



## Climate modelling activities at Meteorological and Hydrological Service of Croatia

Lidija Srnec

Državni hidrometeorološki zavod  
email: lidija.srnec@cirus.dhz.hr

Workshop on national climate adaption policies and legislation – Step B: Identification of Adaptation Options  
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- Very small group - Ivan Güttler and Lidija Srnec; Tomislav Stilinović just started working with us  
(until recently Čedo Branković and Mirta Patarčić)
- Main modelling tool is regional climate model **RegCM4** (ICTP, Trieste, Italy) for downscaling
- Results of EU FP6 project **ENSEMBLES** and recent **EURO-CORDEX** activity are used in estimating the uncertainty related to model formulation.
- Standard analysis includes an evaluation of the model systematic errors and estimation of historical and projected climate changes and trends.

## Some published results:

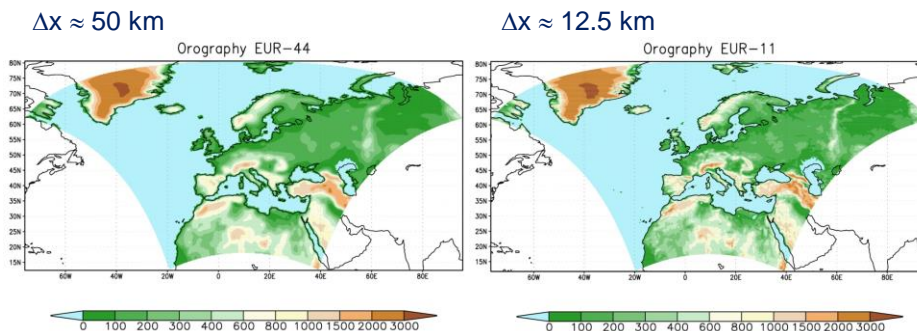


1. Güttler, Ivan; Branković, Čedo; O'Brien, Travis A.; Coppola, Erika; Grisogono, Branko; Giorgi, Filippo: [Sensitivity of the regional climate model RegCM4.2 to planetary boundary layer parameterisation](#). // *Climate dynamics*. **43** (2014) , 7/8; 1753-1772
  2. Güttler, Ivan; Branković, Čedo; Srnec, Lidija; Patarčić, Mirta: [The impact of boundary forcing on RegCM4.2 surface energy budget](#). // *Climatic change*. **125** (2014) , 1; 67-78
  3. Patarčić, Mirta; Gajić-Čapka, Marjana; Cindrić, Ksenija; Branković, Čedo: [Recent and near-future changes in precipitation-extreme indices over the Croatian Adriatic coast](#). // *Climate Research*. **61**(2) (2014) ; 157-176
  4. Branković, Čedo; Güttler, Ivan; Gajić-Čapka, Marjana: [Evaluating climate change at the Croatian Adriatic from observations and regional climate models' simulations](#). // *Climate dynamics*. **41** (2013) , 9/10; 2353-2373
  5. Branković, Čedo; Patarčić, Mirta; Güttler, Ivan; Srnec, Lidija: [Near-future climate change over Europe with focus on Croatia in an ensemble of regional climate model simulations](#). // *Climate research*. **52** (2012) , 1; 227-251
  6. Patarčić, Mirta; Branković, Čedo: [Skill of 2-m Temperature Seasonal Forecasts over Europe in ECMWF and RegCM Models](#). // *Monthly weather review*. **140** (2012) , 4; 1326-1346
  7. Branković, Čedo; Srnec, Lidija; Patarčić, Mirta: [An assessment of global and regional climate change based on the EHSOM climate model ensemble](#). // *Climatic change*. **98** (2010) , 1/2; 21-49
- Sixth National Communication of the Republic of Croatia under the United Nation Framework Convention on the Climate Change (UNFCCC)  
Selected sections in chapters:
    - 7 – Climate change impacts and adaptation measures
    - 8 – Research, systematic observation and monitoring

## Current major activities include:



- contribution to the Croatian Science Foundation project CARE. Several high-resolution simulations will be performed in the scope of this project during the period 2014-2018.
- results of the CARE project (simulations at 12.5 km horizontal resolution) and of the internal DHMZ modelling activities (simulations at the 50 km horizontal resolution) are planned to be submitted to the common EURO-CORDEX database.



# *Mean tmax errors in JJA 1989-2008 in EURO-CORDEX ensemble*

