



Dynamical and statistical climate modelling in the CORDEX-easia domain

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The larger CORDEX-easia domain covers an area of approximately 100 million km² and inhabits nearly $\frac{1}{3}$ of the Earth's human population. It contains the world's fastest growing economies which already experienced significant climate change.

Due to the complicated orography and the large land–sea contrast, the climate of the domain can not be modelled sufficiently for regional impact studies by global models. However, climate impact studies need high resolution regional climate projections, especially if regional hydrological modelling is involved.

We present regional climate simulations for the CORDEX-easia domain, using the dynamical/deterministic regional climate model CCLM and the regional statistical climate model STAR.

The two-model-approach gives us the opportunity to analyze both possible dynamical changes of the local monsoon system (CCLM) and the statistical range of changes (STAR). We also compare the models through comprehensive one-dimensional as well as multidimensional analyses. This covers various statistical aspects for the climate reconstruction runs and the future projections.

The results of our modelling are used in impact studies for Chinese river basins and focus in particular on future climate extremes.