

Met Office 3-month Outlook for UK government contingency planners

Period: November 2011 – January 2012 Issue date: 03.11.11

The forecast presented here is for November and the average of the November-December-January period for the United Kingdom as a whole. This forecast is based on information from observations, several numerical models and expert judgement.

SUMMARY - TEMPERATURE:

Whilst the risk that the UK will experience prolonged, very cold conditions like those seen in late November and December 2010 is low, it is not negligible – it is in fact about twice as high as one would expect from just the climatological record.

If mean UK temperature for November-December-January ends up below normal we would expect the frequency of snow and ice to be markedly above normal.

The probability that mean UK temperature for November-December-January will fall into the coldest quintile category is about 25%, whilst the probability that it will fall into the warmest quintile category is about 15% (the climatological probability for each of these categories is 20%).

CONTEXT:

Note that on Figure T2 a few of the forecasts (lowermost blue crosses) show temperature levels similar to those observed last year (grey star labelled 2010); hence the non-negligible risk of severe winter conditions.

In producing the 3-month outlook we focus on the influence that external factors can have on the atmosphere. Two such factors – Arctic sea ice and sea surface temperature in the tropics and extra-tropics, especially the persisting La Niña – have a similar structure to this time last year, although signals are not as strong. These slightly favour colder-than-average conditions over the UK. Output from several computer models, which incorporate many of the factors, tells a similar story. Note however that the impact of external factors is limited – unpredictable atmospheric variability plays a large role.

Sea temperatures around the UK are now close to normal at the surface, and slightly below normal at depth. These local conditions will have a modulating influence on air masses that reach the UK, again tilting the balance very slightly away from warm.

Because UK winter temperatures are commonly close to the transition to snow and ice, just a small reduction in average temperature could mean a large increase in the number of instances of these hazards.

Forecasts from various sources for November show little agreement, and also highlight a wide range of possible outcomes. For this reason the November forecast shows a broad distribution that favours no particular outcome (Figure T2, left panel, compare distribution curves).

Fig T2 1-month and 3-month UK outlook for temperature in the context of observed climatology

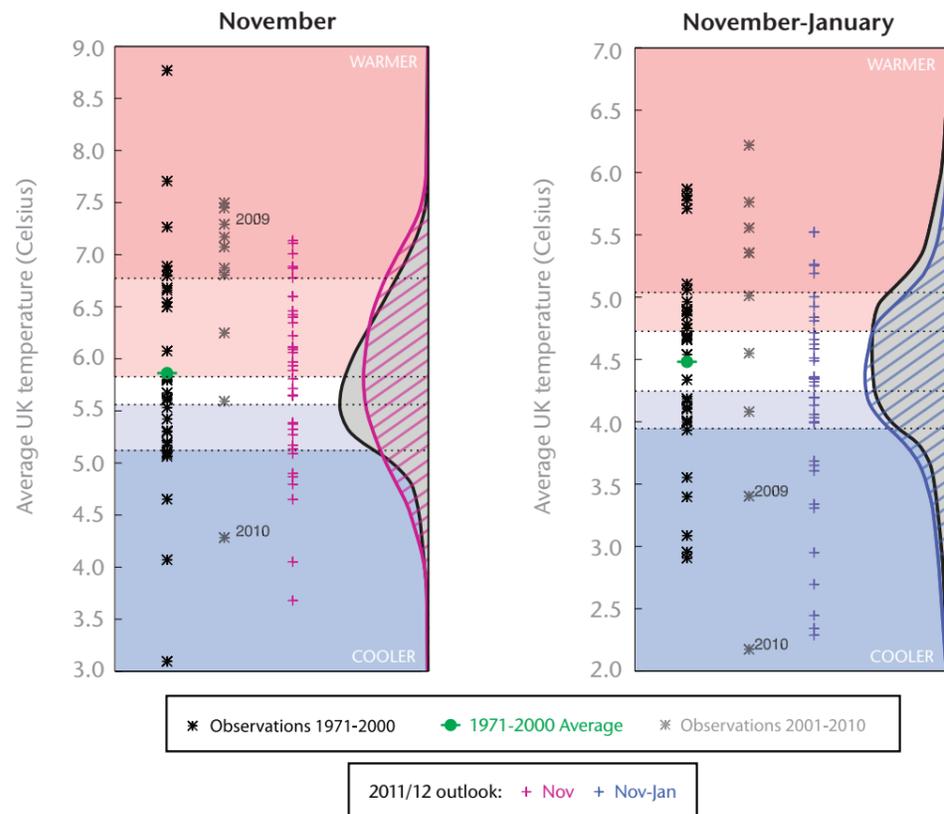


Fig T1 3-month UK outlook for temperature in the context of the observed annual cycle

