

Monthly water situation report: South-east England

1 Summary - June 2025

June was the fourth consecutive month with below average rainfall, when only 63% of the long term average (LTA) rainfall was recorded. Over the last three months, Cotswolds West and Cherwell areal units (both Thames, THM) were the driest June on record. During a notable thunder storm over eastern Kent on 13 June, the highest daily total of 67.7mm was recorded at Dover raingauge (Kent and South London, KSL). The soil moisture deficits (SMDs) continued their rise to record high levels for June. Ten areal units across the south-east recorded their second highest SMDs since 1976. Despite the ongoing low rainfall totals over the last few months, river flows in the Chalk rivers Ver and Mimram (Hertfordshire and North London, HNL) remained above normal and notably high respectively for June reflecting the continuing high groundwater levels. Flows at all the remaining indicator sites across the south-east were all at normal flows or lower for June. The expected steady decline of groundwater levels for this time of year continued during the month. Levels ranged from exceptionally low to notably high.

1.1 Rainfall

June was the fourth consecutive month with below average rainfall, when only 63% of the LTA rainfall was recorded. There were on average 21 'dry' days when less than 0.2mm of rainfall was recorded. Over the last three months, Cotswolds West and Cherwell areal units (both THM) were the driest June on record and Cotswolds East, Berkshire Downs, Upper Thames and the Ock areal units (all THM) were the driest for June since 1976.

However, during a notable thunder storm over eastern Kent on 13 June, the highest daily total of 67.7mm was recorded at Dover raingauge (KSL). This was a high intensity event when 30mm was recorded in 15 minutes and 53mm of rainfall was recorded in just half an hour. This caused some flash flooding in Dover, Ramsgate and surrounding areas. Despite the high daily rainfall total in this small area, it only provided on average 10% of the monthly total. The combined rainfall totals from 5 June to 7 June were wetter, when there was widespread rainfall, albeit less intense. On average, around 55% of the monthly total was recorded in these 3 days.

The high rainfall in KSL brought the average rainfall for the area in line with THM and Solent and South Downs (SSD). Hertfordshire and North London (HNL) received around a third less rainfall than the other 3 areas in the south-east.

1.2 Soil moisture deficit and recharge

The SMDs continued their rise to record high levels for June. Ten areal units across the southeast recorded their second highest SMDs since 1976. In addition, some units ended the month at the highest SMDs on record for June. They were

- Cotswolds West (THM)
- Chilterns West (THM)
- Chilterns East (HNL)
- North Downs Hampshire (THM)
- Test Chalk (SSD)
- East Hampshire Chalk (SSD)

There were small falls in most of the SMDs in the first week after the rainfall recorded on the 5, 6 and 7 of June. This enabled some effective rainfall to occur, but it was very limited as is expected at this time of year.

1.3 River flows

Despite the continuing low rainfall totals over the last few months, river flows in the Chalk rivers Ver and Mimram (both HNL) remained above normal and notably high (respectively) for June reflecting the high groundwater levels in the Chilterns and Upper Lee Chalk. They both ended the month at the highest June flows since 2024, reflecting the last 3 wet winters. Flows at all the remaining indicator sites across the south-east were all at normal flows or lower for June. The Coln at Bibury (THM) and Arun at Alfoldean (SSD) were both at exceptionally low flows. Both these sites ended the month as the third lowest June flows on record after 2022 and 1995 respectively. Please note that a number of gauging stations have been impacted by weed growth due to the high temperatures and low rainfall that can affect the quality of data collected.

	HNL	тнм	SSD	KSL	Total
Fluvial flood alerts	7	0	2	11	20

1.4 Groundwater levels

The expected steady decline of groundwater levels for this time of year continued during the month. Jackaments (THM) recorded exceptionally low levels as did Carisbrooke (SSD), that was the lowest June level on record (starting in 1977). Jackaments was the second lowest on record after 1976. By contrast, levels at Stonor Park (THM) and Lilley Bottom (HNL) both ended the month at notably high levels, reflecting the slower responding Chalk in the Chilterns (THM) and Upper Lee (HNL) respectively. Of the remaining 12 indicator sites across the south-east, 9 were at normal levels and 3 recorded below normal levels for June.

