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The ENSEMBLES Statistical Downscaling Portal

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The demand for high-resolution seasonal and ACC predictions is continuously increasing due to the multiple end-user applications in a variety of sectors (hydrology, agronomy, energy, etc.) which require regional meteorological inputs. To fill the gap between the coarse-resolution grids used by global weather models and the regional needs of applications, a number of statistical downscaling techniques have been proposed. Statistical downscaling is a complex multi-disciplinary problem which requires a cascade of different scientific tools to access and process different sources of data, from GCM outputs to local observations and to run complex statistical algorithms. Thus, an end-to-end approach is needed in order to link the outputs of the ensemble prediction systems to a range of impact applications.

To accomplish this task in an interactive and user-friendly form, a Web portal has been developed within the European ENSEMBLES project, integrating the necessary tools and providing the appropriate technology for distributed data access and computing. In this form, users can obtain their downscaled data testing and validating different statistical methods (from the categories weather typing, regression or weather generators) in a transparent form, not worrying about the details of the downscaling techniques and the data formats and access.