



## **VALUE COST Action – Validating and Integrating Downscaling Methods for Climate Change Research**

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Our understanding of global climate change is mainly based on relatively coarse global climate models. To assess local future climate impacts, high-resolution climate change scenarios need to be derived by downscaling. Several projects have validated the performance of downscaling approaches, yet important aspects have not been systematically addressed: (1) variability on sub-daily, decadal and longer time-scales, extremes, spatial variability and inter-variable relationships. (2) a systematic comparison of dynamical and statistical downscaling and bias correction approaches. Also the collaboration between regional climate modellers, statistical downscalers and statisticians has been limited. To address these gaps, the EU COST action VALUE has been brought into life. VALUE is a europeanwide research network aiming to systematically validate and develop downscaling methods for climate change research. Stakeholders have been involved in the project definition and actively participate in the network.

A literature review and end user questionnaire have been utilised to define a generic validation framework. The detailed specification of this framework will be formulated in line with other international initiatives such as CORDEX. Key to the framework is a validation for present day climate and, in a pseudo-reality, for potential future climates. In addition to validating present and potential future climatologies, it is necessary to assess the predictive power of downscaling methods with perfect boundary conditions or perfect predictors. The validation will be carried out for several example regions representing different climates, both on station and gridded data. In principle every downscaling method can be validated and compared with competing methods via an open web-portal. The results of this exercise will provide end users with important information about the uncertainty of regional climate scenarios, and guide the improvement of downscaling methods.