Monthly water situation report: Solent and South Downs Area

Summary - October 2025

Solent and South Downs (SSD) had above average rainfall in October, receiving 116% (116.9mm) of the long term average (LTA) of 100.5mm. Monthly mean river flows for October ranged from below normal to normal across SSD. End of month groundwater levels for October ranged from exceptionally low to above normal. Soils across SSD ended the month wetter than the LTA for October.

End of month reservoir stocks were below average at Ardingly Reservoir (Ouse) and at Arlington Reservoir (Cuckmere).

1.1 Rainfall

SSD had above average rainfall in October, receiving 116% (116.9mm) of LTA (100.5mm). The highest rainfall totals in Hampshire were in the Lymington areal unit which received 125% (125.3mm) of LTA (100.1mm). While, in Sussex the highest rainfall totals were in the Pevensey Levels areal unit with 126% (121.7mm) of LTA (96.3mm). The Test Chalk areal unit received the lowest rainfall with 93% (89.1mm) of LTA (95.3mm) during October.

There were three wet periods in October with widespread rainfall in the SSD. At the beginning of the month there were two wet days between 2 and 3 October with almost 20% of the month total rain. After this there was settled dry weather for two weeks and then more unsettled weather in the second half of the month. Over 55% of the rainfall in this month fell between 19 to 22 October in only four days. Then the third wet period between 29 to 31 October brought about 20% of the month total rainfall.

The wettest day was 19 October. On this day the highest daily total of 52.7mm was recorded at Brockenhurst RG (Lymington), and 51.7mm at Otterbourne RG (East Hampshire Chalk). On the second wettest day, 22 October, rainfall totals over 40mm were recorded at Hastings Baldslow TBR, at Pevensey RG and at Cowbeech RG.

The last 9 months has been the eighth driest February to October period on record for the Test Chalk areal unit. For the 24-month period (starting November 2023) it was the eighth highest rainfall total for the East Sussex Chalk areal unit. All these statistics are based on records going back to 1871.

1.2 Soil moisture deficit and recharge

Soils across SSD ended the month wetter than the LTA for October.

1.3 River flows

Monthly mean river flows for October ranged from below normal to normal across SSD.

Flows were below normal on the:

- River Test at Broadlands
- River Meon at Mislingford

Flows were normal on the:

- River Test at Chilbolton
- River Itchen at Allbrook and Highbridge
- River Lymington at Brockenhurst
- River Medina at Blackwater
- River Rother at Iping Mill
- River Ouse at Goldbridge
- River Cuckmere at Cowbeech
- River Arun at Alfoldean
- River Wallington at North Fareham
- River Adur at Sakeham

1.4 Groundwater levels

End of month groundwater levels for October ranged from exceptionally low to above normal across SSD.

Groundwater levels were exceptionally low at:

- Chilgrove (West Sussex Chalk)
- Beeding Hill (West Sussex Chalk)

Groundwater levels were below normal at:

- Lopcombe Corner (Test Chalk)
- Catherington (East Hampshire Chalk)
- Houndean Bottom (East Sussex Chalk)

Groundwater levels were normal at:

- Clanville Gate (Test Chalk)
- West Meon (East Hampshire Chalk)
- Harting Common (Western Rother Greensand)
- Carisbrooke Castle (Isle of Wight)
- Youngwoods Copse (Isle of Wight)

Groundwater levels were above normal at:

- Preston Candover (East Hampshire Chalk)
- Cornish Farm (East Sussex Chalk)

The groundwater levels at Chilgrove and at Beeding Hill (both West Sussex Chalk) were the second lowest October levels. These statistics are based on records going back to 1836 and 1979, respectively.

1.5 Reservoir stocks

End of month reservoir stocks were below average for both Ardingly and Arlington Reservoirs. Ardingly Reservoir (Ouse) was at 30.2% of total capacity (LTA 70%) and Arlington Reservoir (Cuckmere) was at 49.2% of total capacity (LTA 61.9%).

1.6 Environmental impact

1.6.1 Abstraction licence restriction

At the start of October there were 14 licence restrictions in force, which decreased to 4 licence restrictions by the middle of the month. By the end of the month 6 licence restrictions were in place. These included:

- one licence on the Ouse
- two licences on the River Meon
- four licences on the Isle of Wight
- one licence on the Walkford Brook
- one licence on the Bremere Rife
- two licences on the River Ems
- four licences on the Western Rother
- one licence on the Loxwood Stream, Arun catchment

1.6.2 Flood Alerts and Warnings in Force

There were 8 Flood Alerts issued in October, all fluvial. One was issed on the Isle of Wight, 2 in Hampshire and 5 in East Sussex.

There were no Flood Warnings issued in October.

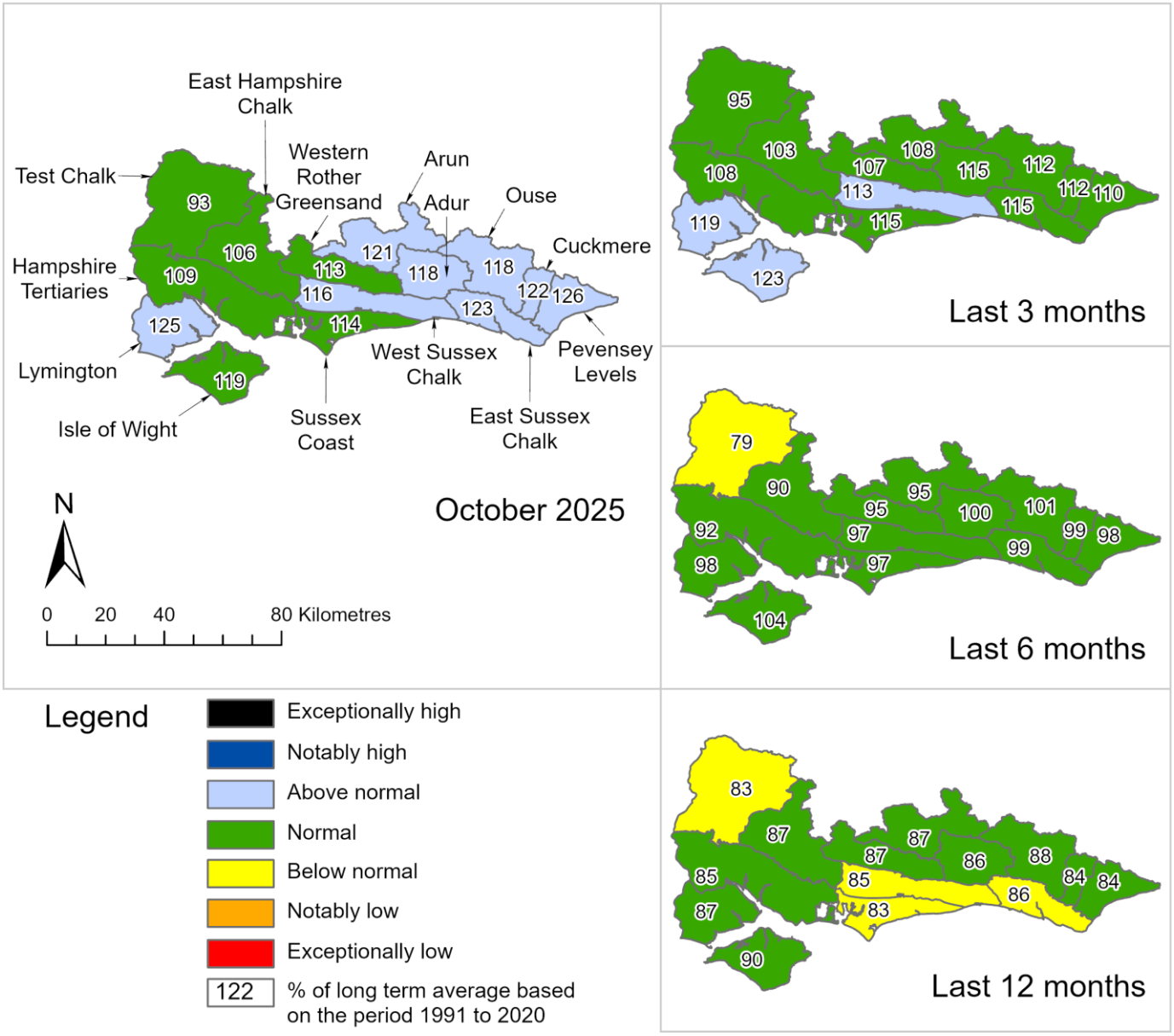
Author: HydrologySSD@Environment-agency.gov.uk

Contact Details: 03708 506 506

2. Rainfall

2.1 Rainfall map

Figure 2.1: Total rainfall for hydrological areas for the current month (up to 31 October 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.

