Hydrological Outlook UK

Period: From April 2018

Issued on 09.04.2018 using data to the end of March 2018

SUMMARY

River flows are most likely to be normal in the north-west of the UK, and normal to above normal elsewhere during April and the coming three months. The possible exceptions, where normal to below normal flows are likely, are slowly responding groundwater fed catchments in the Chilterns and Berkshire Downs. Groundwater levels are most likely to be normal for the coming three months except in parts of northern England and southern Scotland where above normal levels are likely to persist.

Rainfall:

Rainfall for March was above average for the UK as a whole but with marked regional variations. Rainfall was below average in north-west England, western Scotland, and parts of Northern Ireland and north Wales, and above average in a band from Cornwall through central England to eastern parts of Scotland.

The Met Office 3-month Outlook issued on 22nd March indicated that for April, below-average precipitation is more likely than above-average precipitation. For April-May-June as a whole, above-average precipitation is slightly more likely than below-average precipitation.

The probability that UK-average precipitation for April-May-June 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 25% (the 1981-2010 probability for each of these categories is 20%).

River flows:

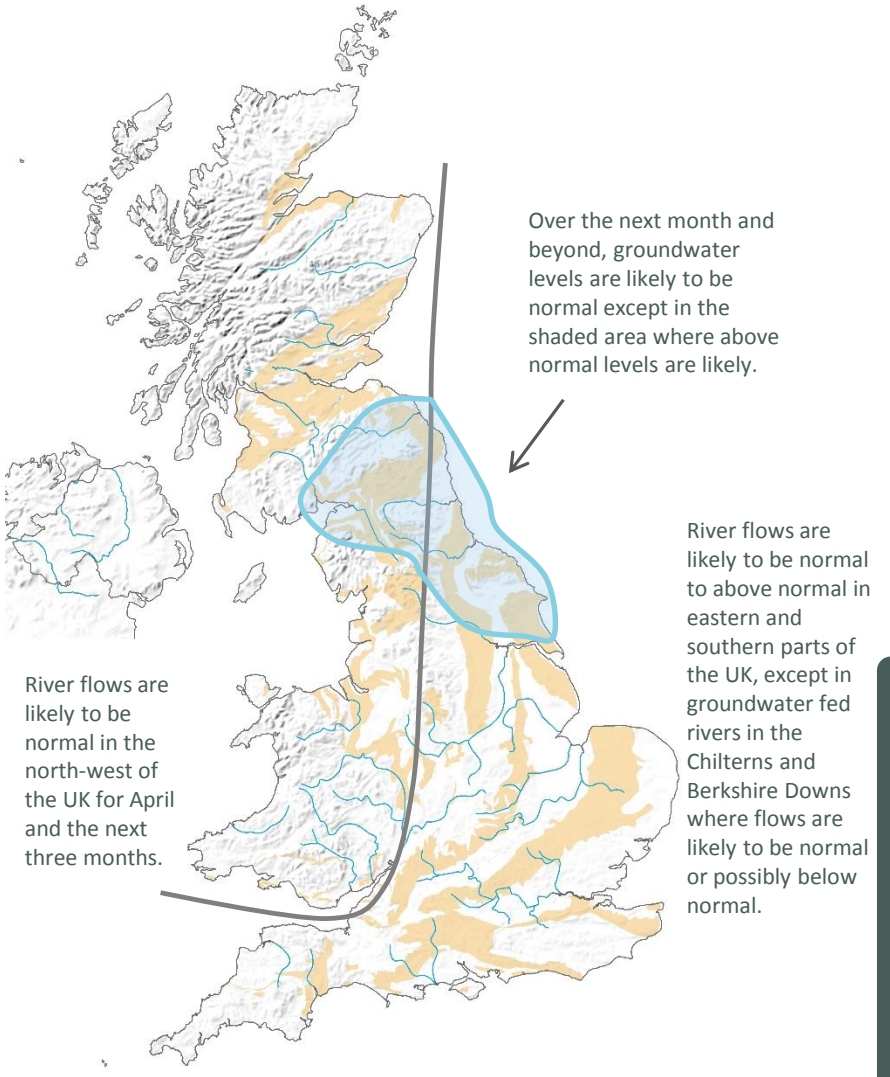
Variations in river flow during March very much reflected the pattern of rainfall. Of particular note were the exceptionally high flows in south west England, and notably low flows in north-west Scotland.

In north-western parts of the UK river flows are most likely to be in the normal range during March and for the coming three months, although below normal flows may persist in the short term in north-west Scotland. Elsewhere normal to above normal flows are most likely, with the possibility of some notably high flows. The exception will be very slowly responding groundwater fed catchments in the Chilterns and Berkshire Downs where normal or below normal flows may persist for some time.

Groundwater:

Across the south of England there was great variability in groundwater levels during March from exceptionally high to below normal. Further north levels were normal to above normal.

With few exceptions, groundwater levels are likely to be in the normal range across much of England and Wales over the next one and three months. Levels are likely to be above normal in parts of northern England and southern Scotland over one month, exceptionally so in the northernmost aquifers. Over three months, levels in these northernmost aquifers are likely to remain above normal.



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

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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.

Contact:

Hydrological Outlooks UK
Centre for Ecology & Hydrology
Wallingford
Oxfordshire
OX10 8BB

t: 01491 692371
e: enquiries@hydoutuk.net

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

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