Hydrological Summary for the United Kingdom

September 2026

General

September brought a temporary interruption to the dry conditions that had characterised much of summer 2026, with unsettled weather delivering near-average rainfall for the UK as a whole. However, rainfall distribution was uneven, with Scotland and Northern Ireland wetter than average while much of England remained substantially drier than average. Soil moisture increased across many western and north-western COSMOS-UK sites compared with the previous month, while much of England experienced further drying and remained drier than usual for the time of year. Despite responses to mid-month rainfall, most rivers in England and Wales continued to record below normal to exceptionally low flows. Seasonal groundwater recessions continued across much of the UK, with only limited signs of early autumn recharge, while reservoir stocks for England & Wales declined further. Wimbleball and East Lothian recorded their lowest September reservoir stocks (in records since 1988), the second consecutive month for Wimbleball and the third for East Lothian. All of England and the majority of Wales remained in drought status or prolonged dry weather. By month-end, the Scottish Tyne and Tweed catchments were in moderate scarcity, while south-west Wales had moved to recovery from drought status. Recovery, starting from a below-average baseline, will require above-average rainfall during autumn and winter. Although seasonal forecasts favour wetter-than-average conditions over the next three months, the Hydrological Outlook indicates river flows and groundwater levels in parts of south-east England are likely to remain below normal. Autumn and winter recharge will be important in determining water resources pressures in 2027.

Rainfall

September was characterised by predominantly westerly weather patterns, with a succession of Atlantic low-pressure systems bringing unsettled conditions, particularly to northern and western parts of the UK. The first half of the month was changeable, with rain bands crossing the country between the 1st-4th and again from the 12th-18th; 61 mm of rain was recorded at Dinas Reservoir (Dyfed) on the 12th. A settled spell developed between the 20th-26th as high pressure became established across southern Britain, while frontal systems continued to affect Scotland and Northern Ireland. An Atlantic depression on the 27th brought heavy rainfall to Northern Ireland (41 mm at Murlough, County Down) and western Scotland, with unsettled conditions persisting to month-end. September rainfall for the UK was 104% of average; Scotland (137%) and Northern Ireland (135%) were substantially wetter than average, with the Highland region receiving 150% of average September rainfall. In contrast, England recorded only 65% of average rainfall, with particularly dry conditions across eastern and southern regions, including the Yorkshire, Anglian and Thames regions, each of which received little more than half of their average September rainfall. Despite near-average rainfall nationally, longer-term rainfall deficits remained pronounced across southern and eastern England. The Thames and Anglian regions recorded their driest April-September period on record; the Thames region also registered its driest July-September period on record (all in series from 1890).

River Flows

River flows reflected rainfall patterns, with catchments in northern and western Britain responding to frontal rainfall while many rivers in England remained notably depressed. Flows began the month below average, rose following mid-month rainfall, particularly in northern and western catchments, while many rivers in southern England showed only limited or no recovery by month-end. Outflows from the English Lowlands fell steadily through the month and ended September close to daily minimum values. Monthly mean flows ranged from below normal to exceptionally low across England and Wales, with some catchments across north-western UK in the normal range and above normal. Exceptionally low flows were observed across many English rivers, including the Coquet, Wensum, Thames and Tone. The Tone registered its lowest September mean flow on record (in a series from 1961), and flows on the Coquet, Stringside, Thames and Taw were less than 25% of their September averages, in series exceeding 60 years and extending to 143 years for the Thames. The English Lowlands recorded their fifth lowest July to September outflow, while England as a whole registered its sixth lowest July to September outflow (both in series since 1961). Over the last three months (July-September), river flows exhibited a similar spatial pattern to September, although exceptionally low flows were more widespread across England and Wales. Record low July-September mean flows were recorded in south-west England (e.g. Taw, in a series since 1959), and on the Yorkshire Derwent, Erch and Wensum (all in series since at least 1974).

Soil Moisture and Groundwater

Soil moisture increased across western and north-western regions, but deficits continued across much of England. Soil moisture deficits (SMDs) in England and Wales remained above average, with the Thames region recording its joint-highest September SMDs (equal to 2003) in a series from 1961. Levels in the Chalk were predominantly in the normal range to notably low and continued to decline across much of England. Frying Pan Lodge recorded its lowest September level, in a 54-year series. Levels at Rockley fell into the notably low range, while Compton House remained close to a record low. At Killyglen, levels responded rapidly to late-September rainfall and recovered towards the normal range. In the Jurassic limestones, levels continued to recede seasonally, with New Red Lion falling into the below normal range and Ampney Crucis declining to notably low. Levels in the Magnesian Limestone continued a slow recession but remained within the normal range. Levels in the Carboniferous Limestone were close to record lows in south Wales, although short-lived rainfall events temporarily slowed recessions. Alstonfield recorded its lowest September level in a 53-year series. Levels in the Permo-Triassic sandstones generally declined but remained mainly within the normal range, with Skirwith below normal and Weir Farm above normal following substantial recharge in recent years. Lime Kiln Way (Upper Greensand) remained above normal despite declining, while Royalty Observatory (Fell Sandstone) remained within the normal range. In the Devonian sandstones, levels at Feddan Junction stabilised and showed limited recovery following September rainfall, while Easter Lathrisk continued to recede and remained notably low.

National Hydrological Monitoring Programme | UKCEH | BGS British Geological Survey

Rainfall

Rainfall accumulations and return period estimates

Percentages are from the 1991-2020 average.

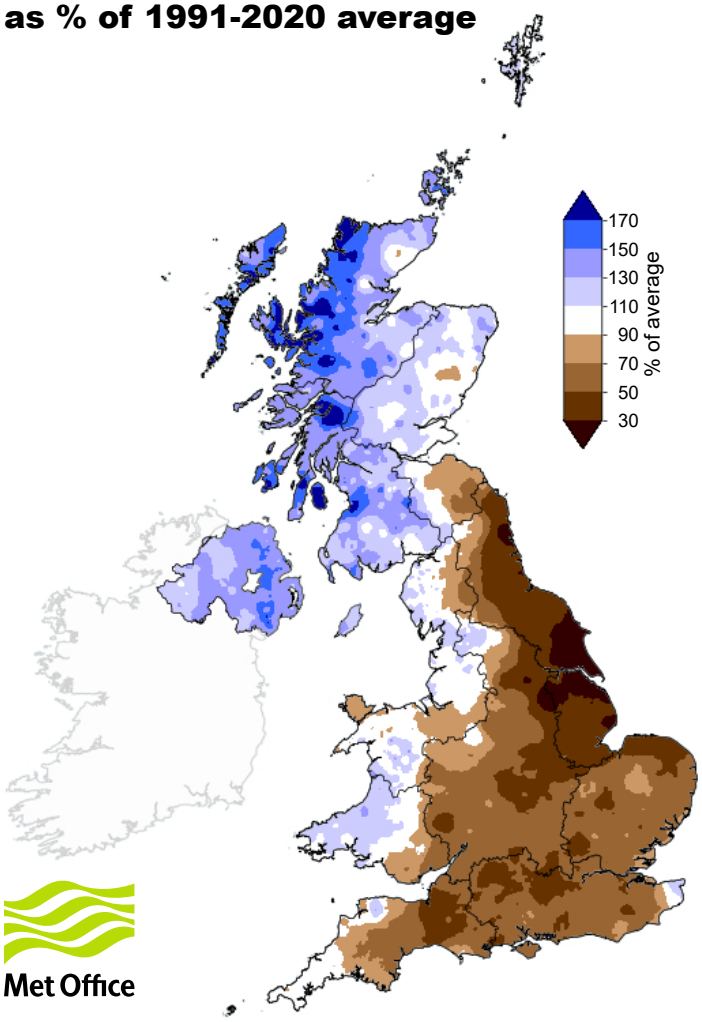
Region	Rainfall	Sep 2026	Jul26 – Sep26	RP	Apr26 – Sep26	RP	Jan26 – Sep26	RP	Oct25 – Sep26	RP
United Kingdom	mm	95	201		402		749		1176	
	%	104	75	5-10	82	5-10	95	2-5	101	2-5
England	mm	45	110		241		526		856	
	%	65	52	30-50	62	50-80	88	2-5	99	2-5
Scotland	mm	169	350		647		1067		1611	
	%	137	101	2-5	104	2-5	100	2-5	103	5-10
Wales	mm	113	194		417		850		1464	
	%	101	60	15-25	71	15-25	88	2-5	100	2-5
Northern Ireland	mm	118	229		505		901		1302	
	%	135	83	2-5	100	2-5	113	10-20	113	25-40
England & Wales	mm	54	121		265		571		939	
	%	73	54	30-50	64	40-60	88	2-5	99	2-5
North West	mm	107	225		461		801		1314	
	%	99	71	5-10	84	2-5	92	2-5	103	2-5
Northumbria	mm	39	119		268		533		843	
	%	54	52	25-40	64	25-40	84	5-10	93	2-5
Severn-Trent	mm	41	110		237		514		828	
	%	65	55	20-30	63	30-50	91	2-5	103	2-5
Yorkshire	mm	38	117		259		512		853	
	%	53	54	15-25	64	20-30	84	2-5	98	2-5
Anglian	mm	27	82		159		343		567	
	%	52	48	25-40	51	80-120	77	8-12	90	2-5
Thames	mm	30	58		163		413		659	
	%	53	34	80-120	50	>100	83	5-10	91	2-5
Southern	mm	38	80		188		505		796	
	%	61	45	25-40	56	40-60	94	2-5	97	2-5
Wessex	mm	35	79		207		560		920	
	%	53	39	60-90	55	>100	92	2-5	102	2-5
South West	mm	71	143		320		824		1345	
	%	81	54	15-25	65	15-25	100	2-5	107	5-10
Welsh	mm	106	185		400		822		1415	
	%	98	59	15-25	70	15-25	88	2-5	101	2-5
Highland	mm	222	469		826		1281		1897	
	%	150	121	5-10	118	10-15	102	2-5	103	5-10
North East	mm	98	215		403		734		1066	
	%	118	84	2-5	85	2-5	101	2-5	101	2-5
Tay	mm	119	236		501		983		1457	
	%	118	77	2-5	90	2-5	104	2-5	105	5-10
Forth	mm	109	241		463		774		1221	
	%	115	84	2-5	89	2-5	90	2-5	98	2-5
Tweed	mm	75	183		364		658		1024	
	%	93	70	5-10	77	5-10	88	2-5	94	2-5
Solway	mm	150	271		586		1009		1629	
	%	125	76	2-5	92	2-5	95	2-5	103	5-10
Clyde	mm	217	437		789		1260		1949	
	%	145	103	2-5	107	2-5	99	2-5	103	5-10

