



Iberian autumn precipitation characterization through observed, simulated and reanalysed data

A. Morata (1), M. Luisa Martín (2), M.G. Sotillo (3), F. Valero(1), and Y. Luna (4)

(1) Dpto. Astrofísica y CC. de la Atmósfera, Facultad de CC Físicas, Universidad Complutense de Madrid, 28040 Madrid, Spain

(2) Dpto. Matemática Aplicada. Escuela Universitaria de Informática. Campus de Segovia. Universidad de Valladolid, Pza. Sta. Eulalia, 9-11, 40005 Segovia. Spain

(3) Área de Medio Físico, Ente Público Puertos del Estado (EPPE). Av. Partenón, 10. 28042 Madrid. Spain.

(4) Instituto Nacional de Meteorología. Leonardo Prieto Castro, 8. 28040 Madrid. Spain.

A 44-year (1958-2001) homogeneous Mediterranean high-resolution atmospheric database was generated through dynamical downscaling within the HIPOCAS Project framework. The present work attempts to provide a validation of the monthly 41-autumn (1961-2001) HIPOCAS precipitation over the Iberian Peninsula, being also provided an evaluation of its improvement versus current global reanalysis data sets. A statistical comparative analysis between observed, HIPOCAS and global reanalyses precipitation data sets were carried out, highlighting the noticeable agreement existing between the observed and the HIPOCAS precipitation data sets in terms of not only time and spatial distribution but also in terms of total amount of precipitation. The results also showed the important improvement introduced by the HIPOCAS hindcast in comparison to the current global reanalysis data, being highlighted the great potentiality of such regional hindcasted data set. A principal component analysis is carried out showing that the patterns derived from the HIPOCAS data largely capture the main characteristics of the observed field. Moreover, it is worth to note that the HIPOCAS patterns reproduce accurately the observed regional characteristics linked to the main orographic features of the study domain. High time correlations between the hindcasted and observed PC time series point out great similarity between the two datasets, corroborating the model performance ability.