

# Hydrological Outlook UK

Period: From August 2016

Issued on 11.08.2016 using data to the end of July 2016

## SUMMARY

The outlook for August is for river flows to be normal to above normal in many areas of the UK, particularly in parts of western Britain. Over the next three months, river flows are more likely to be within the normal range, and normal to above normal in East Anglia. The outlook for groundwater levels in August is for a continuation of normal to above normal levels across most of the aquifers in the UK. Groundwater levels are expected to remain above normal over the next three months in some aquifers in northern Britain.

### Rainfall:

Whilst Scotland, Northern Ireland, north Wales and parts of northern England received above average rainfall in July, most of southern England and south Wales was substantially drier than average.

For August, above-average precipitation is considered slightly more probable than below-average. For August-September-October as a whole, the forecast for UK precipitation suggests that the chances of above- and below-average rainfall are fairly balanced. The probability that UK precipitation for August-September-October will fall into the driest of our five categories is between 15 and 20% and the probability that it will fall into the wettest of our five categories is around 20% (the 1981-2010 probability for each of these categories is 20%).

### River flows:

River flows in July were normal to above normal across the majority of the UK, with the exception of south-west England where flows were below normal.

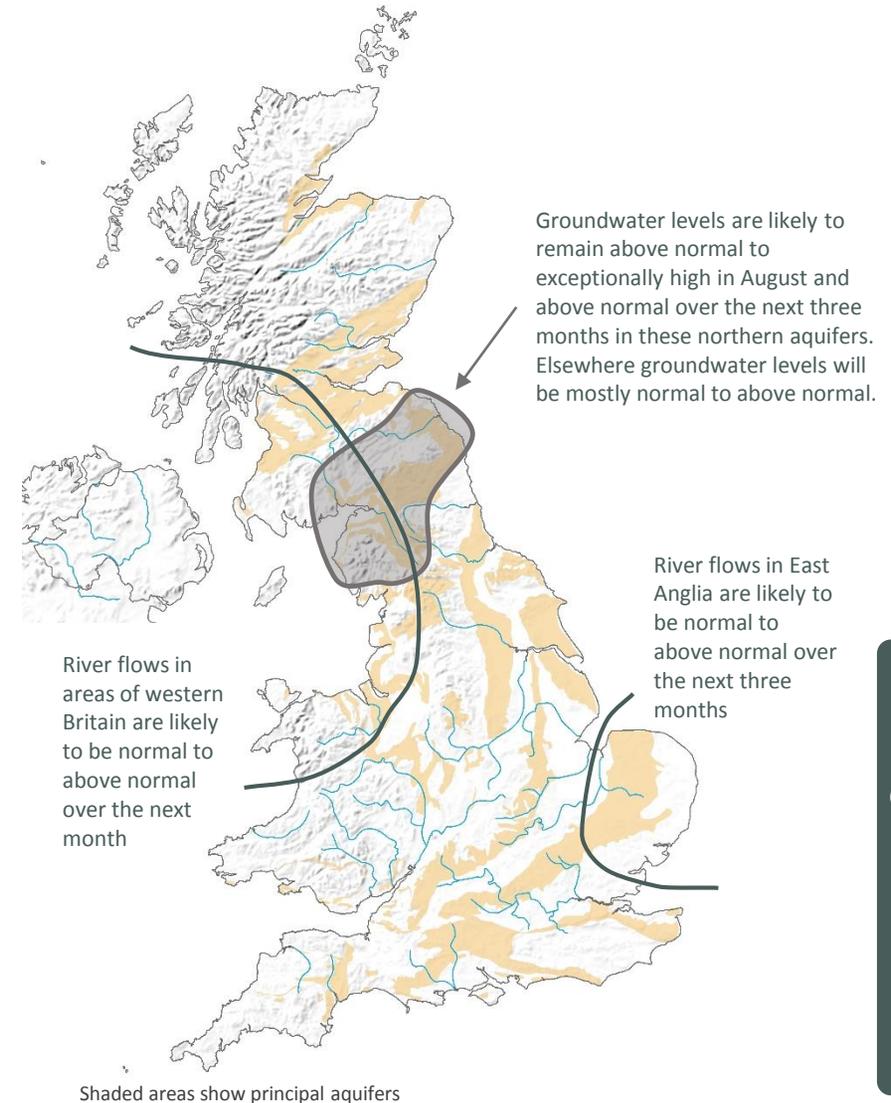
In August, the outlook for river flows across most of the UK is for normal to above normal flows. This signal is particularly strong in parts of western Britain; elsewhere the outlook is less clear. The suggestion of below normal flows for south-west England in August is likely to have been offset by wet weather at the start of the month. Over the next three months, river flows for the majority of the UK are most likely to be in the normal range although the outlook is for normal to above normal flows in East Anglia. There remains a greater likelihood of above normal rather than below normal flows in parts of western Britain, although there is lower confidence at this three-month timeframe.

### Groundwater:

Groundwater levels in July continued to be normal to above normal in most aquifers in the UK, with notably to exceptionally high levels persisting in the Permo-Triassic sandstones of northern Britain.

Groundwater levels in August are expected to remain in the normal range or higher in almost all of the aquifers of the UK. This includes the Permo-Triassic sandstones in northern England and southern Scotland, where the outlook suggests above normal to exceptionally high levels will continue. Predicted exceptionally low levels in the Carboniferous Limestone of south-west Wales may be offset by wet weather at the start of August, although levels are likely to remain below normal. Uncertainty surrounding the timing of the onset of autumn recharge means that the groundwater outlook over the next three months is less clear. Current predictions suggest a continuation of the normal to above normal levels for most of the UK, with sustained above normal levels in the Permo-Triassic sandstones of northern Britain.

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 the Northern Ireland Rivers Agency (RA).

## 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 RA. 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, 2016, July, 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: [http://www.ceh.ac.uk/data/nrfa/nhmp/monthly\\_hs.html](http://www.ceh.ac.uk/data/nrfa/nhmp/monthly_hs.html)

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)