



Influence of the land-surface scheme on the modelled precipitation in the European Alps

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An adequate representation of the land-surface processes and their interaction with the atmosphere is crucial in regional climate modelling (RCM). Within the project “Research for Climate Protection: Model Run Evaluation (reclip:more), an evaluation of the skills of the two RCMs PSU/NCAR model MM5 and the European model ALADIN within the Alpine region is performed.

The MM5 model offers several options for physical parameterizations and also land-surface models (LSM). To test the LSM, two integrations of one year in climate mode with MM5, using the two LSMs NOAH and PLEIM-XIU were performed. The MM5 was forced with the ERA40 reanalyses data for the year 1999, which allows a comparison of the results with observations, and besides the LSMs the MM5 was used in the same configuration.

This presentation shows the results of the analyses of the effect of the different LSMs on the modelled precipitation within the Alpine region and in the surrounding. With the comparison of additional surface variables from the models and observation, a discussion of the skills and the limitations of the LSMs in this region is tried.