



Met Office 3-month Outlook

Period: October – December 2018 Issue date: 27.09.18

The forecast presented here is for October and the average of the October-November-December period for the United Kingdom as a whole. The forecast for October will be superseded by the long-range information on the public weather forecast web page (www.metoffice.gov.uk/public/weather/forecast/#?tab=regionalForecast), starting from 5th October 2018.

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

SUMMARY – TEMPERATURE:

For October, below-average temperatures are slightly more probable than above-average temperatures. For October-November-December as a whole, above-average temperatures are more likely than below-average temperatures.

Overall, the probability that the UK-average temperature for October-November-December will fall into the coldest of our five categories is between 10% and 15%, and the probability that it will fall into the warmest of our five categories is between 35% and 40% (the 1981-2010 probability for each of these categories is 20%).

CONTEXT:

The El Niño-Southern Oscillation (ENSO) is currently in a neutral phase (neither El Niño nor La Niña). Long-range prediction systems indicate that development of El Niño conditions within the outlook period is more likely than not. In late autumn and early winter, El Niño increases the chances of the North Atlantic Oscillation (NAO) being in its positive phase. This would imply a moderate increase in the likelihood of milder-than-average conditions for the UK.

The Quasi-Biennial Oscillation (QBO), an oscillation of the equatorial winds in the stratosphere, is entering a westerly phase. It will remain in this state throughout the coming winter. A westerly phase of the QBO also increases the likelihood of a positive phase of the NAO in the latter part of the outlook period.

North Atlantic sea surface temperatures continue to show a pattern of colder-than-average conditions south of 30°N and north of 50°N, with warmer-than-average conditions in a band in between. This pattern extends to depth in the sub-surface ocean so is likely to persist through autumn and into early winter. Like the other global influences, its effect in the outlook period is to increase the chances of a positive phase of the NAO. This would be expected to increase the likelihood of mild conditions in spite of the flow of air potentially crossing the region of below-average sea surface temperatures.

For October, the Met Office long-range prediction system suggests an increased likelihood of high pressure to the west of the UK, favouring northwesterly winds. The exact position of high-pressure patterns predicted by systems from centres around the world varies considerably, however. This introduces uncertainty in the more likely wind direction and consequently more uncertainty in the outlook for temperatures. Overall, there is a slight increase in the likelihood of below-average temperatures (see left-hand graph of figure T2).

For October-November-December, the Met Office long-range prediction system shows an increased likelihood of positive NAO and thereby a greater-than-usual chance of mild conditions. Agreement with long-range predictions from other global centres is mixed, however, with some suggesting greater chances of weather patterns that would bring colder-than-normal conditions to the UK. Nevertheless, the Met Office system's prediction is more consistent with the expected effects of global driving factors (see above). Consequently, there is an increased likelihood of milder-than-average conditions, and a decrease in the likelihood of colder-than-average conditions, over the 3-month period (see right-hand graph of figure T2). This does not preclude occasional spells of colder weather, but these are less probable than usual during this season.