1.5 Reservoir stocks

Reservoir stocks have declined as expected, but Lower Lee (HNL) and Weir Wood (KSL) reservoirs remained above the LTA. Bough Beech and Powdermill (KSL) were right on the LTA for June and the remaining reservoirs were all below the LTA.

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2 Maps

2.1 Rainfall map

Figure 2.1: Total rainfall for hydrological areas for the current month (up to 30 June 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information. The numbers refer to percentage of the 1991-2020 long term average.



Rainfall data for 2025, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to 2025, extracted from Met Office HadUK 1km gridded rainfall dataset derived from registered rain gauges. (Source: Met Office. Crown copyright, 2025).

2.2 River flows and groundwater levels map

Figure 2.2: Monthly mean river flow for indicator sites for June 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic June monthly means Table available in the appendices with detailed information. Groundwater levels for indicator sites at the end of June 2025, classed relative to an analysis of respective historic June levels. Table available in the appendices with detailed information.

Flows at gauging stations in the Medway catchment (KSL) might be affected by upstream reservoir releases.



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3 Rainfall, effective rainfall and soil moisture deficit tables

3.1 Rainfall, effective rainfall and soil moisture deficit table

Figure 3.1: This is a second estimate of areal rainfall, effective rainfall (percolation or runoff) and SMDs for a selection of the hydrological areas across the south-east of England. There may be significant variation within each area which must be considered when interpreting these data. When additional meteorological data is available estimates are revised which will affect the period totals in Figure 3.2.

Number	Hydrological Area	Rainfall (mm) 30 day Total	June % LTA	Effective Rainfall (mm) 30 day total	June % LTA	SMD (mm) Day 30	End Jun LTA
6010TH	Cotswolds - West (A)	38	64%	2	23%	98	39
6070TH	Berkshire Downs (G)	39	72%	2	39%	128	69
6130TH	Chilterns - West (M)	31	59%	1	29%	123	73
6162TH	North Downs - Hampshire (P)	43	72%	3	45%	127	70
6190TH	Wey - Greensand (S)	37	67%	3	53%	127	72
	Thames Average	33	63%	1	28%	124	67
	Thames Catchment Average	33	62%	1	28%	124	68
6140TH	Chilterns - East - Colne (N)	27	49%	1	21%	125	72
6600TH	Lee Chalk	24	44%	1	16%	128	87
6507TH	North London	26	51%	0	-	128	81
6509TH	Roding	24	46%	0	0%	127	81
	Herts and North London	25	47%	0	18%	127	80
6230TH	North Downs - South	32	60%	2	46%	126	70
62301H 6706So	London (W) Darent	32	60% 64%	2	40% 50%	126	70

	North Kent						
6707So	Chalk	36	71%	3	59%	124	75
6708So	Stour	35	69%	3	66%	126	76
6809So	Medway	35	70%	0	0%	121	69
	Kent & South London Average	33	66%	1	63%	128	85
6701So	Test Chalk	39	67%	3	39%	130	70
6702So	East Hampshire Chalk	48	78%	4	50%	125	69
6703So	West Sussex Chalk	36	61%	3	31%	122	69
6804So	Arun	36	67%	0	0%	125	68
6805So	Adur	31	59%	0	0%	123	67
	Solent & South Downs Average	36	65%	1	30%	124	70
	South East Average	33	63%	1	35%	125	74

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

EA effective rainfall and soil moisture deficit data (Source EA Soil Moisture Model 2025.)

