Monthly water situation report: Solent and South Downs Area

Summary - December 2025

Solent and South Downs (SSD) had just over average rainfall in December, receiving 111% (115mm) of long term average (LTA) of 104mm. Monthly mean river flows for December ranged from normal to notably high across SSD. End of month groundwater levels for December ranged from normal to above normal. Soils across SSD ended the month wetter than the LTA for December. End of month reservoir stocks were below average at Ardingly Reservoir (Ouse) and at Arlington Reservoir (Cuckmere).

1.1 Rainfall

SSD had just over average rainfall in December, receiving 111% (115mm) of LTA (104mm). The Test Chalk and Lymington areal units received the highest monthly rainfall total with 130% of LTA. The Test Chalk unit received 121mm (LTA 93mm) while the Lymington unit received 137mm (LTA 105mm) during December. The Pevensey Levels areal unit received the lowest rainfall total with 79% (81mm) of LTA (103mm).

The highest daily rainfall total of 37mm was recorded on 18 December at Petersfield RG (Western Rother Greensand) and at Warnford RG (East Hampshire Chalk). However, this was part of a larger rainfall event that spanned the 17 to 18 December. During these 2 days over 50mm was received on average across SSD and represented around 40% of the total monthly rainfall for December. There were 17 wet days during December, but 65% of the monthly rainfall fell over just 5 days (2, 5, 8, 17 and 18 December).

1.2 Soil moisture deficit and recharge

Soils across SSD ended the month on average for December.

1.3 River flows

Monthly mean river flows for December ranged from normal to notably high across SSD.

Flows were normal on the:

- River Cuckmere at Cowbeech
- River Itchen at Allbrook and Highbridge
- River Medina at Blackwater
- River Meon at Mislingford
- River Test at Broadlands
- River Test at Chilbolton
- River Wallington at North Fareham

Flows were above normal on the:

- River Ouse at Goldbridge
- River Rother at Iping Mill

Flows were notably high on the:

- River Arun at Alfoldean
- River Adur at Sakeham
- River Lymington at Brockenhurst

The December monthly mean flows represent the fourth highest at Alfoldean (1970), sixth highest at Brockenhurst (1960) and eight highest at Sakeham (1967).

1.4 Groundwater levels

End of month groundwater levels for December ranged from normal to above normal across SSD.

Groundwater levels were normal at:

- Chilgrove (West Sussex Chalk)
- Beeding Hill (West Sussex Chalk)
- Carisbrooke Castle (Isle of Wight)
- Catherington (East Hampshire Chalk)
- Clanville Gate (Test Chalk)
- Cornish Farm (East Sussex Chalk)
- Harting Common (Western Rother Greensand)
- Houndean Bottom (East Sussex Chalk)
- Lopcombe Corner (Test Chalk)
- West Meon (East Hampshire Chalk)
- Youngwoods Copse (Isle of Wight)

Groundwater levels were above normal at:

- Preston Candover (East Hampshire Chalk)

1.5 Reservoir stocks

End of month reservoir stocks were below average for both Ardingly and Arlington Reservoirs. Ardingly Reservoir (Ouse) was at 76.5% of total capacity (LTA 87.0%) and Arlington Reservoir (Cuckmere) was at 76.3% of total capacity (LTA 87.0%).

1.6 Environmental impact

1.6.1 Abstraction licence restriction

At the start of December there were 10 licence restrictions in force. By the end of the month 6 licence restrictions were in place. Over the month the restrictions included:

- one public water supply (PWS) licence on the Ouse under drought order conditions
- two licences (one PWS) on the River Meon,
- one licence on the River Hamble
- one licence on the Sowley Stream
- one PWS licence on the River Ems
- one licence on the Western Rother
- five licences on the Test
- one licence on the Itchen

1.6.2 Flood Alerts and Warnings in Force

There were 32 fluvial flood alerts issued in December. These were issued during 5 to 6 December (5), 8 to 9 December (5) and 18 to 19 December (22). 14 alerts were issued for rivers in Sussex and 18 for rivers in Hampshire and Isle of Wight (HIOW):

- Itchen, Rother (Sussex), Upper Ouse, Adur (east) and Cuckmere during 5 to 6 December
- Test, Itchen, Danes Stream, Eastern Yar and Aldingbourne Rife, and Barnham Rife during 8 to 9 December
- Bartley Water, Danes Stream, Lymington, Itchen, Test, Hamble, Meon, Gurnard Luck, Lukely Brook, Eastern Yar, Cuckmere, Ouse, Arun, Adur, Rother during 18 to 19 December

There were 13 fluvial flood warnings issued in December of which 5 were issued in Sussex and 8 issued in HIOW. The warnings were all issued on 18 to 19 December and were for:

- Bishops Waltham on the River Hamble
- Brockenhurst and Boldre on the River Lymington
- Chandlers Ford to Swaythling
- East Meon to Mislingford on the River Meon
- Landford to Wade Bridge on the River Blackwater
- Rushington and Eling on the Bartley Water
- Tilmore Brook through central Petersfield
- Carisbrooke and Hunny Hill on the Lukely Brook
- Barcombe Mills on the River Ouse
- Fittleworth on the Western River Rother
- Broadbridge Heath to Pallingham Quay on the River Arun
- Lodsbridge to Shopham Bridge on the Western River Rother
- Mock Bridge, near Shermanbury on the River Adur

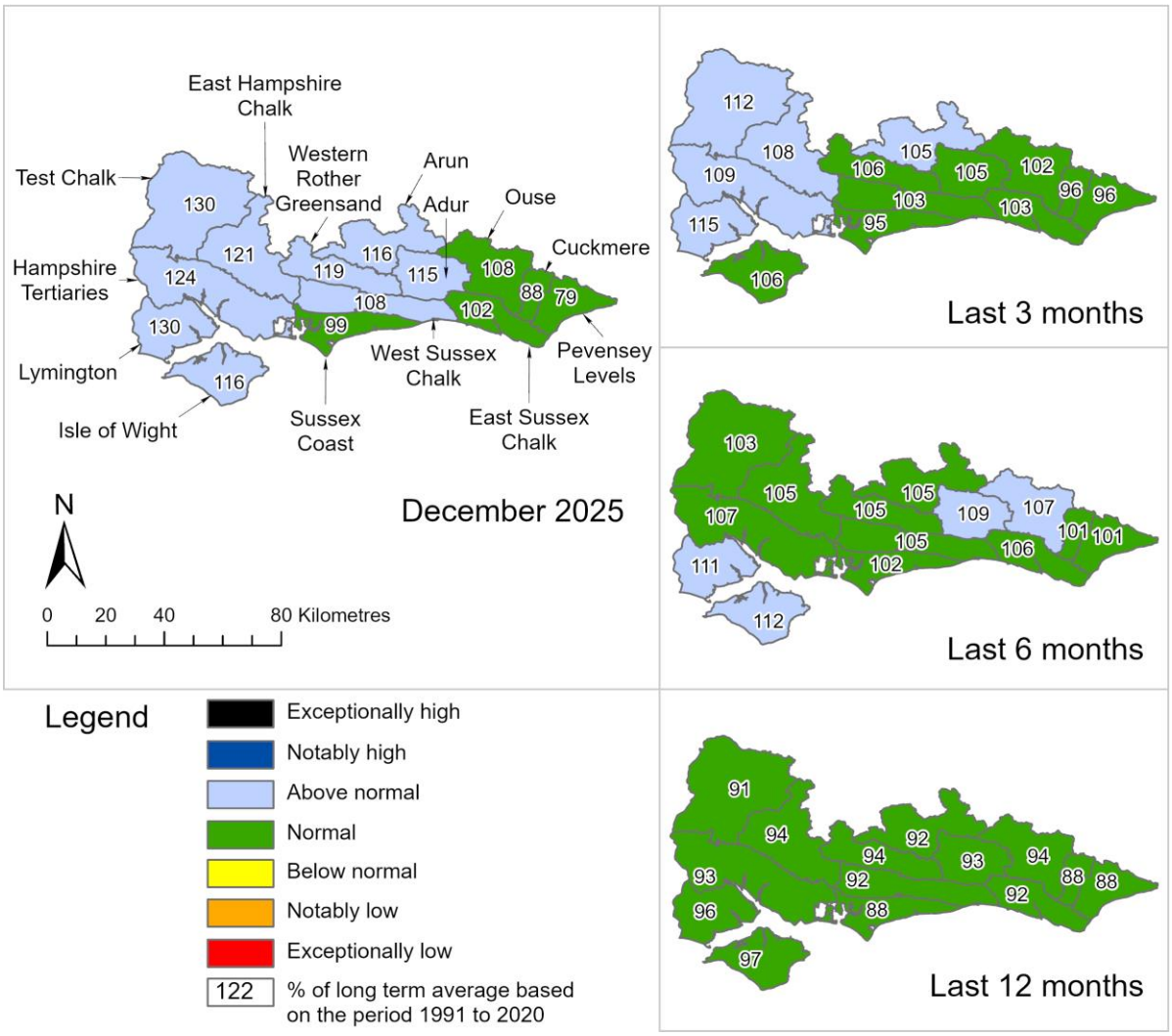
Author: HydrologySSD@Environment-agency.gov.uk

Contact Details: 03708 506506

2. Rainfall

2.1 Rainfall map

Figure 2.1: Total rainfall for hydrological areas for the current month (up to 31 December 2025), the last 3 months, the last 6 months, and the last 12 months, classed relative to an analysis of respective historic totals. Table available in the appendices with detailed information.

