

**SUMMARY** The outlook for the May-July as a whole is for river flows and groundwater levels to be normal to above normal across the majority of the UK. For May, normal to below normal flows are likely in northern Scotland. River flows and groundwater levels in southern England are likely to be above normal for May.

**Rainfall:**

Rainfall for April was below average in north-western parts of the UK and Wales and above average in south-eastern England and northern Ireland. More than 170 percent of average rainfall fell over Kent, whilst the majority of Scotland saw less than 90 percent of average.

The forecast (issued by the Met Office on 1.5.2023) shows an increase in the likelihood of wet conditions (1.5 times the normal chance) for the May, June, July period compared to normal, with a decreased likelihood (0.5 times the normal chance) that May-June will be drier than normal.

**River flows:**

River flows in April broadly followed the precipitation pattern. Below normal and notably low flows were recorded in northern Scotland. Normal flows were seen across the majority of southern Scotland and northern England. Above normal, notably high and exceptionally high flows were recorded across southern England and Wales, with record breaking high flows seen on the Medway and Ouse.

The forecast for May is for this pattern to continue, with normal to below normal flows expected in northern Scotland, and above normal flows being likely in southern England. For the rest of the UK normal to above normal flows are expected over the next three months.

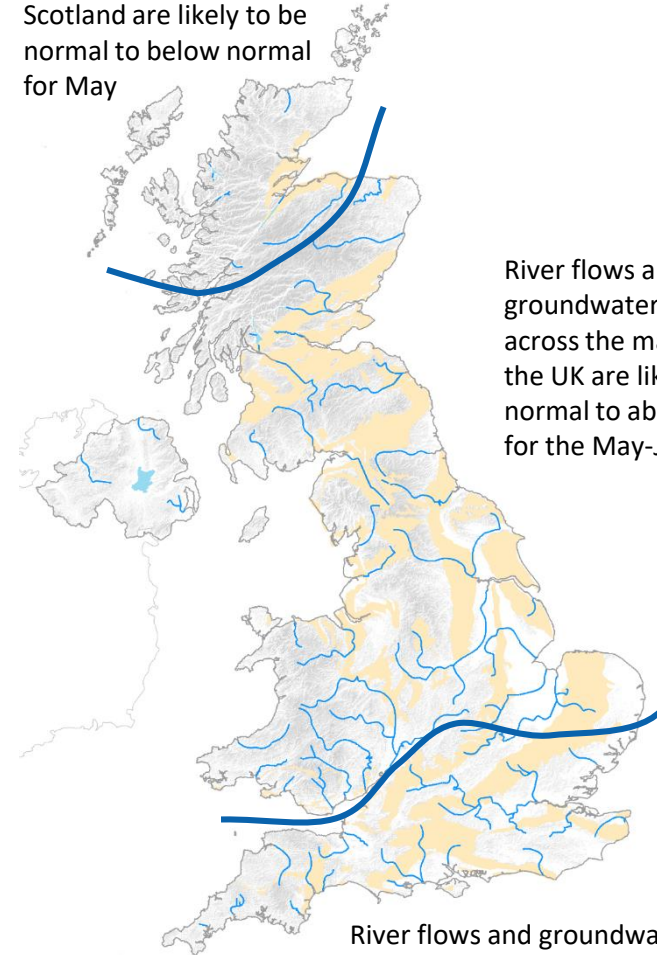
**Groundwater:**

Groundwater levels in April were generally normal to above normal, with some below normal levels recorded in eastern Scotland and at Dalton Holme on the Humber Estuary. Levels in central southern England were notably to exceptionally high in several boreholes in the chalk and Jurassic limestone aquifers.

The forecast for May, and the May-June-July period is for normal to above normal levels to persist across the majority of boreholes, with a few localised exceptions where levels could drop to slightly below normal.

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 in northern Scotland are likely to be normal to below normal for May



River flows and groundwater levels across the majority of the UK are likely to be normal to above normal for the May-July period

River flows and groundwater levels in southern England are likely to be above normal for May

Shaded areas show principal aquifers

## 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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The Hydrological Outlook partnership aims to ensure that all Content provided is accurate and consistent with its current scientific understanding. However, the science which underlies hydrological and hydrogeological forecasts and climate projections is constantly evolving. Therefore any element of the Content which involves a forecast or a prediction should not be relied upon as though it were a statement of fact. To the fullest extent permitted by applicable law, the Hydrological Outlook Partnership excludes all warranties or representations (express or implied) in respect of the Content.

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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, 2023, February, 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://nfa.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/>