



SUNDUIB: homogenised sunshine duration dataset in the Iberian Peninsula. Temporal variability and trends during the last decades

A. Sanchez-Lorenzo (1), M. Brunetti (2), J. Martin-Vide (1), **J. Calbó** (3) and T. Nanni (2)

(1) Group of Climatology, University of Barcelona, Spain, (2) Institute of Atmospheric Sciences and Climate, National Research Council, Bologna, Italy, (3) Group of Environmental Physics, University of Girona, Spain (jmartinvide@ub.edu / Fax: +34 93-4037886 / Phone: +34 93-4037733)

This work describes a new dataset (SUNDUIB) of SUNshine DUration over the IBerian Peninsula (IP) based on 72 monthly instrumental series covering the 1931-2004 period, that were subjected to an exhaustive quality control and relative homogenisation procedure. The final dataset is kept in two different data modes: homogenised and gap-filled station mode series and grid mode (anomaly at $1^\circ \times 1^\circ$, lat x long). Analysis of the temporal evolution of the average series for the whole IP shows a non significant trend in annual sunshine duration, as a result of an overall decrease since 1950's until first years of 1980's, and a later increase until the beginning of the 21st century. This behaviour is in good agreement with the global dimming and brightening phenomenon detected with surface solar radiation measurements and satellite estimations. When seasonal series are analyzed, spring and summer show the best correspondence with the annual series. A principal component analysis was applied to cluster the data into 4 regions, and then annual and seasonal mean series were constructed for each region. Preliminary results of a correlation analysis between the regional series and the North Atlantic Oscillation and Sahel Rainfall variability are also presented.