Plinius Conference Abstracts,
Vol. 11, Plinius11-18, 2009
11th Plinius Conference on Mediterranean Storms


# Evaluation of the mean and extreme precipitation regimes of the ENSEMBLES RCM multi-model over Spain

L. Fita (1), S. Herrera (1), J. Fernández (1), and J. M. Gutiérrez (2)

(1) Santander Meteorology Group., Dep. of Applied Mathematics and Computing Sciences, Universidad de Cantabria, Santander, Spain (lluis.fita@unican.es), (2) Santander Meteorology Group. Instituto de Física de Cantabria (CSIC-UC), Santander, Spain

ENSEMBLES is an European project devoted (in Working Package RT3) to the use of Regional Climate Models (RCMs) to produce dynamical downscaling of climate change global models over Europe. A large variety of models have been used allowing the generation of an ensemble of high resolution projections of the future scenarios. In this study, the results of 9 RCMs driven by ERA40 ECMWF re-analyses during the control period of the ensemble (1961 to 2000) are depicted. Validation of the climatology retrieved from simulations is done by comparison to a 0.2 degree horizontal resolution precipitation climatology (Spain02). Spain02 grid has been produced in the Universidad de Cantabria throughout a kriging over 2772 surface observations from the secondary AEMET network for the whole the period. Simulated and observed climatologies are compared in terrms of the average and extreme precipitation regimes. The average regime comparison is carried out by ensemble mean results and seasonality is studied by temporal evolution of the monthly anual cycle over 11 Spanish river basins. The extreme precipitation regime is analysed by the use of different extreme precipitation indicators. Results show a large variety of concordance of the members of the ensemble to the observed climatology. Climatologic patterns over Spain are significantly well represented by RCMs when the 5 best correlated members of the ensemble are considered.