3.2 Seasonal summary table of rainfall and effective rainfall

Figure 3.2 This is a seasonal estimate of areal rainfall and effective rainfall (percolation or runoff) for a selection of the hydrological areas across the south-east of England, expressed as totals and as a percentage of the LTA. There may be significant variation within each area which must be considered when interpreting these data. When additional meteorological data is available estimates are revised which will affect the period totals.

Summer period 01/04/2025 to 30/06/2025

Number	Hydrological Area	Seasonal Rainfall (mm) Total	Seasonal Rainfall as % LTA	Seasonal Effective Rainfall (mm)	Seasonal Effective Rainfall as % LTA
				Total	
6010TH	Cotswolds - West (A)	78	43%	5	13%
6070TH	Berkshire Downs (G)	80	47%	4	15%
6130TH	Chilterns - West (M)	86	53%	5	21%
6162TH	North Downs - Hampshire (P)	84	48%	5	15%
6190TH	Wey - Greensand (S)	82	49%	5	16%
	Thames Average	76	47%	2	10%
	Thames Catchment Average	77	48%	2	12%
6140TH	Chilterns - East - Colne (N)	85	52%	6	24%
6600TH	Lee Chalk	75	51%	5	29%
6507TH	North London	76	52%	0	0%
6509TH	Roding	72	52%	0	0%
	Herts and North London	76	52%	2	18%
6230TH	North Downs - South London (W)	77	47%	6	20%

6706So	Darent	79	53%	6	32%
	North Kent				
6707So	Chalk	84	56%	7	34%
6708So	Stour	76	51%	7	32%
6809So	Medway	82	53%	0	0%
	Kent & South London Average	76	52%	3	20%
6701So	Test Chalk	76	44%	5	14%
6702So	East Hampshire Chalk	94	52%	7	18%
6703So	West Sussex Chalk	91	53%	7	18%
6804So	Arun	81	50%	0	0%
6805So	Adur	84	52%	0	0%
	Solent & South Downs Average	87	54%	3	11%
	South East Average	79	51%	3	13%

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

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

4 Thames

4.1 Thames Rainfall and effective rainfall charts

Figure 4.1: Monthly rainfall and effective rainfall totals for the past 24 months compared to the 1991 to 2020 long term average for a selection of areal units.





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

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

4.2 Thames River flow charts

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



Source: Environment Agency. 2025

4.3 Thames Groundwater level charts

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



Source: Environment Agency, 2025.

4.4 Thames Reservoir stocks

Figure 4.4: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.



(Source: water companies).

5 Hertfordshire and North London (HNL)

5.1 HNL Rainfall and Effective rainfall charts

Figure 5.1: Monthly rainfall and effective rainfall totals for the past 24 months compared to the 1991 to 2020 long term average for a selection of areal units.



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

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

5.2 HNL River flow charts

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



RIVER LEE AT FEILDES WEIR (NATURALISED) Ranking used data from 01/10/1883 to 31/12/2022



Source: Environment Agency. 2025

5.3 HNL Groundwater level charts

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



Source: Environment Agency, 2025.

5.4 HNL Reservoir stocks

Figure 5.4: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.



(Source: water companies).

6 Solent and South Downs (SSD)

6.1 SSD Rainfall and Effective Rainfall charts

Figure 6.1: Monthly rainfall and effective rainfall totals for the past 24 months as a percentage of the 1991 to 2020 long term average for a selection of areal units.





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

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

6.2 SSD River flow charts

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



Source: Environment Agency. 2025

6.3 SSD Groundwater levels

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







HOUNDEAN BOTTOM GWL Ranking derived from data for the period Jan-1977 to Dec-2022



WEST MEON HUT GWL Ranking derived from data for the period Sep-1986 to Dec-2022





CHILGROVE HOUSE GWL Ranking derived from data for the period Feb-1836 to Dec-2022

Source: Environment Agency, 2025.

6.4 SSD Reservoir stocks

Figure 6.4: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.



(Source: water companies).

