

Monthly water situation report: Kent and South London Area

1 Summary - June 2025

The whole Kent and South London (KSL) area received 66% of the long-term average (LTA) rainfall during June. Rainfall received was normal across most catchments. Soil moisture deficits (SMDs) continued to increase and ended the month above the LTA. Monthly mean river flows (MMFs) ranged from normal to exceptionally low in June in KSL. Across the whole area, on average, effective rainfall received this month was at 63% of the LTA. Groundwater levels in the Chalk and Greensand aquifers continued to decline at all key sites throughout June and ended the month in the normal category. Levels at the end of the month at the five water company reservoirs also continued to decline and ranged between normal and exceptionally low.

1.1 Rainfall

The whole KSL area received 66% of the LTA rainfall during June. Rainfall received was normal across most catchments. The percentage of LTA rainfall received ranged from 55% in the South London area to 85% in the Thanet Chalk and Dover Chalk rainfall areas. In the previous three months, spanning from April to June, six catchments recorded exceptionally low rainfall, and the remaining eight catchments recorded notably low rainfall. In the previous six months, from January to June, rainfall was below normal across catchments in the southern part of the patch. In the northern part of the patch, rainfall was mostly notably low. In the last twelve months, rainfall received was normal in most catchments in KSL area. Notably low and below normal rainfall were recorded in four catchments in the northeast. The highest daily rainfall total of 67.7mm for June was recorded at Dover WW RG in the Dover Chalk catchment on 13 June. The next highest daily rainfall totals were on 6, 7, 5 and 4 June respectively and ranged from 31.2mm to 11mm. One day with less than 0.2mm of rainfall was recorded this month.

1.2 Soil moisture deficit and recharge

At the end of June, Soil Moisture Deficits (SMDs) increased across all catchments. This is due to the low effective rainfall during this period, which averaged 63% of the LTA across the entire Area. The majority of SMDs were in the 71–100 mm range at the end of May. By the end of June in most areas SMDs had shifted into the 101–130 mm category, with some

reaching as high as 158 mm. At the end of June, SMDs were significantly above the long-term average, with the difference widening across all catchments since the end of May.

1.3 River flows

MMFs ranged from normal to exceptionally low in June in KSL. Four key flow sites saw normal MMFs, five saw below normal MMFs, and two registered exceptionally low MMFs in June. Exceptionally low flows were recorded in the River Ravensbourne at Catford in the northwest and in the River Stour at South Willesborough in the east of the patch.

1.4 Groundwater levels

Groundwater levels in the Chalk declined at a relatively steep rate. However, they remained within normal ranges for this time of the year by the end of June. Groundwater levels at the Lower Greensand aquifer at Riverhead have also continued to decrease and remained within the normal range. The fall in groundwater levels is consistent with the effective rainfall of 63% of the LTA and SMDs registered by the end of June.

1.5 Reservoir stocks

At the end of June, reservoir levels were:

- Notably low at Darwell at 55%
- Below normal at Bough Beech at 75% and at Bewl at 74%
- Normal at Powdermill at 80%
- Above normal at Weir Wood at 94%

1.6 Environmental impact

Hands off flow (HoF) constraints were applied to certain licensed abstractions linked to Udiam gauging station in the Eastern Rother catchment during June. HoF constraints continue to apply to certain licensed abstractions within the Stour and Medway catchments.

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

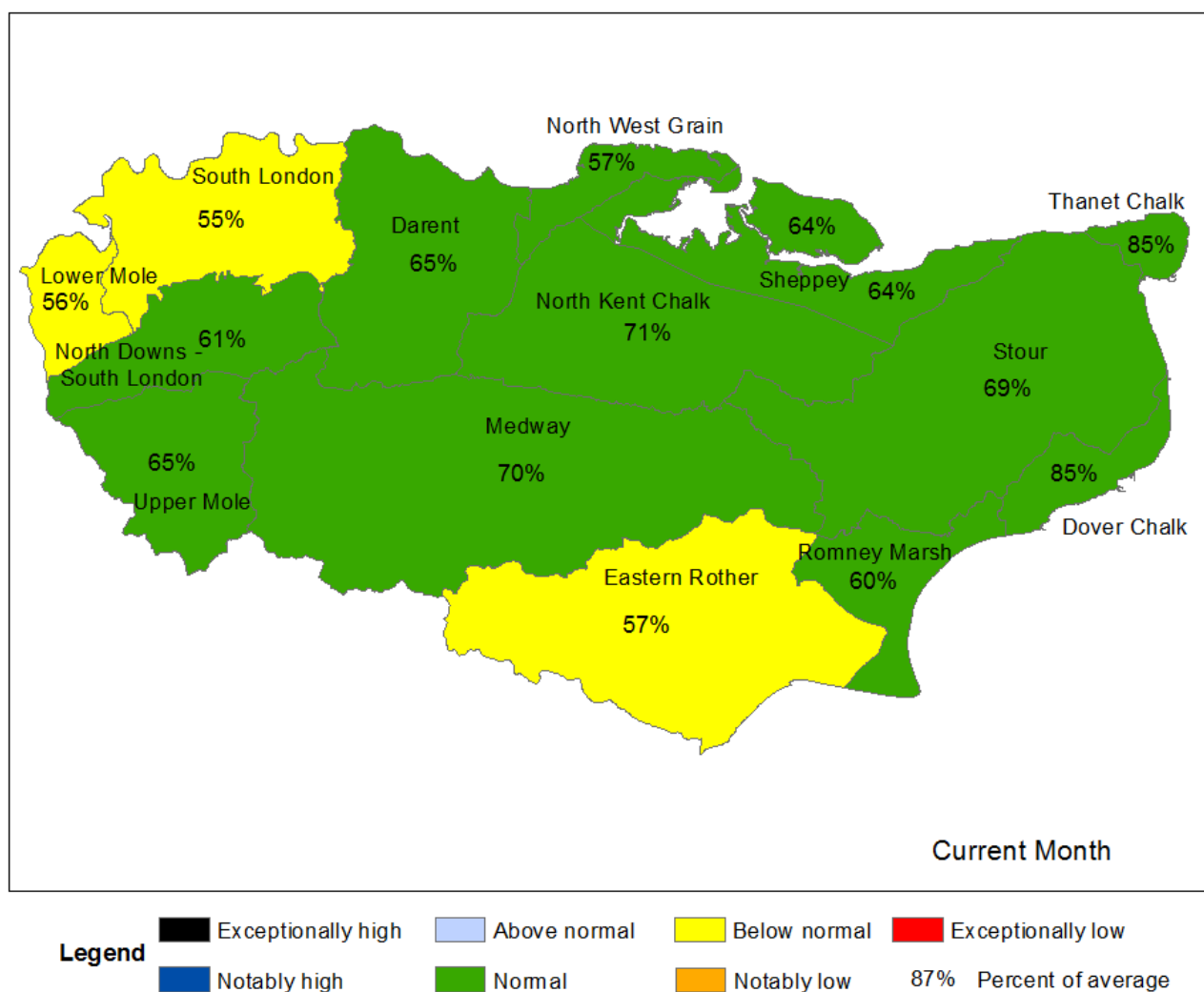
Contact Details: 03708 506 506

All data are provisional and may be subject to revision. The views expressed in this document are not necessarily those of the Environment Agency. Its officers, servants or agents accept 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

