Monthly water situation report: Kent and South London Area

1 Summary - December 2025

In December, the Kent South London and East Sussex (KSLES) area received 84 percent of long-term average (LTA) rainfall, ranging from 63 percent in the Thanet Chalk to 103 percent in the Upper Mole catchment. December was characterised by early- and mid-month rainfall peaks, with subdued totals thereafter. Soil Moisture Deficits (SMDs) declined across the majority of the area, with four of thirteen remaining above LTA. The effective rainfall recorded in December was 60% of the LTA average. Monthly Mean Flows (MMFs) were generally normal, though below-normal flows were seen at the Wandle and the Ravensbourne due to clay geology and urbanisation. Groundwater levels ranged from exceptionally low at Chipstead and below normal at Sweeps Lane to normal levels at remaining groundwater sites. Reservoir stocks increased in December, with levels rising at all sites except Weir Wood Reservoir which stayed stable.

1.1 Rainfall

During December, the KSLES area received 84 percent of the LTA rainfall for the time of year, based on a whole-area average. Rainfall received in all catchments in the Kent South London and East Sussex area were normal except Thanet Chalk which was below normal. The percentage of LTA rainfall received ranged from 63 percent in the Thanet Chalk catchment in the East, to 103 percent in the Upper Mole catchment in the West. The highest daily rainfall total of 30.1mm was observed on day 18 of the month at Eden Vale sewage treatment works rain gauge in the Medway catchment.

Rainfall in December was generally highest at the start and again around the middle of the month, with much lower amounts throughout the remainder of the period. The top 5 highest rainfall days were 5, 17, 1, 29, and 3 December. December featured three dry days across the KSLES area, defined as a day with 0.2 mm or less recorded rainfall. These dry days occurred on 23 December, 24 December, and 25 December, with 0.1 mm recorded on 23 and 25 December, and 0 mm on 24 December.

1.2 Soil moisture deficit and recharge

December SMDs were lower than November across most catchments, indicating a response to rainfall, while only a small number of catchments—Upper Mole, Medway, and Eastern

Rother—showed slight increases from 0 mm to 4 mm. Dover Chalk remained unchanged between the two months. This decline was driven by the small but consistent wetter days and the effective rainfall received across the area during December, which amounted to 60% of the LTA. Overall, SMDs ranged from 0 to 135 mm at the end of December, compared with 0 mm to 149 mm at the end of November, highlighting the slight decrease month on month.

1.3 River flows

Monthly Mean Flows (MMFs) at key indicator sites in December were largely within the normal range across the area. Below-normal flows persisted at the Wandle at Connolly's Mill and the River Ravensbourne at Catford in the northwest. Both sites overlie clay-rich geology, which restricts groundwater contributions, and are located in highly urbanised catchments where effective rainfall reaching the channels is limited. Consequently, the reduced flows observed are not unexpected for this time of year, given the combined effects of geology, land use, and effective rainfall patterns.

1.4 Groundwater levels

Groundwater levels in the Chalk across the KSLES area ranged from exceptionally low to normal. Chipstead remained in the exceptionally low category throughout the month, with levels staying stable and ending December still classified as exceptionally low. Sweeps Lane registered below-normal levels, while Wolverton, Little Bucket, Riddles Lane, and Fleete Reservoir all recorded normal levels for this time of year. Groundwater levels in the Greensand aquifer at Riverhead, in the central-west of the area, were also within the normal range at the end of December, having eased slightly from above-normal in November. Groundwater level variation this month broadly followed the pattern seen in November, with elevated SMDs in the west continuing to inhibit effective rainfall. Levels remained low at Chipstead, while sites across the rest of the area were generally stable or showed slight increases.

1.5 Reservoir stocks

Four out of five water company reservoirs in KSLES saw a rise in levels during December, Weirwood reservoir stayed stable throughout the month.

By the end of December, the reservoirs held by the following live storage capacities and LTA class:

- Darwell – 65% Normal
- Bewl – 59% Below Normal
- Bough Beech – 95% Normal
- Powdermill – 78% Normal
- Weir Wood – 100% Above normal

1.6 Environmental impact

There were twelve fluvial flood alerts and one fluvial flood warnings issued in December.

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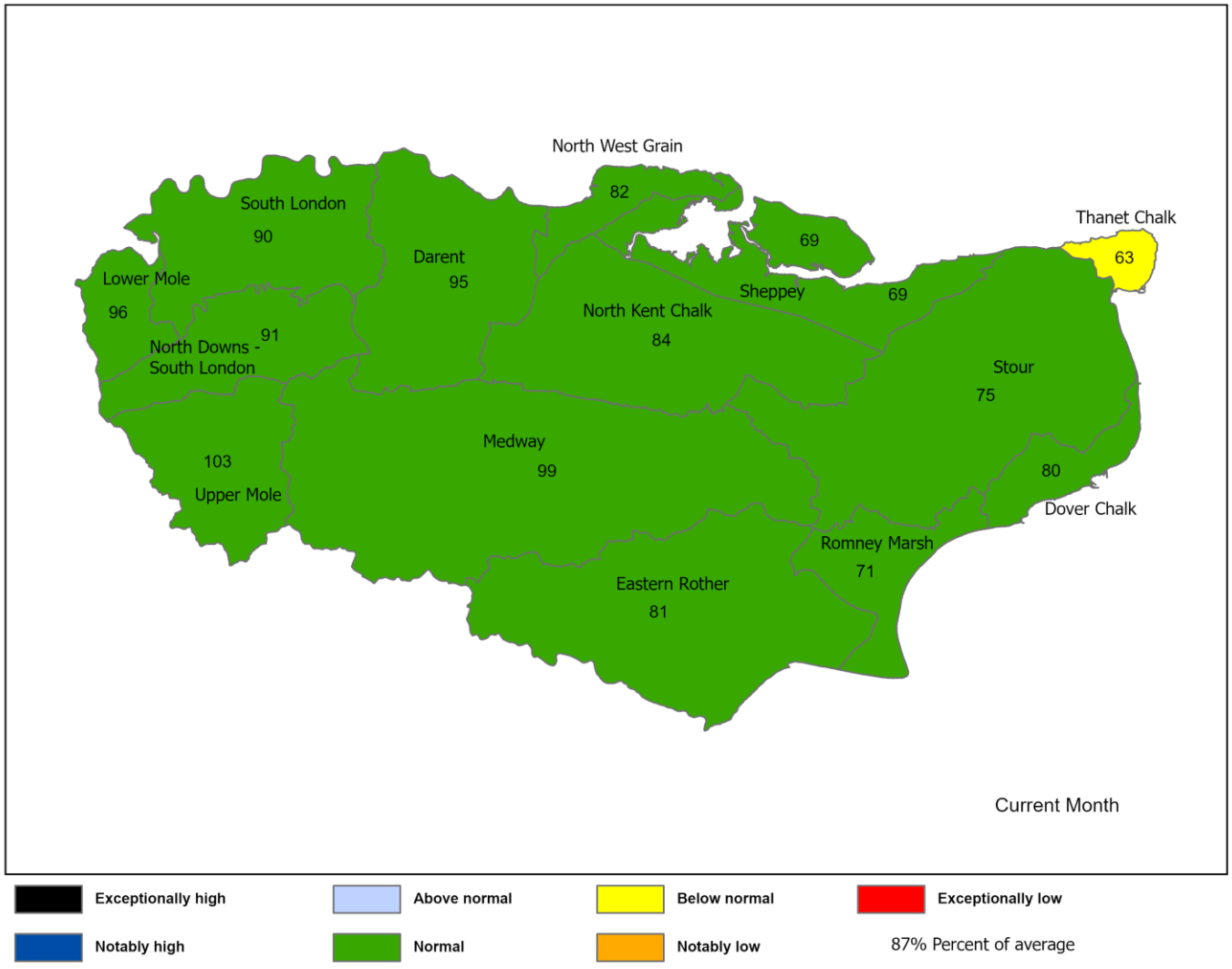
2 Rainfall

