

Hydrological Outlook UK

Period: From Sept 2015

Issued on 11.09.2015 using data to the end of August 2015

SUMMARY

The outlook for September is for river flows to be in the normal range across much of the UK, although the far south of England is likely to see above normal flows, mainly reflecting the influence of the exceptionally wet August in this area. Normal flows are the most likely outcome over the next three months. For groundwater, normal levels predominate in the southern Chalk, again partly reflecting the wet August, while below-normal levels persist in parts of north-east England. The three month outlook suggests mostly normal to below-normal groundwater levels. Autumn rainfall will be influential in determining the longer-term outlook but the recharge season will thus commence from a normal or moderately below normal baseline.

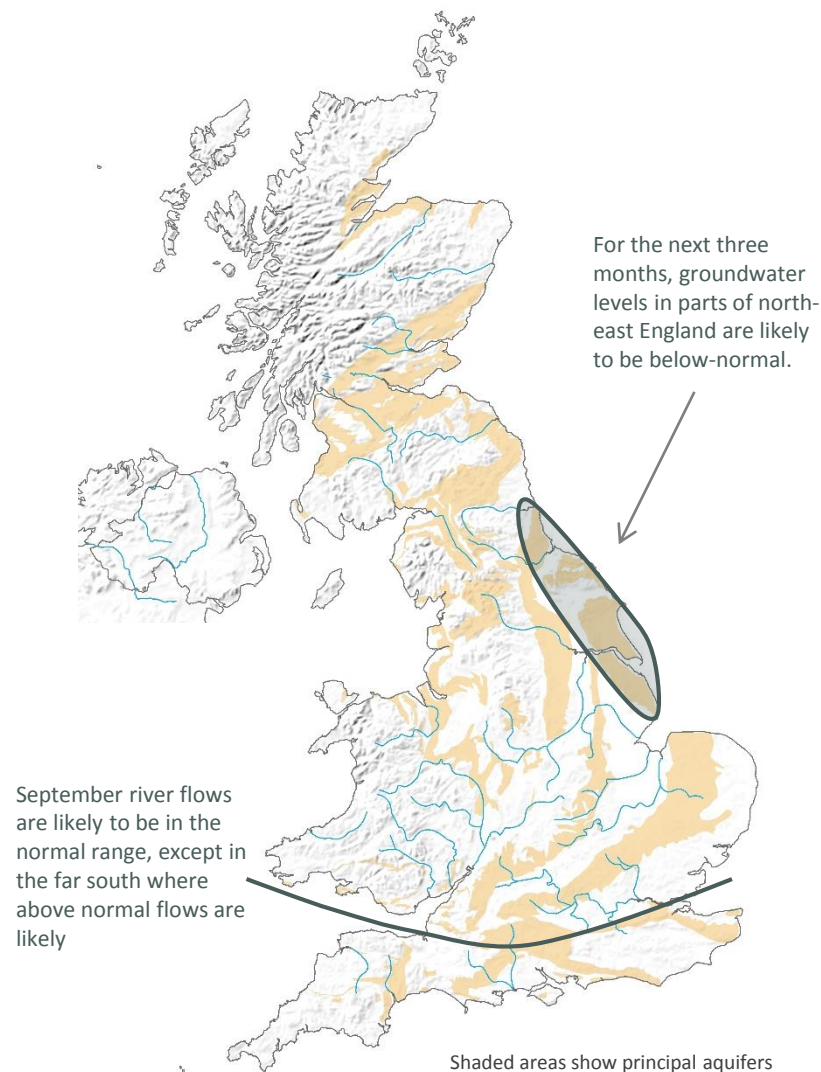
Rainfall: For September and September-October-November as a whole, the forecast for UK precipitation has a wide spread and its distribution is indistinguishable from climatology. The probability that UK precipitation for September-October-November will fall into the driest of five equal categories is around 20% and the probability that it will fall into the wettest of the five categories is between 20 and 25% (the 1981-2010 probability for each of these categories is 20%).

River flows:

August saw below normal flows in some catchments in central England, but normal to above normal flows dominated elsewhere, with above normal flows concentrated in the far south of England, Wales, central Scotland and Northern Ireland. For the one month outlook, across the majority of the country the most likely outcome is normal flows, with the exception of some isolated catchments in central England where below normal flows may persist, and the far south of England where above normal flows are most likely; in south-west England there is an increased likelihood of flows being notably high or higher. The three month outlook is for normal flows across most of the UK, and normal to above normal flows in south-west England.

Groundwater:

Groundwater levels in August exhibited a very similar pattern to recent months: below normal levels in parts of the southern and eastern Chalk contrasted with normal levels elsewhere in the aquifer. Levels in other aquifers were mostly normal, with above normal levels in some western aquifers, and variability in the Permo-Triassic boreholes where exceptionally high levels persist in Scotland. The one month outlook indicates a broadly similar pattern but suggests that levels in the southwestern chalk will return to normal. The three month outlook suggests this may be a short-lived effect, and a more mixed picture of normal to below-normal levels emerges across the southern Chalk. However, below normal levels in the north-east Chalk are likely to persist. Levels in other aquifers are likely to be normal or below-normal, with above-normal levels in parts of the Permo-Triassic sandstone.



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.hyoutuk.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 UK Met Office (UKMO), 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 UKMO. 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).

Some of the features displayed on the maps contained in this report are based on the following data with permission of the controller of HMSO.

- (i) Ordnance Survey data. © Crown copyright and/or database right 2005. Licence no. 100017897.
- (ii) Land and Property Services data. © Crown copyright and database right, S&LA 145.
- (iii) Met Office rainfall data. © Crown copyright.

All rights reserved. Unauthorised reproduction infringes crown copyright and may lead to prosecution or civil proceedings.

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.

Contact:

Hydrological Outlooks UK
Centre for Ecology & Hydrology
Wallingford
Oxfordshire
OX10 8BB

t: 01491 692371
e: enquiries@hydoutuk.net

Reference:

Hydrological Outlook UK, 2015, September, Centre for Ecology and Hydrology, Oxfordshire UK, Online, <http://www.hydoutuk.net/archive/september-2015/>

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: <http://www.environment-agency.gov.uk/homeandleisure/floods/31618.aspx>
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