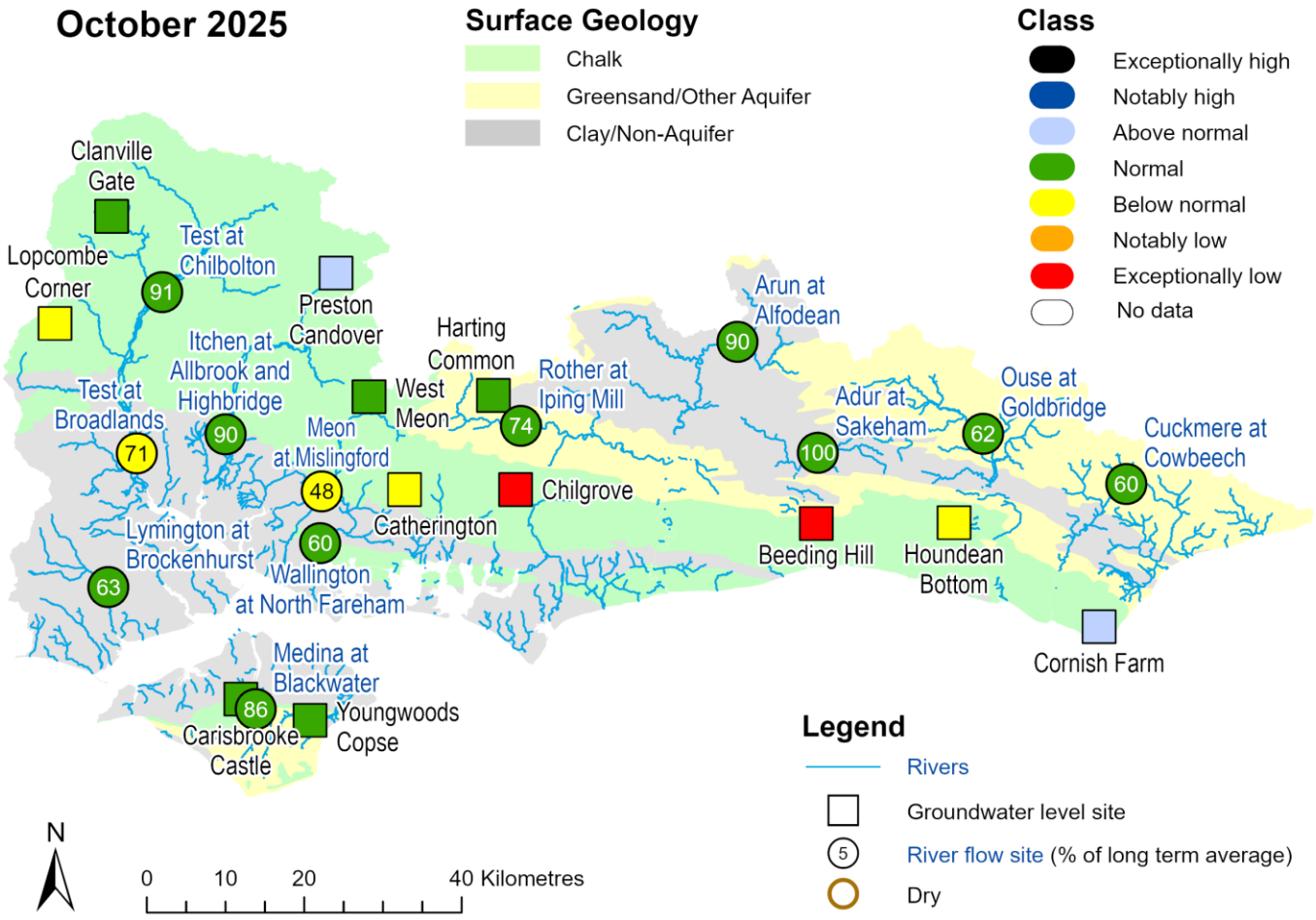


Rainfall data for October 2023 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to October 2023, extracted from Met Office HadUK 1km gridded rainfall dataset derived from registered rain gauges (Source: Met Office. Crown copyright, 2025).

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 October 2025, expressed as a percentage of the respective long term average and classed relative to an analysis of historic October monthly means. Table available in the appendices with detailed information.

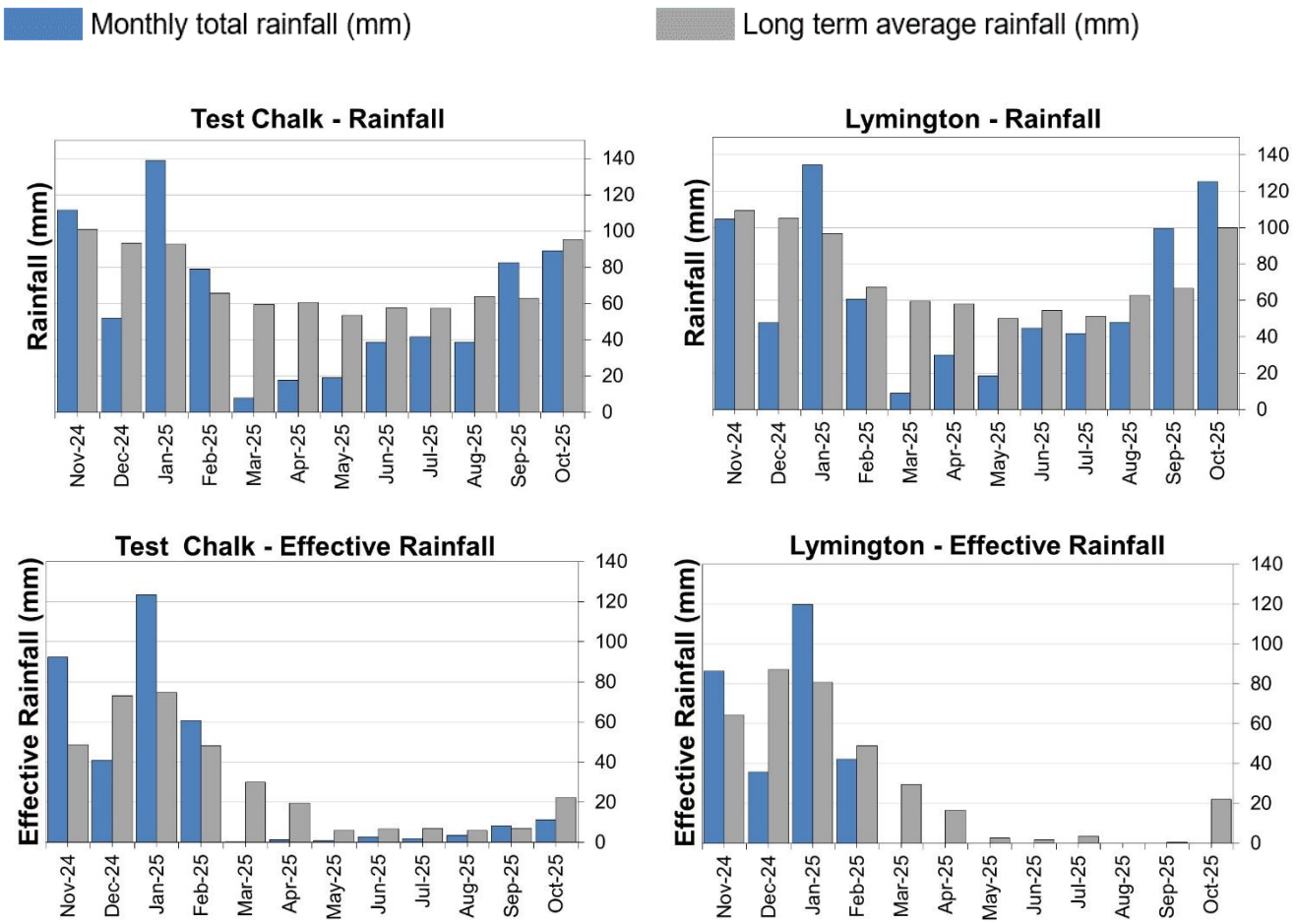


Due to fish pass works at North Fareham GS, no data is available between 23 September and 22 October. The monthly mean river flow for Wallington at North Fareham GS was calculated using modelled data.