2.1 Rainfall map one

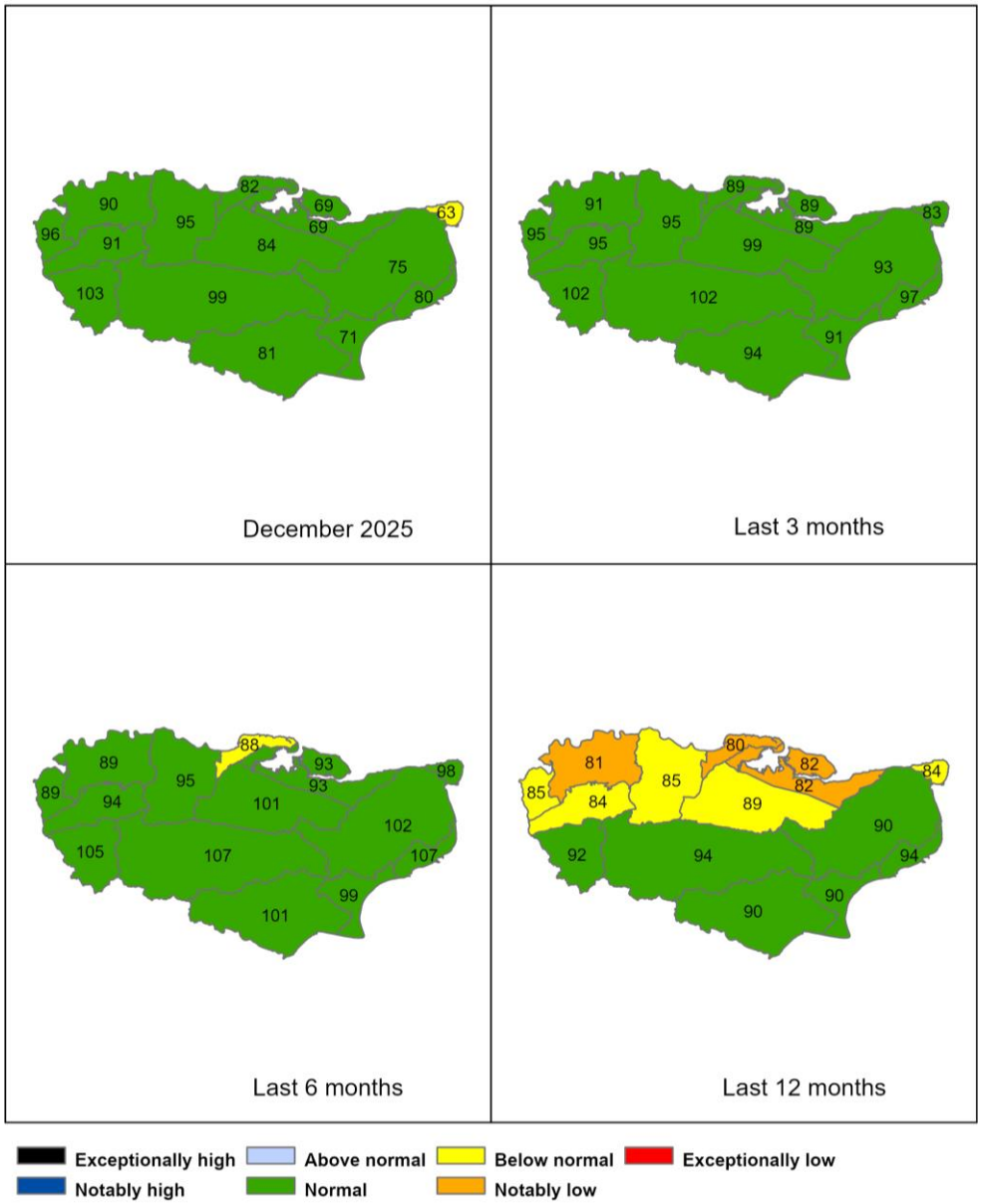
Figure 2.1: Total rainfall for hydrological areas across Kent South London and East Sussex for the current month (up to 31 December 2025), classed relative of historic totals. The percentage of average uses the period of 1991 – 2020. Table available in the appendices with more detailed information.



HadUK data for October 2023 onwards, based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2026). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Includes material based on Ordnance Survey 1:50 000 maps with the permission of the controller of His Majesty's Stationery Office © Crown copyright. All rights reserved. Environment Agency, 100026380, 2026.

2.2 Rainfall map two

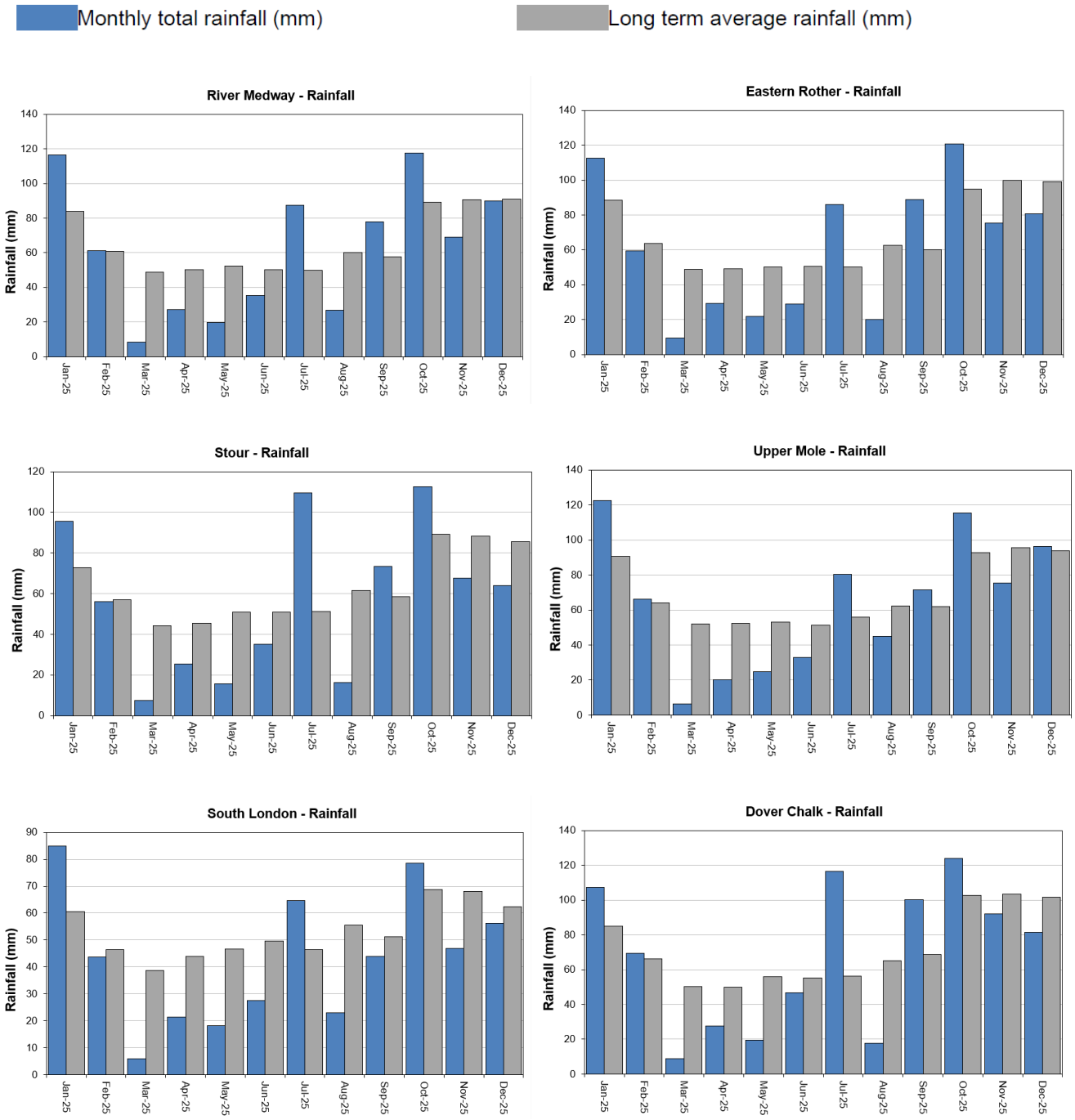
Figure 2.2: Total rainfall for hydrological areas for the current month (up to 31 December 2025), the last 3 months, the last 6 months, and the last 12 months,), classed relative of historic totals. The percentage of average uses the period of 1991 – 2020. Table available in the appendices with detailed information.

