

Model uncertainty in the ECMWF seasonal forecasting system 4

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Seasonal forecasts several months ahead based on dynamical atmosphere-ocean GCMS are routinely run at ECMWF. The latest forecasting system 4 which is a seamless extension of ECMWF's medium-range ensemble forecasting system includes two schemes to represent model uncertainty in the atmosphere, the Stochastically Perturbed Physical Tendency (SPPT) scheme and the Stochastic Kinetic Energy Backscatter (SKEB) scheme. This contribution looks at the impact these schemes have on the model performance for seasonal forecasts in terms of systematic biases, variability, atmospheric circulation regime structure, seasonal prediction skill and reliability.