Monthly water situation report: Kent and South London Area

1 Summary - July 2025

The entire Kent and South London (KSL) area received 174% of the long-term average (LTA) rainfall during July. Rainfall received across individual catchments ranged from normal to notably high. Soil moisture deficits (SMDs) throughout most catchments continued to increase during July and ended the month above the LTA. Monthly mean river flows (MMFs) ranged from below normal to above normal in July in KSL. Groundwater levels in the Chalk remained mostly normal across KSL area at the end of July. Groundwater levels in the Greensand aquifer at Riverhead increased slightly and are now above normal levels. Levels at all the five water company reservoirs declined throughout July, ending the month in categories ranging from notably low to above normal.

1.1 Rainfall

The entire KSL area received 174% of the LTA rainfall during July. Rainfall received across individual catchments ranged from normal to notably high. The percentage of LTA rainfall received ranged from 106% in the Lower Mole rainfall area to 213% in the Stour rainfall area. In the previous three months, spanning from May to July, five catchments in the northwest recorded below normal rainfall. The remaining nine catchments recorded normal rainfall. In the previous six months, from February to July, rainfall ranged from exceptionally low to normal 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 56.3mm for July was recorded at Eastry STW RG in the Stour catchment on 6 July. The next highest daily rainfall totals were on 20, 23 18 and 21 July respectively and ranged from 42.8mm to 30.3mm. No dry days with less than 0.2mm of rainfall were recorded this month.

1.2 Soil moisture deficit and recharge

SMDs increased across most catchments from the end of June to the end of July, despite above average effective rainfall. At the end of July, SMDs across catchments ranged from 117mm to 165mm. On the last day of July, SMDs throughout all catchments in the west and north of the patch sat within the 131-160mm range. Although the KSL area averaged 159% of its LTA effective rainfall in July, SMDs still increased in most catchments due to uneven rainfall

distribution. Compared to the end of June, most catchments saw SMDs move closer to their LTAs by the end of July, despite overall increases in deficit values.

1.3 River flows

MMFs ranged from normal to above normal in July in KSL. Above normal flows were observed at the River Teise at Stonebridge – the only key site with MMFs in this category. Below normal flows were registered at the River Ravensbourne at Catford in the northwest, and at the River Rother at Udiam in the south of the patch. All other keys sites recorded normal MMFs.

1.4 Groundwater levels

Groundwater levels in the Chalk remained mostly normal across KSL area at the end of July. Only Chipstead in the west of the patch recorded below normal levels for this time of year on the last day of the month. Levels in the Isle of Thanet at Fleete Reservoir overcame the seasonal trend and started rising in late July. Groundwater levels in the Greensand aquifer at Riverhead increased slightly and are now above normal levels. This is due to the amount of effective rainfall recorded during the month of July.

1.5 Reservoir stocks

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

- Notably low at Darwell at 51%
- Below normal at Bough Beech at 67% and at Bewl at 65%
- Normal at Powdermill at 67%
- Above normal at Weir Wood at 93%

1.6 Environmental impact

Widespread licence hands-off flow restrictions persisted through July in the Medway and Stour catchments. Stour catchment restrictions were lifted during the second half of the month following rainfall. Rother restrictions, imposed throughout June, were also lifted towards the end of July due to improved flows supported by rainfall and groundwater.

Seven fluvial flood alerts were issued in July, one on the 6 July and six on the 18 July.

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

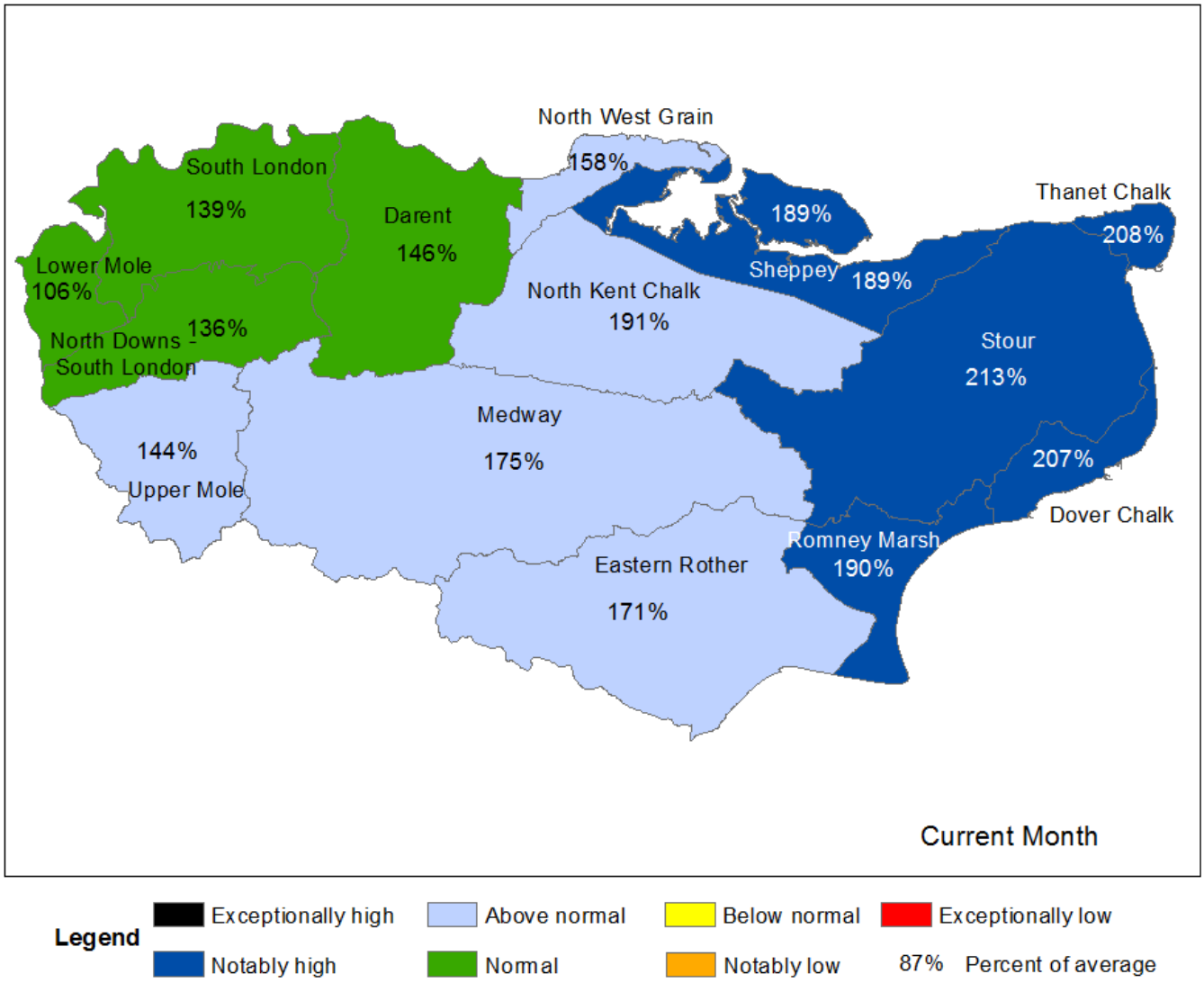
Contact Details: 03708 506 506

no liability for any loss or damage arising from the interpretation or use of the information, or reliance upon views contained in this report.

