

## SUMMARY

In August river flows to the northwest of the UK and Wales, are most likely to be normal, but with a possibility of below normal flows. Elsewhere, river flows are likely to be normal to above normal. Groundwater levels are expected to be above normal in northern aquifers, and in the normal range in southern aquifers. Over the three month period to October a return to more normal conditions is expected for both river flows and groundwater levels.

### Rainfall:

July rainfall was extremely variable. While the west coast of Scotland and Northern Ireland were notably dry, and the south coast of England notably wet, elsewhere there was considerable local variability.

The rainfall outlook for August (issued by the Met Office on 22.07.2021) suggests a slightly reduced chance of wet conditions compared to normal, but with significant local variability due to the increased likelihood of thunderstorms. Over the three month period to October, the chance of wet conditions remains reduced, and dry conditions are slightly more likely than normal.

### River flows:

River flows in July closely reflected the distribution of rainfall and ranged from exceptionally high in southeast England to notably low in Northern Ireland.

Considerable local variability is expected in August river flows because of the variability of recent, and forecast, rainfall. The general outlook is for river flows in August to return to normal in northwest parts of the UK and Wales, although local variability could see some current low flows will persist. In most parts of England, normal to above normal flows are expected to be maintained. Over the three month period to October river flows are expected to return to the normal range in all parts of the UK, although Chalk-fed streams in the southeast may remain above normal.

### Groundwater:

Groundwater levels in July were normal or slightly above in southern aquifers, but above normal in northern aquifers, so almost the exact opposite of the pattern seen in river flows. The difference is attributed to the very different response times to rainfall, i.e. faster for river flows and slower for groundwater levels.

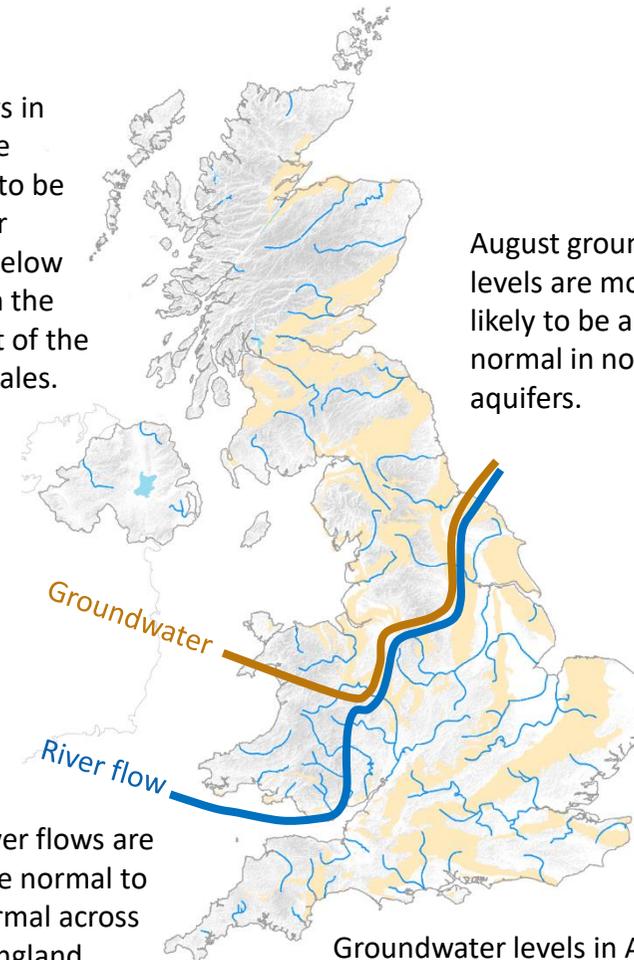
This pattern of groundwater levels is likely to persist through August, with a return towards normal expected during the period to October.

Note that due to continuing issues with data access, no data are available for Scotland.

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](http://www.hyoutuk.net)

River flows in August are expected to be normal, or perhaps below normal, in the northwest of the UK and Wales.

August groundwater levels are most likely to be above normal in northern aquifers.



August river flows are likely to be normal to above normal across most of England.

Groundwater levels in August are expected to be normal in southern aquifers

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.

## Contact:

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## Reference for the Hydrological Outlook:

Hydrological Outlook UK, 2021, August, 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/>