Hydrological Outlook UK

Period: From March 2016

Issued on 11.03.2016 using data to the end of February 2016

SUMMARY

The outlook for March is for the continuation of above normal river flows and groundwater levels across large parts of western Britain in response to wet weather in February and throughout the winter. Further south and east, groundwater levels are expected to remain above normal in central southern England; otherwise river flows and groundwater levels are likely to be within the normal range. Rainfall projections suggest that there is a slightly higher chance that spring will be wet than dry (this signal is stronger still for March). Despite this, the three-month outlook suggests that normal to below normal river flows are likely for most regions of the UK (albeit there is some uncertainty for parts of western Britain) and there is an increased likelihood of below normal groundwater levels in parts of eastern England.

Rainfall: [based on projections released by the Met Office on 18th February]

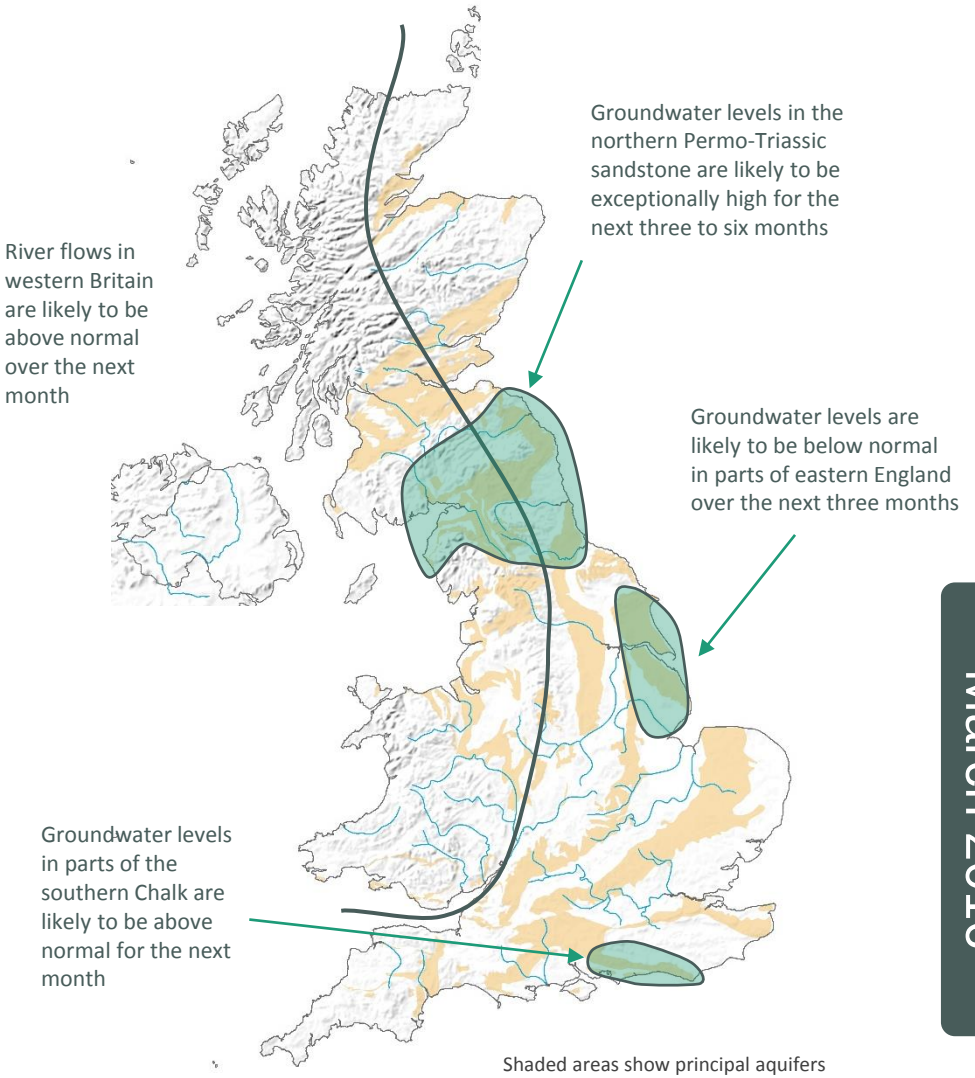
For March, there is an increase in the chance of above-average precipitation, and a decrease in the chance of below-average precipitation, compared to usual. Predictions for UK-mean precipitation for the 3-month period (March-April-May) are that above-average precipitation is slightly more probable than below-average. Overall, the probability that the UK-average precipitation for March-April-May will fall into the driest of our five categories is 20% and the probability that it will fall into the wettest of our five categories is around 25% (the 1981-2010 probability for each of these categories is 20%).

River flows:

River flows for February were above normal across northern and western parts of the UK, notably so in parts of central Scotland and northern and south-western England. Flows were in the normal range along the east coast of England and for most of south-east England. The outlook for river flows in March is for above normal flows in western and southern Scotland, north-west England, the West Midlands and Wales. Elsewhere river flows are expected to be in the normal range, although smaller or groundwater influenced catchments in central southern England show an increased likelihood of above normal flows. The three-month outlook is for river flows to be normal to below normal across most of the UK. However, in Wales, northern England and the English Midlands the outlook is less certain; in these regions there is also the possibility of above normal flows.

Groundwater:

February groundwater levels in the Chalk were above normal in responsive aquifer units along the south coast of England but normal or below in eastern England. Levels remained notably or exceptionally high in the limestone and sandstone aquifers of northern England and southern Scotland. For March, it is likely that groundwater levels will continue to be above normal in the Chalk of central southern England and notably or exceptionally high in northern England and southern Scotland. There is also an increased likelihood of above normal levels in the Permo-Triassic sandstones of the West Midlands. The outlook for the next three months is for a similar pattern. In addition, there is an increased likelihood of below normal levels in parts of the Chalk and limestone of eastern England, most notably in Yorkshire and Lincolnshire.



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

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About the Hydrological Outlook UK

About the 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. More information is available from the Outlooks website:
http://www.hydoutuk.net/methods

Disclaimers:

This document aims to provide an indicative outlook for the water situation using the most comprehensive and up-to-date hydrological data, and modelling techniques. The Outlooks are intended to provide guidance on the likely water situation in the UK over the coming months, and should not be used in isolation, but alongside other sources of information such as flood warnings and meteorological forecasts (see links right).

Some of the features displayed on the maps contained in this report are based on the following data with permission of the controller of HMSO.

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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:

Hydrological Outlook UK, 2016, January, Centre for Ecology and Hydrology, Oxfordshire UK, Online, http://www.hydoutuk.net/archive/january-2016/"

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

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

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