



UnLoadC3: Ensembles of climate change projections for two river catchment areas in Austria – Contributions to an overall uncertainty assessment framework for the modelling of water quantity and nutrient transport

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The objective of UnLoadC³ is to examine the impacts of uncertainty - inherent in data and modelling - on projections of water flow and nutrient transport within two selected river catchment areas (Schwechat and Raab in Austria) under climate change conditions. To access future climate change, ensembles of climate projections from the EURO-CORDEX initiative - given on grids with a 12 km spacing - have been used. These ensembles have been driven by two RCPs (RCP4.5 and RCP8.5) used within the Fifth Assessment Report of the IPCC.

In order to provide climate change projections on the required impact scales, statistical downscaling techniques as well as bias correction methods have been applied. Climate variables, such as minimum, maximum, mean temperature and precipitation totals given on a daily base were analyzed. This local scale daily information is entered into the water quality model SWAT, which simulates water balance, pertaining sediment- and nutrient-transport processes across the two considered river watersheds.