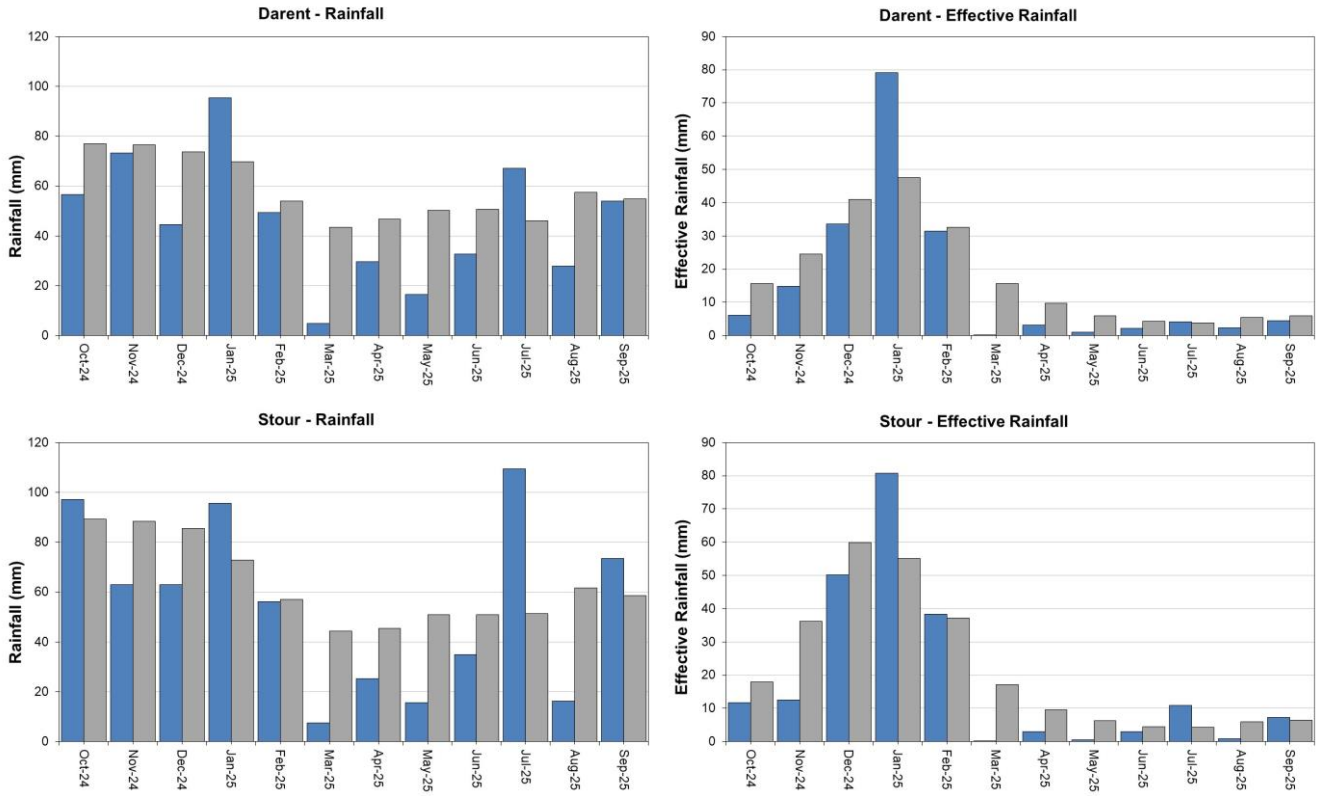
(Source: water companies).

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.



