

Hydrological Outlook UK

Period: From August 2017

Issued on 10.08.2017 using data to the end of July 2017

SUMMARY

The one month outlook is for river flows to be normal to above normal across much of northern and western Britain, with above-normal groundwater levels in some northern areas. In south-east England and parts of central England, river flows and groundwater levels are likely to be normal to below normal, with notably low levels in some areas of the southern Chalk. The three month outlook is for a broadly similar situation to continue, but with a tendency for more river flows and groundwater levels to enter the normal range.

Rainfall:

Rainfall during July was above average for much of the UK, while parts of northern Britain and large areas of southern England were exceptionally wet, with over 170% of the July average. Northern Scotland saw below-average rainfall.

The Met Office 3-month Outlook issued on 20th July indicated that for August the chances of above- and below-average precipitation are well balanced. For August-September-October below-average precipitation is slightly more probable than above-average.

The probability that UK precipitation for August-September-October will fall into the driest of five equal categories is between 20 and 25% and the probability that it will fall into the wettest of these categories is around 20% (the 1981-2010 probability for each of these categories is 20%).

River flows:

For most of western and northern Britain, July river flows were in the normal range or above normal. Flows in much of southern Britain were in the normal range, except for parts of central England and the Welsh borders where flows were below normal.

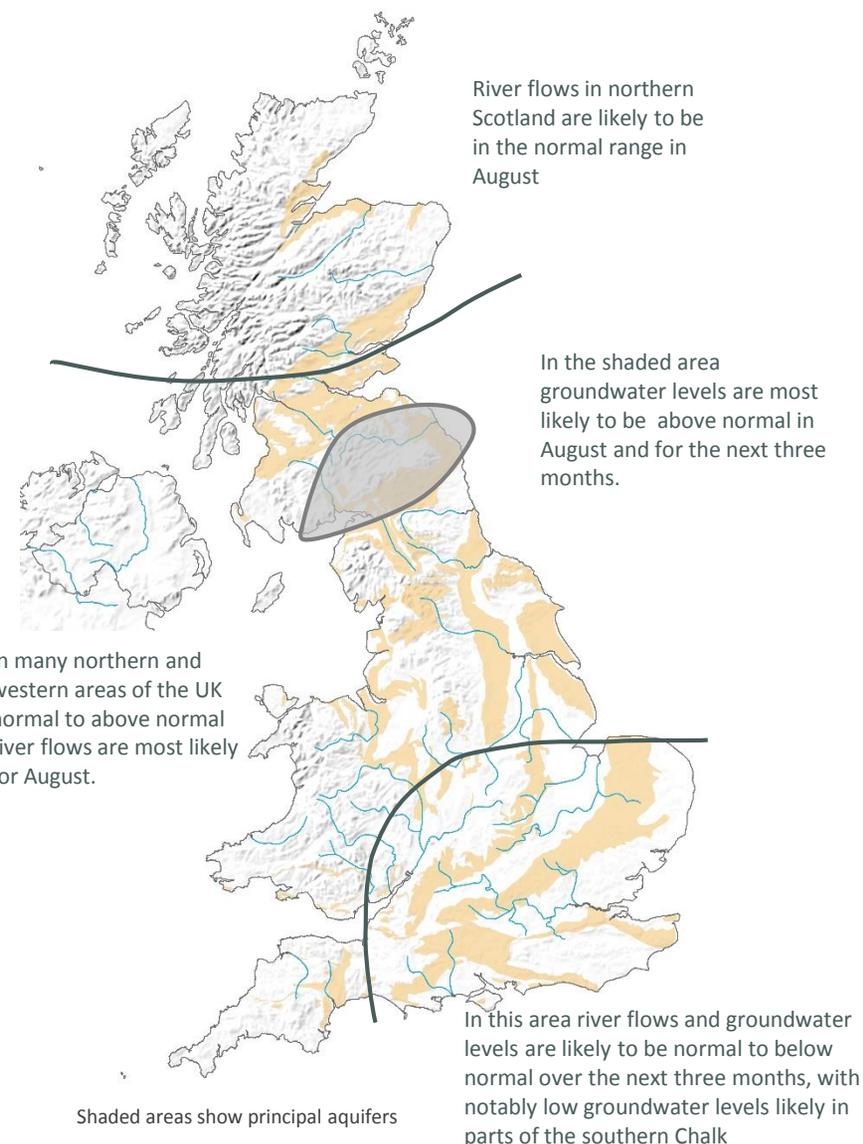
Following a wet July, the one month outlook is for normal to above normal flows across most of northern and western Britain (with normal flows most likely in the far north of Scotland). While July was also very wet in some central and southern areas, the outlook is for normal to below normal August flows, with below normal flows more likely in groundwater-fed rivers. The three month outlook is similar, and whilst some groundwater-fed catchments may return to the normal range, there is less confidence for the more responsive catchments in the north and west.

Groundwater:

Across the Chalk outcrop, July groundwater levels were below normal or notably low. In other aquifers, groundwater levels were generally normal or below normal except in some northern boreholes where levels were above normal or exceptionally high.

As expected for the summer, the one month outlook is for this situation to persist regardless of August rainfall patterns, as groundwater levels continue to recede. The three month outlook is broadly similar, but levels in the central Chalk may return to the normal range, while notably low levels are likely to persist into autumn in parts of the chalk in the south-east. Over this period, autumn rainfall will become influential in determining the long-term outlook.

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



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 the Northern Ireland Rivers Agency (RA).

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 RA. 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

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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, 2017, July, 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: http://www.ceh.ac.uk/data/nrfa/nhmp/monthly_hs.html

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