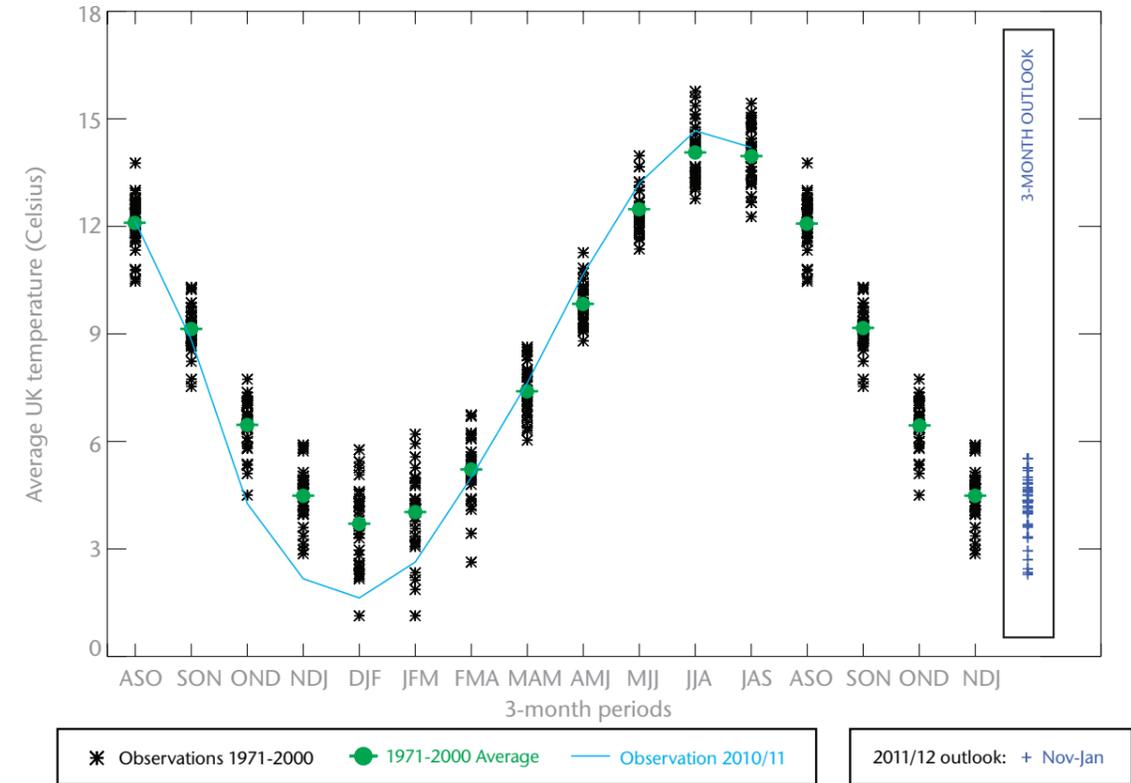
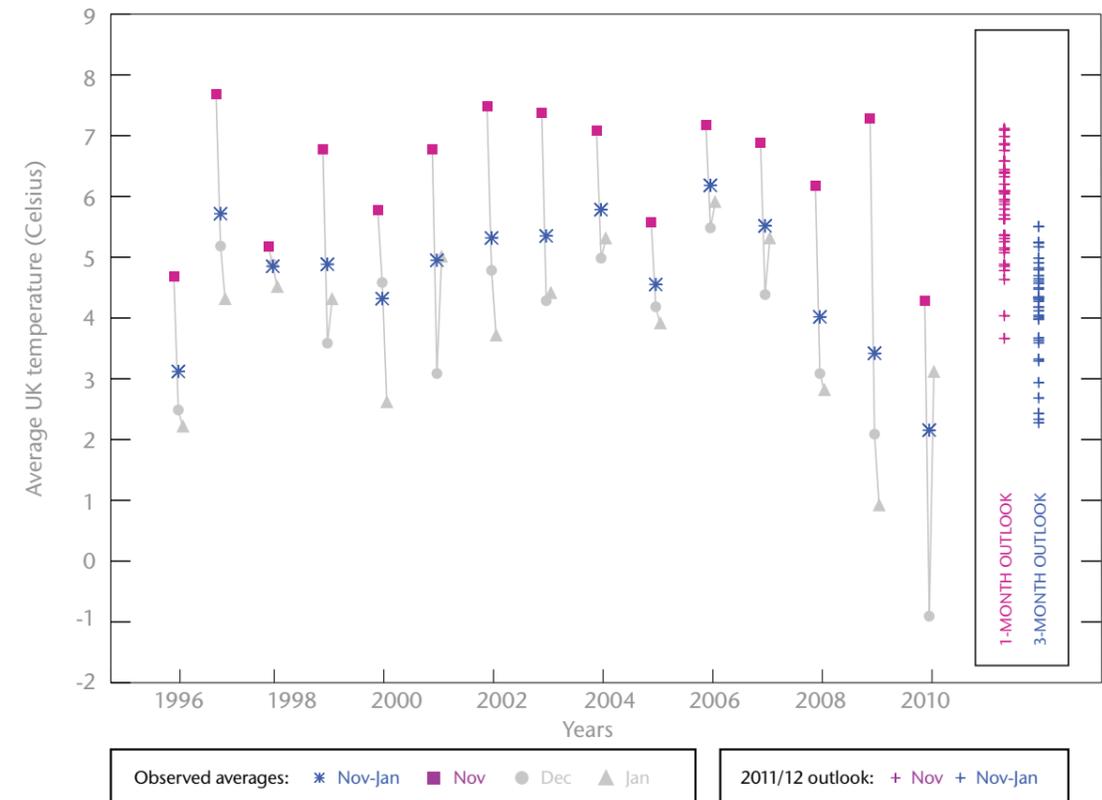


Fig T3 1-month and 3-month UK outlook for temperature in the context of recent climatology: year-to-year and within-season variability



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.