

Hydrological Outlook UK

Period: From June 2020

Issued on 08.06.2020 using data to the end of May 2020

SUMMARY

River flows across most parts of the UK are likely to be below normal in June and in the three months to August. In places flows may be notably or exceptionally low. The exceptions to this are south-east England and north-west of Scotland where river flows during this period will be normal to below normal. Groundwater levels will generally be normal in June and in the period to August although with significant local variability.

Rainfall:

With the exception of north-west Scotland, where rainfall was above average, most parts of the UK had below normal rainfall during May, with southern areas being extremely dry.

The rainfall outlook for June (as issued by the Met Office on 21st May 2020) is that below-average precipitation is more likely than above-average precipitation.

For June-July-August as a whole, below-average precipitation is slightly more likely than above-average precipitation. The probability that UK-average precipitation for June-July-August will fall into the driest of five categories is 25% and the probability that it will fall into the wettest of five categories is between 15% and 20% (the 1981-2010 probability for each of these categories is 20%).

River flows:

May river flows were notably, or exceptionally, low in a wide band extending from south-west England to north-east Scotland. Flows in south-east England were generally normal although with some localised exceptions where flows were above and below normal. In north-west Scotland river flows were normal to above normal.

This pattern of river flows is likely to be maintained into June and the period to August, with below normal flows across most of the UK. In places flows may be notably low. Groundwater fed rivers in south-east England are likely to have flows in the normal range, as a consequence of the above average winter rainfall, but other rivers in the same area are most likely to have below normal flows. Normal to below normal flows are most likely in north-west Scotland.

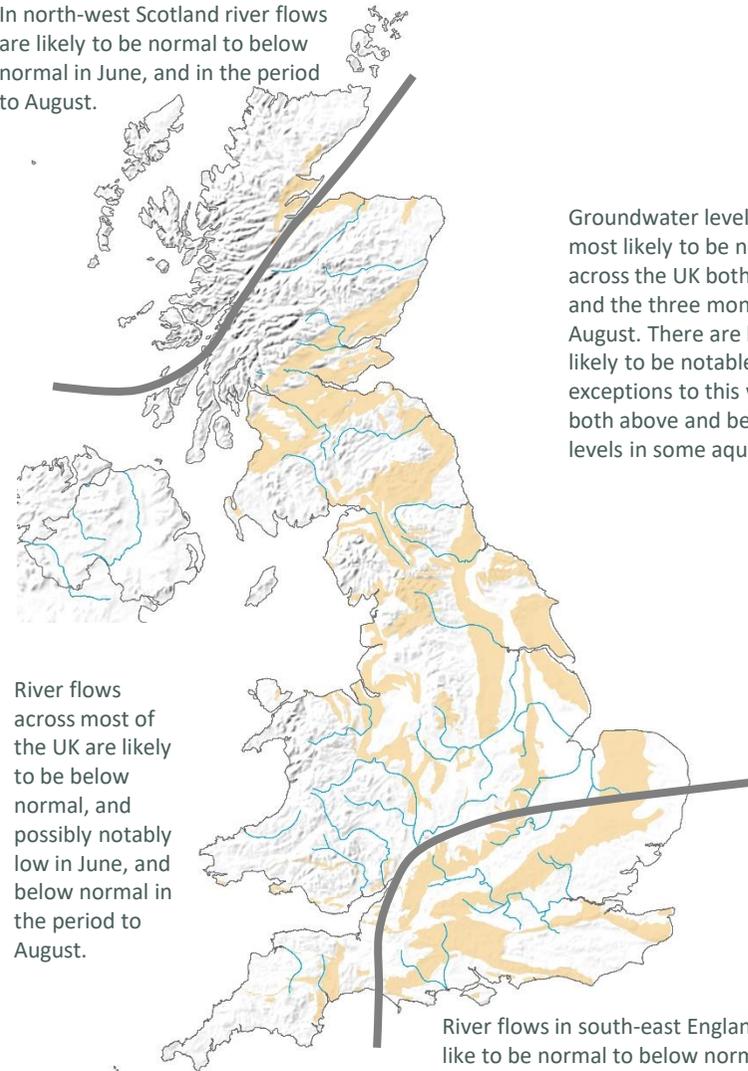
Groundwater:

Many observed groundwater levels were normal during May, but other sites recorded above and below normal levels. For example, there were exceptionally high levels in the Permo-Triassic sandstone of Cheshire, and notably low levels in the Limestone of south Wales.

Normal groundwater levels are predicted to prevail over the UK in the next month, with above normal and notably high levels in some Chalk sites in the south of England. Normal to exceptionally high groundwater levels are predicted at some sites in the Permo-Triassic sandstones of the north-west. Below normal to exceptionally low levels are predicted in southern Wales and Scotland. Over three months, normal conditions are predicted to prevail throughout the UK, with above normal to notably high levels predicted in some Chalk sites in the south of England.

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

In north-west Scotland river flows are likely to be normal to below normal in June, and in the period to August.



Groundwater levels are most likely to be normal across the UK both in June and the three months to August. There are however likely to be notable exceptions to this with both above and below levels in some aquifers.

River flows across most of the UK are likely to be below normal, and possibly notably low in June, and below normal in the period to August.

River flows in south-east England are likely to be normal to below normal in June and in the period to August

Shaded areas show principal aquifers

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 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: <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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From April 2018 the Hydrological Outlook is supported by the Natural Environment Research Council funded [UK-SCAPE](#) and [Hydro-JULES](#) Programmes.

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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, 2020, June, UK 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.

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>

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: www.metoffice.gov.uk/public/weather/forecast/#?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/>