

Met Office 3-month Outlook for UK government contingency planners

Period: November 2011 – January 2012 Issue date: 03.11.11

The forecast presented here is for November and the average of the November-December-January period for the United Kingdom as a whole. This forecast is based on information from observations, several numerical models and expert judgement.

SUMMARY - PRECIPITATION:

For UK precipitation, the 3-month period November-December-January shows a broad-scale, but rather weak signal for somewhat drier conditions than normal.

However the probabilities of the 3-month period being exceptionally dry or exceptionally wet differ little from climatology.

The probability that UK precipitation for November-December-January will fall into the driest quintile category is about 20% and the probability that it will fall into the wettest quintile category is also about 20% (the climatological probability for each of these categories is 20%).

CONTEXT:

It is very difficult to predict UK precipitation on seasonal timescales. Commonly our precipitation forecasts for winter months will differ little from climatology. However most computer model forecasts from around the world predict anomalously high surface pressure over the UK, and higher pressure tends to suppress precipitation. In addition there is a physically consistent correlation between UK temperature and UK precipitation during winter: cold winters tend to be drier, warm winters wetter. So because of the model output, and for consistency with the temperature outlook, the precipitation forecast slightly favours a drier-than-normal outcome.

As some parts of the UK have seen unusually dry conditions through much of 2011, water resources will be sensitive to rainfall amounts in the upcoming months. If the drier scenarios depicted on Figures P1-P3 were to be realised, the normal winter-time replenishment would be limited. A very dry outcome could have a substantial impact. However, the probability of this is no different from climatology (compare crosses in the lowermost colour band on Figure P2).

The forecast slant towards drier-than-average conditions should not be misinterpreted as implying less snow than normal. The frequency of snow and ice is more closely related to temperature – for example last winter was relatively ‘dry’ (Figure P2, grey star labelled 2010), but very cold, and snow and ice occurred very often.

For November precipitation, as with November temperature, there are conflicting signals and thus a lot of uncertainty, so the forecast for November is very similar to climatology.

Fig P2 1-month and 3-month UK outlook for precipitation in the context of observed climatology

