Monthly water situation report: Kent and South London Area

1 Summary - August 2025

The entire Kent and South London (KSL) area received 37% of the long-term average (LTA) rainfall during August. Rainfall received across individual catchments ranged from exceptionally low to normal. Soil moisture deficits (SMDs) throughout all catchments increased during August and ended the month notably above the LTA. Monthly mean river flows (MMFs) ranged from exceptionally low to normal in August in KSL, however most fell into the normal category. Groundwater levels in the Chalk remained mostly normal across the KSL area at the end of August. Groundwater levels in the Greensand aquifer at Riverhead decreased slightly but remained above normal levels. Levels at all the five water company reservoirs declined throughout August, ending the month in categories ranging from notably low to notably high.

1.1 Rainfall

The entire KSL area received 37% of the LTA rainfall during August. Rainfall received across individual catchments ranged from exceptionally low to normal. The percentage of LTA rainfall received ranged from 23% in the Thanet Chalk area to 72% in the Upper Mole rainfall area. In the previous three months, spanning from June to August, three catchments in the northwest recorded below normal rainfall. The remaining eleven catchments recorded normal rainfall. In the previous six months, from March to August, rainfall ranged from exceptionally low to notably low in KSL. Catchments in the west of the patch received rainfall furthest below their LTA for this time period. In the last twelve months, rainfall received was normal in most catchments across KSL area. Below normal rainfall was recorded in three catchments in the north and northeast. The highest daily rainfall total of 58.3mm for August was recorded at Pease Pottage Rain Gauge in the Upper Mole catchment on 28 August. The next highest daily rainfall totals were on 29, 30 31 and 27 July respectively and ranged from 10.1mm to 6.4mm. A total of 13 days recorded less than 1 mm of rain. The longest dry period occurred from August 15 to 23, when 7 out of 9 days were below 1 mm.

1.2 Soil moisture deficit and recharge

At the end of August, SMDs throughout the KSL Area were, on average, 35% higher than the LTA for this time of year. SMDs in all catchments increased during the month of August. Most catchments exhibited a notable increase in SMDs since the end of July, including the Stour;

however, a few showed only slight increases in comparison, including the Mole. This change has been influenced by the limited effective rainfall received across the area during August, which amounted to just 27% of the LTA. At the end of August, SMDs ranged from 136 to 201mm, whereas at the end of July, these ranged from 117 to 165mm.

1.3 River flows

MMFs ranged from exceptionally low to normal in August in KSL. Exceptionally low flows were only observed at the River Ravensbourne at Catford in the northwest of the patch, and notably low flows were only observed at South Willesborough in the east of the patch. Below normal flows were observed at the River Wandle at Connollys Mill in the northwest and the River Rother at Udiam in the far south of the area. All other key sites recorded normal MMFs.

1.4 Groundwater levels

Groundwater levels in the Chalk remained mostly normal across the KSL area at the end of August. Chipstead, located in the western part of the patch, was the only area that recorded below-normal levels. Within that area, levels below normal were first recorded by the end of July. Levels in the Isle of Thanet at Fleete Reservoir that rose in late July stabilised at the end of August. Groundwater levels in the Greensand aquifer at Riverhead decreased slightly but remain above normal levels.

In areas such as Chipstead, where groundwater levels started to fall steeply in July and continued to do so in August, the steep fall was due to the amount of effective rainfall recorded that during the month of August was particularly low.

1.5 Reservoir stocks

Levels at all five of the water company reservoirs declined throughout August. At the end of August, reservoir levels (as % of live capacity) were:

- Notably low at Darwell at 42%
- Below normal at Bough Beech at 57% and at Bewl at 55%
- Normal at Powdermill at 55%
- Notably high at Weir Wood at 90%

1.6 Environmental impact

Widespread hands-off flow restrictions were applied to abstractors in the Stour catchment during early and mid-August as flows dropped below licence thresholds. In the Medway, widespread restrictions remained in place throughout August, having first been imposed in early April. A few restrictions were also triggered in the Mole catchment due to low flows, and these persisted through to the end of the month. One fluvial flood alert was issued in August.

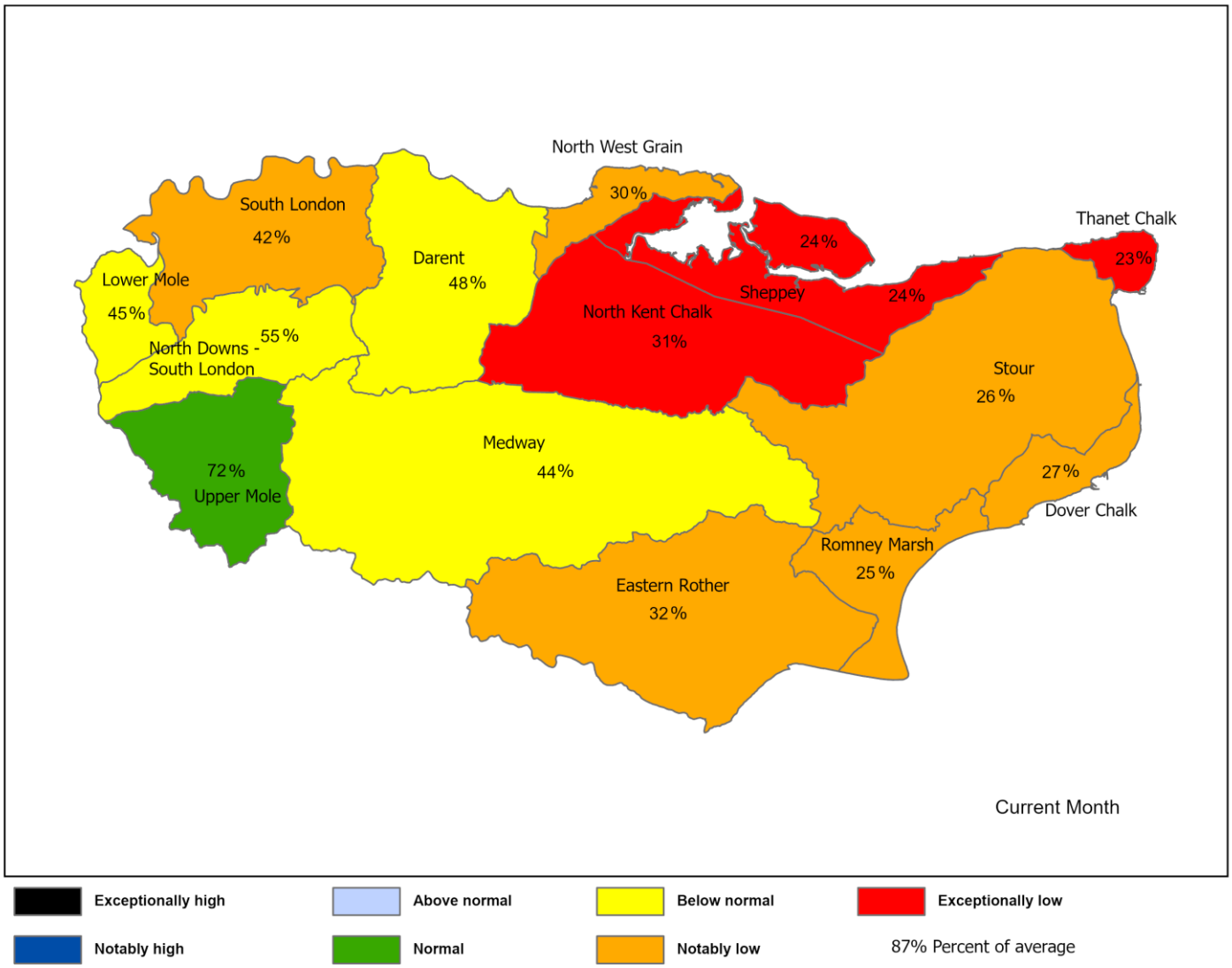
Author: Groundwater and Hydrology Team, ksl.gwh@environment-agency.gov.uk

