



CORDEX Coordinated Output for Regional Evaluation

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The Science Advisory Team for the Coordinated Regional Downscaling Experiment (CORDEX) has developed a baseline framework of specified regions, resolutions and simulation periods intended to provide a foundation for ongoing regional CORDEX activities: the CORDEX Coordinated Output for Regional Evaluation, or CORDEX-CORE. CORDEX-CORE was conceived in part to be responsive to IPCC needs for coordinated simulations that could provide regional climate downscaling (RCD) that yields fine-scale climate information beyond that resolved by GCMs. For each CORDEX region, a matrix of GCM-RCD experiments is designed based on the need to cover as much as possible different dimensions of the uncertainty space (e.g., different emissions and land-use scenarios, GCMs, RCD models and techniques). An appropriate set of driving GCMs can allow a program of simulations that efficiently addresses key scientific issues within CORDEX, while facilitating comparison and transfer of results and lessons learned across different regions.

The CORDEX-CORE program seeks to provide, as much as possible, homogeneity across domains, so it is envisioned that a standard set of regional climate models (RCMs) and empirical statistical downscaling (ESD) methods will downscale a standard set of GCMs over all or at least most CORDEX domains for a minimum set of scenarios (high and low end). The focus is on historical climate simulations for the 20th century and projections for 21st century, implying that data would be needed minimally for the period 1950-2100 (but ideally 1900-2100). This foundational ensemble can be regionally enriched with further contributions (additional GCM-RCD pairs) by individual groups over their selected domains of interest. The RCM model resolution for these core experiments will be in the range of 10-20 km, a resolution that has been shown to provide substantial added value for a variety of climate variables and that represents a significant forward step compared in the CORDEX program.

This presentation presents the vision and structure of CORDEX-CORE while also soliciting discussion on plans for implementing the program.