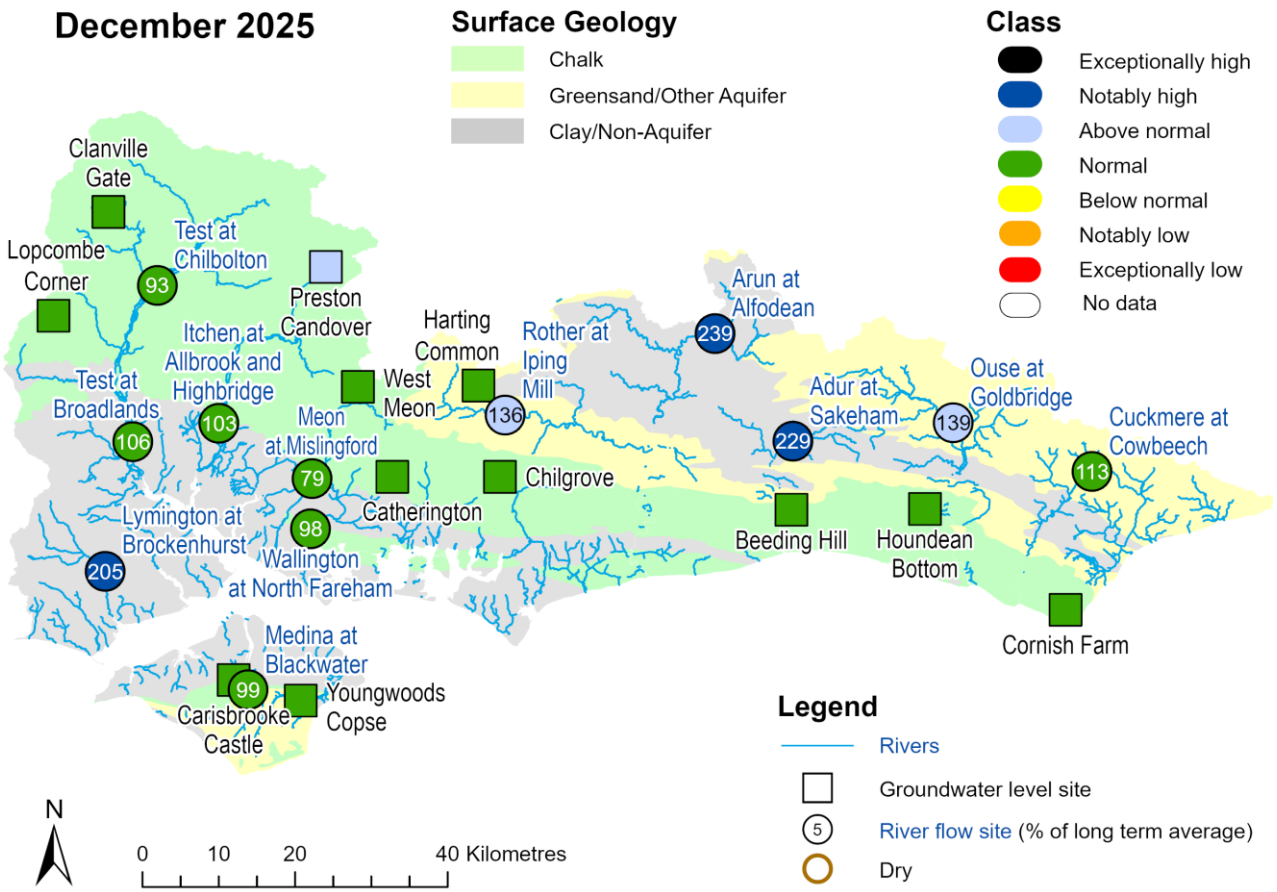


Rainfall data for January 2025 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2026). Rainfall data prior to January 2025, extracted from Met Office HadUK 1km gridded rainfall dataset derived from registered rain gauges (Source: Met Office. Crown copyright, 2026).

3 River flows and Groundwater levels

3.1 River flows and Groundwater level map

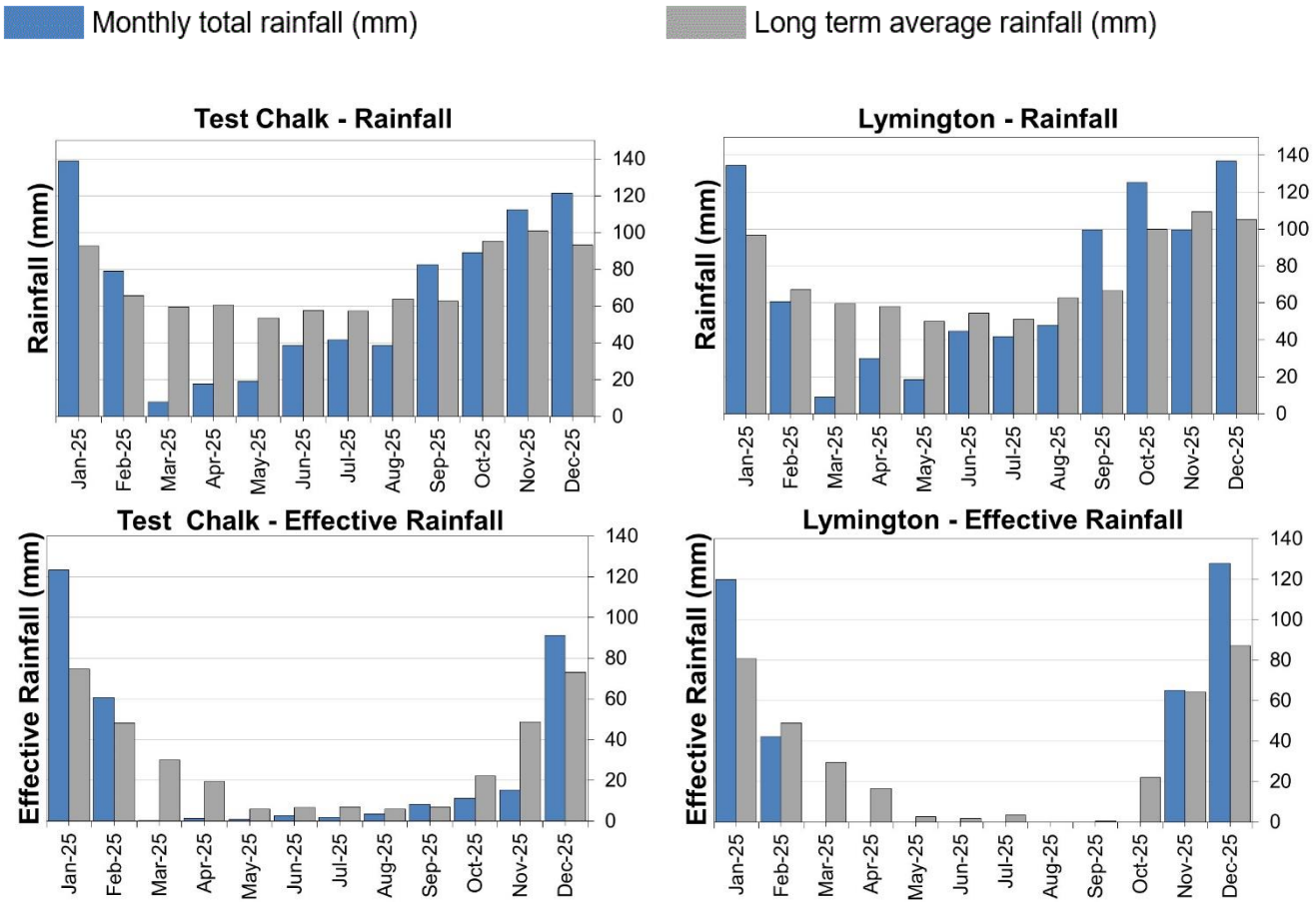
Figure 3.1: Monthly mean river flow and groundwater levels at our indicator sites for December 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic December monthly means. Table available in the appendices with detailed information.