% = percentage of 1991-2020 average *RP = Return period*

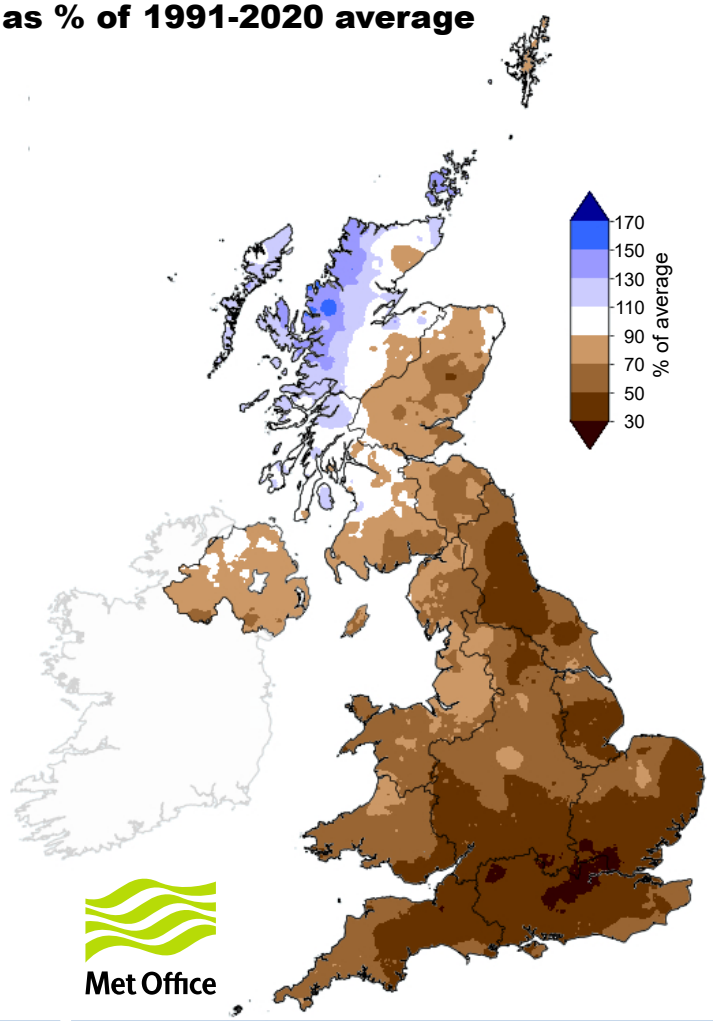
Important note: Figures in the above table may be quoted provided their source is acknowledged. Where appropriate, specific mention must be made of the uncertainties associated with the return period estimates. The RP estimates are based on data provided by the Met Office and reflect climatic variability since 1890; they also assume a stable climate. The quoted RPs relate to the specific timespans only; for the same timespans, but beginning in any month the RPs would be substantially shorter. The timespans featured do not purport to represent the critical periods for any particular water resource management zone. For hydrological or water resources assessments of drought severity, river flows and/or groundwater levels normally provide a better guide than return periods based on regional rainfall totals. Note that precipitation totals in winter months may be underestimated due to snowfall undercatch. All monthly rainfall totals since January 2026 are provisional. Source: Data from HadUK-Grid dataset at 1km resolution v1.3.2.0.

Rainfall

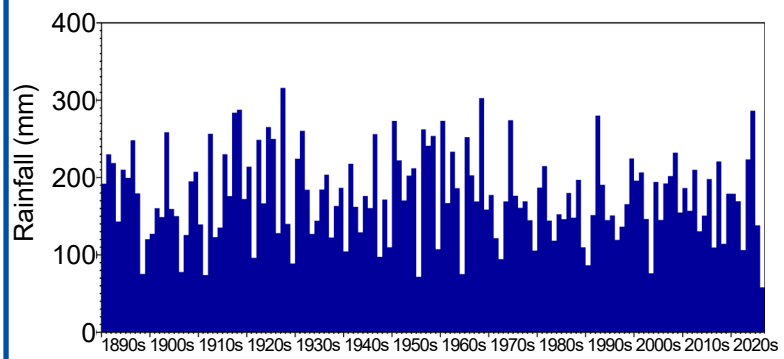
September 2026 rainfall as % of 1991-2020 average



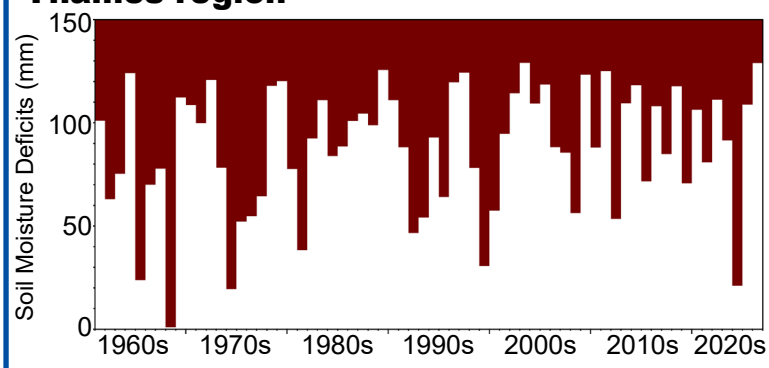
July 2026 - September 2026 rainfall as % of 1991-2020 average



July - September rainfall for the Thames region



September Soil Moisture Deficits for the Thames region



UK Hydrological Outlook

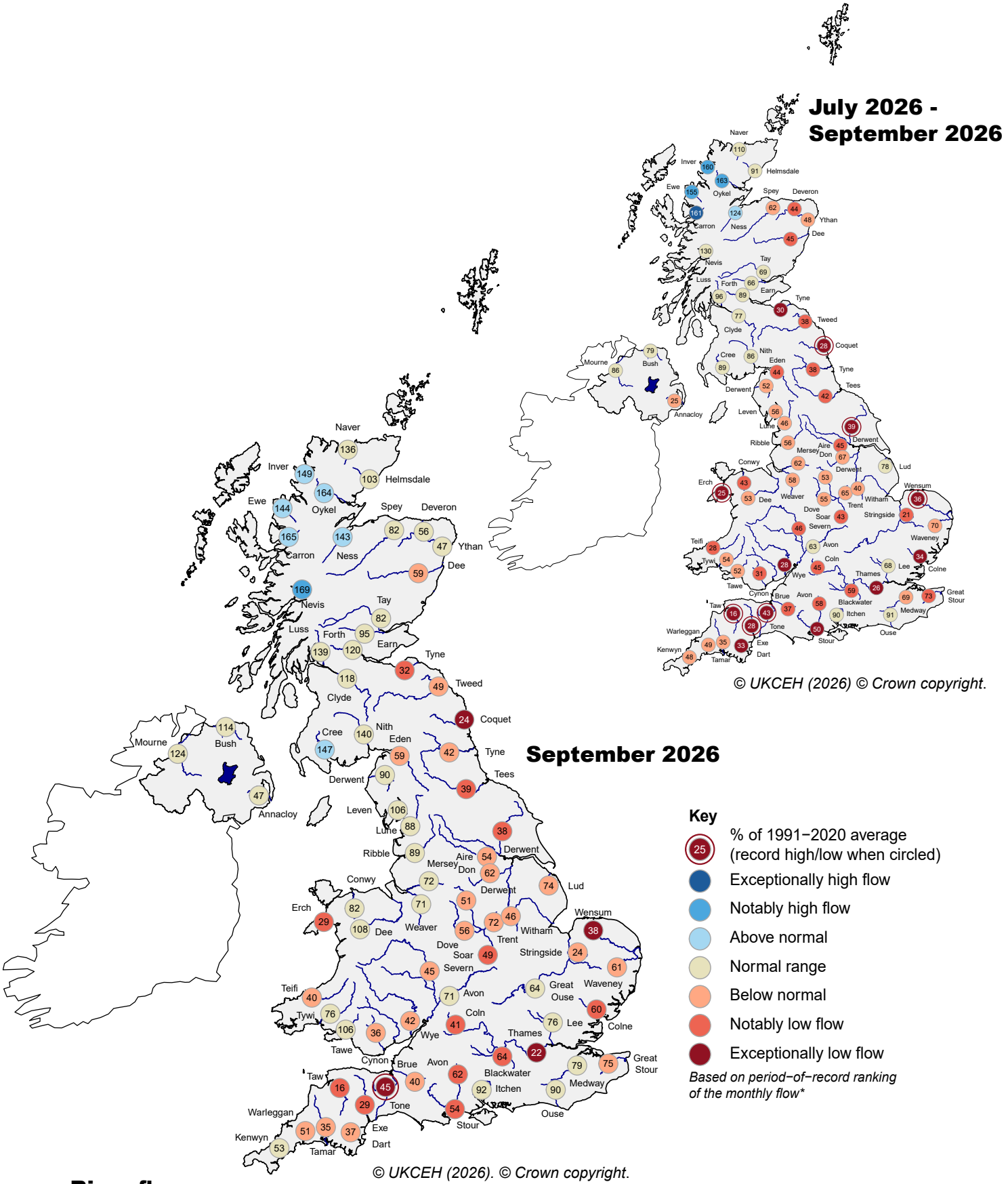
The Hydrological Outlook provides an insight into future hydrological conditions across the UK. Specifically it describes likely trajectories for river flows and groundwater levels on a monthly basis, with particular focus on the next three months.

