

Hydrological Summary

for the United Kingdom

General

October brought mixed conditions: a spell of high pressure and persistent cloud (“anticyclonic gloom”) was framed by wet and windy periods. UK rainfall was near average overall, but this masked contrasts: totals were above average in Northern Ireland, western Scotland, and the far south-east of England, but widely below average elsewhere. River flows remained below normal in eastern Britain and southern England, and exceptionally low in parts of the Cotswolds and East Anglia. Elsewhere, they were generally normal, with some rivers above normal in Northern Ireland and western Scotland. Soils continued to wet up across the country, and soil moisture deficits in most northern and western areas were eliminated. Groundwater levels were below normal to exceptionally low across central and northern Scotland, the east coast of Britain and southern England. Localised recharge occurred in Northern Ireland and along the west coast of Britain following recent wet conditions, but levels elsewhere continued to decline. Reservoir stocks rose slightly overall but remained below average for the time of year (e.g. Wimbleball, Ardingly and East Lothian were all 35% below average or more). The Hydrological Outlook indicates normal to below normal flows in eastern Scotland and southern and eastern England over the next three months, with particularly low flows expected in groundwater-fed rivers. Elsewhere, flows are likely to be normal to above normal. Despite a wetter than average start to November for many, if winter rainfall as a whole is below average, low flows will persist into 2026, limiting groundwater recharge, and delaying recovery before the spring and summer, particularly in south-east England.

Rainfall

October began unsettled, with heavy rain across northern Wales, Scotland, and Northern Ireland on the 1st. By the 3rd, rain spread south as storm ‘Amy’, the first named storm of the 2025/2026 season, brought strong winds and widespread heavy rain, particularly in Scotland, Northern Ireland and north-west England (e.g. 104mm at Seathwaite, Cumbria, on the 3rd). Fallen trees, flooding and debris caused major transport disruption, and around 150,000 properties in Scotland and Northern Ireland lost power on the 3rd/4th. High pressure dominated the second week, bringing settled but cloudy conditions. From the 18th, frontal rain returned from the west, with widespread rainfall and heavier showers in western areas (62mm at Lough Fea, County Tyrone, on the 18th). On the 22nd, storm ‘Benjamin’ (named by Météo-France) brought persistent rain to southern England, causing travel disruption in Essex, Kent, and London. Unsettled conditions persisted to month-end, with heavy rain in western areas (54mm at Tyndrum, Stirling, on the 31st), and flooding reported in Bangor, Northern Ireland. Total UK rainfall was near average overall, but regional contrasts were marked. Northern Ireland, Scotland, and Southern England were above average, with some isolated areas of Northern Ireland and the Western Isles registering in excess of 170% of average. Other areas of the country received below normal rainfall, though no regions recorded notably high or low October rainfall totals. January-October rainfall was 82% of average for the UK; the Anglian region recorded its fifth driest January-October since 1890, with just 68% of the long-term average.

River Flows

River flows in Northern Ireland and western Scotland began October above average, while elsewhere they were near or below average. Storm ‘Amy’ on the 3rd triggered rapid rises across Northern Ireland, Scotland, and north-west Britain; the Conwy recorded its highest October peak flow (in a series since 1964), and nine Flood Warnings were issued in Scotland. Recessions followed through mid-month, with flows returning to below average in most areas. Renewed unsettled conditions later in the month saw further sharp rises, on the 19th, including at many rivers across Northern Ireland (e.g. Camowen, Faughan and Mourne). By month-end, flows were above average in Northern Ireland, Wales and western and northern Scotland, but normal or below normal elsewhere, notably so along the east coast of Britain and in central and eastern England.

October average flows were generally in the normal range or below normal, with exceptionally low flows in eastern Britain and the Cotswolds. The Coln, dominated by its groundwater-fed regime, registered less than a quarter of its October average, with no sign of recharge affecting flows by month-end. In contrast, some rivers in Northern Ireland and western Scotland recorded above-average monthly flows (e.g. Mourne, Luss, Oykel). October outflows from Northern Ireland were the fifth highest on record (in a series from 1980). January-October river flows for the UK were also generally in the normal range or below normal; and were exceptionally low in eastern Scotland, where the Helmsdale, Spey and Scottish Dee all registered their lowest January-October flows (all in records of at least 50 years). Notably low flows were also recorded across the country, from south-west England and Wales through central England and up to Scotland. This was reflected in the outflows from the UK over this period, which were the third lowest (in a series since 1980).

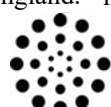
Soil Moisture and Groundwater

COSMOS-UK sites were mostly within the normal range at the end of October, though some were below normal in eastern and southern England and above normal in north-west UK. In the Chalk, groundwater levels mostly receded or stabilised, although rises were recorded at Killyglen and Westdean No.3. Levels were generally within the normal to exceptionally low range, with record lows for the end of October at Compton House and Frying Pan Lodge (in records of 130 and 53 years, respectively). In the Jurassic Oolites, levels rose at Ampney Crucis, indicating the onset of the recharge season, though they remained below normal. At New Red Lion, levels continued to decline, moving from the normal range to below normal. In the Magnesian Limestone, levels fell slightly but remained within the normal range at Brick House Farm. Levels fluctuated in the Carboniferous Limestone at Greenfield Garage, Alstonfield and Pant y Lladron, but remained in the normal range. Recharge was observed in the Permo-Triassic sandstones at Newbridge and Annan, while levels elsewhere declined. Although levels at Weir Farm declined, they remained above normal for the end of October, reflecting the substantial recharge during winter 2023/2024 that has buoyed levels throughout 2025. Levels in the Upper Greensand, Fell Sandstone, and Devonian sandstones generally fell, remaining within normal to notably low ranges.

October 2025



National Hydrological
Monitoring Programme



UKCEH



British
Geological
Survey

Rainfall . . . Rainfall . . .



Rainfall accumulations and return period estimates

Percentages are from the 1991-2020 average.