Contact Details: 03708506506

2 Rainfall

2.1 Rainfall map one

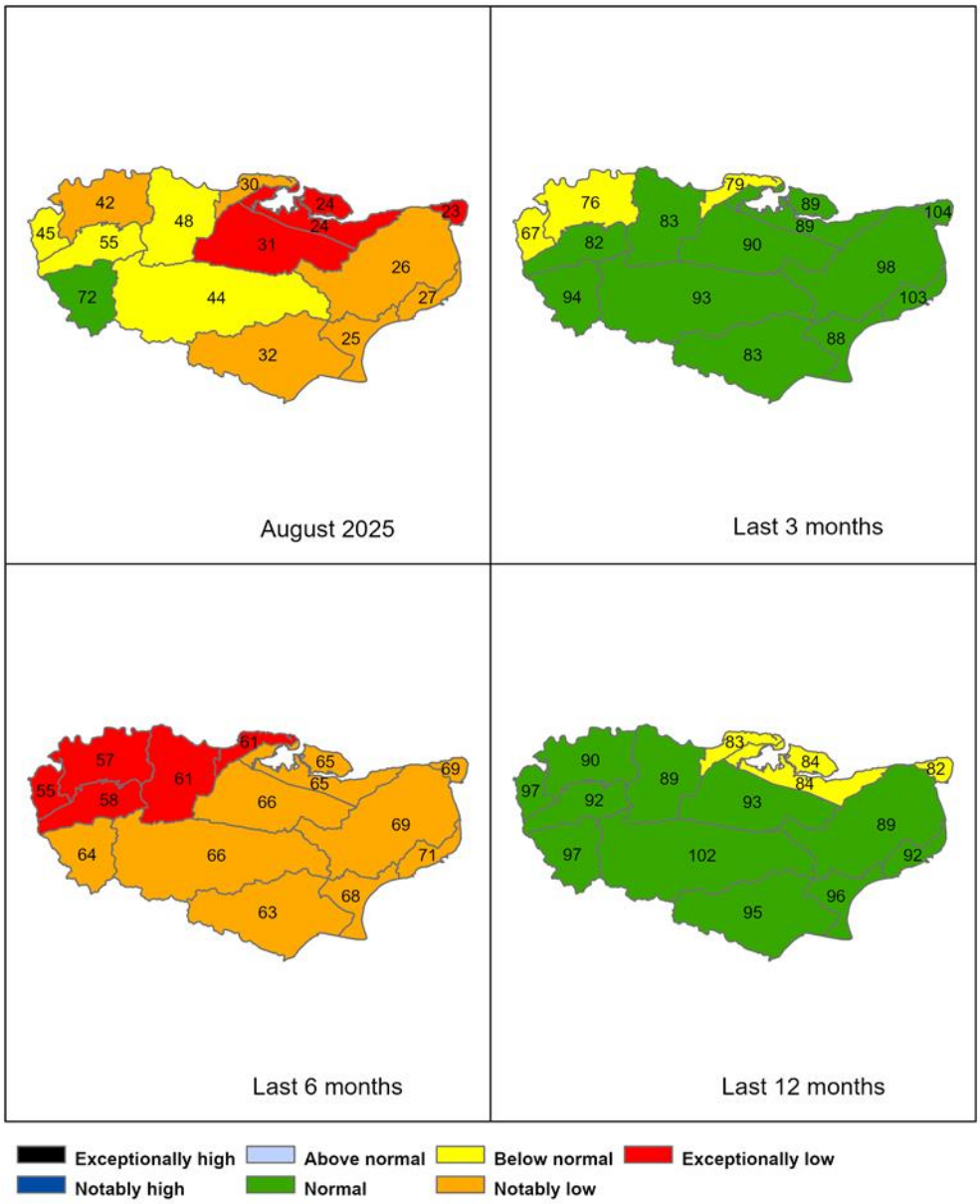
Figure 2.1: Total rainfall for hydrological areas across Kent and South London for the current month (up to 31 August 2025), classed relative of historic totals. The percentage of average uses the period of 1991 – 2020. Table available in the appendices with more detailed information.



HadUK data for October 2023 onwards, based on the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). 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, 2025.

