

Monthly water situation report: Solent and South Downs Area

Summary - June 2025

Solent and South Downs (SSD) had below average rainfall in June, receiving 65% (36mm) of the long term average (LTA) of 56mm. Monthly mean river flows across SSD ranged from exceptionally low to normal. The end of month groundwater levels ranged from exceptionally low to above normal. Soils across SSD ended the month much drier than the average for June. End of month reservoir stocks were below average at Ardingly Reservoir (Ouse) and at Arlington Reservoir (Cuckmere).

1.1 Rainfall

SSD had below average rainfall in June, receiving 65% (36mm) of LTA (56mm). The rainfall distribution shows slightly lower totals in the east when compared to the rest of the area. The Lymington areal unit received the most rainfall during June with 82% (45mm) of LTA (55mm). The lowest monthly rainfall totals were recorded in the Pevensy Levels areal unit with 25mm, representing 49% of LTA (52mm). This was followed closely by the East Sussex Chalk with 28mm representing 50% of LTA (56mm).

The highest daily totals of 27 mm and 25mm were recorded on 6 June at Peel Common (Hampshire Tertiaries) and at Buxted (Ouse) respectively. These totals represent 50% of the total rainfall for the month at both sites.

There were only 10 wet days this month. The majority of these were in the first week of the month between the 1 and 8 June. However, 80% of the total monthly rainfall fell over just 3 days, between 5 and 7 June. The rest of June was mostly dry with light scattered rain, though temperatures were high.

June's rainfall has not been notable, but the last 4 months of rainfall has been the fourth driest March to June period on record for SSD. It was the third driest March to June period on record for the Test Chalk, Adur and Arun areal units. It was the fourth driest of that period for the remainder of the SSD 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 much drier than the LTA for June.

1.3 River flows

Monthly mean river flows for June ranged from exceptionally low to normal across SSD.

Flows were exceptionally low on the:

- River Arun at Alfoldean

Flows were below normal on the:

- River Lymington at Brockenhurst
- River Test at Broadlands
- River Meon at Mislingford

Flows were normal on the:

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

The exceptionally low monthly mean flows for the River Arun at Alfoldean were the third lowest on record (1970) for June.

1.4 Groundwater levels

End of month groundwater levels for June ranged from exceptionally low to notably high across SSD.

Groundwater levels were exceptionally low at:

- Carisbrooke Castle (Isle of Wight)
- Beeding Hill (West Sussex Chalk)

Groundwater levels were below normal at:

- Houndean Bottom (East Sussex Chalk)
- Catherington (East Hampshire Chalk)
- Chilgrove (West Sussex Chalk)

Groundwater levels were normal at:

- Lopcombe Corner (Test Chalk)
- Clanville Gate (Test Chalk)
- West Meon (East Hampshire Chalk)
- Harting Common (Western Rother Greensand)
- Cornish Farm (East Sussex Chalk)

Groundwater levels were notably high at:

- Preston Candover (East Hampshire Chalk)
- Youngwoods Copse (Isle of Wight)

The exceptionally low groundwater level at Carisbrooke Castle (Isle of Wight) is a record - breaking lowest June level since 1977. Beeding Hill (West Sussex Chalk) is also the second lowest June level on its record that dates back to 1979.

1.5 Reservoir stocks

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

Ardingly Reservoir (Ouse) was at 74.4% of total capacity (LTA 91.0%) and Arlington Reservoir (Cuckmere) was at 76.3% of total capacity (LTA 84.0%).

1.6 Environmental impact

1.6.1 Abstraction licence restriction

At the start of June there were six licence restrictions in force. By the end of the month 14 licence restrictions were in place. These included:

- Cessation of abstraction for –
 - three licences on the Arun (Arun),
 - one licence on the Loxwood Stream (Arun),
 - one licence on the River Lod (Western Rother Greensand),
 - one on the River Meon (East Hampshire Chalk),
 - three on Walkford Brook (Lymington) and one on the Lymington River (Lymington).
- Restrictions on abstraction rates for –
 - one licence on the Pagham Rife (Sussex Coast),
 - one on the Wallers Haven (Pevensy Levels),
 - one on the River Blackwater (Hampshire Tertiaries).

1.6.2 Flood Warnings in Force

There were no flood warnings issued in June 2025, but two fluvial flood alerts were issued. The two flood alerts were both in East Sussex, one on the Hollington Stream, and the other at Polegate and Wannock.

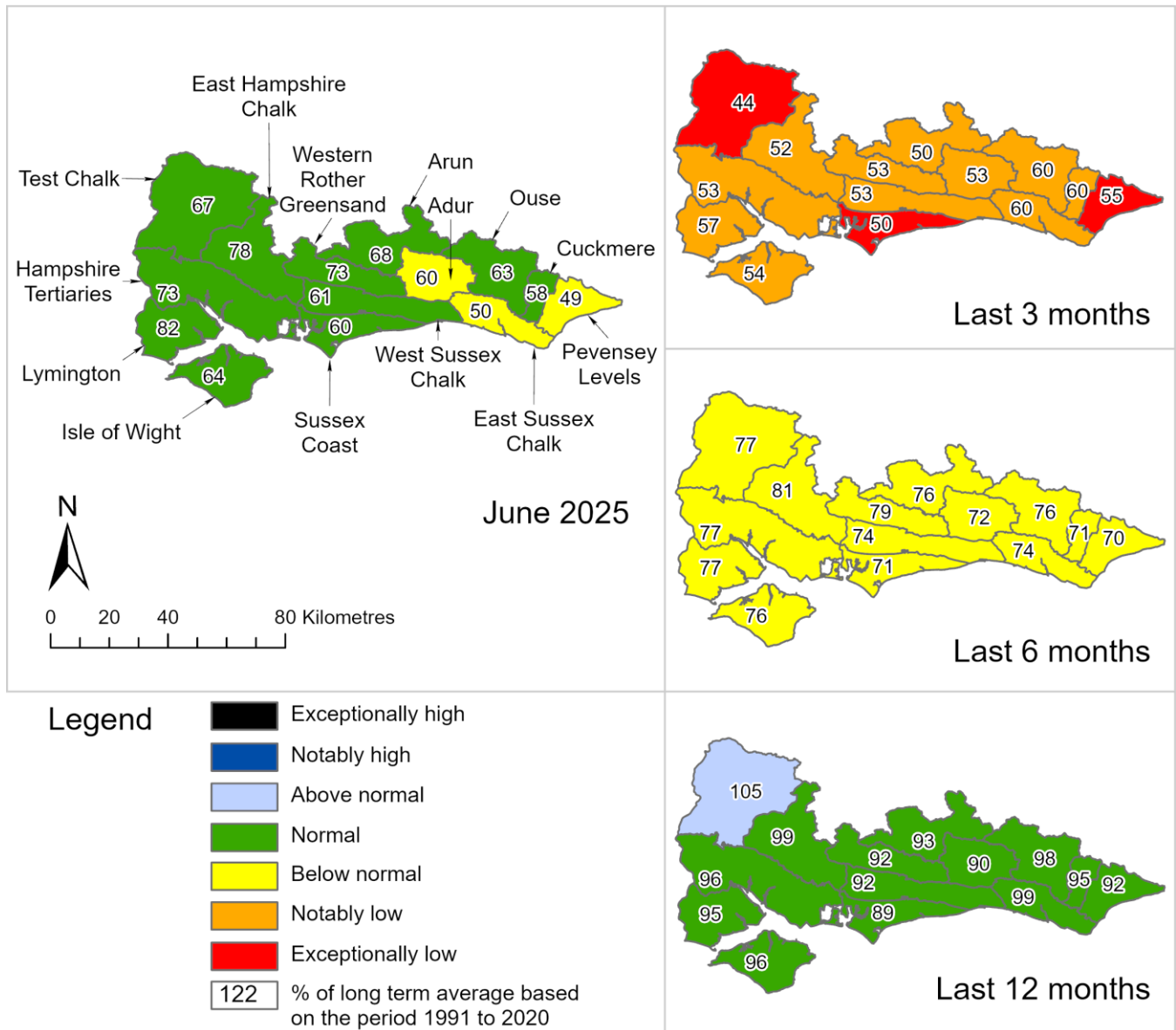
Author: HydrologySSD@Environment-agency.gov.uk

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2. Rainfall

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.