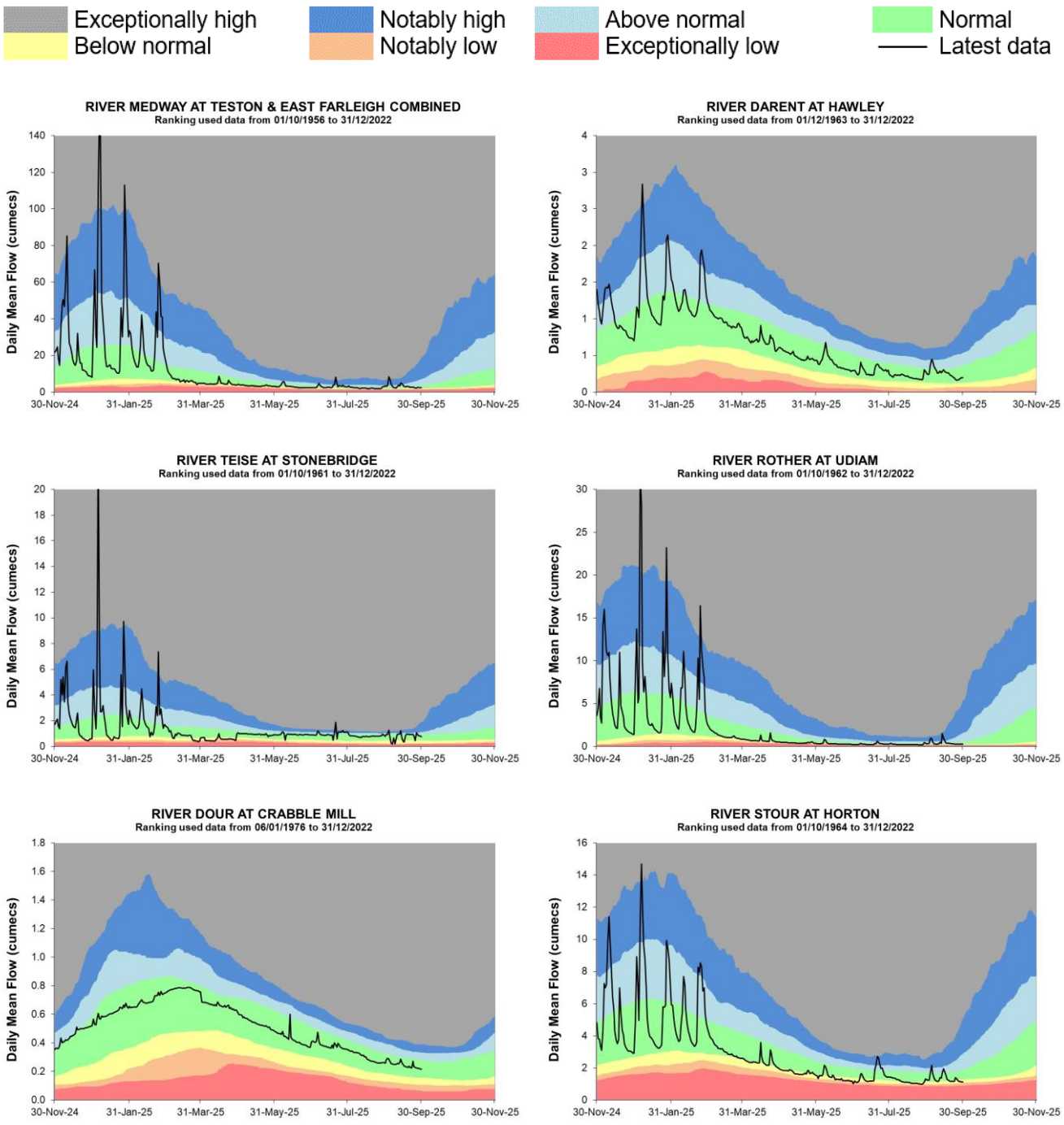


HadUK rainfall data. (Source: Met Office. Crown copyright, 2025).

