

Hydrological Outlook UK

Period: From April 2017

Issued on 11.04.2017 using data to the end of March 2017

SUMMARY

The outlook for April is for river flows and groundwater levels in the south east of England to be normal to below normal, while in the rest of the UK normal river flows and groundwater levels are most likely.

Over the next three months there is the possibility of very low groundwater levels occurring in parts of south-east England (i.e. the Chalk of Kent and Sussex, and possibly the Chilterns). Elsewhere in the UK over this time scale, normal river flows and groundwater levels are most probable.

Rainfall:

Rainfall in March was very slightly above average for the UK as a whole. It was drier than average in south-east England, and in parts of the north and west of Scotland, but was wetter than average in a band extending from Wales through north-west England and into the Scottish borders. Early April has seen little rainfall and some warm sunny weather especially in the south east of England.

The rainfall outlook (issued by the Met Office on 23rd March) indicates that for April, and April-May-June as a whole, below-average precipitation is considered slightly more probable than above-average. Overall, the probability that the 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 20% (the 1981-2010 probability for each of these categories is 20%).

River flows:

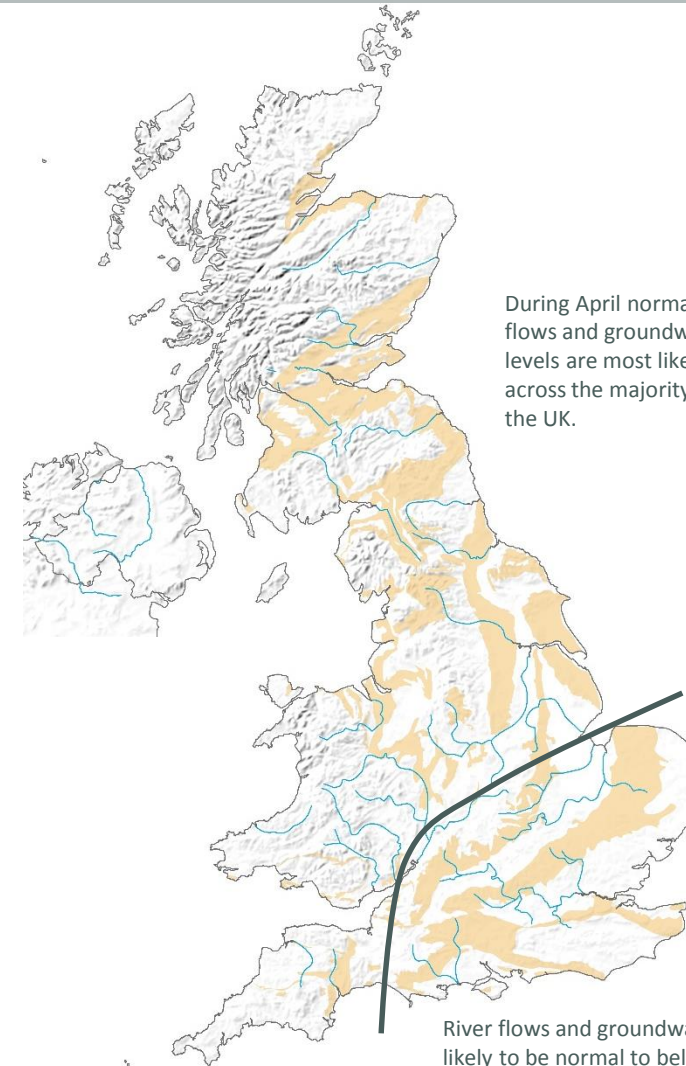
River flows in March showed marked regional variability corresponding to the observed rainfall as described above. There were very low flows in the extreme south-east of England, and below average flows in north-east Scotland. However between these areas there was a band of above average flows that included some notably high flows.

The outlook for April is for normal river flows across most of the UK, with normal to below normal flows most likely in the south-east of England. Below normal river flows are possible in the smaller catchments of north east Scotland. This outlook is likely to continue for the coming three months.

Groundwater:

Groundwater levels across the southern and eastern Chalk remained below normal for March. Levels in other aquifers were more mixed, although mostly normal or below normal.

During April normal to below normal groundwater levels are likely to persist in the Chalk aquifers of south-east England, with normal groundwater levels elsewhere. Over the coming three months, and possibly beyond, very low groundwater levels are likely in the Chalk aquifers of Kent and Sussex, and possibly also in the Chilterns.



During April normal river flows and groundwater levels are most likely across the majority of the UK.

River flows and groundwater levels are likely to be normal to below normal in south-east England during April.

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

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.

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, 2016, July, 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: 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