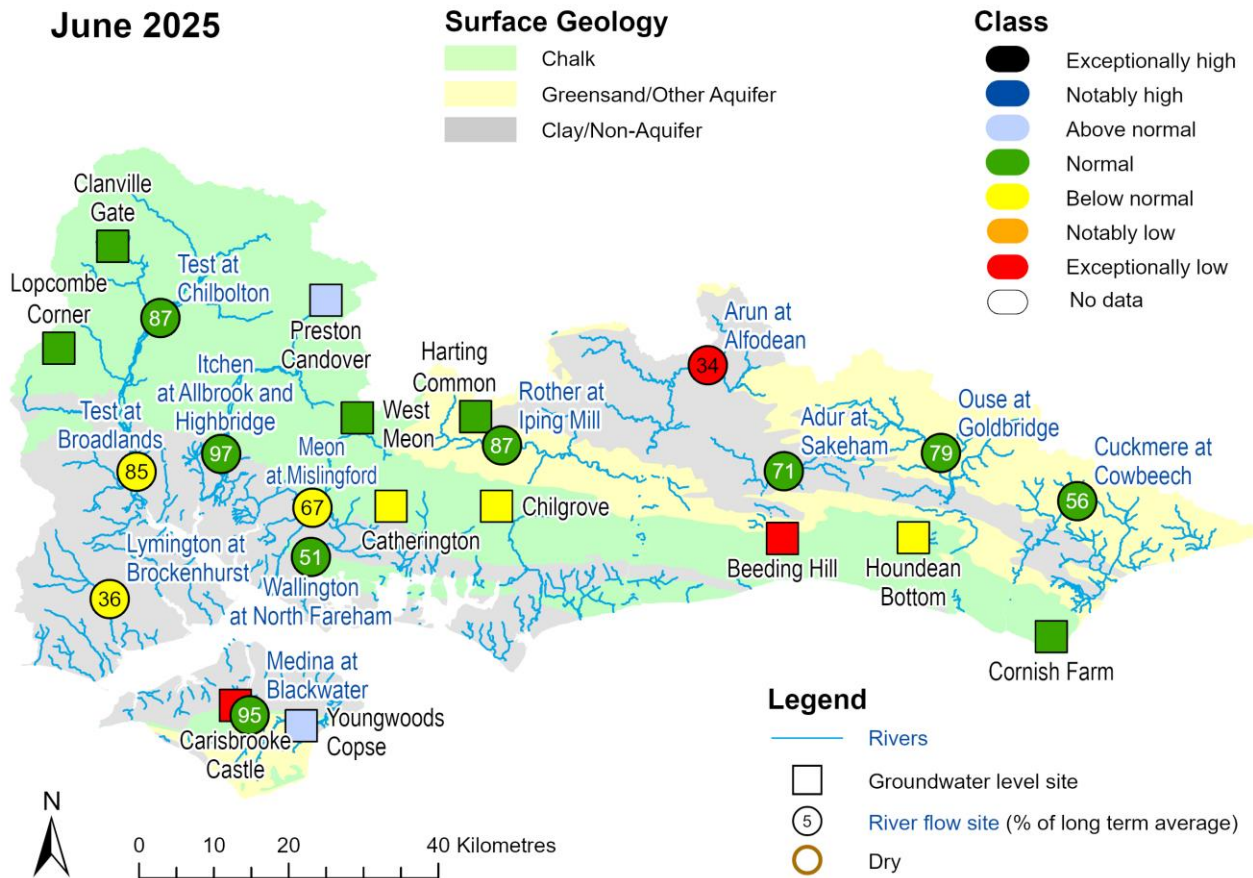


Rainfall data for October 2023 onwards, extracted from Environment Agency 1km gridded rainfall dataset derived from Environment Agency intensity rain gauges. (Source: Environment Agency. Crown Copyright, 100024198, 2025). Rainfall data prior to October 2023, extracted from Met Office HadUK 1km gridded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

