Met Office 3-month Outlook

Period: December 2019 – February 2020 Issue date: 22.11.19

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 The forecast for December will be superseded by the long-range information on the public weather forecast web page (www.metoffice.gov.uk /public/weather/forecast/#?tab=regionalForecast), starting from 2nd December 2019.

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

SUMMARY – TEMPERATURE:

For December and 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 between 40% and 45% (the 1981-2010 probability for each of these categories is 20%).

CONTEXT:

The El Niño-Southern Oscillation (ENSO) is currently in a neutral phase, with very little likelihood of a significant El Niño or La Niña event developing during the outlook period. It is therefore not expected to have any influence on UK weather patterns.
The Indian Ocean Dipole (IOD) is currently in a near-record positive phase, with warmer-than-average sea surface temperatures (SSTs) in the western part of the Tropical Indian Ocean and cooler-than-average temperatures in the east. The IOD is disrupting rainfall patterns in the Tropics, which in turn exerts an influence on the European region, increasing the chances of mild, westerly winds during the outlook period. Tropical Atlantic rainfall, however, is predicted to shift further southwards than usual, which increases the chances of colder-than-normal conditions.
Meanwhile, the mid-latitude North Atlantic shows an SST pattern that moderately increases the likelihood of the positive phase of the North Atlantic Oscillation (NAO). Positive NAO during the winter is associated with milder-than-average conditions.
The sun is at a minimum in its 11-year cycle of activity which increases the chances of a weak stratospheric polar vortex (SPV) in late winter. The effect of a weak SPV is to increase the likelihood of a negative phase of the NAO and thereby colder-than-average conditions.
For December and December-January-February as a whole, the Met Office long-range prediction system and systems from other prediction centres around the world are in good agreement in showing an increased likelihood of the positive phase of the NAO. Along with the warming of climate, this contributes to an increase in the chances of above-average temperatures (see graphs of figure T2). Note that below-average temperatures remain possible, although less likely.