Region	Rainfall	Oct 2025	Aug25 – Oct25		May25 – Oct25		Jan25 – Oct25		Nov24 – Oct25	
			RP		RP		RP		RP	
United Kingdom	mm	121	300		504		750		989	
	%	99	98	2-5	94	2-5	82	5-10	85	2-5
England	mm	81	214		358		546		706	
	%	90	92	2-5	85	2-5	80	8-12	81	5-10
Scotland	mm	177	402		697		1015		1372	
	%	105	98	2-5	100	2-5	82	2-5	87	2-5
Wales	mm	142	403		627		958		1298	
	%	89	105	2-5	95	2-5	85	2-5	89	2-5
Northern Ireland	mm	156	367		607		866		1039	
	%	136	122	5-10	111	2-5	95	2-5	90	2-5
England & Wales	mm	89	240		395		602		786	
	%	90	95	2-5	87	2-5	81	5-10	83	5-10
North West	mm	124	390		697		914		1170	
	%	93	111	2-5	114	5-10	91	2-5	91	2-5
Northumbria	mm	74	219		386		522		653	
	%	84	90	2-5	87	2-5	72	20-30	72	25-40
Severn-Trent	mm	68	186		306		463		629	
	%	84	87	2-5	75	5-10	72	20-30	78	8-12
Yorkshire	mm	79	226		372		526		683	
	%	94	97	2-5	87	2-5	76	10-15	78	8-12
Anglian	mm	53	124		229		348		459	
	%	83	70	5-10	68	8-12	68	25-40	73	20-30
Thames	mm	69	160		259		437		568	
	%	88	82	2-5	73	5-10	76	8-12	78	8-12
Southern	mm	108	227		353		569		710	
	%	114	103	2-5	94	2-5	90	2-5	86	2-5
Wessex	mm	86	212		312		557		724	
	%	86	89	2-5	75	5-10	79	5-10	80	5-10
South West	mm	122	329		505		919		1151	
	%	90	103	2-5	92	2-5	96	2-5	92	2-5
Welsh	mm	135	383		595		919		1244	
	%	89	104	2-5	93	2-5	85	2-5	89	2-5
Highland	mm	219	474		813		1201		1711	
	%	112	100	2-5	103	2-5	83	2-5	92	2-5
North East	mm	116	223		404		594		849	
	%	95	76	5-10	77	5-10	70	40-60	80	10-20
Tay	mm	139	330		581		856		1133	
	%	93	92	2-5	93	2-5	78	5-10	81	5-10
Forth	mm	113	274		509		742		943	
	%	87	84	2-5	88	2-5	75	5-10	76	5-10
Tweed	mm	85	217		459		637		786	
	%	74	75	5-10	89	2-5	74	10-20	72	15-25
Solway	mm	158	445		771		1071		1352	
	%	92	106	2-5	108	2-5	87	2-5	86	2-5
Clyde	mm	222	528		902		1275		1640	
	%	110	106	2-5	108	2-5	86	2-5	87	2-5

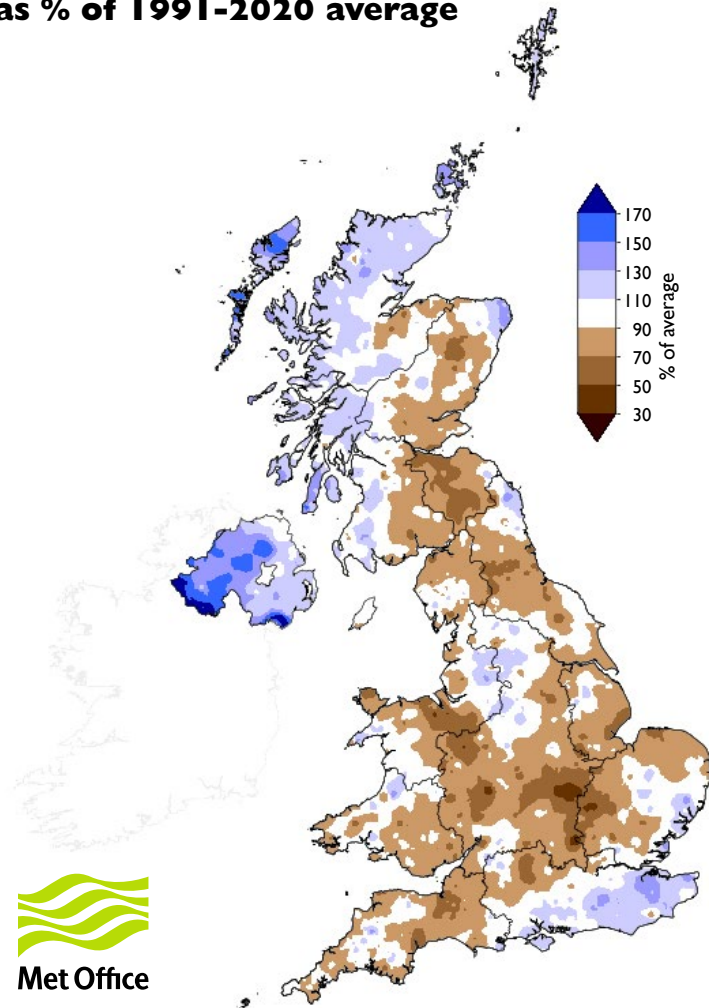
% = percentage of 1991-2020 average

RP = Return period

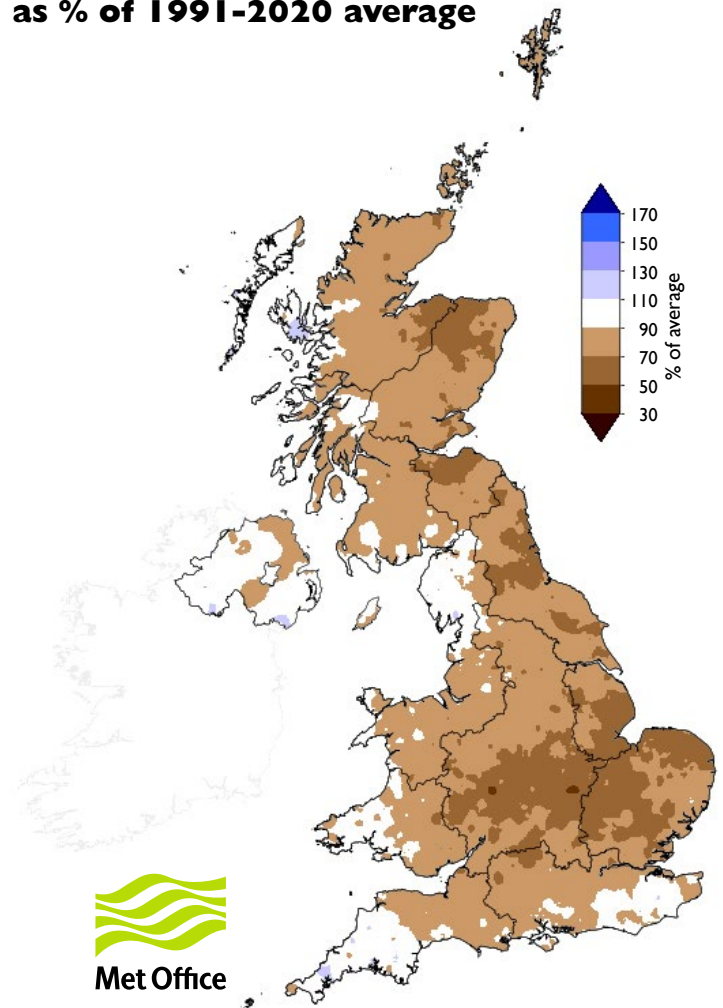
Important note: Figures in the above table may be quoted provided their source is acknowledged. Where appropriate, specific mention must be made of the uncertainties associated with the return period estimates. The RP estimates are based on data provided by the Met Office and reflect climatic variability 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 2025 are provisional. Source: Data from HadUK-Grid dataset at 1km resolution v1.3.1.0.

Rainfall . . . Rainfall . . .