2 Rainfall

2.1 Rainfall map one

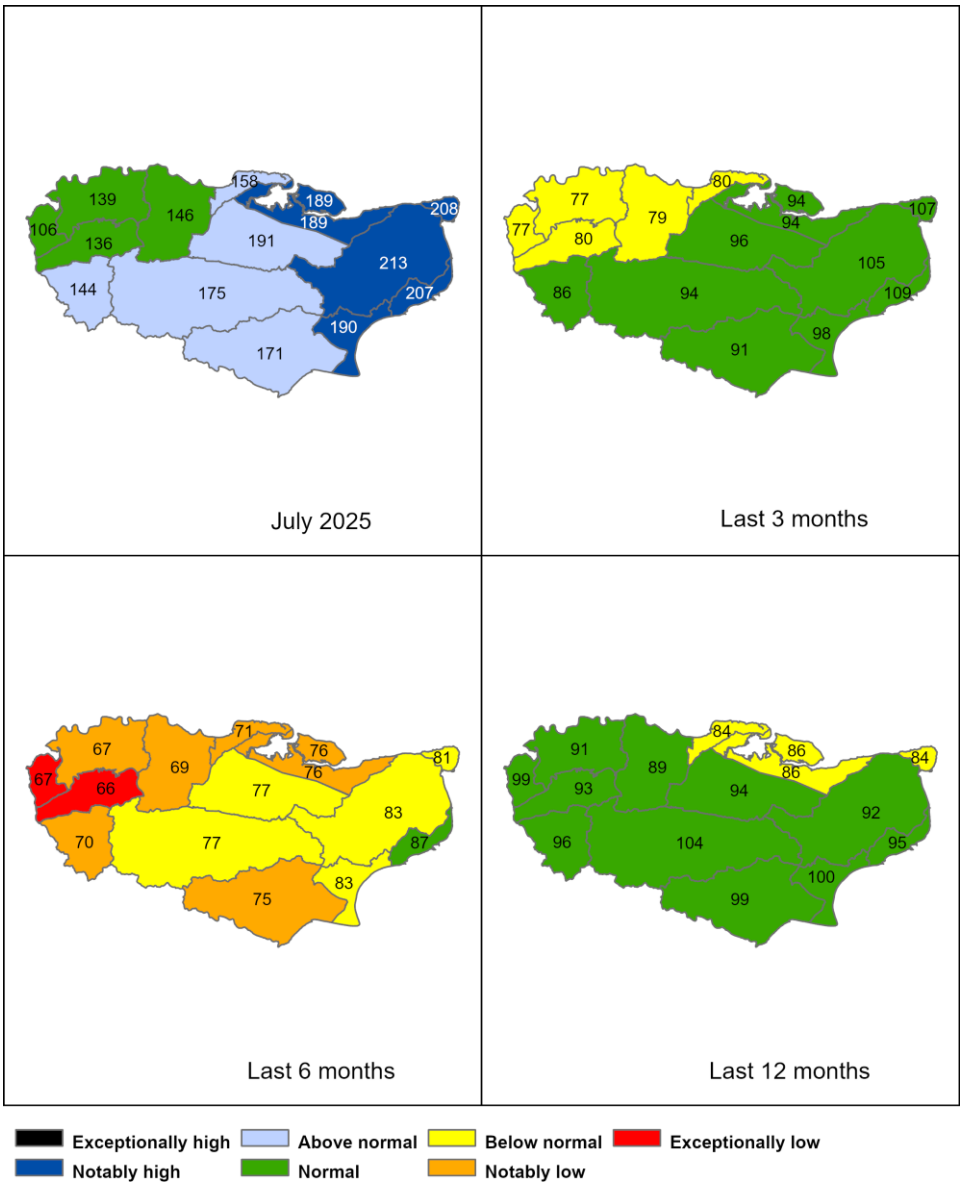
Figure 2.1: Total rainfall for hydrological areas across Kent and South London for the current month (up to 31 July 2025), classed relative of historic totals. The percentage of average uses the period of 1991 – 2020. Table available in the appendices with more detailed information.



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

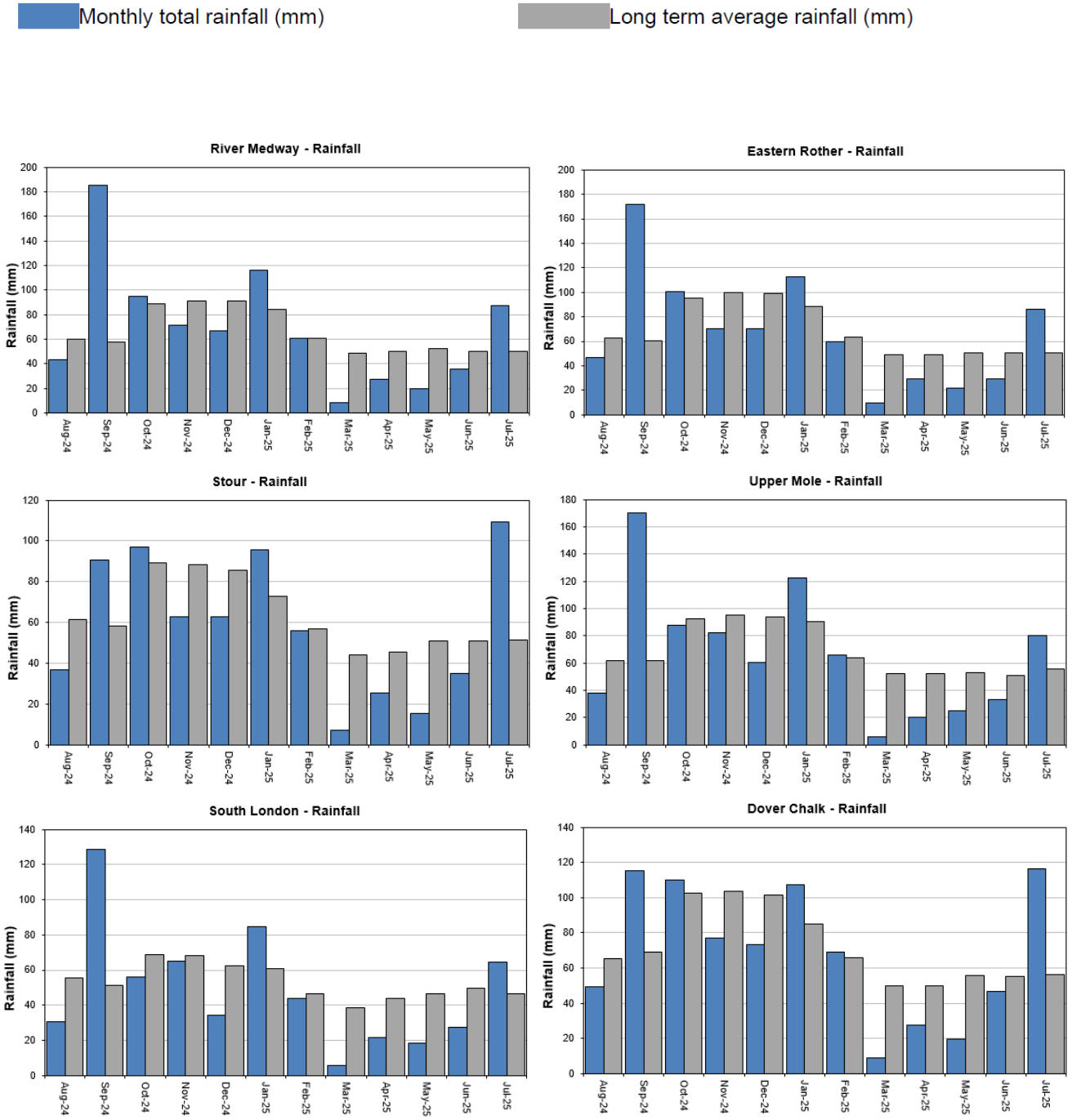
Figure 2.2: Total rainfall for hydrological areas for the current month (up to 31 July 2025), the last 3 months, the last 6 months, and the last 12 months), classed relative of historic totals. The percentage of average uses the period of 1991 – 2020. Table available in the appendices with detailed information.