4 West Hampshire

4.1 West Hampshire Rainfall and effective rainfall charts

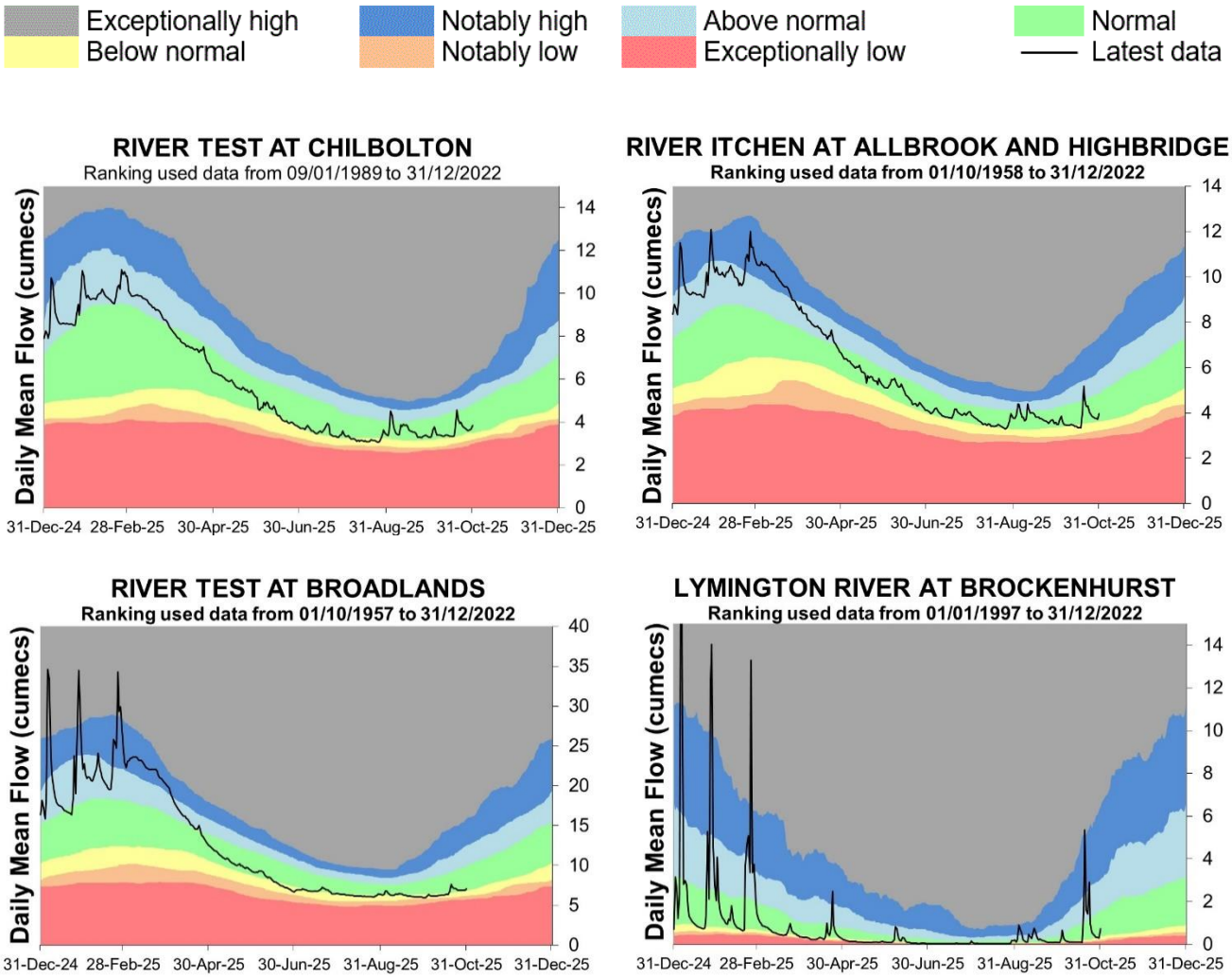
Figure 4.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average.



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

4.2 West Hampshire River flow charts

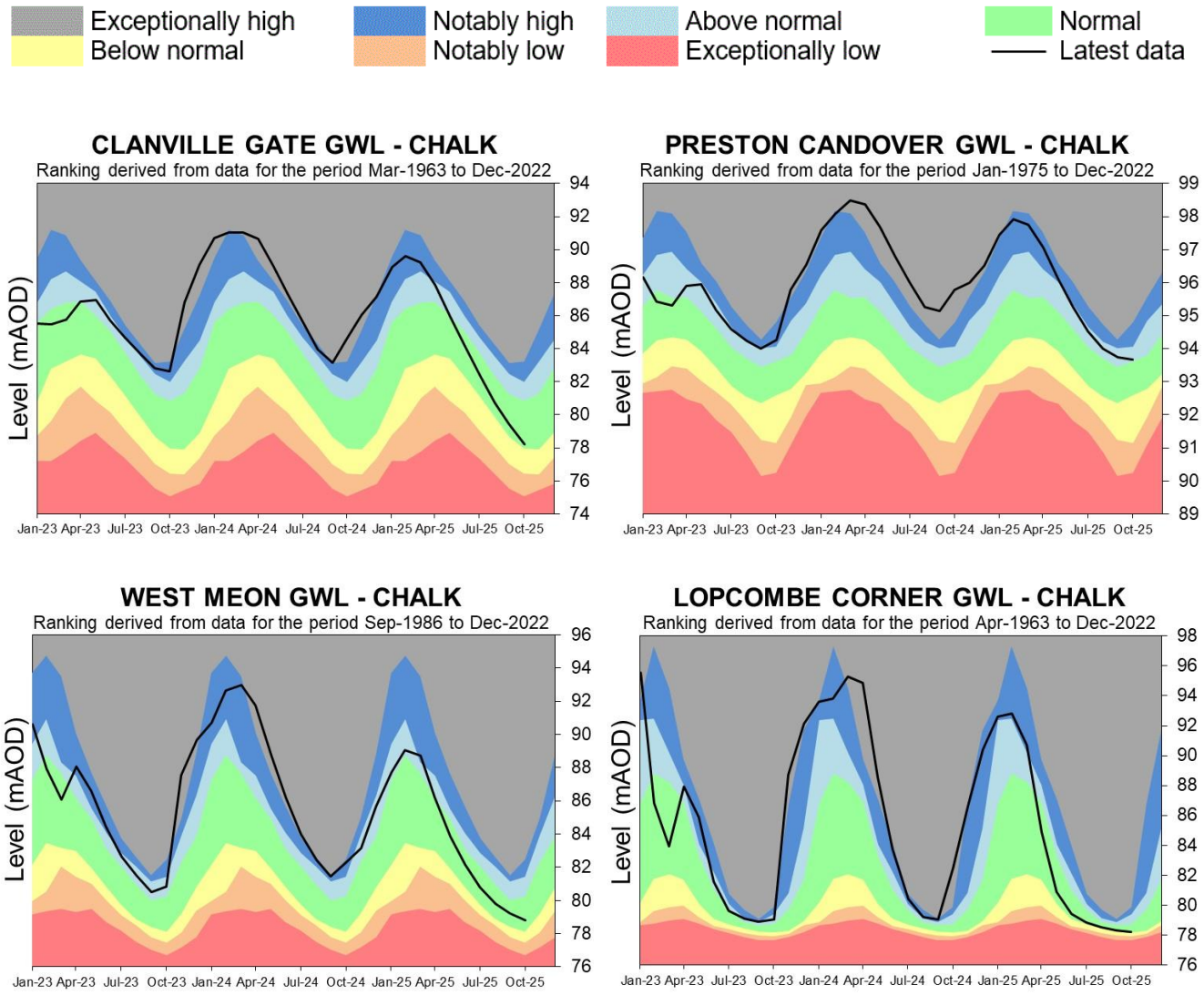
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency, 2025.

