



# Met Office 3-month Outlook

Period: February – April 2017 Issue date: 26.01.17

The forecast presented here is for February and the average of the February-March-April period for the United Kingdom as a whole. The forecast for February will be superseded by the long-range information on the public weather forecast web page (www.metoffice.gov.uk/public/weather/forecast/#?tab=regionalForecast), starting from 3 February 2016.

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

## SUMMARY – TEMPERATURE:

For February and February-March-April, above-average temperatures are more probable than below-average.

Overall, the probability that the UK-average temperature for February-March-April will fall into the coldest of our five categories is between 15% and 20% 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:

In the tropical Pacific Ocean, the El Niño–Southern Oscillation (ENSO) remains neutral. Despite the likelihood of some slight warming of sea surface temperatures in the tropical Pacific Ocean, ENSO is expected to remain in the neutral range in the next 3 months, so is not expected to influence UK weather significantly.

The Quasi-Biennial Oscillation (QBO), an oscillation of the equatorial winds in the stratosphere, remains in a westerly phase. While the westerly phase of the QBO tends to favour a stronger stratospheric polar vortex (SPV) and an increased likelihood of mild conditions across Northern Europe, its influence is thought to be less in late winter than in early winter.

Despite the westerly QBO, the Met Office seasonal prediction system suggests an increased chance of a sudden stratospheric warming event (SSW) occurring in February. These events disrupt the stratospheric polar vortex and more often than not, bring cold weather to the UK. If an SSW does take place, we expect an increased risk of cold weather from late February. During February, predictions from the Met Office long-range forecasting system, and systems from other leading forecast centres, show a higher-than-usual chance of the UK experiencing a cyclonic weather pattern with frequent Atlantic depressions. This would mark a change from the very anticyclonic weather patterns experienced so far this winter. At this time of

year an Atlantic influence would bring milder-than-average conditions to the UK. At the same time, however, blocking patterns are predicted to remain in place over Eurasia. This leads to greater-than-usual uncertainty, since the UK lies close to the boundary of these competing influences. If blocking were to continue to exert an influence on the UK then February would be expected to have a greater chance of below-average temperatures. These factors, along with relatively weak indications from the global drivers discussed above, result in relatively balanced chances of above- and below-average temperatures. The left-hand graph in figure T2 shows only a slight shift, therefore, from the normal range of expected conditions.

On average over the February-March-April period, predictions from long-range forecasting systems show competing influences from mild Atlantic weather patterns and colder anticyclonic conditions from the east. Overall, there is an increased chance of above-normal temperatures and a decreased chance of below-normal temperatures. The shift towards warmer-than-average conditions can be seen in the right-hand graph of figure T2. Despite this, the chances of cold conditions are only slightly reduced compared to usual, reflecting the possibility of a sudden stratospheric warming event influencing the UK. This outcome would increase the likelihood of cold conditions.