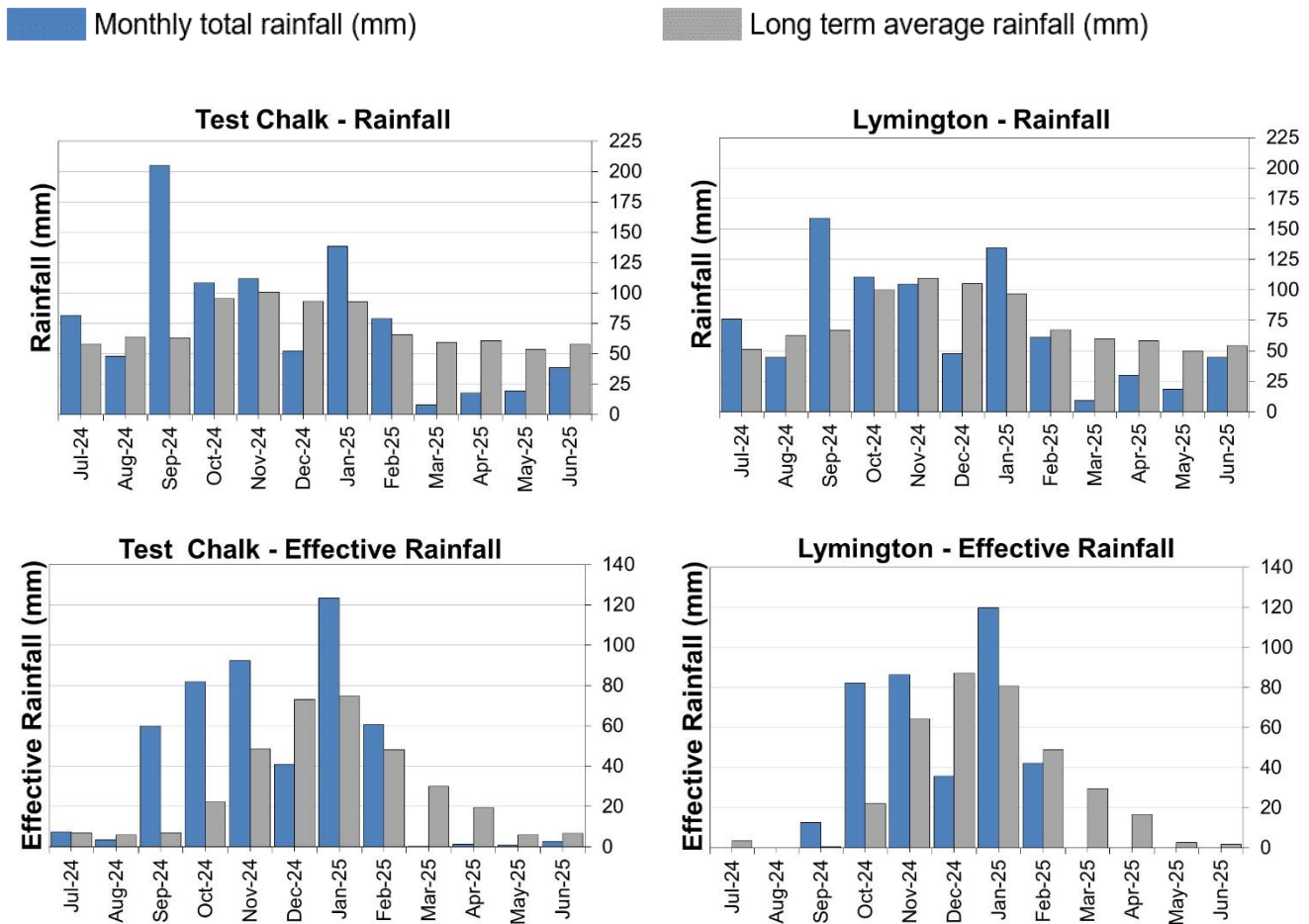


(Source: Environment Agency). Crown copyright. All rights reserved. Environment Agency, 100024198, 2025. Geological map reproduced with kind permission from UK Groundwater Forum, BGS copyright NERC. Crown copyright. All rights reserved. Environment Agency, 100024198, 2025.

4 West Hampshire

4.1 West Hampshire Rainfall and effective rainfall charts

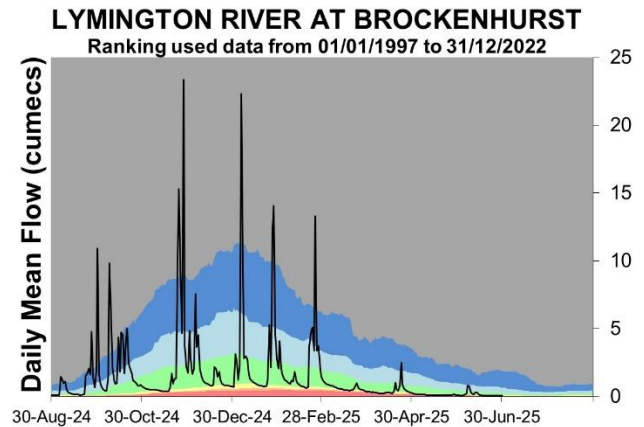
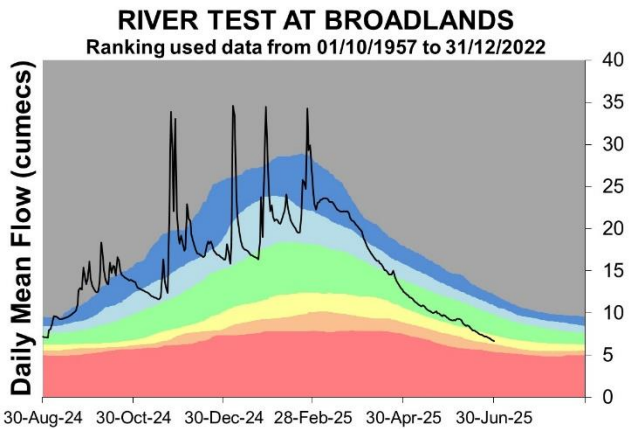
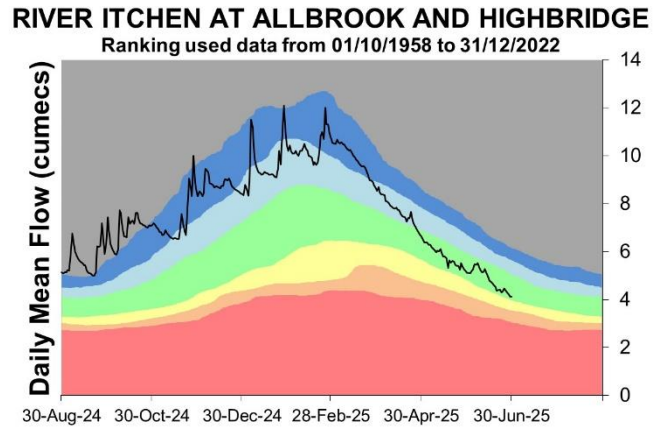
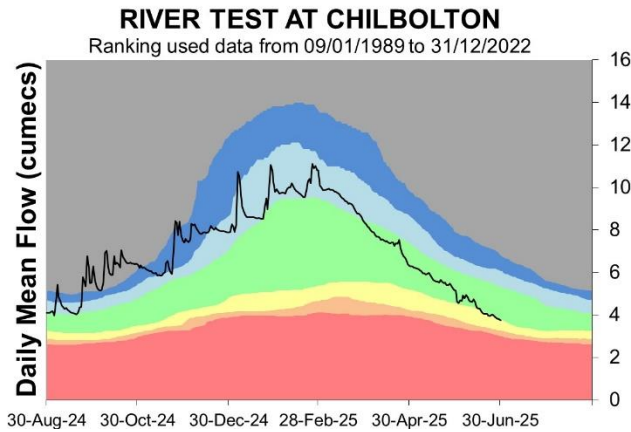
Figure 4.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average.



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

4.2 West Hampshire River flow charts

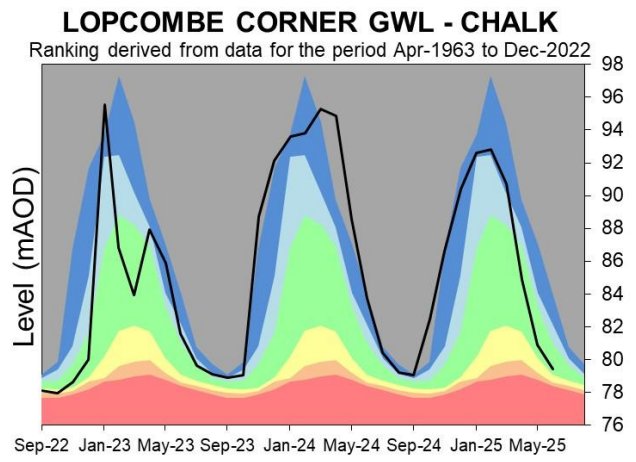
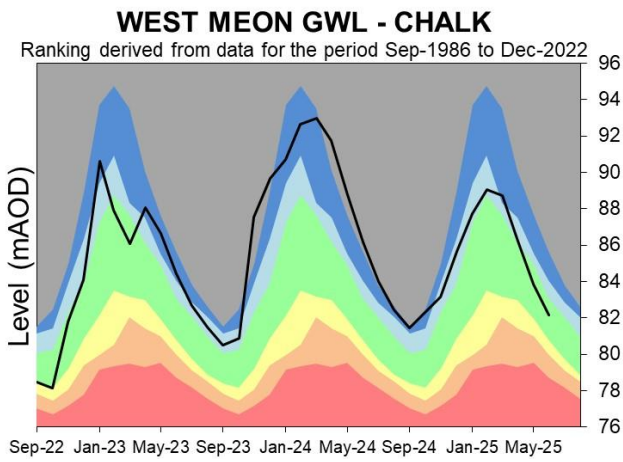
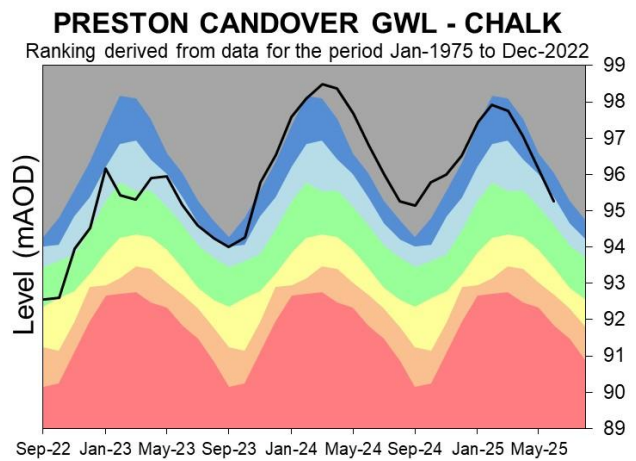
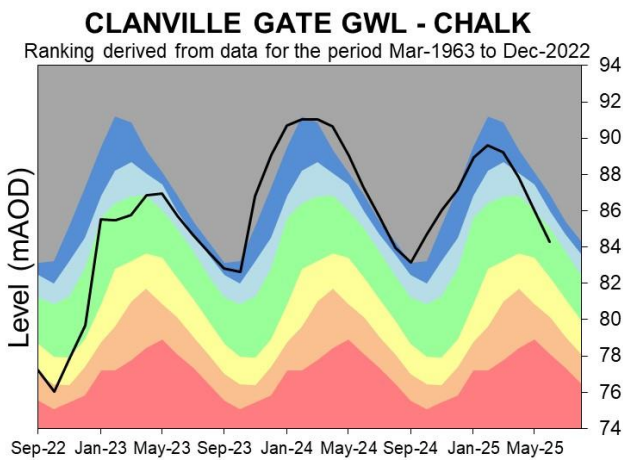
Figure 4.2: Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