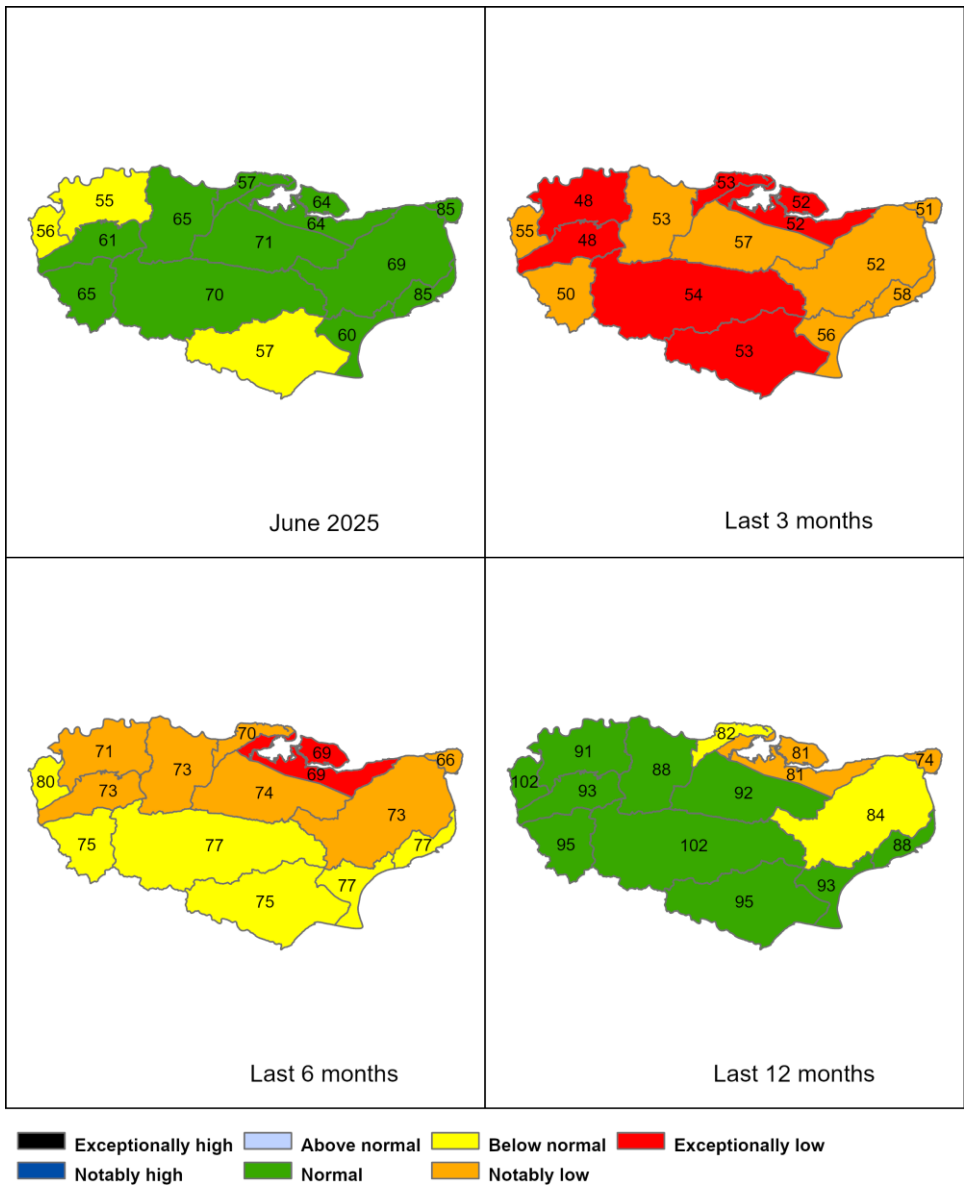
Figure 2.1: Total rainfall for hydrological areas across Kent and South London for the current month (up to 30 June 2025), classed relative of historic totals. The percentage of average uses the period of 1991 – 2020. Table available in the appendices with more detailed information.



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

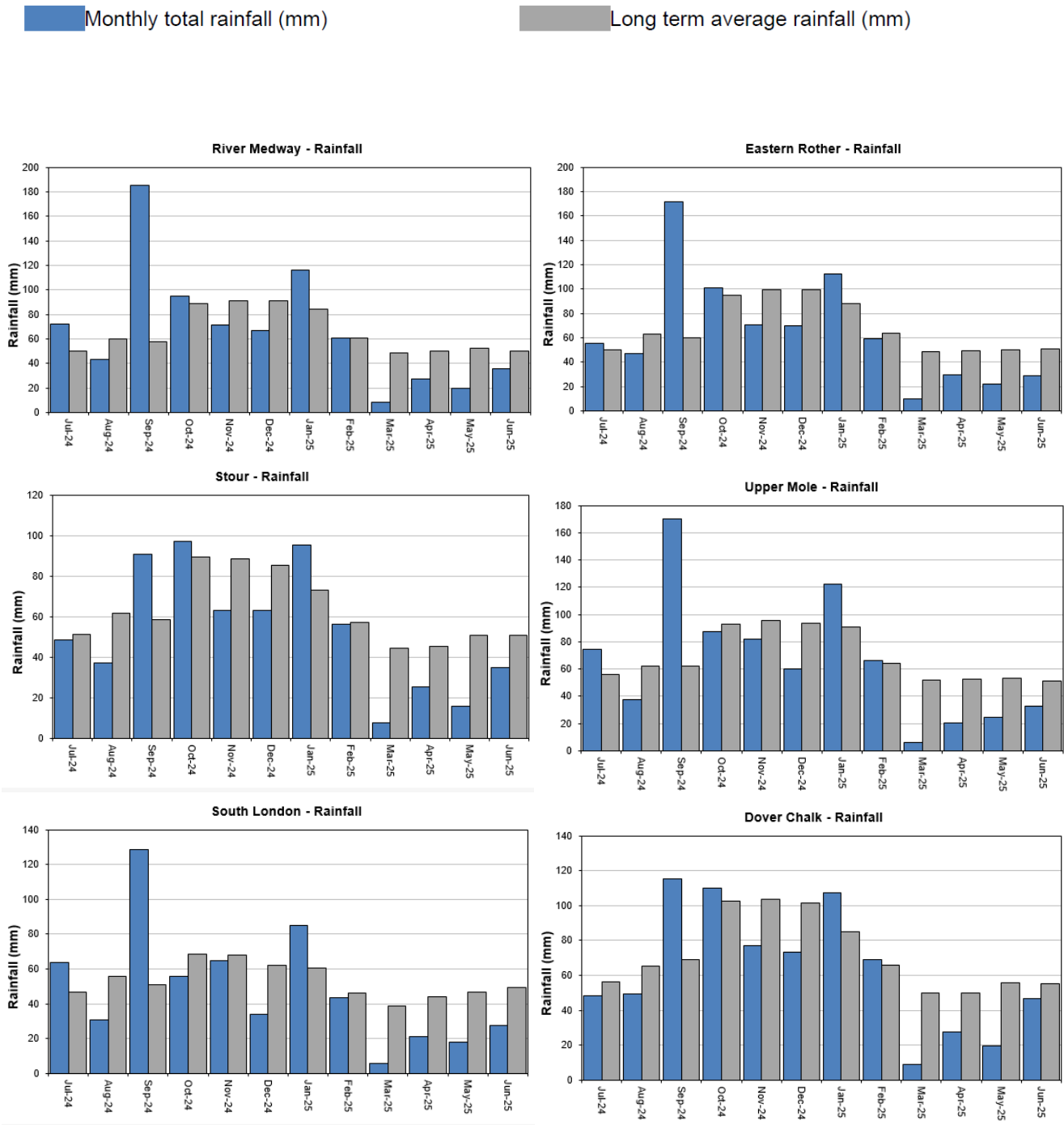
Figure 2.2: Total rainfall for hydrological areas for the current month (up to 30 June 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative of historic totals. The percentage of average uses the period of 1991 – 2020. Table available in the appendices with detailed information.