Fig T1

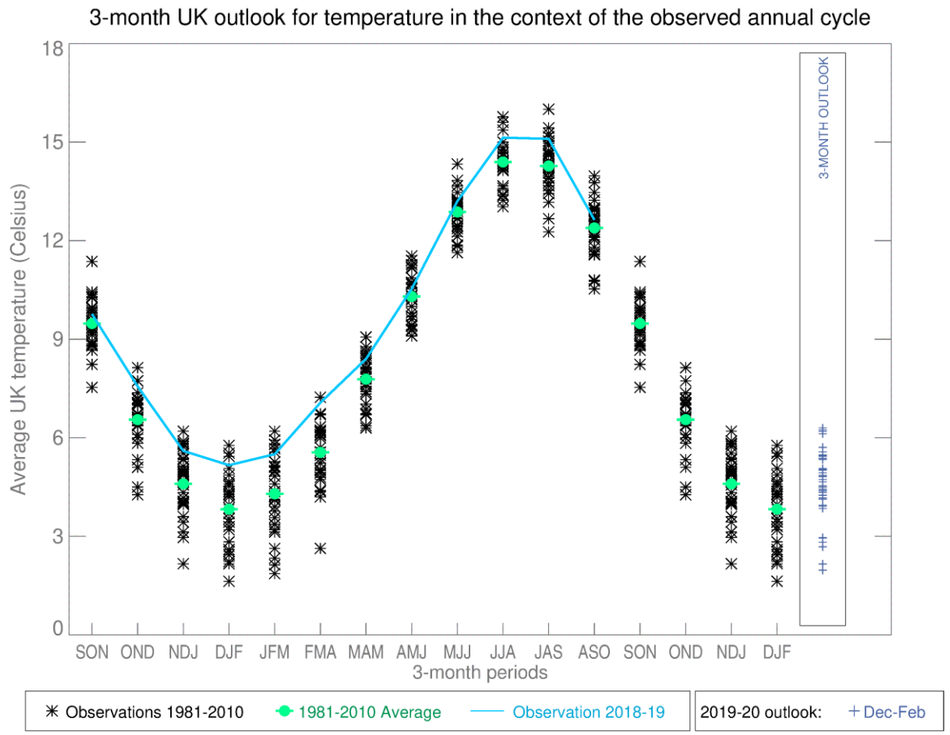


Fig T2

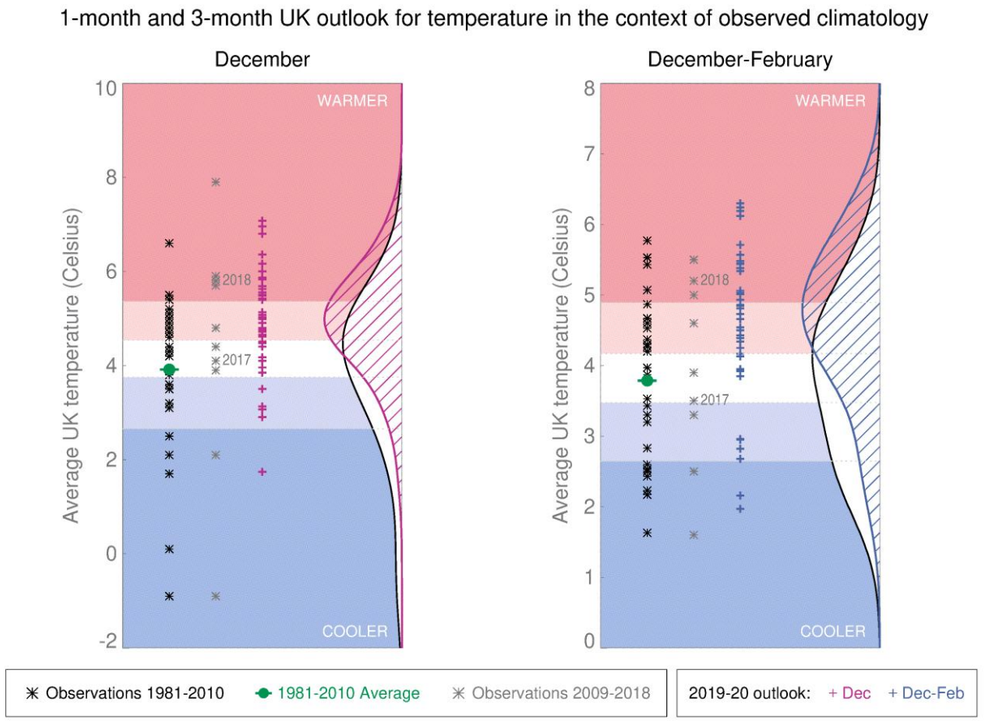
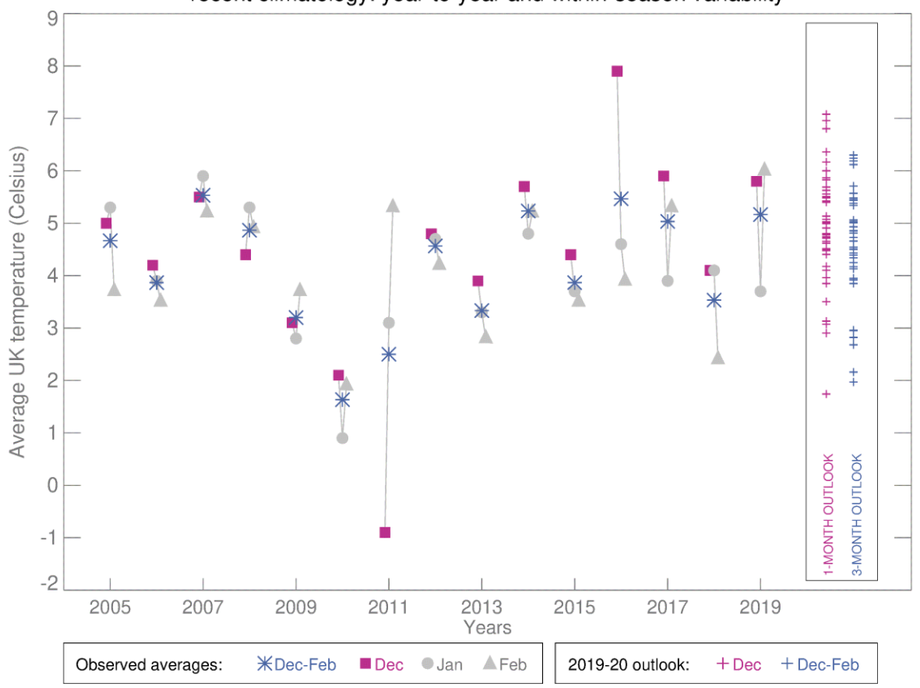


Fig T3



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-7-day) forecasts and warnings available to the contingency planning community from the Met Office.