2.2 Rainfall map two

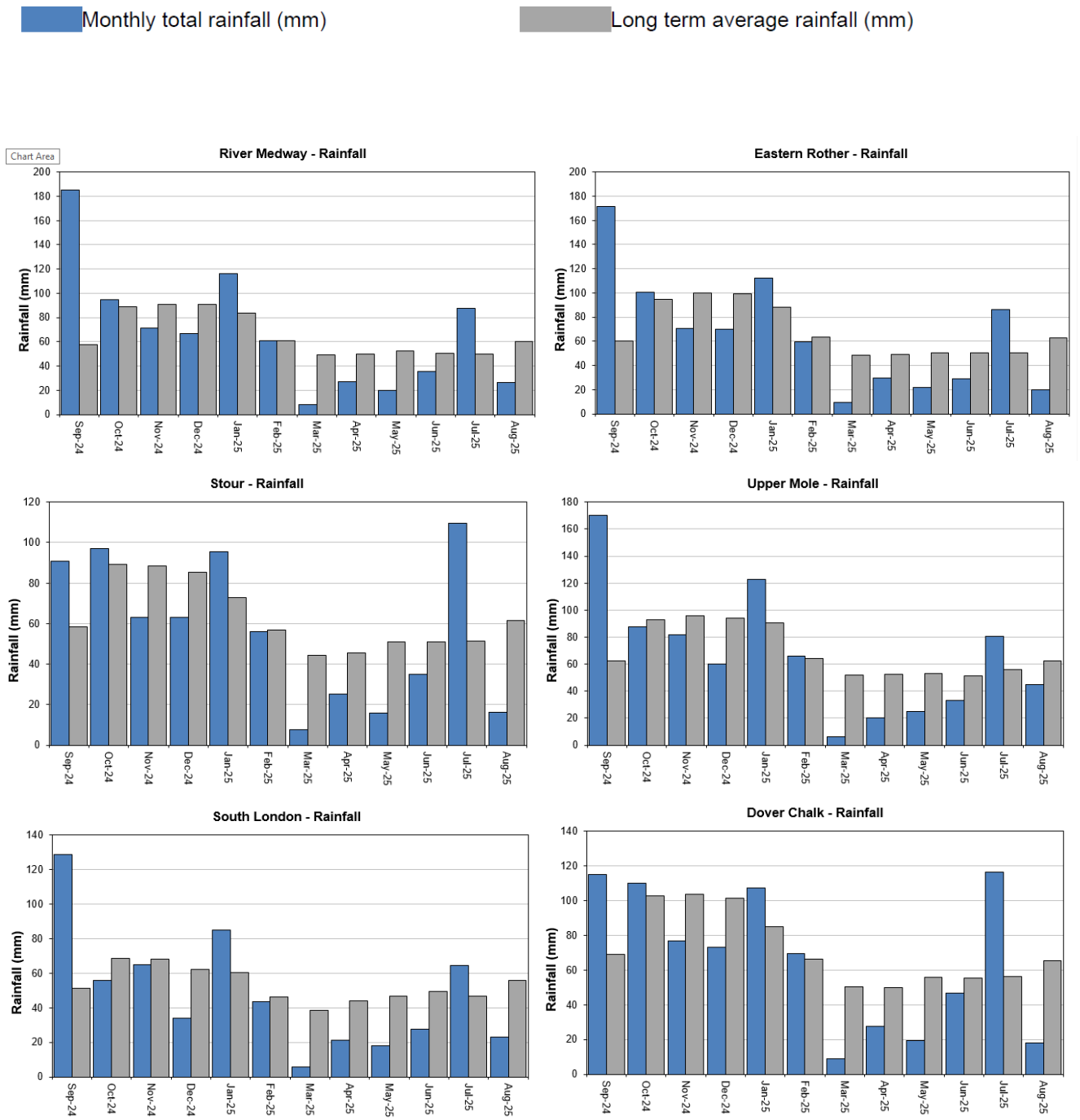
Figure 2.2: Total rainfall for hydrological areas for the current month (up to 31 August 2025), the last 3 months, the last 6 months, and the last 12 months,), classed relative of historic totals. The percentage of average uses the period of 1991 – 2020. Table available in the appendices with detailed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

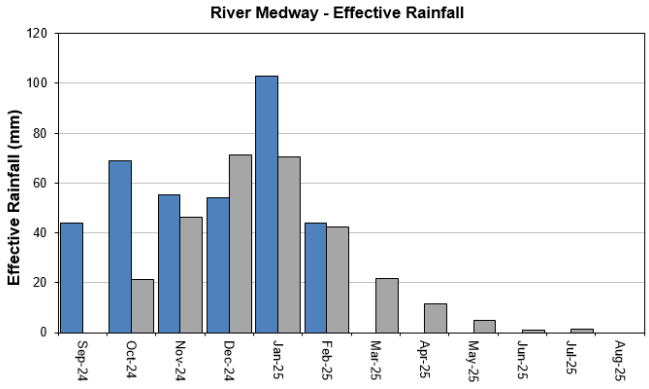


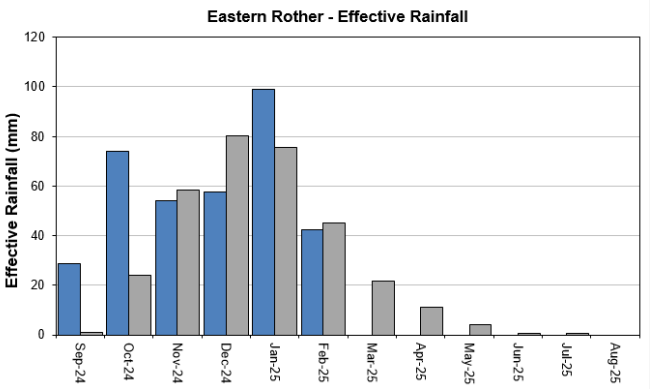
HadUK data for October 2023 onwards, based the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Includes material 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, 2025.

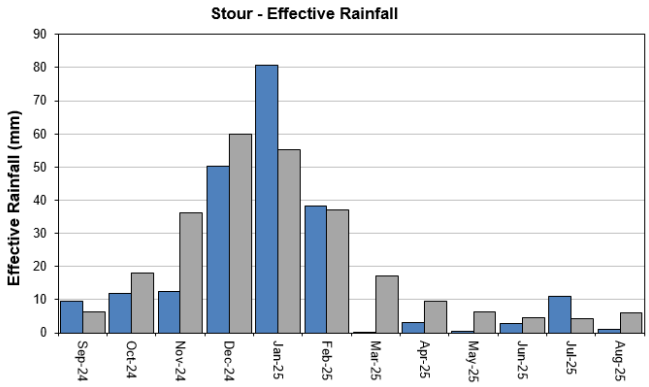
2.3 Rainfall and effective rainfall charts

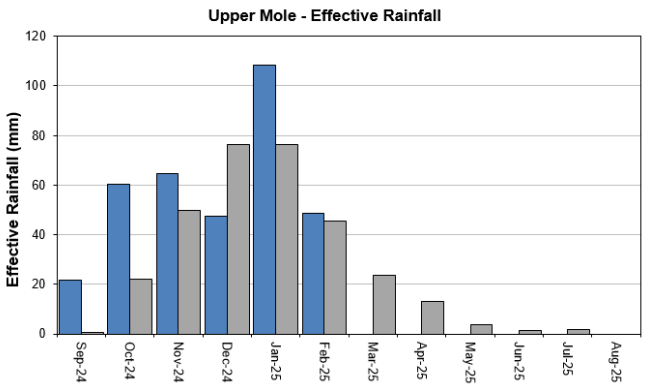
Figure 2.3: Monthly rainfall and effective rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average (LTA) for a selection of areal units. HadUK rainfall data. (Source: Met Office. Crown copyright, 2025). EA effective rainfall data (Source EA Soil Moisture Model).

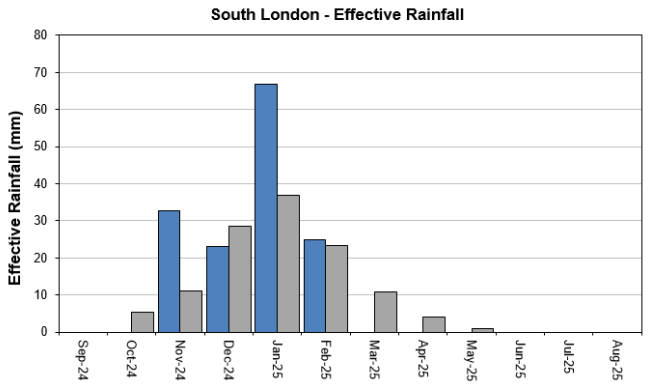


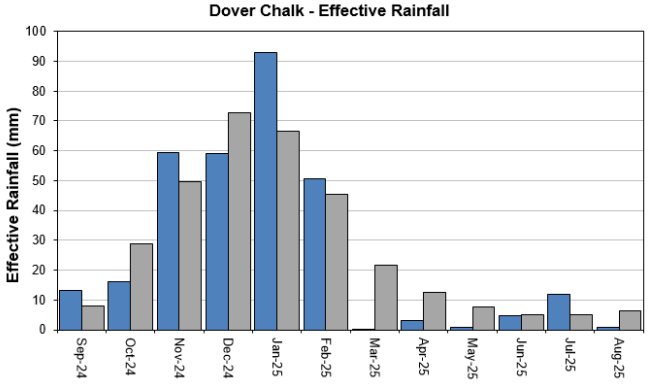

River Medway - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25


Eastern Rother - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25


Stour - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
90
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25