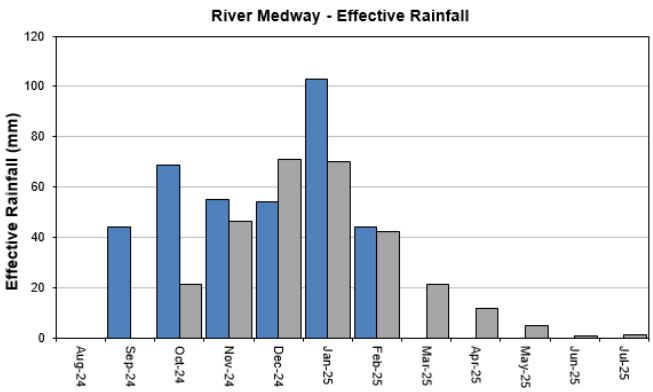


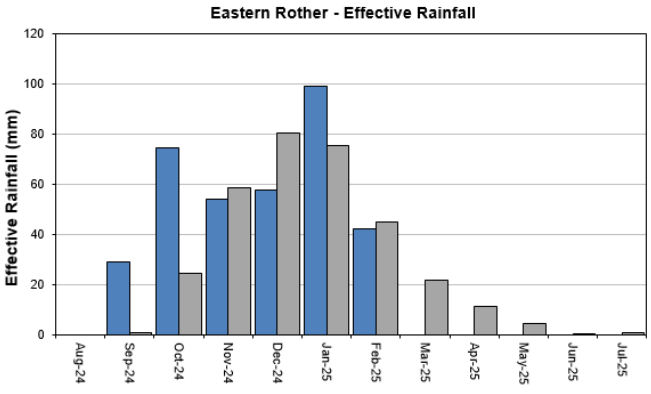
HadUK data for October 2023 onwards, based the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Includes material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

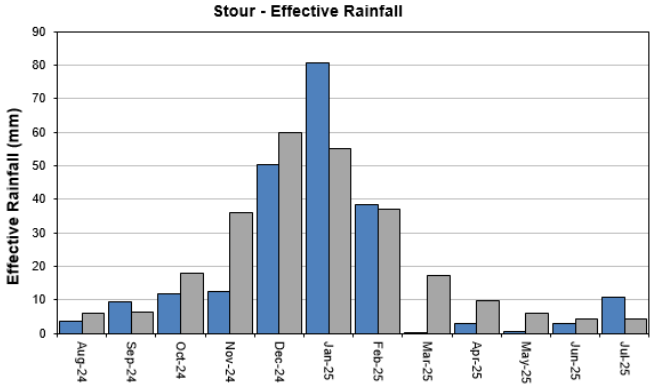
2.3 Rainfall and effective rainfall charts

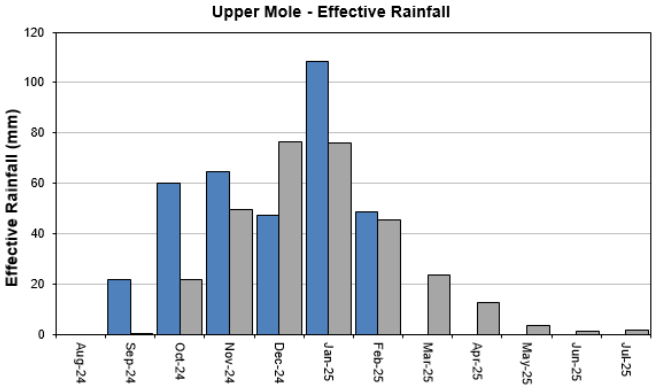
Figure 2.3: Monthly rainfall and effective rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average (LTA) for a selection of areal units. HadUK rainfall data. (Source: Met Office. Crown copyright, 2025). EA effective rainfall data (Source EA Soil Moisture Model).

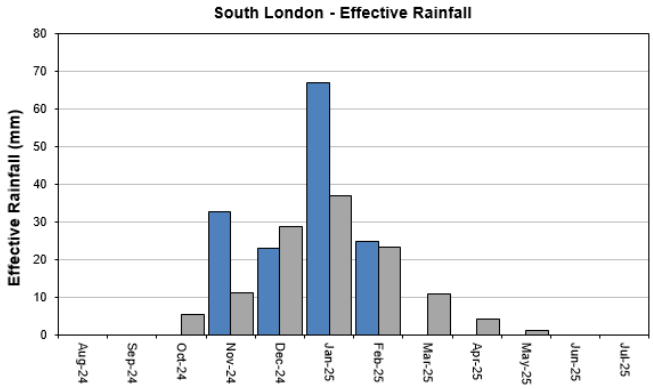


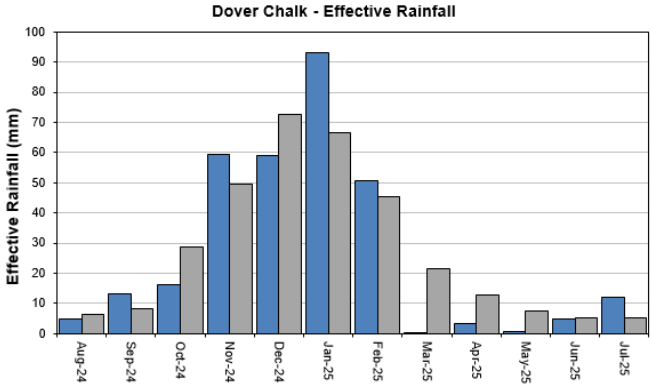

River Medway - Effective Rainfall
Effective Rainfall (mm)
0
20
40
60
80
100
120
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-25