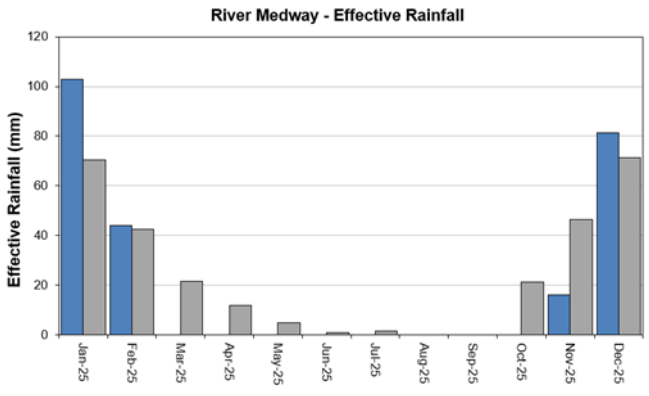


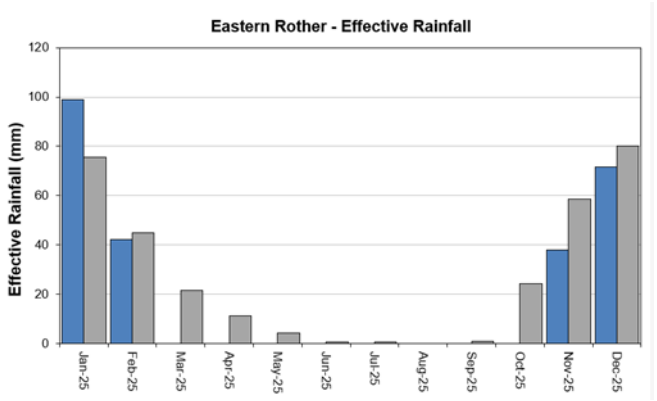
HadUK data for October 2023 onwards, based the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2026). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Includes material based on Ordnance Survey 1:50 000 maps with the permission of the controller of His Majesty's Stationery Office © Crown copyright. All rights reserved. Environment Agency, 100026380, 2026.

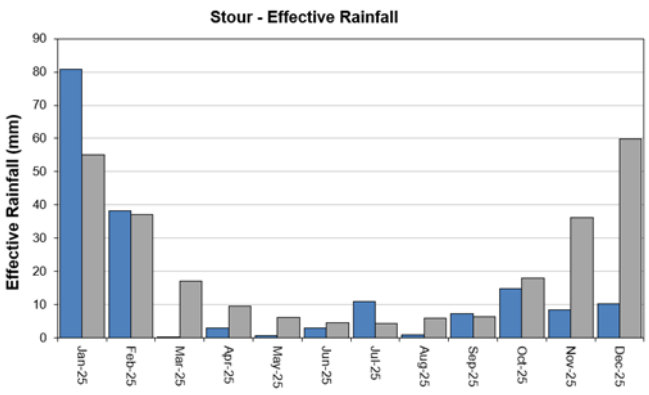
2.3 Rainfall and effective rainfall charts

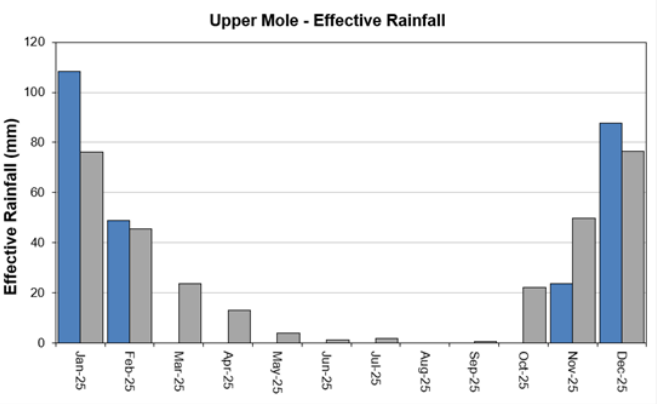
Figure 2.3: Monthly rainfall and effective rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average (LTA) for a selection of areal units. HadUK rainfall data. (Source: Met Office. Crown copyright, 2026). EA effective rainfall data (Source EA Soil Moisture Model).

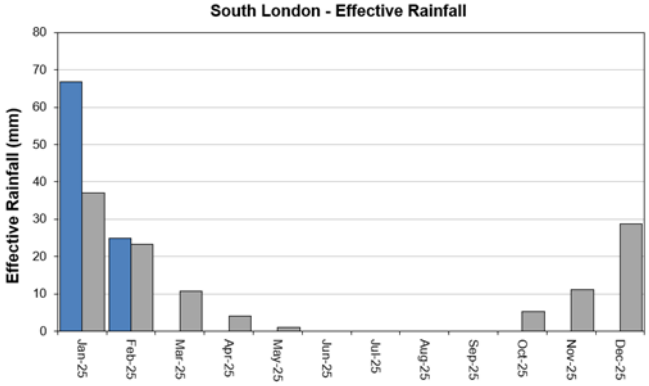


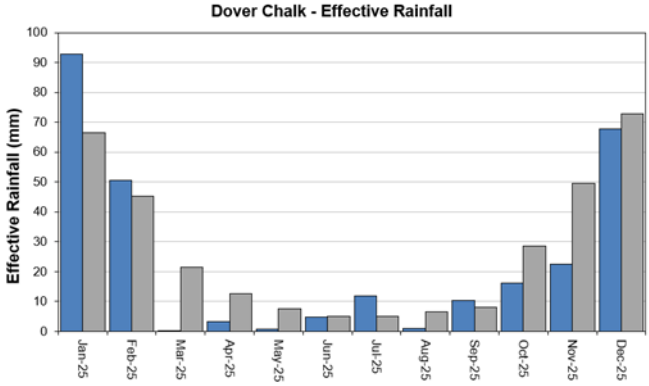

River Medway - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25
Sep-25
Oct-25
Nov-25
Dec-25


Eastern Rother - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25
Sep-25
Oct-25
Nov-25
Dec-25


Stour - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
90
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25
Sep-25
Oct-25
Nov-25
Dec-25


Upper Mole - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25
Sep-25
Oct-25
Nov-25
Dec-25


South London - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25
Sep-25
Oct-25
Nov-25
Dec-25


Dover Chalk - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
90
100
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25
Sep-25
Oct-25
Nov-25
Dec-25

2.4 Rainfall and effective rainfall table

Figure 2.4: This is a second estimate of areal rainfall and effective rainfall (percolation or runoff) for a selection of the hydrological areas across the Kent and South London area. 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 section 2.5.