4 West Hampshire

4.1 West Hampshire Rainfall and effective rainfall charts

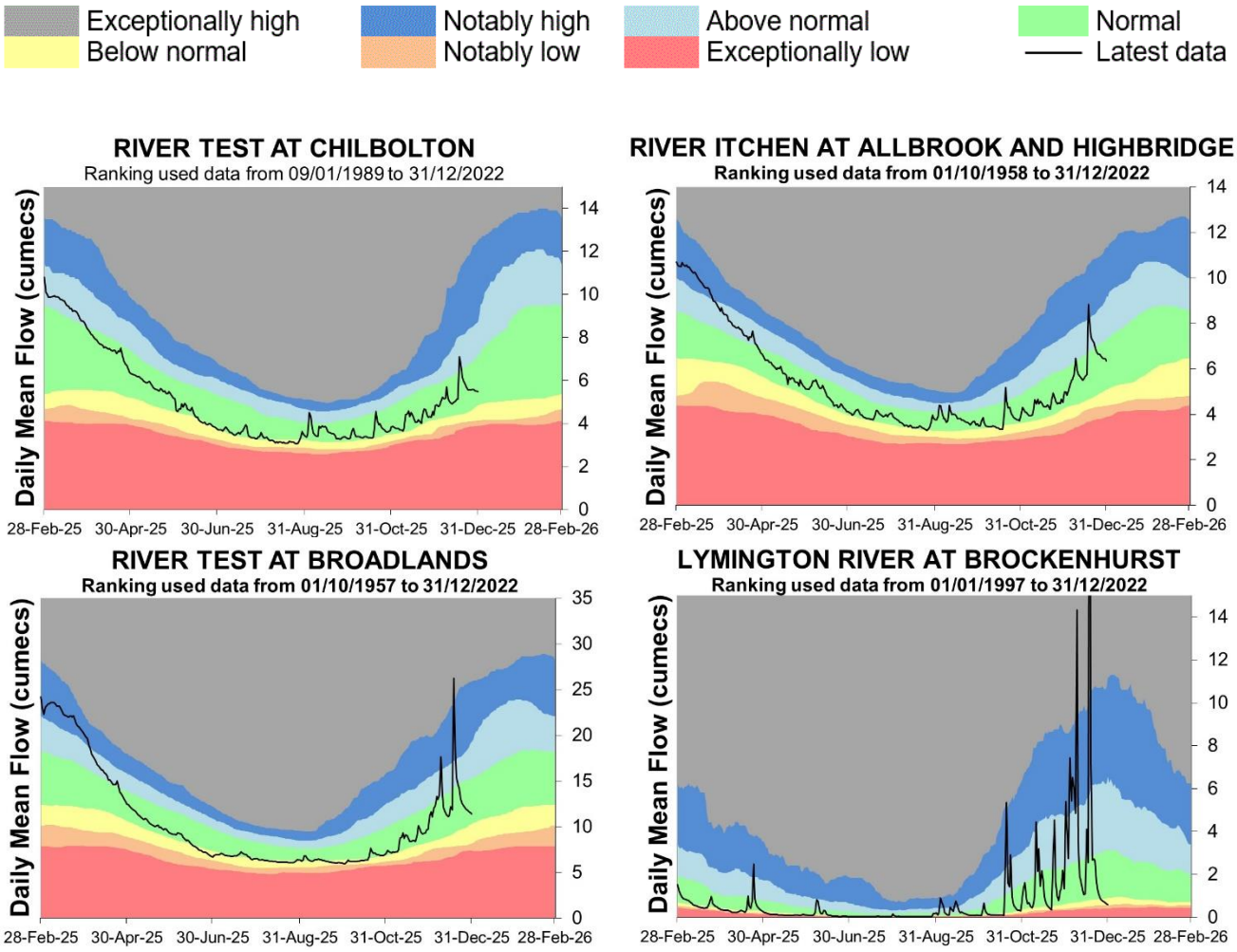
Figure 4.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average.



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

4.2 West Hampshire River flow charts

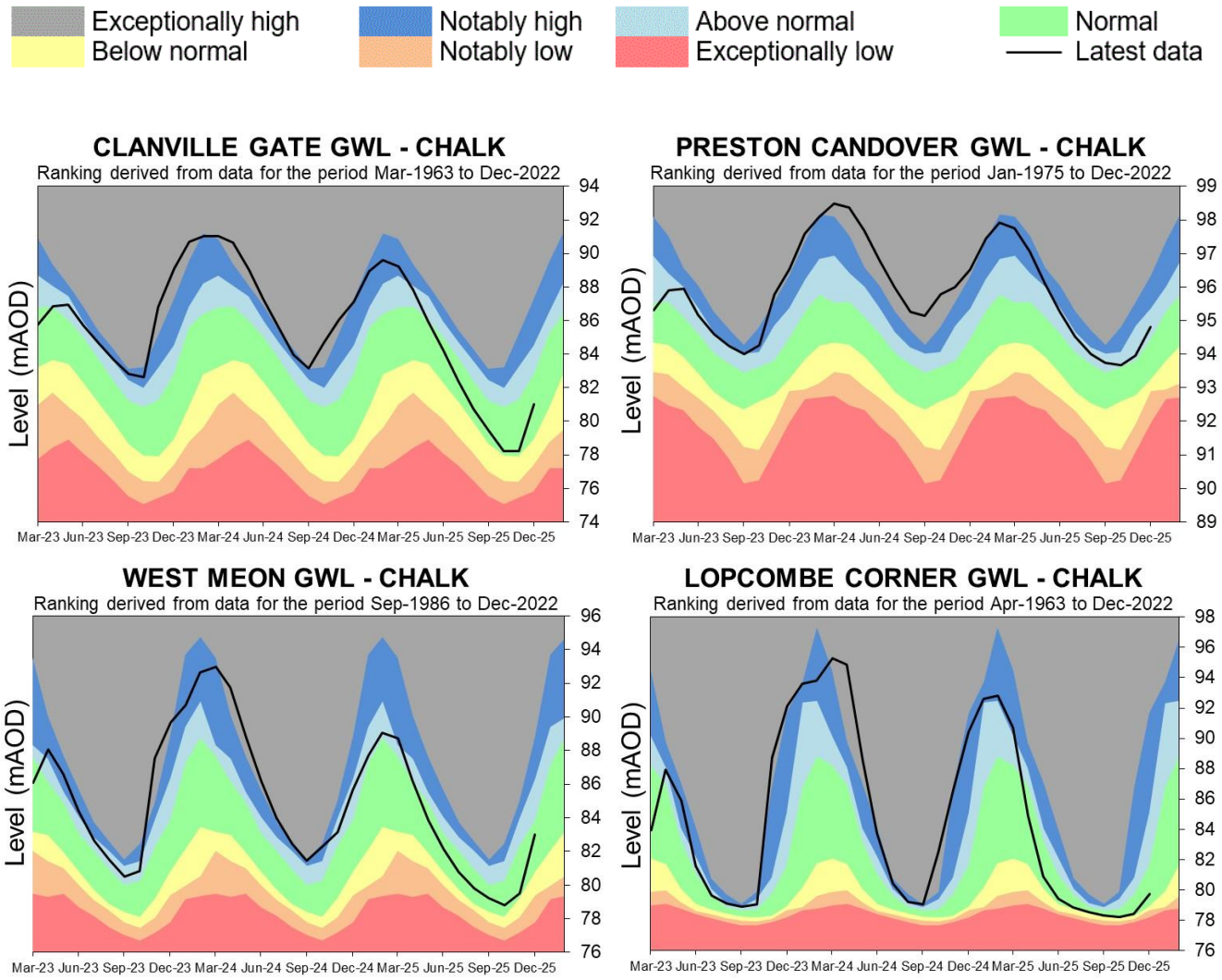
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency, 2026.

4.3 West Hampshire Groundwater level charts

Figure 4.3: End of month groundwater levels at index groundwater level sites for major aquifers. 34 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.