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.

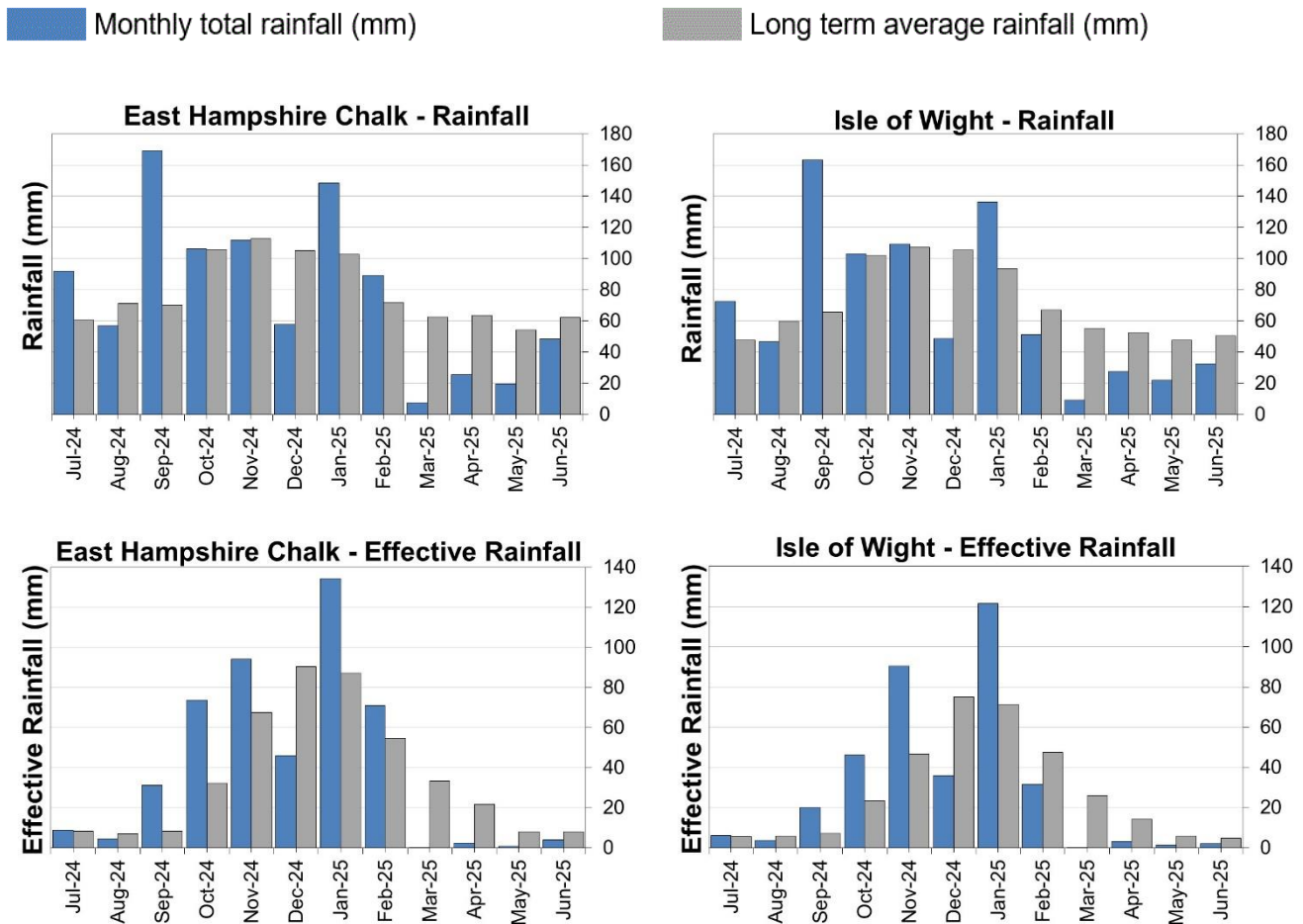


Source: Environment Agency, 2025.

