

Regional forecast quality of the CMIP5 multi-model decadal climate predictions

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Near-term climate predictions carried out recently with climate models can be rigorously verified against observations. This is a new information tool available to the climate adaptation and services communities. The Fifth Coupled Model Intercomparison Project (CMIP5) set of co-ordinated climate-model experiments includes a set of multi-model near-term predictions. We have assessed the forecast quality of the CMIP5 10-year long predictions to show that climate forecast systems have good skill in predicting the Earth's climate at regional scales, although their reliability still needs further improvements. Most of the skill can be attributed to changes in atmospheric composition, but also partly to the initialization of the predictions. The impact of the sample size has also been assessed and the relevance of adequately sampling the historical period will be put in the context of the sizeable computational cost of these experiments.