Upper Mole - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25


South London - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-25


Dover Chalk - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
90
100
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25
Aug-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	August % LTA	Effective Rainfall (mm) 31 day Total	August % LTA
6230TH	North Downs - South London (W)	35	54%	4	56%
6505TH	Upper Mole	45	72%	0	-
6508TH	South London	23	41%	0	-
6706So	Darent	28	48%	2	44%
6707So	North Kent Chalk	18	31%	1	23%
6708So	Stour	16	26%	1	15%
6709So	Dover Chalk	18	27%	1	15%
6710So	Thanet Chalk	12	23%	0	2%
6809So	Medway	27	44%	0	-
6810So	Eastern Rother	20	32%	0	-
6811So	Romney Marsh	15	25%	0	-

6812So	North West Grain	14	30%	0	-
6813So	Sheppey	12	24%	0	-
	Kent & South London Average	22	37%	1	27%

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

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 01/04/2025 to 31/08/2025

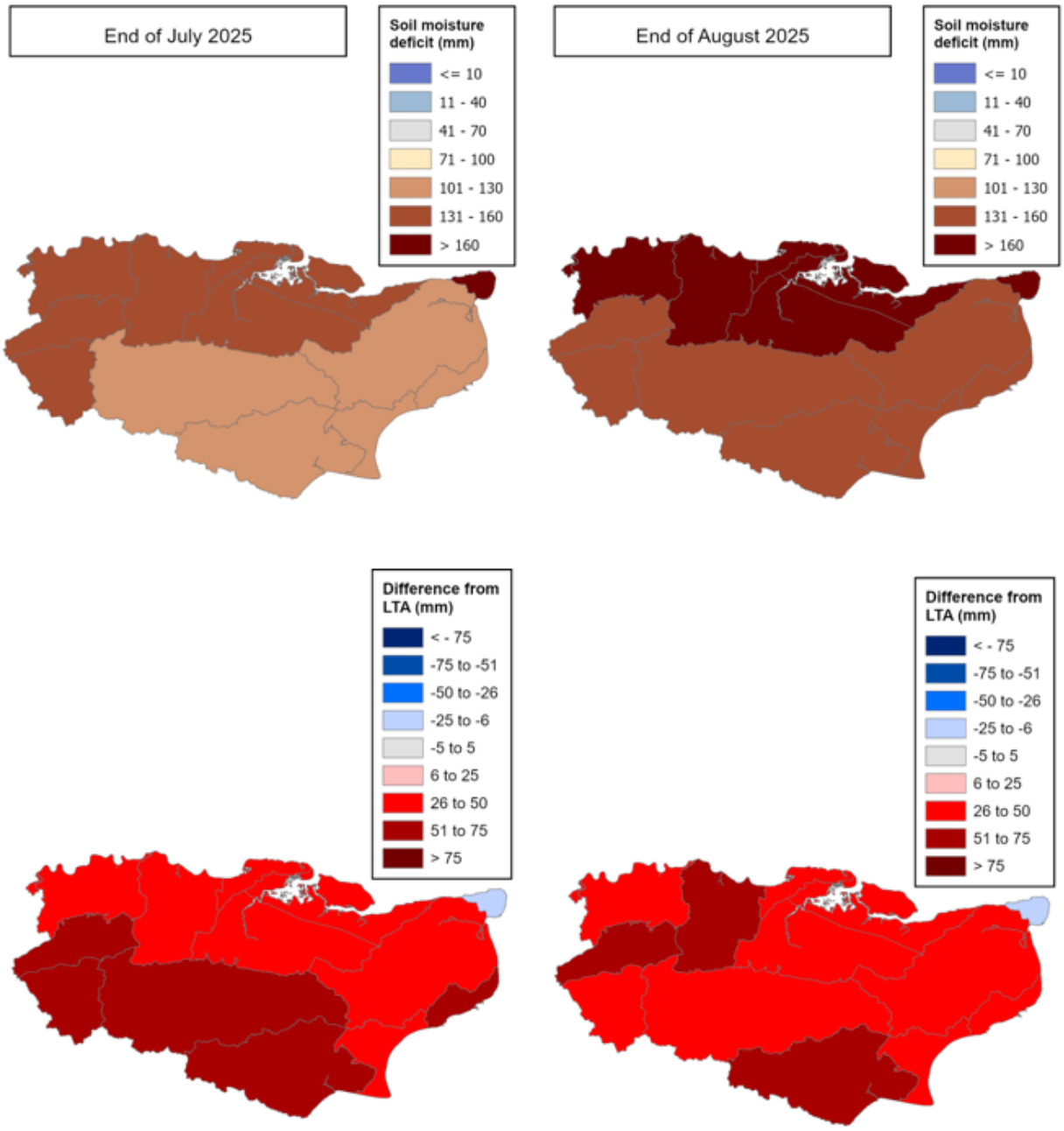
Number	Hydrological Area	Seasonal Rainfall (mm) Total	% LTA	Seasonal Effective Rainfall (mm) Total	% LTA
6230TH	North Downs - South London (W)	186	66%	16	39%
6505TH	Upper Mole	203	74%	0	0%
6508TH	South London	155	64%	0	0%
6706So	Darent	174	69%	14	46%
6707So	North Kent Chalk	189	74%	16	53%
6708So	Stour	202	77%	19	62%
6709So	Dover Chalk	228	80%	23	62%
6710So	Thanet Chalk	181	77%	16	79%
6809So	Medway	196	74%	0	0%
6810So	Eastern Rother	186	71%	0	0%

6811So	Romney Marsh	183	76%	0	0%
6812So	North West Grain	147	68%	0	0%
6813So	Sheppey	161	72%	0	0%
	Kent & South London Average	184	73%	8	39%

