

**SUMMARY** The outlook for October is for above normal river flows in central and southern England, and some of these flows will be exceptionally high. Elsewhere river flows are likely to be in the normal range. For groundwater levels, above normal levels are expected, with the exception of east Yorkshire and south Wales where normal levels are most likely. For October–December, the outlook is for normal to above normal river flows and groundwater levels across the UK.

### Rainfall:

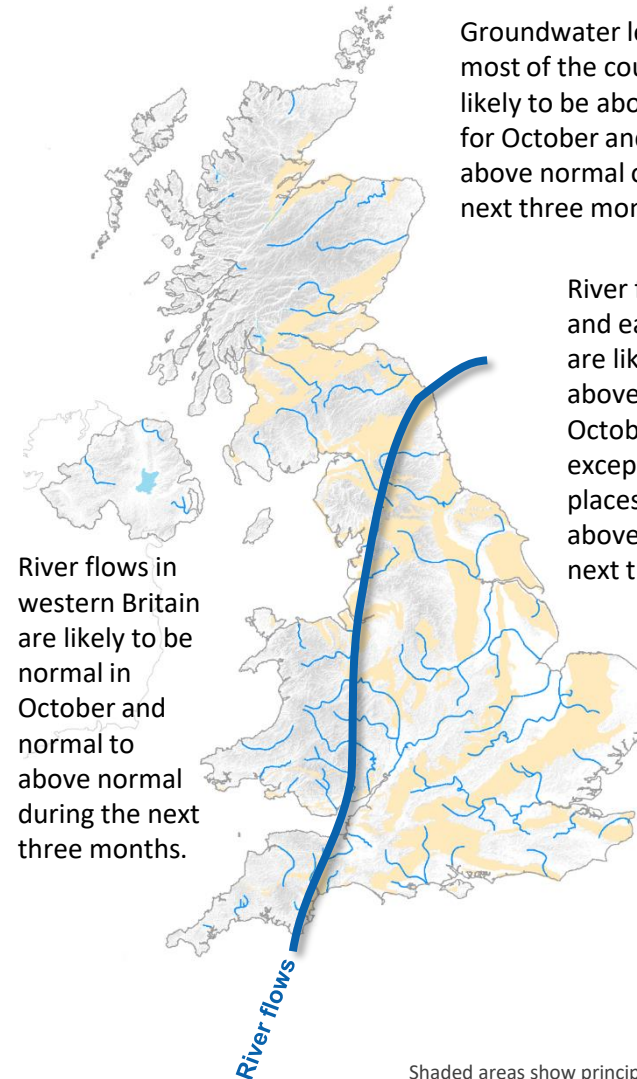
September rainfall was average overall across the UK, however this masks some vast spatial differences. Central and southern England experienced widespread, and in cases record breaking monthly totals as large areas of central England registered more than 300% of the September average. Conversely, further north, rainfall was below average with some areas, including western Scotland, receiving less than half of the expected rainfall. The forecast (issued by the Met Office on 30.09.2024) shows that for the chances of a dry or wet period (October–December) is similar to normal. Although some uncertainty remains, the wettest conditions during this period are likely to be over northern and western parts of the UK, particularly as we move into a La Niña phase.

### River flows:

River flows in September were above normal in central and southern England, exceptionally so at many sites in this area, with some registering their record September mean flows. Many sites recorded over 300% of the average September mean flows. Elsewhere, flows were in the normal range, with some catchments recording below normal flows in western Scotland and Northern Ireland. The outlook for October is for above normal flows in central and southern England with many rivers in this area seeing exceptionally high flows. Elsewhere, normal flows are expected. The outlook for the October–December period is similar, although with normal to above normal flows expected across the country.

### Groundwater:

Groundwater levels in October were mainly normal or above normal across the country. Record high September groundwater levels were registered at sites in central and southern England and in the Scottish borders. The outlook for October is for above normal levels, for most of the UK, with the exception of east Yorkshire and south Wales where normal levels are most likely. Over the three-month period, groundwater levels are likely to be in the normal to above normal range across the country.



Groundwater levels for most of the country are likely to be above normal for October and normal to above normal over the next three months.

River flows in central and eastern areas are likely to be above normal in October, exceptionally so in places and normal to above normal for the next three months.

River flows in western Britain are likely to be normal in October and normal to above normal during the next three months.