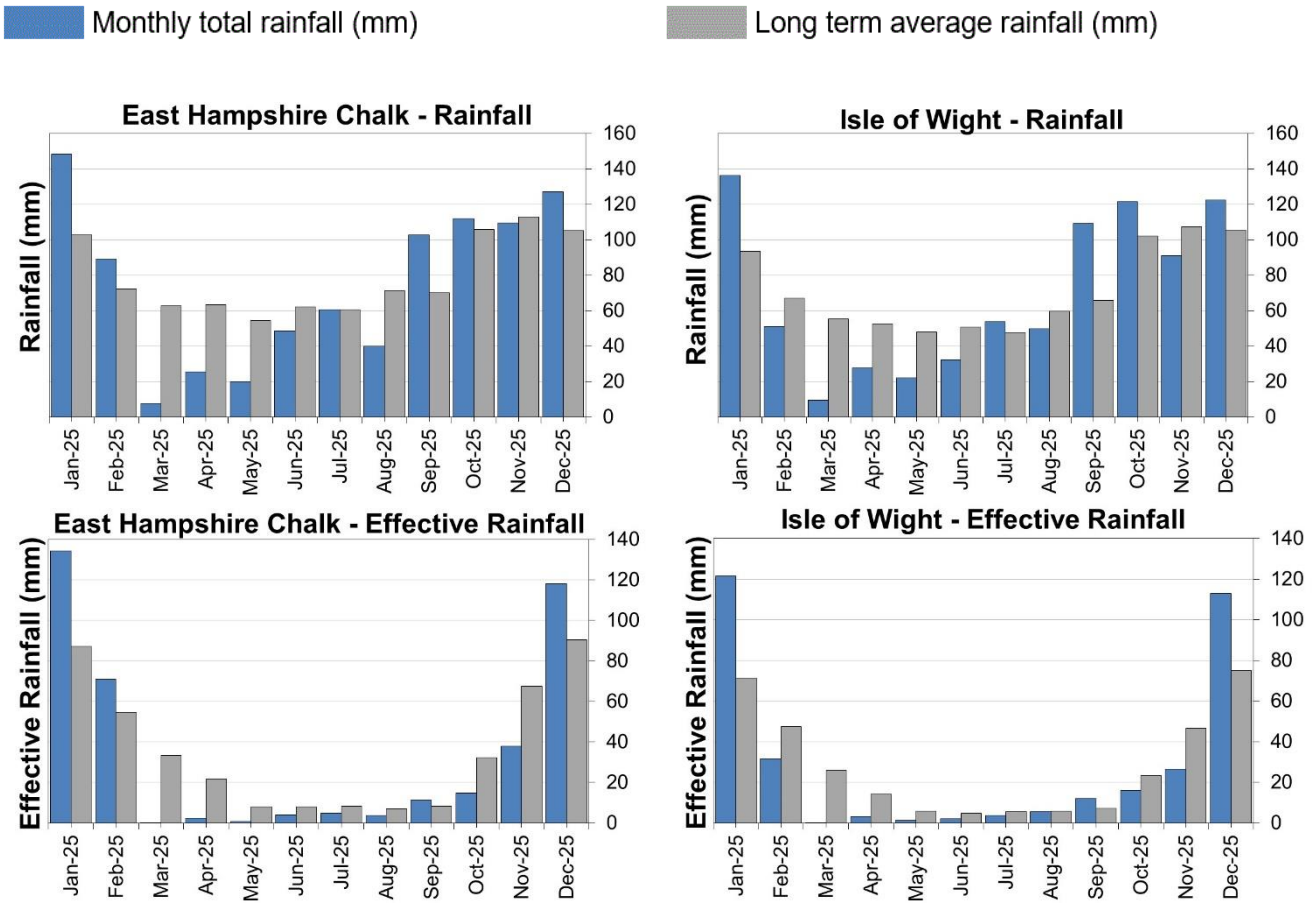


Source: Environment Agency, 2026.

5 East Hampshire and Isle of Wight

5.1 East Hampshire and Isle of Wight Rainfall and Effective rainfall charts

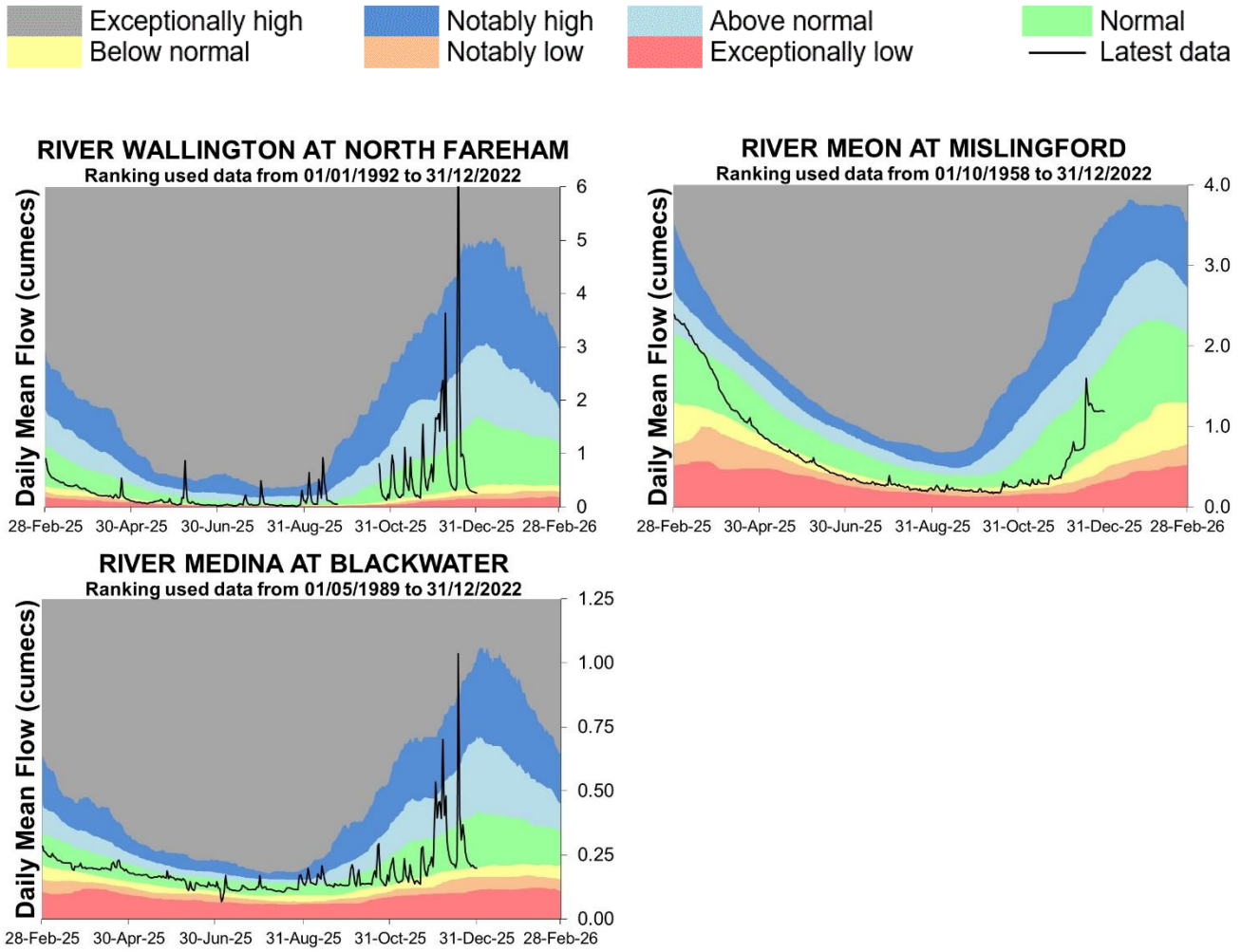
Figure 5.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average.



