UK Hydrological Outlook

Delivered in partnership by: UK Centre for Ecology & Hydrology

Period: From April 2022 Issued on 08.04.2022 using data to the end of March 2022

SUMMARY

The outlook for most of the UK for river flows is that they are most likely to be within the normal range, for both April and the three-month timeframe (April-June). In some catchments in southern England, normal to below normal flows are likely over the next three months. For groundwater, normal to below normal levels are likely in most boreholes, both in April and over the three-month timeframe.

Rainfall:

Rainfall in March was substantially below average for most of the UK. Most of Wales, western Scotland and north-west England recorded less than half the average rainfall.

The rainfall outlooks (issued by the Met Office on 28.03.2022) for both April and over the three month period to June suggest a slightly increased chance of wet conditions compared to normal.

River flows

River flows in March were normal to below normal across the UK. Flows were below normal in northern and southern England, and notably to exceptionally low in some catchments of western Scotland and north Wales.

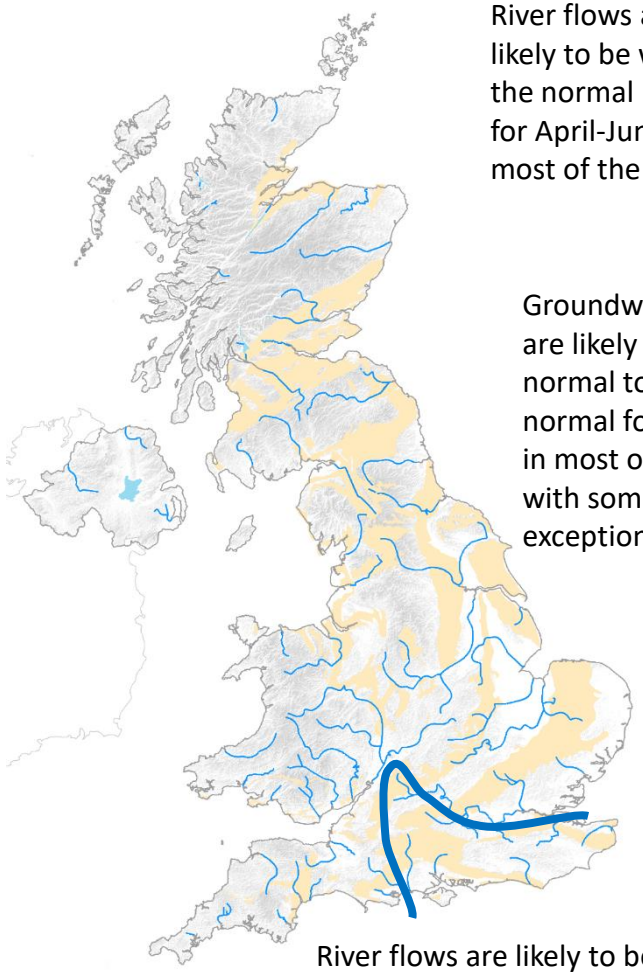
For the majority of UK catchments, flows in April are most likely to be within the normal range, and more likely to be normal to below normal than above normal. In southern England, flows in some catchments are likely to be below normal. Over the April-June timeframe, the outlook is similar. Generally, flows within the normal range are most likely, though continuing the tendency towards normal to below normal flows.

Groundwater:

Groundwater levels in March were normal to below normal across England and Wales. Levels in south Wales and in some boreholes in southern England were below normal.

Levels in April are likely to be normal to below normal in most boreholes in England and Wales. Below normal levels are particularly likely in southern England. Levels for one borehole in the Scottish Borders are likely to be exceptionally high. The three-month outlook is very similar to the one-month outlook, and both outlooks are consistent regardless of dry or wet conditions.

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



River flows are most likely to be within the normal range for April-June in most of the UK

Groundwater levels are likely to be normal to below normal for April-June in most of the UK, with some localised exceptions

River flows are likely to be normal to below normal for April and over April-June for southern England

Shaded areas show principal aquifers

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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 UK Centre for Ecology and Hydrology (UKCEH), 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 UKCEH 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:
https://www.hydoutuk.net/about/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, UK Centre for Ecology & Hydrology, Wallingford, Oxfordshire, OX10 8BB
t: 01491 692371 e: enquiries@hydoutuk.net

Reference for the Hydrological Outlook:

Hydrological Outlook UK, 2022, April, UK Centre for Ecology and Hydrology, Oxfordshire UK, Online,
https://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.

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
Natural Resources Wales: https://flood-warning.naturalresources.wales/
Scottish Environment Protection Agency: https://www.sepa.org.uk/flooding.aspx

Hydrological Summary for the UK: provides summary of current water resources status for the UK:
https://nrfa.ceh.ac.uk/monthly-hydrological-summary-uk

UK Met Office forecasts for the UK: https://www.metoffice.gov.uk/#?tab=regionalForecast

UK Water Resources Portal: monitor the UK hydrological situation in near real-time including rainfall, river flow, groundwater and soil moisture from COSMOS-UK:
https://eip.ceh.ac.uk/hydrology/water-resources/

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