



# Met Office 3-month Outlook

Period: November 2016 – January 2017 Issue date: 27.10.16

The forecast presented here is for November and the average of the November-December-January period for the United Kingdom as a whole. The forecast for November will be superseded by the long-range information on the public weather forecast web page (www.metoffice.gov.uk/public/weather/forecast/#?tab=regionalForecast), starting from 1 November 2016. This forecast is based on information from observations, several numerical models and expert judgement.

### SUMMARY – TEMPERATURE:

For November, lower-than-average temperatures are more probable than higher-than-average values. For November-December-January, also, lower-than-average temperatures are more probable than higher-than-average values. Overall, the probability that the UK-mean temperature for November-December-January will fall into the coldest of our five categories is 30% and the probability that it will fall into the warmest of our five categories is 10% (the 1981-2010 probability for each of these categories is 20%).

### CONTEXT:

The tropical Pacific Ocean is currently in a slightly negative El Niño-Southern Oscillation (ENSO) state. Negative states below a certain threshold are known as La Niña. Sea surface temperatures (SSTs) in the central tropical Pacific Ocean have cooled in recent months and are now in the 'neutral' range, just above the threshold for a La Niña event. A continuation of these conditions, or a weak La Niña event, appears the most likely outcomes in the remaining months of the year. A La Niña-type state is expected to diminish the strength of the normal westerly flow across the UK in early winter. North Atlantic SSTs remain above normal overall, especially in the west, albeit with some cooler-than-average SSTs in the central North Atlantic Ocean. The pattern of these anomalies, does not, however, correspond to that thought to have an important influence on the atmosphere in winter. The Quasi-Biennial Oscillation (QBO) is currently in its westerly phase, and this is expected to persist through the outlook period. A westerly phase of the QBO is associated with an increased tendency for a strong wintertime stratospheric polar vortex. Nevertheless,

while the polar vortex has now become established, numerical prediction systems indicate a high chance that it will be disrupted rather than strengthen as it usually does at this time of year. Such a disruption increases the chance of surface weather patterns that block the passage of the usual Atlantic weather systems that affect the UK in winter. Consistent with these factors, the Met Office prediction system, along with systems from other forecast centres around the world, suggests a higher-than-normal chance of above-average sea level pressure developing to the northwest or north of the UK. Agreement between prediction systems is good, and their output suggests a reduction in the normal westerly flow across the UK from the Atlantic, with a greater frequency of northerly or easterly winds. Such a pattern would bring cold air to the UK. As a result, our outlook suggests an increased risk of below-average temperatures in both November and November-December-January (Fig. T2). This is associated with an increased risk of cold weather impacts in this early part of the winter.

Fig T1

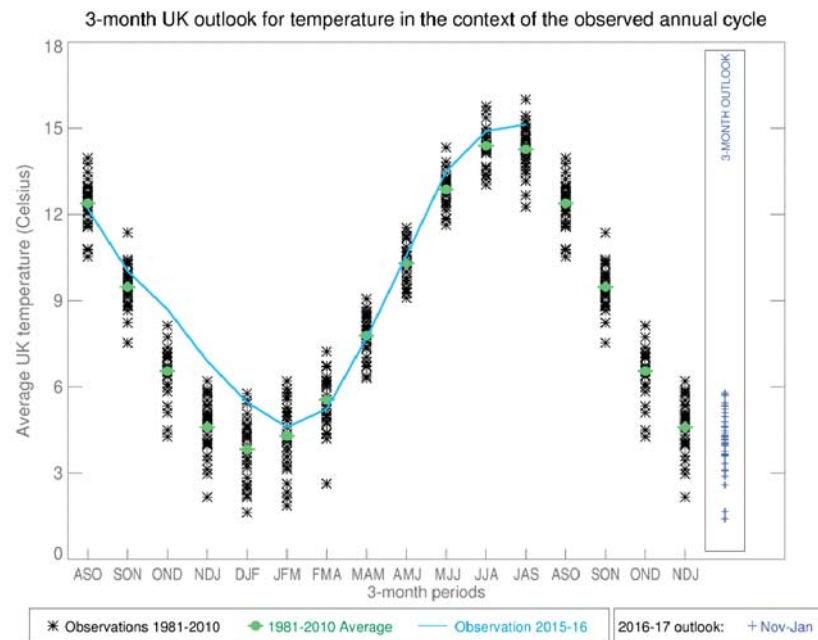


Fig T2

1-month and 3-month UK outlook for temperature in the context of observed climatology