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


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


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


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


Dover Chalk - Effective Rainfall
Effective Rainfall (mm)
0
10
20
30
40
50
60
70
80
90
100
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Jul-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	July % LTA	Effective Rainfall (mm) 31 day Total	July % LTA
6230TH	North Downs - South London (W)	74	136%	6	103%
6505TH	Upper Mole	81	144%	0	0%
6508TH	South London	65	139%	0	0%
6706So	Darent	67	146%	4	110%
6707So	North Kent Chalk	87	191%	7	184%
6708So	Stour	109	213%	11	250%
6709So	Dover Chalk	116	207%	12	236%
6710So	Thanet Chalk	102	208%	9	231%
6809So	Medway	87	175%	0	0%
6810So	Eastern Rother	86	171%	0	0%

6811So	Romney Marsh	93	190%	0	0%
6812So	North West Grain	66	158%	0	0%
6813So	Sheppey	83	189%	0	0%
	Kent & South London Average	86	174%	4	159%

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 31/07/2025

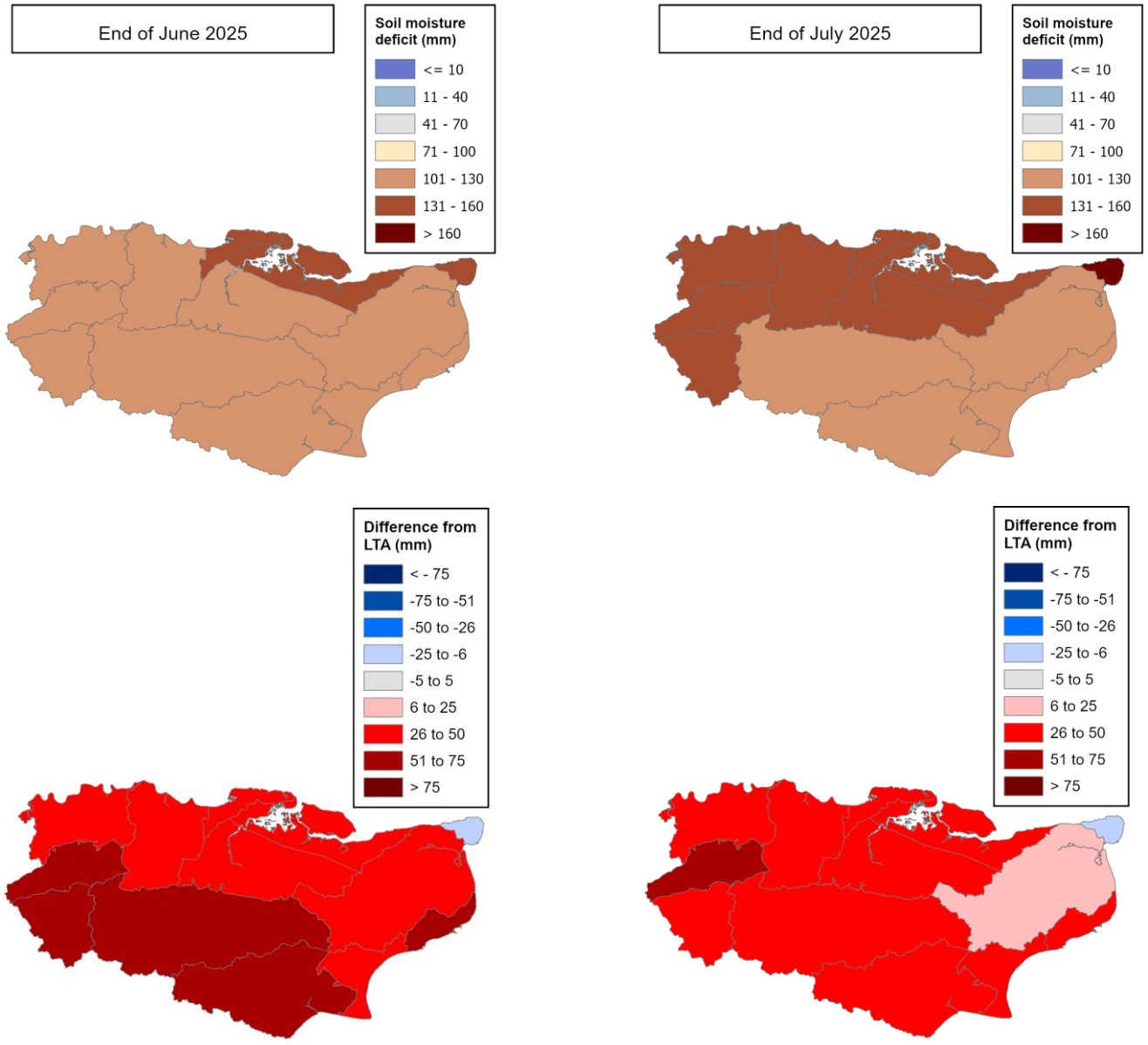
Number	Hydrological Area	Seasonal Rainfall (mm) Total	% LTA	Seasonal Effective Rainfall (mm) Total	% LTA
6230TH	North Downs - South London (W)	151	69%	12	35%
6505TH	Upper Mole	159	74%	0	0%
6508TH	South London	132	70%	0	0%
6706So	Darent	146	75%	11	45%
6707So	North Kent Chalk	171	88%	15	58%
6708So	Stour	186	93%	17	70%
6709So	Dover Chalk	210	96%	21	68%
6710So	Thanet Chalk	169	93%	15	94%
6809So	Medway	170	83%	0	0%
6810So	Eastern Rother	166	83%	0	0%

6811So	Romney Marsh	168	92%	0	0%
6812So	North West Grain	132	79%	0	0%
6813So	Sheppey	149	87%	0	0%
	Kent & South London Average	162	83%	7	40%

