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A new generation of regional climate simulations for Europe: The EURO-CORDEX Initiative

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The Coordinated Regional Downscaling Experiment (CORDEX) aims to provide an internationally coordinated framework within which various regional climate downscaling (RCD) methodologies can be compared, improved, standardized and, where possible, best-practices recommended. The specific aims of CORDEX are to provide a framework to coordinate model evaluation and improvement, produce a new generation of RCD projections for land-regions worldwide based on new CMIP5 GCM projections, to foster the dialogue between the RCD communities and the impact, adaptation and vulnerability communities, and to engage developing nation scientists in the generation, evaluation and use of CORDEX data.

Within this framework, regional initiatives are formed. In Europe, regional climate downscaling can build on wide experience from previous RCD projects like STARDEX, PRUDENCE, and ENSEMBLES. An ensemble of rather high resolution regional climate simulations (25 km x 25 km grid) is already available. This led to the decision that EURO-CORDEX focuses, other than other regions, on simulations at very high resolution (about 12 km x 12 km grid).

In its first phase, EURO-CORDEX focuses on the evaluation of the high resolution simulations and on the construction of a simulation matrix that covers both the uncertainty induced by the driving global climate models and the uncertainty induced by the RCD methods in the best affordable manner. Further future activities include the analysis future climate simulations, the joint analysis of dynamical and empirical-statistical methods, and the design and application of suitable bias correction techniques to provide EURO-CORDEX results that are directly applicable in climate change impact research.

This presentation will give an overview of the current status and activities of the EURO-CORDEX community.