The complete version of the Hydrological Outlook UK can be found at: www.hydoutuk.net/latest-outlook/

Period: from October 2026
Issued: 08.10.2026
using data to the end of September 2026

Low river flows have persisted in England following a dry September. The rainfall forecast for October is balanced, meaning that flows are likely to remain below normal in most areas. Above normal flows are expected in parts of western Scotland, Northern Ireland and the northwest of England. Over the next three months, the forecast is for above normal rainfall, suggesting that river flows in many parts are likely to recover to their normal to above normal ranges. Low flows are likely to persist in the groundwater-fed catchments in the southeast of England as groundwater levels slowly rise but remain low.

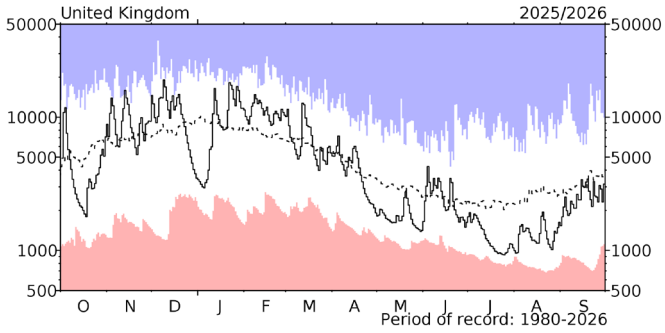
River flow

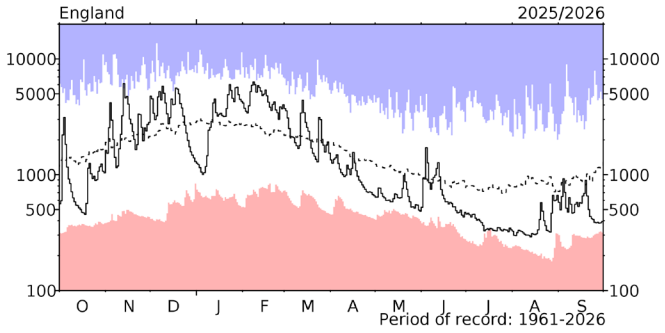


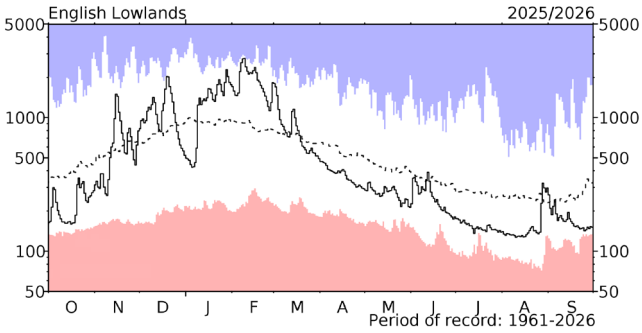
River flows

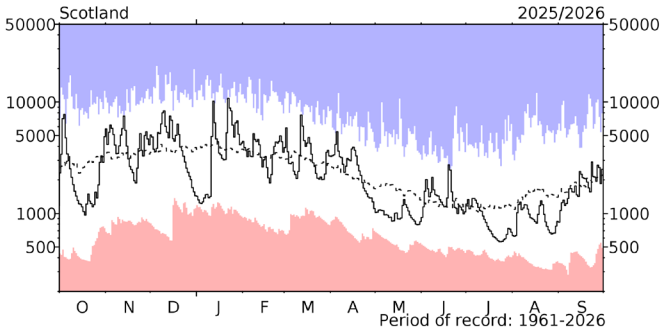
*Comparisons based on percentage flows alone can be misleading. A given percentage flow can represent extreme drought conditions in permeable catchments where flow patterns are relatively stable but be well within the normal range in impermeable catchments where the natural variation in flows is much greater. The categories of the spots are based on the full period-of-record data whereas the percentages are based on the 1991-2020 averaging period for consistency between rainfall and river flows. Percentages may be omitted where flows are under review.