Number	Hydrological Area	Rainfall (mm) 31 day Total	December % LTA	Effective Rainfall (mm) 31 day Total	December % LTA
6230TH	North Downs - South London (W)	79	91%	16	26%
6505TH	Upper Mole	96	103%	88	115%
6508TH	South London	56	90%	0	0%
6706So	Darent	70	95%	10	24%
6707So	North Kent Chalk	65	84%	9	18%
6708So	Stour	64	75%	10	17%
6709So	Dover Chalk	81	80%	68	93%
6710So	Thanet Chalk	40	63%	5	42%
6809So	Medway	90	99%	81	114%
6810So	Eastern Rother	80	81%	72	89%

6811So	Romney Marsh	59	71%	33	57%
6812So	North West Grain	44	82%	0	0%
6813So	Sheppey	41	69%	0	0%
	Kent & South London Average	67	84%	30	60%

HadUK rainfall data. (Source: Met Office. Crown copyright, 2026).

EA effective rainfall data (Source EA Soil Moisture Model)

2.5 Seasonal summary table of rainfall and effective rainfall

Figure 2.5: This is a seasonal estimate of areal rainfall and effective rainfall (percolation or runoff) for a selection of the hydrological areas across the Kent and South London area, 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 01/10/2025 to 31/12/2025

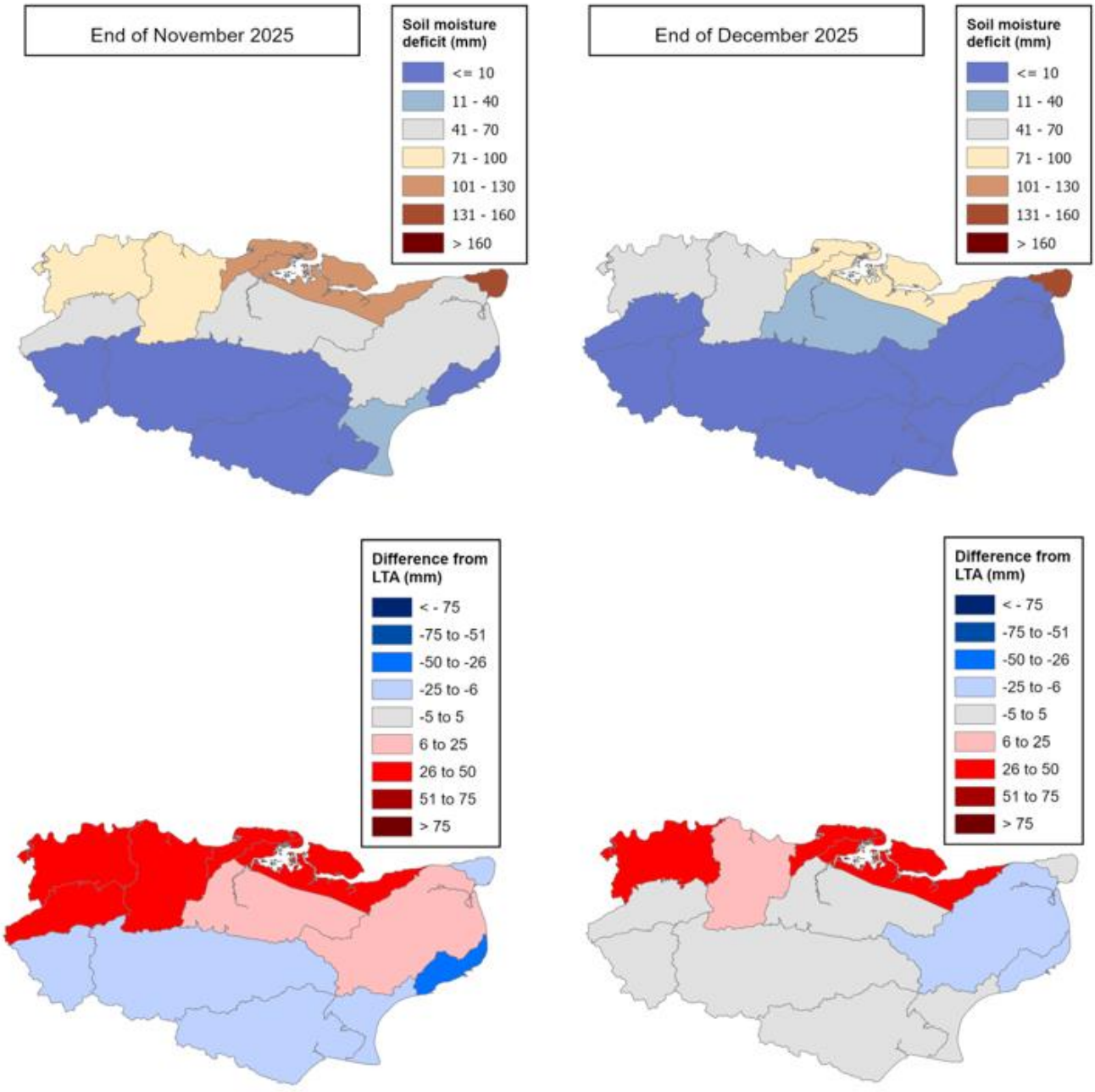
Number	Hydrological Area	Seasonal Rainfall (mm) Total	% LTA	Seasonal Effective Rainfall (mm) Total	% LTA
6230TH	North Downs - South London (W)	253	94%	40	32%
6505TH	Upper Mole	287	102%	115	77%
6508TH	South London	182	91%	0	0%
6706So	Darent	216	95%	29	36%
6707So	North Kent Chalk	237	99%	32	34%
6708So	Stour	244	93%	34	30%
6709So	Dover Chalk	297	97%	106	70%
6710So	Thanet Chalk	174	83%	21	69%
6809So	Medway	276	102%	100	72%
6810So	Eastern Rother	277	94%	112	69%

6811So	Romney Marsh	232	92%	34	32%
6812So	North West Grain	159	88%	0	0%
6813So	Sheppey	169	89%	0	0%
	Kent & South London Average	231	94%	48	50%

