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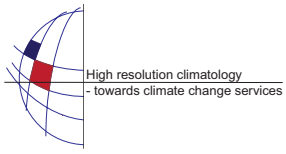

Analysis of the influence of lateral boundary conditions based on REMO RCM simulations over the Carpathian Basin

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The REMO5.0 regional climate model developed by the Max Planck Institute for Meteorology in Hamburg was adapted at the Hungarian Meteorological Service a couple of years ago. In the framework of the CLAVIER project, two experiments were accomplished with the model: a simulation of a past period from 1961 to 2000, driven and initialized by the ECMWF ERA40 re-analysis data, and a transient run for the hundred years of 1951 to 2050 driven by A1B scenario experiment of the ECHAM5/MPI-OM global coupled atmosphere-ocean model. The integration domain was the same in both experiments: it covers continental Europe with 25 km horizontal resolution.
The results for the control part of the period were compared on the one hand with gridded observational dataset, and on the other hand, with each other in order to assess the impact of the different lateral boundary conditions on the results. The evaluation indicated that the re-analyses driven experiment provides warm and dry past climate over the Carpathian Basin, whereas lower temperature and higher precipitation values are obtained when the lateral boundary information is derived from global simulations. Validating the results with respect to observations, it is concluded that the temperature characteristics in the simulation-driven case outperformed that of the experiment forced by quasi-perfect (i.e. re-analysis) data, however, similar apparent conclusion cannot be drawn for precipitation. The presentation is undertaking to give deeper insight into the details and possible reasons for these outcomes.