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

5.2 East Hampshire and Isle of Wight River flow charts

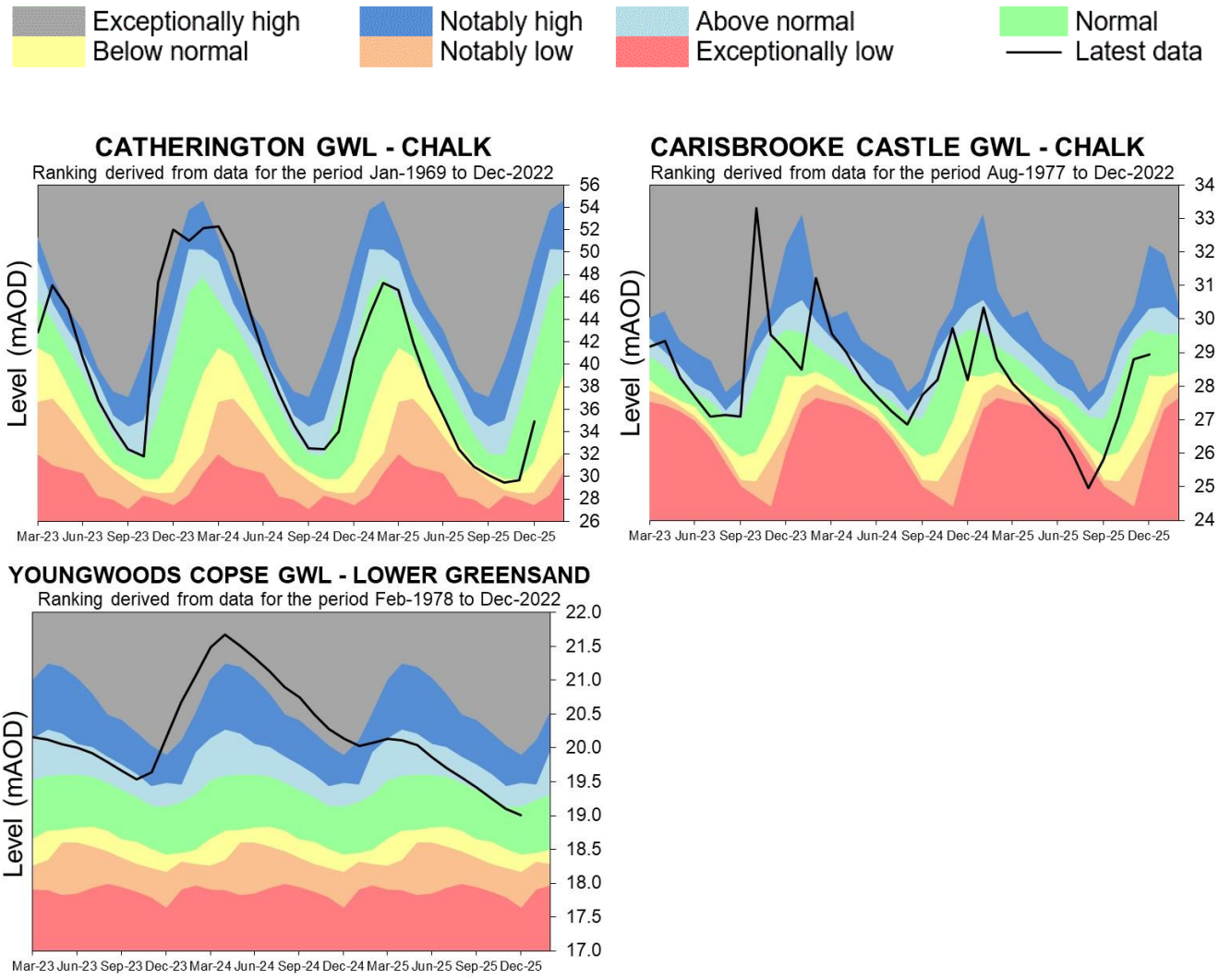
Figure 5.2 Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency, 2026.

5.3 East Hampshire and Isle of Wight Groundwater level charts

Figure 5.3: End of month groundwater levels at index groundwater level sites for major aquifers. 34 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.

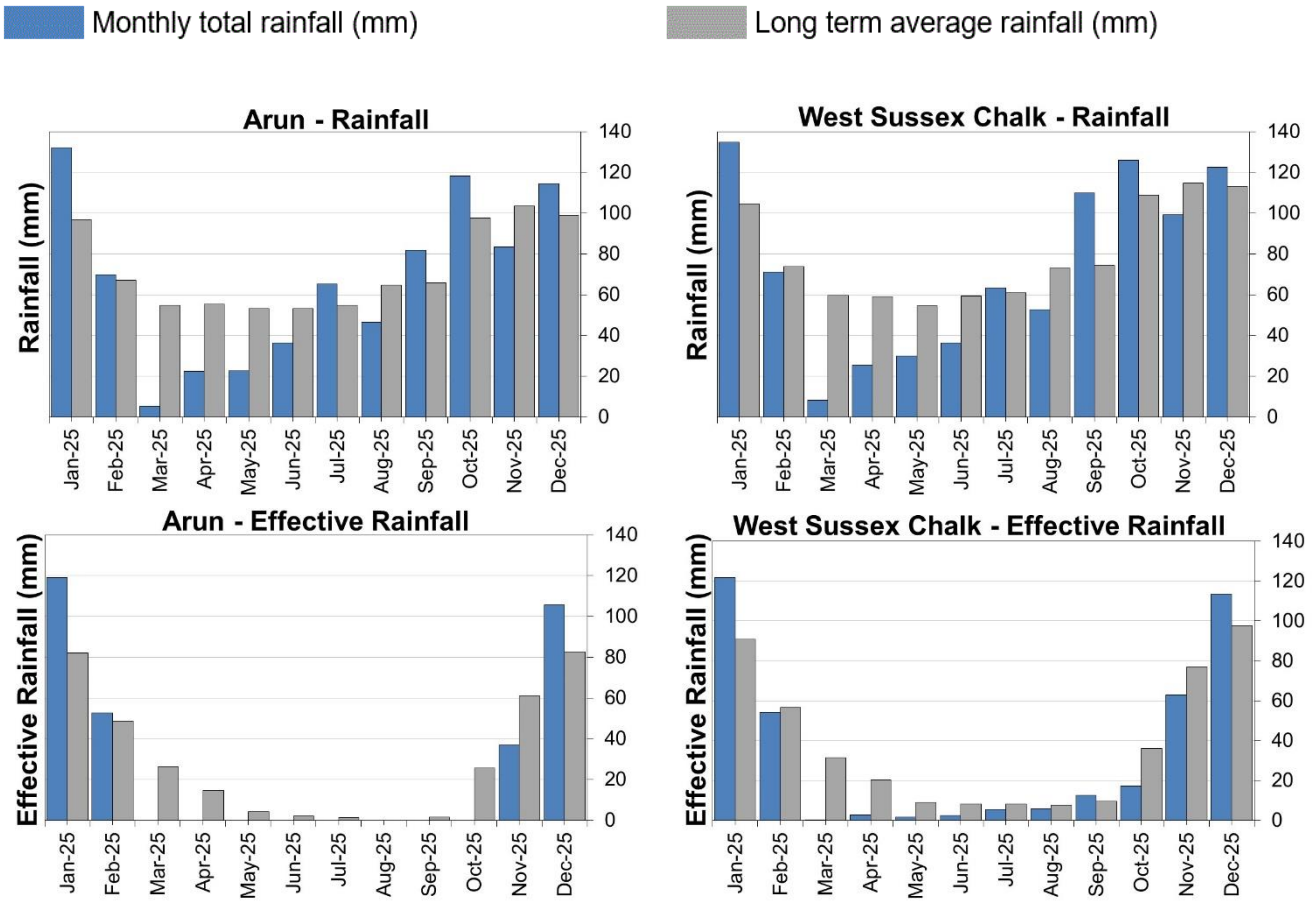


Source: Environment Agency, 2026.

6 West Sussex

6.1 West Sussex Rainfall and Effective Rainfall charts

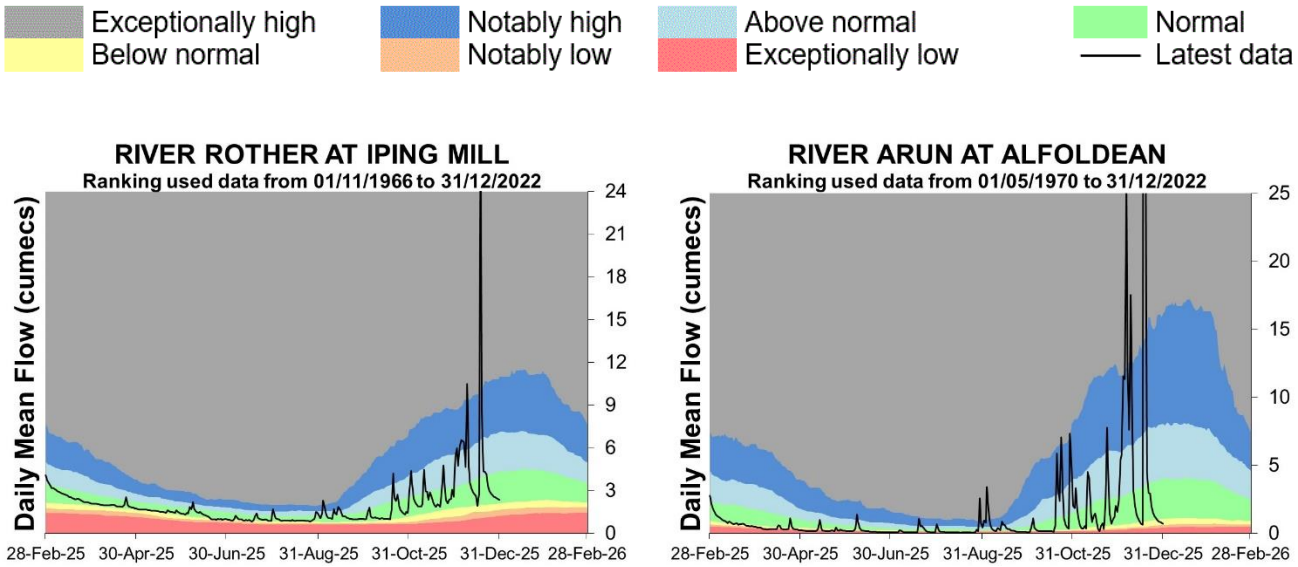
Figure 6.1: Monthly rainfall and effective rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average.