3 Soil moisture deficit

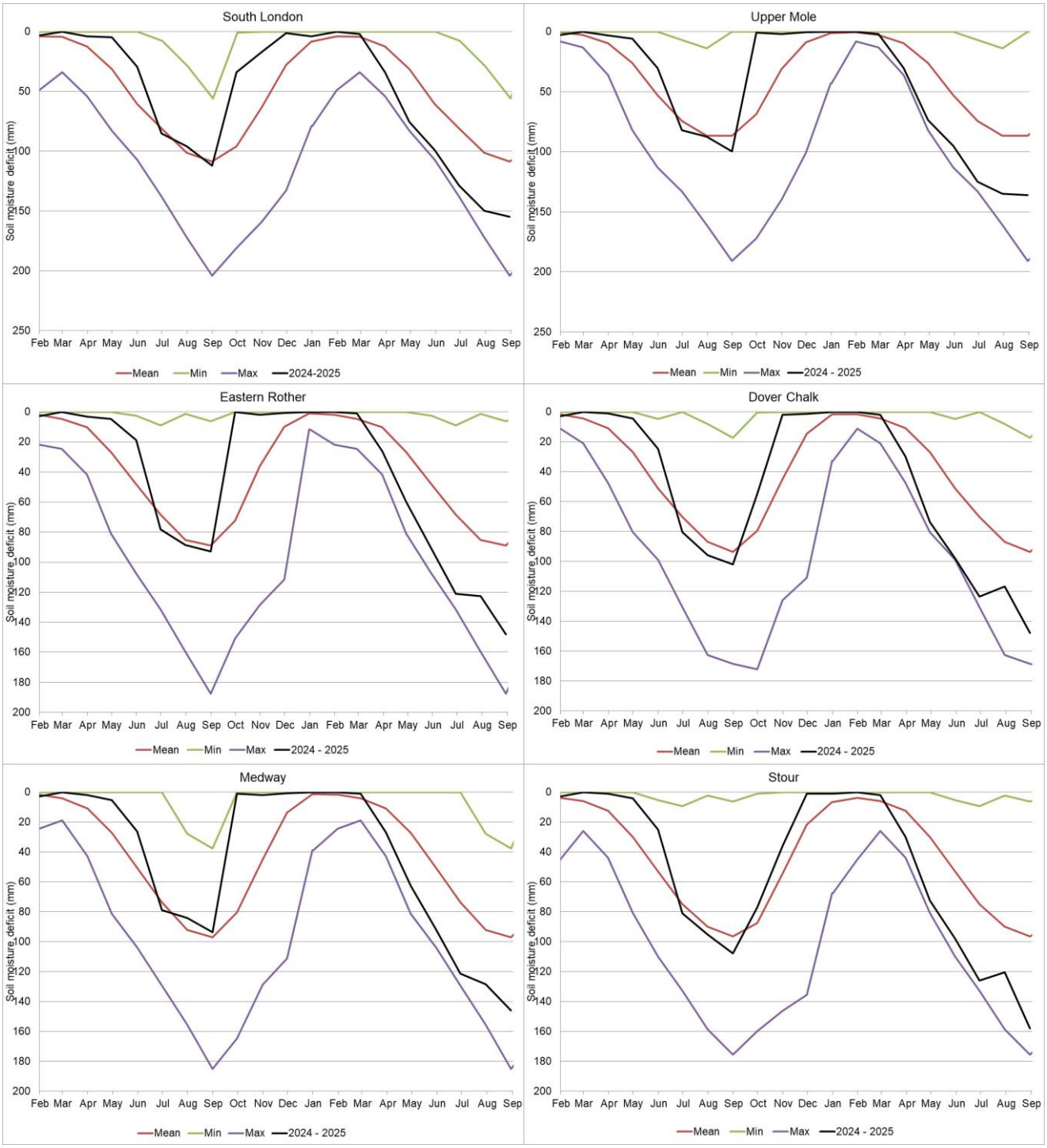
3.1 Soil moisture deficit map

Figure 3.1: Soil moisture deficits for weeks ending 31 July (left panel) and 31 August 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

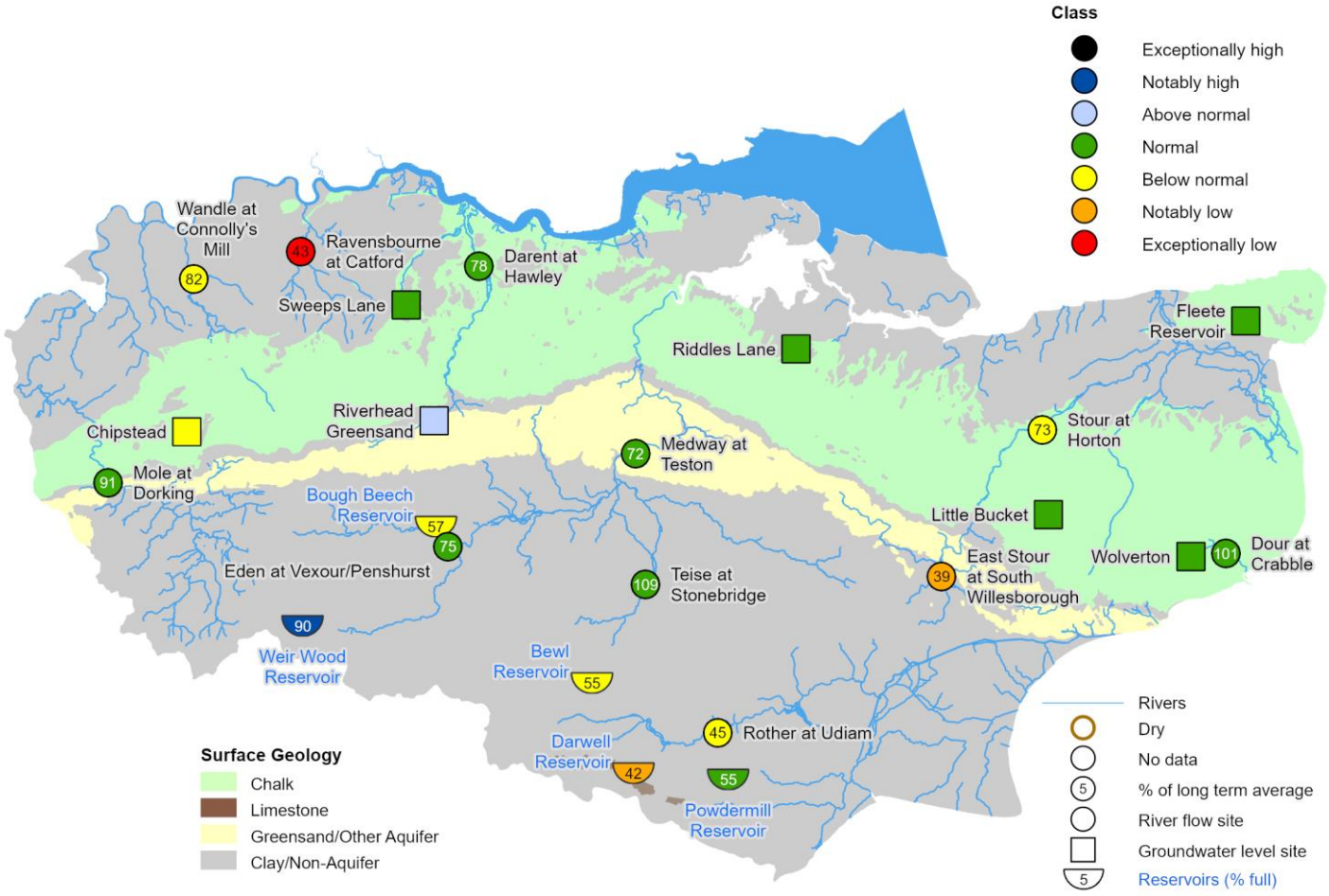
Figure 3.3: This is a second estimate of soil moisture deficit for the hydrological areas across the Kent and South London area. There may be significant variation within each area which must be considered when interpreting these data. EA soil moisture deficit data (Source EA Soil Moisture Model).

