Hydrological Outlook UK

Period: From October 2016

Issued on 11.10.2016 using data to the end of September 2016

SUMMARY

The outlook for October is for river flows to be within the normal range for the majority of the UK; the exception is for Wales where flows are likely to be normal to above normal. Over the three month period to December 2016, river flows are likely to be normal with the exception of the eastern side of Scotland and north east England where flows are likely to be normal to below normal. Groundwater levels are most likely to be normal except for aquifers around the border between England and Scotland where levels are likely to remain above normal.

Rainfall:

The majority of the UK had below average rainfall in September, with very low rainfall in the extreme south east of England, the Yorkshire coast and eastern Scotland. Above average rainfall was observed in the tip of Cornwall, west Wales, Cumbria and central/western parts of Scotland.

The rainfall outlook for October (released by the Met Office on 23rd September 2016) is that the chance of seeing above-average precipitation is greater than the chance of seeing below-average precipitation. For the period October-November-December as a whole, there are equal chances of above-average and-below-average precipitation. The probability that UK precipitation for October-November-December as a whole will fall into the driest of our five categories is 20% and the probability that it will fall into the wettest of our five categories is also 20% (the 1981-2010 probability for each of these categories is 20%).

Observed rainfall in early October has been very low across the UK.

River flows:

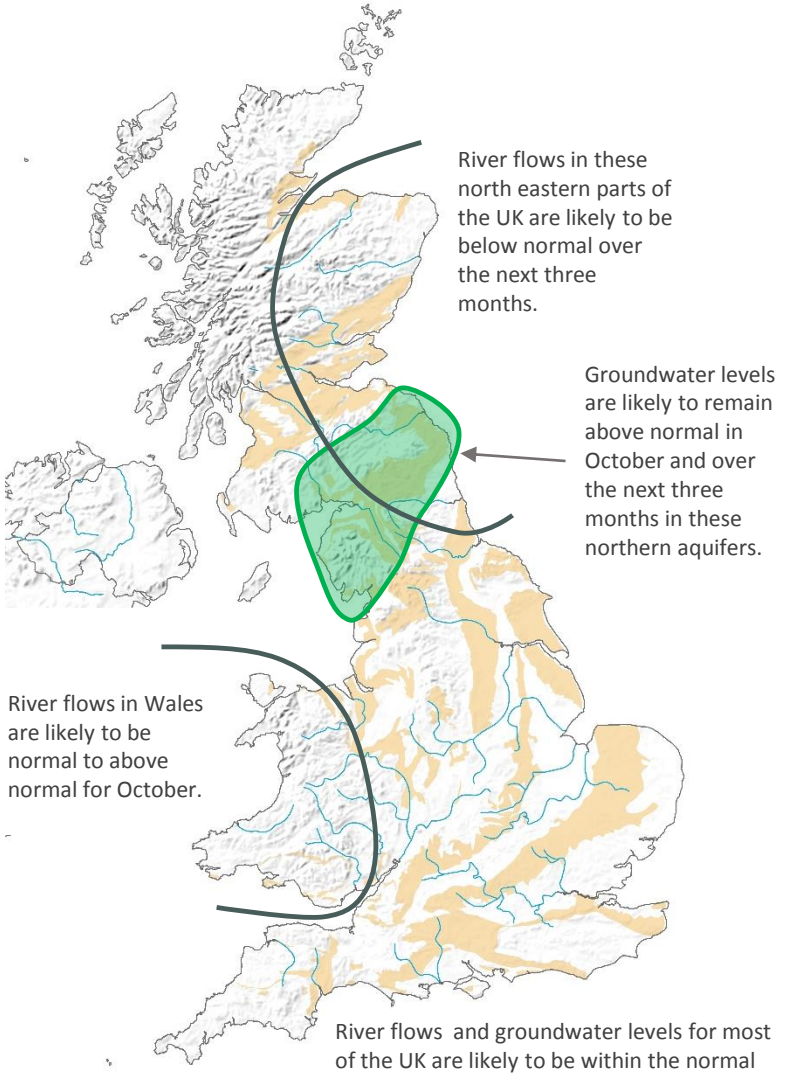
River flows for September were predominantly in the normal range across the UK. There were isolated above normal flows in south Wales and west Cornwall, and below normal flows in smaller catchments draining to the north and east of Scotland and the north east of England.

The outlook for October is for flows across most of the UK to be within the normal range. The exception is for Wales where normal to above normal flows are expected. Over the coming three months normal flows are most likely except in eastern Scotland and north east England where normal to below flows are likely. Should the current spell of dry weather continue this area in which below normal flows are possible may extend further down the east coast of England.

Groundwater:

Groundwater levels in September were generally normal in an area south of a line joining the Bristol Channel and the Humber. Elsewhere levels were generally above normal, exceptionally so in aquifers around the border between England and Scotland.

The current situation is likely to continue into October and for the coming three months.



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

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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, 2016, October, 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

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