

The forecast presented here is for March and the average of the March-April-May period for the United Kingdom as a whole. The forecast for March will be superseded by the long-range information on the public weather forecast web page (www.metoffice.gov.uk/public/weather/forecast/#?tab=regionalForecast), starting from 3 March 2017. This forecast is based on information from observations, several numerical prediction systems and expert judgement.

SUMMARY – TEMPERATURE:

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

Overall, the probability that the UK-average temperature for March-April-May will fall into the coldest of our five categories is 5% and the probability that it will fall into the warmest of our five categories is around 40% (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 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 Madden-Julian Oscillation (MJO) is a major fluctuation in tropical weather on weekly to monthly timescales. The MJO can be characterised as an eastward moving pulse of cloud and rainfall near the equator with a lifetime of 30 to 60 days. It is expected to reach a phase of development in the coming week which is conducive to a positive phase of the North Atlantic Oscillation (NAO) during early March. This increases the likelihood of mild, wet and windy conditions for the UK in this early part of the outlook period.

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 spring than in winter.

Despite the westerly QBO, the SPV did weaken for a time in early February. There has, however, not been a full sudden stratospheric warming event (SSW) yet this winter; these events disrupt the SPV and, more often than not, bring cold weather to the UK. The SPV has weakened again in the last week and, while the chances of a full SSW are currently in the balance, it is likely that the SPV will be weaker than usual in early March. This leads to a

moderate increase in the chances of cold weather later in March and in early April.

Predictions from the Met Office long-range forecasting system show an increased chance of the positive phase of the NAO during early March. This would lead to an Atlantic influence on UK weather which at this time of year tends to bring milder-than-average conditions. Later in the month the possible influence from the stratosphere increases the chances of the re-establishment of a more blocked pattern, leading to more balanced chances of above- and below-average temperatures in this period. For the month as a whole, however, above-average temperatures are more probable than below-average temperatures.

For the March-April-May period, predictions from long-range forecasting systems show competing influences from unsettled Atlantic weather patterns and blocked, anticyclonic conditions near the UK. Moreover, whilst in March the relationship between blocking patterns and colder weather is fairly robust, by May it is beginning to reverse, with blocking tending to bring warmer weather. 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. It is consistent with the observation that temperatures in March to May of the last 10 years have strongly tended to be above average when compared to the 1981-2010 reference period.

