



Met Office 3-month Outlook

Period: December 2017 –February 2018 Issue date: 24.11.17

The forecast presented here is for December and the average of the December-January-February period for the United Kingdom as a whole. The forecast for December will be superseded by the long-range information on the public weather forecast web page (www.metoffice.gov.uk/public/weather/forecast/#?tab=regionalForecast), starting from 1 December 2017.

This forecast is based on information from observations, several numerical prediction systems and expert judgement.

SUMMARY – TEMPERATURE:

For December, below-average temperatures are more likely than above-average temperatures. The likelihood of impacts from cold weather is greater than normal. For December-January-February as a whole, above-average temperatures are more likely than below-average temperatures. Impacts from cold weather remain possible, but they are less likely than normal.

Overall, the probability that the UK-average temperature for December-January-February will fall into the coldest of our five categories is between 5% and 10% and the probability that it will fall into the warmest of our five categories is around 30% (the 1981-2010 probability for each of these categories is 20%).

CONTEXT:

La Niña, the cold counterpart to El Niño, is developing in the Central and Eastern tropical Pacific Ocean. Long-range prediction systems indicate that it is likely to persist throughout the period of the outlook. La Niña moderately increases the likelihood of weather patterns that block the progress of mild air from the North Atlantic in early winter, leading to colder-than-average conditions; in late winter this tendency reverses, giving a greater likelihood of patterns with winds from the west and milder-than-average conditions. Predicted patterns of rainfall in other parts of the tropics increase the likelihood of the positive phase of the North Atlantic Oscillation (NAO) through this winter. The positive phase of the NAO brings milder-than-average conditions to the UK. The Quasi-Biennial Oscillation (QBO), an oscillation of the equatorial winds in the stratosphere, is in an easterly phase. An easterly phase of the QBO tends to increase the likelihood of a negative phase of the NAO, which in turn increases the chances of below-average temperatures.

For December, the Met Office long-range prediction system and systems from other prediction centres show an increased chance of weather patterns with northerly or easterly winds. This implies an increased likelihood of below-average temperatures. Nevertheless, there remains a smaller but still realistic chance of other weather patterns that would lead to above-average temperatures (see left-hand graph of figure T2). For December-January-February overall, long-range forecast systems mostly show increased chances of the positive phase of the NAO and milder-than-usual conditions. This is reflected in our outlook which shows an increased likelihood of above-average temperatures over the 3-month period (see right-hand graph of figure T2). As a result, significant cold weather impacts, such as from frost, fog and snow, are less likely than normal, although they are not ruled out.

