Hydrological Outlook UK

Period: From August 2018

Issued on 08.08.2018 using data to the end of July 2018

SUMMARY

Flows in rivers to the north and west of the UK are likely to be below normal during August and in places may be notably low. In these regions river flows are likely to return towards normal over the three month period to October. In the south-east of the UK during August normal flows are most likely in rivers fed by groundwater, and in these rivers normal flows are likely to continue over the three month period to October. However, river flows in surface-fed river are likely to be below normal in August and for the coming three months. Across most of the UK, and for both August and the coming three months, groundwater levels are likely to be normal to above normal, although exceptions are possible.

Rainfall:

Rainfall was below normal over most of the UK during July, with many places receiving less than 50% of average rainfall. There were, however, some areas with above average rainfall most notably in an area extending from eastern Northern Ireland to the Moray Firth.

The rainfall outlook for August, and August-September-October as a whole (released by the Met Office on 19th July 2018), is that below-average precipitation is more likely than above-average precipitation. The probability that UK-average precipitation for August-September-October will fall into the driest of five categories is between 25% and 30% and the probability that it will fall into the wettest of five categories is 10% (the 1981-2010 probability for each of these categories is 20%).

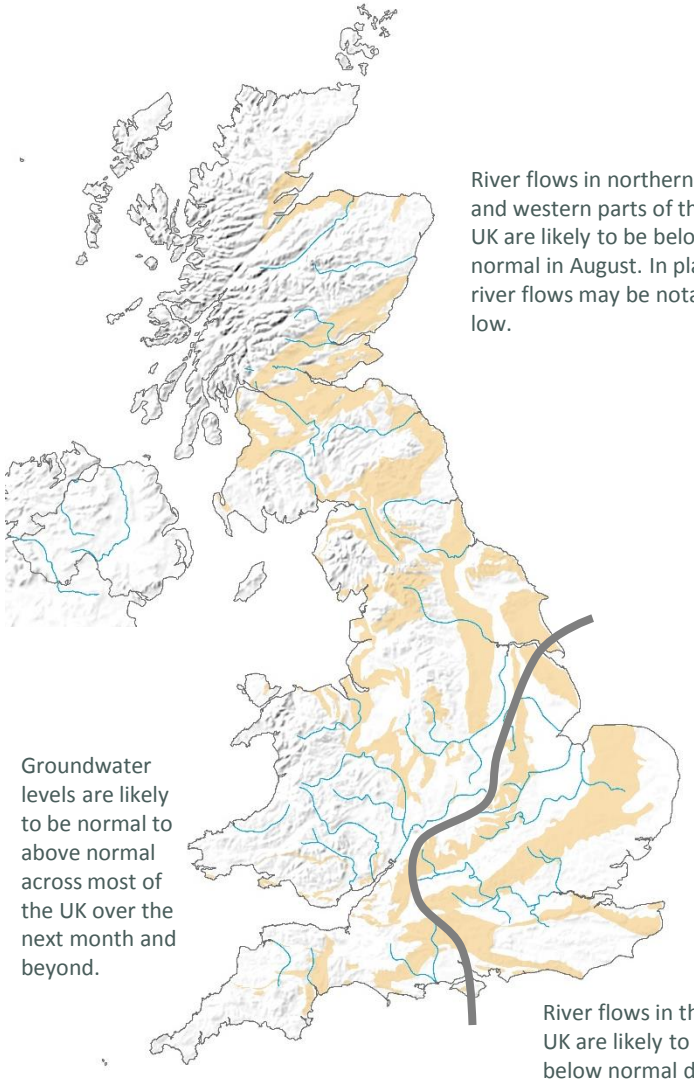
River flows:

River flows were generally below normal to the north and west of the UK, with many exceptionally low flows. To the south and east river flows remained normal in groundwater fed rivers, but rivers fed by surface waters were generally below normal.

For August, flows in the north and west are most likely to remain below normal, with some notably low flows and possibly even exceptionally low flows. However, over the period to October there is likely to be a return towards normal river flows, although in the south-west of England low flows may persist. In the south and east, rivers fed by groundwater are likely to remain normal in August and the period to October, but rivers fed by surface waters are likely to experience below normal flows, and these below normal flows are likely to persist over the period to October.

Groundwater:

Levels in major aquifers were generally normal to above normal at the start of August and are likely to remain that way over the next one to three months. The exceptions are the particularly responsive Jurassic and Carboniferous limestone aquifers in parts of north-west England and Wales in which lower than normal levels are expected in over the next one to three months. Below normal levels are also likely across the South Downs Chalk in the three month outlook. Minor and isolated aquifers anywhere in the country could experience low levels because of the persistent hot and dry conditions.



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.hydoutuk.net

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL | Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL | Environment Agency | Met Office | NERC SCIENCE OF THE ENVIRONMENT | Cyfoeth Naturiol Cymru Natural Resources Wales | Department for Infrastructure An Roinn Bonneagair | SEPA Scottish Environment Protection Agency

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 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 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

Disclaimer and liability:

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.

Your use of the Content is entirely at your own risk. We make no warranty, representation or guarantee that the Content is error free or fit for your intended use

Copyright:

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, 2018, August, 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:
https://nrfa.ceh.ac.uk/monthly-hydrological-summary-uk

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