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

7.2 KSL River flow charts

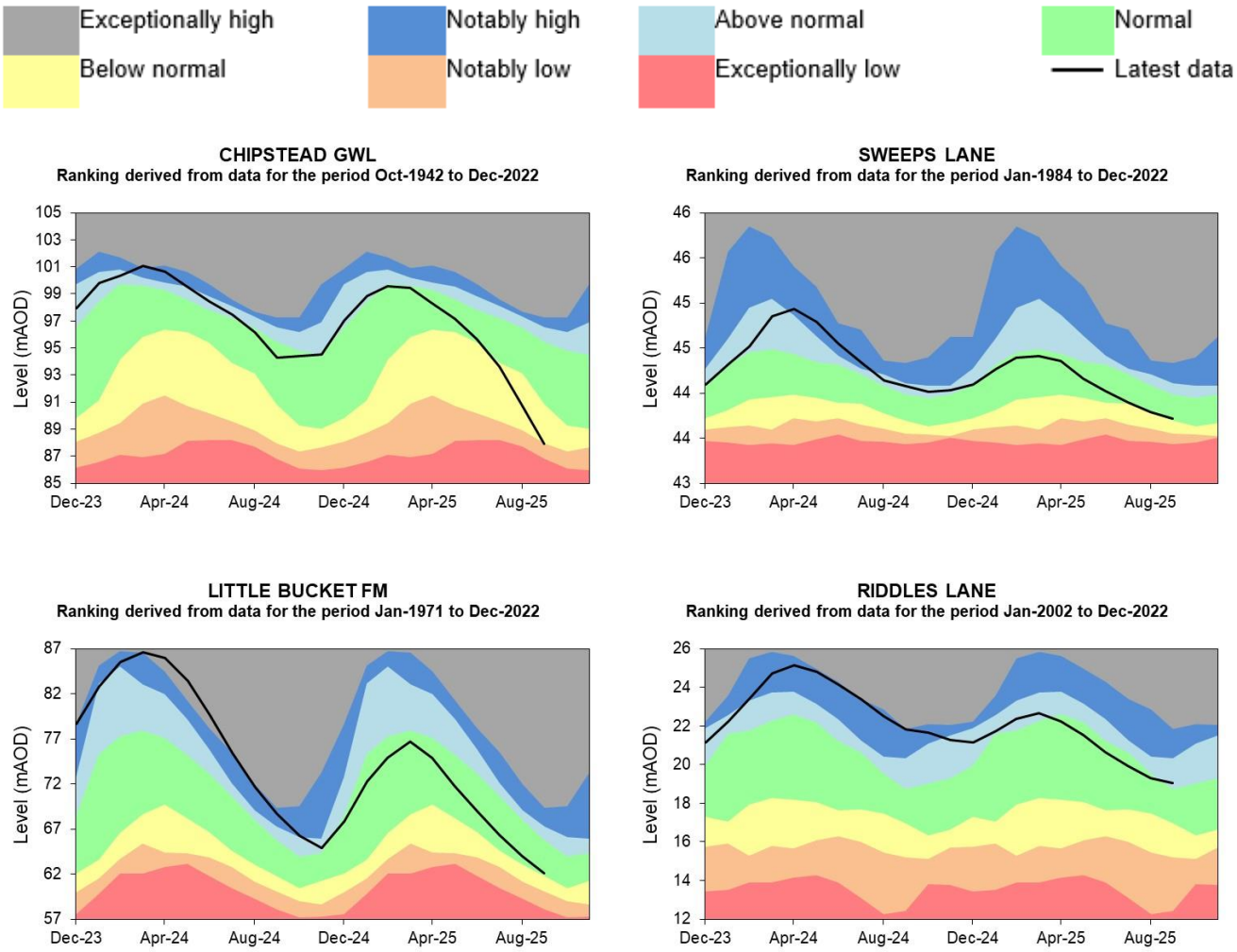
Figure 7.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency. 2025 .