3 Soil moisture deficit

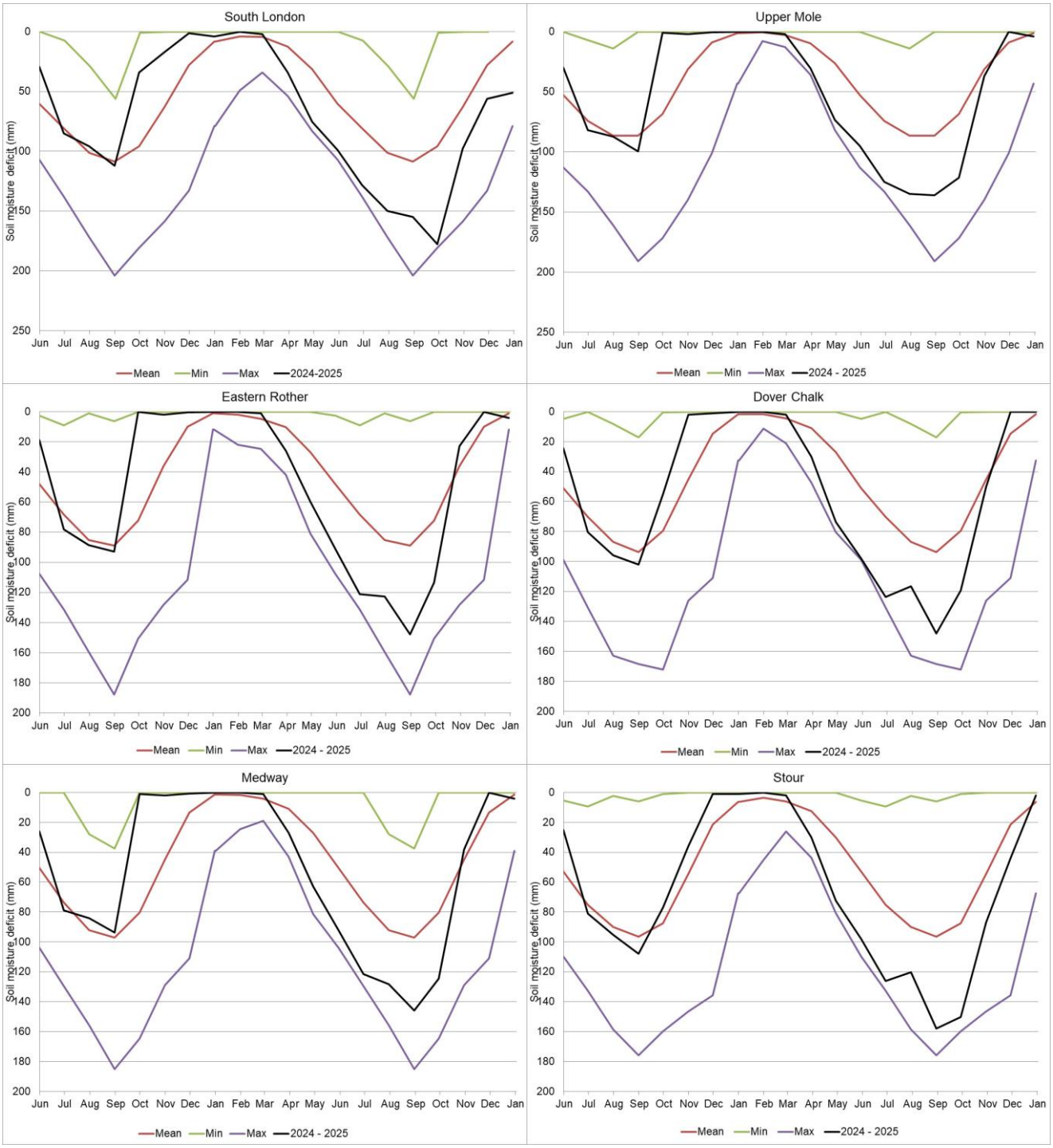
3.1 Soil moisture deficit map

Figure 3.1: Soil moisture deficits for weeks ending 30 November (left panel) and 31 December 2025 (right panel). Top row shows actual soil moisture deficits (mm) and bottom row shows the difference (mm) of the actual from the 1991 to 2020 long term average soil moisture deficits. EA Soil Moisture Deficit data (Source EA Soil Moisture Model).



3.2 Soil moisture deficit charts

Figure 3.2: Latest soil moisture deficit compared to maximum, minimum, and 1991 to 2020 long term average. EA soil moisture deficit data (Source EA Soil Moisture Model).



3.3 Soil moisture deficit table

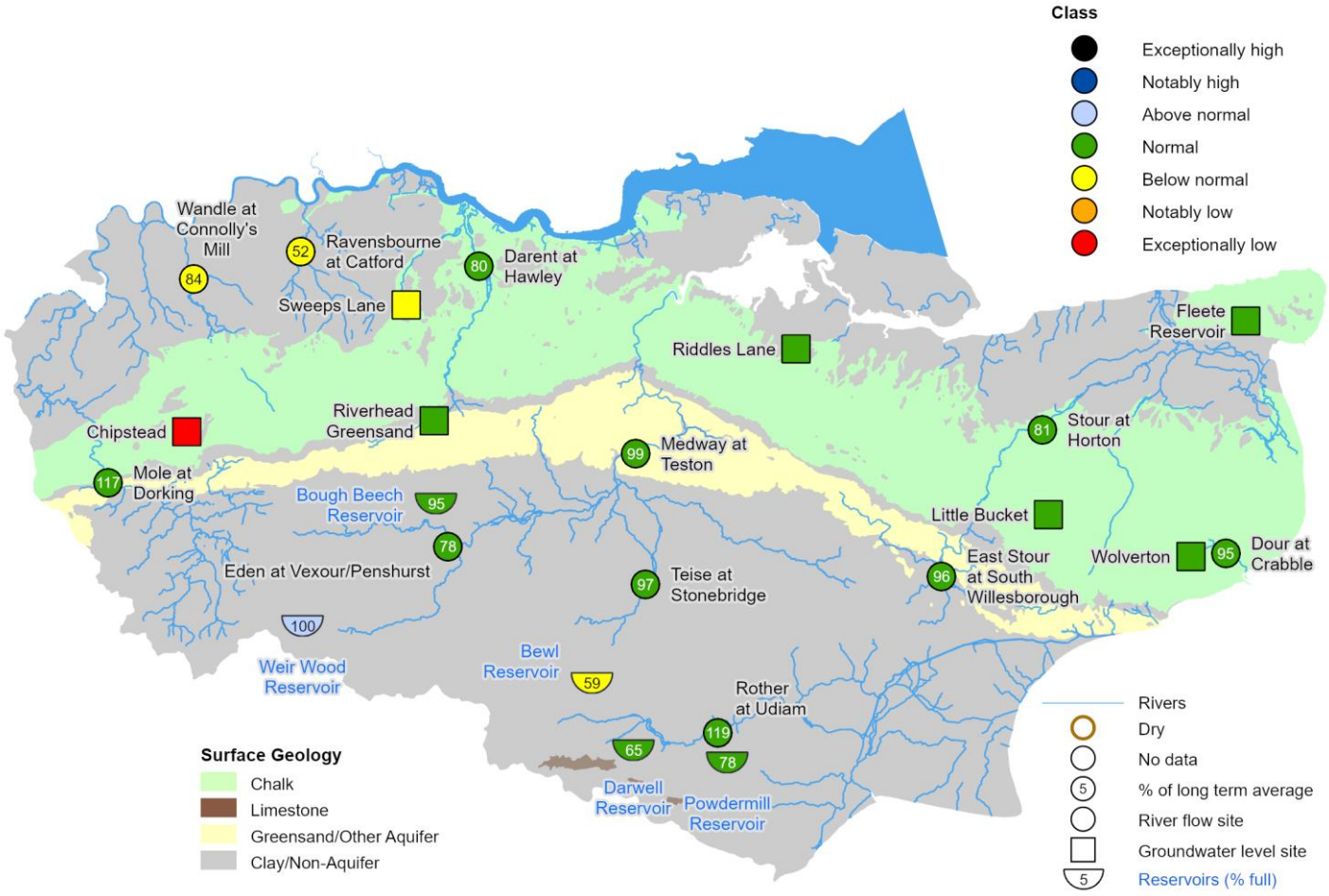
Figure 3.3: This is a second estimate of soil moisture deficit for the hydrological areas across the Kent and South London area. There may be significant variation within each area which must be considered when interpreting these data. EA soil moisture deficit data (Source EA Soil Moisture Model).

