

P74 Influence of land surface models on the diurnal cycle of precipitation in a WRF multiphysics regional climate ensemble

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The diurnal cycle of precipitation is an important and fundamental cycle in Earth's climate system. While many aspects of this cycle are reasonably well understood, climate models have struggled to accurately simulate the timing of the peak and the amplitude of the cycle. Most modelling studies have tended to focus on the influence of grid spacing and/or convective parameterizations. In this report, we use the Weather Research and Forecasting model to investigate the influence of the land surface model (LSM) on WRF's ability to reproduce the diurnal cycle of precipitation over the British Isles. We find that the land surface model has a significant influence on the simulated diurnal cycle in summer with the Rapid Update Cycle LSM outperforming the Noah LSM.