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.

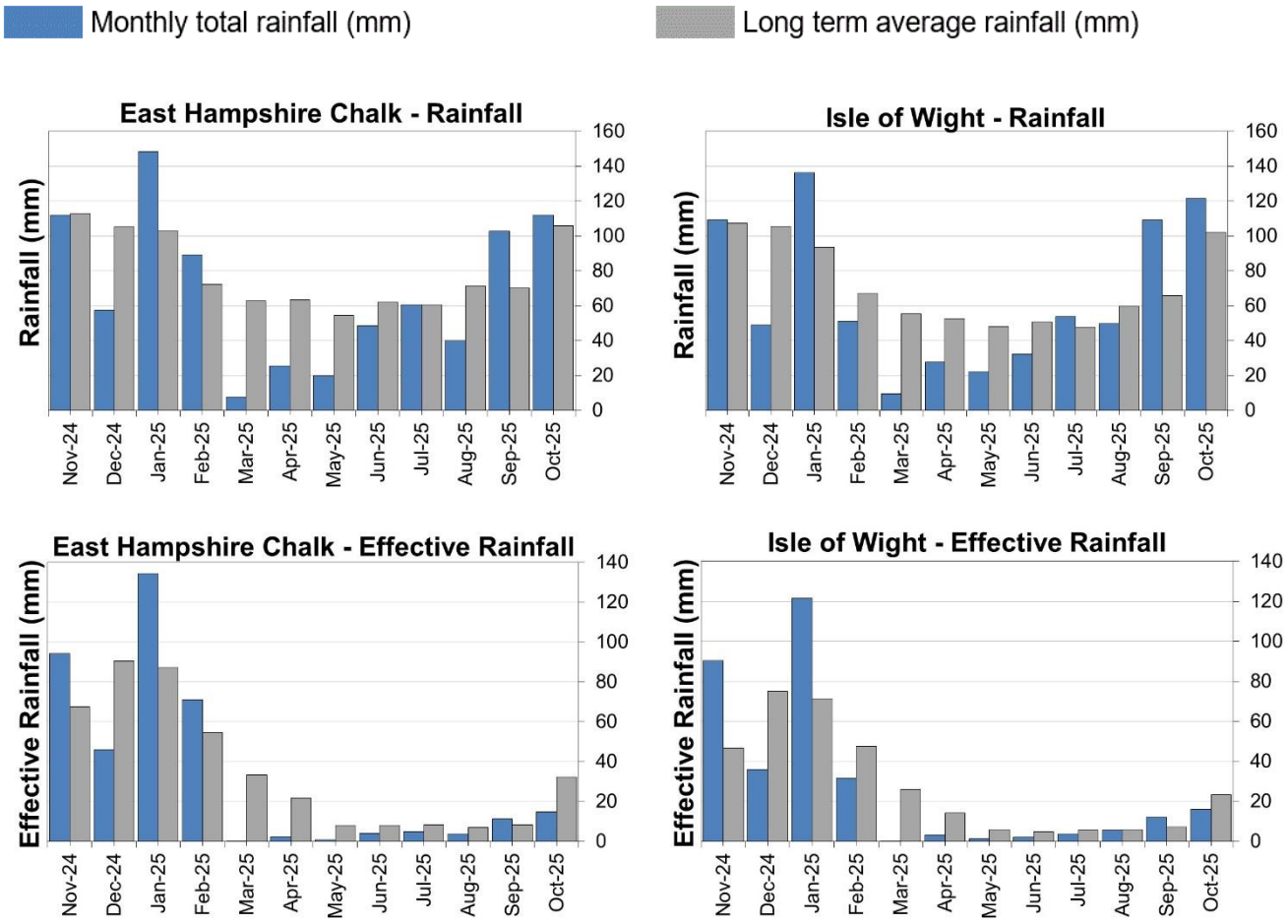


Source: Environment Agency, 2025.

5 East Hampshire and Isle of Wight

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

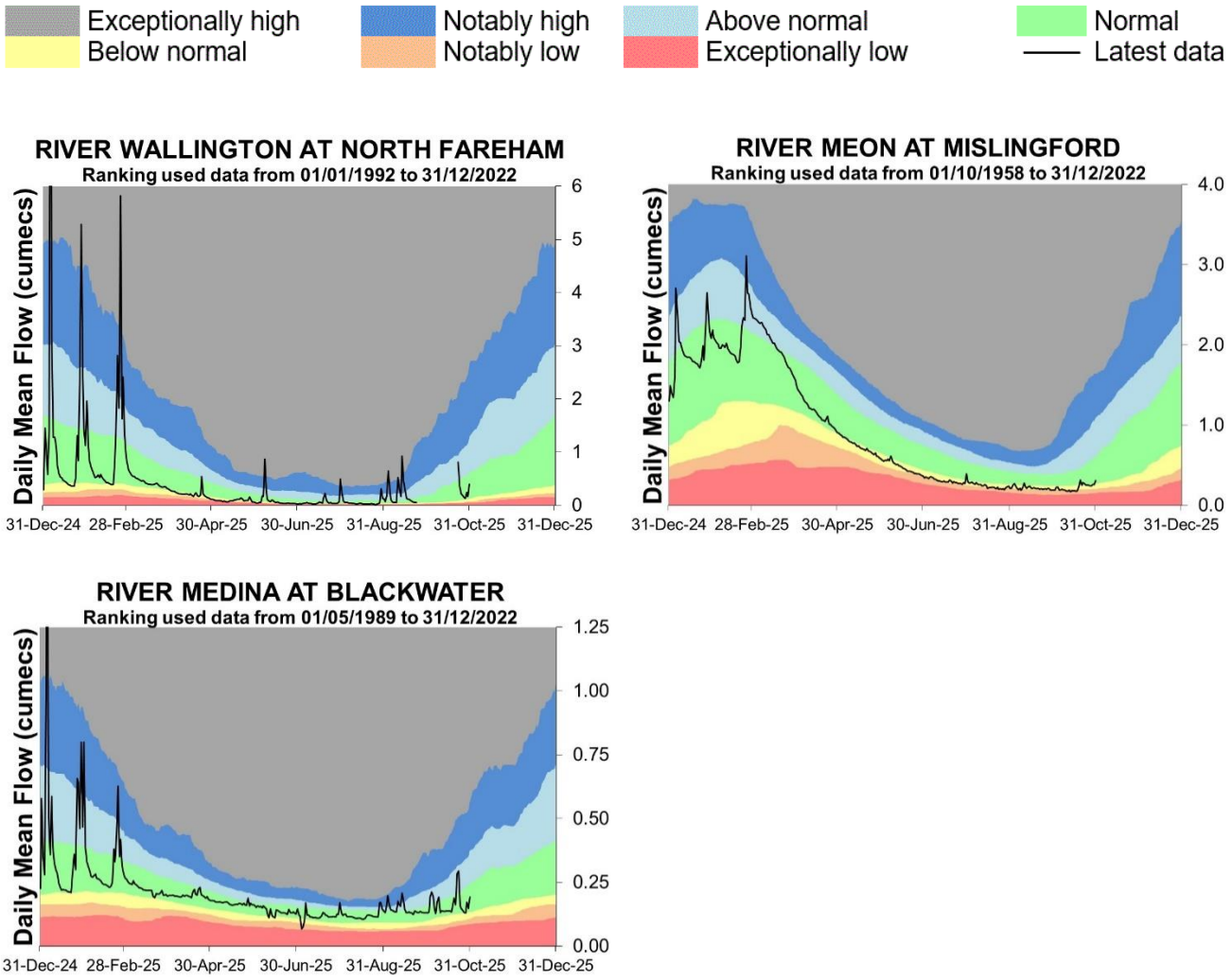
Figure 5.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average.



