Geophysical Research Abstracts
Vol. 15, EGU2013-9267-2, 2013
EGU General Assembly 2013

High resolved reanalyses as reference data sets for Europe

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Reanalyses depict the state of the atmosphere as a best fit in space and time of many atmospheric observations in a physically consistent way. By essentially solving the data assimilation problem in a very accurate manner, reanalysis results can be used as a reference for model evaluation procedures and as forcing data sets for different model applications.
However, the spatial resolution of the most common and accepted reanalysis data sets (e.g. JRA25, ERA-Interim) ranges from approximately 124 km to 80 km.
This resolution is too coarse to simulate certain small scale processes often associated with extreme events. In addition, many models need higher resolved forcing data (e.g. land-surface models, tools for identifying and assessing hydrological extremes).
Therefore we downscaled the ERA-Interim reanalysis over the EURO-CORDEX-Domain for the time period 1989 to 2008 to a horizontal resolution of approximately 12 km.
The downscaling is performed by driving mesoscale model simulations by the ERA-Interim reanalysis data at the lower and lateral boundaries, and by re-initializing every 24 hours. This procedure known as poor man's reanalysis is performed with the two mesoscale models REMO and WRF.
In this study the three following questions will be addressed:

1.) Is there an added value compared to ERA-Interim?
2.) Do the poor man's reanalyses meet the needs (accuracy, extreme value distribution) in validation and forcing?
3.) How much small scale information generated by the downscaling models is lost with frequent initializations?