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Data Digitalization and Quality Control in Orographic Complex Terrain - Transregional Project 3PClim

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In the framework of the INTERREG Project 3PClim [www.3pclim.eu] the ZAMG, the Hydrographic Office of the Autonomous Province of Bolzano and the Regional Agency for environmental Prevention and Protection of Veneto (ARPAV) started a cooperation with main focus on analyzing the past, present and perspective climate. One of the aims of this transregional project was and still is to summarize the current knowledge about the climatic trends for the coming decades for an orographic complex area of North Tyrol, South Tyrol and Veneto and implement additional information of surrounding areas.

For all projects that are relevant for environment and climate, checked and -if existent- long term datasets are a basis for climatological analysis and modeling. Due to this fact the task of work package (WP) 2 and 3 was the data-acquisition, -digitalization, -correction and in last instance the data-homogenization of meteorological parameters, mainly available in daily resolution.

To supply the data in an outstandingly good and uniform quality, the collected and partly new digitalized datasets were tested within a Multi-stage-quality-control process that was subdivided in 5 steps:

• PRE-checks – during collecting /transforming/ importing data
• Completeness checks
• Plausibility-inner consistency checks
• Spatial consistency checks
• Supplementary checks [POST-checks]

For the POST checks a number of supplementary software applications (e.g.: testing tool snow or global radiation), mainly developed in-house were performed. By the implementation of these modules and routines – based on spatial and statistical test algorithms - many outliers and errors could be detected, flagged and in a final step automatically or manually corrected.

So in general this presentation shows the importance of recovering historical data to generate long term time series, gives an overview of the actual methods and criteria that were used during the procedures of quality control and demonstrates main aspects and the importance of data quality control procedures.