7 Kent and South London (KSL)

7.1 KSL Rainfall and Effective Rainfall charts

Figure 7.1: Monthly rainfall and effective rainfall totals for the past 24 months compared to the 1991 to 2020 long term average for a selection of areal units.





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

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

7.2 KSL River flow charts

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



Source: Environment Agency. 2025

7.3 KSL Groundwater levels

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







Source: Environment Agency. 2025

7.4 KSL Reservoir stocks

Figure 7.4: End of month regional reservoir stocks compared to long term maximum, minimum and average stocks. Note: Historic records of individual reservoirs and reservoir groups making up the regional values vary in length.



⁽Source: water companies).

8 Glossary

8.1 Terminology

Aquifer

A geological formation able to store and transmit water.

Areal average rainfall

The estimated average depth of rainfall over a defined area. Expressed in depth of water (mm).

Artesian

The condition where the groundwater level is above ground surface but is prevented from rising to this level by an overlying continuous low permeability layer, such as clay.

Artesian borehole

Borehole where the level of groundwater is above the top of the borehole and groundwater flows out of the borehole when unsealed.

Cumecs

Cubic metres per second (m³s⁻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).

8.2 Categories

Exceptionally high

Value likely to fall within this band 5% of the time.

Notably high

Value likely to fall within this band 8% of the time.

Above normal

Value likely to fall within this band 15% of the time.

Normal

Value likely to fall within this band 44% of the time.

Below normal

Value likely to fall within this band 15% of the time.

Notably low

Value likely to fall within this band 8% of the time.

Exceptionally low

Value likely to fall within this band 5% of the time.

9 Appendices

9.1 Rainfall table

Hydrological area	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
Cotswold West	65	Normal	Exceptionally low	Notably low	Normal
Cotswold East	58	Below Normal	Exceptionally low	Notably low	Above normal
Berkshire Downs	72	Normal	Exceptionally low	Below normal	Above normal
Chilterns West	59	Below Normal	Notably low	Below normal	Normal
Chilterns East Colne	50	Below Normal	Notably low	Notably low	Normal
North Downs - Hampshire	72	Normal	Notably low	Below normal	Normal
North Downs - South London	61	Normal	Exceptionally low	Notably low	Normal
Upper Thames	71	Normal	Exceptionally low	Notably low	Normal
Upper Cherwell	53	Below Normal	Exceptionally low	Notably low	Normal
Thame	57	Below Normal	Exceptionally low	Notably low	Normal
Loddon	58	Below Normal	Exceptionally low	Below normal	Normal
Lower Wey	56	Below Normal	Notably low	Below normal	Normal
Upper Mole	65	Normal	Notably low	Below normal	Normal
Lower Lee	46	Below Normal	Notably low	Notably low	Normal
North London	51	Below Normal	Notably low	Below normal	Normal
South London	55	Below Normal	Exceptionally low	Notably low	Normal
Roding	47	Below Normal	Notably low	Notably low	Below normal

Ock	66	Normal	Exceptionally low	Notably low	Normal
Enborne	66	Normal	Exceptionally low	Below normal	Normal
Cut	54	Below Normal	Notably low	Below normal	Normal
Lee Chalk	45	Below Normal	Notably low	Notably low	Normal
River Test	67	Normal	Exceptionally low	Below normal	Above normal
East Hampshire Chalk	78	Normal	Notably low	Below normal	Normal
West Sussex Chalk	61	Normal	Notably low	Below normal	Normal
East Sussex Chalk	50	Below Normal	Notably low	Below normal	Normal
Sw Isle Of Wight	64	Normal	Notably low	Below normal	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
Western Rother Greensand	73	Normal	Notably low	Below normal	Normal
Hampshire Tertiaries	73	Normal	Notably low	Below normal	Normal
Lymington River Avon Water And O	82	Normal	Notably low	Below normal	Normal
Sussex Coast	60	Normal	Exceptionally low	Below normal	Normal
River Arun	68	Normal	Notably low	Below normal	Normal
River Adur	60	Below Normal	Notably low	Below normal	Normal
River Ouse	63	Normal	Notably low	Below normal	Normal
Cuckmere River	58	Normal	Notably low	Below normal	Normal
Pevensey Levels	49	Below Normal	Exceptionally low	Below normal	Normal
River Medway	70	Normal	Exceptionally low	Below normal	Normal

