

Hydrological Outlook UK

Period: From February 2016

Issued on 12.02.2016 using data to the end of January 2016

SUMMARY

The outlook for February is for normal to above normal river flows and groundwater levels over the next one to three months for the majority of the UK, whilst parts of eastern and central England are likely to be normal. This spatial distribution reflects the rainfall patterns across the UK during January and early February. Groundwater levels in parts of the southern Chalk are likely to be notably high for the next one to three months, and exceptionally high levels in the Permo-Triassic sandstone of northern England and southern Scotland are likely to persist over the next three to six months. Meteorological projections indicate an equal probability of above and below-average precipitation.

Note: Up-to-date flood warnings are available from the websites of the Environment Agency, Natural Resources Wales and Scottish Environment Protection Agency (for links see over).

Rainfall: [based on projections released by the Met Office on 21st January]

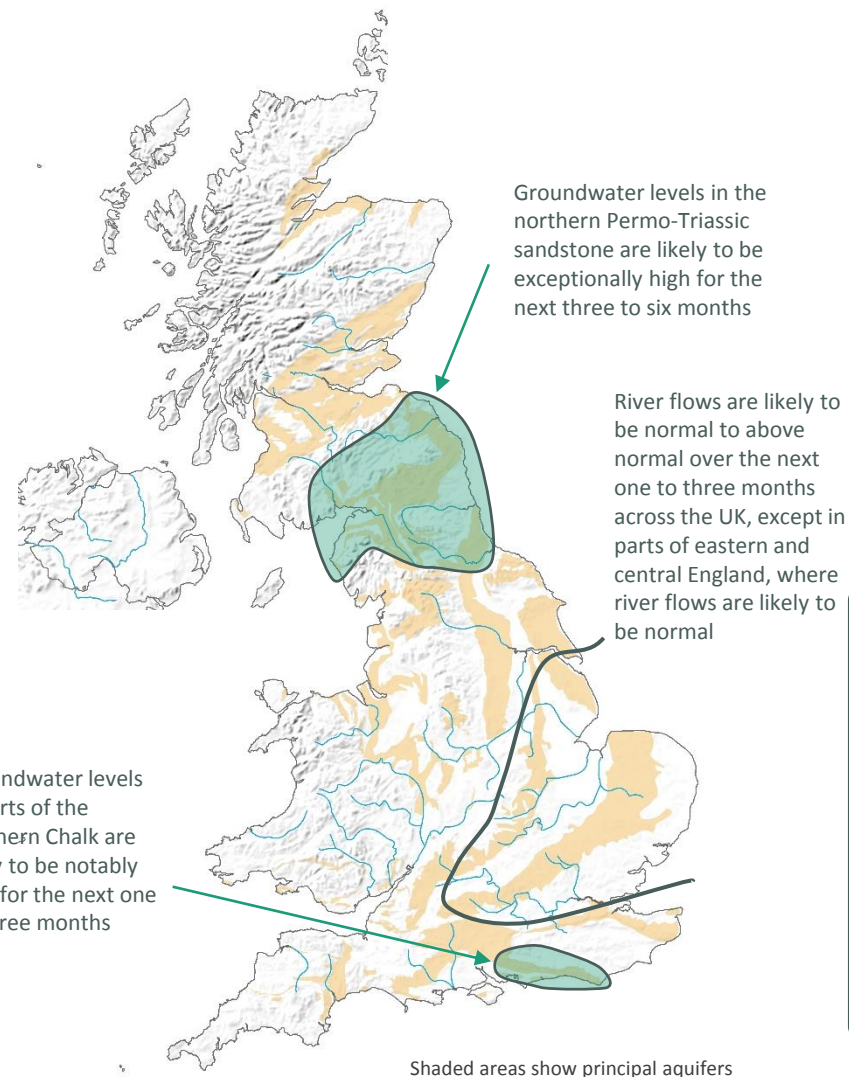
For both February and for February-March-April both above and below-average precipitation are equally probably. The probability that UK-average precipitation for February-March-April will fall into the driest of five equal categories is around 20% and the probability that it will fall into the wettest of the five categories is also around 20% (the 1981-2010 probability for each of these categories is 20%).

River flows:

River flows for January were exceptionally high across eastern Scotland and north-eastern England, as well as in areas of Wales and south-western England. New January flow records were registered in several catchments within these regions, and eastern Scotland experienced severe flooding. River flows were above normal and notably high across much of the rest of the UK. Whilst meteorological projections display an equal probability of above and below-average precipitation, saturated soils in many parts of the UK indicate that even with normal rainfall, flows are likely to be above normal. Consequently, and following a wet start to February, the one to three month projections of river flows across the UK are primarily normal to above normal, with normal river flows likely to be confined to parts of eastern and central England.

Groundwater:

The rainfall received during December and January brought groundwater levels into, or above, their normal range across most aquifers. The rapidly responding Chalk aquifers along the south coast rose quickly, and are likely to stay notably high over the next one to three months. In other parts of the Chalk levels will generally be normal or above normal; where they are currently below normal in some aquifers in central and eastern England the trend is for rising levels. In Yorkshire drier conditions in January have slowed the rate of increase seen since December, but levels should remain above normal over the next three months. The Permo-Triassic sandstone aquifers in northern Britain characteristically respond slowly, and this means that the exceptionally high levels recorded in these aquifers will be likely to persist over the next three to six months.



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

About the Hydrological Outlook UK

About the 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. More information is available from the Outlooks website: <http://www.hydoutuk.net/methods>

Disclaimers:

This document aims to provide an indicative outlook for the water situation using the most comprehensive and up-to-date hydrological data, and modelling techniques. The Outlooks are intended to provide guidance on the likely water situation in the UK over the coming months, and should not be used in isolation, but alongside other sources of information such as flood warnings and meteorological forecasts (see links right).

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- (iii) Met Office rainfall data. © Crown copyright.

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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:

Hydrological Outlook UK, 2016, January, Centre for Ecology and Hydrology, Oxfordshire UK, Online, <http://www.hydoutuk.net/archive/january-2016/>

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