7.3 KSL Groundwater levels

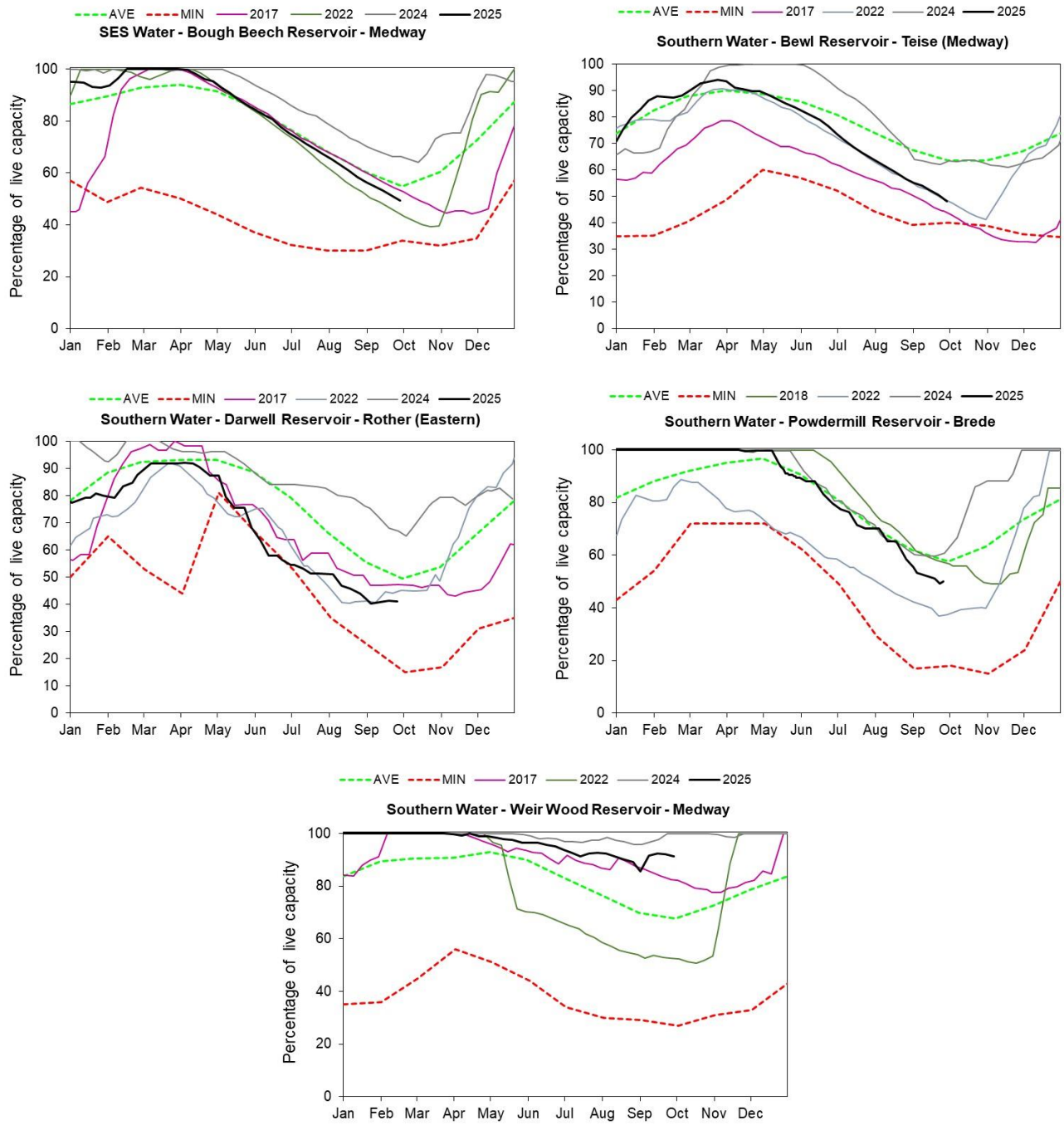
Figure 7.3: End of month groundwater levels at index groundwater level sites for major aquifers. 22 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



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 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).

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	Sep 2025 rainfall % of long term average 1991 to 2020	Sep 2025 band	Jul 2025 to September cumulative band	Apr 2025 to September cumulative band	Oct 2024 to September cumulative band
Cotswold West	129	Normal	Below normal	Exceptionally low	Below normal
Cotswold East	118	Normal	Below normal	Exceptionally low	Below normal
Berkshire Downs	129	Normal	Normal	Notably low	Below normal
Chilterns West	127	Above Normal	Normal	Notably low	Below normal
Chilterns East Colne	108	Normal	Below normal	Notably low	Notably low
North Downs - Hampshire	127	Above Normal	Normal	Notably low	Below normal
North Downs - South London	94	Normal	Normal	Notably low	Below normal
Upper Thames	120	Normal	Below normal	Exceptionally low	Notably low
Upper Cherwell	106	Normal	Below normal	Exceptionally low	Below normal