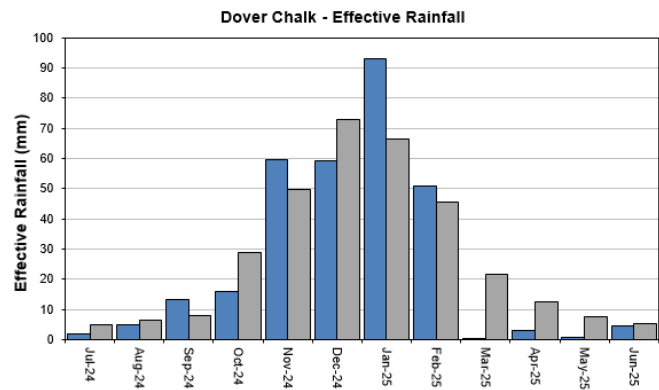
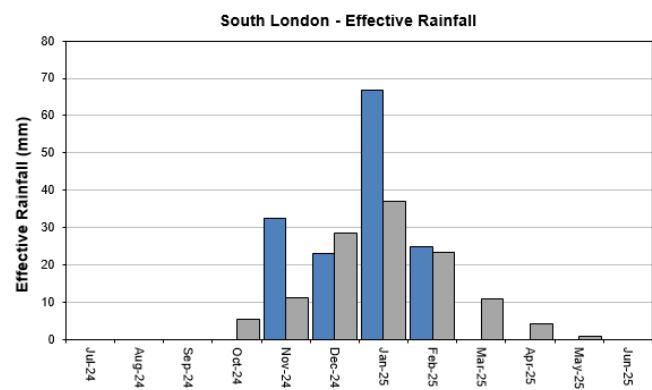
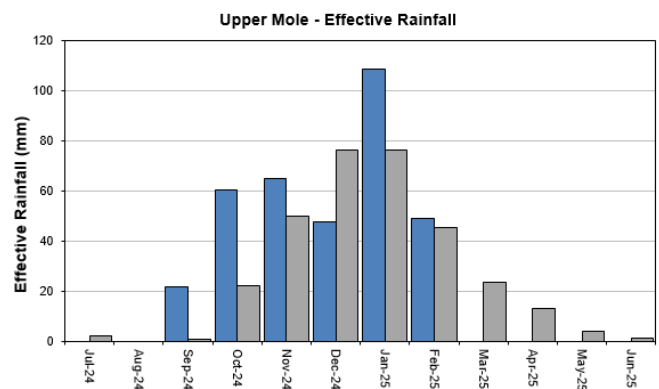
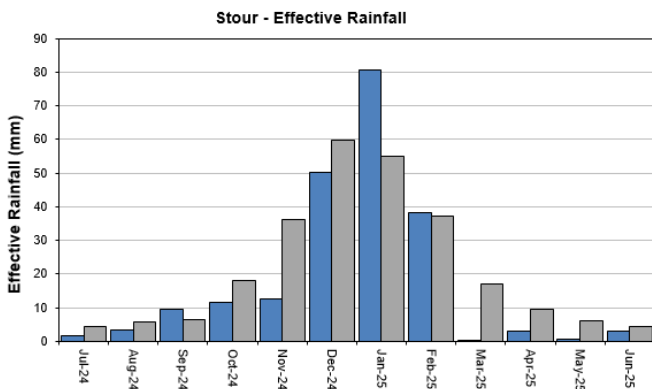
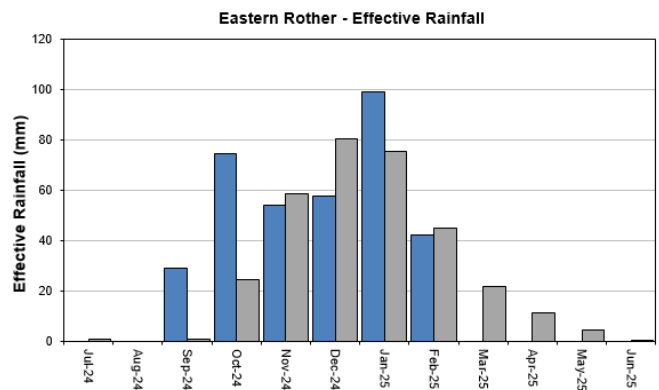
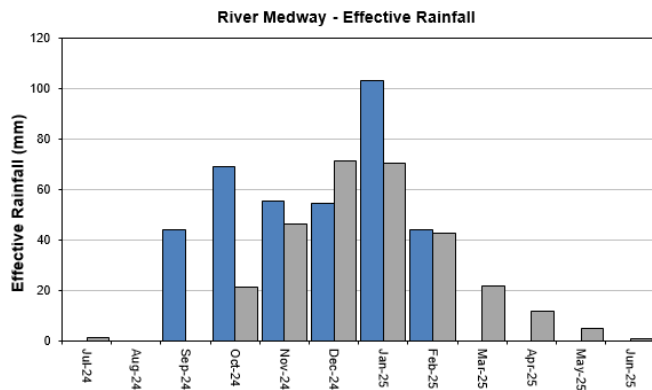


HadUK data for October 2023 onwards, based the Met Office 1km gridded rainfall dataset derived from rain gauges (Source: Met Office. Crown copyright, 2025). Provisional data based on Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. Includes material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





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) 30 day Total	June % LTA	Effective Rainfall (mm) 30 day Total	June % LTA
6230TH	North Downs - South London (W)	32	61%	2	46%
6505TH	Upper Mole	33	65%	0	0%
6508TH	South London	27	55%	0	-
6706So	Darent	33	65%	2	50%
6707So	North Kent Chalk	36	71%	3	59%
6708So	Stour	35	69%	3	66%
6709So	Dover Chalk	47	85%	5	92%
6710So	Thanet Chalk	42	85%	4	98%
6809So	Medway	35	70%	0	0%
6810So	Eastern Rother	29	57%	0	0%

6811So	Romney Marsh	28	60%	0	-
6812So	North West Grain	26	57%	0	-
6813So	Sheppey	28	64%	0	-
	Kent & South London Average	33	66%	1	63%