Number	Hydrological Area	SMD (mm) Day 31	End December LTA
6230TH	North Downs - South London (W)	4	8
6505TH	Upper Mole	4	3
6508TH	South London	51	25
6706So	Darent	42	22
6707So	North Kent Chalk	15	16
6708So	Stour	2	12
6709So	Dover Chalk	0	9
6710So	Thanet Chalk	135	132
6809So	Medway	4	5
6810So	Eastern Rother	4	4
6811So	Romney Marsh	3	9
6812So	North West Grain	92	57
6813So	Sheppey	78	42
	Kent & South London Average	33	26

4 River flows, groundwater levels and reservoir stocks

4.1 River flows, groundwater levels and reservoir stocks map

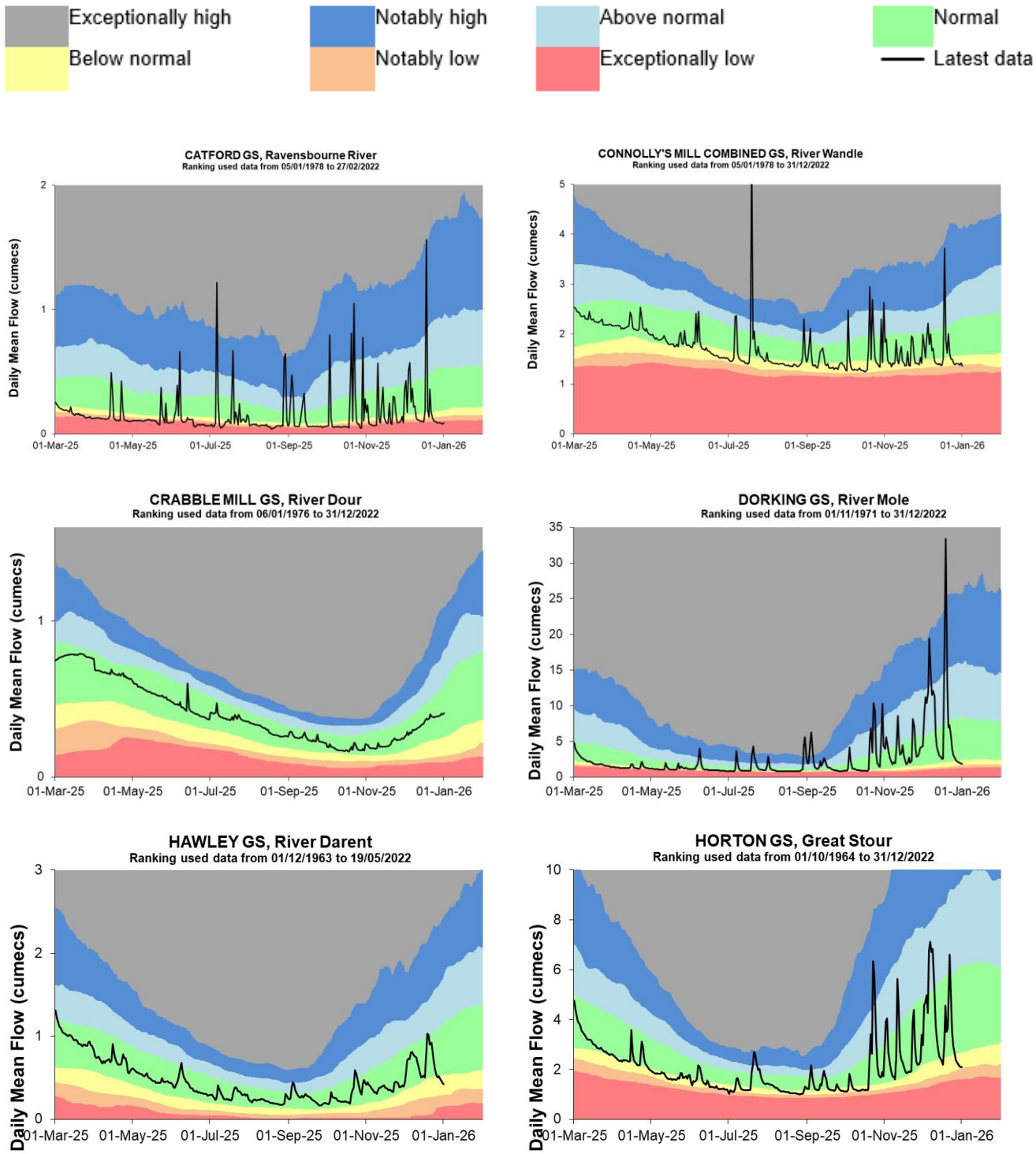
Figure 4.1: Monthly mean river flows* ** for indicator sites for December 2025, expressed as a percentage of the respective long term average (period 1992 – 2020) and classed relative to an analysis of historic December monthly means. End of month groundwater levels for indicator sites for December 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic December levels. Tables available in the appendices with detailed information. End of month levels for reservoirs for December 2025, expressed as percent full. (Source: Water Companies).

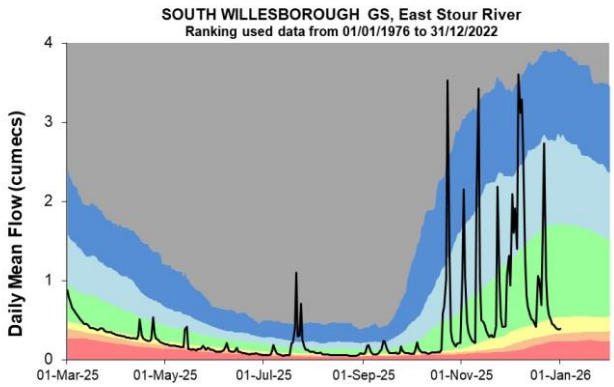


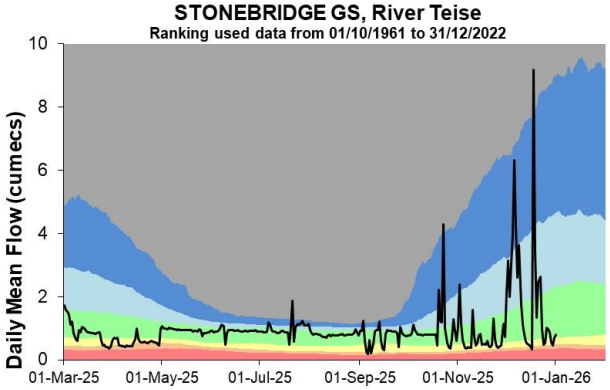
*Flows at gauging stations in the Medway catchment might be affected by upstream reservoir releases
**Weirwood Reservoir is currently offline

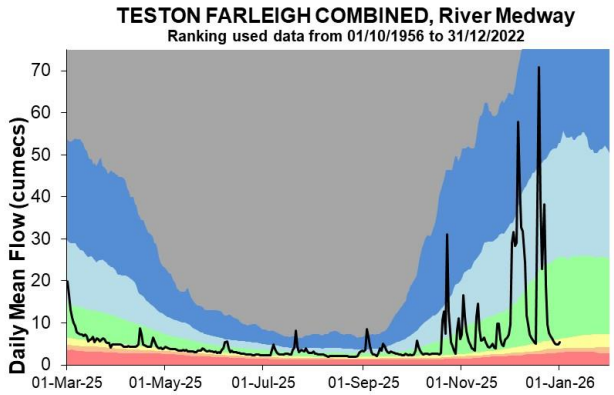
4.2 River flow charts

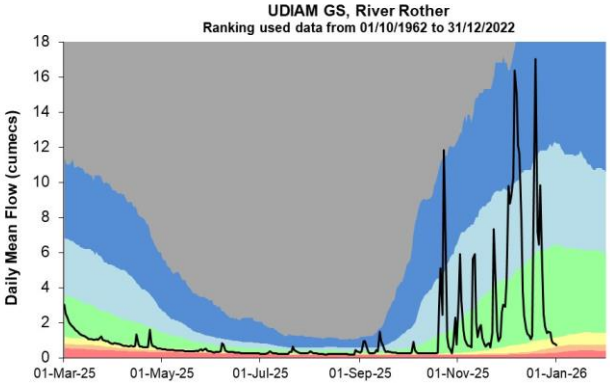
Figure 4.1: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

