EMS Annual Meeting Abstracts
Vol. 11, EMS2014-596, 2014
14th EMS / 10th ECAC

Climate classification for Euro-CORDEX simulations integrated assessment

Michal Belda, Tomas Halenka, Jaroslava Kalvova, and Eva Holtanova
Charles University in Prague, Prague, Czech Republic (tomas.halenka@mff.cuni.cz)

The analysis of climate patterns can be performed for each climatic variable separately or the data can be aggregated using e.g. some kind of climate classification. These classifications usually correspond to vegetation distribution in the sense that each climate type is dominated by one vegetation zone or eco-region. This way climate classifications also represent a convenient tool for the assessment and validation of climate models and for the analysis of simulated future climate changes.

EuroCORDEX results for both 0.11 and 0.44 degree resolution are validated using Köppen-Trewartha types in comparison to E-OBS based classification. ERA-Interim driven simulations are compared to both present conditions of CMIP5 models as well as their downscaling by EuroCORDEX RCMs. Finally, the climate change signal assessment is provided using the individual climate types. In addition to the changes assessed similarly as for GCMs analysis in terms of the area of individual types, in the continental scale some shifts of boundaries between the selected types can be studied as well providing the information on climate change signal. The shift of the boundary between the boreal zone and continental temperate zone to the north is clearly seen in most simulations as well as eastern move of the boundary of maritime and continental type of temperate zone. However, there can be quite clear problem with model biases in climate types association.