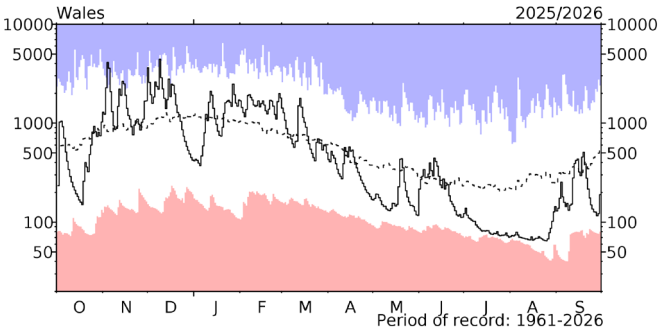
River flow

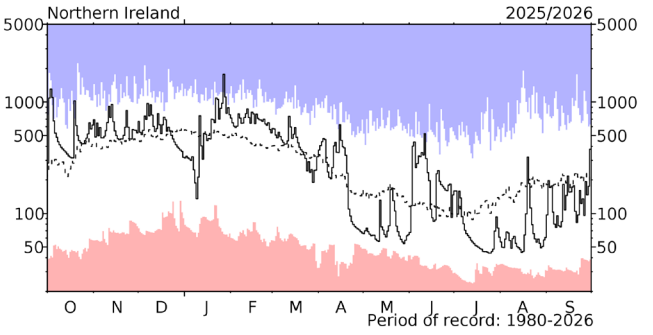


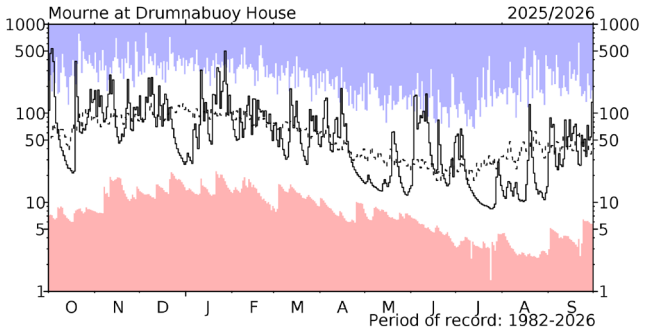


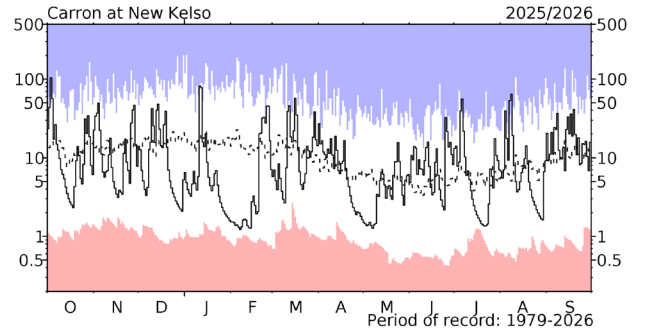


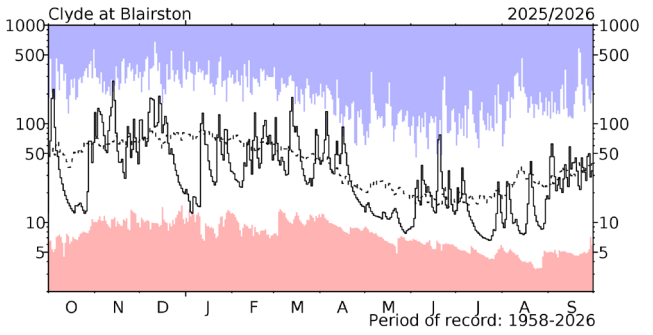


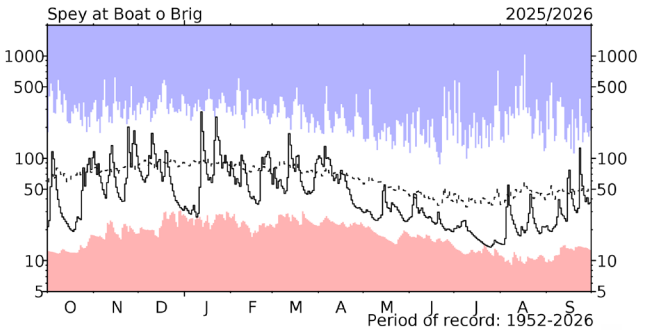








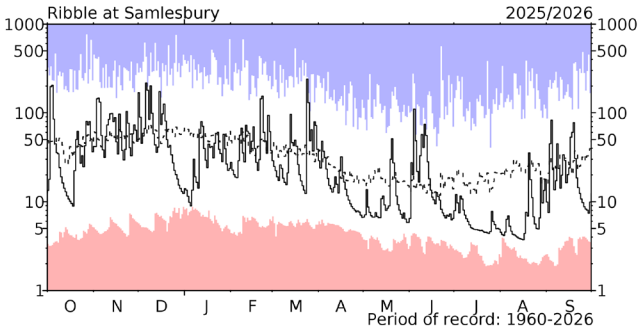


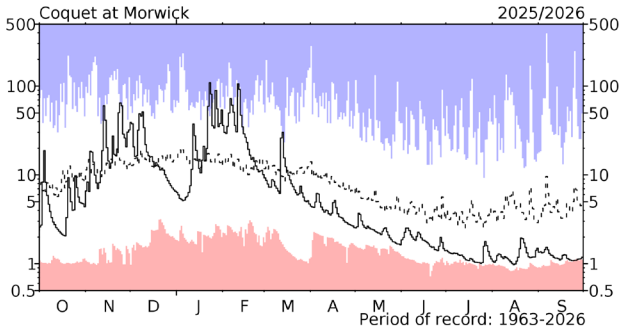


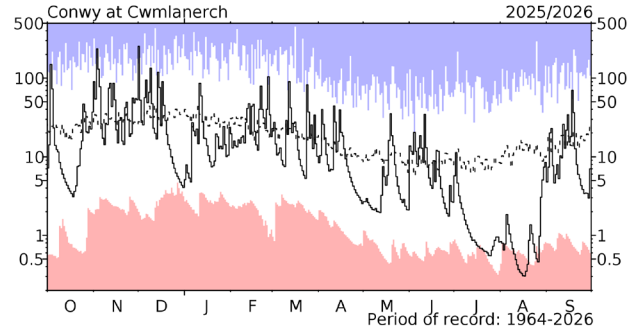
River flow hydrographs

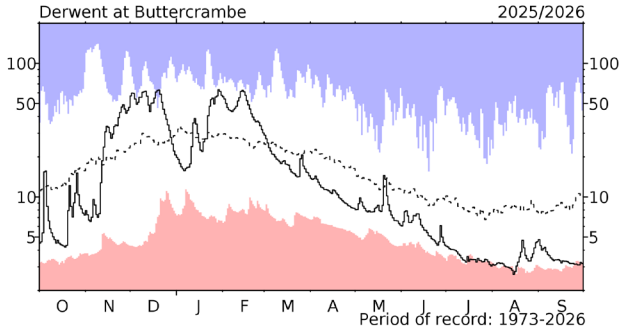
*The river flow hydrographs show the daily mean flows (measured in m^3s^{-1}) together with the maximum and minimum daily flows prior to October 2025 (shown by the shaded areas). Daily flows falling outside the maximum/minimum range are indicated where the bold trace enters the shaded areas. The dashed line represents the period-of-record average daily flow.

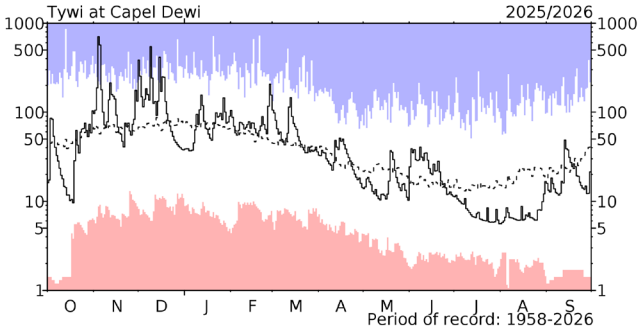
River flow

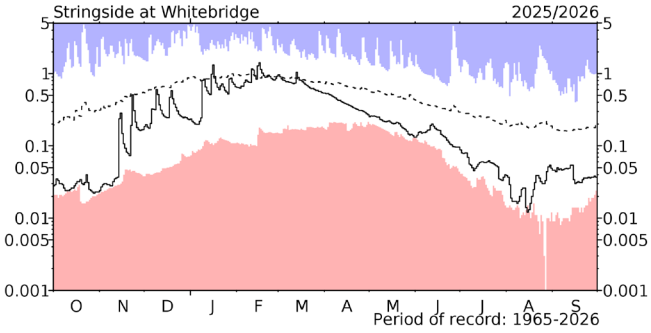

Ribble at Samlesbury
2025/2026
O N D J F M A M J J A S
Period of record: 1960-2026

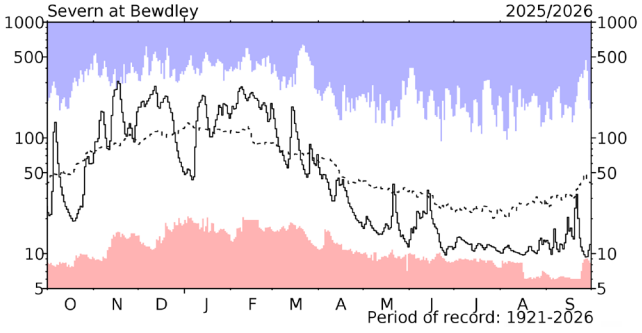

Coquet at Morwick
2025/2026
O N D J F M A M J J A S
Period of record: 1963-2026

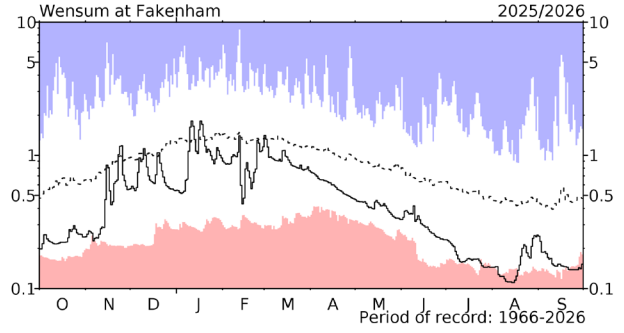

Conwy at Cwmlanerch
2025/2026
O N D J F M A M J J A S
Period of record: 1964-2026

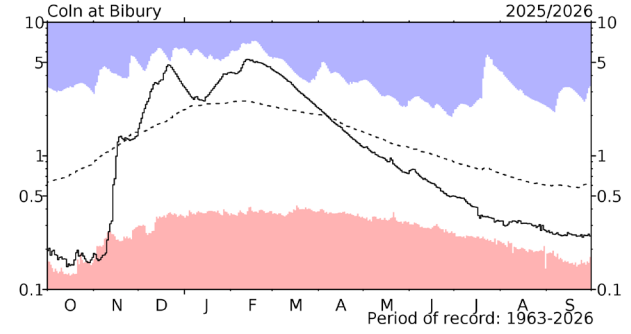

Derwent at Buttercrambe
2025/2026
O N D J F M A M J J A S
Period of record: 1973-2026

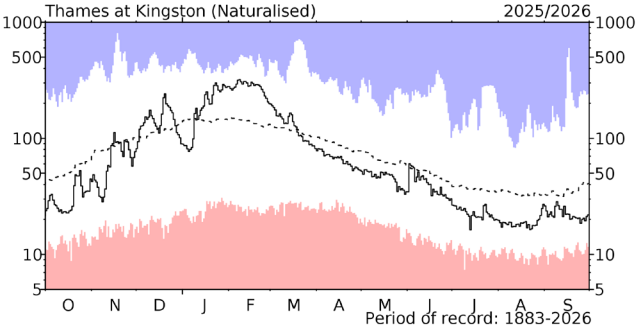

Tywi at Capel Dewi
2025/2026
O N D J F M A M J J A S
Period of record: 1958-2026

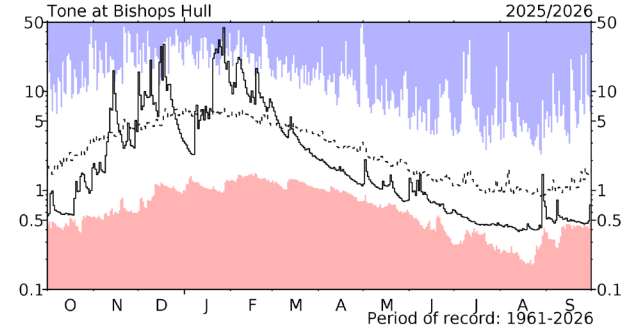

Stringside at Whitebridge
2025/2026
O N D J F M A M J J A S
Period of record: 1965-2026