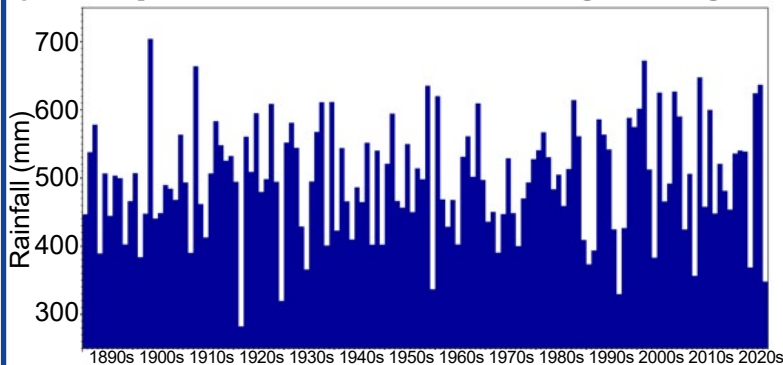
**October 2025 rainfall
as % of 1991-2020 average**



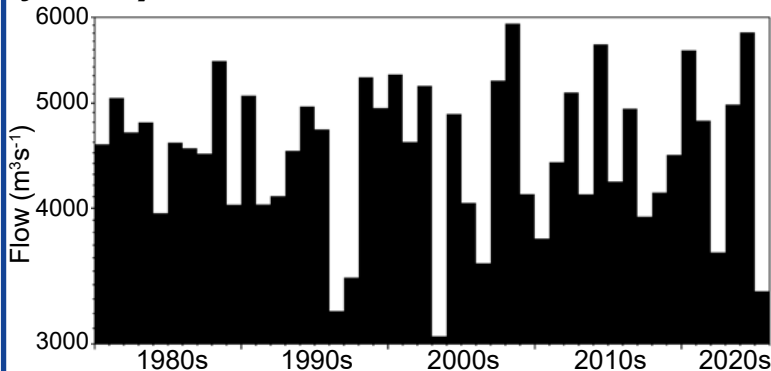
**January 2025 - October 2025 rainfall
as % of 1991-2020 average**



January - October rainfall for Anglian region



January - October outflows for the UK



**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/

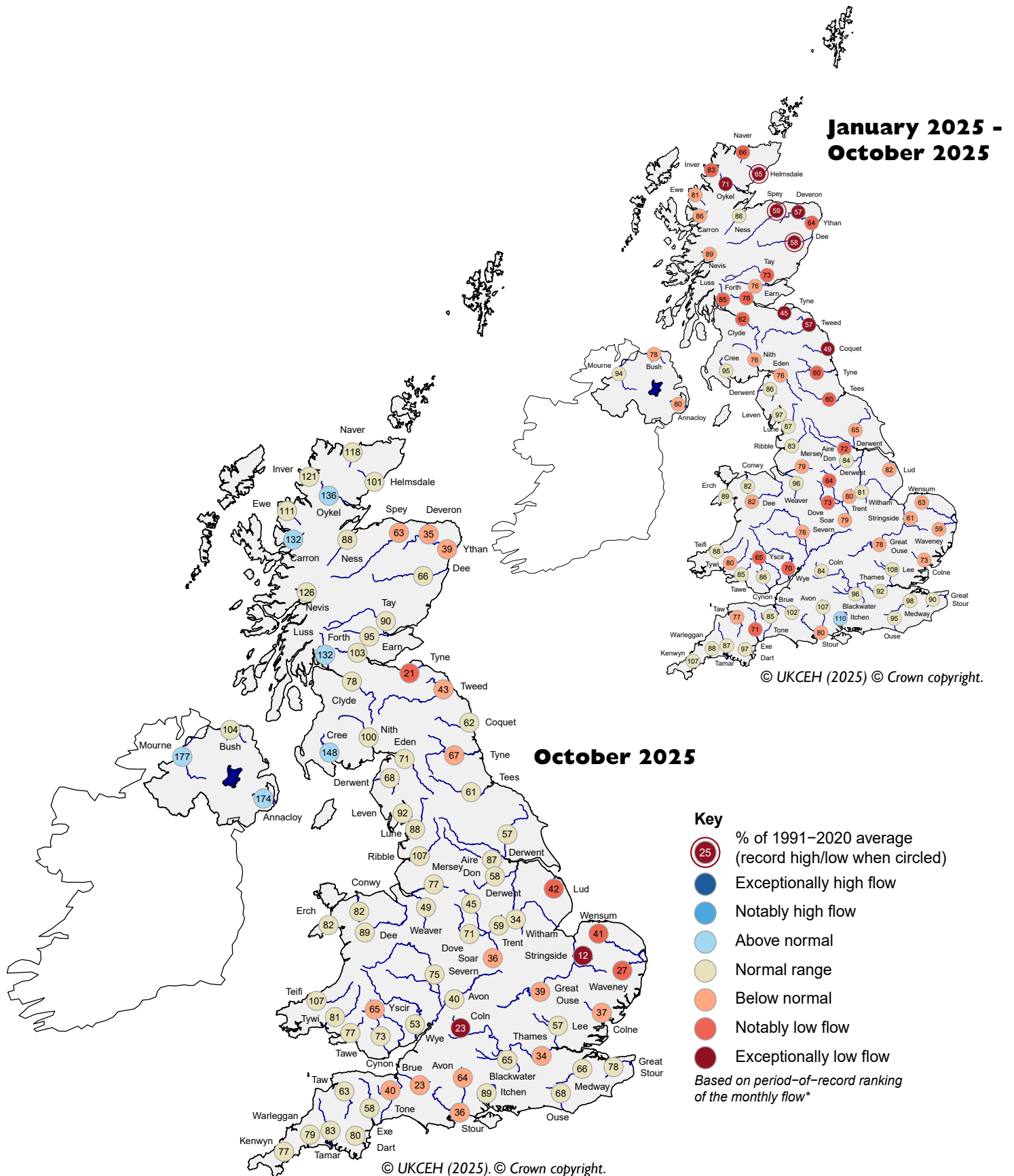
Period: from November 2025

Issued: 11.11.2025

using data to the end of October 2025

In November, river flows are expected to be normal to above normal in northern and western parts of the UK, but normal to below normal in central, southern, and eastern England, as well as eastern Scotland. Groundwater-fed rivers are likely to remain below normal or low, and groundwater levels will generally be normal to below normal. From November–January, this pattern is likely to persist, and limited rainfall may hinder recovery, leaving southern and eastern areas below normal into early 2026.