Fig T1

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

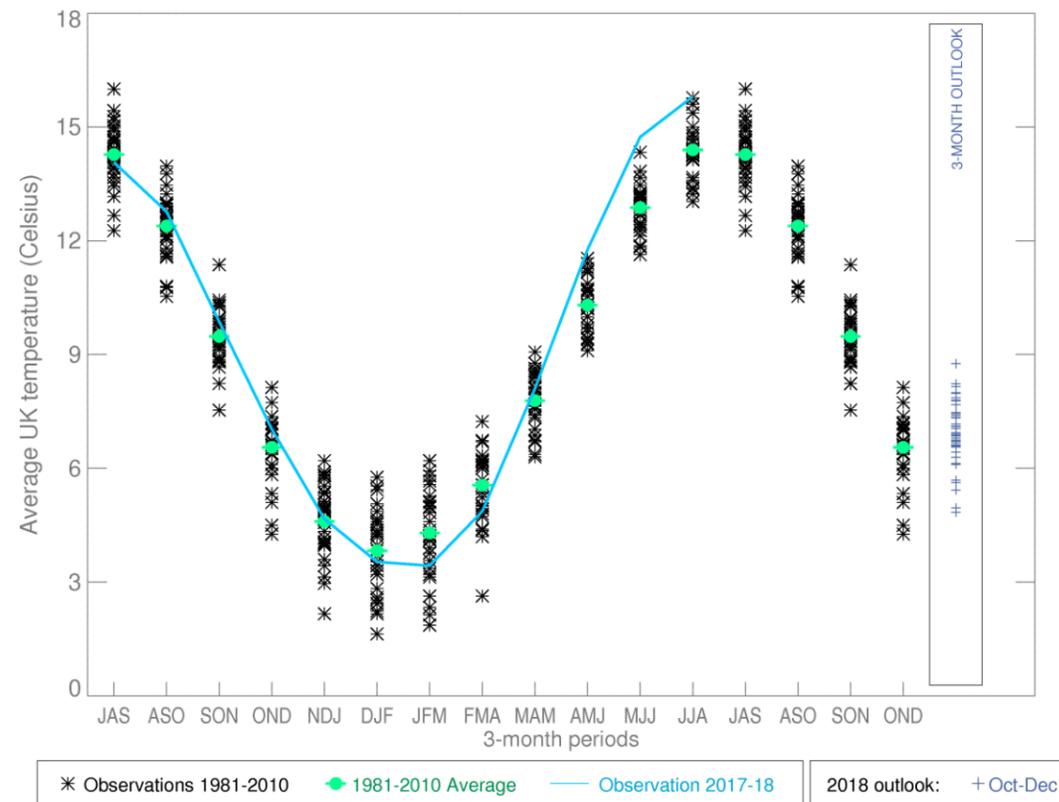


Fig T2

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

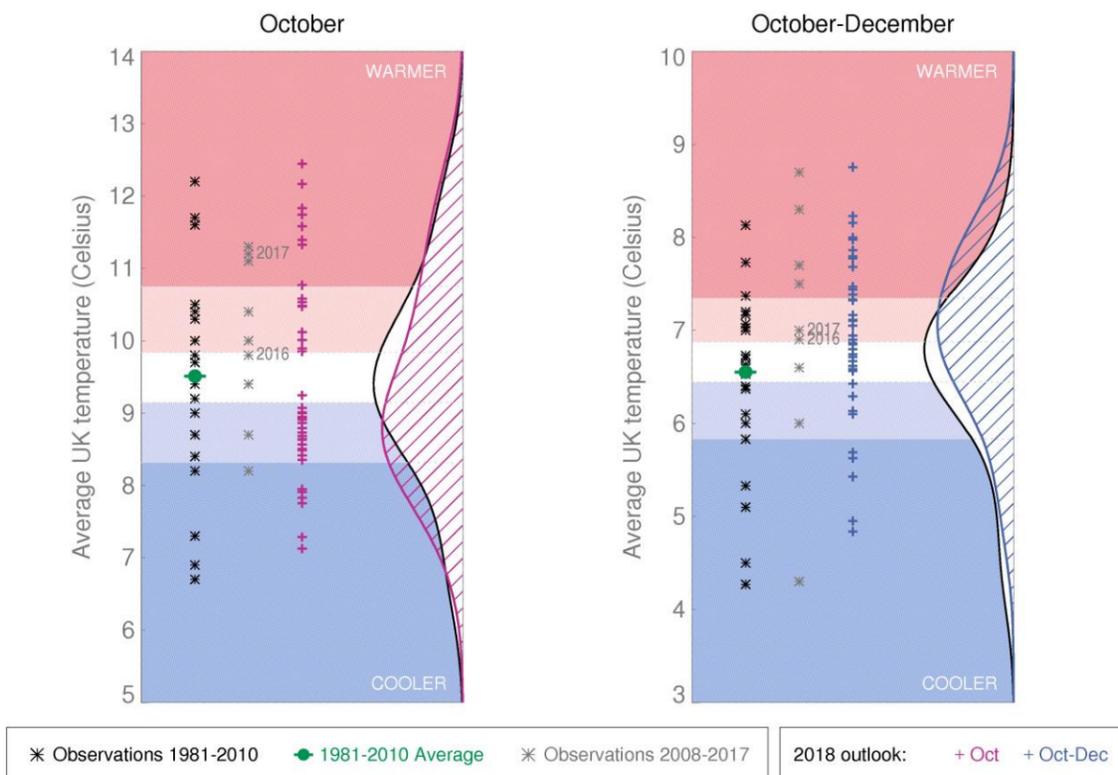
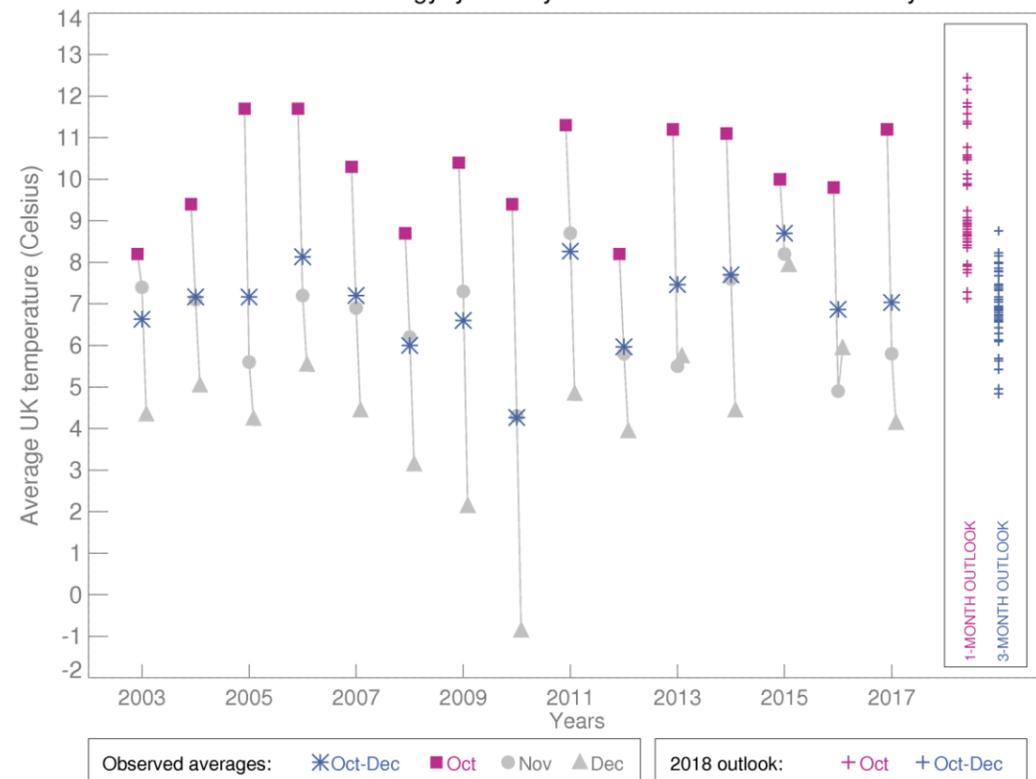


Fig T3

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.