Number	Hydrological Area	SMD (mm) Day 31	End August LTA
6230TH	North Downs - South London (W)	155	102
6505TH	Upper Mole	136	96
6508TH	South London	166	117
6706So	Darent	164	113
6707So	North Kent Chalk	161	111
6708So	Stour	158	109
6709So	Dover Chalk	148	106
6710So	Thanet Chalk	201	210
6809So	Medway	146	99
6810So	Eastern Rother	148	98
6811So	Romney Marsh	156	106
6812So	North West Grain	179	143
6813So	Sheppey	175	132
	Kent & South London Average	161	119

4 River flows, groundwater levels and reservoir stocks

4.1 River flows, groundwater levels and reservoir stocks map

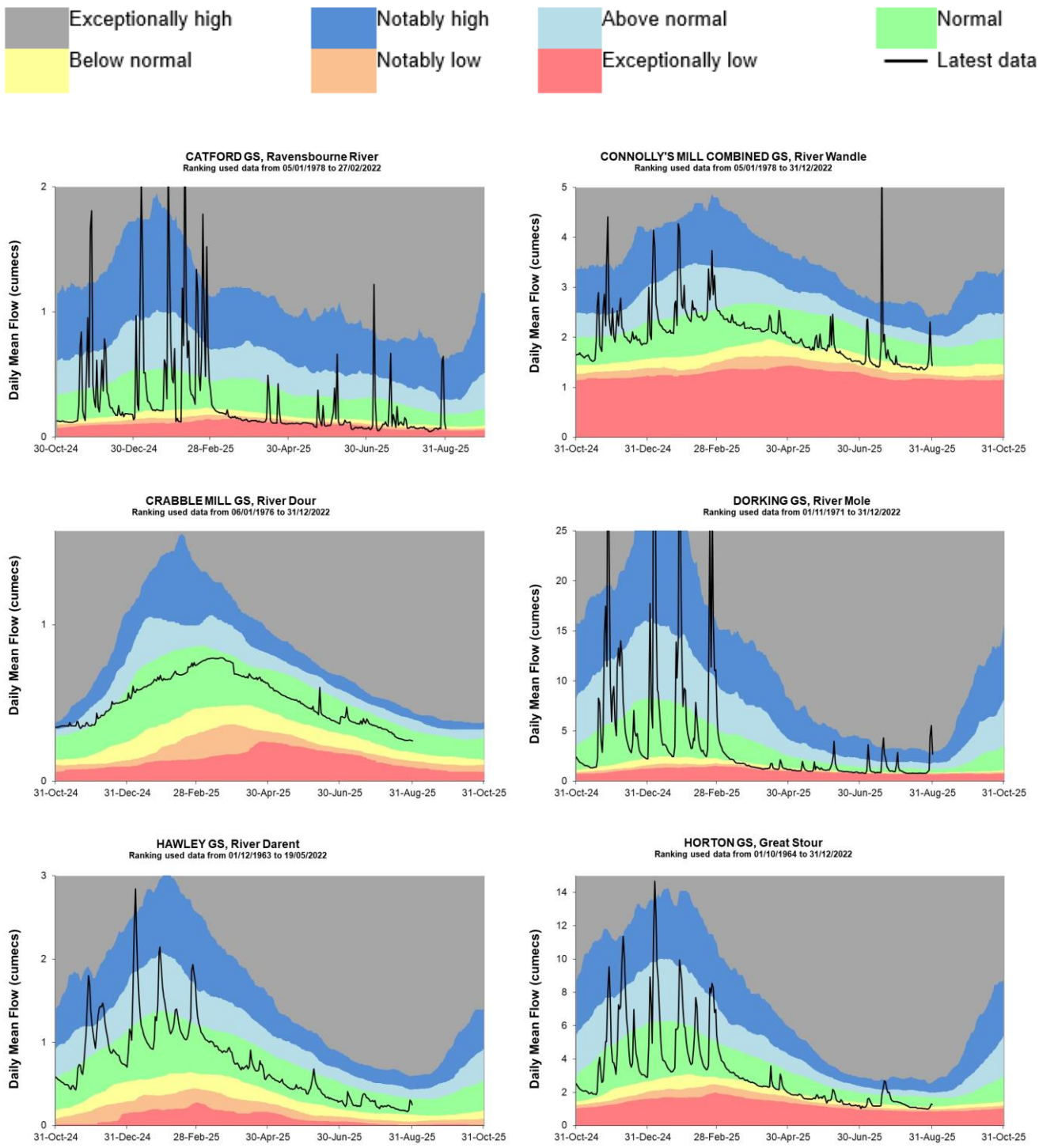
Figure 4.1: Monthly mean river flows* for indicator sites for August 2025, expressed as a percentage of the respective long term average (period 1992 – 2020) and classed relative to an analysis of historic August monthly means. End of month groundwater levels for indicator sites for August 2025, expressed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

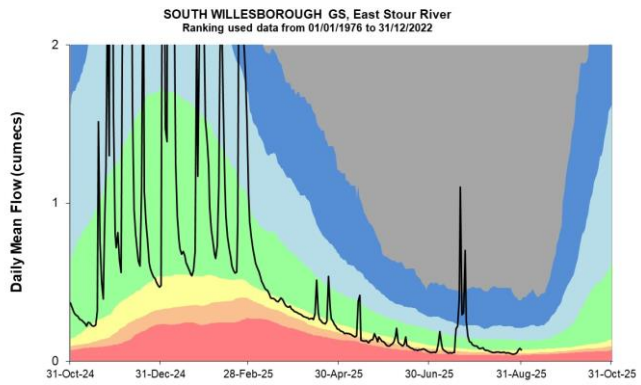


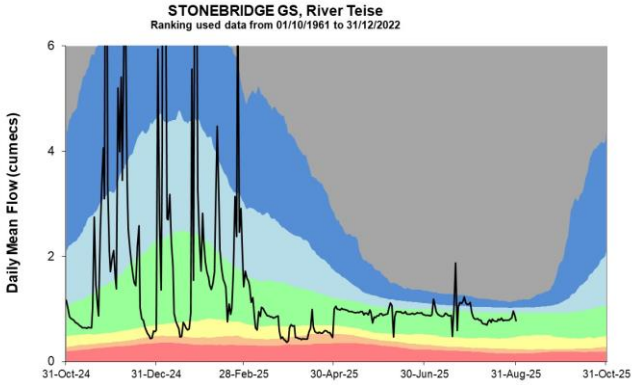
*Flows at gauging stations in the Medway catchment might be affected by upstream reservoir releases

