

Predicting the Asian summer monsoon and its variability on a range of timescales

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Predicting the Asian summer monsoon on a range of timescales is a challenge. The Met Office benefits from a unified modelling strategy where essentially the same modelling system is used across timescales ranging from days to centuries. This allows errors in the monsoon simulation to be examined as they develop, and the relationship between problems with short-timescale variability and longer-term systematic biases to be established. In addition, the operational seasonal prediction system allows the impact of initialization on the representation of the subsequent monsoon season to be investigated. We present results from a recent suite of MetUM models used for daily prediction, seasonal forecasting and climate change projections. These show that certain systematic biases develop very early in the forecast and persist to climate timescales. Seasonal forecasts show a sensitivity to the date of initialization through the development of local and remote sea surface temperature biases and through coupled feedbacks.