3 Soil moisture deficit

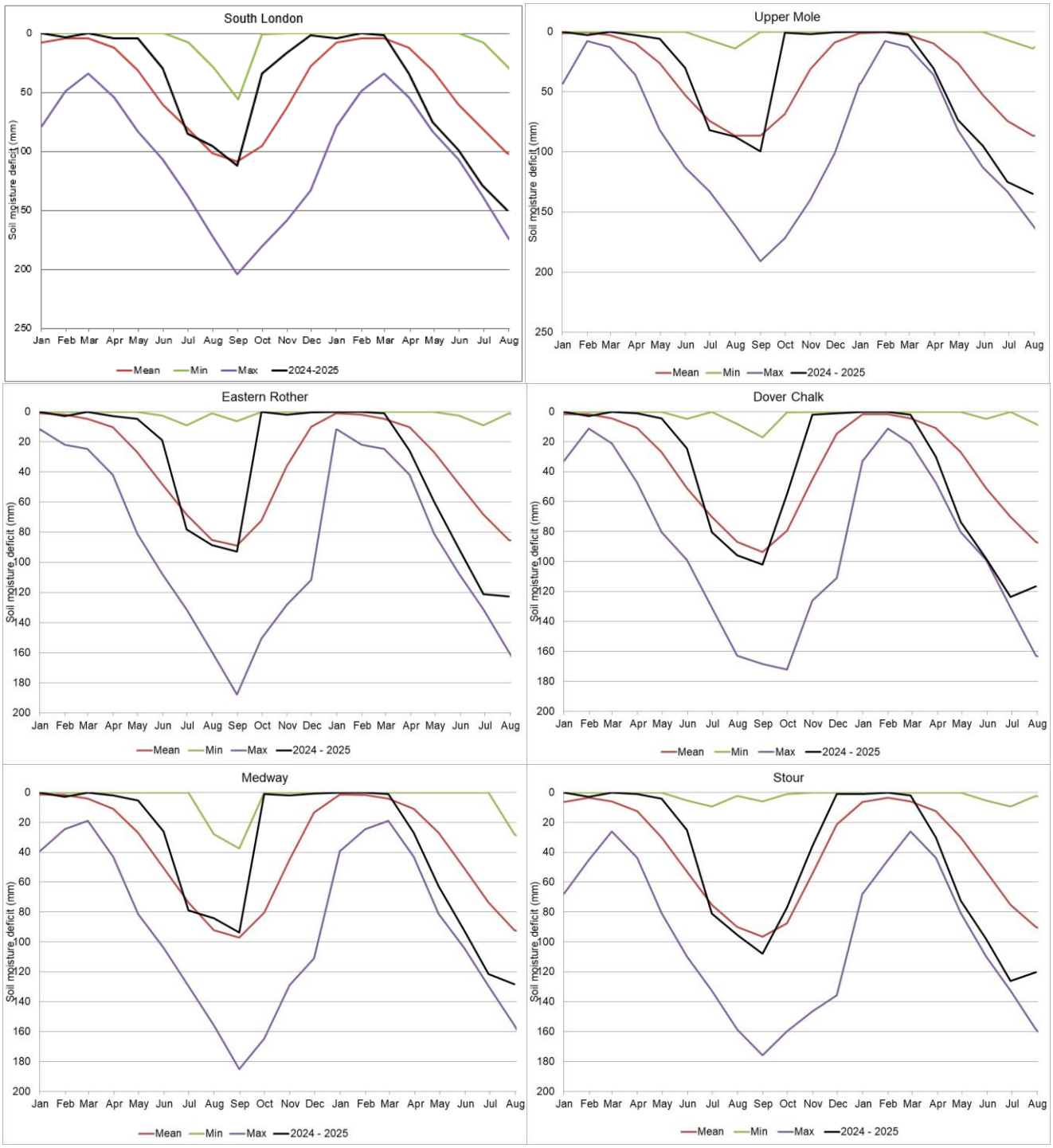
3.1 Soil moisture deficit map

Figure 3.1: Soil moisture deficits for weeks ending 30 June (left panel) and 31 July 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

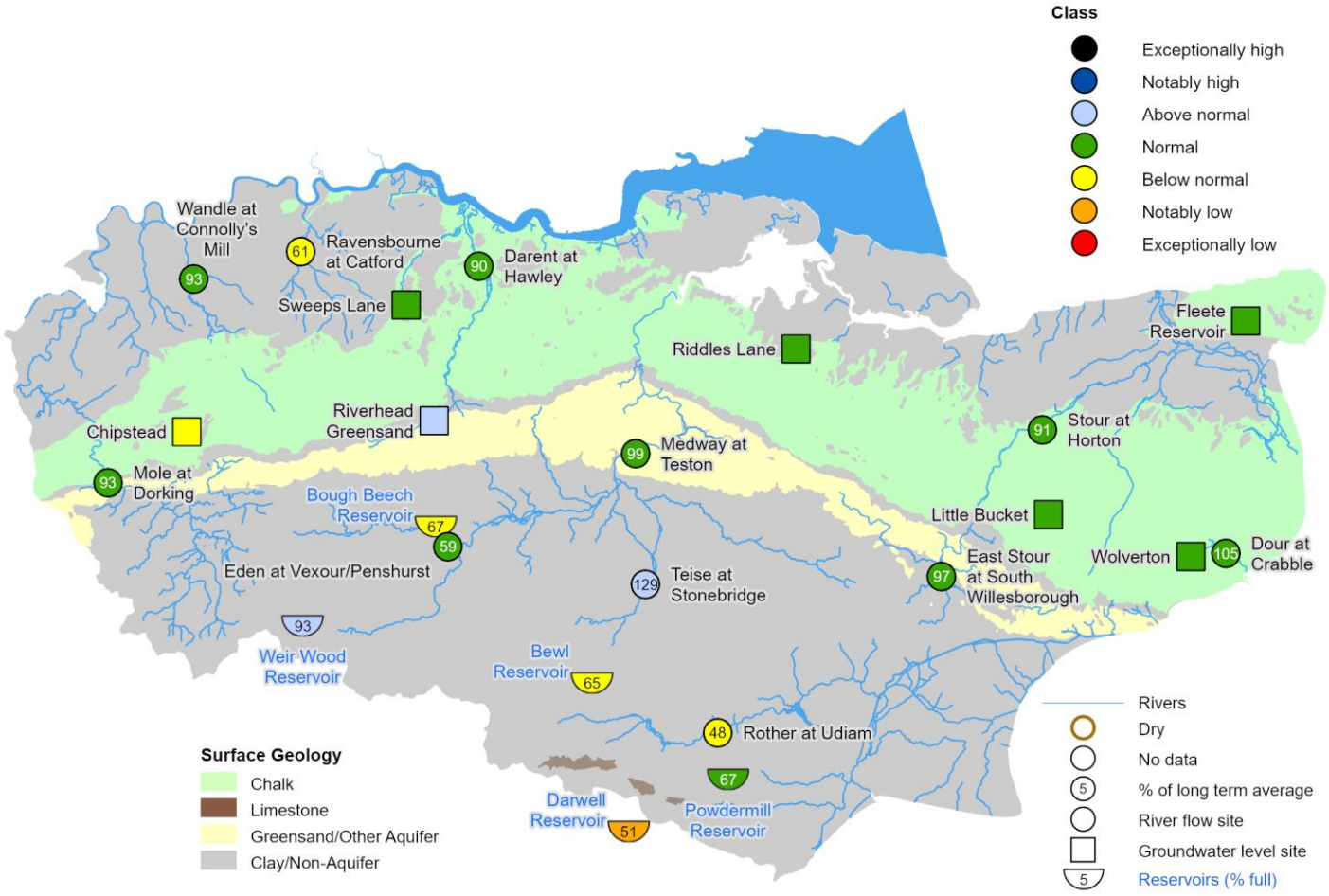
Figure 3.3: This is a second estimate of soil moisture deficit for the hydrological areas across the Kent and South London area. There may be significant variation within each area which must be considered when interpreting these data. EA soil moisture deficit data (Source EA Soil Moisture Model).