Fig T1

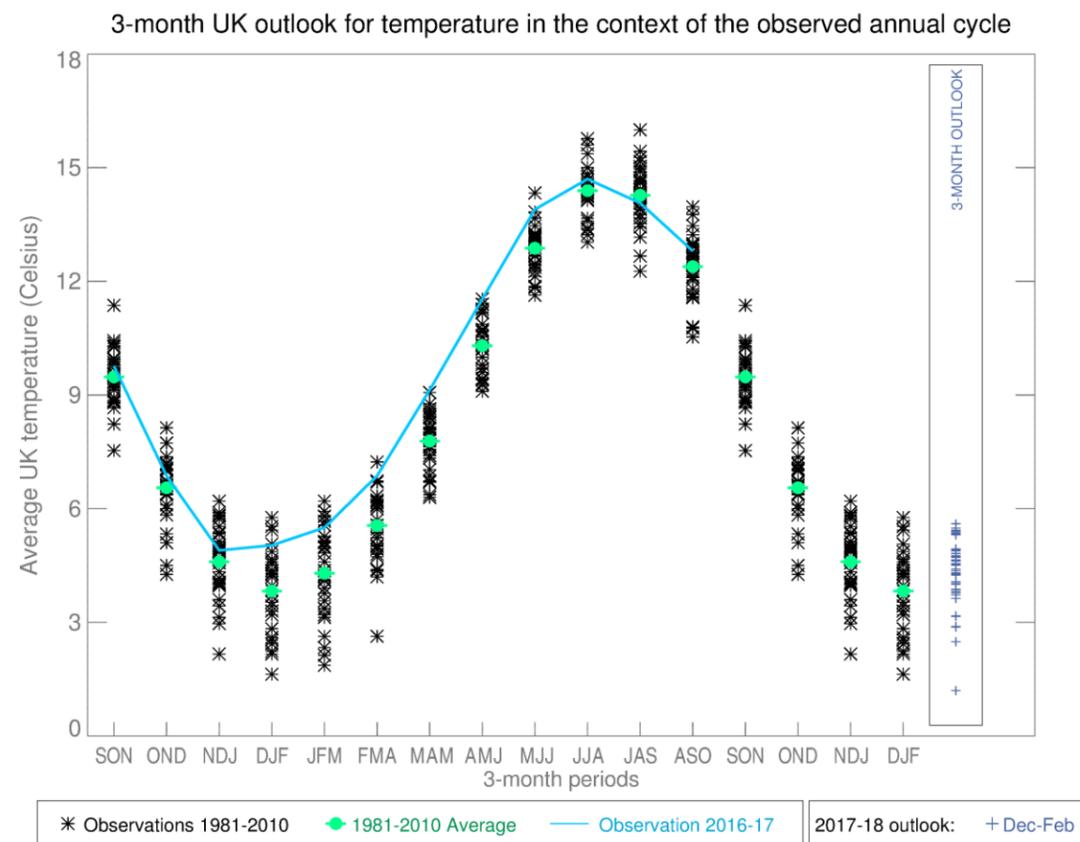


Fig T2

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

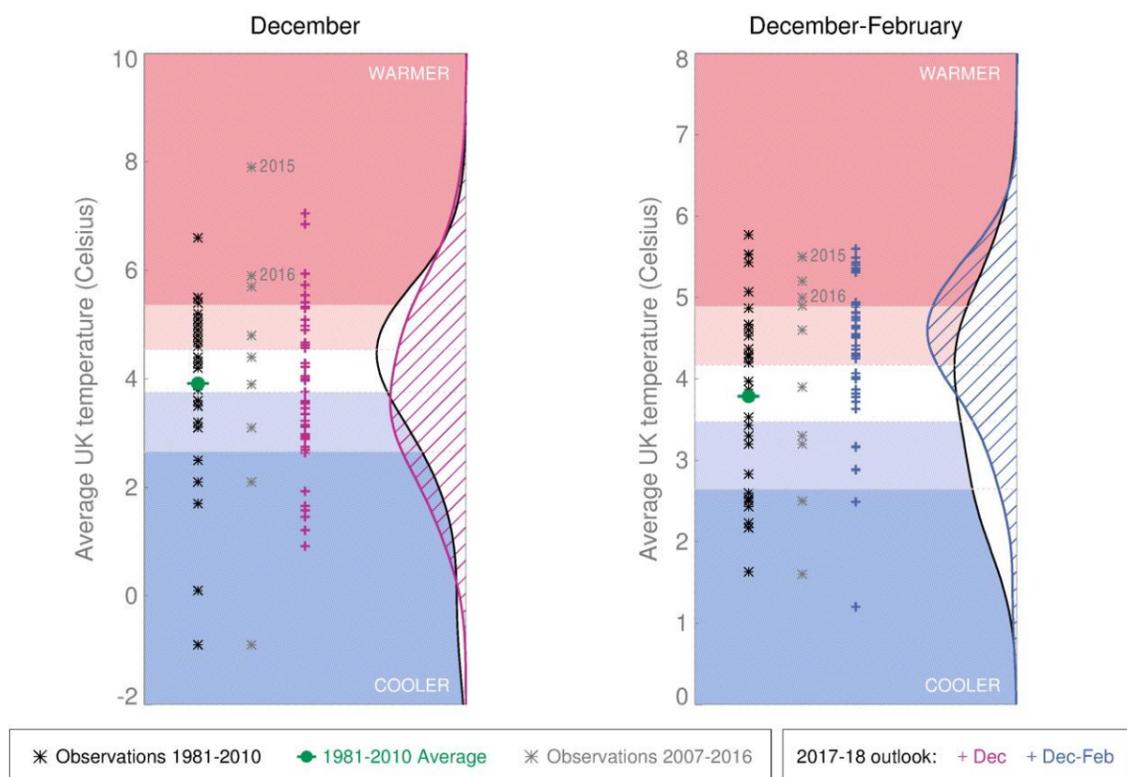
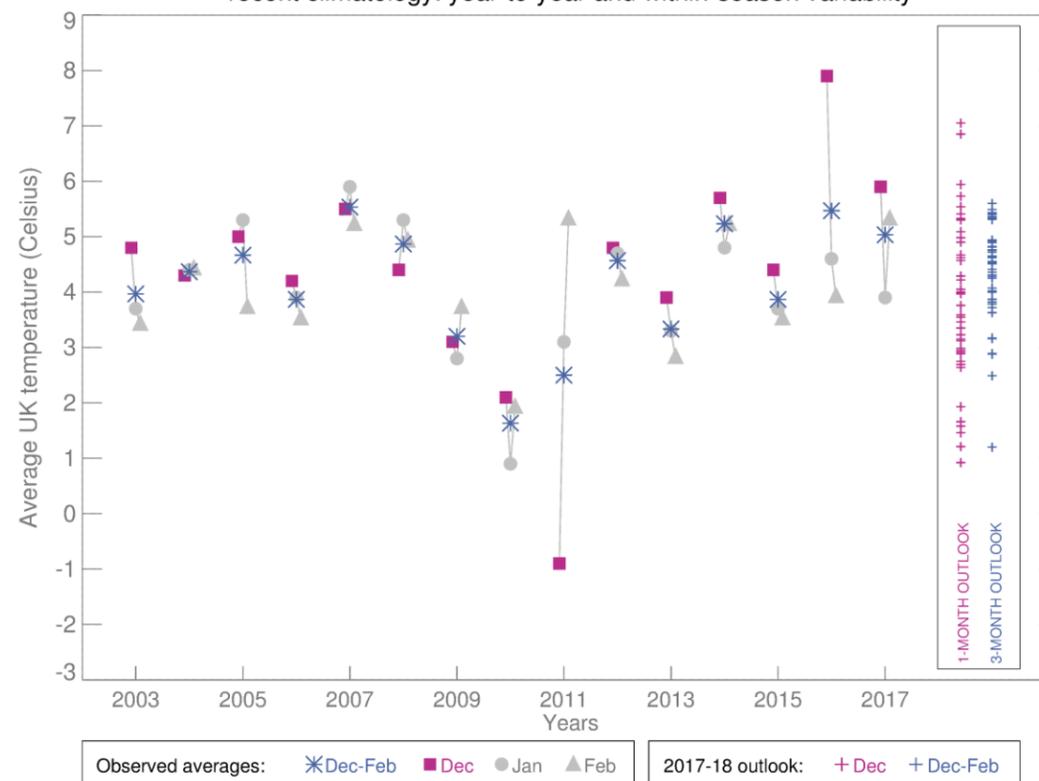


Fig T3

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.