

# Hydrological Outlook UK

Period: From May 2018

Issued on 09.05.2018 using data to the end of April 2018

## SUMMARY

The one- and three-month outlooks for river flows are for normal to above normal flows in the English lowlands and flows within the normal range elsewhere. The outlooks for groundwater levels over both the one- and three-month timeframes are for above normal levels in southern Scotland, north-east England and central southern England, with normal to above normal levels most likely elsewhere.

### Rainfall:

Rainfall was above average in April for most of the UK, particularly so in south Wales, southern Scotland, and southern, eastern and parts of northern England. The north of Scotland was notably drier than average.

The Met Office 3-month Outlook issued on 26<sup>th</sup> April indicated that for both May and May-June-July as a whole, above-average precipitation is slightly more likely than below-average precipitation. The probability that UK-average precipitation for May-June-July will fall into the driest of five equal categories is between 15% and 20% and the probability that it will fall into the wettest of five equal categories is around 25% (the 1981-2010 probability for each of these categories is 20%).

### River flows:

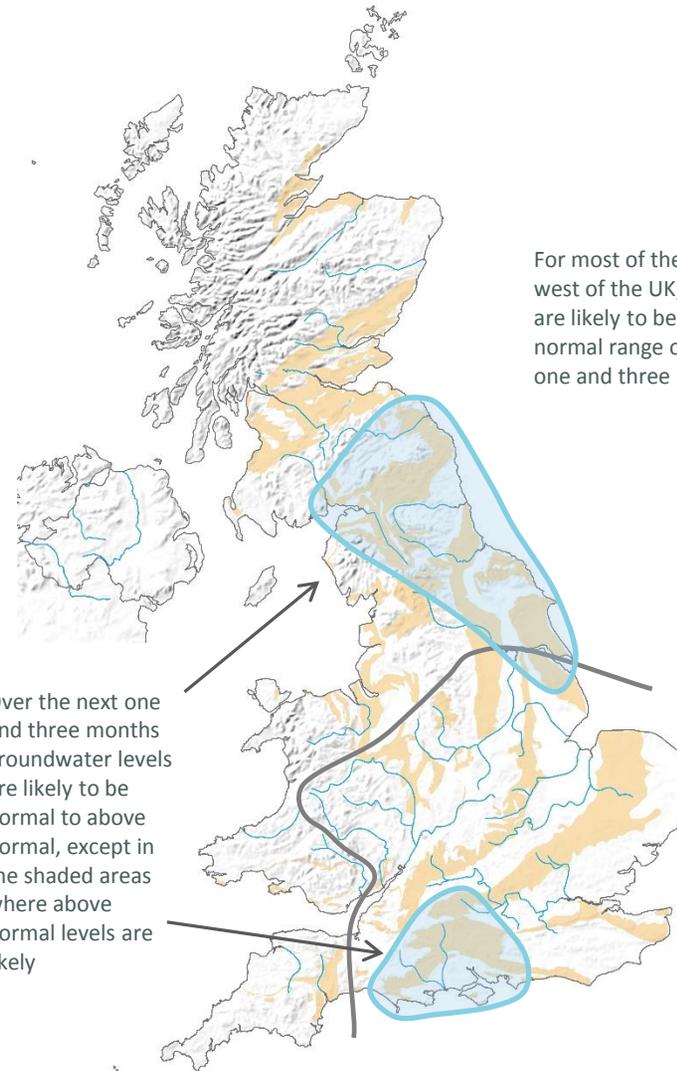
River flows in April were above normal across the majority of England, Wales and southern Scotland, exceptionally so in parts of southern England and mid-Wales. Flows were generally within the normal range in Northern Ireland and north-west Britain, with some below normal flows in north-west Scotland.

The outlook for May is for normal to above normal river flows for most of central, southern and eastern England, including parts of mid-Wales drained by the Severn catchment. Above normal flows are more likely in catchments which are slower to respond to rainfall, though across the UK early May flows have generally decreased during the recent hot, dry spell. The three-month outlook is similar to that for May, with normal to above normal flows likely in the south-east and normal flows elsewhere.

### Groundwater:

Groundwater levels in the UK were mostly within the normal range or above normal in April. Levels were notably to exceptionally high in southern Scotland, north-east England and parts of southern England.

Groundwater levels are very likely to be normal or above normal in May, with above normal levels most likely in Dorset, Hampshire and Berkshire in southern England as well as the Scottish Borders and north-east England. Parts of the Chalk in these areas are likely to experience exceptionally high levels in response to late winter and early spring recharge. The outlook for the May-July period is similar; now that the recharge season has finished, typical seasonal recessions are likely to become established through the summer half-year.



Shaded areas show principal aquifers

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.hydoutuk.net](http://www.hydoutuk.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, May, 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)