

Hydrological Outlook UK

Period: From June 2016

Issued on 10.06.2016 using data to the end of May 2016

SUMMARY

The outlook for June is for normal to below normal river flows for northern and western areas of the UK, following a dry spring and a dry start to June. In parts of southern and eastern England, where spring has been wetter, June flows and groundwater levels are likely to be normal to above normal. Over the next three months, flows are likely to be normal to below normal across much of the country. In places where groundwater levels are currently above normal, such as central southern England and parts of northern Britain, this situation is likely to persist through the summer. This is likely to also lead to above normal summer flows in some groundwater dominated catchments in the south and east.

Rainfall:

Rainfall for May was average for the UK (102% of the 1971-2000 average). Northern England, eastern Scotland and southwest England were dry, while parts of southern England saw above average rainfall.

The rainfall outlook (released by the Met Office on 26th May 2016) for June suggests above-average precipitation is slightly more probable than below-average. For June-July-August as a whole, there are only relatively weak influences acting to modify the likelihood of above- and below-normal from what would be expected. The probability that UK precipitation for June-July-August will fall into the driest of five equal categories is around 20% and the probability that it will fall into the wettest of these categories is also around 20% (the 1981-2010 probability for each of these categories is 20%).

River flows:

River flows in May were mostly in the normal range, with below normal flows in southwest England and some other western catchments, contrasting with above normal flows in central southern England.

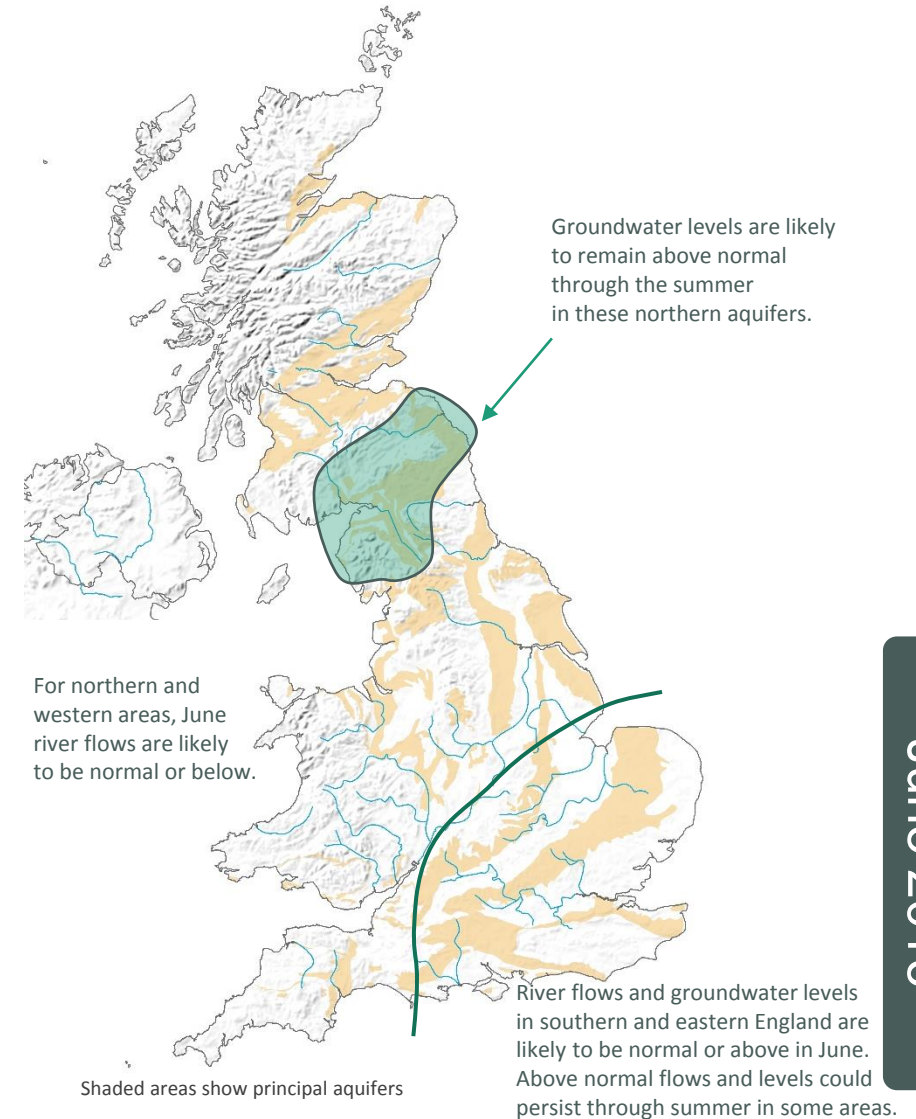
The one month outlook is for normal to below normal flows in northern and western areas, with below normal flows most likely in southwest England and parts of northern England and Scotland. Flows are likely to be normal to above normal in southeast England and East Anglia. The three month outlook is for normal to below normal flows across much of the UK, with an elevated likelihood of notably or exceptionally low flows in northwest Britain. However, this is very uncertain given the low predictability of rainfall in summer. In southeast England, above normal river flows in some groundwater-fed catchments are likely to persist through the summer.

Groundwater:

Groundwater levels in May were normal to above normal, with above normal levels concentrated in southern central England and the Permo-Triassic sandstone of northern Britain, where levels remained notably high.

The one month outlook is for a similar pattern to continue in June, with above normal levels in parts of the southern Chalk contrasting with normal levels elsewhere in the aquifer, and notably high levels in the Permo-Triassic sandstone of the north. As expected in the summer, when groundwater forecasts are generally insensitive to rainfall, the three month outlook is broadly similar as seasonal groundwater recessions continue through the summer. However, above normal levels are likely to be less prevalent in the Chalk, and levels in the northern Permo-Triassic sandstone are likely to fall from notably high to above normal.

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



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, 2016, June, 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