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Regional climate model ALADIN/Prague tested on ECMWF ERA-40 reanalysis in variable resolution

A. Farda, P. Skalak, P. Stepanek
Czech Hydrometeorological Institute, Czech Republic (ales.farda@chmi.cz)

Model ALADIN has been successfully used in numerical weather prediction praxis at CHMI and thus its ability to be employed for climate research purposes has also been tested within recent years. In this short contribution we present results of two model integrations conducted over Europe. In order to prepare the model for long-time climate integrations some changes have been introduced in the set of original physical parameterizations as well as into the set of model parameters to better reproduce important long-term climate characteristics. Consequently model has been tested on ECMWF ERA-40 data using 50 and 25km spatial resolution experiment.

Model outputs have been evaluated using ERA-40 data and other available datasets with emphasis being laid on the central Europe. Additionally, both experiments have been compared to each other in order to ascertain the effect of improved resolution. Finally, temporal characteristics of climatological time-series for selected variables have been studied using station data and model grid-points located in the territory of the Czech Republic.