Number	Hydrological Area	SMD (mm) Day 31	End July LTA
6230TH	North Downs - South London (W)	144	89
6505TH	Upper Mole	135	85
6508TH	South London	150	103
6706So	Darent	148	98
6707So	North Kent Chalk	136	96
6708So	Stour	120	95
6709So	Dover Chalk	117	90
6710So	Thanet Chalk	165	190
6809So	Medway	128	87
6810So	Eastern Rother	123	87
6811So	Romney Marsh	123	93
6812So	North West Grain	152	124
6813So	Sheppey	141	114
	Kent & South London Average	137	104

4 River flows, groundwater levels and reservoir stocks

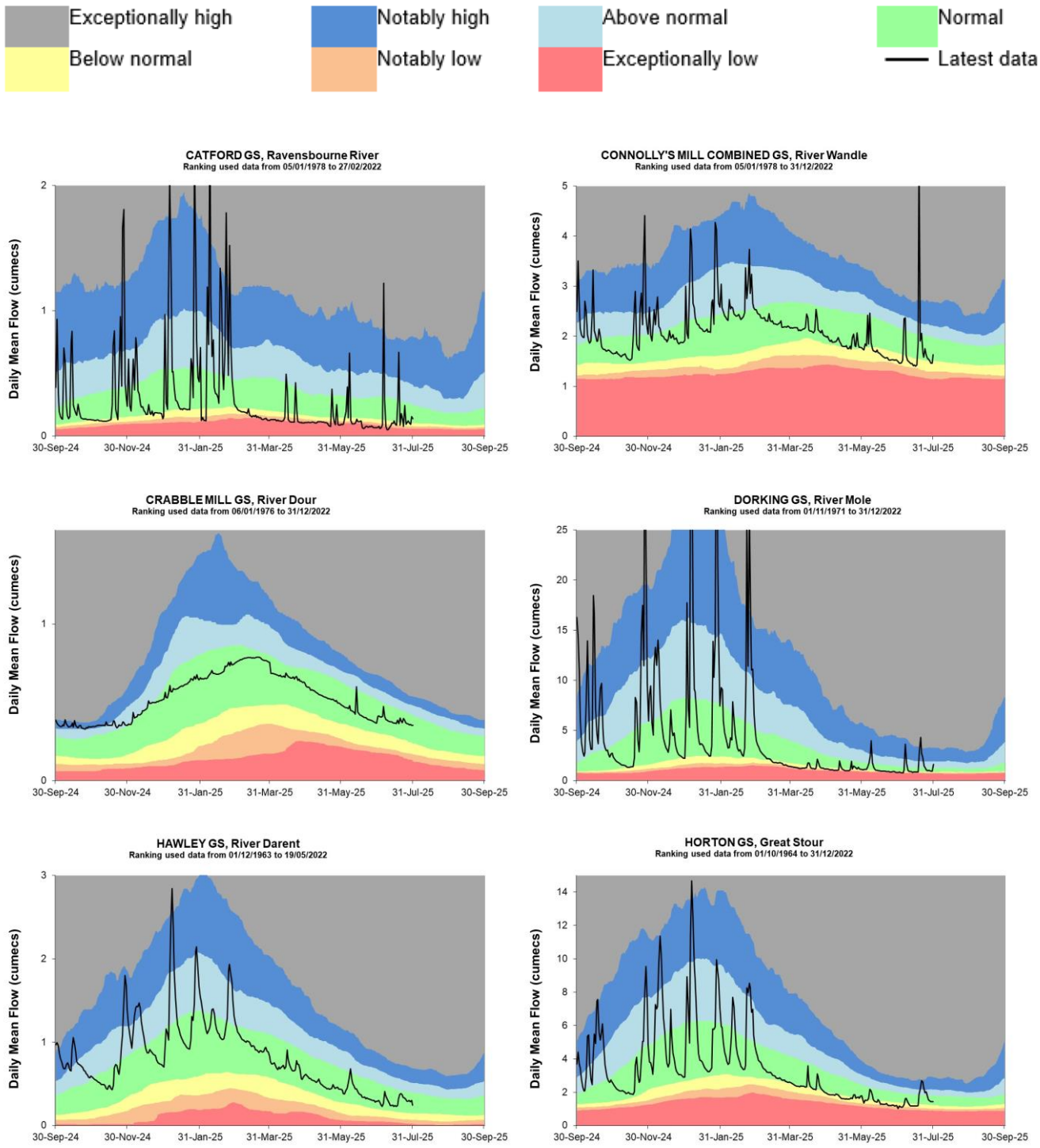
4.1 River flows, groundwater levels and reservoir stocks map

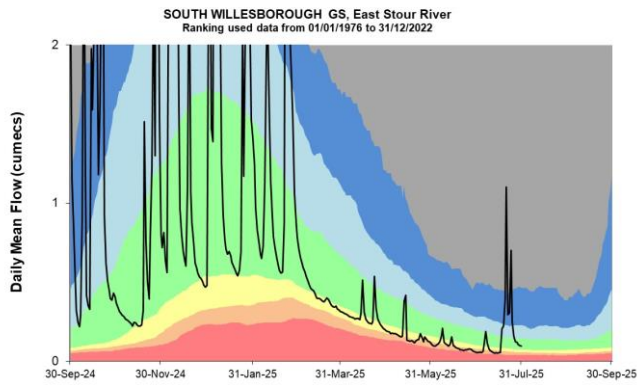
Figure 4.1: Monthly mean river flows for indicator sites for July 2025, expressed as a percentage of the respective long term average (period 1992 – 2022) and classed relative to an analysis of historic July monthly means. End of month groundwater levels for indicator sites for July 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic July levels. Tables available in the appendices with detailed information. End of month levels for reservoirs for July 2025, expressed as percent full. (Source: Water Companies).

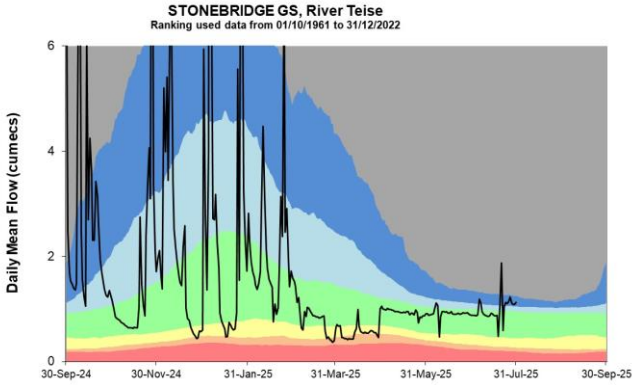


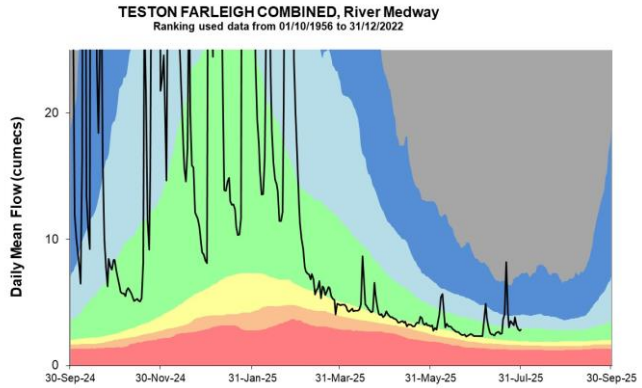
4.2 River flow charts

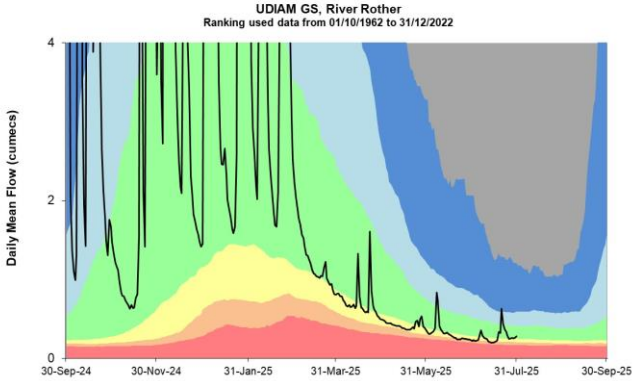
Figure 4.1: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.