Thame	138	Above Normal	Normal	Notably low	Below normal
Loddon	115	Normal	Below normal	Notably low	Below normal
Lower Wey	100	Normal	Below normal	Notably low	Below normal
Upper Mole	115	Normal	Normal	Below normal	Below normal
Lower Lee	95	Normal	Below normal	Notably low	Notably low
North London	97	Normal	Below normal	Notably low	Notably low
South London	86	Normal	Below normal	Notably low	Notably low
Roding	90	Normal	Below normal	Exceptionally low	Exceptionally low
Ock	126	Normal	Normal	Notably low	Notably low
Enborne	136	Above Normal	Normal	Notably low	Below normal
Cut	107	Normal	Below normal	Notably low	Below normal
Lee Chalk	92	Normal	Below normal	Notably low	Notably low
River Test	132	Normal	Normal	Notably low	Below normal
East Hampshire Chalk	146	Above Normal	Normal	Below normal	Normal
West Sussex Chalk	148	Above Normal	Normal	Below normal	Below normal

East Sussex Chalk	179	Notably High	Normal	Normal	Below normal
Sw Isle Of Wight	166	Above Normal	Normal	Normal	Normal
River Darent	98	Normal	Normal	Below normal	Notably low
North Kent Chalk	113	Normal	Normal	Below normal	Below normal
Stour	126	Normal	Normal	Below normal	Below normal
Dover Chalk	146	Above Normal	Above normal	Normal	Normal
Thanet Chalk	128	Normal	Normal	Normal	Below normal
Western Rother Greensand	137	Above Normal	Normal	Below normal	Below normal
Hampshire Tertiaries	148	Above Normal	Normal	Below normal	Below normal
Lymington River Avon Water And O	150	Above Normal	Normal	Below normal	Below normal
Sussex Coast	148	Above Normal	Normal	Below normal	Below normal
River Arun	124	Normal	Normal	Below normal	Below normal
River Adur	155	Above Normal	Normal	Normal	Below normal

River Ouse	168	Above Normal	Normal	Normal	Normal
Cuckmere River	175	Notably High	Normal	Normal	Below normal
Pevensey Levels	166	Notably High	Normal	Normal	Below normal
River Medway	135	Normal	Normal	Below normal	Normal
Eastern Rother	148	Above Normal	Normal	Below normal	Normal
Romney Marsh	134	Normal	Normal	Below normal	Normal
North West Grain	80	Normal	Below normal	Notably low	Notably low
Sheppy	90	Normal	Normal	Below normal	Notably low

9.2 River flows table

Site name	River	Catchment	Sep 2025 band	Aug 2025 band
Colney Street_hansteads	Ver	Colne	Notably high	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	Normal	Below normal
Stonebridge Gs	Teise	Teise	Normal	Normal
Teston Farleigh Combined	Medway100	Medway Estuary	Normal	Normal
Udiam Gs	Rother	Rother Kent Lower	Normal	Below normal
Alfoldean Gs	Arun	Arun	Above normal	Below normal
Allbrook Gs And Highbridge	Itchen (so)	Itchen	Normal	Normal
Broadlands	Test	Test Lower	Normal	Below normal
Brockenhurst Gs	Lymington	New Forest	Normal	Notably low
Goldbridge Gs	Ouse (so)	Ouse Sussex	Normal	Normal

Iping Mill Gs	Rother	West Rother	Normal	Normal
Farmoor (naturalised)	River Thames	Thames	Below normal	Notably low
Kingston (naturalised)	River Thames	Thames North Bank	Normal	Notably low
Marlborough	River Kennet	Kennet	Below normal	Notably low
Sheepbridge	River Loddon	Loddon	Normal	Normal
Tilford	River Wey	Wey Addleston Bourne	Normal	Normal

9.3 Groundwater table

Site name	Aquifer	End of Sep 2025 band	End of Aug 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	Above normal	Normal
Sweeps Lane Gwl	West Kent Chalk	Normal	Normal
Houndean Bottom Gwl	Brighton Chalk Block	Normal	Normal
Chilgrove House Gwl	Chichester-worthing-portsdown Chalk	Notably low	Exceptionally low
Carisbrooke Castle	Isle Of Wight Central Downs Chalk	Below normal	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	Below normal	Notably low
Jackaments Bottom Obh	Burford Oolitic Limestone (inferior)	Notably low	Exceptionally low
Stonor Estate	South-west Chilterns Chalk	Above normal	Above normal

9.4 South-east England areal units for reference