Fig T1

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

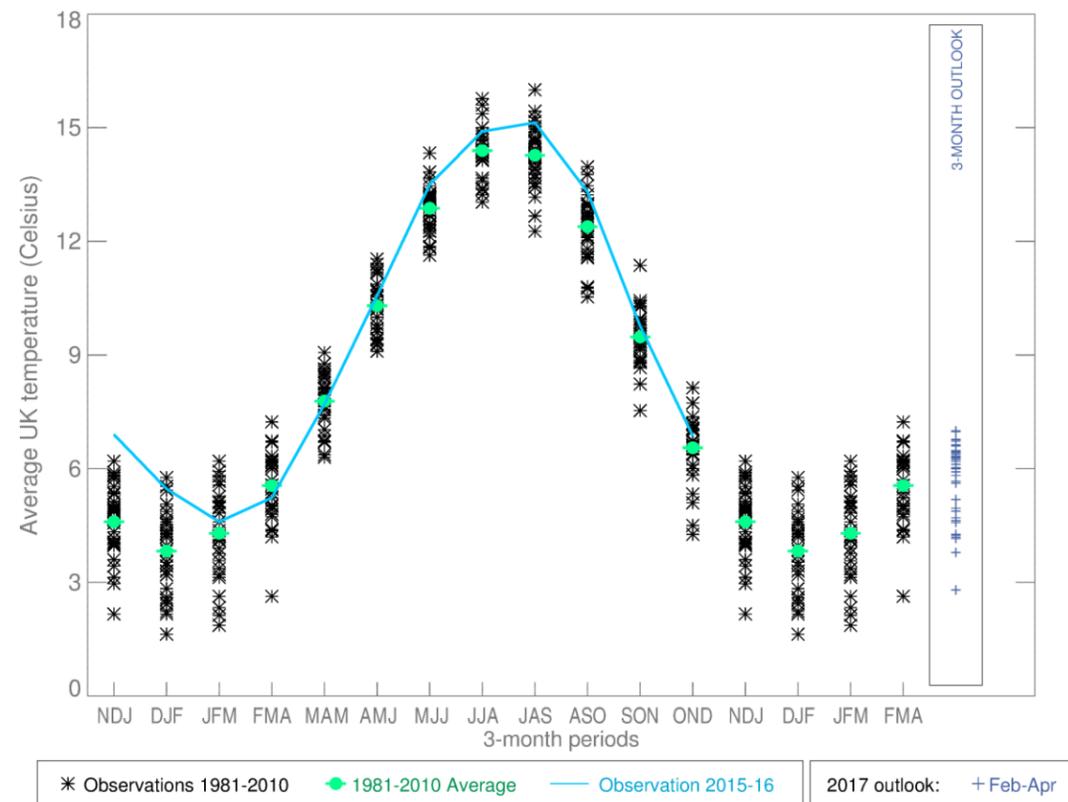


Fig T2

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

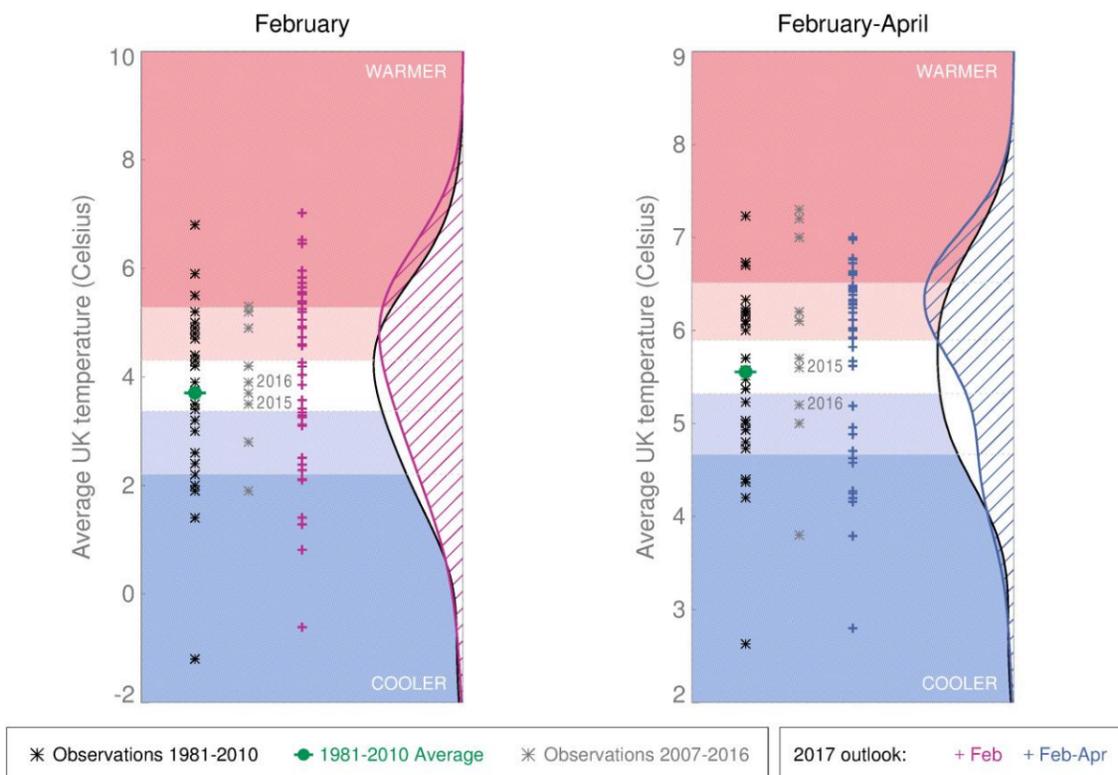
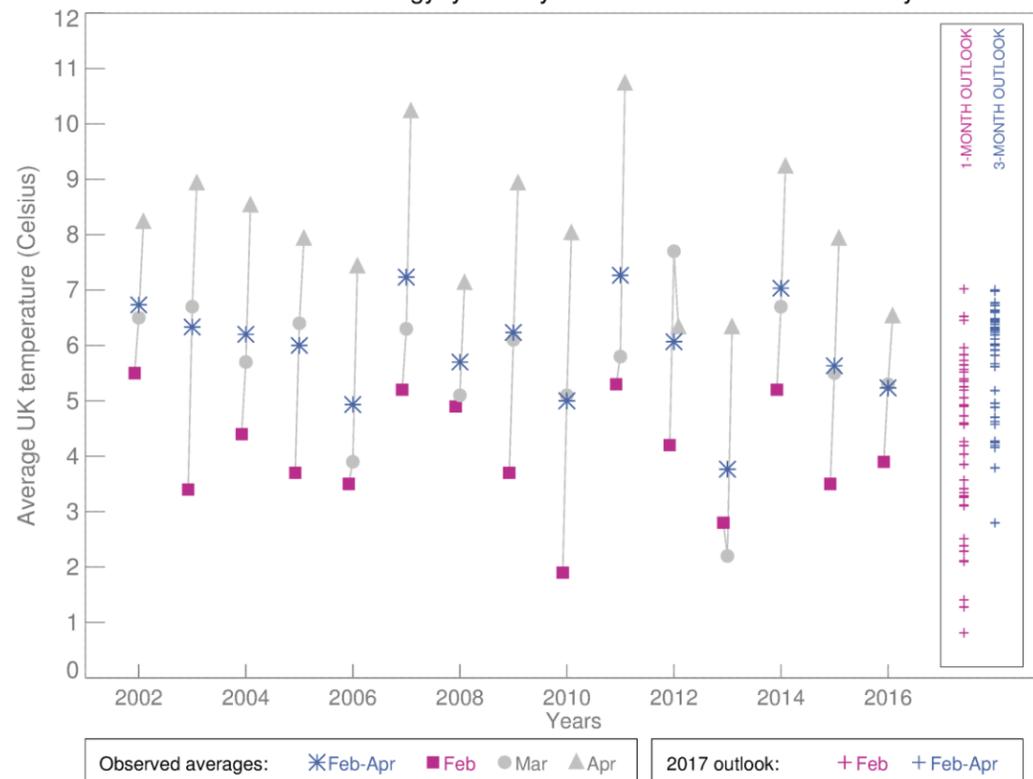


Fig T3

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.