

# Hydrological Outlook UK

Period: From September 2018

Issued on 12.09.2018 using data to the end of August 2018

## SUMMARY

The Outlook for September is for river flows to be in the normal range or below normal across most of the UK, with the exception of northeast Scotland where below normal flows are more likely. The outlook is similar for the autumn as a whole, with normal to below normal flows likely across the country. September groundwater levels are most likely to be in the normal range across the country, with a few exceptions, and normal to below normal levels are likely for the autumn. The three month outlook is more uncertain at this transitional time of year, with the timing and magnitude of autumn rainfall being highly influential for the longer-term situation.

### Rainfall:

Rainfall was near-average for August for the UK as a whole but much of Scotland and parts of northern England and north Wales saw below average rainfall, continuing the run of dry months in late spring/summer 2018 in these areas. Other parts of northern Britain and the far south-east of England were wetter than average.

The rainfall outlook for September is that below-average precipitation is more likely than above-average precipitation. For September-October-November as a whole, below-average precipitation is slightly more likely than above-average precipitation. The probability that UK-average precipitation for September-October-November will fall into the driest of five categories is between 20% and 25% and the probability that it will fall into the wettest of these categories is around 15% (the 1981-2010 probability for each of these categories is 20%).

### River flows:

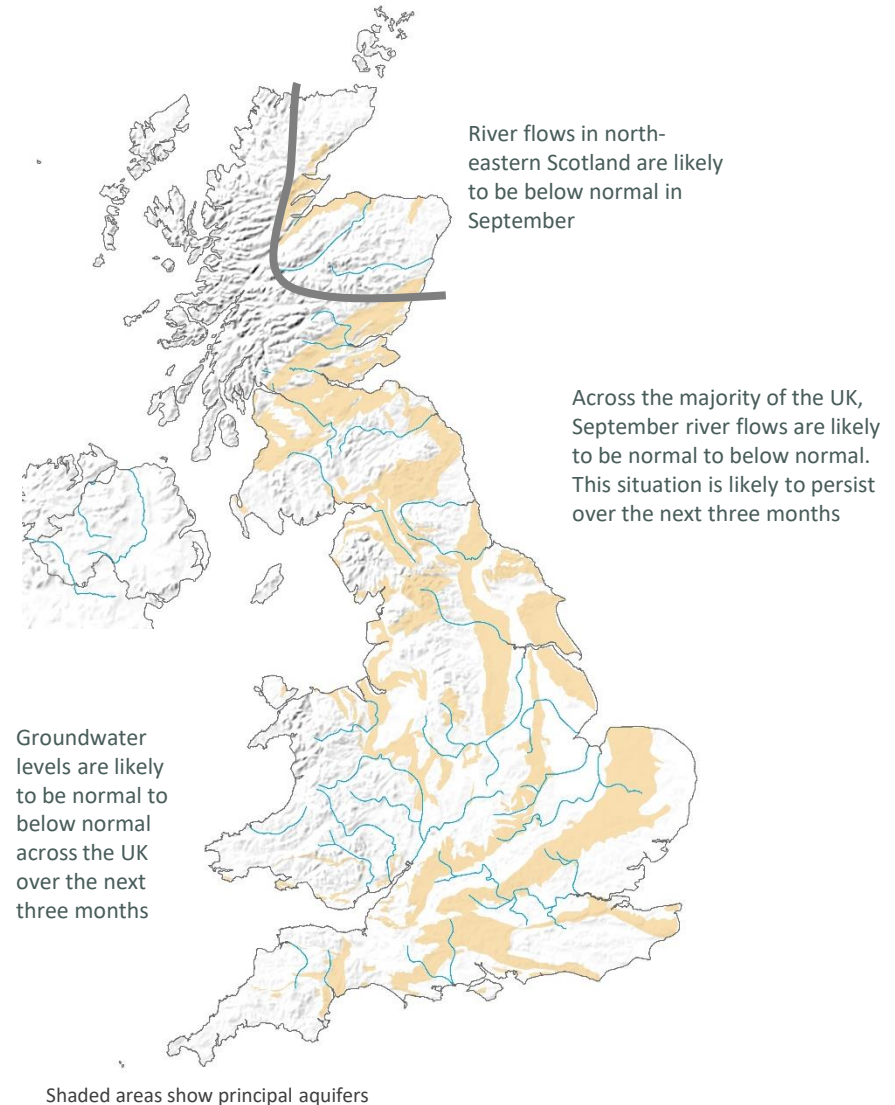
August river flows were below normal across a large area of Central England and in many catchments in southwest England and south Wales. In northeast Scotland, notably or exceptionally low flows were observed. Elsewhere flows were in the normal range.

The one month outlook is for normal to below normal flows across the UK, except for northeast Scotland where below normal flows are the most likely outcome, with potential for notably low flows. For the three month outlook normal to below normal flows are expected across the country. For both the one and three month outlooks, a rather mixed picture emerges in terms of the balance between normal and below-normal flows, and the spatial pattern of these outcomes, depending on the forecasting method used.

### Groundwater:

Groundwater levels for August were in the normal range across the main aquifers, except for northern England and southern Scotland which saw above normal levels in some boreholes, while a few isolated below normal levels were observed elsewhere.

In the one month outlook normal levels again predominate, with above normal levels in the Scottish borders and below normal levels in some localities (including parts of northwest England). The three month outlook is broadly similar, with normal levels the most likely outcome across the country but with more sites seeing below normal levels, including in the southern Chalk.



The Hydrological Outlook UK provides an outlook for the water situation for the UK 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.hyoutuk.net](http://www.hyoutuk.net)

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## About the 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 Centre for Ecology and Hydrology (CEH), 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 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 CEH using the Grid-to-Grid, PDM and CLASSIC hydrological models and by the EA using CATCHMOD. Hydrogeological modelling uses the R-groundwater model run by BGS and CATCHMOD run by the EA. Supporting documentation is available from the Outlooks website: <http://www.hydoutuk.net/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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## Further information:

For more detailed information about the Hydrological Outlook, and the derivation of the maps, plots and interpretation provided in this outlook, please visit the Hydrological Outlook UK 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.

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## Reference for the Hydrological Outlook:

Hydrological Outlook UK, 2018, August, Centre for Ecology and Hydrology, Oxfordshire UK, Online, <http://www.hydoutuk.net/latest-outlook/>

## Other Sources of Information:

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

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

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>  
Scottish Environment Protection Agency: <http://www.sepa.org.uk/flooding.aspx>

UK Met Office forecasts for the UK: [www.metoffice.gov.uk/public/weather/forecast/#?tab=regionalForecast](http://www.metoffice.gov.uk/public/weather/forecast/#?tab=regionalForecast)