Fig T1

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

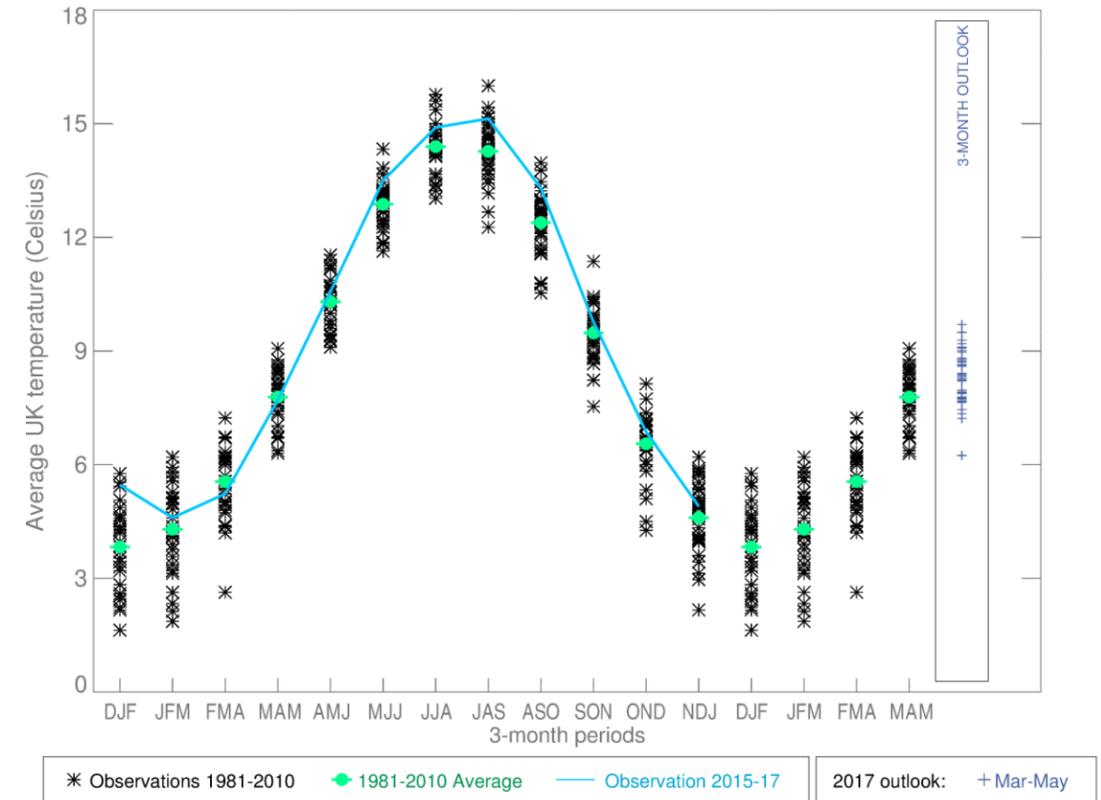


Fig T2

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

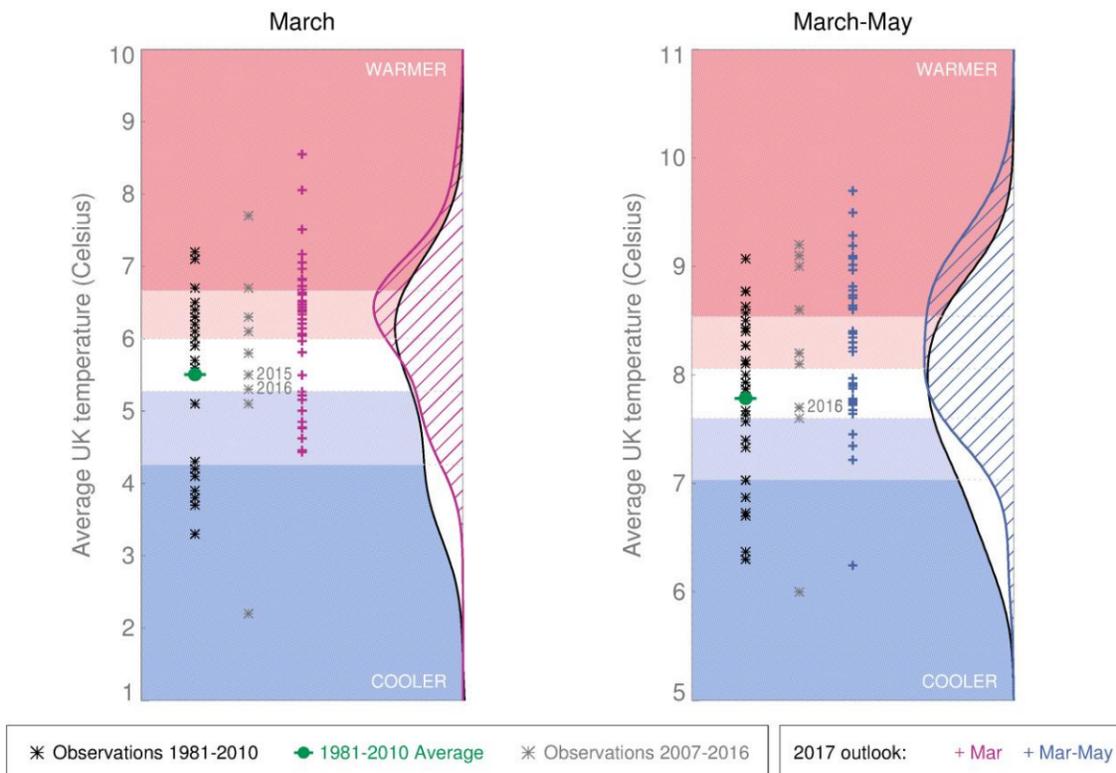
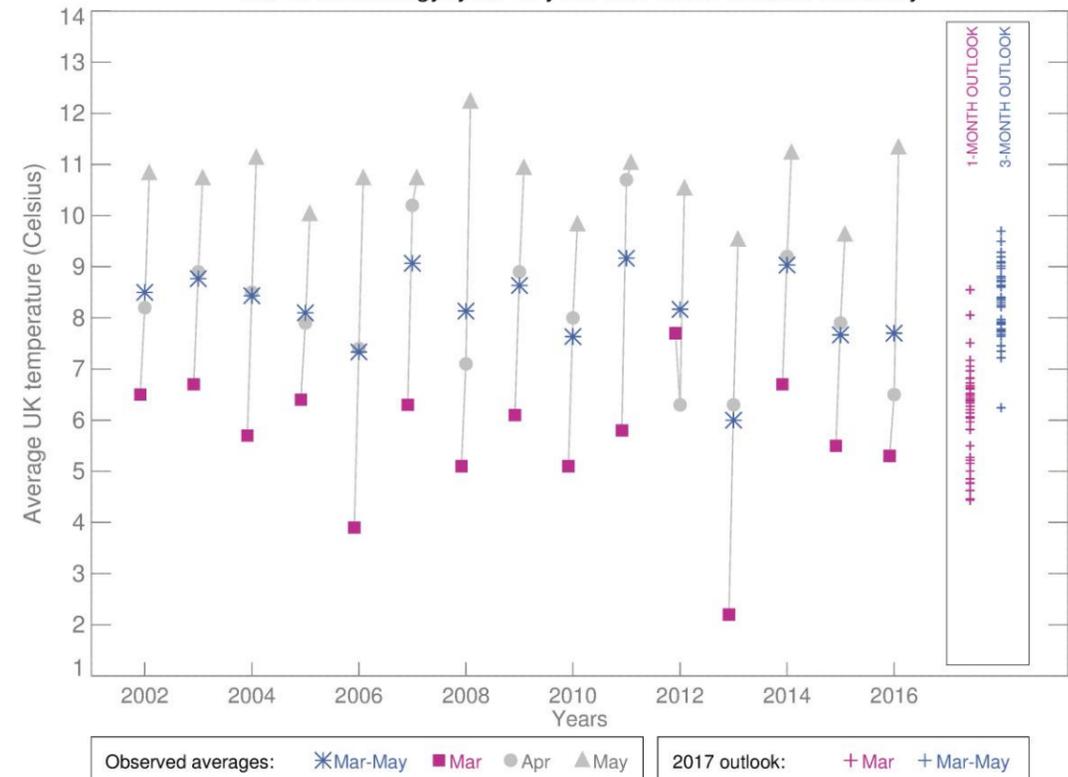


Fig T3

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.