EMS Annual Meeting Abstracts,
Vol. 6, EMS2009-143, 2009
9th EMS / 9th ECAM

9th EMS Annual Meeting
9th European Conference on Applications of Meteorology
High resolution meteorology
- applications and services

Relationships between temperature extremes over the Iberian Peninsula and teleconnection indices

A.H. Encinas (1), C. Rodriguez-Puebla (2), and L.A. García-Casado (3)

(1) University of Salamanca, Applied Mathematics, Salamanca, Spain (ascen@usal.es), (2) University of Salamanca, Atmospheric Physics, Salamanca, Spain (concha@usal.es), (3) University of Salamanca, Mathematics, Salamanca, Spain (lagc@usal.es)

There is growing interest in investigating changes in climate extremes owing to their socioeconomic impacts. In this work we will present results on the trend and variability of warm days, or those exceeding the 90th percentile of maximum temperature, and cold nights or those falling below the 10th percentile of minimum temperature. The study is performed with the daily gridded data from the Ensembles project (E_Obs) and at different seasons over the Iberian Peninsula. The interannual variations of temperature extremes are interpreted by taking into account the links with atmospheric circulation and sea surface temperature (SST). We found that the East Atlantic and Scandinavian teleconnection indices describe the variability of warm days. However, better relationships were found between cold nights and some SST climate indices in spring, summer and autumn. Based on these relationships, we propose statistical models to explain the variability of the temperature extremes at interannual time scale.