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

5.2 East Hampshire and Isle of Wight River flow charts

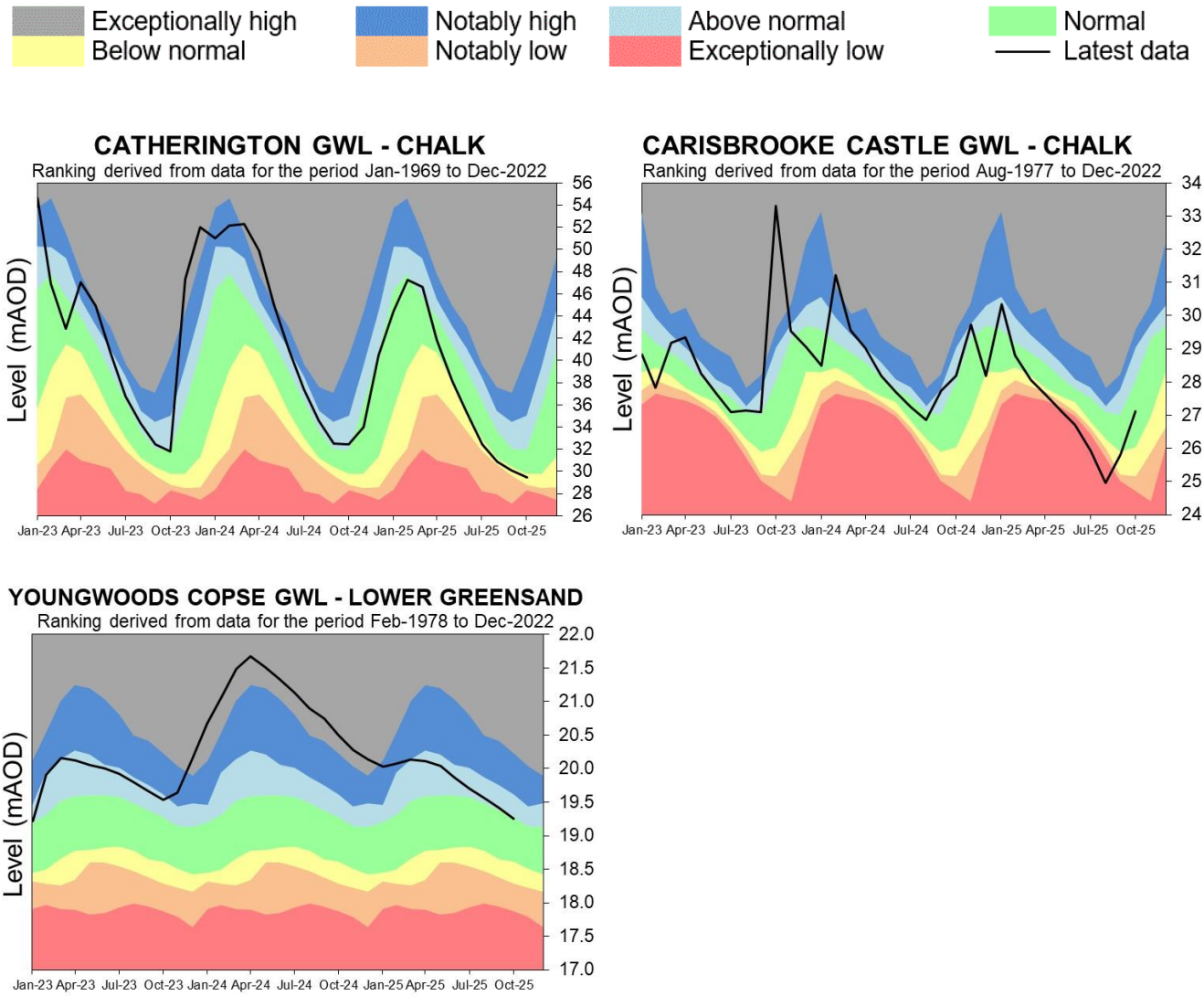
Figure 5.2 Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency, 2025.

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.

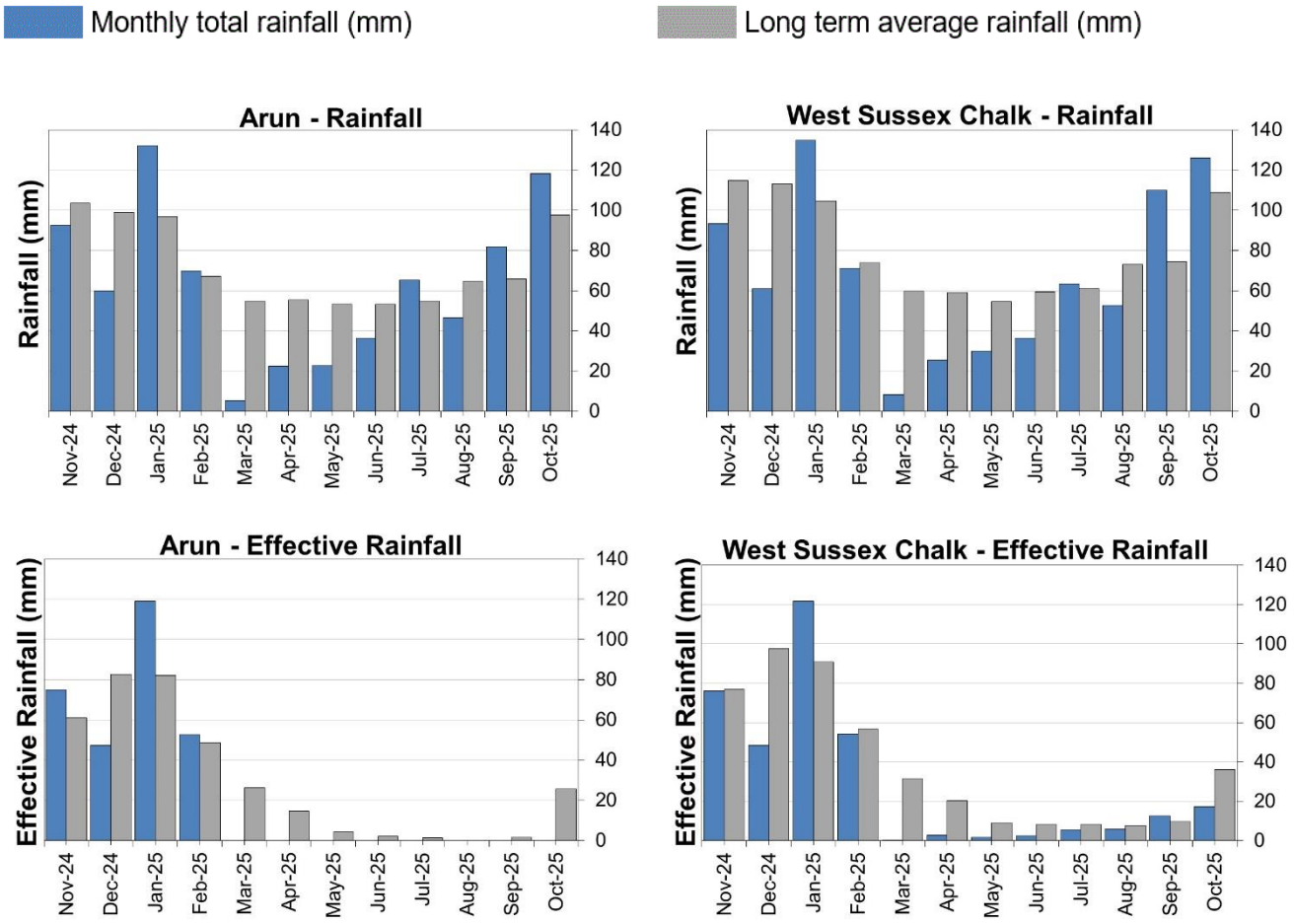


Source: Environment Agency, 2025.