5 East Hampshire and Isle of Wight

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

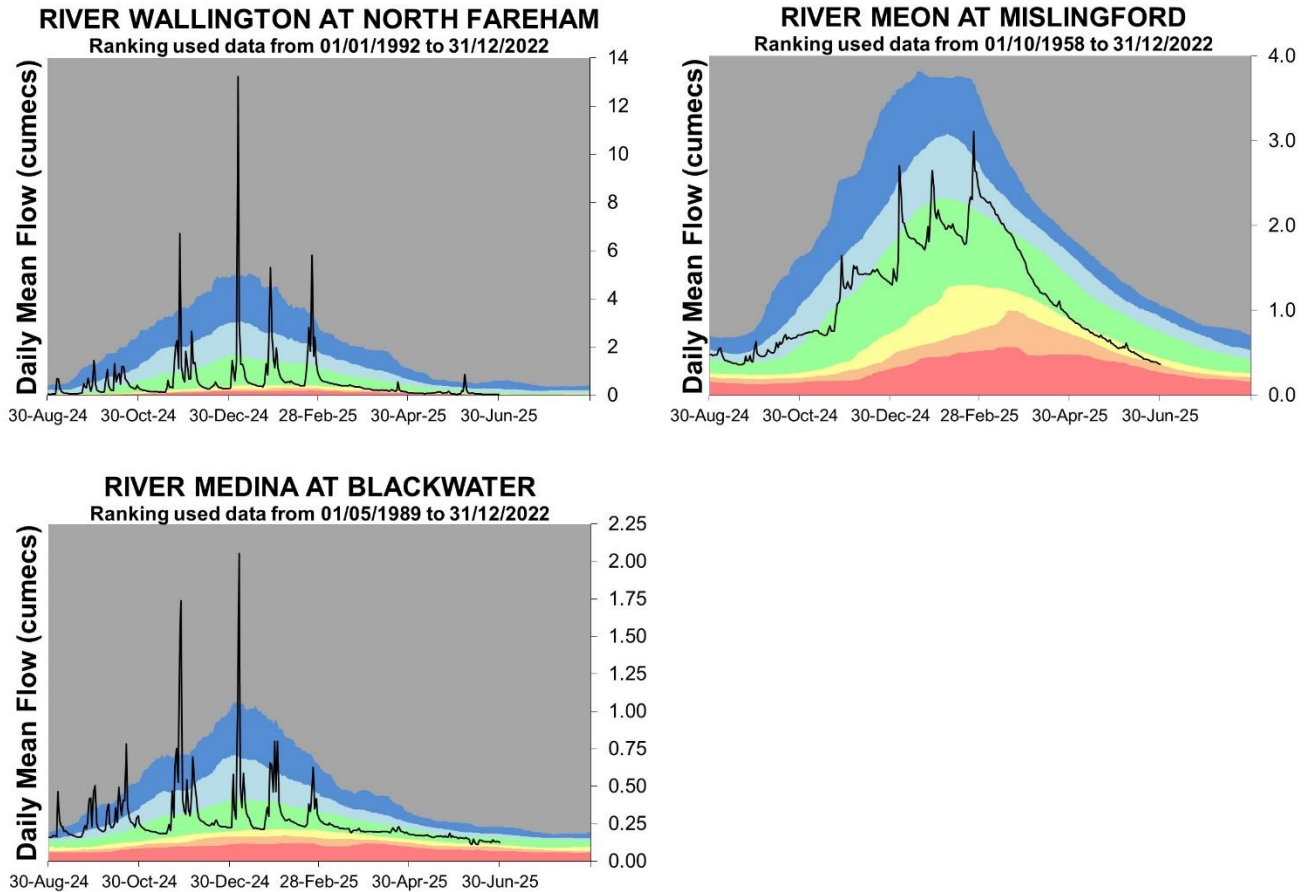
Figure 5.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average.



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

5.2 East Hampshire and Isle of Wight River flow charts

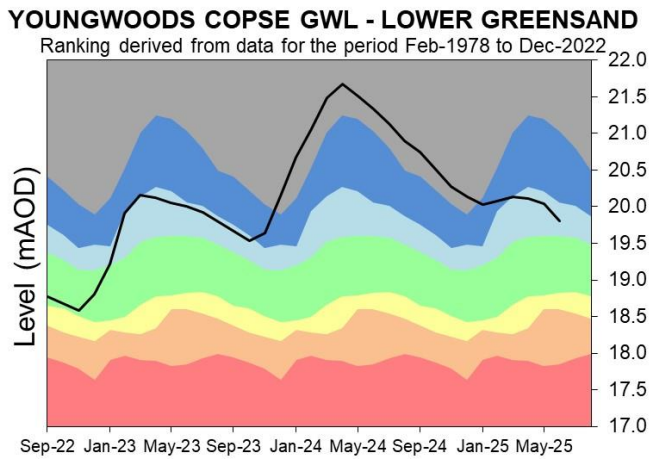
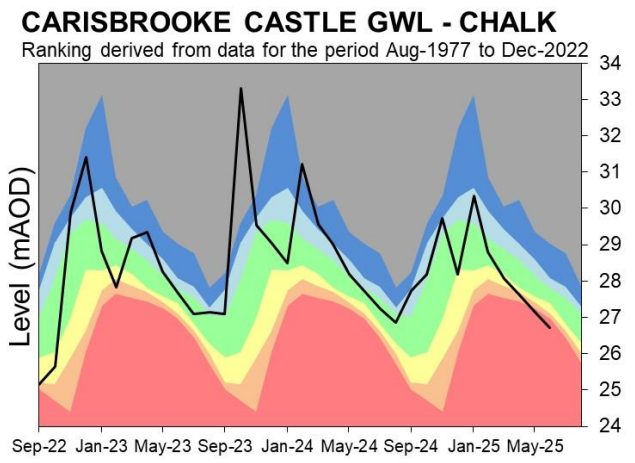
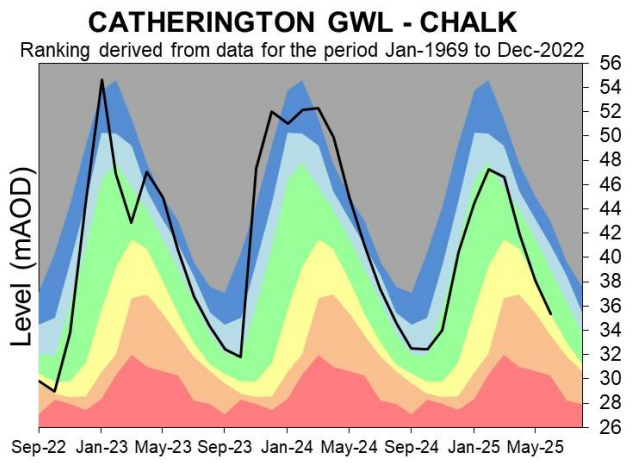
Figure 5.2 Daily mean river flow for index sites over the past year, compared to an analysis of historic daily mean flows, and long term maximum and minimum flows.



Source: Environment Agency, 2025.

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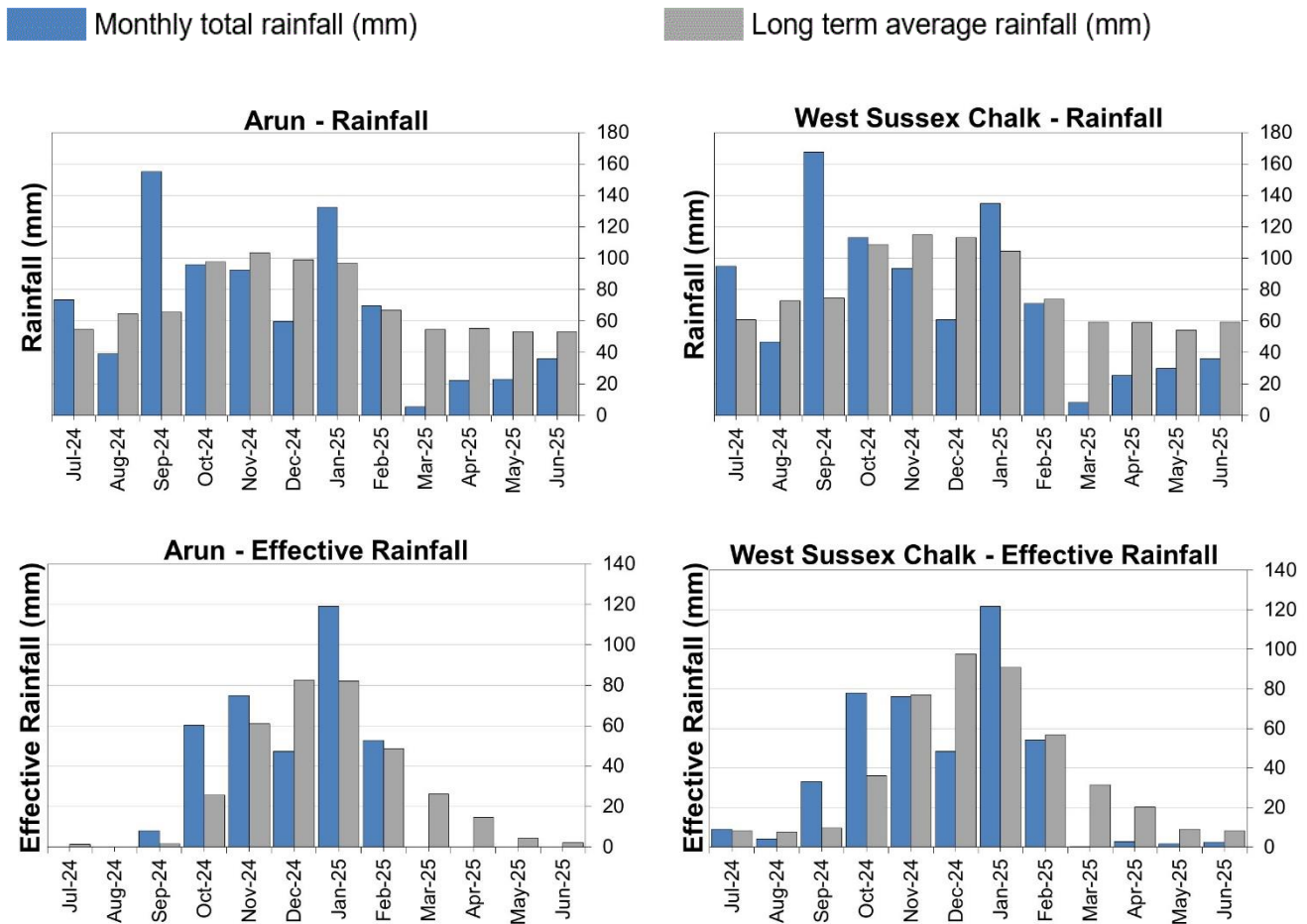