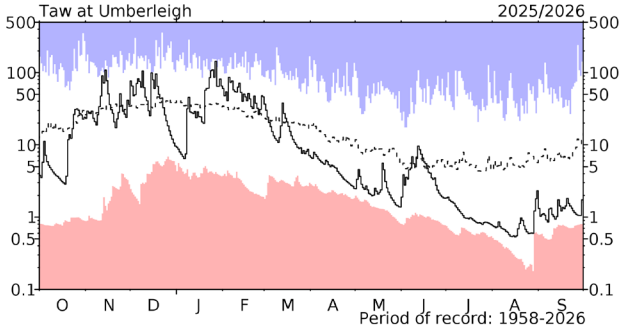

Severn at Bewdley
2025/2026
O N D J F M A M J J A S
Period of record: 1921-2026


Wensum at Fakenham
2025/2026
O N D J F M A M J J A S
Period of record: 1966-2026

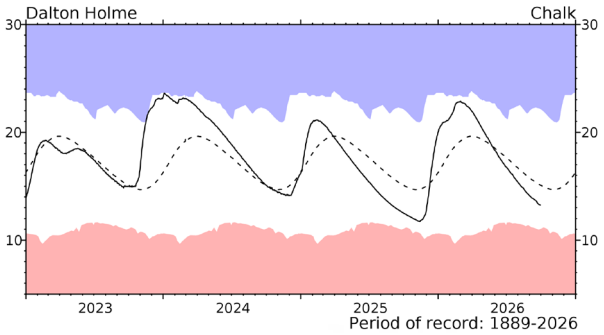

Coln at Bibury
2025/2026
O N D J F M A M J J A S
Period of record: 1963-2026

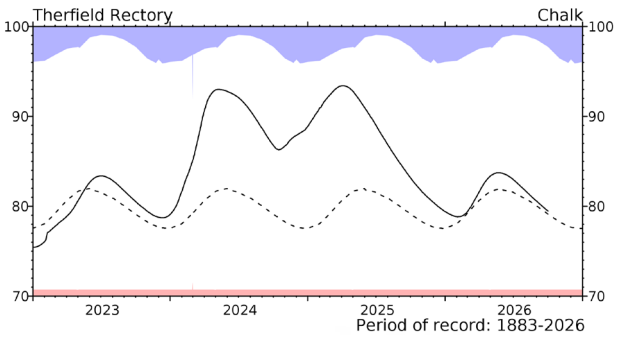

Thames at Kingston (Naturalised)
2025/2026
O N D J F M A M J J A S
Period of record: 1883-2026

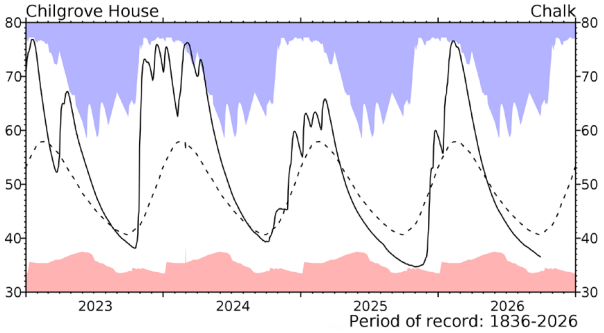

Tone at Bishops Hull
2025/2026
O N D J F M A M J J A S
Period of record: 1961-2026