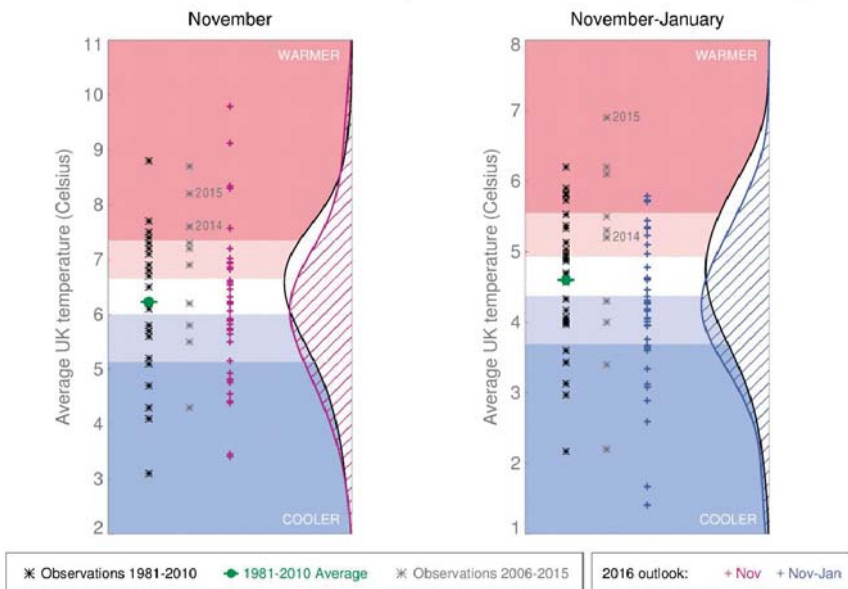
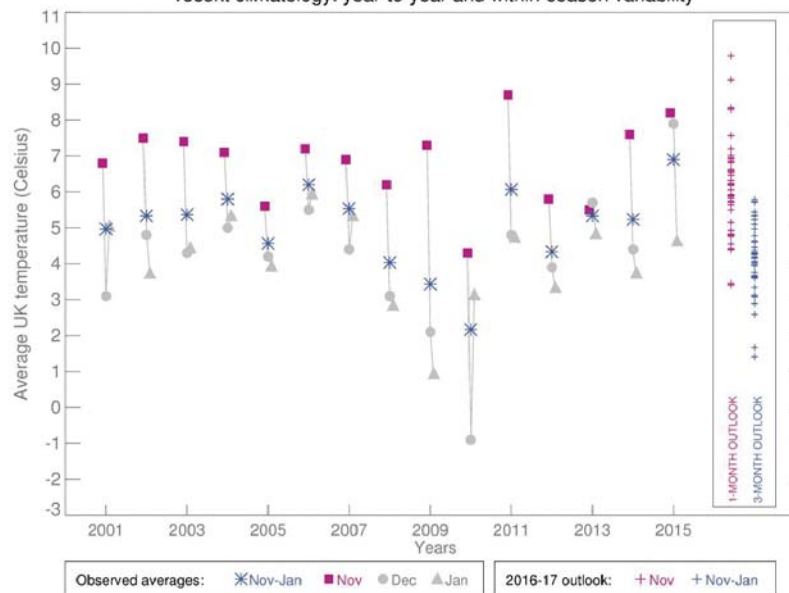


Fig T3

1-month and 3-month UK outlook for temperature in the context of recent climatology: year-to-year and within-season variability



This Outlook provides an indication of possible temperature and rainfall conditions over the next 3 months. It is part of a suite of forecasts designed for contingency planners.

The Outlook should not be used in isolation but should be used with shorter-range and more detailed (30-day, 15-day and 1-to-5-day) forecasts and warnings available to the contingency planning community from the Met Office.