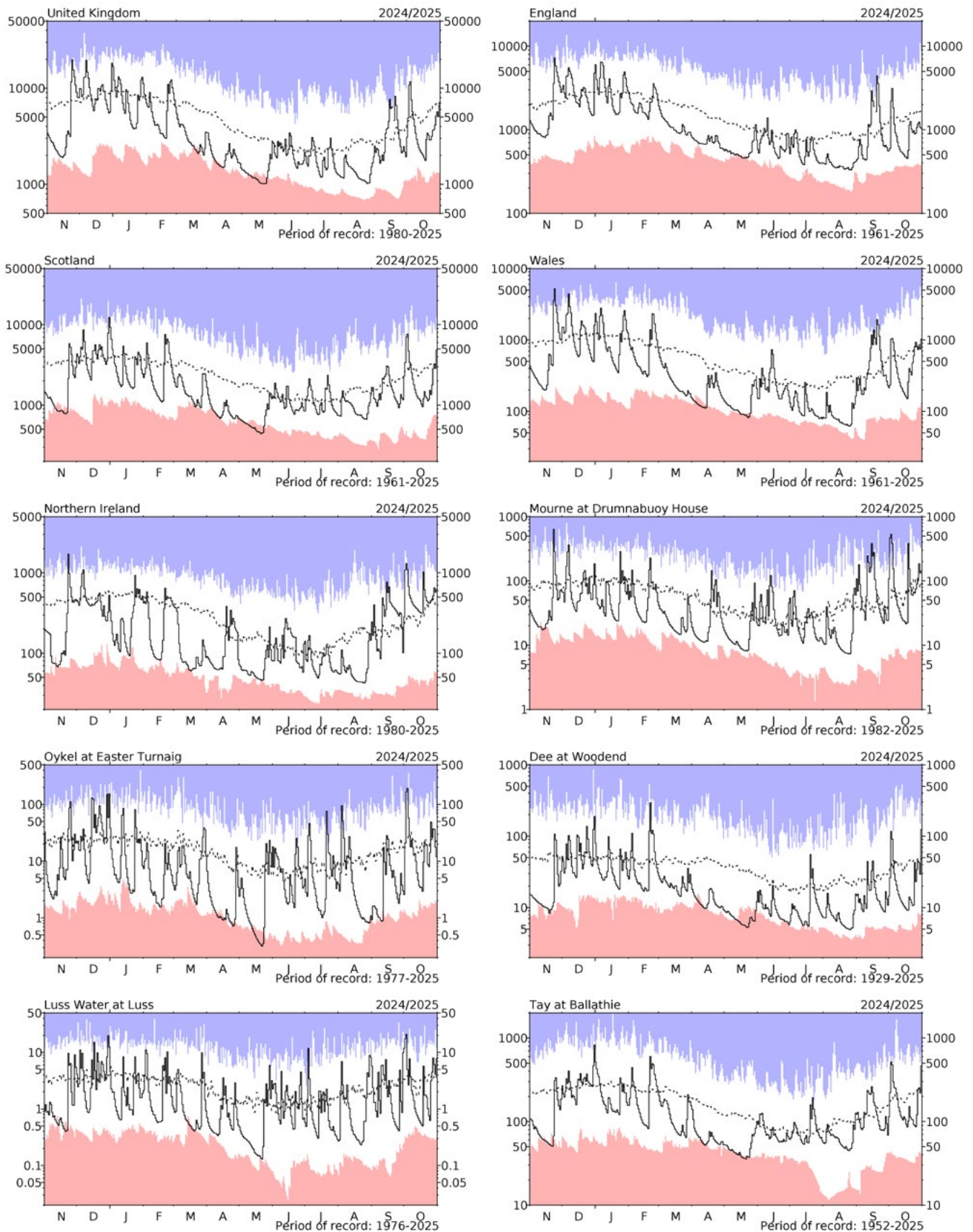
River flow . . . River flow . . .



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.

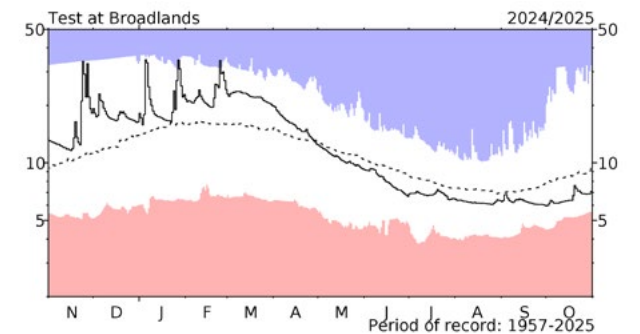
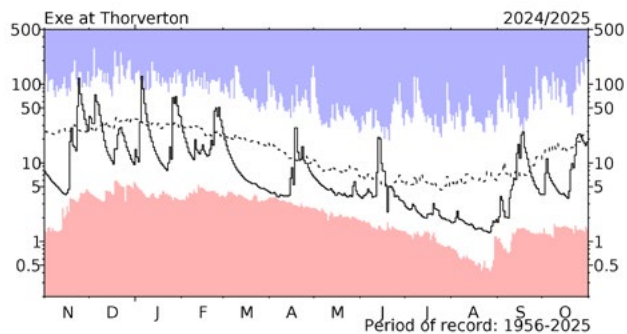
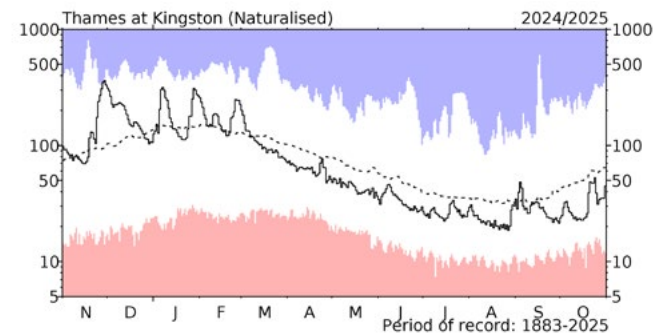
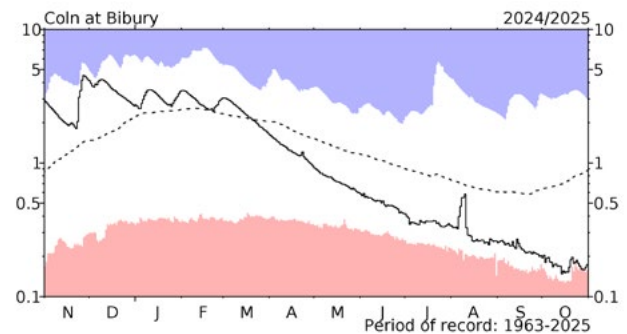
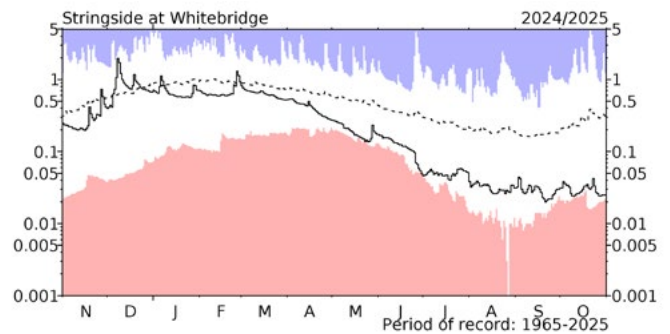
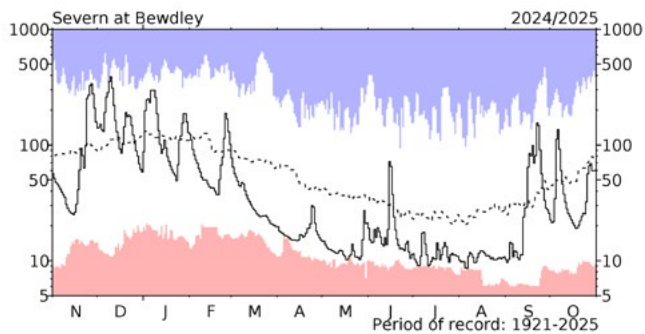
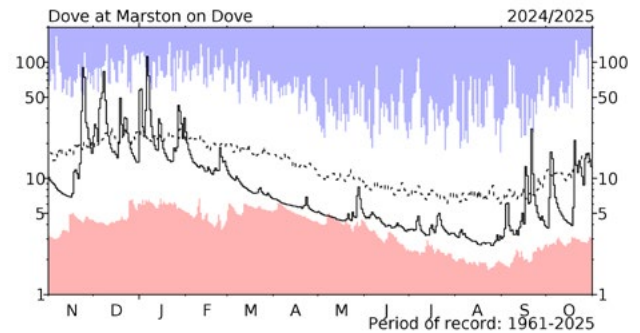
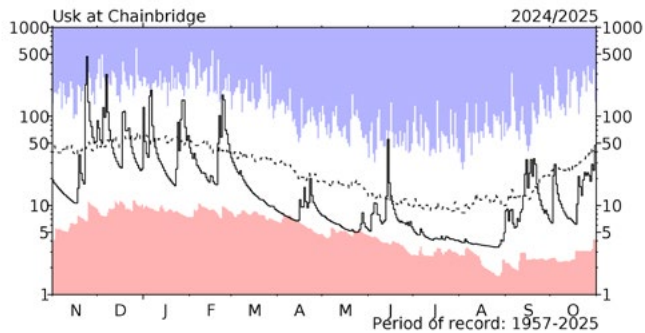
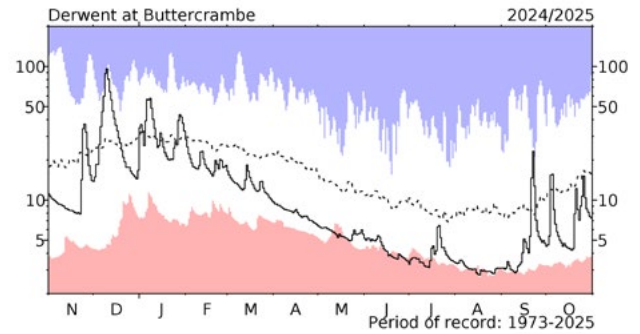
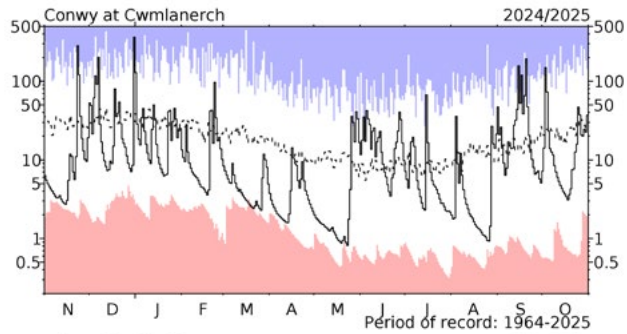
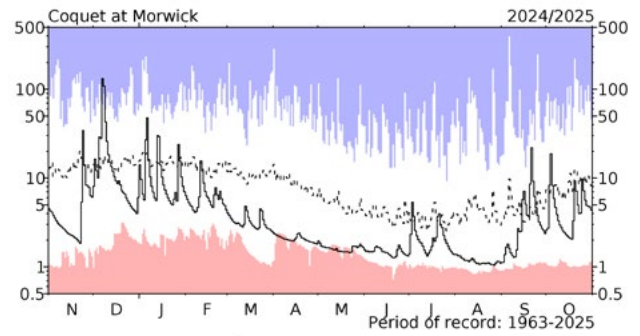
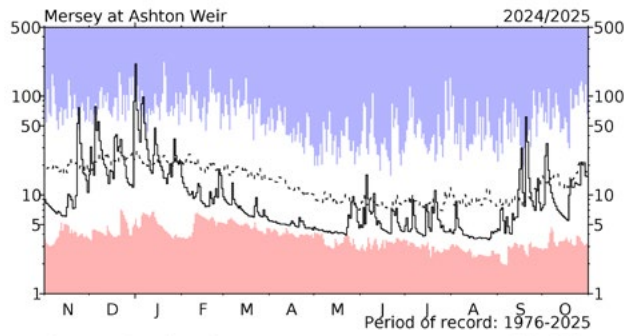
River flow . . . River flow . . .



