

PARALLEL SESSION C: IMPACTS AND APPLICATIONS
C2: REGIONAL ATMOSPHERIC AND OCEAN CIRCULATION SYSTEMS

**Multimodel analysis of solar radiation over Iberian Peninsula
for renewable energy purposes**

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The aim of this work is to analyse the output of several high resolution simulations of RCMs in the frame of CORDEX program from the point of view of a potential end user. Solar irradiation is the variable selected to evaluate the results due to its importance in terms of renewable energy electricity production and its assessment. In a society committed to the 2020 objectives of CO2 emissions reduction, a good knowledge of spatio-temporal features of the resources is crucial.

RCMs provide a high quality tool to evaluate solar resource in a spread area and its evolution in time. They are an alternative source of data due to the lack of well-spread and long-period observations databases in most places. In addition, it is a coherent database in case several variables are needed for further studies such as wind, solar radiation or temperature.

This study makes use of clustering techniques to evaluate spatial patterns of solar radiation over the Iberian Peninsula. These methods provide a non-supervised classification, which facilitates the spatio-temporal analysis of the solar radiation. The clusters are selected based on the temporal variability of solar irradiation, after applying a bias correction to this field, taking as observed values the CM-SAF satellite data. The use of several RCM simulations from EURO-CORDEX allows us to analyse the consistency of the results between different models.

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