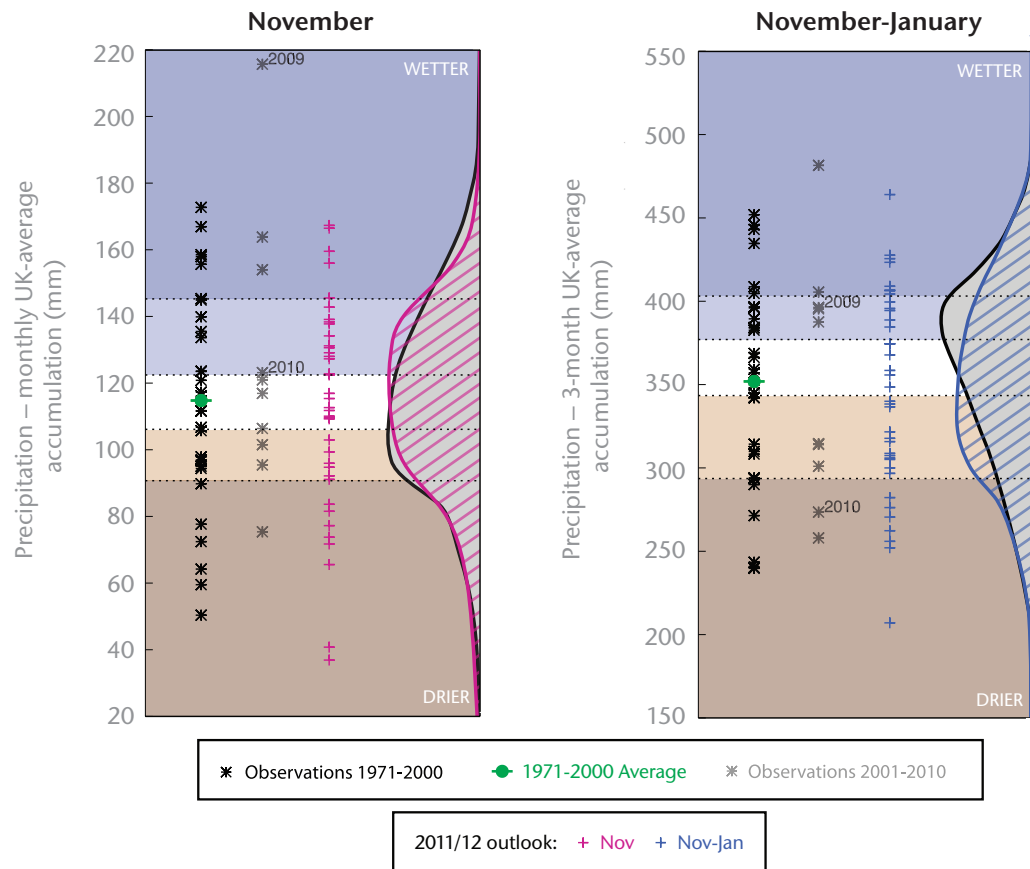


Fig P1 3-month UK outlook for precipitation in the context of the observed annual cycle