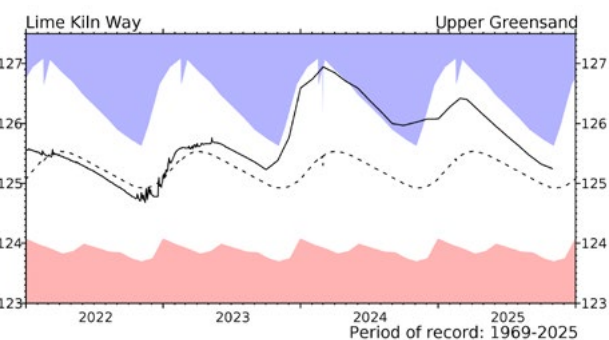
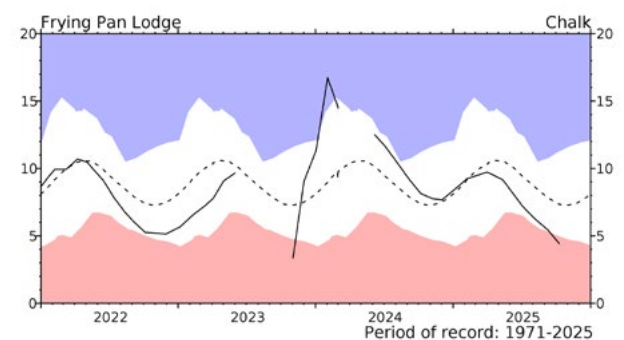
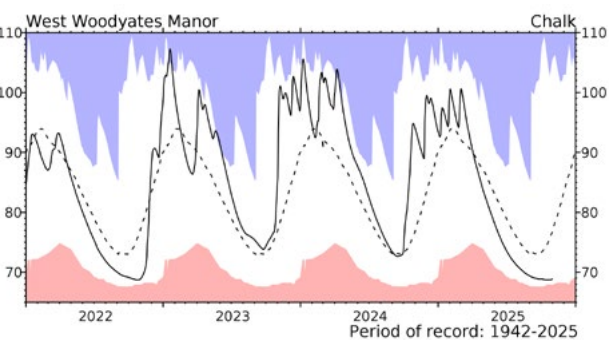
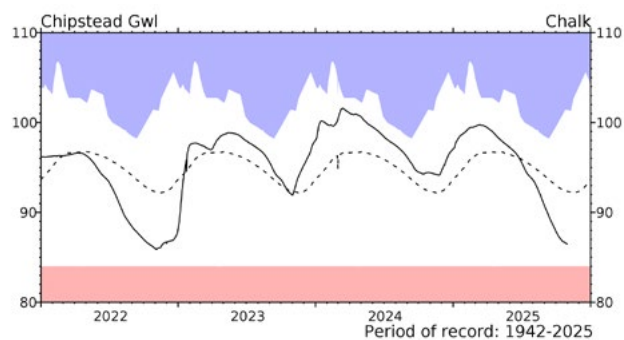
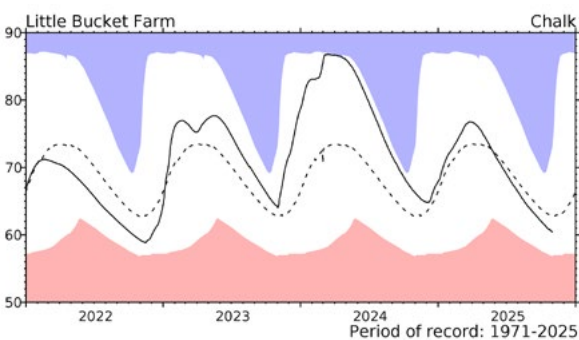
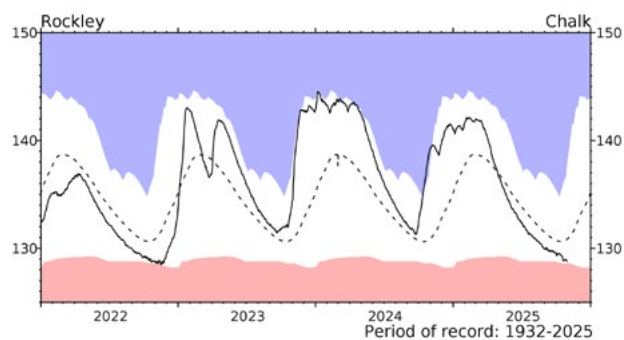
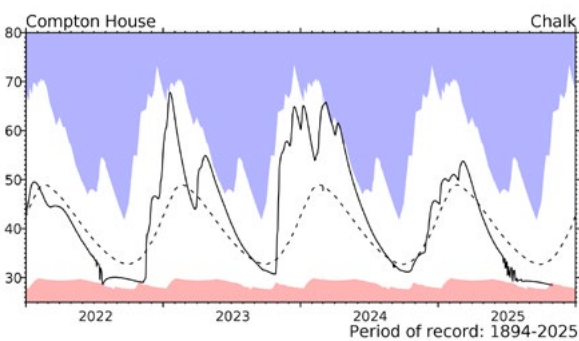
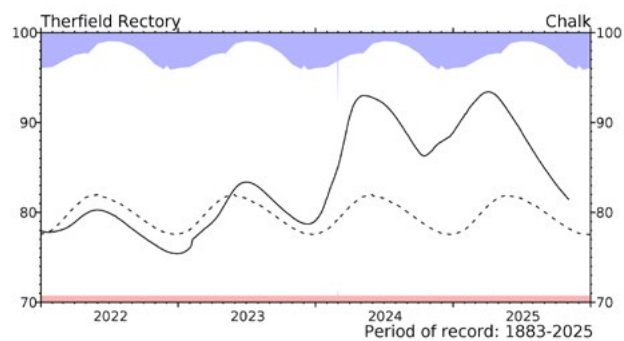
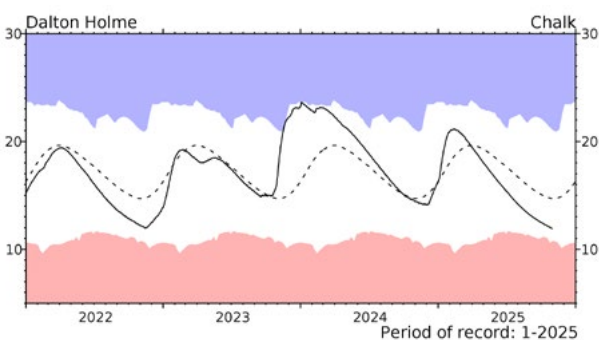
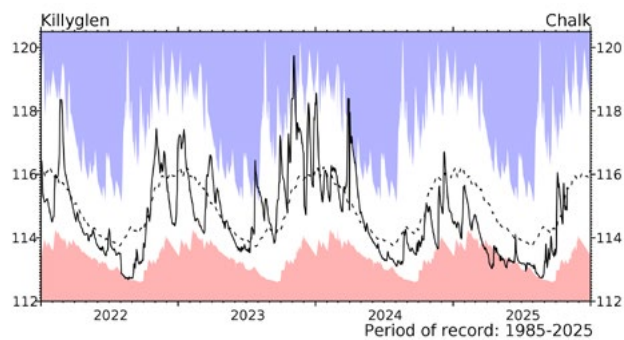
River flow hydrographs

