EMS Annual Meeting Abstracts
Vol. 11, EMS2014-330, 2014
14th EMS / 10th ECAC

Validation of precipitation indices from ALARO- Climate RCM for 25 km and 6 km resolutions in the Czech Republic

Stanislava Kliegrova (1), Lucie Pokorna (2), Ladislav Metelka (1), Petr Stepanek (3), Radmila Brozkova (1), and Ales Farda (3)

(1) Czech Hydrometeorological Institute, Czech Republic (stanislava.kliegrova@chmi.cz), (2) Institute of Atmospheric Physics, Czech Republic, (3) Global Change Research Centre AS CR, CzechGlobe, Czech Republic

The RCM (Regional Climate Model) ALARO Climate/CZ is intended to operate at the spatial resolution of 4 to 7 km, while keeping its ability to be executed at a common contemporary resolution of 20 to 50 km. The Czech Republic is a region with complex orography. Higher resolution should give better description of orography above all and should bring more accurate results of surface meteorological elements from the RCM at local scales.
Results of validation for precipitation at 25 km and 6 km resolutions of the RCM (driven by the ERA-40 reanalysis) are presented in the paper. Average seasonal precipitation and some precipitation indices (number of days above 20 mm and 95th percentile of wet-day amounts) simulated by the RCM for the period 1961 - 1990 are validated against gridded observed data sets at the 2 resolutions for the Czech Republic. All average seasonal precipitation are overestimated in both simulations for almost all grid points in CR. Results of validation of precipitation indices are more various and depend on concrete locations. Comparison of problematic parts (mountains above all) at higher and lower resolutions should show if better orography (smaller differences between model and real altitudes) brings an improvement of validation results for average precipitation and precipitation indices.