Source: Environment Agency, 2025.

6 West Sussex

6.1 West Sussex Rainfall and Effective Rainfall charts

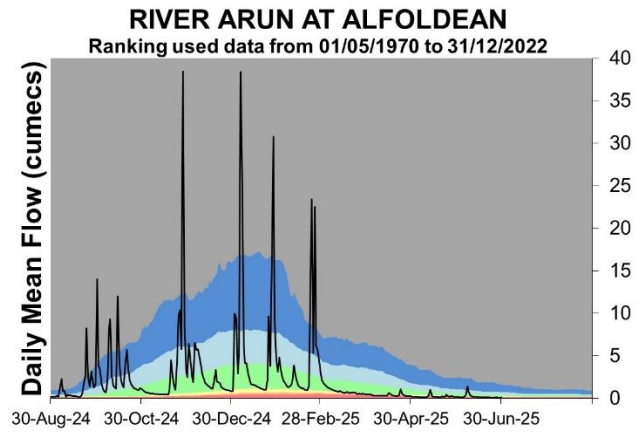
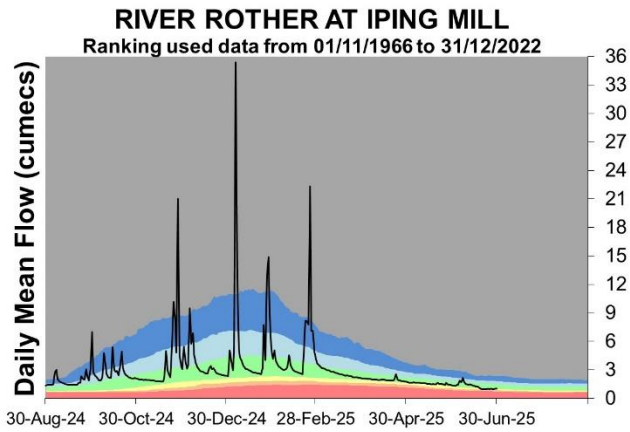
Figure 6.1: Monthly rainfall and effective rainfall totals for the past 12 months as a percentage of the 1991 to 2020 long term average.



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

6.2 West Sussex River flow charts

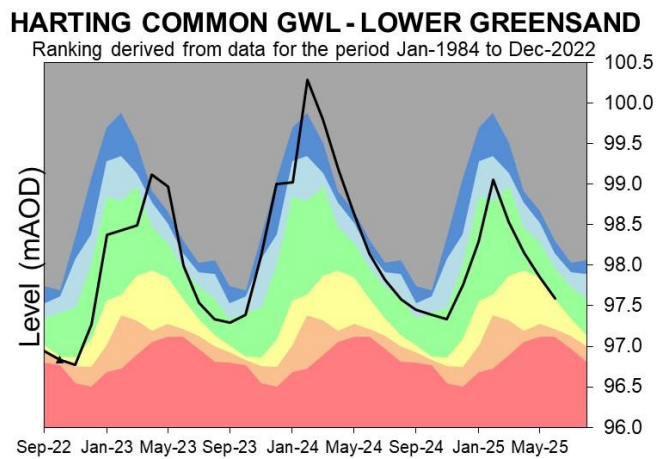
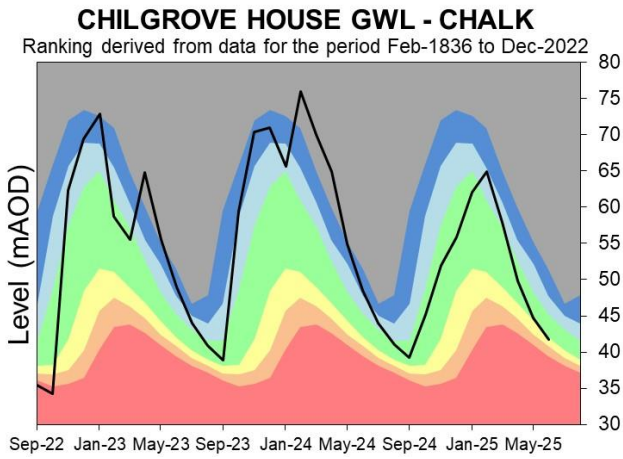
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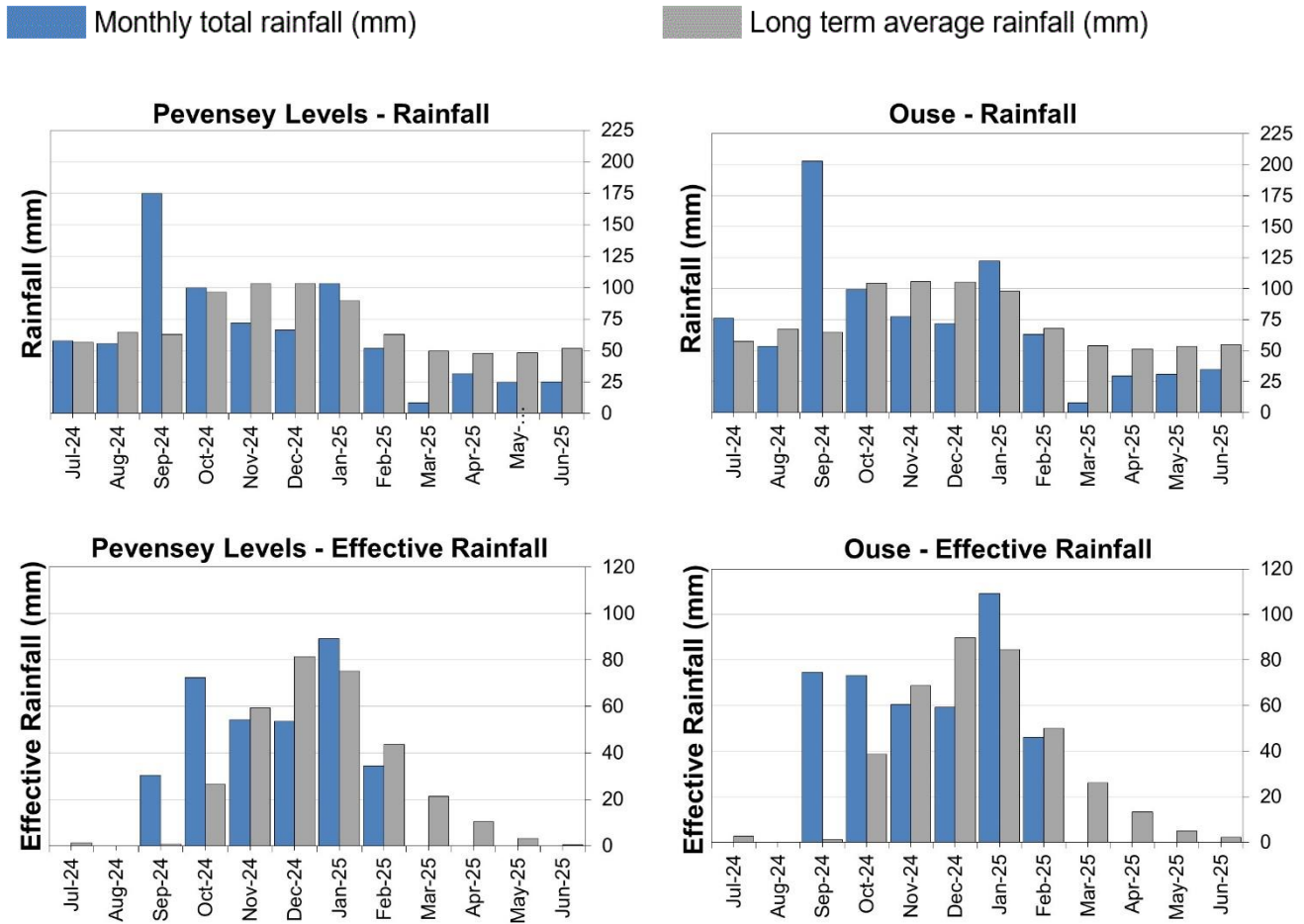