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

6.2 West Sussex River flow charts

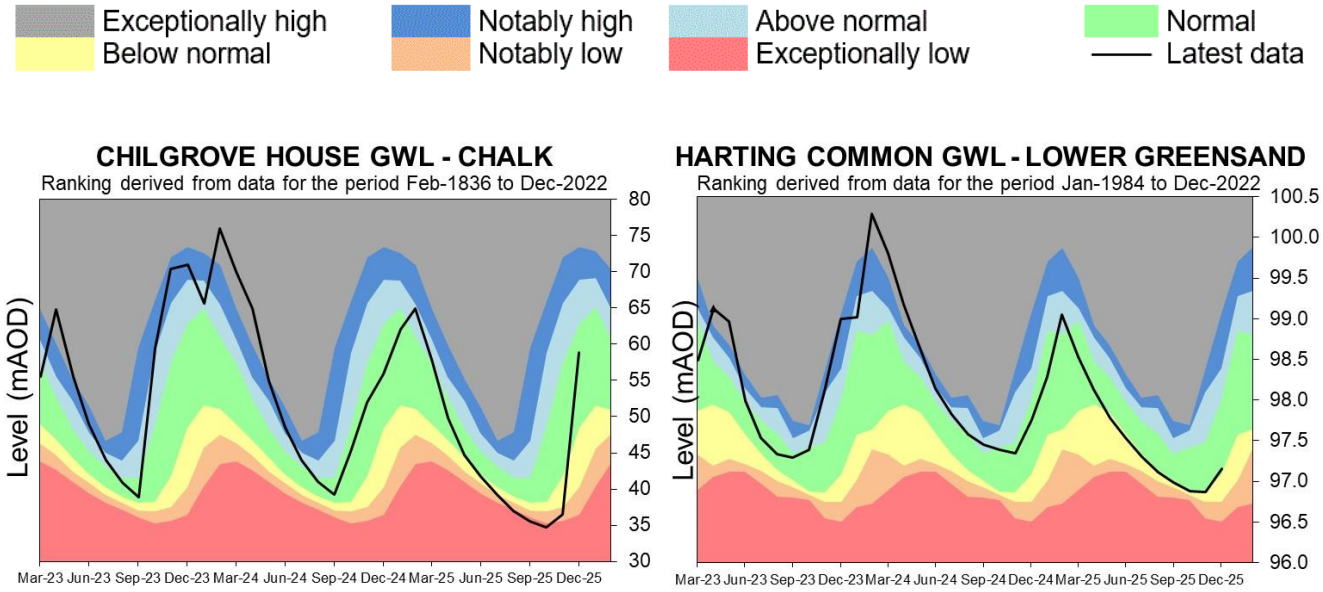
Figure 6.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency, 2026.

6.3 West Sussex Groundwater level charts

Figure 6.3: End of month groundwater levels at index groundwater level sites for major aquifers. 34 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.

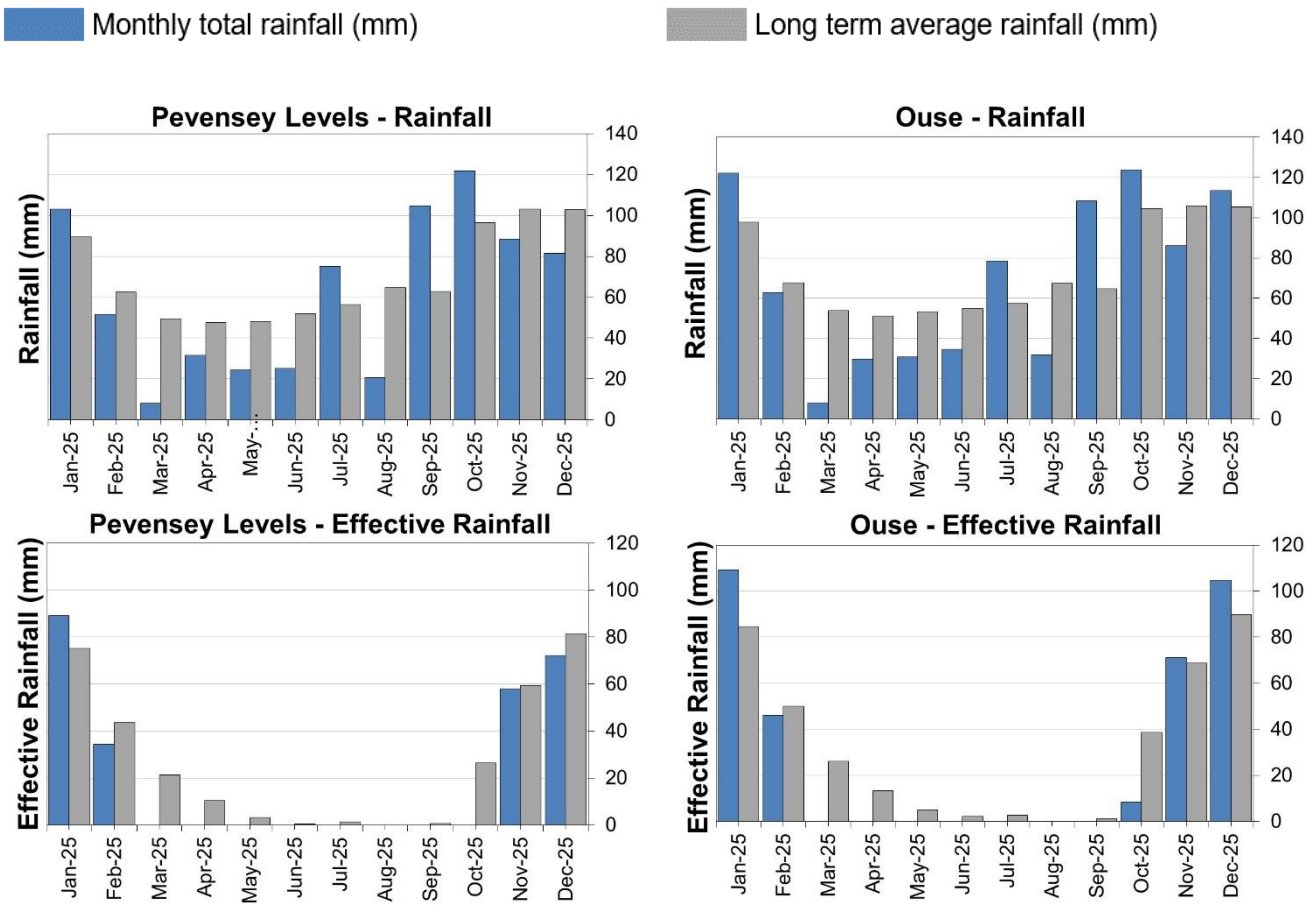


Source: Environment Agency, 2026.

