

DECO – Extracting and converting meteorological driving data for hydrological models via a web-based platform

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Climate change impact assessment for hydrology and related water resource management is based on global climate projections, their regional downscaling and the subsequent use of this data in hydrological models. While global climate projections, as well as regional downscaled data are relatively easily available due to the CMIP and CORDEX activities, it cost some effort to prepare this data for use with hydrological models. This implies several steps: a change of grid or transformation to gauge based values, a bias correction and a conversion to the file format from climate model standards to a format accessible by the hydrological model. In BINGO, we developed the plug-in DECO for the web-based (also command line interface) evaluation platform FreVa (<http://freva.met.fu-berlin.de>) to search and extract climate data, post-process and convert it to the required output format. As far as possible, all post-processing steps are identical for all models at all BINGO research sites to ensure comparability; the research site and model specific file format conversion has been implemented for all hydrological models to be used. This approach ensures that post-processing (bias correction, grid conversion, etc.) are identical for all sites and are tested by a large community; data extraction is easily reproducible and new data set injected into the FreVa data pool can be readily extracted and converted for timely use with hydrological models. Apart from transparency and reproducibility, this approach allows the timely conversion of new (downscaled) climate projections to hydrological application and may serve as an example for data dissemination within the hydrological modeling community.