*The river flow hydrographs show the daily mean flows (measured in m^3s^{-1}) together with the maximum and minimum daily flows prior to November 2024 (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 . . . River flow . . .

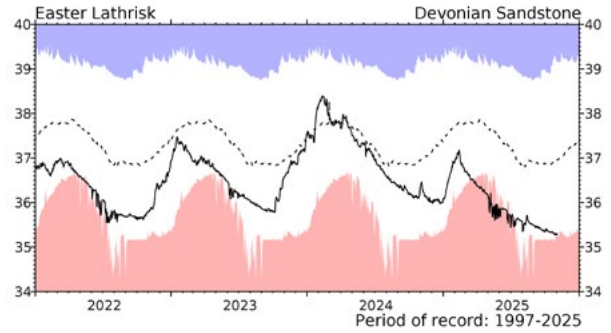
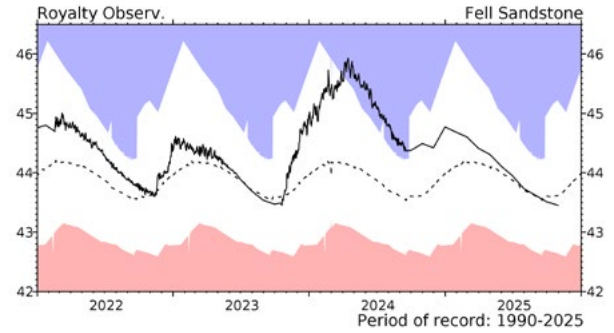
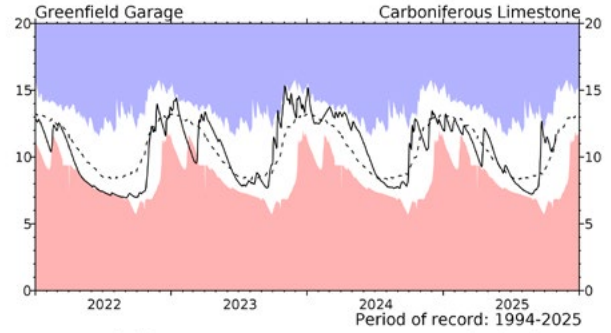
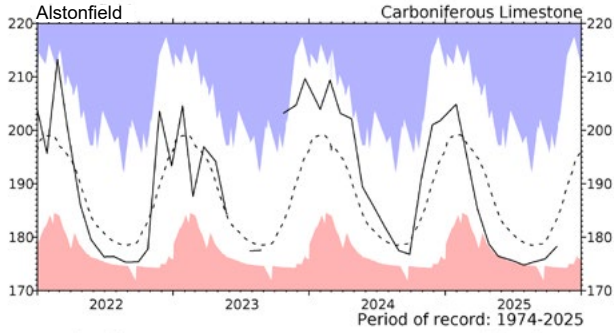
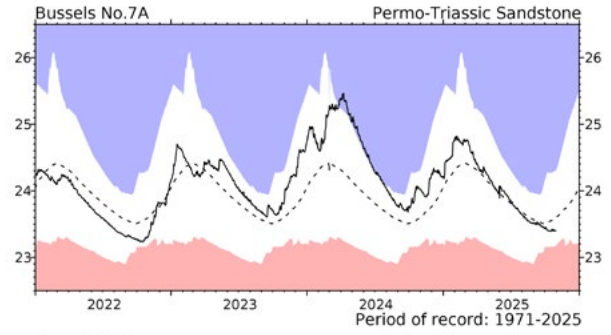
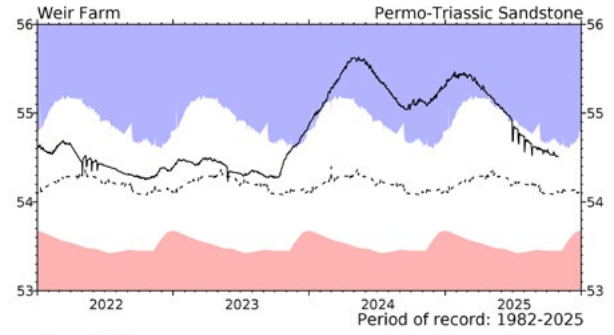
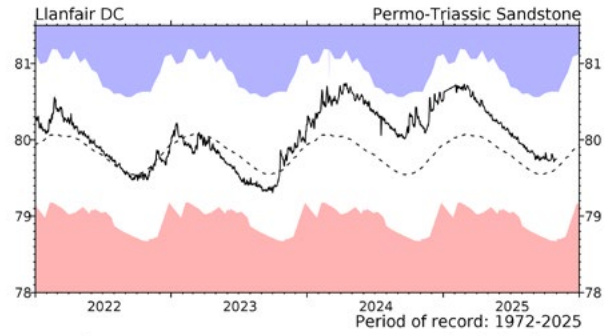
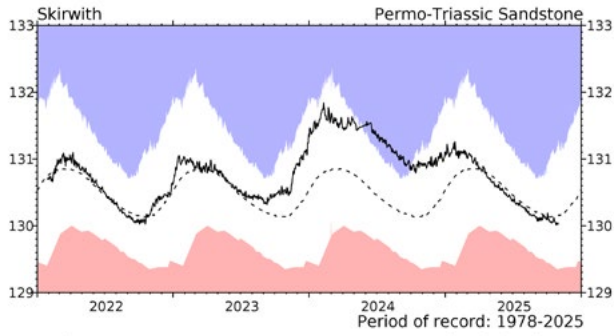
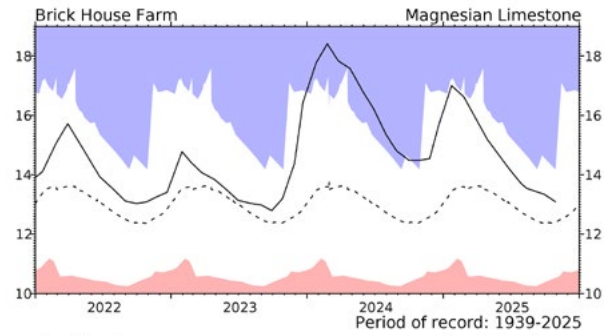
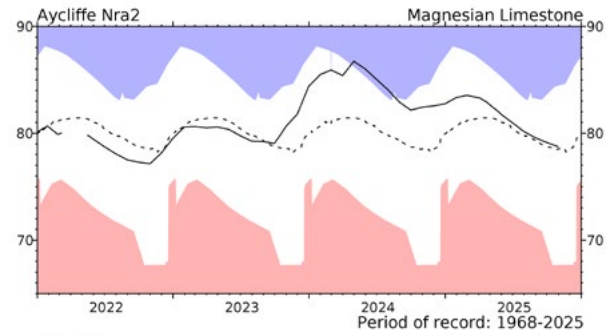
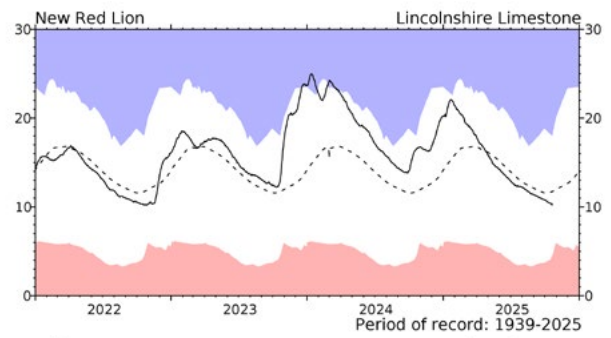
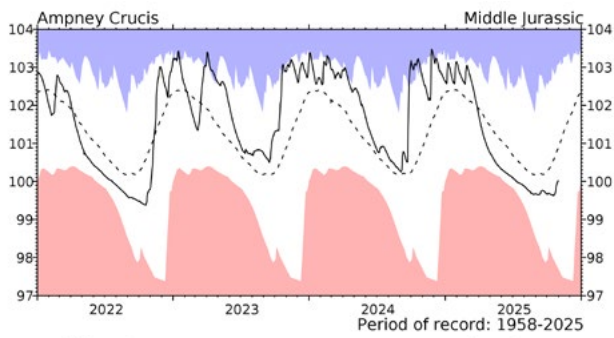


Groundwater...Groundwater



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 2021. 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

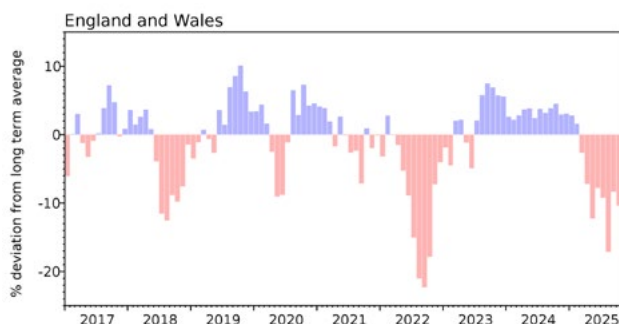




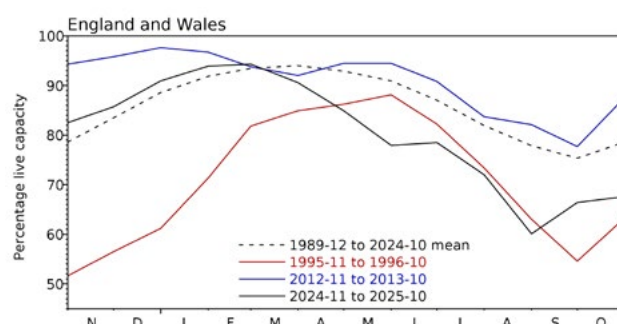
The calculation of ranking has been modified from that used in summaries published prior to October 2012. It is now based on a comparison between the most recent level and levels for the same date during previous years of record. Where appropriate, levels for earlier years may have been interpolated. 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 . . . 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)	2025 Aug	2025 Sep	2025 Oct	Oct Anom.	Min Oct	Year* of min	2024 Oct	Diff 25-24
North West	N Command Zone	• 124929	43	65	69	0	33	2003	80	-11