6 West Sussex

6.1 West Sussex Rainfall and Effective Rainfall charts

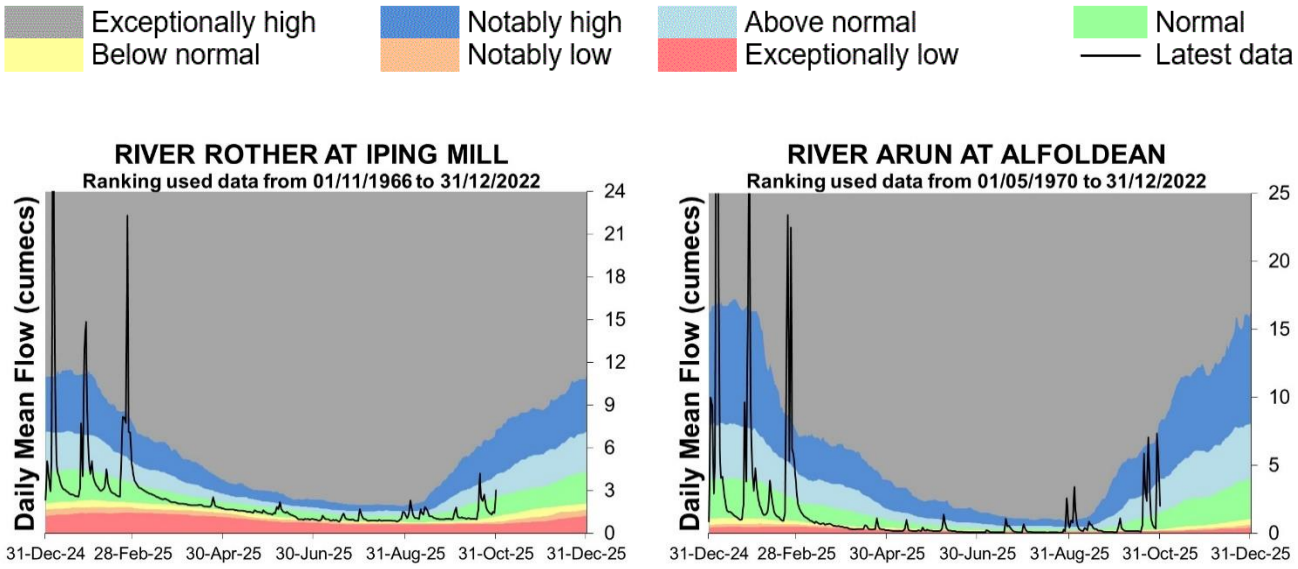
Figure 6.1: Monthly rainfall and effective rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average.



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

6.2 West Sussex River flow charts

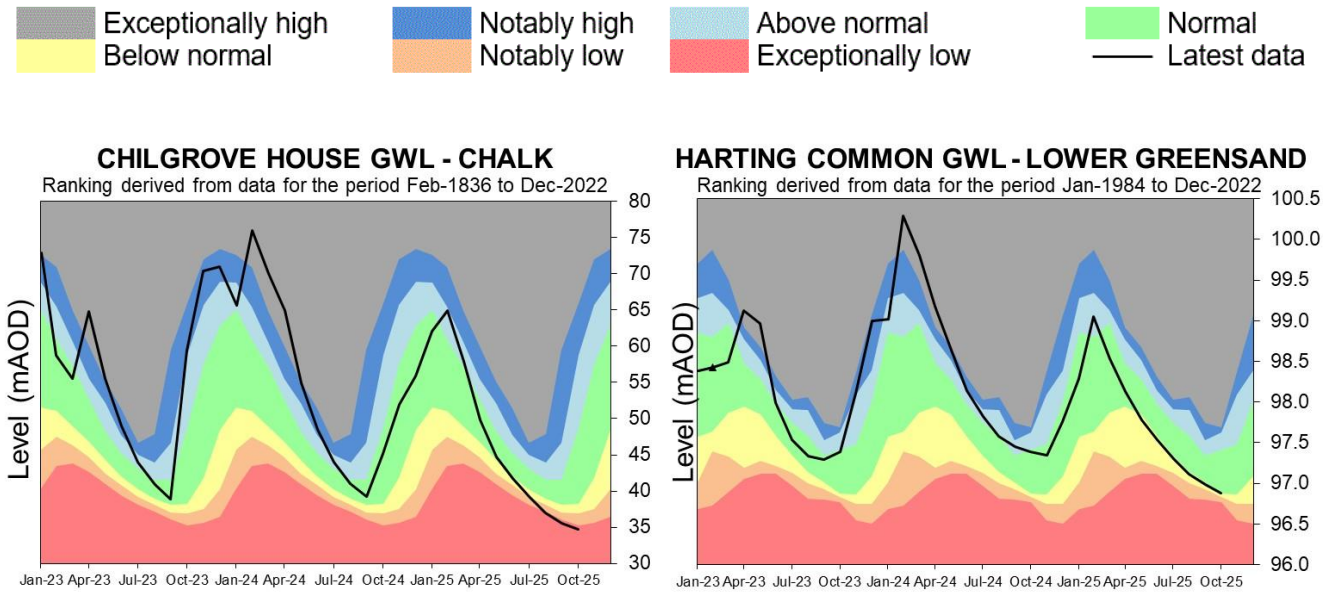
Figure 6.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency, 2025.

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.

