Comparison of a full year high resolution RegCM3 simulation using two different convective schemes with observations of Temperature and Precipitation in Greece

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One full year simulation of the regional climate model RegCM3 was carried out for the period December 1996-November 1997, forced by the NCEP NNRP2 dataset (2.5°x2.5° L17, pressure level) using two different convective schemes, Grell scheme and Emanuel scheme. Initially a larger domain (30W-60E / 20N-65N) with a grid resolution 60 km x 60 km was selected to downscale dynamically the NCEP reanalysis data and afterwards a double nested simulation was performed covering the domain of Greece (16E-30E / 34N-42N) with a finer grid resolution 20 km x 20 km. The REGCM3 simulated mean monthly surface temperature and precipitation fields are validated against respective gridded station data interpolated from a network of more than 90 stations covering Greece, as well as, with the CRU TS 2.0 data-set supplied on a 0.5 degree grid. The differences between observations and modelled values are discussed with respect to the different convective schemes used in RegCM3, the seasonality and the regional topographic characteristics of Greece which is a relatively thin stripe of land with complex topography and steep orography embedded into the Mediterranean Sea.