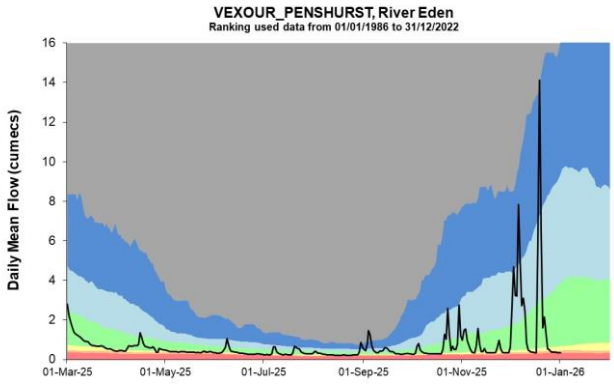










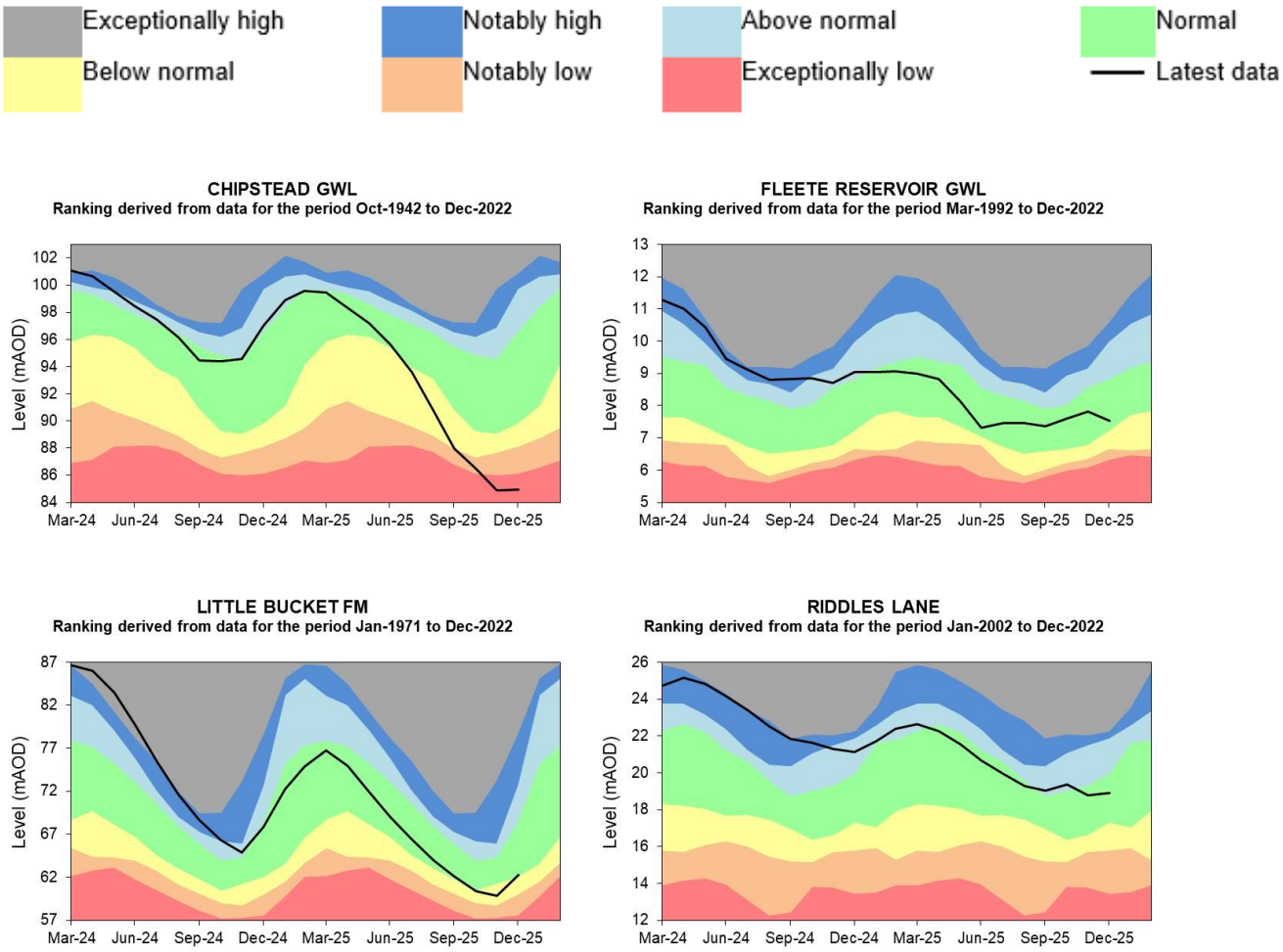


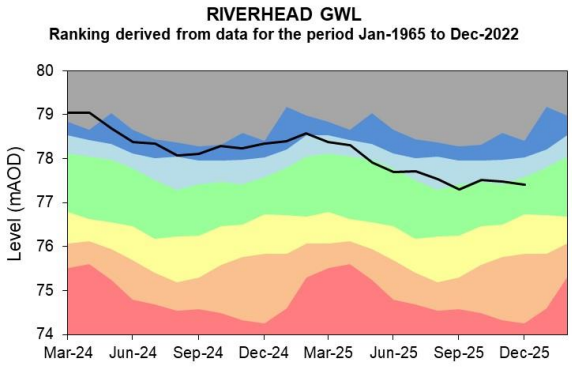
Source: Environment Agency.

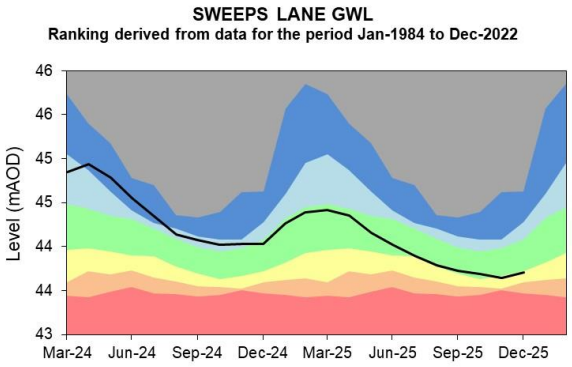
5 Groundwater levels

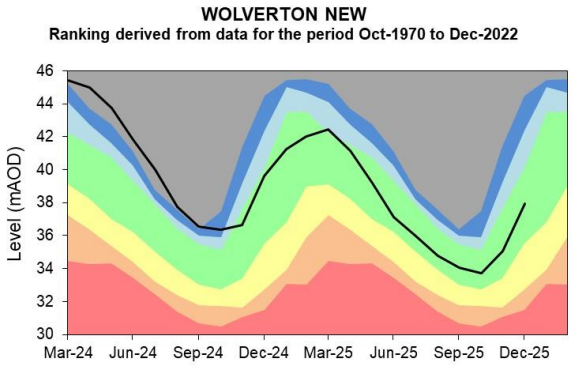
5.1 Groundwater level charts

Figure 5.1: 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.