	Vyrnwy	• 55146	75	96	88	10	25	1995	87	1
Northumbrian	Teesdale	• 87936	57	72	79	1	33	1995	100	-21
	Kielder	(199175)	81	85	79	-6	63	1989	82	-2
Severn-Trent	Clywedog	• 49936	59	75	81	3	38	1995	83	-3
	Derwent Valley	• 46692	40	50	55	-16	15	1995	76	-21
Yorkshire	Washburn	• 23373	30	36	50	-21	15	1995	81	-31
	Bradford Supply	• 40942	31	50	63	-10	16	1995	81	-17
Anglian	Grafham	(55490)	72	70	65	-18	44	1997	86	-21
	Rutland	(116580)	72	69	64	-16	59	1995	88	-24
Thames	London	• 202828	71	68	66	-12	46	1996	82	-16
	Farmoor	• 13822	82	87	87	-2	43	2003	99	-12
Southern	Bewl	• 31000	55	48	42	-18	33	1990	62	-21
	Ardingly	• 4685	34	28	29	-35	15	2003	81	-52
Wessex	Clatworthy	• 5662	37	31	34	-29	14	2003	94	-60
	Bristol	• (38666)	39	37	34	-29	24	1990	81	-47
South West	Colliford	• 28540	48	44	43	-24	15	2022	71	-28
	Roadford	• 34500	65	60	61	-8	18	1995	89	-27
	Wimbleball	• 21320	39	32	26	-39	18	2022	69	-44
	Stithians	• 4967	54	49	43	-14	14	2022	58	-15
Welsh	Celyn & Brenig	• 131155	62	69	74	-9	48	1989	76	-2
	Brianne	• 62140	63	82	100	6	57	1995	100	0
	Big Five	• 69762	47	56	57	-20	38	2003	77	-21
	Elan Valley	• 99106	43	48	57	-27	37	1995	78	-21
Scotland(E)	Edinburgh/Mid-Lothian	• 97223	72	75	75	-7	48	2003	90	-15
	East Lothian	• 9317	63	51	50	-36	38	2003	100	-50
Scotland(W)	Loch Katrine	• 110326	55	68	94	7	40	2003	100	-6
	Daer	• 22494	69	93	91	0	42	2003	91	0
	Loch Thom	• 10721	77	93	99	10	63	2020	92	7
Northern	Total†	• 56800	68	86	92	10	39	1995	88	4
Ireland	Silent Valley	• 20634	68	91	100	21	34	1995	100	0