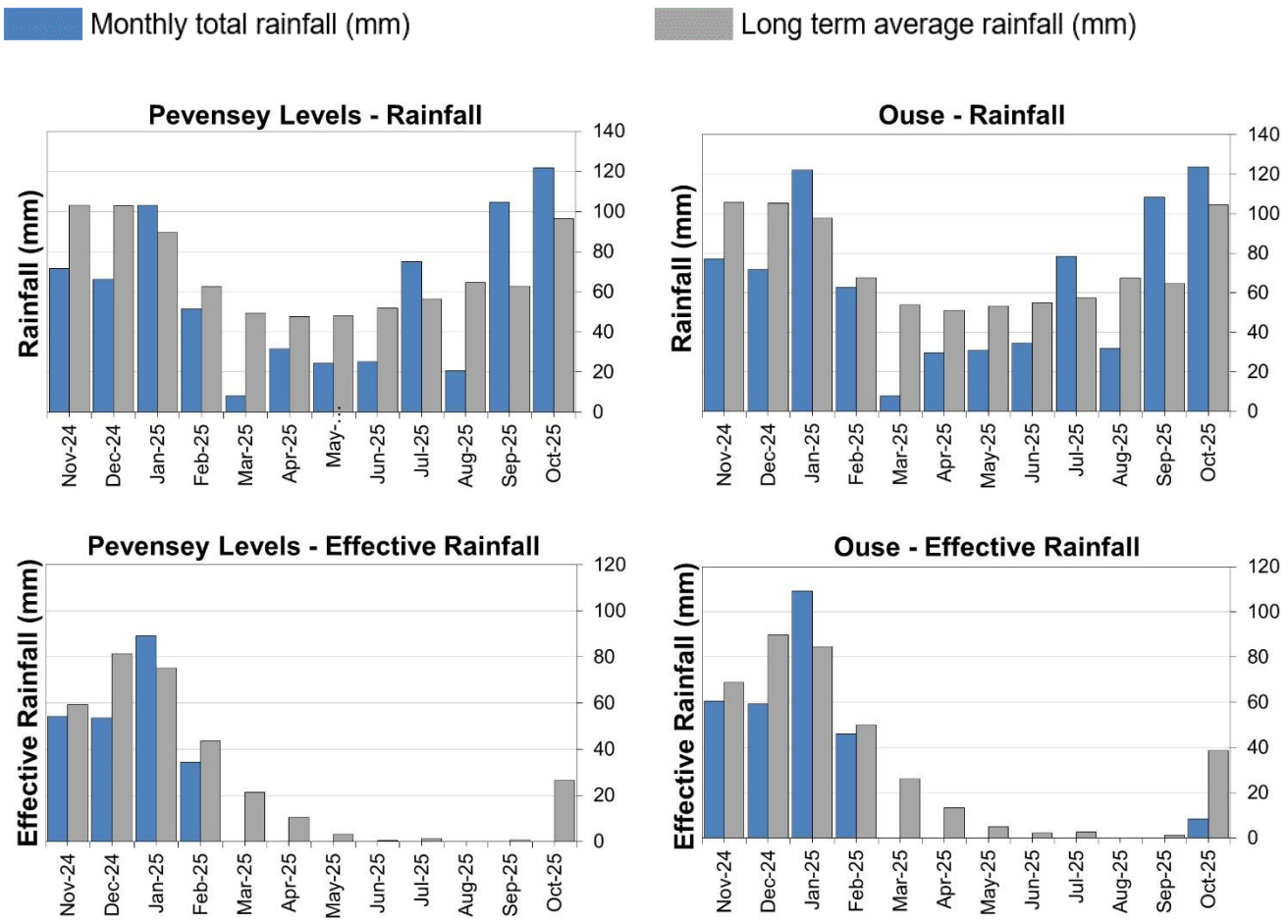


Source: Environment Agency, 2025.

7 East Sussex

7.1 East Sussex Rainfall and Effective Rainfall charts

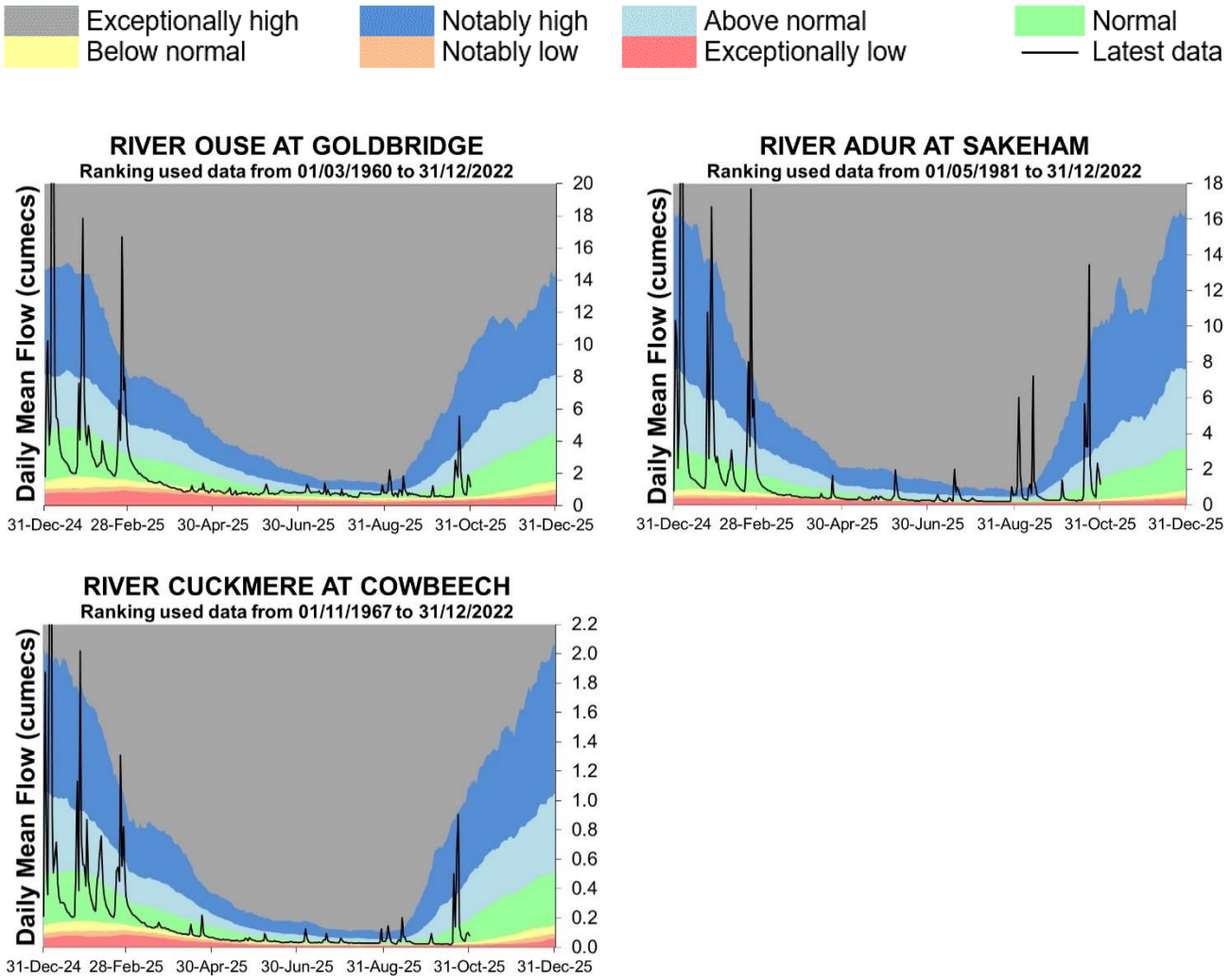
Figure 7.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average.



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

7.2 East Sussex River flow charts

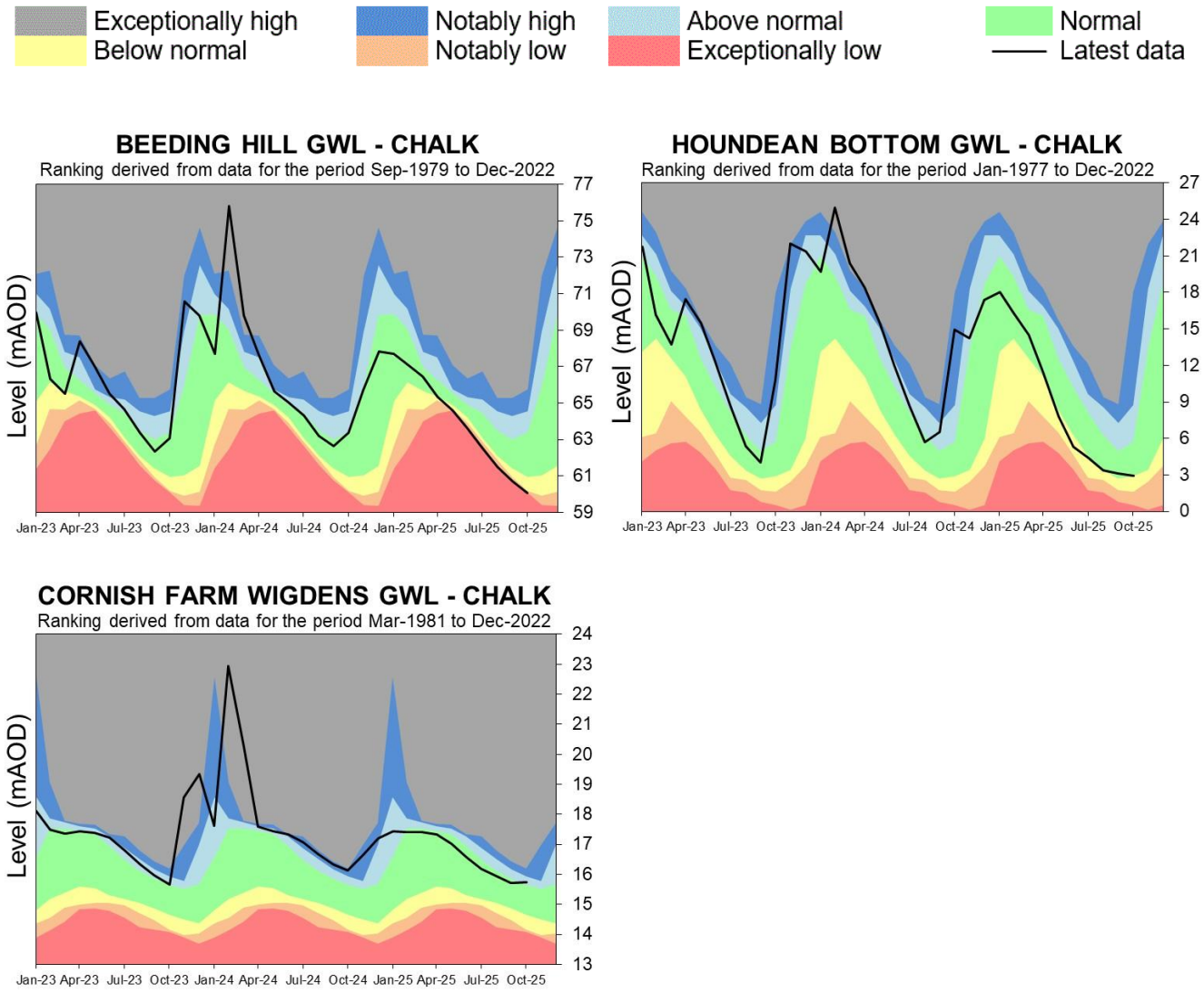
Figure 7.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency, 2025.

