

Projektnummer: ID 545

Projekttitlel: „ACQWA simulations for the Alps using REMO“ (short: ACQWA)

Autoren: L. Tomassini, D. Jacob

1. Kurzfassung

The EU FP7 project ACQWA aims to assess the impacts of a changing climate, focusing on the quantity and quality of water originating in mountain regions. The goal of the project is to use advanced modelling techniques to quantify the influence of climatic change on the major determinants of river discharge at various time and space scales, and analyse their impact on society and economy, also accounting for feedback mechanisms. RCM simulations will be performed using two different regional climate models, namely REMO and the ICTP-RegCM3. Both models will cover the same simulation period and will simulate the same selection of the IPCC scenarios. At MPI several transient climate change simulations until 2100 at horizontal resolutions of 25 and 50 km with a model domain covering the entire European area (carried out within the European ENSEMBLES project) are available. These experiments will provide boundary conditions for dedicated REMO simulations for the Alpine area at a resolution of 10 x 10 km². The new experiments will focus on the time horizon 1951-2050 and will include, in a later phase of the project, a novel and recently developed dynamic glacier scheme (Kotlarski, 2007), a unique feature of the RCM REMO. As a reference, first a scenario simulation without glacier scheme (period 1951-2050) will be performed. Also, a validation run using the ERA Interim data, and some sensitivity experiments will be necessary. These simulations will be used also in the EU FP7 project “SaveLand”.