Assessment of the future climate change in the Czech Republic based on ALADIN-CLIMATE/CZ and AR4 models

J. Kalvova, E. Holtanova, L. Crhova, J. Miksovsky, P. Pisoft, and M. Motl
Charles University in Prague, Faculty of Mathematics and Physics, Department of Meteorology and Environmental Protection, Praha, Czech Republic (jaroslava.kalvova@mff.cuni.cz)

The regional climate model ALADIN-CLIMATE/CZ (25 km resolution) is going to be used for the new climate change scenarios for the Czech Republic. However, for effective use of such scenario for impact studies, it is necessary to provide an estimate of related uncertainty. The driving global model is an important source of uncertainty in RCM simulations. We present a comparison of changes in basic climate characteristics simulated by ALADIN-CLIMATE/CZ and a set of eight AR4 models for the periods of 2010–39, 2040–69, 2070–99. The global climate models were chosen based on its ability to simulate observed climate characteristics in the reference period (1961-1990).