



Analysis of regional climate change expected in the Carpathian basin

J. Bartholy, R. Pongrácz, GY. Gelybó, P. Szabó, A. Kern, CS. Torma, A. Hunyady and P. Kardos

Dept. of Meteorology, Eötvös Loránd University, Budapest, Hungary
(bari@ludens.elte.hu/+36 1 372 2904)

The results from coarse resolution global climate models (GCM) can only be considered as a first-guess of regional climate change consequences of global warming. Regional climate models (RCM) nested in GCMs may lead to better estimations of future climate conditions in the European subregions since the horizontal resolution of these RCMs is much finer than the GCMs. In this poster, RCM outputs from the completed PRUDENCE project are summarized for the Carpathian Basin (located in Central/Eastern Europe). Composite maps of expected change in temperature and precipitation are generated using the RCM simulations (with 50 km spatial resolution) for the periods of 2071-2100 and 1961-1990. Furthermore, uncertainty of the regional climate change is represented by the standard deviation of the simulated changes. Furthermore, the potential use of two different RCMs (adapted at the Department of Meteorology, Eötvös Loránd University) are discussed: (1) model PRECIS developed at the UK Met Office, Hadley Centre with 25 km horizontal resolution and 19 vertical levels, (2) model RegCM3 developed by Giorgi et al. in ICTP with 10 km horizontal resolution and 23 vertical levels. Both RCMs are 3-dimensional, sigma-coordinate, primitive equation models.