



Transferability evaluation of the ICTP RegCM3 in simulations of European climate

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The ICTP RegCM3 model is adopted for climate simulation experiments over the eastern part of the Mediterranean region (EM) and European part of Russia (EPR). The simulation domains are selected with the aim of evaluation of the model performance over different parts of Europe. The simulation experiments are forced by NNRP re-analysis data and performed at ~ 50 km resolution for a 13-year period from 1982 to 1994. In a separate experiment results of the simulation over the EM are additionally downscaled to 17 km and 6 km resolutions over nested sub-domains. We find that the model performs well over the both regions. When implemented over the southern part of Europe (EM) the model quite accurately reproduces space distribution of the near surface air temperature. The use of large enough model domain extending northward to west Europe appears essential for the representation of precipitation distribution over the EM. When implemented over the EPR, a substantial positive bias in representation of precipitation intensity during the warm season is notable. The bias is more significant over the northern part of the area. The results are also characterized by a positive bias in the near surface air temperatures during both winter and summer month. Over the both areas however the RegCM3 model allows accurate simulation of the annual variations of main climate characteristics.