Source: Environment Agency, 2025.

7 East Sussex

7.1 East Sussex Rainfall and Effective Rainfall charts

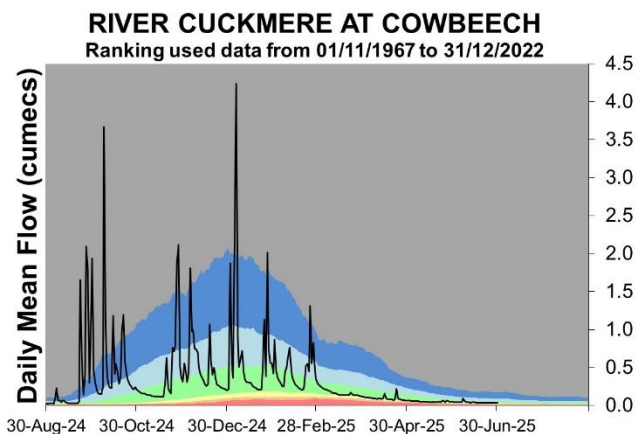
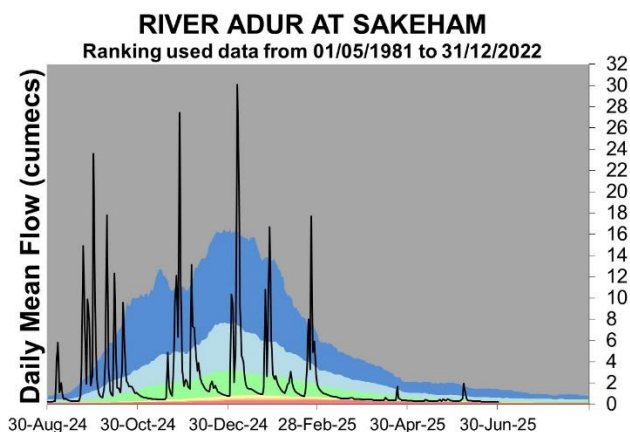
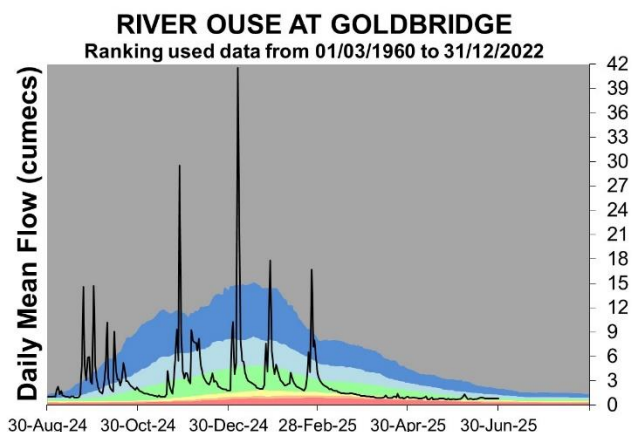
Figure 7.1: Monthly rainfall and effective rainfall totals for the past 12 months compared to the 1991 to 2020 long term average.