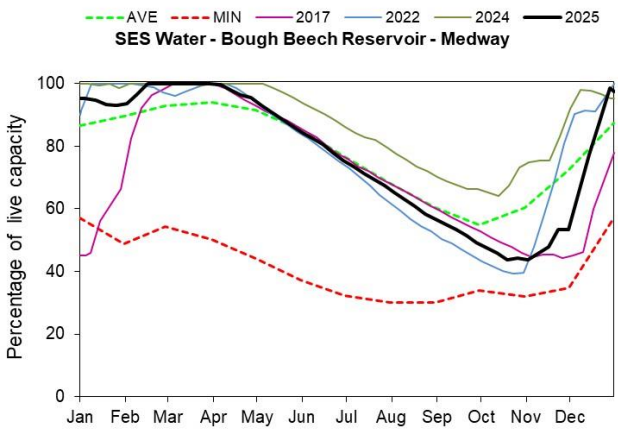


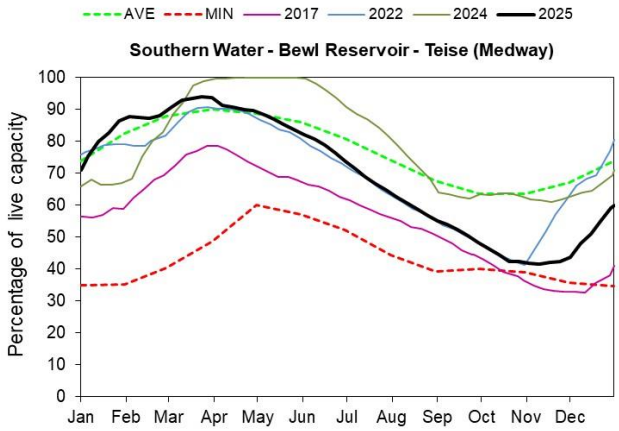
Source: Environment Agency, 2026.

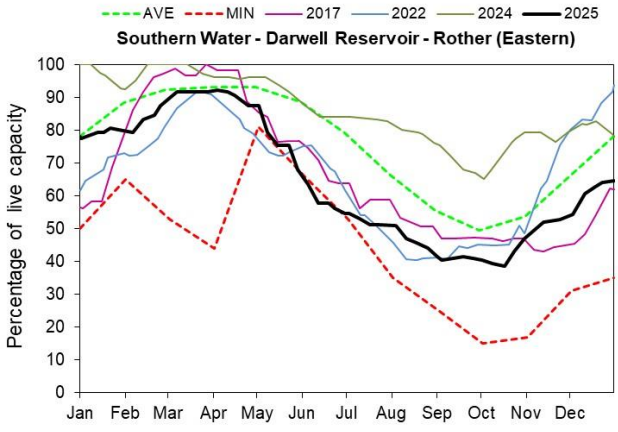
6 Reservoir stocks

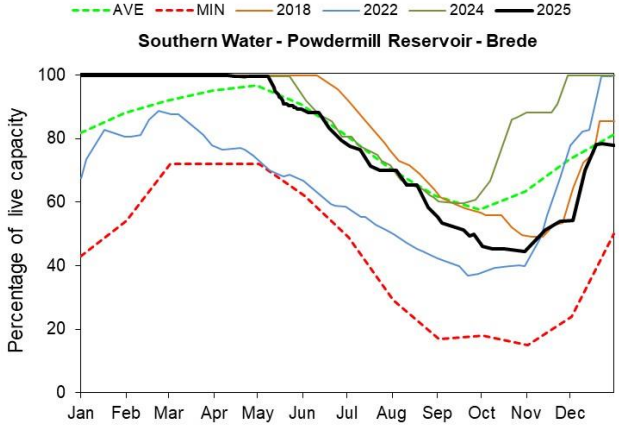
6.1 Reservoir stocks charts

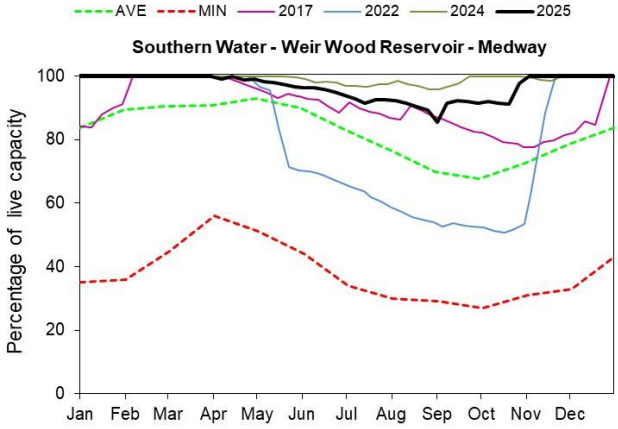
Figure 7.1: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. (Source: Water Companies). Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.











7 Glossary

7.1 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).

7.2 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.

8 Appendices

8.1 Rainfall table

Hydrological area	Dec 2025 rainfall % of long term average 1991 to 2020	Dec 2025 band	Oct 2025 to December cumulative band	Jul 2025 to December cumulative band	Jan 2025 to December cumulative band
North Downs - South London	91	Normal	Normal	Normal	Below normal
Upper Mole	103	Normal	Normal	Normal	Normal
South London	90	Normal	Normal	Normal	Notably low
River Darent	95	Normal	Normal	Normal	Below normal
North Kent Chalk	84	Normal	Normal	Normal	Below normal
Stour	75	Normal	Normal	Normal	Normal
Dover Chalk	80	Normal	Normal	Normal	Normal
Thanet Chalk	63	Below Normal	Normal	Normal	Below normal
River Medway	99	Normal	Normal	Normal	Normal
Eastern Rother	81	Normal	Normal	Normal	Normal

Romney Marsh	71	Normal	Normal	Normal	Normal
North West Grain	82	Normal	Normal	Below normal	Notably low
Sheppy	69	Normal	Normal	Normal	Notably low

8.2 River flows table

Site name	River	Catchment	Dec 2025 band	Nov 2025 band
Catford Gs	River Ravensbourne	Ravensbourne	Below normal	Exceptionally low
Connolly's Mill Combined Gs	River Wandle	Wandle	Below normal	Below normal
Crabble Mill Gs	River Dour	Dour	Normal	Normal
Dorking Gs	River Mole	Mole Surrey	Normal	Normal
Hawley Gs	River Darent and Cray	Darent and Cray	Normal	Normal
Horton Gs	Great Stour River	Great Stour	Normal	Normal
South Willesborough Gs	East Stour River	East Stour	Normal	Normal
Stonebridge Gs	River Teise	Teise	Normal	Below normal
Teston Farleigh Combined	River Medway	Medway (Middle)	Normal	Normal
Udiam Gs	River Rother	Rother (Kent)	Normal	Normal
Vexour_penshurst	River Eden	Eden (Kent)	Normal	Normal

8.3 Groundwater table

Site name	Aquifer	End of Dec 2025 band	End of Nov 2025 band
Fleete Reservoir Gwl	Isle Of Thanet Chalk	Normal	Normal
Chipstead Gwl	Epsom North Downs Chalk	Exceptionally low	Exceptionally low
Little Bucket Fm	East Kent Chalk - Stour	Normal	Below normal
Riddles Lane	North Kent Swale Chalk	Normal	Normal
Riverhead Gwl	Kent Greensand	Normal	Above normal
Sweeps Lane Gwl	West Kent Chalk	Below normal	Below normal
Wolverton New	East Kent Chalk - Stour	Normal	Normal