



Regional climate model temperature simulations compared with observed station data over the Balkan Peninsula

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Projecting climate change at regional and local scales based on the use of Regional Climate Models (RCM) is a topic of great interest in current climatological studies. Particularly as far as extreme climate events and their temporal variability are concerned. Nevertheless, problems often arise regarding the data reliability and so it is recommended for the model data to be always evaluated against observational station data. In this study the accuracy of a RCM temperature data is assessed for a number of stations over the Balkan Peninsula, which is a region of variant climate features and complex topography. The RCM temperatures corresponding to each station were extracted from their nearest land grids. The model data were first compared to the raw station observations and subsequently examined for their ability to identify extreme temperature events. The model was found to be accurate in describing the seasonal cycle and simulated the spatial distribution of maximum and minimum temperatures quite well. In general, the model reproduced better maximum temperature, while the comparison between model and station data exhibited significant biases in continental and high altitude sites particularly for winter minimum temperature. Assessing the performance of the RCM to determine extremes, it was found that the model data are better in detecting cold spells, whereas they tend to overestimate the occurrence of warm spells. It is noteworthy that the model performed generally better for stations along the coasts highlighting the constraints of the topographic forcing on the simula-

tions.