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

7.2 East Sussex River flow charts

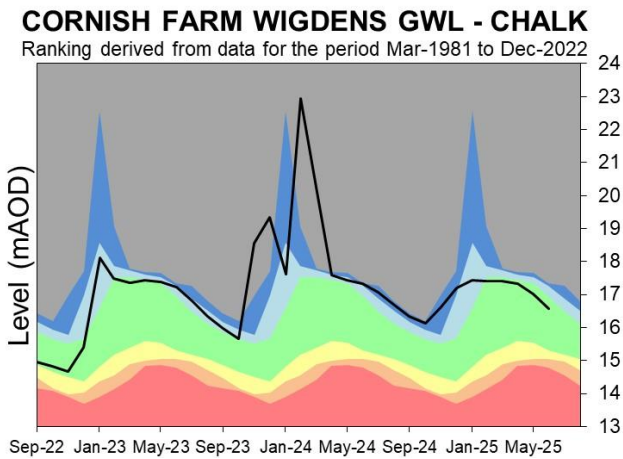
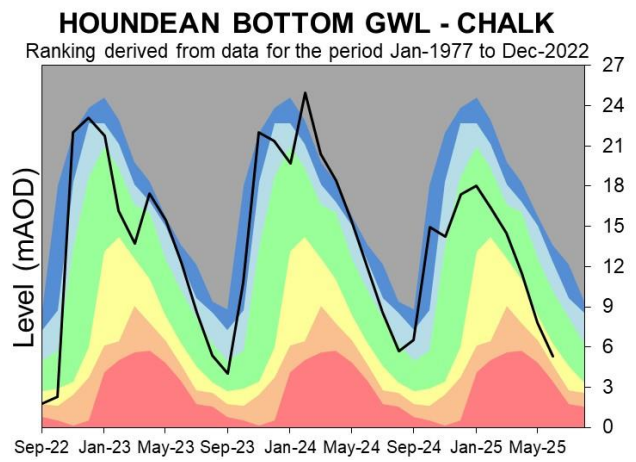
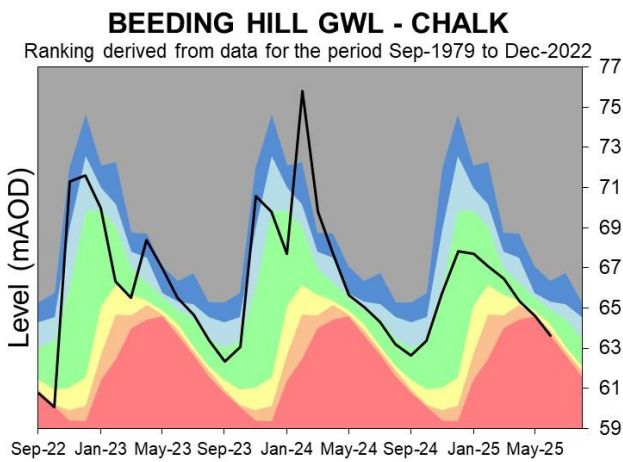
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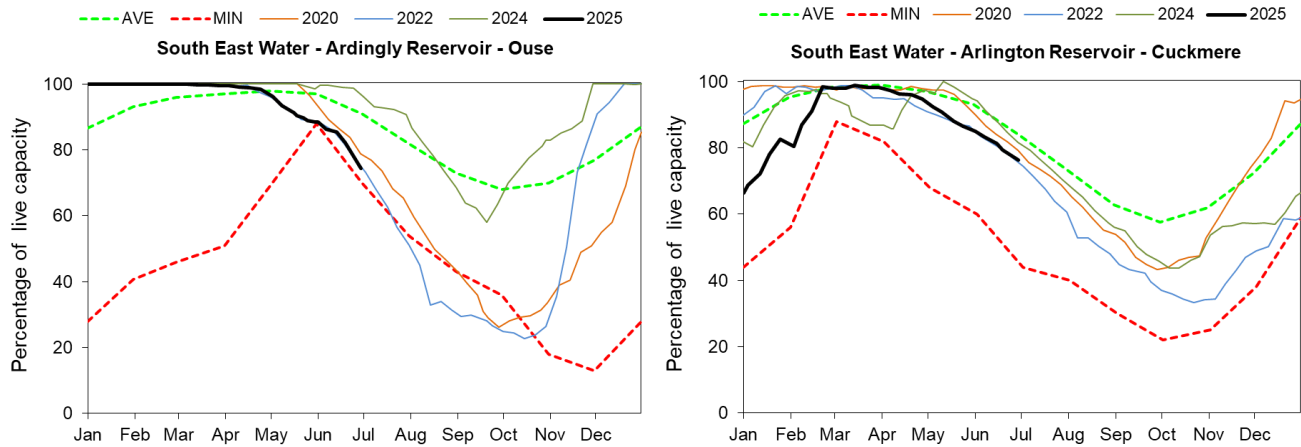
Figure 7.3: End of month groundwater levels at index groundwater level sites for major aquifers. 34 months compared to an analysis of historic end of month levels and long term maximum and minimum levels.



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

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

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 June as %LTA	Effective Rainfall (mm) 30 day Total	Effective Rainfall June as %LTA	Soil Moisture Deficit (SMD) Day 30	SMD End of June LTA
Test Chalk	39	67%	3	39%	130	70
East Hampshire Chalk	48	78%	4	50%	125	69
West Sussex Chalk	36	61%	3	31%	122	69
East Sussex Chalk	28	51%	2	29%	120	73
Isle of Wight	32	63%	2	41%	127	76
Western Rother Greensand	43	72%	3	45%	123	69
Hampshire Tertiaries	41	73%	0	0%	128	72
Lymington	45	82%	0	0%	124	68
Sussex Coast	30	60%	0	0%	131	76
Arun	36	67%	0	0%	125	68
Adur	31	59%	0	0%	123	67
Ouse	35	63%	0	0%	118	67
Cuckmere	33	59%	0	0%	117	67
Pevensey Levels	25	49%	0	0%	123	72
SSD Average	36	65%	1	30%	124	70

10.2 Seasonal summary table of rainfall and effective rainfall

Summer season: 01/04/2025 to 30/09/2025

Hydrological Area	Seasonal Rainfall (mm) Total	Seasonal Rainfall as % LTA	Seasonal Effective Rainfall (mm) Total	Seasonal Effective Rainfall as % LTA
Test Chalk	76	44%	5	14%
East Hampshire Chalk	94	52%	7	18%
West Sussex Chalk	91	53%	7	18%
East Sussex Chalk	93	60%	7	27%
Isle of Wight	81	54%	6	26%
Western Rother Greensand	95	53%	7	18%
Hampshire Tertiaries	86	53%	0	0%
Lymington	93	57%	0	0%
Sussex Coast	72	50%	0	0%
Arun	81	50%	0	0%
Adur	84	52%	0	0%
Ouse	95	60%	0	0%
Cuckmere	93	60%	0	0%
Pevensey Levels	81	55%	0	0%
SSD Average	87	54%	3	11%

10.3 Rainfall banding table

Hydrological area	June 2025 band	April 2025 to June 2025 cumulative band	January 2025 to June 2025 cumulative band	July 2024 to June 2025 cumulative band
Test Chalk	Normal	Exceptionally low	Below normal	Above normal
East Hampshire Chalk	Normal	Notably low	Below normal	Normal
West Sussex Chalk	Normal	Notably low	Below normal	Normal
East Sussex Chalk	Below normal	Notably low	Below normal	Normal
Isle of Wight	Normal	Notably low	Below normal	Normal
Western Rother Greensand	Normal	Notably low	Below normal	Normal
Hampshire Tertiaries	Normal	Notably low	Below normal	Normal
Lymington	Normal	Notably low	Below normal	Normal
Sussex Coast	Normal	Exceptionally low	Below normal	Normal
Arun	Normal	Notably low	Below normal	Normal
Adur	Below normal	Notably low	Below normal	Normal
Ouse	Normal	Notably low	Below normal	Normal
Cuckmere	Normal	Notably low	Below normal	Normal
Pevensey Levels	Below normal	Exceptionally low	Below normal	Normal

10.4 River flows table

Site name	River	Catchment	June 2025 band	May 2025 band
Alfoldean Gs	Arun	Arun	Exceptionally low	Exceptionally low
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	Below normal	Exceptionally low
Chilbolton GS	Test	Test Upper	Normal	Normal
Cowbeech Gs	Cuckmere	Cuckmere	Normal	Below normal
Goldbridge Gs	Ouse [so]	Ouse Sussex	Normal	Below normal
Iping Mill Gs	Rother	West Rother	Normal	Below normal
Mislingford GS	Meon	Meon	Below normal	Below normal
North Fareham GS	Wallington	Wallington	Normal	Notably low
Sakeham GS	Adur	Adur	Normal	Below normal

10.5 Groundwater table

Site name	Aquifer	End of June 2025 band	End of May 2025 band
Carisbrooke Castle	Isle Of Wight Central Downs Chalk	Exceptionally low	Exceptionally low
Youngwoods Copse	Isle of Wight Lower Greensand	Normal	Notably high
Clanville Gate Gwl	River Test Chalk	Normal	Normal
Lopcombe Corner Gwl	River Test Chalk	Below normal	Normal
Preston Candover	River Itchen Chalk	Below normal	Notably high
West Meon Hut Gwl	River Itchen Chalk	Normal	Normal
Catherington	River Meon Chalk	Normal	Normal
Chilgrove House Gwl	Chichester-Worthing-Portsdown Chalk	Normal	Normal
Beeding Hill Gwl	Brighton Chalk Block	Normal	Notably low
Houndean Bottom Gwl	Brighton Chalk Block	Below normal	Below 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 2 June 2025	Number of flow constraints in force between 3 to 9 June 2025	Number of flow constraints in force between 10 to 16 June 2025	Number of flow constraints in force between 17 to 23 June 2025	Number of flow constraints in force between 24 to 30 June 2025
6	8	3	6	14

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