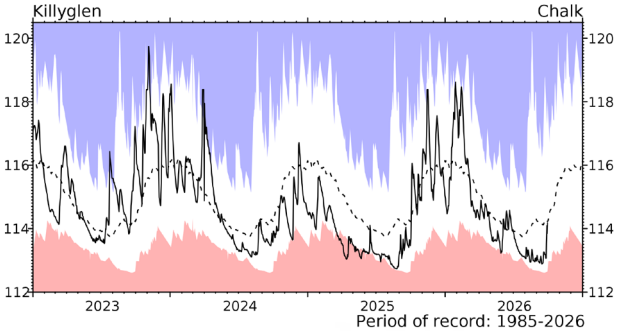

Taw at Umberleigh
2025/2026
O N D J F M A M J J A S
Period of record: 1958-2026

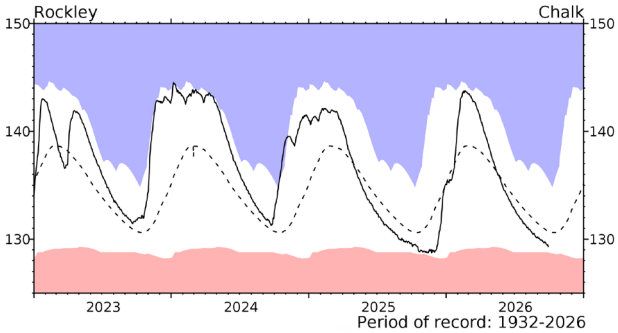
Groundwater

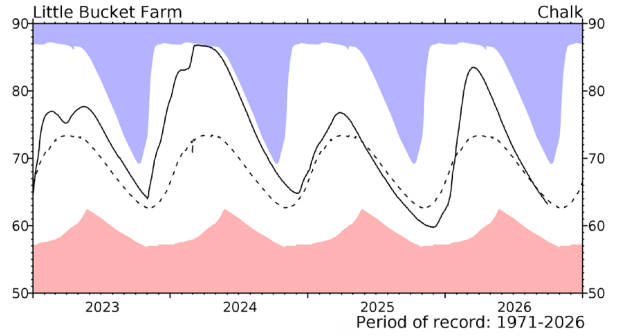


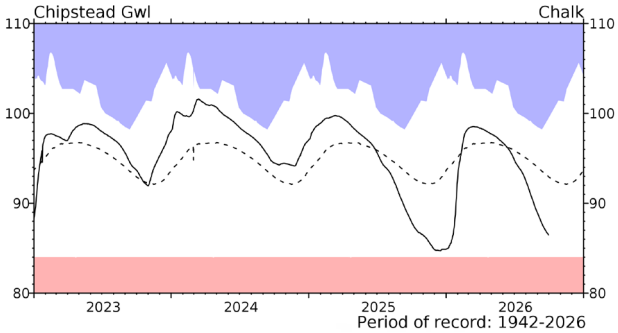


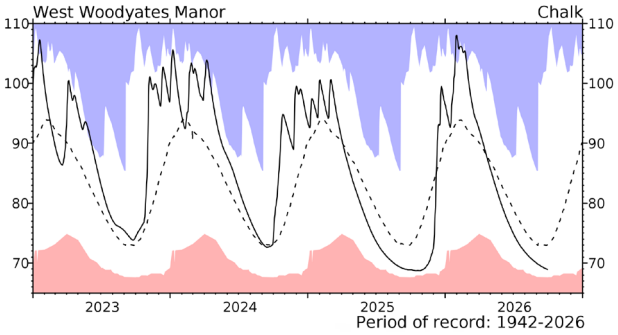


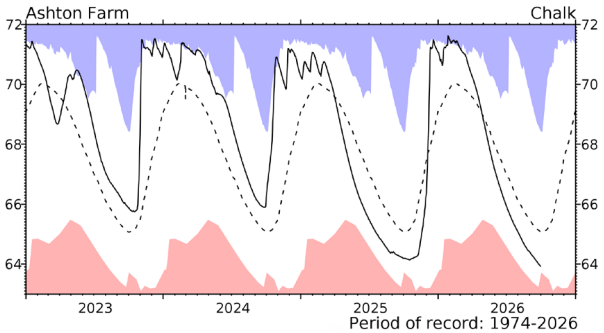


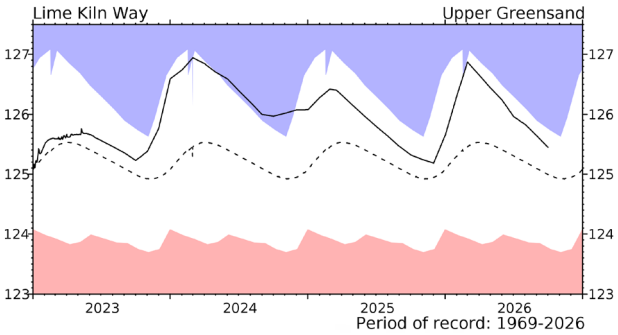






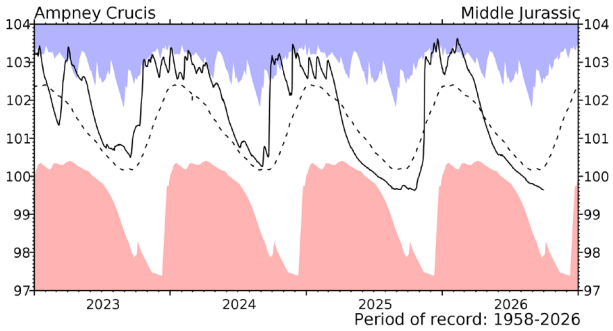


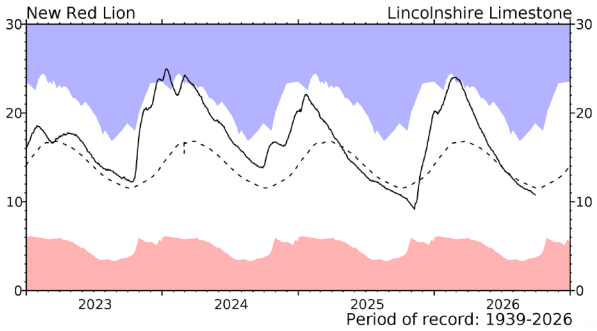


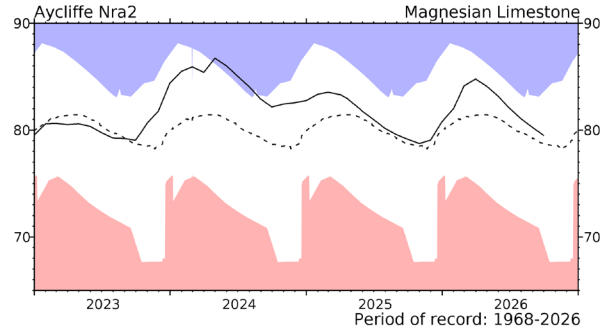


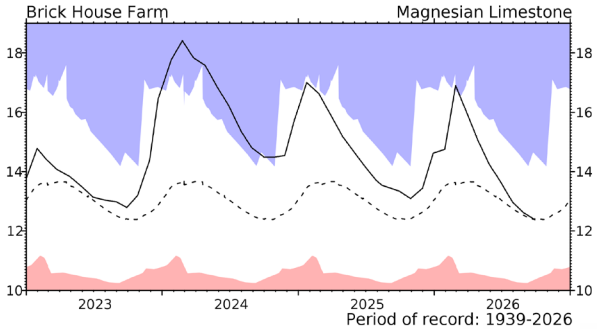
Groundwater levels (measured in metres above ordnance datum) normally rise and fall with the seasons, reaching a peak in the spring following replenishment through the winter (when evaporation losses are low and soil moist). They decline through the summer and early autumn. This seasonal variation is much reduced when the aquifer is confined below overlying impermeable strata. The monthly mean and the highest and lowest levels recorded for each month are calculated with data from the start of the record to the end of 2022. Note that most groundwater levels are not measured continuously and, for some index wells, the greater frequency of contemporary measurements may, in itself, contribute to an increased range of variation.

