CORDEX.be: COmbining Regional climate Downscaling EXpertise in Belgium

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The main objective of the ongoing project CORDEX.be, "COmbining Regional Downscaling EXpertise in Belgium: CORDEX and Beyond" is to gather existing and ongoing Belgian research activities in the domain of climate modelling to create a coherent scientific basis for future climate services in Belgium. The project regroups eight Belgian Institutes under a single research program of the Belgian Science Policy (BELSPO). The project involves three regional climate models: the ALARO model, the COSMO-CLM model and the MAR model running according to the guidelines of the CORDEX project and at convection permitting resolution on small domains over Belgium.

The project creates a framework to address four objectives/challenges. First, this projects aims to contribute to the EURO-CORDEX project. Secondly, RCP simulations are executed at convection-permitting resolutions (3 to 5 km) on small domains. Thirdly, the output of the atmospheric models is used to drive land surface models (the SURFEX model and the Urbclim model) with urban modules, a crop model (REGCROP), a tides and storm model (COHERENS) and the MEGAN-MOHYCAN model that simulates the fluxes emitted by vegetation. Finally, one work package will translate the uncertainty present in the CORDEX database to the high-resolution output of the CORDEX.be project.

The organization of the project will be presented and first results will be shown, demonstrating that convection-permitting models can add extra skill to the mesoscale version of the regional climate models, in particular regarding the extreme value statistics and the diurnal cycle.