Eastern	57	Below	Exceptionally	Below normal	Normal
Rother		Normal	low		
Romney	60	Normal	Notably low	Below normal	Normal
Marsh					
North West	57	Normal	Exceptionally	Notably low	Below normal
Grain			low	-	
Sheppy	64	Normal	Exceptionally	Exceptionally	Notably low
			low	low	-

9.2 River flows table

Site name	River	Catchment	Jun 2025 band	May 2025 band
Colney Street_hansteads	Ver	Colne	Above normal	Above normal
Feildes Weir (nat)	Lee (middle)	Lee	Normal	Normal
Panshanger	Mimram	Lee	Notably high	Notably high
Crabble Mill Gs	Dour	Little Stour	Normal	Normal
Hawley Gs	Darent	Darent and Cray	Normal	Normal
Horton Gs	Great Stour	Stour Kent	Below normal	Below normal
Stonebridge Gs	Teise	Teise	Normal	Normal
Teston Farleigh Combined	Medway100	Medway Estuary	Normal	Below normal
Udiam Gs	Rother	Rother Kent Lower	Below normal	Below normal
Alfoldean Gs	Arun	Arun	Exceptionally low	Exceptionally low
Allbrook Gs And Highbridge	Itchen (so)	Itchen	Normal	Normal
Broadlands	Test	Test Lower	Below normal	Normal
Brockenhurst Gs	Lymington	New Forest	Below normal	Exceptionally low
Goldbridge Gs	Ouse (so)	Ouse Sussex	Normal	Below normal
Iping Mill Gs	Rother	West Rother	Normal	Below normal
Farmoor (naturalised)	River Thames	Thames	Below normal	Notably low
Kingston (naturalised)	River Thames	Thames North Bank	Below normal	Below normal
Marlborough	River Kennet	Kennet	Below normal	Normal
Sheepbridge	River Loddon	Loddon	Below normal	Normal
Tilford	River Wey	Wey Addleston Bourne	Normal	Normal

9.3 Groundwater table

Site name	Aquifer	End of Jun 2025 band	End of May 2025 band
Ashley Green Stw	Mid-chilterns Chalk	Normal	Normal
Lilley Bottom	Upper Lee Chalk	Notably high	Notably high
Little Bucket Fm	East Kent Chalk - Stour	Normal	Normal
Chipstead Gwl	Epsom North Downs Chalk	Normal	Normal
Riddles Lane	North Kent Swale Chalk	Normal	Normal
Sweeps Lane Gwl	West Kent Chalk	Normal	Normal
Houndean Bottom Gwl	Brighton Chalk Block	Below normal	Below normal
Chilgrove House Gwl	Chichester- worthing- portsdown Chalk	Below normal	Normal
Carisbrooke Castle	Isle Of Wight Central Downs Chalk	Exceptionally low	Exceptionally low
West Meon Hut Gwl	River Itchen Chalk	Normal	Normal
Clanville Gate Gwl	River Test Chalk	Normal	Normal
Lopcombe Corner Gwl	River Test Chalk	Normal	Normal
Tile Barn Farm	Basingstoke Chalk	Normal	Normal
Rockley Obh	Berkshire Downs Chalk	Below normal	Below normal
Jackaments Bottom Obh	Burford Oolitic Limestone (inferior)	Exceptionally low	Exceptionally low
Stonor Estate	South-west Chilterns Chalk	Notably high	Notably high

9.4 South-east England areal units for reference



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