EMS Annual Meeting Abstracts
Vol. 8, EMS2011-445-1, 2011
11th EMS / 10th ECAM

Forecasting the weather
- ensemble techniques
in probabilistic weather prediction

Impact of climate change on winter cereal over Spain

C. Rodriguez-Puebla (1), N. Gonzalez-Reviriego (2), and A. Casanueva (3)

(1) University of Salamanca, Atmospheric Physics, Salamanca, Spain (concha@usal.es), (2) University of Salamanca, Atmospheric Physics, Salamanca, Spain (nube@usal.es), (3) University of Cantabria, Santander Meteorological Group, Spain (anacv@usal.es)

The interest to learn about the impacts of climate change on agricultural production motivates this study about effects of climate variations on winter cereal production. We examine the influence of observed climate variables on historical winter cereal production. The variables considered are maximum and minimum temperatures, precipitation, extreme indices derived from temperature and precipitation data and other large-scale variables as teleconnection indices. We obtain a statistical model by combining winter cereal production and climate data to provide the response of crop to climate variations. This model allows us to evaluate the impact of potential climate change on cereal production by using data of SRES A1B experiment from CMIP3 data archive.