CCLM CORDEX-CORE Central Asia

Abstract

CORDEX-CORE constitutes the new phase of the CORDEX (COordinated Regional Downscaling Experiments) program, aiming at downscaling a set of global Global Circulation Models (GCMs) 21st century projections by means of a core of high resolution regional climate models (RCMs) over several domains of the entire globe. Coordinated effort to intercompare different regional climate models provides an optimal approach for the evaluation of their performance, showing the benefits and shortcomings of different approaches. At the same time, generating multi-model, multi-method based information, represents a robust method for uncertainty characterization. Indeed, CORDEX main goal is to advance the science of regional climate modelling, in order provide downscaled information built upon a more solid scientific basis that could be useful for impact studies and other applications.

Within this context, in this project we aim at conducting a set of high-resolution simulations with the regional climate model COSMO-CLM version 5, at a spatial resolution of 0.22° lon, for the reference CORDEX Central Asia domain. The COSMO-CLM has only rarely been applied for the investigation of this region. In particular, no reference exists for the latest model version 5.0. Indeed, while on the one hand the results of the projects will contribute to the general purposes of the CORDEX community, on the other they would serve as a reliable reference for other studies focusing on the area.

Results of the simulations would be part of the CMIP6 experimental framework, contributing to the compilation of the next IPCC report.