

# Hydrological Outlook UK

Period: From May 2019

Issued on 09.05.2019 using data to the end of April 2019

## SUMMARY

The overall outlook for river flows is for normal to below normal flows in May, with below normal flows becoming widespread in the three month period to the end of July. Groundwater levels are likely to be normal to below normal during May, falling to below normal over the period to the end of July. There are two exceptions: firstly, in the eastern parts of the Chalk below normal levels in May are likely to become notably low in the period to July, and secondly, groundwater levels in southern coastal areas are likely to be normal in May and through to the end of July.

### Rainfall:

April rainfall was below average across the UK, and notably below average for eastern and central England, as well as central and western Scotland. Elsewhere rainfall was closer to normal, and in most of Wales, parts of south west England and eastern Scotland above normal.

The rainfall outlook for May and May-June-July as a whole (released by the Met Office on 26<sup>th</sup> April 2019), is that the chances of above- and below-average precipitation are similar. On balance, drier-than-average conditions are marginally more likely. The probability that UK-average precipitation for May-June-July will fall into the driest of five categories is around 25% and the probability that it will fall into the wettest of five categories is between 20% and 25% (the 1981-2010 probability for each of these categories is 20%).

### River flows:

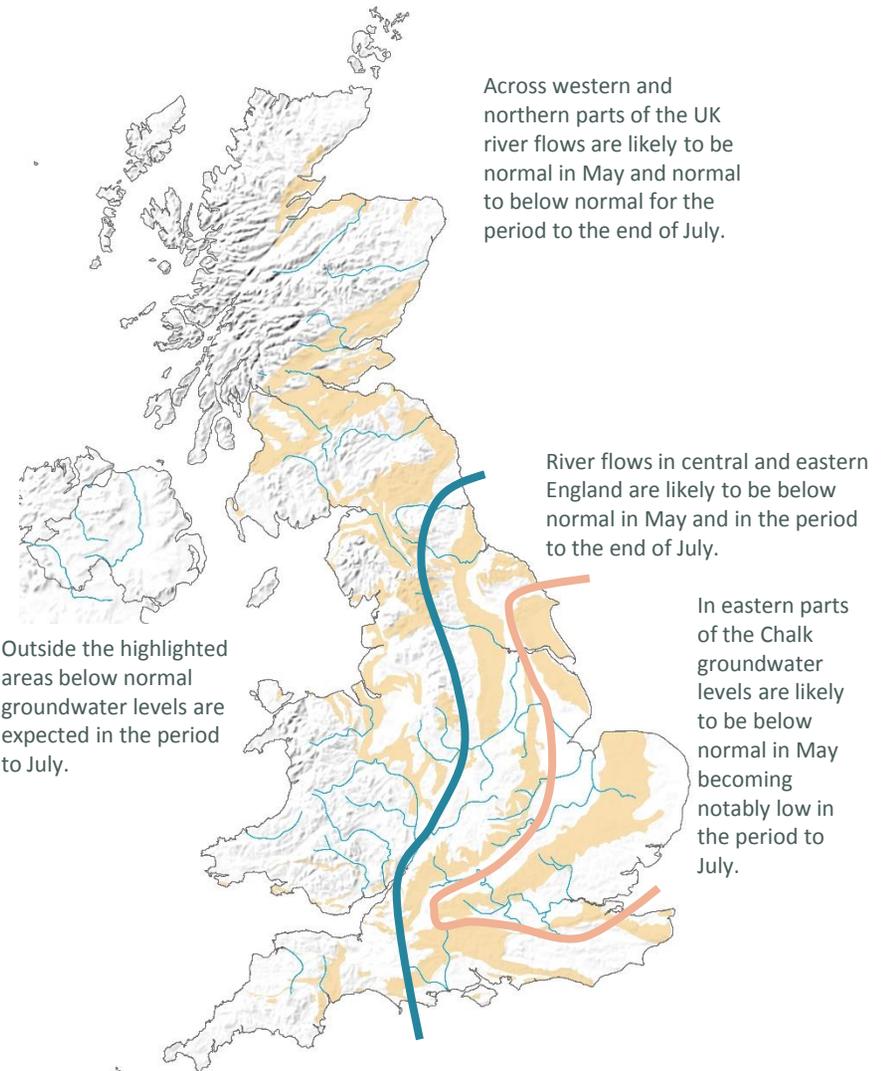
River flows were in the normal range or below across the UK during April. There were notably low flows in a band extending from western parts of Scotland, through northwest England, north east England, central and eastern England, to south east England.

In central and eastern parts of the UK river flows are likely to be below normal in May and in the period to the end of July. Normal river flows are most likely in western parts of the UK, becoming below normal for the period to the end of July. In northern Scotland it is most likely that river flows will be normal in May and to the end of July although with some local variability.

### Groundwater:

Groundwater levels were below normal during April in eastern and south eastern parts of the UK with the exception of southern coastal areas. Outside this area, groundwater levels were generally normal although with considerable local variability.

Groundwater levels are expected to be normal to below normal over much of the UK during the next month. Below normal levels are expected in the Chalk aquifer in the east, becoming notably low over the three month period to July. Over this three month period, normal to below normal levels are expected across the central regions, the only exception to this being southern coastal areas where normal levels dominate.



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.hyoutuk.net](http://www.hyoutuk.net)

# Hydrological Outlook UK

## 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 and GR4J hydrological models. 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, 2019, 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)