() figures in parentheses relate to gross storage

• denotes reservoir groups

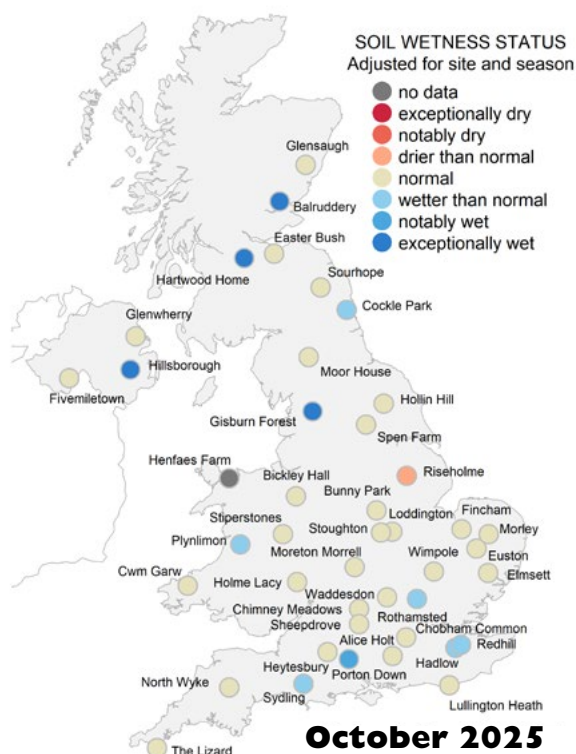
*last occurrence

† 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 . . . Soil Moisture



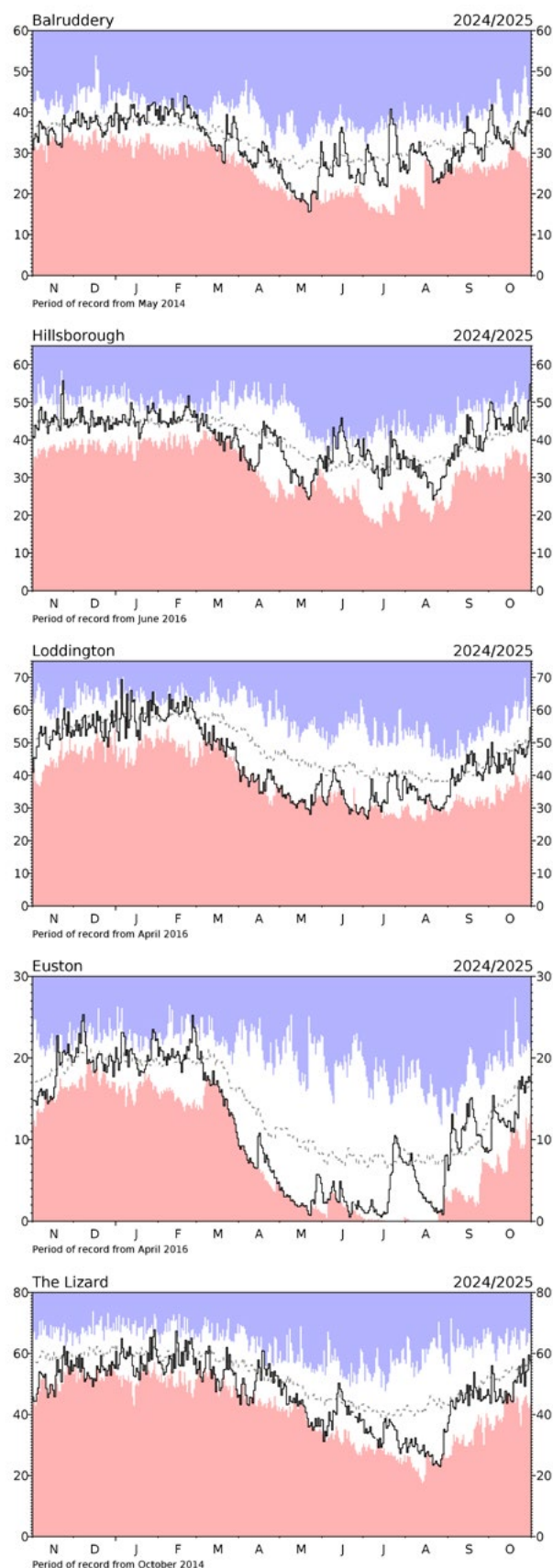
Daily mean soil moisture status at COSMOS-UK sites on the last day of the month 31 October 2025. Soil wetness categories are adjusted for site specific characteristics, i.e. taking account of the possible range of soil wetness at each site, determined through period-of-record data and hindcast modelling. Where no data are available on the last day of the month, these are shown by grey dots.

COSMOS-UK sites reveal a general north-west to south-east divide in soil moisture conditions. Sites in Northern Ireland and Scotland (e.g. Hillsborough and Balruddery) are above field capacity, reflecting the wetter conditions in these regions. In contrast, several sites in Wales, the Midlands, and southern England (e.g. Loddington, The Lizard and Euston) are closer to, or slightly below, field capacity – though most have transitioned from dry summer conditions to near-normal levels. Overall, the network shows a broad shift towards typical autumn wetness, with only a few sites below normal conditions after the summer deficit.

Overall, October's rainfall has helped replenish soil moisture across much of the UK. Many western and northern sites are at or above normal conditions, while several southern and eastern sites continue to recover from the summer deficit. Further rainfall will help the drier sites in reaching typical winter wetness levels.

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, borehole levels, 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 suppliers. 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. In all cases the data are subject to revision following validation (high flow and low flow data in particular may be subject to significant revision).

Details of reservoir stocks are provided by the Water Service Companies, the EA, Scottish Water and Northern Ireland Water.

The Hydrological Summary and other NHMP outputs may also refer to and/or map soil moisture data for the UK. 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>

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:

Tel: 01491 692599
Email: nhmp@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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