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 30/06/2025

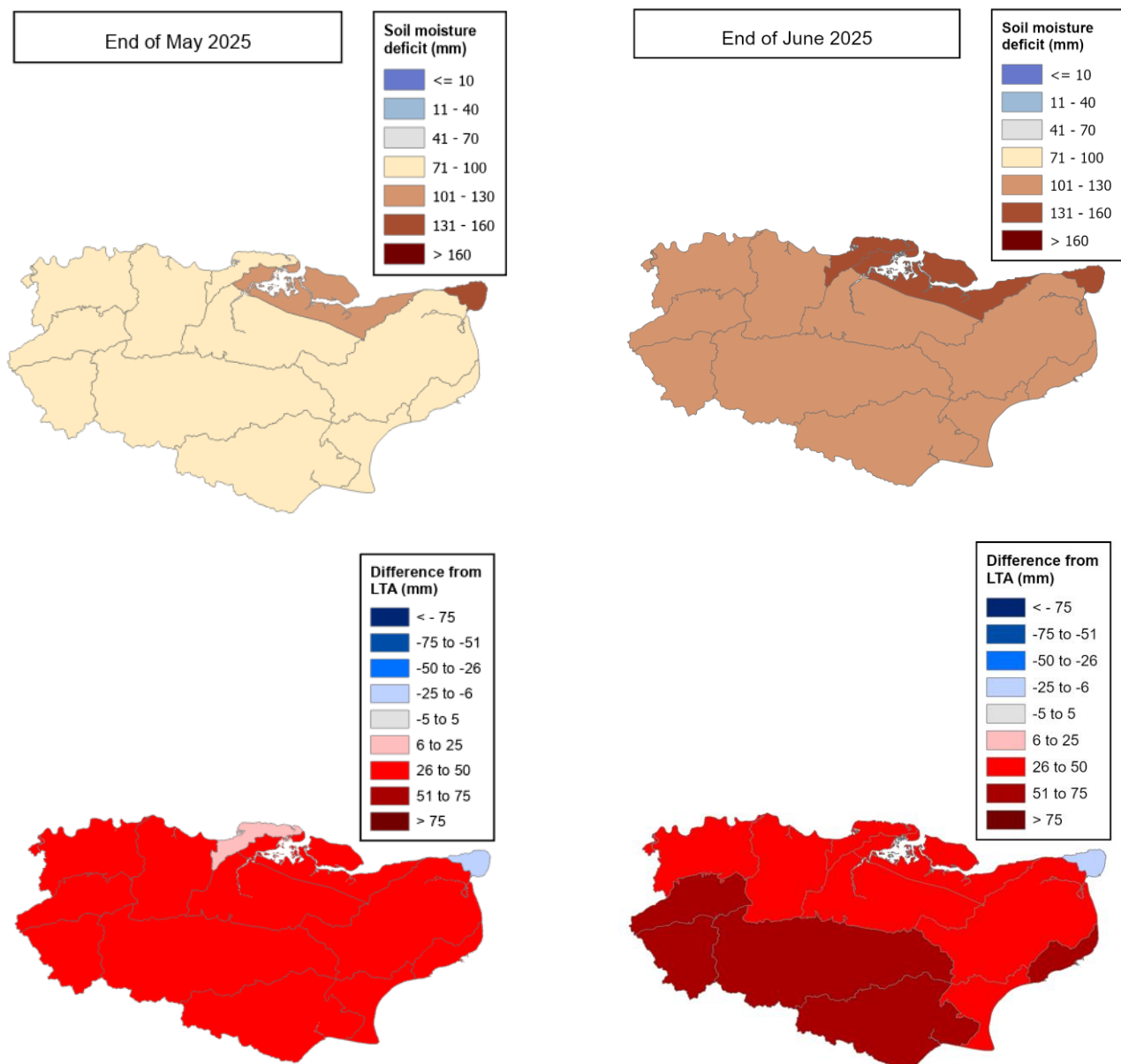
Number	Hydrological Area	Seasonal Rainfall (mm) Total	% LTA	Seasonal Effective Rainfall (mm) Total	% LTA
6230TH	North Downs - South London (W)	77	47%	6	20%
6505TH	Upper Mole	78	49%	0	0%
6508TH	South London	67	48%	0	0%
6706So	Darent	79	53%	6	32%
6707So	North Kent Chalk	84	56%	7	34%
6708So	Stour	76	51%	7	32%
6709So	Dover Chalk	93	57%	9	35%
6710So	Thanet Chalk	67	51%	5	47%
6809So	Medway	82	53%	0	0%
6810So	Eastern Rother	80	53%	0	0%

6811So	Romney Marsh	74	55%	0	0%
6812So	North West Grain	67	53%	0	0%
6813So	Sheppey	65	51%	0	0%
	Kent & South London Average	76	52%	3	20%

3 Soil moisture deficit

3.1 Soil moisture deficit map

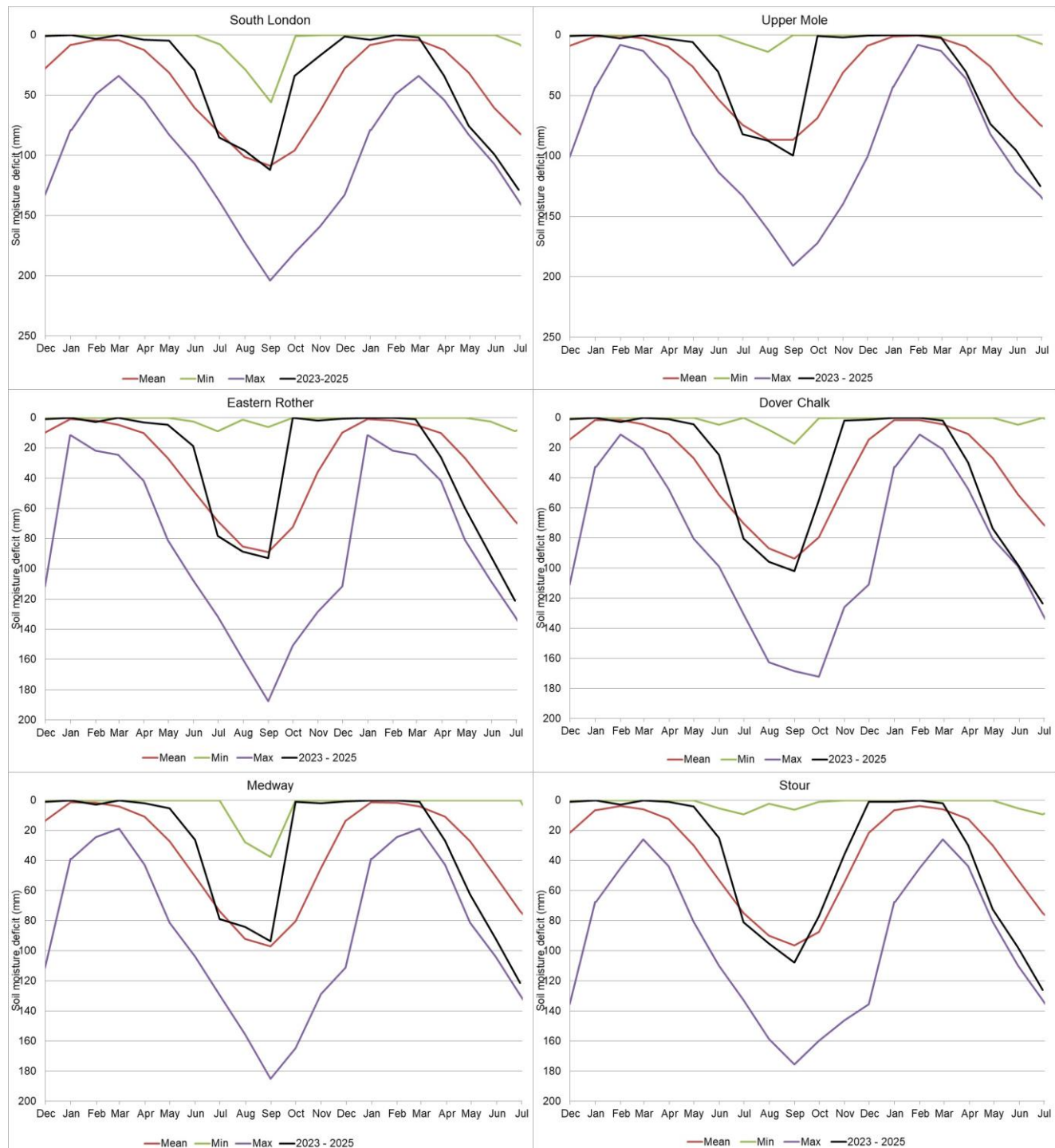
Figure 3.1: Soil moisture deficits for weeks ending 31 May (left panel) and 30 June 2025 (right panel). Top row shows actual soil moisture deficits (mm) and bottom row shows the difference (mm) of the actual from the 1991 to 2020 long term average soil moisture deficits. EA Soil Moisture Deficit data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