7 East Sussex

7.1 East Sussex Rainfall and Effective Rainfall charts

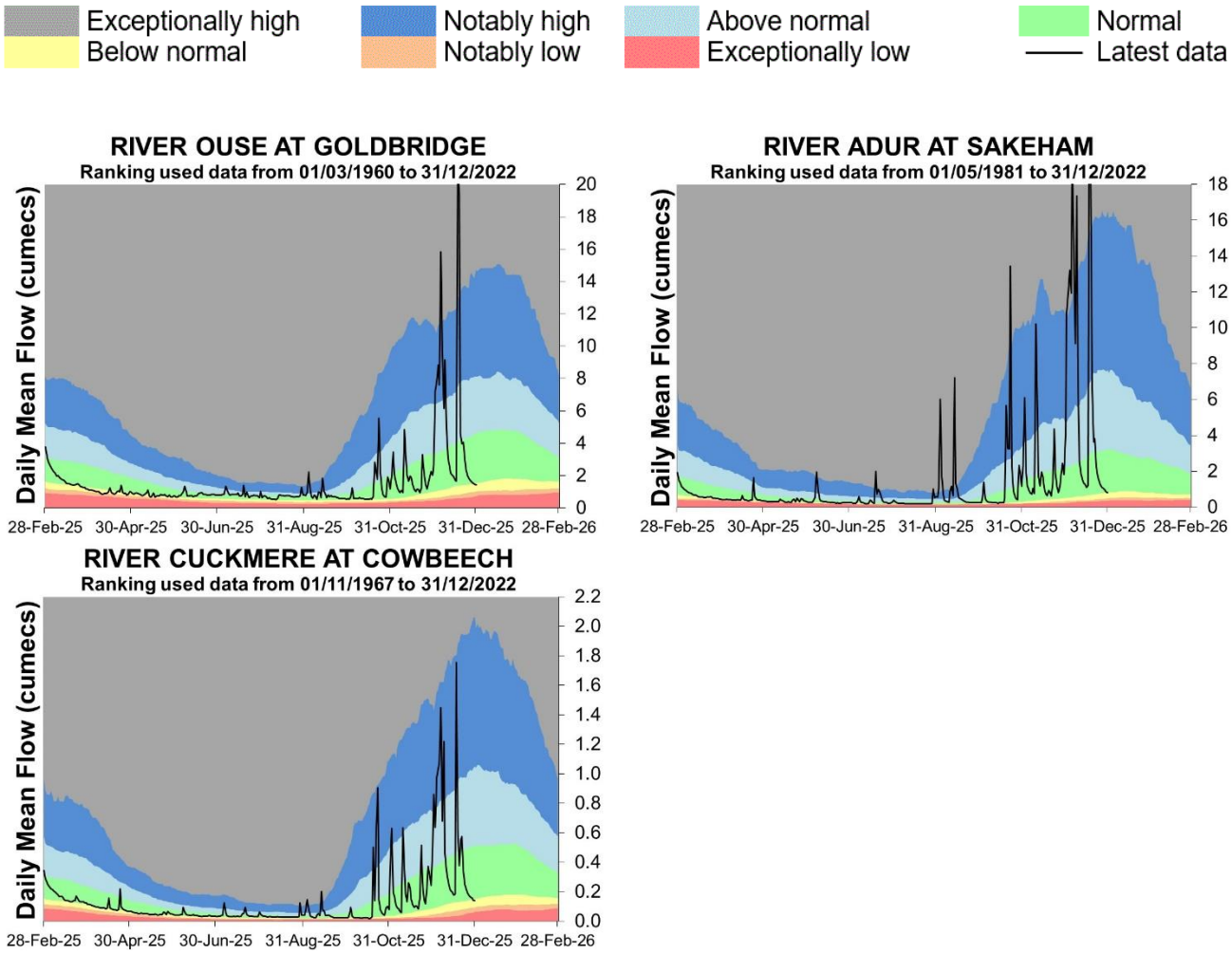
Figure 7.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average.



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

7.2 East Sussex River flow charts

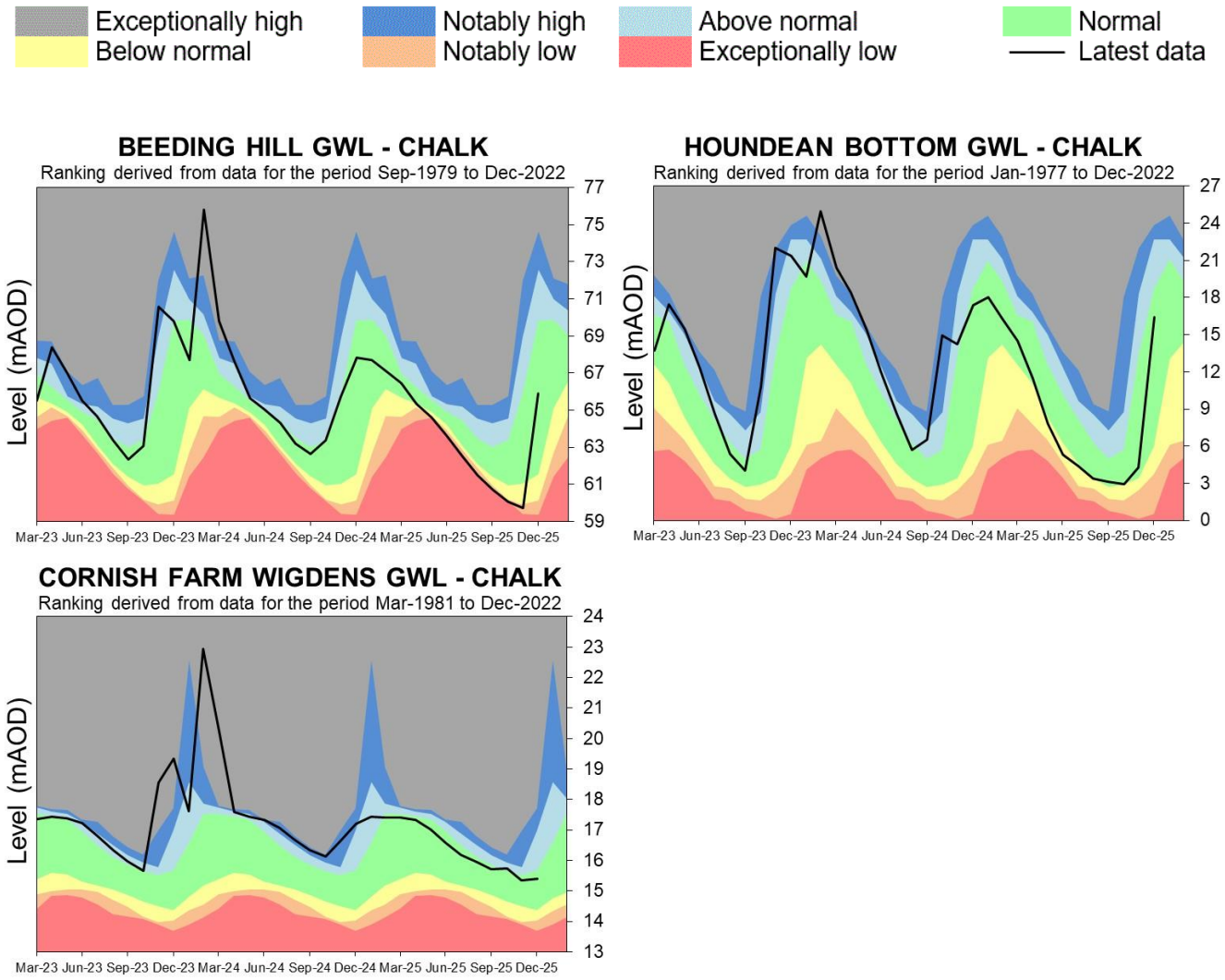
Figure 7.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency, 2026.

7.3 East Sussex Groundwater level charts

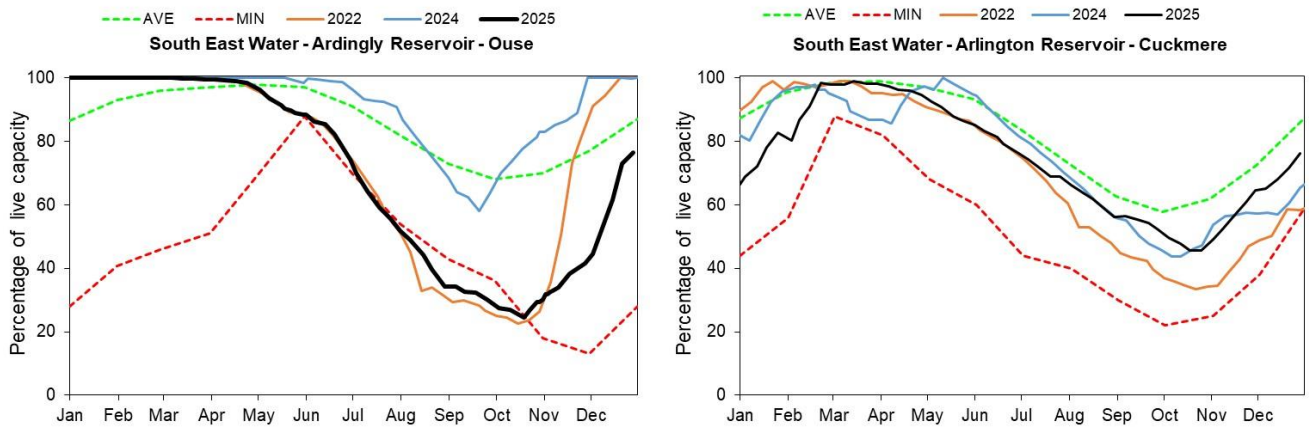
Figure 7.3: End of month groundwater levels at index groundwater level sites for major aquifers. 34 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



Source: Environment Agency, 2026.