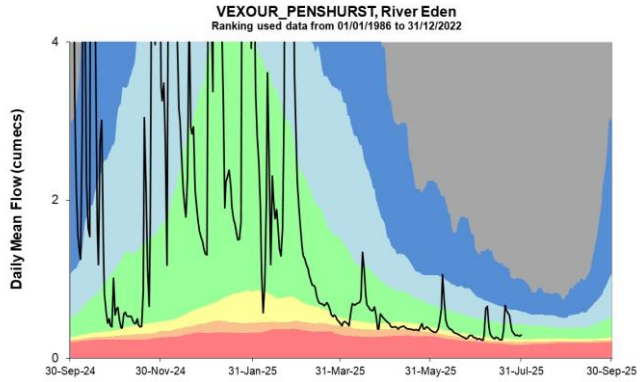










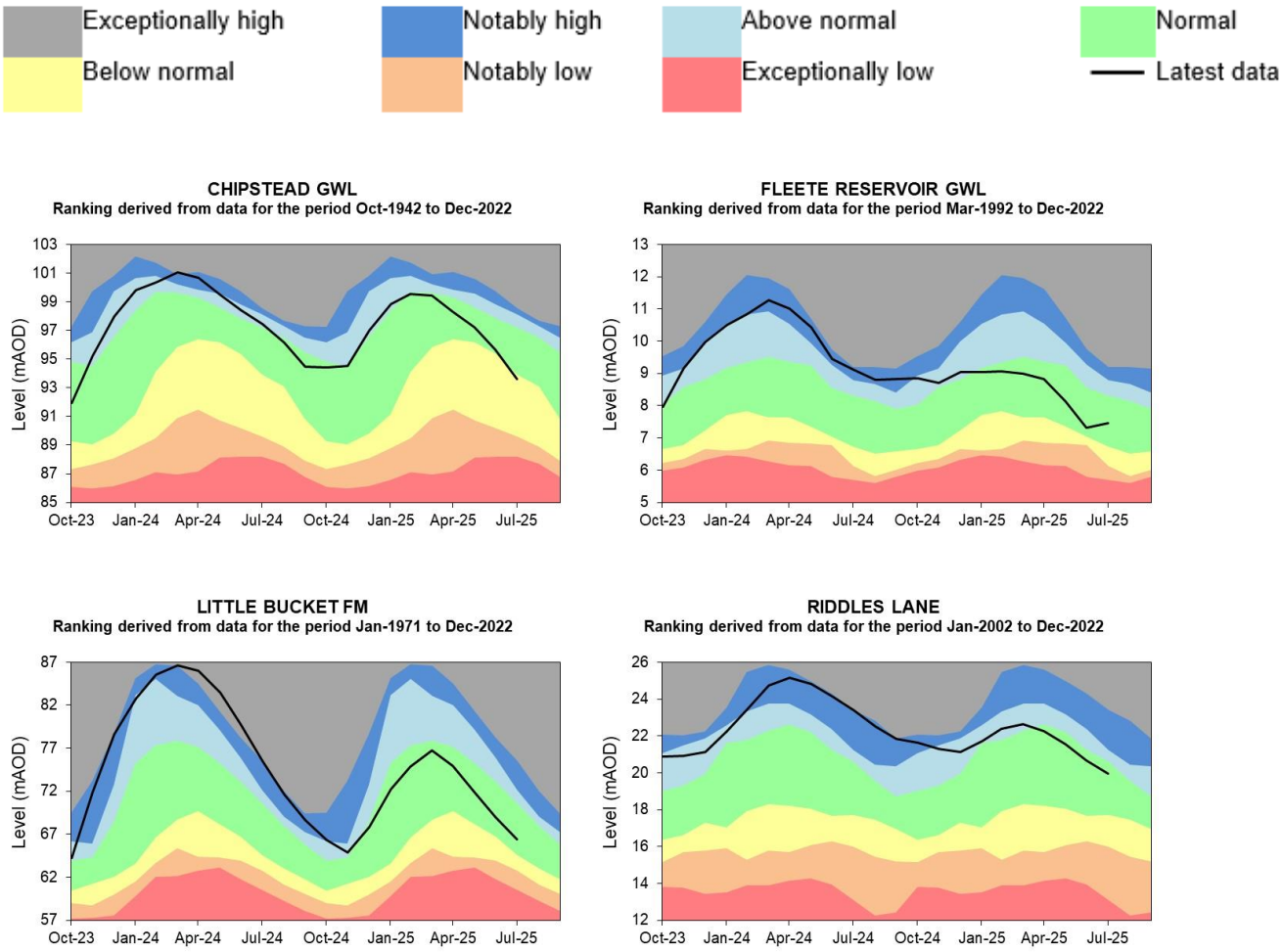


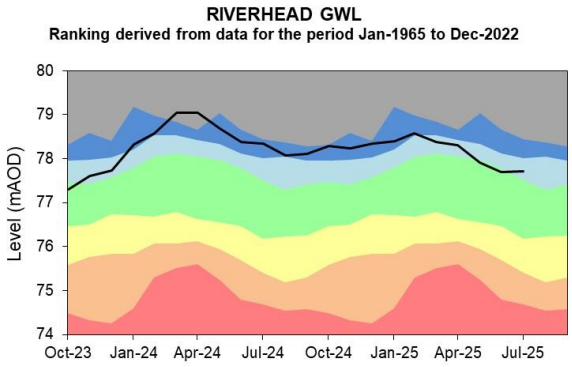
Source: Environment Agency.

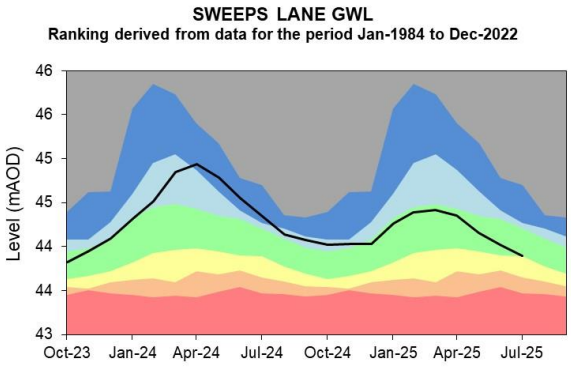
5 Groundwater levels

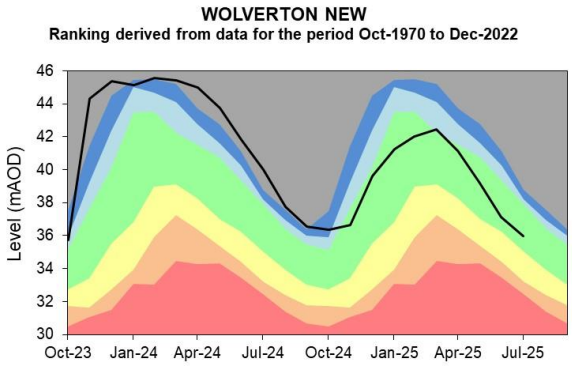
5.1 Groundwater level charts

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.







