UK Hydrological Outlook

Delivered in partnership by: UK Centre for Ecology & Hydrology

Period: From September 2024 Issued on 10.09.2024 using data to the end of August 2024

SUMMARY The outlook for September is for river flows to be normal to above normal across northern and western parts of the UK, as well as in parts of the southeast. Across the northeast and central England, flows are likely to be normal to below normal. Over the autumn period above normal to high river flows are expected over the northwest. Groundwater levels are likely to be normal to above normal across the UK for September to November.

Rainfall:

Rainfall in August showed a strong northwest to southeast gradient with western Scotland and northwest England receiving over 170 percent of average. Western Wales and most of Northern Ireland also saw above average rainfall. The remainder of eastern and southern parts of the UK experienced below average rainfall, as little as 30 percent in some places. The outlook (issued by the Met Office on the 27th August) indicates the chance of a wet September is similar to normal, though Autumn as a whole (Sept to Nov) is more likely than usual to be wet (1.8 times the normal chance). Northern parts of the UK are expected to have the greatest chances of being wetter than normal.

River flows:

River flows for August reflected the rainfall pattern, with exceptionally high and some record-breaking high flows seen in the northwest. Above normal river flows persisted in parts of the southeast despite the dry August. Elsewhere, river flows were normal or below normal.

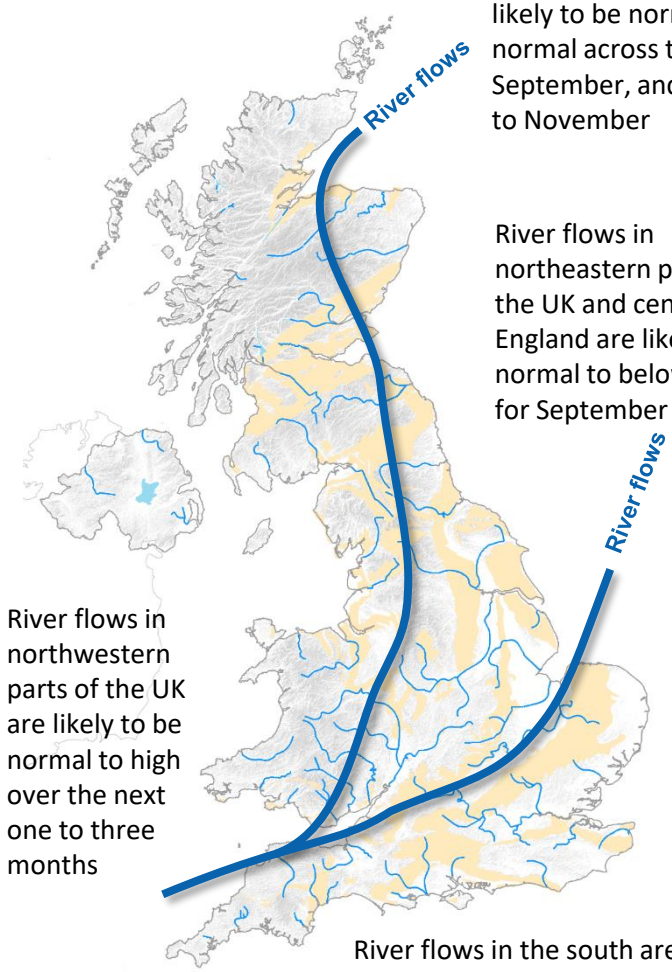
The outlook is for this pattern to continue, with normal to high river flows expected across the northwest over the next three months, as well as above normal flows in groundwater dominated catchments of the southeast in September. Across northeastern and central England flows are likely to be normal to below normal for September.

Groundwater:

Groundwater levels for August were normal to above normal, with exceptionally high levels recorded in some parts of northern England. Low groundwater levels were recorded in South Wales.

The outlook is for groundwater levels to remain normal to above normal across the majority of the UK for September and the Autumn period. Levels in the Carboniferous Limestone of south Wales are uncertain and could remain below normal depending on the aquifer response to early September rainfall.

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



UK HYDROLOGICAL OUTLOOK

September 2024

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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 AquiMod 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

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The UK Hydrological Outlook is supported by the Natural Environment Research Council funded NC-UK (NE/Y006208/1) and Hydro-JULES (NE/S017380/1) Programmes.

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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, 10 September 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:
i. Environment Agency: https://flood-warning-information.service.gov.uk/map
ii. Natural Resources Wales: https://flood-warning.naturalresources.wales/
iii. 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://nrfa.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/

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