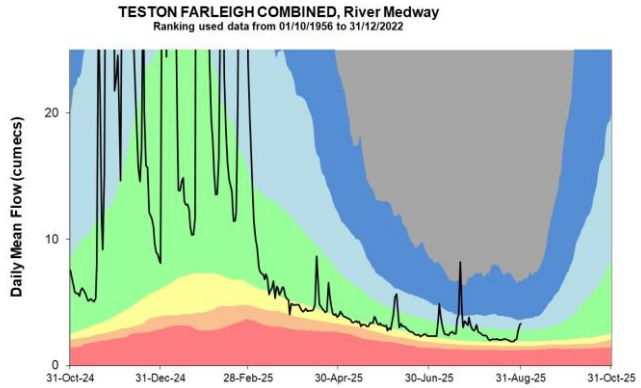
4.2 River flow charts

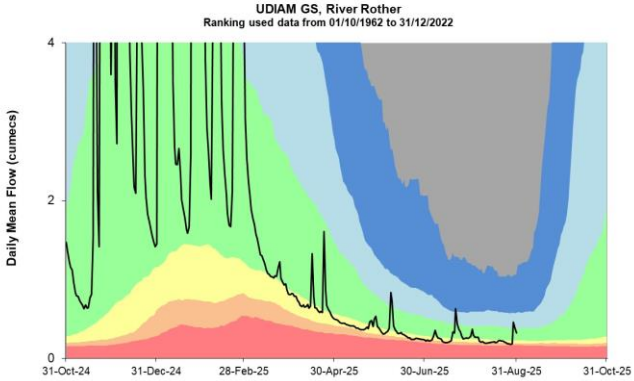
Figure 4.1: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

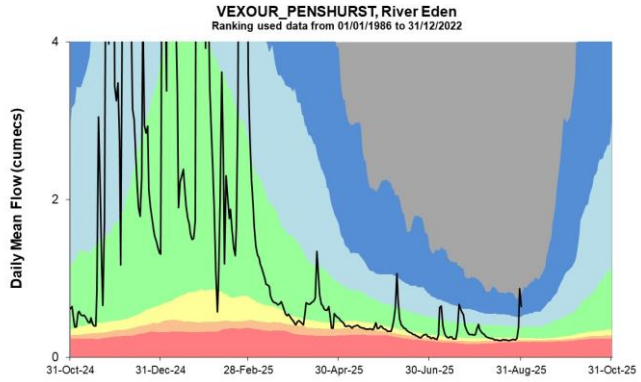










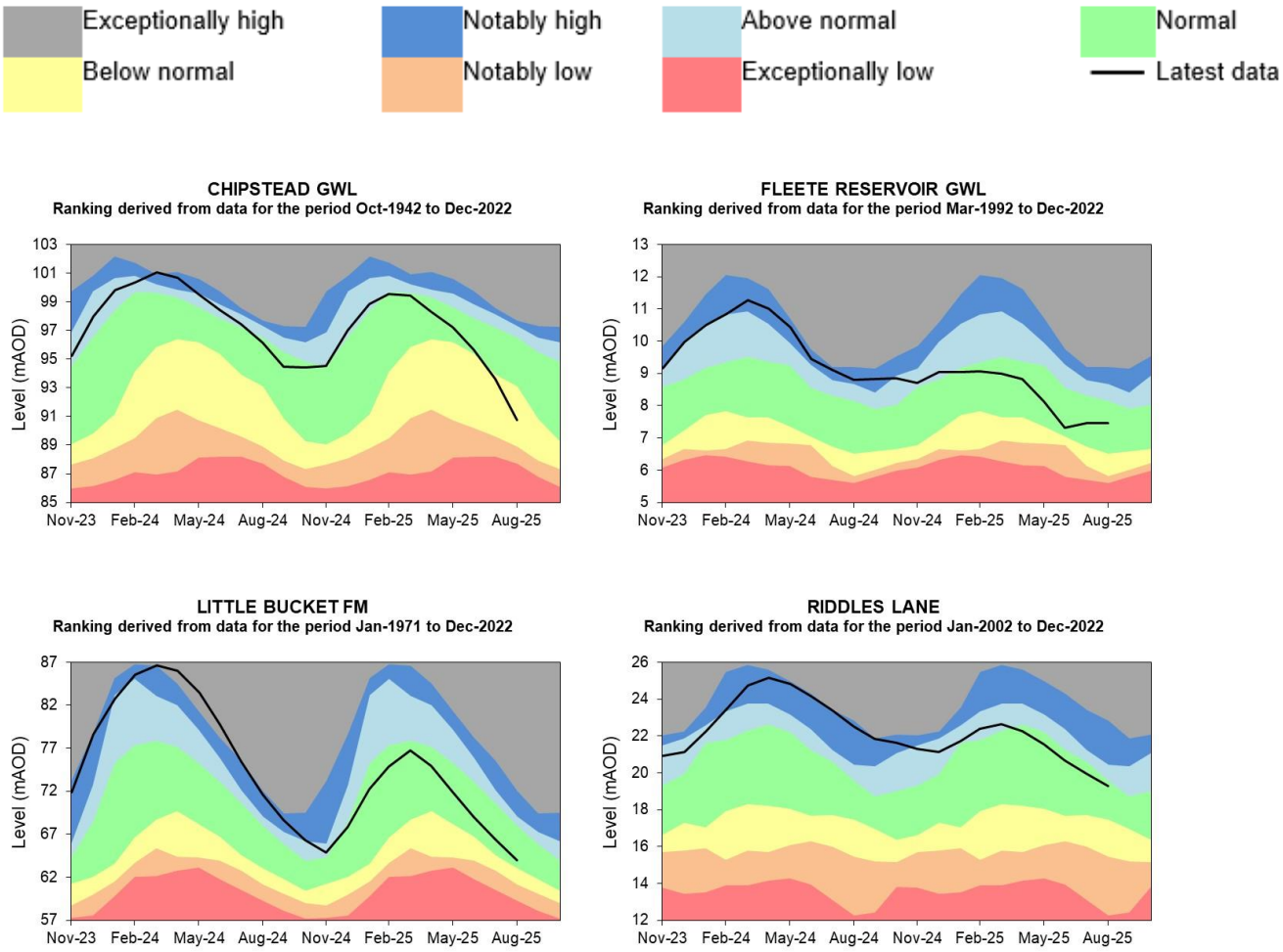


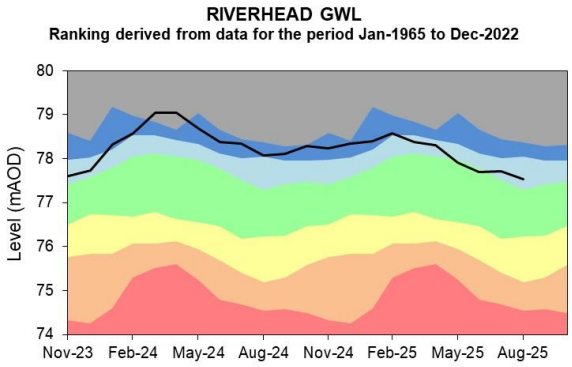
Source: Environment Agency.