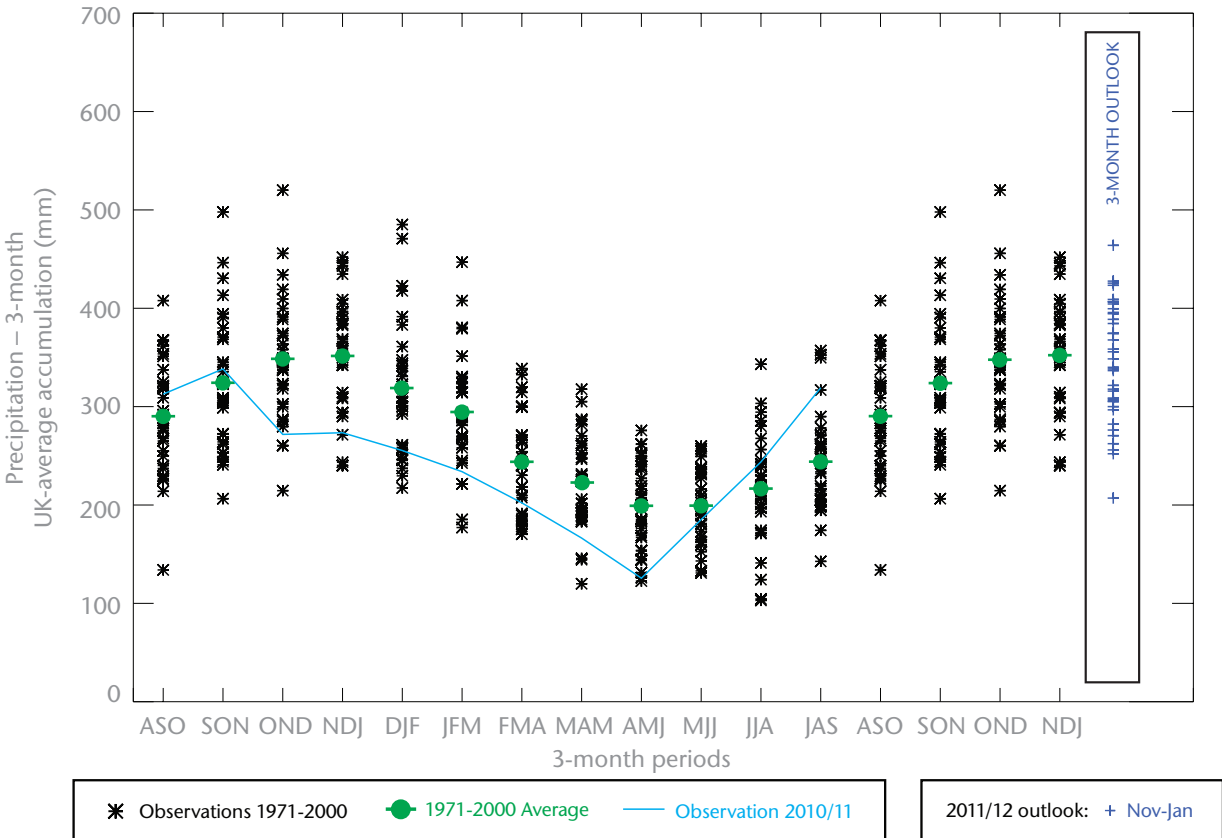
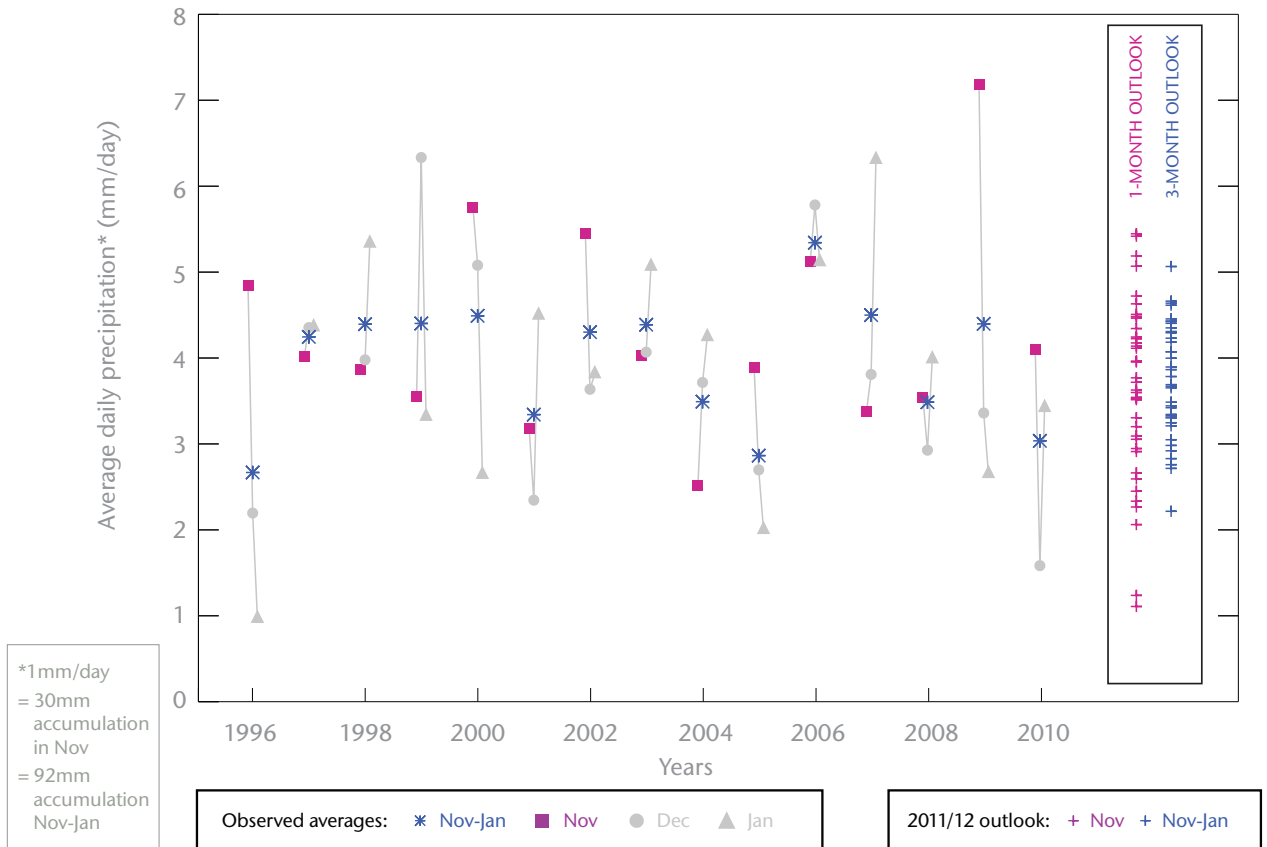


Fig P3 1-month and 3-month UK outlook for precipitation in the context of recent climatology: year-to-year and within-season variability



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.