

Headline: CORDEX explores the value of empirical-statistical downscaling

A new experiment, designed to explore the added-value of downscaling, was set up by an international group of empirical-statistical downscaling experts at the second CORDEX-ESDM workshop in Buenos Aires Argentina, July 30-August 1, 2014. The objective of this effort was to bring together the wide range of different approaches commonly used in empirical-statistical downscaling and explore how different choices used by different downscaling practitioners impact the end results. A comprehensive set of diagnostics have been proposed, e.g. the methods' ability to predict realistic temporal dependencies, spatial coherence, and multi-variate consistency. Furthermore, they assessed whether the methods are capable of predicting long term change, i.e., whether the predictors include the relevant changes, and whether the model structure remains valid under extrapolations. A common structure for data and common code makes it possible to synthesise the results, in addition to making the empirical-statistical downscaling efforts more coordinated, and a standard experimental set-up and a common framework makes it possible to further analyse the multi-method results (e.g., by factorial regression). The protocol for this standard experiment is published on the CORDEX website: <http://wcrp-cordex.ipsl.jussieu.fr/>. It is anticipated that this type of distillation of the multi-model experiment will provide a better indication about what works and what breaks when applying the downscaling in different contexts. The standard experiment is the first step in what is expected to be a more comprehensive set of experiments to assess the skill of regional climate-change scenarios.