

Project: **1237**

Project title: **Composing a joint D-A-CH climate scenario ensemble**

Principal investigator: **Nora Leps**

Report period: **2024-11-01 to 2025-10-31**

Text: Maximum of two pages including figures. Reports for joint projects may be longer.

Not all requested node hours and storage space could be used. Nevertheless, all project tasks are proceeding, albeit more slowly than planned due to scarce personnel resources.

This year's activities, that are related to the main project tasks can be summarized as:

- Experiment No 2. "ESD and bias adjustment": Further testing and implementation(s) for a stable version of the empirical statistical downscaling method EPISODES: 1) Setup of a validation package for EPISODES simulations to get a quick overview on new configurations for EPISODE. 2) Preparation of a reference observation data set based on station data (tas, pr) instead of gridded observations. 3) Processing of EPISODES simulations for wind on several height levels (wind reference derived from CERRA reanalysis).
- Experiment No 3. "RisKlim (Snow related extremes)": 1) Processing of snow parameters for cross border regional climate simulations using the SNOWGRID-CL method. 2) Preparation of large scale circulation patterns for the assessment of pre-conditions of snow-related extremes (snow load, avalanches).
- Experiment No 1. "Model quality assessment":
 - Continued: Bias-correction and statistical downscaling of CMIP5-based EURO-CORDEX ensemble for a Central European (D-A-CH) domain using "scaled-distribution-mapping" (Switanek et al., 2017) via the "pycat" python package. Processed parameters: tas, tasmx, tasmin, pr (Experiment No. 2). Reference: CERRA reanalysis.
 - Exchange of methods for model validation: Project members joined various groups of EURO-CORDEX validation activities, i.e. Validation of precipitation, validation of simulations in mountainous areas (with special focus on Alpine space).

All activities are currently making good progress and are planned to be intensified during the next months.