

SUMMARY

The outlook for December and for the December–February period is for normal to below normal river flows in most of the UK, except for the far southeast of England where normal to above normal flows are more likely. In East Anglia, below normal flows are likely to persist. Groundwater levels for the Dec-Feb period are likely to be normal to above normal in most of the UK, except in the northeast Chalk aquifer and north of London where normal to below normal levels are more likely.

Rainfall:

Most of the UK received above average rainfall amount in November, with exceptionally high precipitation near the south-eastern coast, and north-eastern Scotland. However, rainfall was below average in the northern extreme of Scotland.

The precipitation outlook for December and the Dec-Feb (issued by the Met Office on 28.11.2022) shows an increased likelihood of drier than normal conditions. The rainfall for the beginning of December has been below average for most of the UK.

River flows:

River flows in November were normal to above normal in most of the UK, with the exception of East Anglia and the far north of Scotland, where they were below normal. Given the increased likelihood of drier than normal conditions, river flows in December are likely to go back to normal or below normal flows for a large part of the UK. Below normal flows are likely to persist in East Anglia. Normal to above normal flows are more likely in the far southeast of England, as the effect of the exceptional rainfall received in November is likely to persist over this month. Over the three-month period, the same pattern is expected, but the likelihood of normal flows increases across the country.

Groundwater:

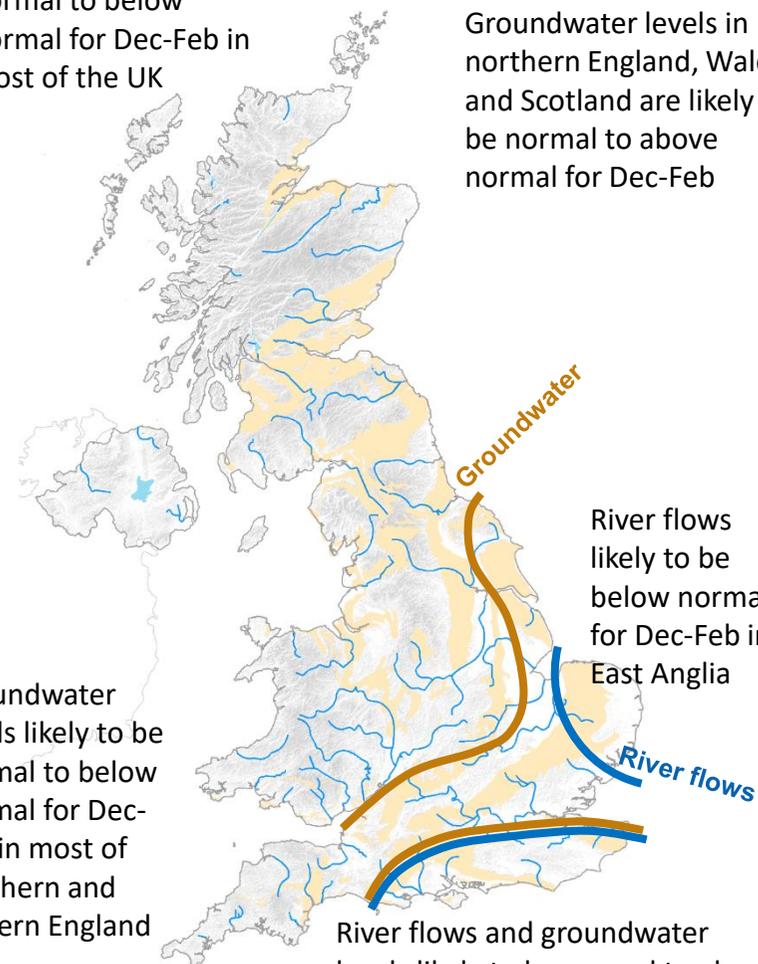
Groundwater levels in November were normal to below normal in the northeast Chalk aquifer and north of London, and also in northern Scotland, and exceptionally low in certain cases. In the rest of the country, including the southern Chalk aquifer, the groundwater levels were normal to above normal.

Over the next month and three-month period, the same general pattern is expected to persist over most of the country.

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

River flows likely to be normal to below normal for Dec-Feb in most of the UK

Groundwater levels in northern England, Wales and Scotland are likely to be normal to above normal for Dec-Feb



Groundwater levels likely to be normal to below normal for Dec-Feb in most of southern and eastern England

River flows likely to be below normal for Dec-Feb in East Anglia

River flows and groundwater levels likely to be normal to above normal for Dec-Feb for the far southeast of England

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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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, 2021, July, 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/>