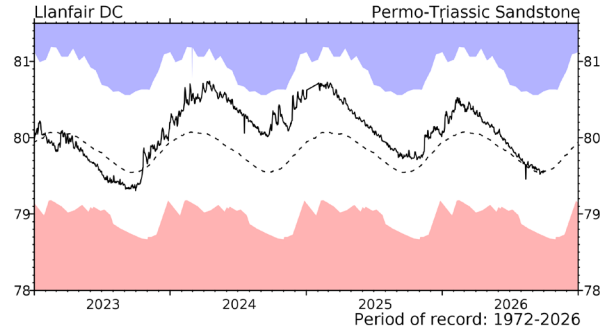
Groundwater

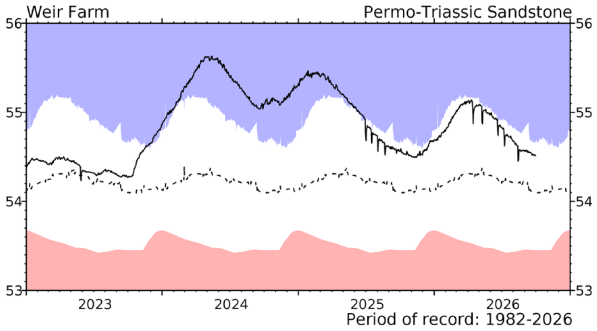


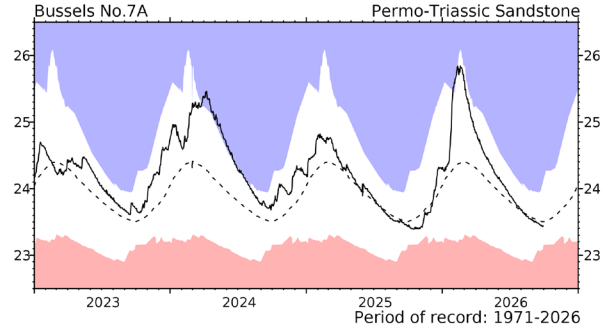


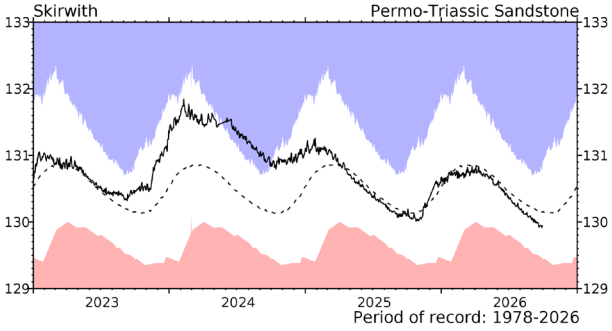


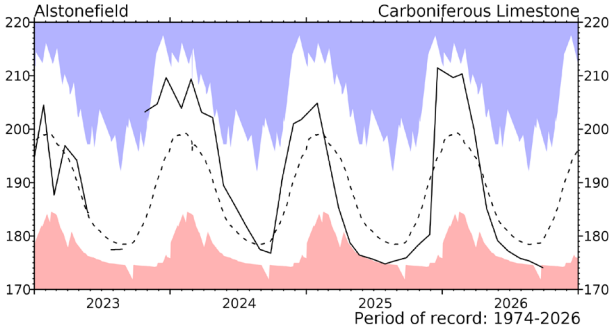


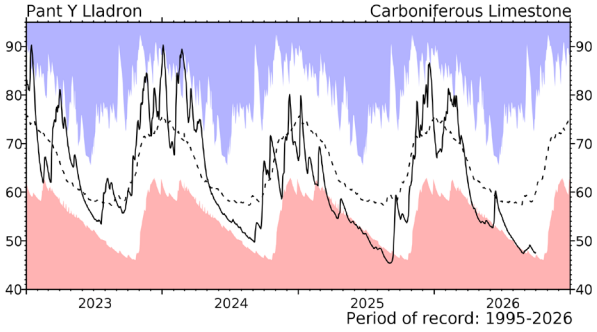


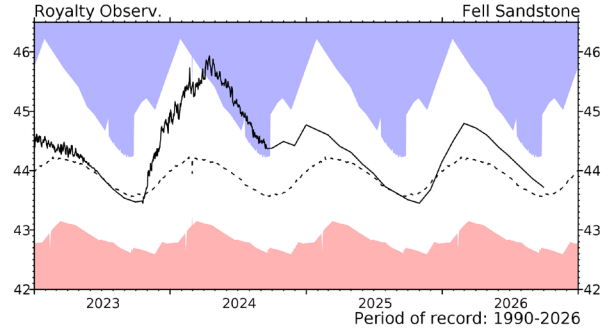


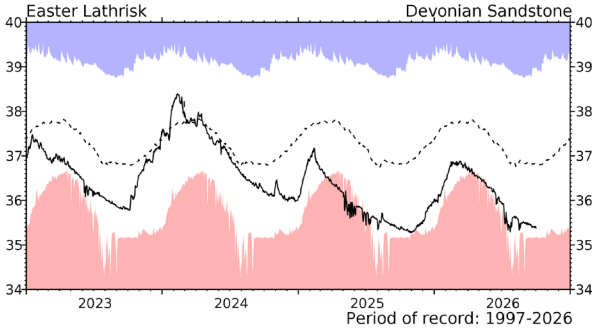




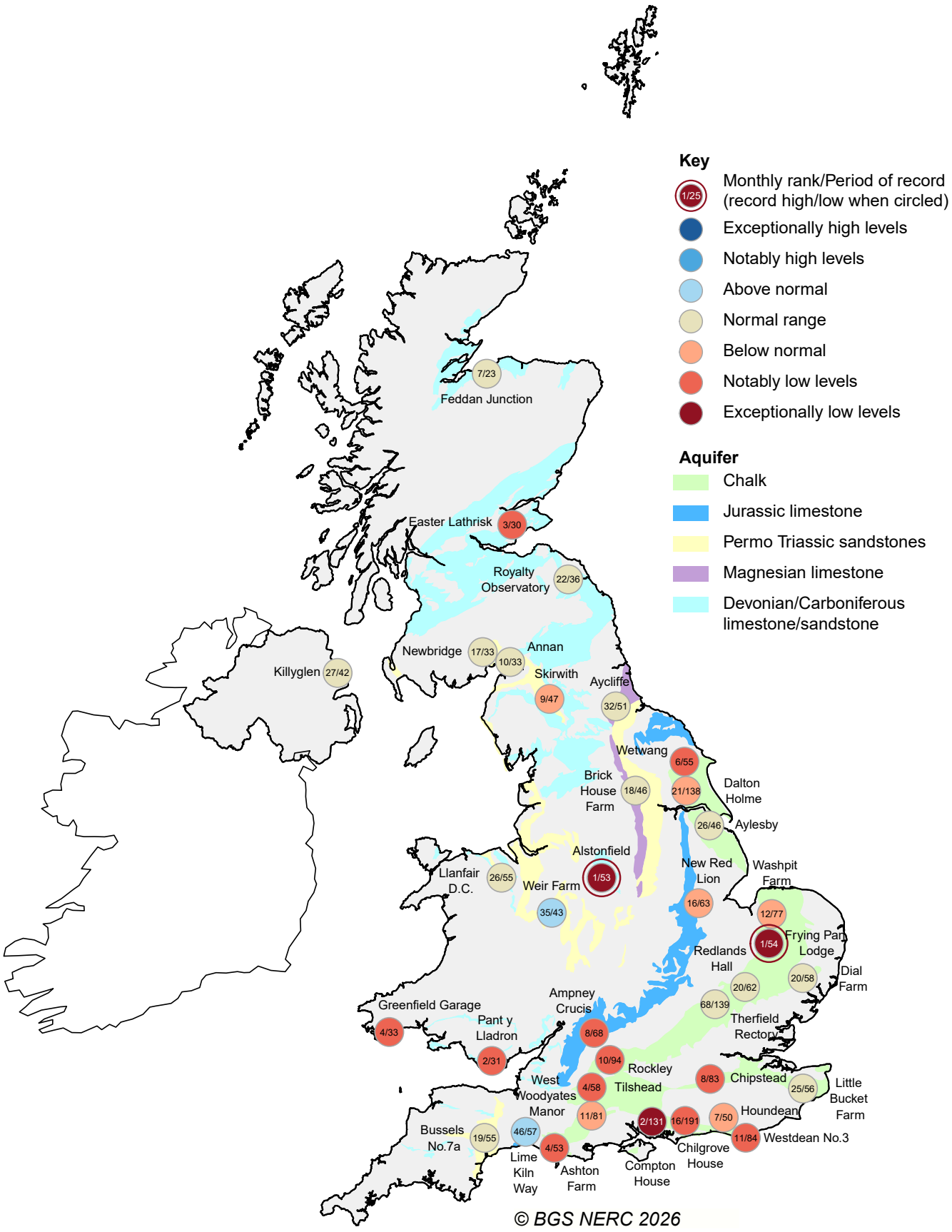








Groundwater

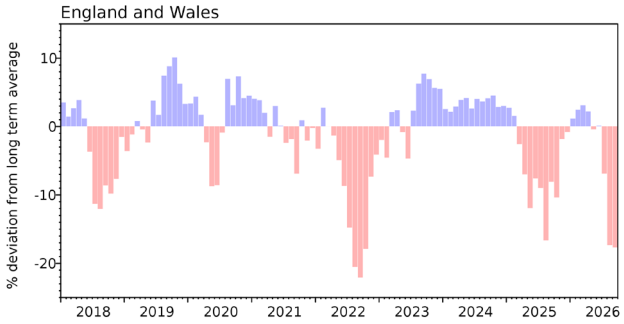


Groundwater levels - September 2026

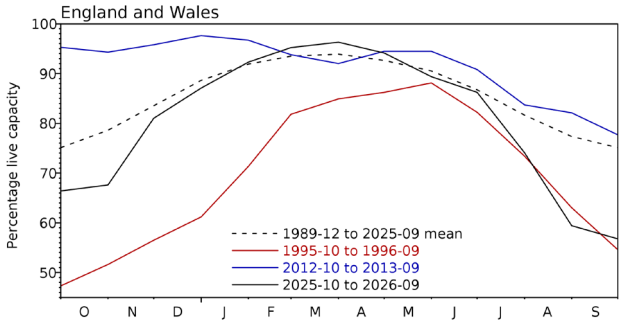
The calculation of ranking has been modified from that used in summaries published prior to October 2012. It is now based on a comparison between the most recent level and levels for the same date during previous years of record. Where appropriate, levels for earlier years may have been interpolated. The rankings are designed as a qualitative indicator, and ranks at extreme levels, and when levels are changing rapidly, need to be interpreted with caution.

Reservoirs

Guide to the variation in overall reservoir stocks for England and Wales



Comparison between overall reservoir stocks for England and Wales in recent years



Percentage live capacity of selected reservoirs at end of month

Area	Reservoir		Capacity (Ml)	2026 Jul	2026 Aug	2026 Sep	Sep Anom.	Min Sep	Year* of min	2025 Sep	Diff 26-25
North West	N Command Zone	•	124929	65	45	52	-8	13	1995	65	-13
	Vyrnwy		55146	82	70	70	-2	26	1995	96	-26
Northumbrian	Teesdale	•	87936	63	51	50	-23	31	1995	72	-22
	Kielder		199175	82	77	77	-7	59	1989	85	-8
Severn-Trent	Clywedog		49936	62	40	48	-26	24	1989	75	-27
	Derwent Valley	•	46692	60	48	42	-20	24	1989	50	-8
Yorkshire	Washburn	•	23373	63	50	44	-22	24	1995	36	8
	Bradford Supply	•	40942	62	47	44	-22	15	1995	50	-6
Anglian	Grafham		55490	76	65	60	-24	46	1997	70	-10
	Rutland		116580	81	73	69	-12	61	1995	69	0
Thames	London+	•	202828	89	61	56	-21	53	1997	68	-12
	Farmoor	•	13822	99	76	68	-22	54	2003	87	-19
Southern	Bewl		31000	68	58	49	-14	32	1990	48	1
	Ardingly		4685	61	35	23	-39	21	2020	28	-5
Wessex	Clatworthy		5662	52	38	28	-28	25	2003	31	-3
	Bristol	•	38666	64	54	44	-18	31	1990	37	8
South West	Colliford		28540	61	49	39	-26	38	2006	44	-5
	Roadford		34500	68	55	43	-25	20	2022	60	-17
	Wimbleball		21320	50	34	21	-41	21	2026	32	-11
	Stithians		4967	55	40	27	-28	19	2022	49	-22
Welsh	Celyn & Brenig	•	131155	73	58	55	-24	39	1989	69	-14
	Brianne		62140	90	74	77	-10	48	1995	82	-5
	Big Five	•	69762	67	53	47	-22	19	1995	56	-9
	Elan Valley	•	99106	68	54	50	-24	31	2022	48	2
Scotland(E)	Edinburgh/Mid-Lothian	•	97223	80	72	74	-5	43	1998	75	-1
	East Lothian	•	9317	72	60	51	-32	51	2026	51	0
Scotland(W)	Loch Katrine	•	110326	75	66	72	-4	41	2021	68	4
	Daer		22494	85	74	87	8	32	1995	93	-6
	Loch Thom		10721	75	69	79	-3	40	2021	93	-14
Northern Ireland	Total++	•	56800	78	69	67	-10	29	1995	86	-19
	Silent Valley	•	20634	82	68	64	-9	27	1995	91	-27

( ) figures in parentheses relate to gross storage

• denotes reservoir groups

*last occurrence

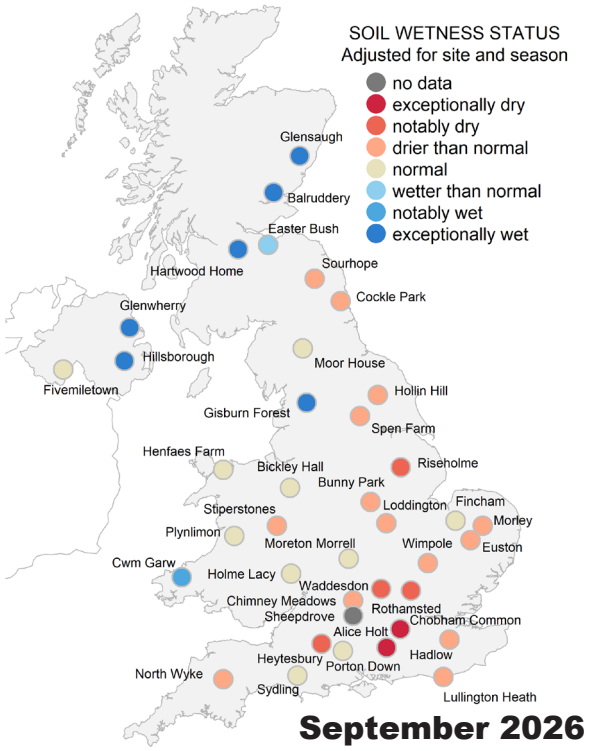
+some reservoirs in the London group were impacted by a previously planned outage

++excludes Lough Neagh

Details of the individual reservoirs in each of the groupings listed above are available on request. The percentages given in the Average and Minimum storage columns relate to the 1988-2012 period except for West of Scotland and Northern Ireland where data commence in the mid-1990s. In some gravity-fed reservoirs (e.g. Clywedog) stocks are kept below capacity during the winter to provide scope for flood attenuation purposes. Monthly figures may be artificially low due to routine maintenance or turbidity effects in feeder rivers.

