



Temperature and precipitation changes in Central and Eastern Europe: results from regional and global climate models

E.Coppola and F. Giorgi

Earth System Physics Section, The Abdus Salam International Centre for Theoretical Physics,
Strada Costiera 11, 34100 Trieste, ITALY

(coppolae@ictp.it/ Fax: + 39 040 2240 449/ Phone: + 39 040 2240 407)

Climate changes in six regions of Central and Eastern Europe are analyzed using all the ensemble members of ten regional climate models within the context of PRUDENCE and these are compared with the results obtained using the latest ensemble of twenty global model simulations for 3 IPCC emission scenario.

Long-term mean climate and interannual variability for precipitation and near surface air temperature are used to investigate the models ability to simulate the present climate compared to observed CRU dataset. A positive bias in winter and a negative bias in summer are observed for precipitation and a warm temperature bias is found for both the seasons. Modelled temperature and precipitation variability is lower than suggested by observation in winter and larger in summer. The temperature and precipitation changes are considered for IPCC emission scenario A2 and B2 for the regional models and the IPCC emission scenario A1B, B1 and A2 for the global model. They suggest a constant increase of temperature for all the seasons and an increase of mean precipitation in winter and a decrease in summer. The opposite is observed for the precipitation and temperature variability change. The spread of the regional models for both the variables is larger in summer and the results are not sensitive to the kind of scenario that is used.