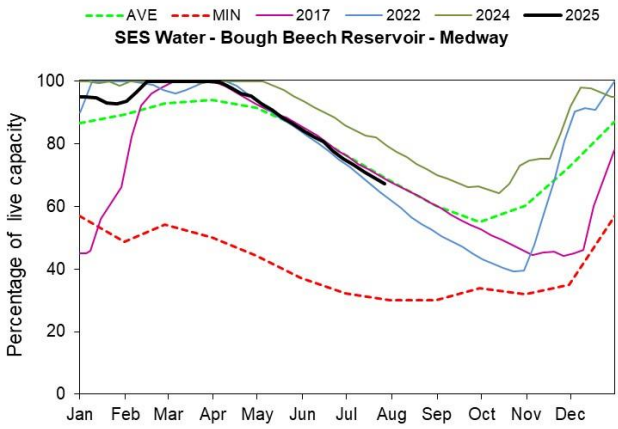


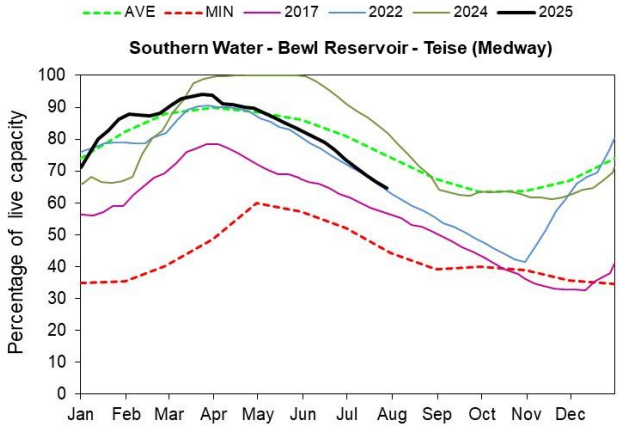
Source: Environment Agency, 2025.

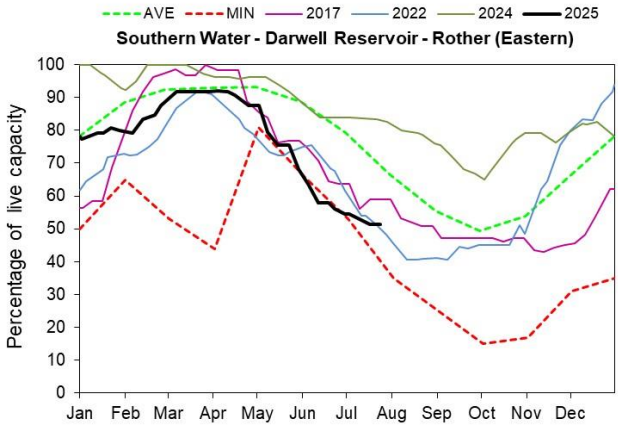
6 Reservoir stocks

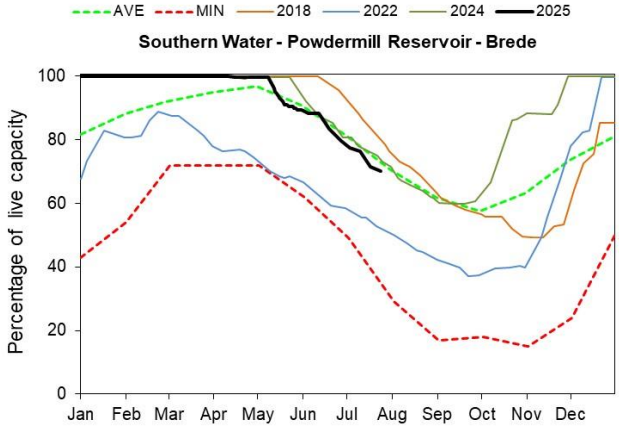
6.1 Reservoir stocks charts

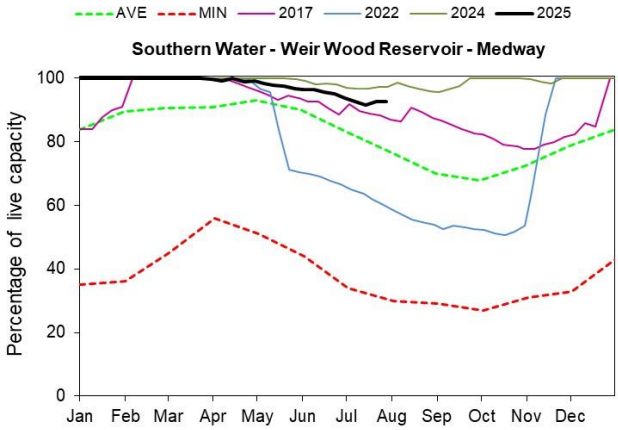
Figure 7.1: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. (Source: Water Companies). Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.











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	Jul 2025 rainfall % of long term average 1991 to 2020	Jul 2025 band	May 2025 to July cumulative band	Feb 2025 to July cumulative band	Aug 2024 to July cumulative band
North Downs - South London	136	Normal	Below normal	Exceptionally low	Normal
Upper Mole	144	Above Normal	Normal	Notably low	Normal
South London	139	Normal	Below normal	Notably low	Normal
River Darent	146	Normal	Below normal	Notably low	Normal
North Kent Chalk	191	Above Normal	Normal	Below normal	Normal
Stour	213	Notably High	Normal	Below normal	Normal
Dover Chalk	207	Notably High	Normal	Normal	Normal
Thanet Chalk	208	Notably High	Normal	Below normal	Below normal
River Medway	175	Above Normal	Normal	Below normal	Normal
Eastern Rother	171	Above Normal	Normal	Notably low	Normal

Romney Marsh	190	Notably High	Normal	Below normal	Normal
North West Grain	158	Above Normal	Below normal	Notably low	Below normal
Sheppey	189	Notably High	Normal	Notably low	Below normal

8.2 River flows table

Site name	River	Catchment	Jul 2025 band	Jun 2025 band
Catford Gs	River Ravensbourne	Ravensbourne	Below normal	Exceptionally low
Connolly's Mill Combined Gs	River Wandle	Wandle	Normal	Below normal
Crabble Mill Gs	River Dour	Dour	Normal	Normal
Dorking Gs	River Mole	Mole Surrey	Normal	Below normal
Hawley Gs	River Darent and Cray	Darent and Cray	Normal	Normal
Horton Gs	Great Stour River	Great Stour	Normal	Below normal
South Willesborough Gs	East Stour River	East Stour	Normal	Exceptionally low
Stonebridge Gs	River Teise	Teise	Above normal	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	Below normal

8.3 Groundwater table

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