8 Reservoir stocks

Figure 8.1: End of month 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).

9 Glossary

9.1 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).

9.2 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.

10 Appendices

10.1 Rainfall, effective rainfall and soil moisture deficit table

Figure 10.1: This is areal rainfall, effective rainfall (percolation or runoff) and soil moisture deficit for the hydrological areas across the SSD. 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 10.2

Hydrological Area	Rainfall (mm) 31 day Total	Rainfall December as %LTA	Effective Rainfall (mm) 31 day Total	Effective Rainfall December as %LTA	Soil Moisture Deficit (SMD) Day 31	SMD End of December LTA
Test Chalk	121	130	91	125	4	5
East Hampshire Chalk	127	121	118	131	4	2
West Sussex Chalk	122	108	113	116	4	3
East Sussex Chalk	109	102	100	121	4	6
Isle of Wight	122	116	113	150	4	10
Western Rother Greensand	137	119	129	129	4	3
Hampshire Tertiaries	123	124	114	140	4	3
Lymington	137	130	128	147	4	3
Sussex Coast	92	99	81	117	4	7
Arun	114	116	106	128	4	2
Adur	115	114	106	125	4	2
Ouse	113	107	105	117	4	2
Cuckmere	92	87	83	93	4	2
Pevensey Levels	81	79	72	89	4	4
SSD Average	**115**	**111**	**104**	**123**	**4**	**4**

10.2 Seasonal summary table of rainfall and effective rainfall

Winter season December to March: current data 01/10/2025 to 31/12/2025

Hydrological Area	Seasonal Rainfall (mm) Total	Seasonal Rainfall as % LTA	Seasonal Effective Rainfall (mm) Total	Seasonal Effective Rainfall as % LTA
Test Chalk	323	112	119	82
East Hampshire Chalk	348	108	175	92
West Sussex Chalk	348	103	198	94
East Sussex Chalk	328	103	165	94
Isle of Wight	335	106	154	106
Western Rother Greensand	366	106	202	93
Hampshire Tertiaries	328	109	149	96
Lymington	362	115	194	112
Sussex Coast	265	96	81	69
Arun	315	105	145	86
Adur	319	105	174	98
Ouse	323	102	188	95
Cuckmere	300	96	165	83
Pevensey Levels	291	96	131	78
SSD Average	325	104	160	92

10.3 Rainfall banding table

Hydrological area	December 2025 band	October 2025 to December 2025 cumulative band	July 2025 to December 2025 cumulative band	January 2025 to December 2025 cumulative band
Test Chalk	Above normal	Above normal	Normal	Normal
East Hampshire Chalk	Above normal	Above normal	Normal	Normal
West Sussex Chalk	Above normal	Normal	Normal	Normal
East Sussex Chalk	Normal	Normal	Normal	Normal
Isle of Wight	Above normal	Normal	Above normal	Normal
Western Rother Greensand	Above normal	Normal	Normal	Normal
Hampshire Tertiaries	Above normal	Above normal	Normal	Normal
Lymington	Above normal	Above normal	Above normal	Normal
Sussex Coast	Normal	Normal	Normal	Normal
Arun	Above normal	Above normal	Normal	Normal
Adur	Above normal	Normal	Above normal	Normal
Ouse	Normal	Normal	Above normal	Normal
Cuckmere	Normal	Normal	Normal	Normal
Pevensey Levels	Above normal	Above normal	Normal	Normal

10.4 River flows table

Site name	River	Catchment	December 2025 band	November 2025 band
Alfoldean GS	Arun	Arun	Notably High	Normal
Allbrook GS + Highbridge	Itchen (So)	Itchen	Normal	Normal
Blackwater	Medina	Isle of Wight	Normal	Normal
Broadlands	Test	Test Lower	Normal	Normal
Brockenhurst GS	Lymington	New Forest	Notably High	Normal
Chilbolton GS	Test	Test Upper	Normal	Normal
Cowbeech GS	Cuckmere	Cuckmere	Normal	Normal
Goldbridge GS	Ouse [So]	Ouse Sussex	Above Normal	Normal
Iping Mill GS	Rother	West Rother	Above Normal	Normal
Mislingford GS	Meon	Meon	Normal	Below normal
North Fareham GS	Wallington	Wallington	Normal	Normal
Sakeham GS	Adur	Adur	Notably High	Normal

10.5 Groundwater table

Site name	Aquifer	End of December 2025 band	End of November 2025 band
Carisbrooke Castle	Isle Of Wight Central Downs Chalk	Normal	Normal
Youngwoods Copse	Isle of Wight Lower Greensand	Normal	Normal
Clanville Gate Gwl	River Test Chalk	Normal	Normal
Lopcombe Corner Gwl	River Test Chalk	Normal	Normal
Preston Candover	River Itchen Chalk	Above normal	Above normal
West Meon Hut Gwl	River Itchen Chalk	Normal	Normal
Catherington	River Meon Chalk	Normal	Below normal
Chilgrove House Gwl	Chichester-Worthing-Portsdown Chalk	Normal	Notably low
Beeding Hill Gwl	Brighton Chalk Block	Normal	Notably low
Houndean Bottom Gwl	Brighton Chalk Block	Normal	Normal
Harting Common Down	Western Rother Lower Greensand	Normal	Normal
Cornish Wigdens Gwtr	Eastbourne Chalk Block	Normal	Normal

10.6 Abstraction licence flow constraints

Number of flow constraints in force between 1 to 8 December 2025	Number of flow constraints in force between 9 to 15 December 2025	Number of flow constraints in force between 16 to 22 December 2025	Number of flow constraints in force between 23 to 29 December 2025	Number of flow constraints in force between 30 to 31 December 2025
10	5	7	3	6

10.7 Solent and South Downs Areal Rainfall Units Map

10.8 SSD Areal Rainfall Monthly Long Term Averages 1991-2020

Hydrological Area	Jan LTA mm	Feb LTA mm	Mar LTA mm	Apr LTA mm	May LTA mm	Jun LTA mm	Jul LTA mm	Aug LTA mm	Sep LTA mm	Oct LTA mm	Nov LTA mm	Dec LTA mm
Test Chalk	92.6	65.7	59.4	60.5	53.7	57.8	57.5	63.8	62.8	95.3	100.9	93.1
East Hampshire Chalk	102.7	72.1	62.7	63.5	54.4	62.1	60.5	71.4	70.2	105.8	112.8	105.3
West Sussex Chalk	104.6	73.7	59.5	59.1	54.4	59.4	60.9	73.0	74.4	108.8	114.8	113.2
East Sussex Chalk	96.4	66.9	53.8	49.9	51.2	55.6	57.3	67.6	65.3	101.2	110.6	106.9
Isle of Wight	93.5	66.9	55.4	52.6	47.9	50.6	47.8	59.7	65.9	102.2	107.4	105.6
Western Rother Greensand	110.6	77.5	61.9	64.1	56.4	59.6	57.9	73.1	73.7	111.7	118.1	115.1
Hampshire Tertiaries	95.4	66.7	58.1	57.8	49.8	56.3	51.2	64.7	65.2	97.3	105.1	99.4
Lymington	96.7	67.4	59.6	58.2	50.1	54.5	51.2	62.9	66.6	100.1	109.5	105.3
Sussex Coast	86.8	59.1	48.5	49.6	45.3	50.6	48.8	59.3	59.9	89.3	95.3	93.3
Arun	96.8	67.1	54.7	55.3	53.2	53.3	54.7	64.6	65.8	97.7	103.4	98.9
Adur	94.7	65.6	52.7	52.8	53.5	52.5	53.8	65.1	63.5	99.4	102.9	100.2
Ouse	97.7	67.7	53.9	51.2	53.4	54.9	57.5	67.4	64.7	104.6	105.9	105.4
Cuckmere	94.4	65.8	51.0	49.0	50.5	55.8	56.8	68.7	65.4	101.9	106.8	105.5
Pevensey Levels	89.5	62.7	49.5	47.6	48.1	51.8	56.3	64.6	62.9	96.3	103.0	102.9
SSD Average	96.8	67.7	56.9	56.5	52.0	56.0	55.3	66.0	66.2	100.5	106.6	102.4