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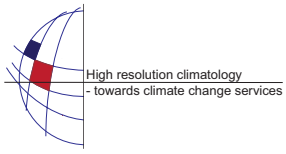

Climate model downscaling for Slovenia

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Current climate models, such as models that participated in the last report of the Intergovernmental panel on Climate Change have horizontal grid spacing larger than 100 km meaning that their results can hardly be directly used to discuss the climate and climate change processes in Slovenia. Similarly, existing regional climate simulations have insufficient spatial resolutions for resolving the orography impact on weather systems that define the climate of Slovenia, such as mesoscale cyclones and storms. Thus the models need to be adjusted to higher resolution by carrying out the downscaling. In this process we are applying a regional model with a horizontal resolution of the order of 10 km. Obtained results depend on the forcing model implying that using different lateral boundary forcing leads to different distribution of the regional climate signals. Ongoing project aims at estimating the uncertainties of the present state-of-the-art climate models on the regional scale of Slovenia. By verifying downscaling results for the present conditions we obtain information about models' ability to provide a reliable description of the present climate and thus some confidence into their ability to simulate future states.