

# Hydrological Outlook UK

Period: From February 2018

Issued on 08.02.2018 using data to the end of January 2018

## SUMMARY

The outlook for February and February to April indicates that river flows and groundwater levels across the majority of the UK are likely to be within the normal range. Groundwater levels in the south-east of England are likely to be below normal for the next one to three months, and in parts of the south-east river flows are likely to be normal to below normal for this period.

### Rainfall:

During January, England and Wales registered near average rainfall. Scottish rainfall was also near-average in total, but showed regional differences with above average rainfall in the southwest, and significantly below average rainfall in the northeast. Northern Ireland experienced approximately 140% of average rainfall, falling mainly in the west and principally as a result of storms "Eleanor", "Fionn" and "Georgina".

The Met Office 3-month Outlook issued on 26th January indicated that for February, below-average precipitation is more likely than above-average precipitation. For February-March-April as a whole, the chances of above- and below-average precipitation are close to normal. The probability that UK-average precipitation for February-March-April will fall into the driest of five equal categories is 20% and the probability that it will fall into the wettest of the five categories is between 15% and 20% (the 1981-2010 probability for each of these categories is 20%).

### River flows:

River flows for January were predominantly normal to above normal across much of the UK, with above normal flows focussed mainly in the west. Reflecting January's precipitation patterns, below normal flows were recorded in some catchments of northeast Scotland, and record-breaking exceptionally high flows were recorded in two Northern Irish catchments, the Mourne and Faughan.

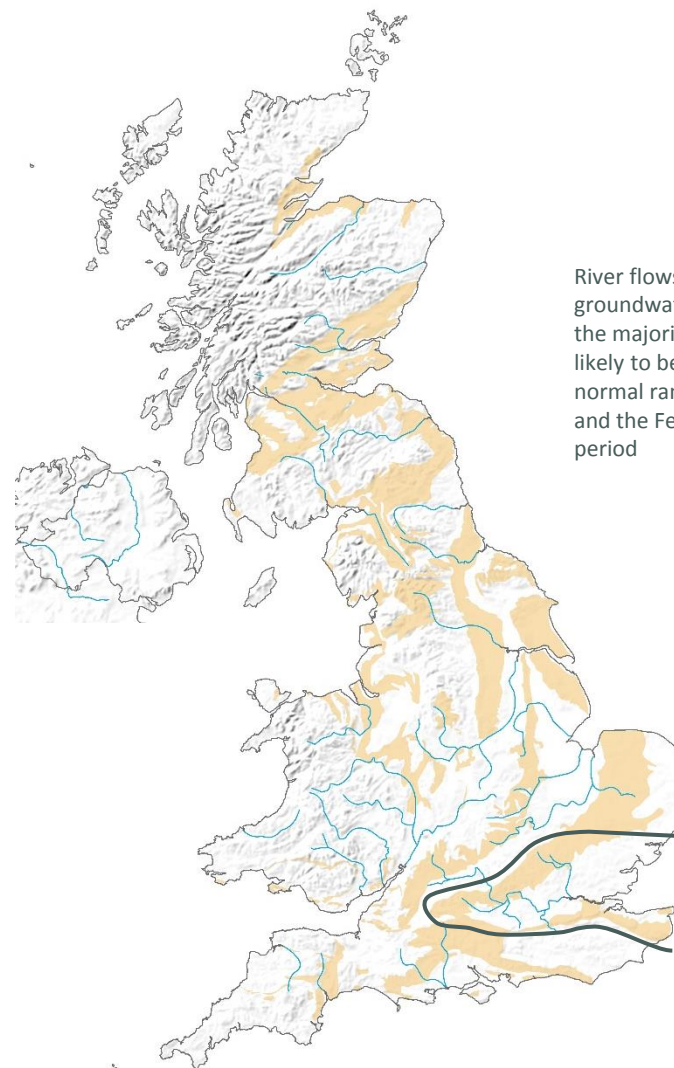
River flows in parts of south-eastern England are likely to be normal to below normal for both February and the February to April period. Although many river flows were above average in January, the responsiveness of these catchments to rainfall and the provision of a slightly below-average precipitation forecast, indicate that river flows are most likely to be within the normal range across the rest of the UK for February and February-March-April.

### Groundwater:

Although groundwater levels generally increased from their January levels, they remained below normal across most of the Chalk aquifer away from the south coast. Elsewhere, levels were mostly in the normal range.

Groundwater levels for the Chalk of the North Downs and through the Chilterns across to Suffolk, are likely to remain below normal in February, and through February-March-April. Elsewhere, groundwater levels are likely to be within the normal range for the next one to three months, with the exception of the northern Permo-Triassic sandstones, where levels are likely to be normal to above-normal over the February to April period.

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)



River flows and groundwater levels across the majority of the UK are likely to be within the normal range for February and the February to April period

River flows in parts of south-east England are likely to be normal to below normal for both February and the next three months. Groundwater levels in the south-east are likely to be below normal for this period.

Shaded areas show principal aquifers

# 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 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, 2017, December, 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)