(Source: Met Office. Crown copyright, 2025). All rights reserved. Environment Agency, 100024198, 2025.

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).



(Source: Met Office. Crown copyright, 2025). All rights reserved. Environment Agency, 100024198, 2025

3.3 Soil moisture deficit table

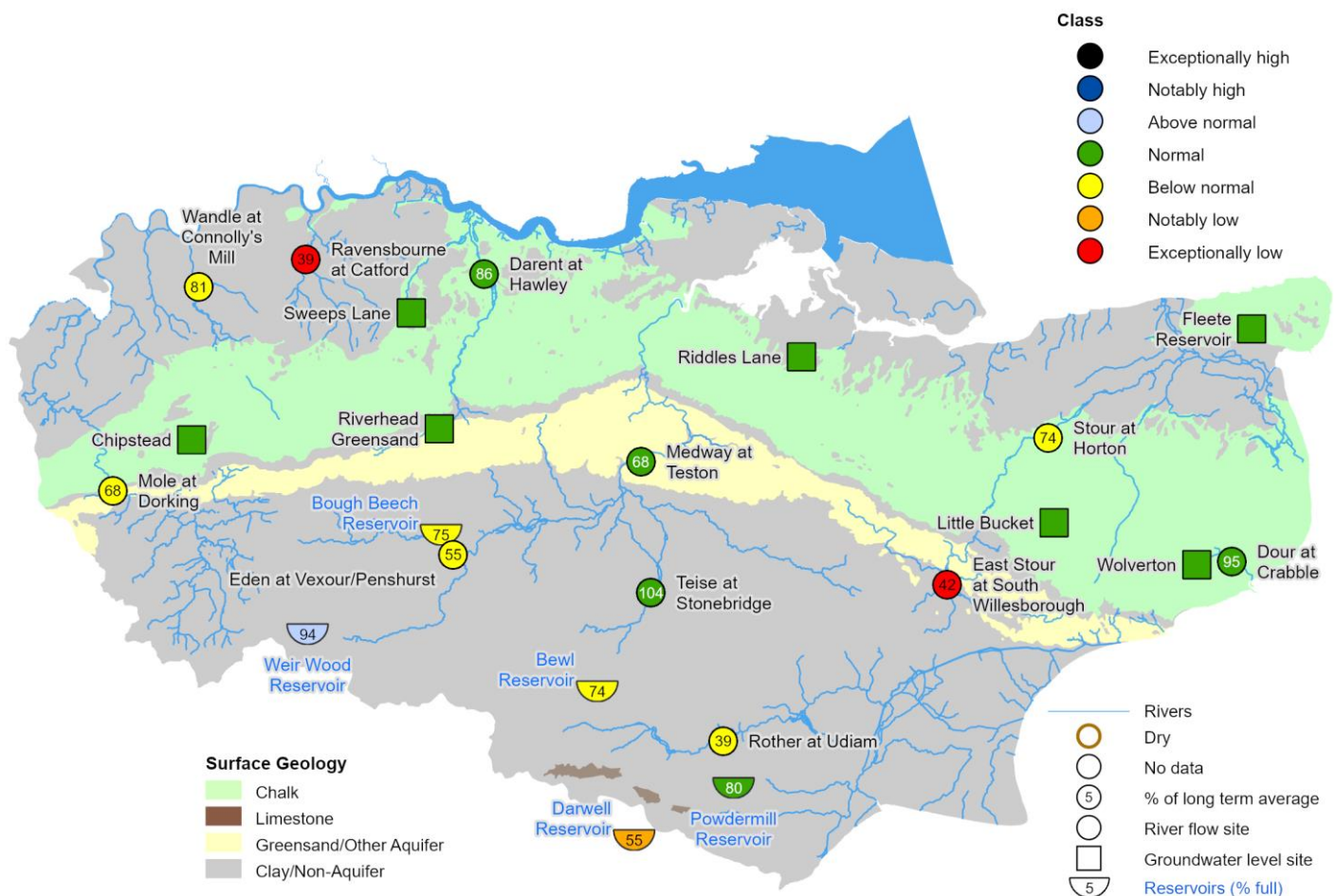
Figure 3.3: This is a second estimate of soil moisture deficit for the hydrological areas across the Kent and South London area. There may be significant variation within each area which must be considered when interpreting these data. EA soil moisture deficit data (Source EA Soil Moisture Model).