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Soil Moisture

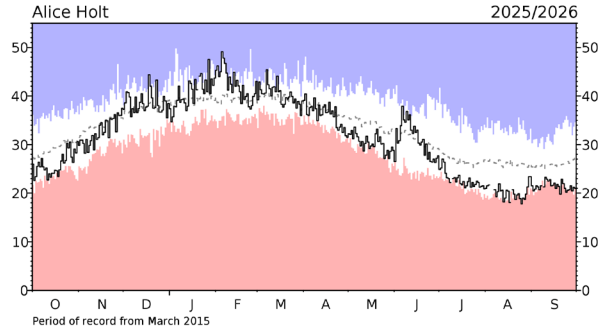


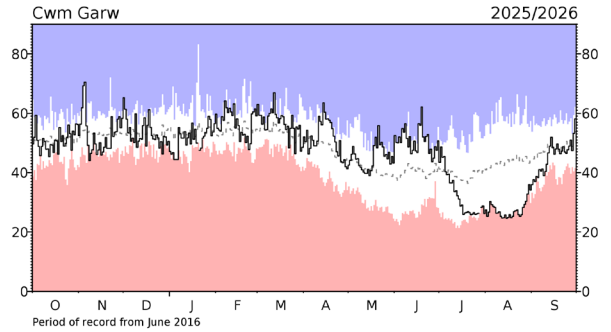
September 2026

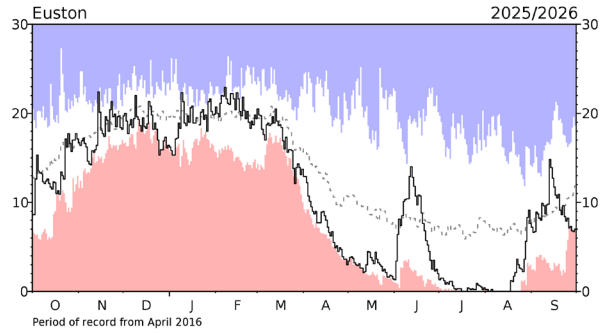
Daily mean soil moisture status at COSMOS-UK sites on the last day of the month 30 September 2026 Soil wetness categories are adjusted for site specific characteristics, i.e. taking account of the possible range of soil wetness at each site, determined through period-of-record data and hindcast modelling. Where no data are available on the last day of the month, these are shown by grey dots.

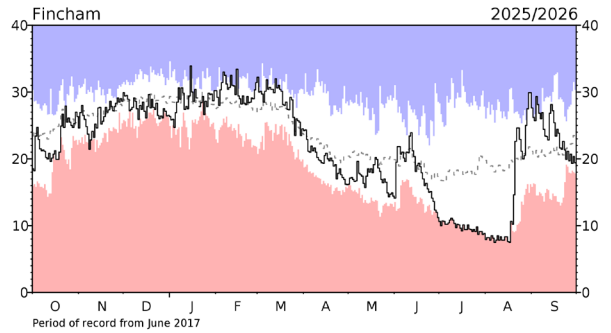
Soil moisture conditions across the COSMOS-UK network reflected the west-north-west (wetter) to south-east (drier) rainfall contrast. Sites in southern and eastern England remained well below field capacity, with some locations classified as dry or extremely dry (e.g. Alice Holt, Chobham Common). In contrast, soils in Scotland, Northern Ireland and parts of Wales were close to or above field capacity for much of the month (e.g. Glenwherry, Hartwood Home, Henfaes), with wetter conditions during the month leading to near-saturated soils at some sites by the end of September (e.g. Cwm Garw and Glensaugh). Despite some short-term improvements (e.g. Euston, Fincham and Sydling), much of central, southern and eastern England remained drier than usual for the time of year.

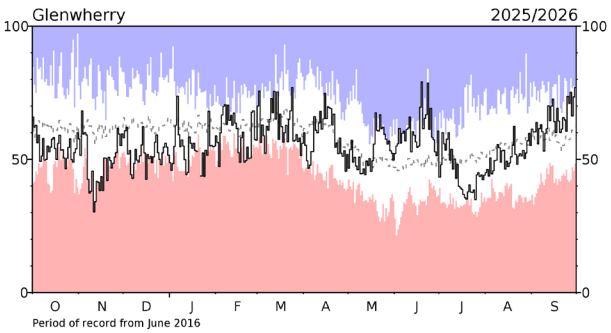
By the end of September, soils remained generally wet across Scotland and western regions of the UK, while much of England remained drier than usual for the time of year, reflecting the month's contrasting rainfall patterns.











Soil moisture data

These data are from UKCEH's COSMOS-UK network. The time series graphs show volumetric water content as a percentage in black together with the maximum and minimum daily values for the period-of-record of the sites. The dashed line represents the period-of-record mean VWC. For more information visit cosmos.ceh.ac.uk.

NHMP

The National Hydrological Monitoring Programme (NHMP) was started in 1988 and is undertaken jointly by the UK Centre for Ecology & Hydrology (UKCEH) and the British Geological Survey (BGS). The NHMP aims to provide an authoritative voice on hydrological conditions throughout the UK, to place them in a historical context and, over time, identify and interpret any emerging hydrological trends. Hydrological analysis and interpretation within the Programme is based on the data holdings of the National River Flow Archive (NRFA; maintained by UKCEH) and National Groundwater Level Archive (NGLA; maintained by BGS), including rainfall, river flows, groundwater levels, soil moisture and reservoir stocks.

The Hydrological Summary is supported by the Natural Environment Research Council award number NE/Y006208/1 as part of the NC-UK programme delivering National Capability.

Data Sources

The NHMP depends on the active cooperation of many data providers. This cooperation is gratefully acknowledged. A location map of all sites used in the Hydrological Summary can be found on the NHMP website.

River flow and groundwater level data are provided by the Environment Agency (EA), Natural Resources Wales - Cyfoeth Naturiol Cymru (NRW), the Scottish Environment Protection Agency (SEPA) and, for Northern Ireland, the Department for Infrastructure - Rivers and the Northern Ireland Environment Agency. River flow data are subject to revision following an annual validation process by the National River Flow Archive; high and low flows may be subject to significant revision.

Month-end soil moisture data is provided by COSMOS-UK for a network of 40 sites across the UK, the longest records of which extend back to 2013. COSMOS-UK data should be considered provisional until annual data publication. More information about individual COSMOS-UK sites, data and measurements can be found on the COSMOS-UK website.

National and regional soil moisture may also be mentioned and plotted in the Hydrological Summary and other NHMP outputs. These data are provided by the Meteorological Office Rainfall and Evaporation Calculation System (MORECS). MORECS provides estimates of monthly soil moisture deficit in the form of averages over 40 x 40 km grid squares over Great Britain and Northern Ireland. The monthly time series of data extends back to 1961.

Rainfall data are provided by the Met Office. To allow better spatial differentiation the rainfall data for Britain are presented for the regional divisions of the precursor organisations of the EA, NRW and SEPA. The areal rainfall figures have been produced by the Met Office National Climate Information Centre (NCIC), and are based on the HadUK-Grid 1km resolution gridded data from rain gauges. The majority of the full rain gauge network across the UK is operated by the EA, NRW, SEPA and Northern Ireland Water; supplementary rain gauges are operated by the Met Office. The Met Office NCIC monthly rainfall series extend back to 1836 and form the official source of UK areal rainfall statistics which have been adopted by the NHMP. The gridding technique used is described in Hollis, 2019 available at https://doi.org/10.1002/gdj3.78

Given the sparser rain gauge network in the early record and to maintain consistency with previous Hydrological Summaries and NHMP analyses, the NHMP uses rainfall data from 1890 to present in its analyses. Long-term averages are based on the period 1991-2020 and are derived from the monthly areal series.

The regional figures for the current month in the Hydrological Summaries are based on a limited rain gauge network so these (and the associated return periods) should be regarded as a guide only.

The monthly rainfall figures are provided by the Met Office NCIC and are Crown Copyright and may not be passed on to, or published by, any unauthorised person or organisation. These are provisional totals calculated from a sub set of Met Office registered gauges and will be subject to change once data from the complete network of Met Office registered gauges has been quality assured and gridded within the annual process of updating the HadUK-Grid dataset.

For further details on rainfall or MORECS data, please contact the Met Office:

Tel: 0370 900 0100
Email: enquiries@metoffice.gov.uk

Enquiries

Enquiries should be directed to the NHMP:
Email: nhmp@ceh.ac.uk

Enquiries about COSMOS-UK soil moisture data should be directed to COSMOS-UK:
Email: cosmos@ceh.ac.uk

A full catalogue of past Hydrological Summaries can be accessed and downloaded at:

http://nrfa.ceh.ac.uk/monthly-hydrological-summary-uk

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