7.3 East Sussex Groundwater level charts

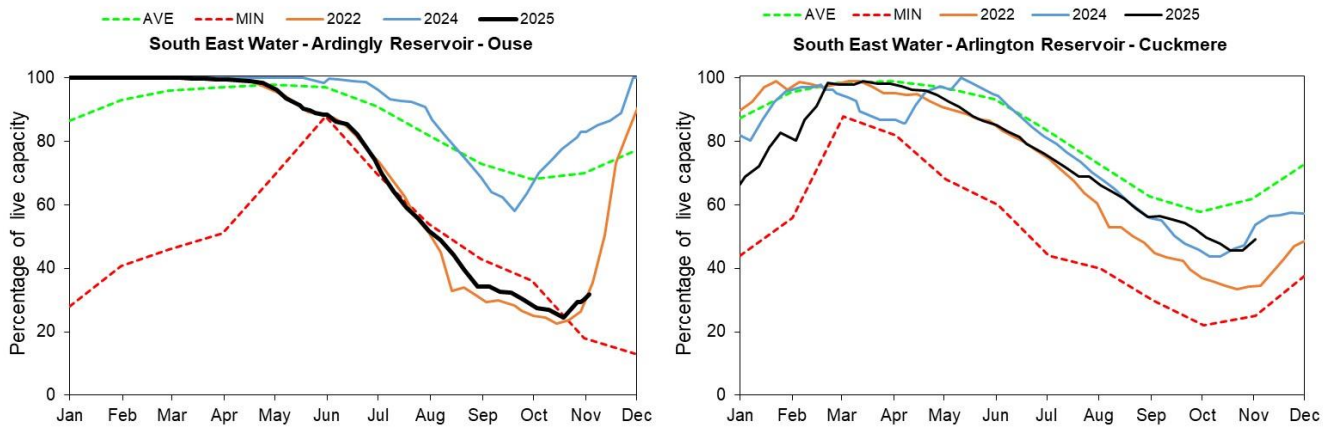
Figure 7.3: End of month groundwater levels at index groundwater level sites for major aquifers. 34 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



Source: Environment Agency, 2025.

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) 30 day Total	Rainfall October as %LTA	Effective Rainfall (mm) 30 day Total	Effective Rainfall October as %LTA	Soil Moisture Deficit (SMD) Day 30	SMD End of October LTA
Test Chalk	89.1	94%	11.3	51%	106	68
East Hampshire Chalk	111.7	106%	14.9	46%	56	54
West Sussex Chalk	125.8	116%	17.1	47%	19	48
East Sussex Chalk	124.5	122%	16.8	56%	30	61
Isle of Wight	121.3	119%	16.0	69%	39	79
Western Rother Greensand	126.2	113%	17.2	45%	33	49
Hampshire Tertiaries	106.3	110%	0.0	0%	48	60
Lymington	125.3	125%	0.0	0%	14	54
Sussex Coast	101.6	114%	0.0	0%	53	75
Arun	118.2	121%	0.0	0%	31	51
Adur	117.6	118%	0.0	0%	6	48
Ouse	123.7	118%	8.3	22%	0	43
Cuckmere	124.0	122%	9.1	24%	0	43
Pevensey Levels	121.7	126%	0.0	0%	13	54
SSD Average	116.9	116%	7.9	28%	32	56

10.2 Seasonal summary table of rainfall and effective rainfall

Winter season: 01/10/2025 to 31/03/2026

Hydrological Area	Seasonal Rainfall (mm) Total	Seasonal Rainfall as % LTA	Seasonal Effective Rainfall (mm) Total	Seasonal Effective Rainfall as % LTA
Test Chalk	89.1	94%	11.3	51%
East Hampshire Chalk	111.7	106%	14.8	46%
West Sussex Chalk	125.8	116%	17.1	47%
East Sussex Chalk	124.5	122%	16.8	56%
Isle of Wight	121.3	119%	16.0	69%
Western Rother Greensand	126.2	113%	17.2	45%
Hampshire Tertiaries	106.3	110%	0.0	0%
Lymington	125.3	125%	0.0	0%
Sussex Coast	101.6	114%	0.0	0%
Arun	118.2	121%	0.0	0%
Adur	117.6	118%	0.0	0%
Ouse	123.7	118%	8.3	22%
Cuckmere	124.0	122%	9.1	24%
Pevensey Levels	121.7	126%	0.0	0%
SSD Average	116.9	116%	7.9	28%

10.3 Rainfall banding table

Hydrological area	October 2025 band	August 2025 to October 2025 cumulative band	May 2025 to October 2025 cumulative band	November 2024 to October 2025 cumulative band
Test Chalk	Normal	Normal	Below normal	Below normal
East Hampshire Chalk	Normal	Normal	Normal	Normal
West Sussex Chalk	Above normal	Above normal	Normal	Below normal
East Sussex Chalk	Above normal	Normal	Normal	Below normal
Isle of Wight	Normal	Above normal	Normal	Normal
Western Rother Greensand	Normal	Normal	Normal	Normal
Hampshire Tertiaries	Normal	Normal	Normal	Normal
Lymington	Above normal	Above normal	Normal	Normal
Sussex Coast	Normal	Normal	Normal	Below normal
Arun	Above normal	Normal	Normal	Normal
Adur	Above normal	Normal	Normal	Normal
Ouse	Above normal	Normal	Normal	Normal
Cuckmere	Above normal	Normal	Normal	Normal
Pevensey Levels	Above normal	Normal	Normal	Normal

10.4 River flows table

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

10.5 Groundwater table

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

10.6 Abstraction licence flow constraints

Number of flow constraints in force between 1 to 6 October 2025	Number of flow constraints in force between 7 to 13 October 2025	Number of flow constraints in force between 14 to 20 October 2025	Number of flow constraints in force between 21 to 28 October 2025	Number of flow constraints in force between 29 to 31 October 2025
14	7	10	4	6

10.7 Solent and South Downs Areal Rainfall Units Map

10.8 SSD Areal Rainfall Monthly Long Term Averages

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