Number	Hydrological Area	SMD (mm) Day 30	End June LTA
6230TH	North Downs - South London (W)	126	70
6505TH	Upper Mole	125	69
6508TH	South London	129	82
6706So	Darent	127	77
6707So	North Kent Chalk	124	75
6708So	Stour	126	76
6709So	Dover Chalk	124	72
6710So	Thanet Chalk	158	168
6809So	Medway	121	69
6810So	Eastern Rother	121	70
6811So	Romney Marsh	125	76
6812So	North West Grain	131	104
6813So	Sheppey	131	93
	Kent & South London Average	128	85

4 River flows, groundwater levels and reservoir stocks

4.1 River flows, groundwater levels and reservoir stocks map

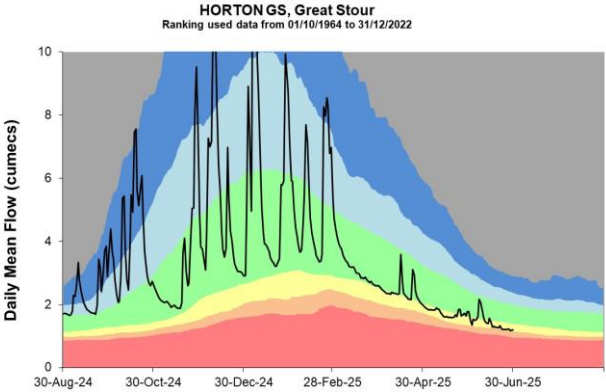
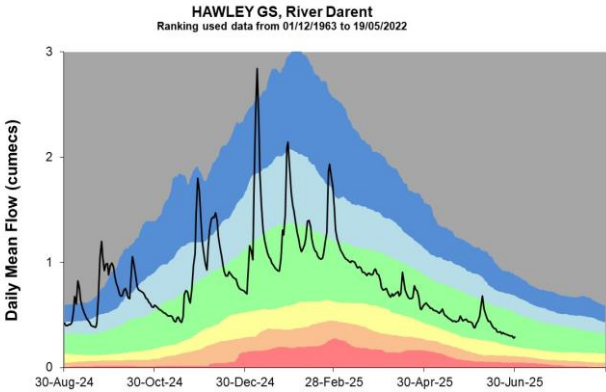
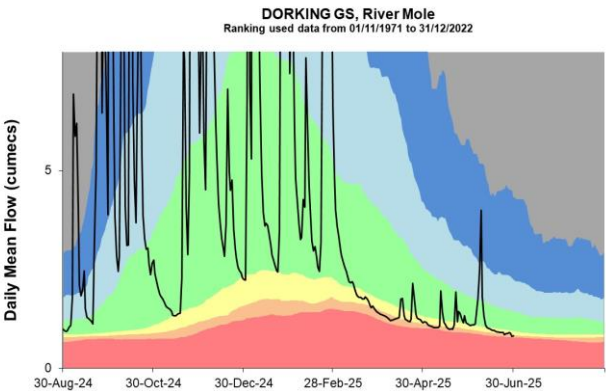
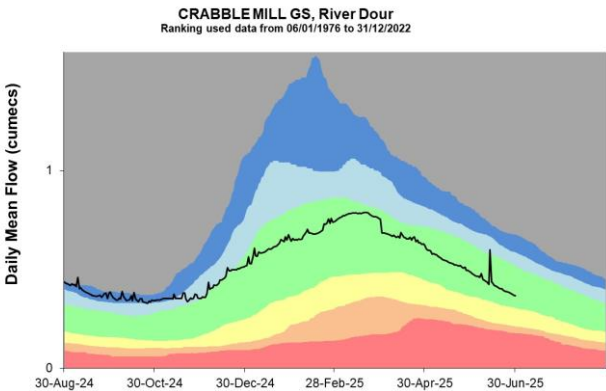
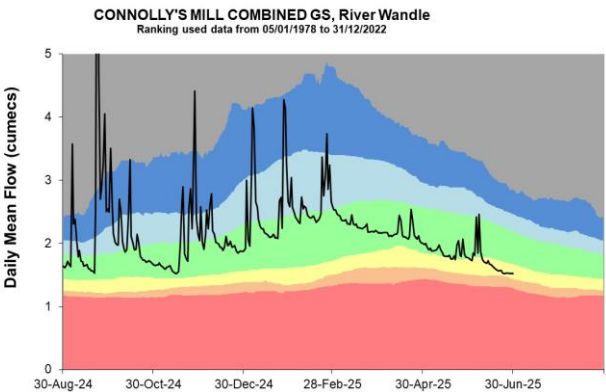
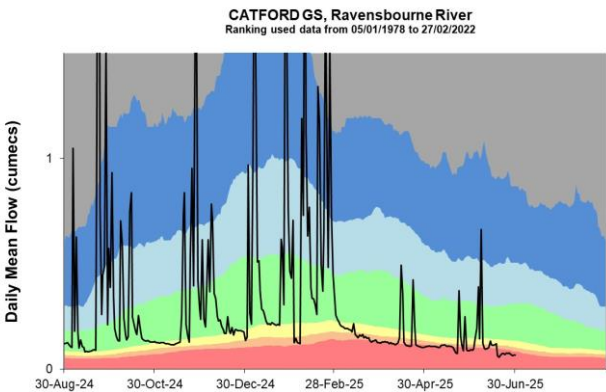
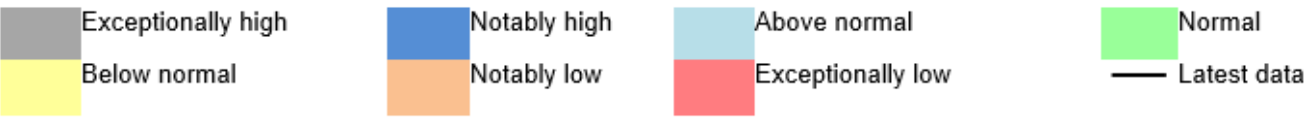
Figure 4.1: Monthly mean river flows for indicator sites for June 2025, expressed as a percentage of the respective long term average (period 1992 – 2020) and classed relative to an analysis of historic June monthly means. End of month groundwater levels for indicator sites for June 2025, expressed as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

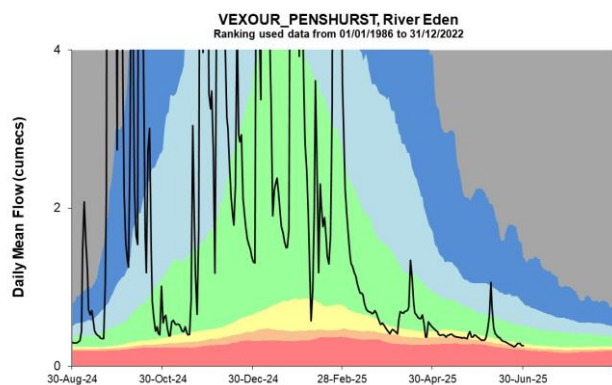
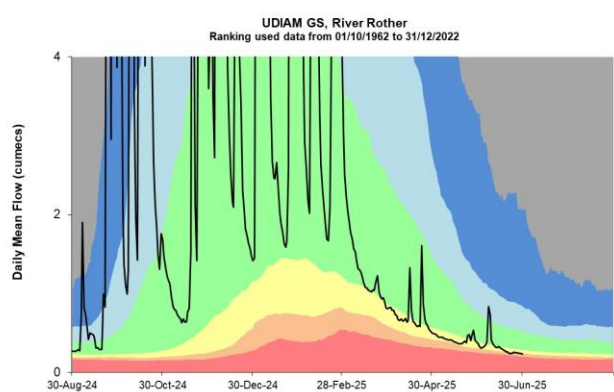
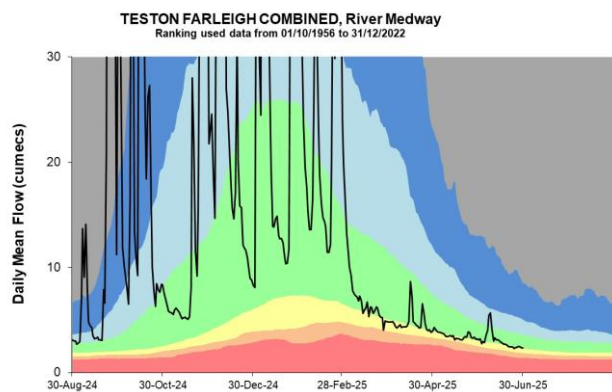
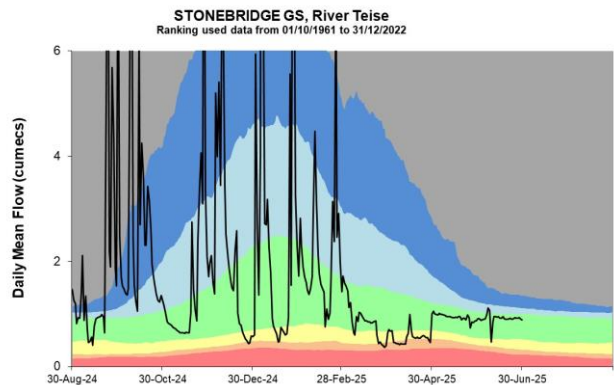
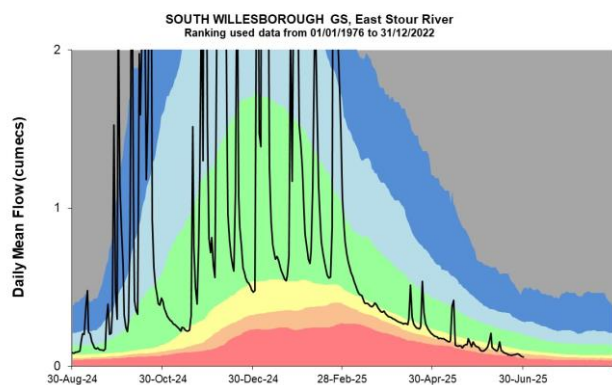