Shaded areas show principal aquifers

The UK Hydrological Outlook provides an outlook for the water situation for the United Kingdom over the next three months and beyond. For guidance on how to interpret the outlook, a wider range of information, and a full description of underpinning methods, please visit the website: [www.hydoutuk.net](http://www.hydoutuk.net)

## About the UK Hydrological Outlook:

This document presents an outlook for the UK water situation for the next 1-3 months and beyond, using observational datasets, meteorological forecasts and a suite of hydrological modelling tools. The outlook is produced in a collaboration between the UK Centre for Ecology & Hydrology (UKCEH), British Geological Survey (BGS), the Met Office, the Environment Agency (EA), Natural Resources Wales (NRW), the Scottish Environment Protection Agency (SEPA), and for Northern Ireland, the Department for Infrastructure – Rivers (DfIR).

## Data and Models:

The UK Hydrological Outlook depends on the active cooperation of many data suppliers. This cooperation is gratefully acknowledged. Historic river flow and groundwater data are sourced from the [UK National River Flow Archive](#) and the [National Groundwater Level Archive](#). Contemporary data are provided by the EA, SEPA, NRW and DfIR. These data are used to initialise hydrological models, and to provide outlook information based on statistical analysis of historical analogues.

Climate forecasts are produced by the Met Office. Hydrological modelling is undertaken by UKCEH using the Grid-to-Grid and GR6J hydrological models. Hydrogeological modelling uses the AquilMod model run by BGS. Supporting documentation is available from the Outlooks website: <https://hydoutuk.net/about/methods>

## Presentation:

The language used in the summary presented overleaf generally places flows and groundwater levels into just three classes, i.e. below normal, normal, and above normal. However, the underpinning methods use as many as seven classes as defined in the graphic to the right, i.e. the summary uses a simpler classification than some of the methods. On those occasions when it is appropriate to provide greater discrimination at the extremes the terminology and definitions of the seven class scheme will be adopted.

	Percentile range of historic values for relevant month
Exceptionally high flow	> 95
Notably high flow	87-95
Above normal	72-87
Normal range	28-72
Below normal	13-28
Notably low flow	5-13
Exceptionally low flow	< 5

## Disclaimer and liability:

The UK Hydrological Outlook partnership aims to ensure that all Content provided is accurate and consistent with its current scientific understanding. However, the science which underlies hydrological and hydrogeological forecasts and climate projections is constantly evolving. Therefore any element of the Content which involves a forecast or a prediction should not be relied upon as though it were a statement of fact. To the fullest extent permitted by applicable law, the UK Hydrological Outlook Partnership excludes all warranties or representations (express or implied) in respect of the Content.

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## Further information:

For more detailed information about the UK Hydrological Outlook, and the derivation of the maps, plots and interpretation provided in this outlook, please visit the UK Hydrological Outlook website. The website features a host of other background information, including a wider range of sources of information which are used in the preparation of this Outlook. Dynamic access to many of the outputs of the UK Hydrological Portal are available on the [UK Hydrological Outlooks Portal](#).

## Contact:

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## Reference for the UK Hydrological Outlook:

UK Hydrological Outlook, 09 October 2024, UK Centre for Ecology & Hydrology, Oxfordshire UK, Online, <https://www.hydoutuk.net/latest-outlook/>

## Other Sources of Information:

The UK Hydrological Outlook should be used alongside other sources of up-to-date information on the current water resources status and flood risk.

Environment Agency Water Situation Reports: provides summary of water resources status on a monthly and weekly basis for England: <https://www.gov.uk/government/collections/water-situation-reports-for-england>

Flood warnings are continually updated, and should be consulted for an up-to-date and localised assessment of flood risk:

- Environment Agency: <https://flood-warning-information.service.gov.uk/map>
- Natural Resources Wales: <https://flood-warning.naturalresources.wales/>
- Scottish Environment Protection Agency: <https://www.sepa.org.uk/flooding.aspx>

Hydrological Summary for the UK: provides summary of current water resources status for the UK: <https://nra.ceh.ac.uk/monthly-hydrological-summary-uk>

UK Met Office forecasts for the UK: <https://www.metoffice.gov.uk/>

UK Water Resources Portal: monitor the UK hydrological situation in near real-time including rainfall, river flow, groundwater and soil moisture from COSMOS-UK: <https://eip.ceh.ac.uk/hydrology/water-resources/>