

Hydrological Outlook UK

Period: From November 2020

Issued on 09.11.2020 using data to the end of October 2020

SUMMARY

Following a wet October across the majority of the UK, river flows are in the normal to above normal range. Normal to above normal flows are expected to continue through November to the east and south of the UK, but to the north-west normal flows are more likely. Over the three month period to the end of January river flows are expected to be normal. In November and the three months to January, groundwater levels are expected to be normal in the Chalk of south-east England, and normal to above normal in all other areas.

Rainfall:

October was a very wet month across most parts of the UK, with south-east England and the east of Scotland recording over 150% of the long-term average rainfall.

The rainfall outlook for November and November-December-January as a whole (issued by the Met Office on 22.10.2020), is that below-average precipitation is slightly more likely than above-average precipitation.

The probability that UK-average precipitation for November-December-January will fall into the driest of five categories is around 20% 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:

October river flows were normal to above normal across the UK, with many notably high flows in the areas with the heaviest rainfall.

Normal to above normal flows are likely to persist to the east and south of the UK during November. To the north and west flows in the normal range are most likely.

Over the three month period to the end of January, normal flows are most likely in all parts of the UK.

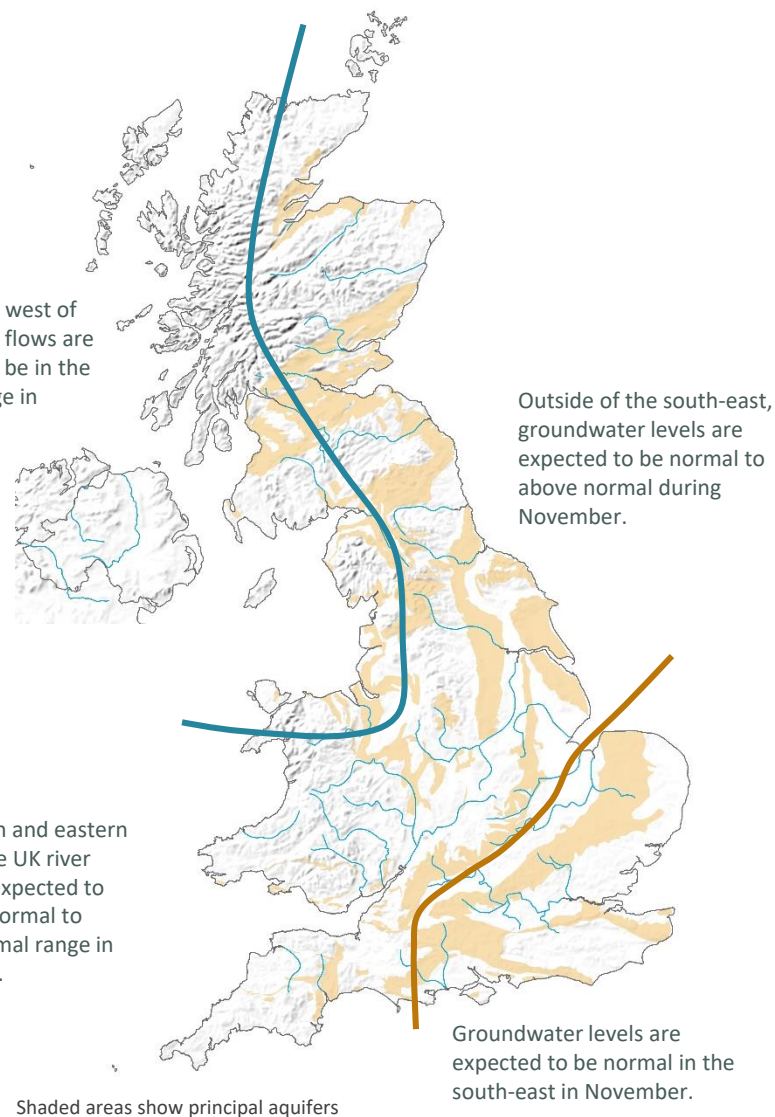
Groundwater:

In October there were normal to below normal groundwater levels in most parts of the Chalk in south-east England. Elsewhere groundwater levels were normal to above normal, with some notably high levels.

In November this pattern is expected to persist with the normal to above normal groundwater levels in most parts of the UK except the Chalk of south-east England where normal groundwater levels are most likely.

The outlook for the three month period to the end of January is for this pattern of groundwater levels to be maintained.

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 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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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, November, 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://nrfa.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/>