Some features of this map are based on digital spatial data licensed from the UK Centre for Ecology and Hydrology, © UKCEH. Includes material based on Ordnance Survey 1:50 000 maps with the permission of the controller of His Majesty's Stationery Office © Crown copyright. Geological map reproduced with kind permission from UK Groundwater Forum, BGS © NERC. All rights reserved. Environment Agency, 100026380, 2025.

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.



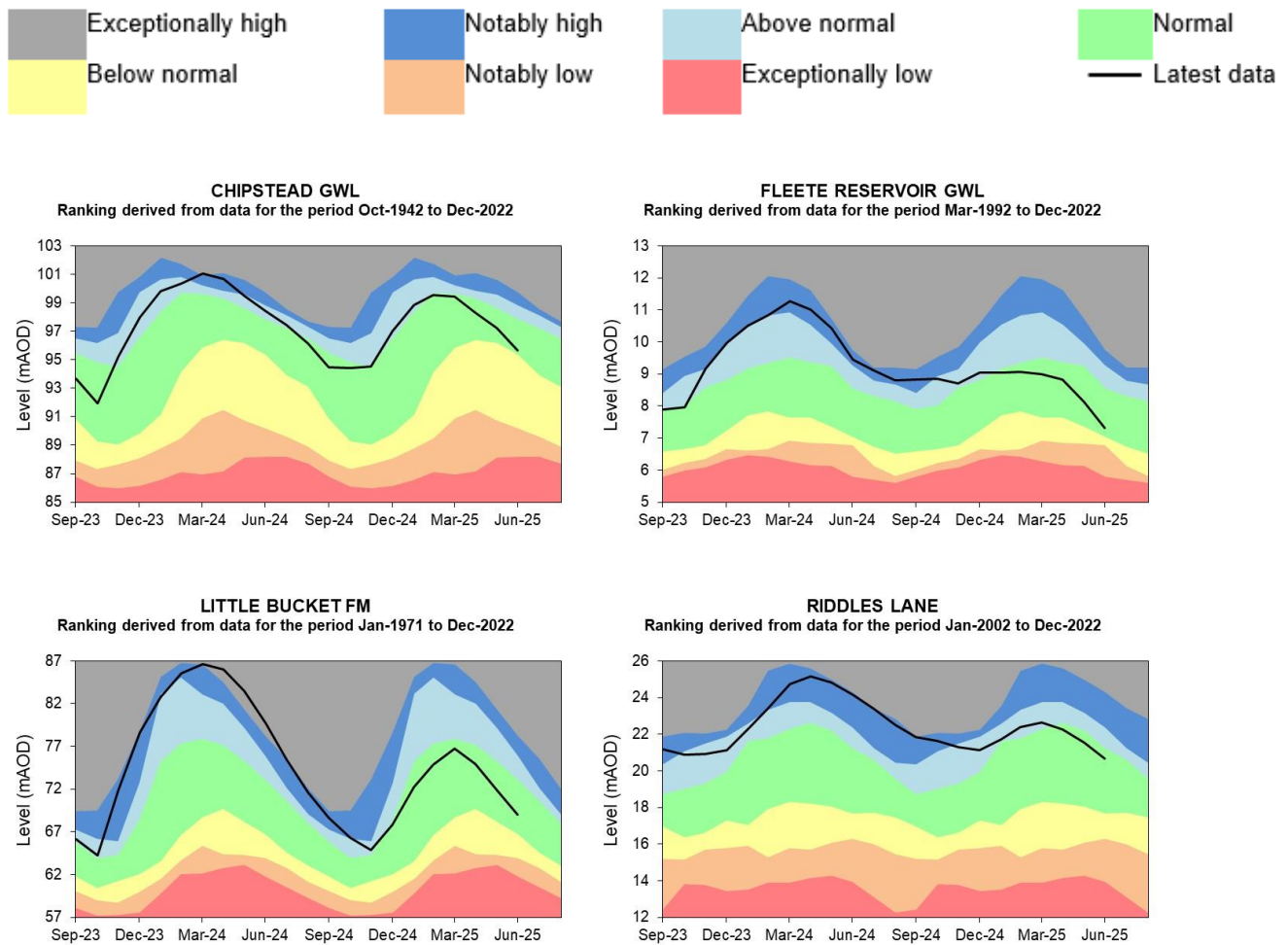


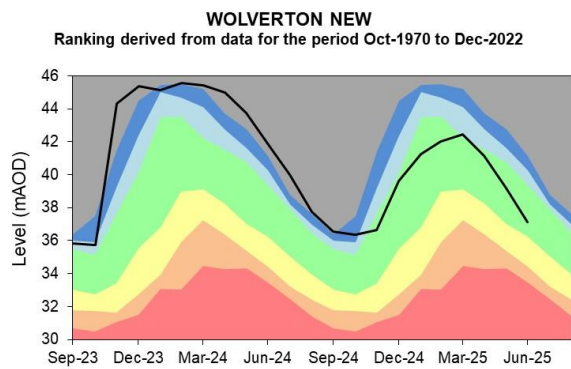
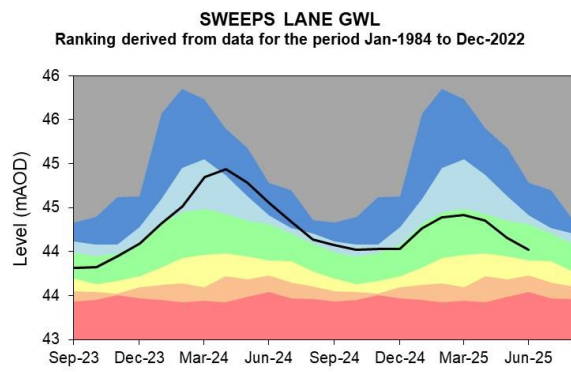
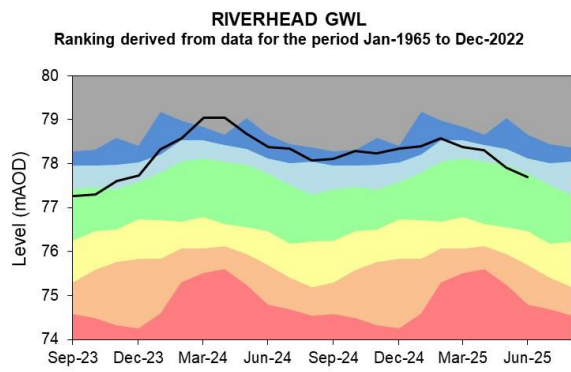
Source: Environment Agency.

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.



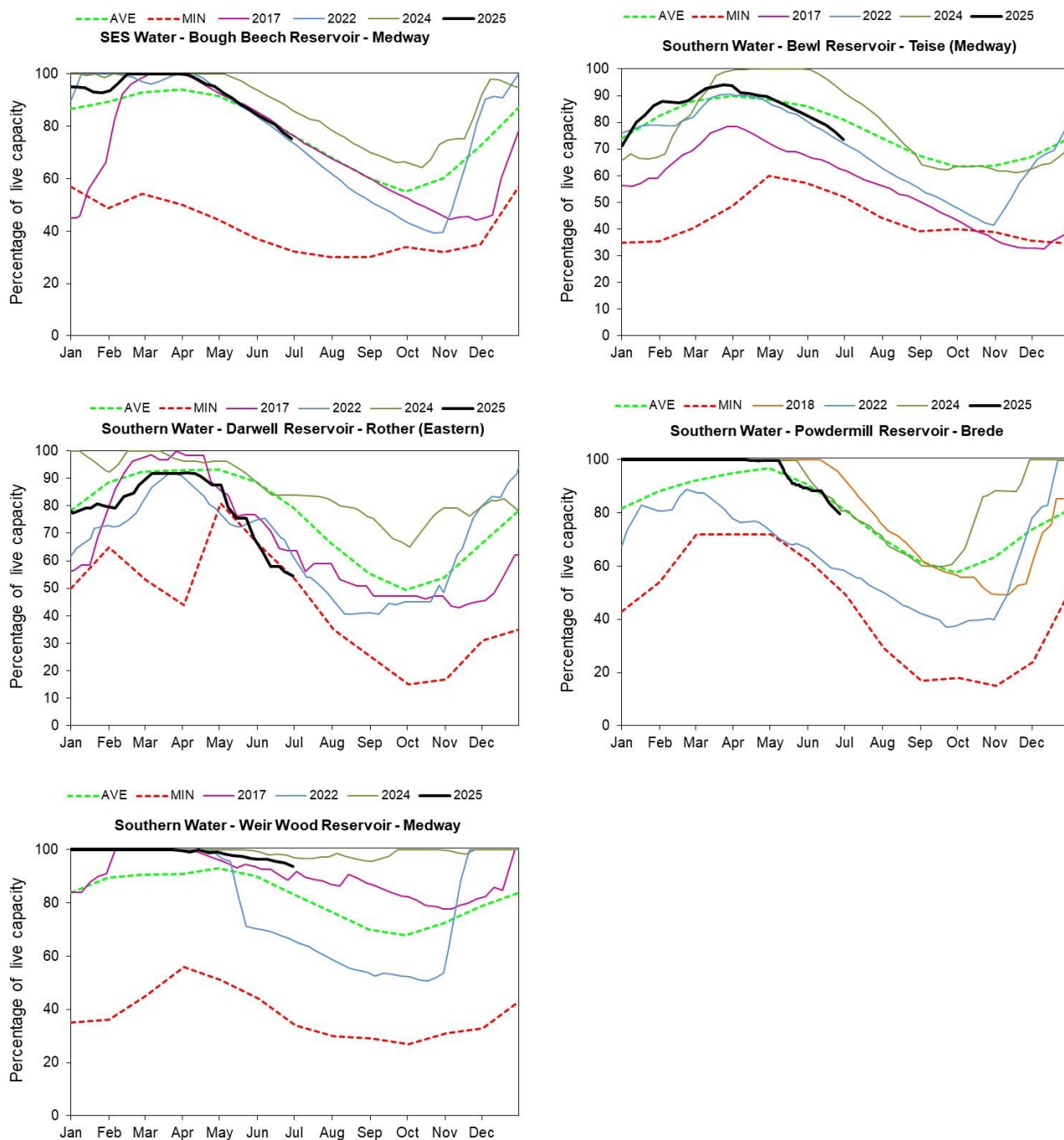


Source: Environment Agency, 2025.

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	Jun 2025 rainfall % of long term average 1991 to 2020	Jun 2025 band	Apr 2025 to June cumulative band	Jan 2025 to June cumulative band	Jul 2024 to June cumulative band
North Downs - South London	61	Normal	Exceptionally low	Notably low	Normal
Upper Mole	65	Normal	Notably low	Below normal	Normal
South London	55	Below Normal	Exceptionally low	Notably low	Normal
River Darent	65	Normal	Notably low	Notably low	Normal