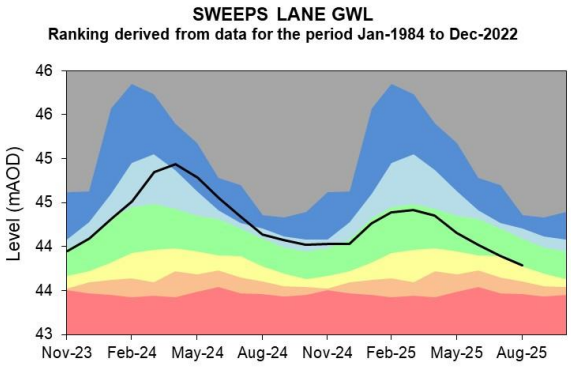
5 Groundwater levels

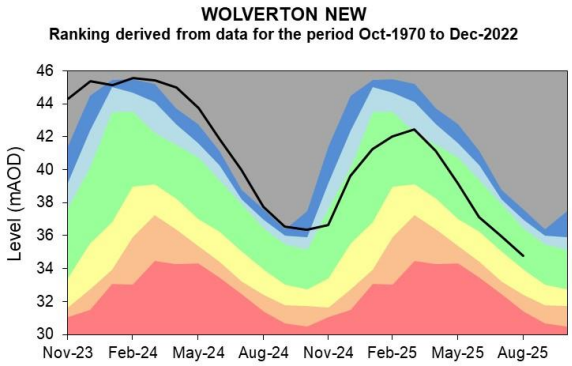
5.1 Groundwater level charts

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.







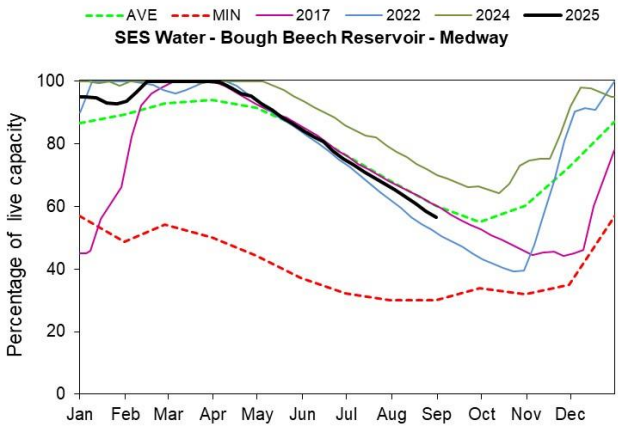


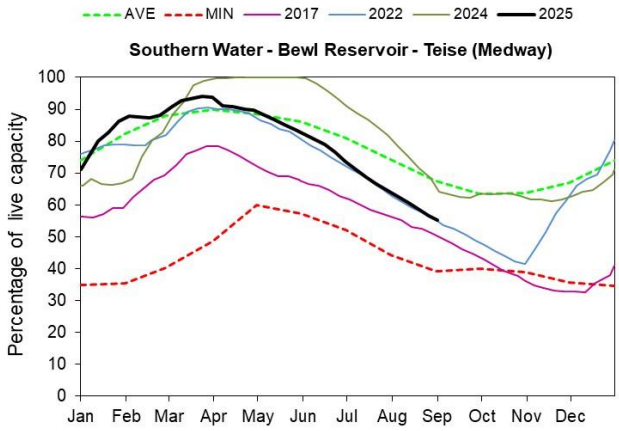
Source: Environment Agency, 2025.

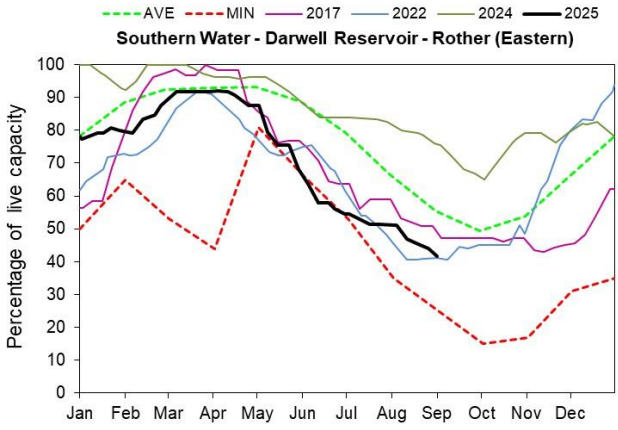
6 Reservoir stocks

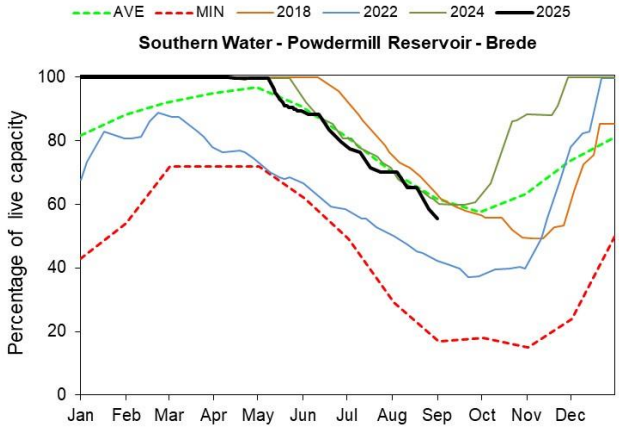
6.1 Reservoir stocks charts

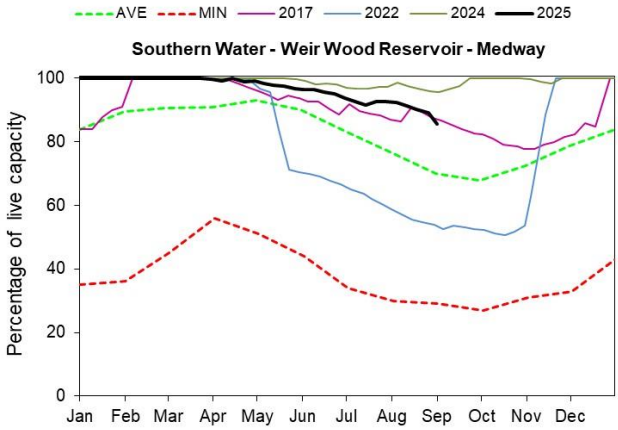
Figure 7.1: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. (Source: Water Companies). Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.











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	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
North Downs - South London	55	Below Normal	Normal	Exceptionally low	Normal
Upper Mole	72	Normal	Normal	Notably low	Normal
South London	42	Notably Low	Below normal	Exceptionally 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
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

8.2 River flows table

Site name	River	Catchment	Aug 2025 band	Jul 2025 band
Catford Gs	River Ravensbourne	Ravensbourne	Exceptionally low	Below normal
Connolly's Mill Combined Gs	River Wandle	Wandle	Below normal	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	Below normal	Normal
South Willesborough Gs	East Stour River	East Stour	Notably low	Normal
Stonebridge Gs	River Teise	Teise	Normal	Above normal
Teston Farleigh Combined	River Medway	Medway (Middle)	Normal	Normal
Udiam Gs	River Rother	Rother (Kent)	Below normal	Below normal
Vexour_penshurst	River Eden	Eden (Kent)	Normal	Normal

8.3 Groundwater table

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