North Kent Chalk	71	Normal	Notably low	Notably low	Normal
Stour	69	Normal	Notably low	Notably low	Below normal
Dover Chalk	85	Normal	Notably low	Below normal	Normal
Thanet Chalk	85	Normal	Notably low	Notably low	Notably low
River Medway	70	Normal	Exceptionally low	Below normal	Normal
Eastern Rother	57	Below Normal	Exceptionally low	Below normal	Normal
Romney Marsh	60	Normal	Notably low	Below normal	Normal

North West Grain	57	Normal	Exceptionally low	Notably low	Below normal
Sheppey	64	Normal	Exceptionally low	Exceptionally low	Notably low

8.2 River flows table

Site name	River	Catchment	Jun 2025 band	May 2025 band
Catford Gs	River Ravensbourne	Ravensbourne	Exceptionally low	Exceptionally low
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	Below normal	Notably low
Hawley Gs	River Darent and Cray	Darent and Cray	Normal	Normal
Horton Gs	Great Stour River	Great Stour	Below normal	Below normal
South Willesborough Gs	East Stour River	East Stour	Exceptionally low	Notably low
Stonebridge Gs	River Teise	Teise	Normal	Normal
Teston Farleigh Combined	River Medway	Medway (Middle)	Normal	Below normal
Udiam Gs	River Rother	Rother (Kent)	Below normal	Below normal
Vexour_penshurst	River Eden	Eden (Kent)	Below normal	Notably low

8.3 Groundwater table

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