

Atmospheric Research of The Atmosphere, Climate and Radiation in Extremadura (AIRE) Group at the University of Extremadura (Spain)

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AIRE Research Group (**A**tmosphere, **c**limate and **R**adiation in **E**xtremadura) consists of fourteen researchers (ten PhD) from the Department of Physics, University of Extremadura (Spain). The AIRE studies are focused on two main lines: climate and solar radiation.

The climate line has experience in analyzing time series of climatological variables, with special attention to studying trends and teleconnections. Currently, the group is working also on the characterization of extreme rainfall and temperature events. Moreover, an important effort has made to recover early meteorological records for reconstructing past climate. Space climate is another research line developed, aimed at the study of long-term changes in the Sun and its effects on the heliosphere. Other research line deals with the characterization of the tropopause using different datasets.

The solar radiation research line is focused on total and ultraviolet (UV) solar radiation. Erythemal UV radiation is continuously measured at six stations in Extremadura Region and UltraViolet Index values are given via the website <http://aire.unex.es/uvi>. The station located in Badajoz is equipped with additional instrumentation that allows studying not only solar radiation but also its main modulating factors. All instruments are well maintained and periodically calibrated and measurements follow strict Quality Assurance/Quality Control protocols. AIRE team collaborates with the ESAt-El Arenosillo Observatory from the Spanish Institute of Aerospace Technology in the organization of international calibration campaigns and in projects for obtaining the spatial distribution of solar UV radiation in Southwestern Spain, through the combined use of ground-based measurements, satellite-based data, empirical models and radiative transfer codes. Our research has also extended to areas of special interest such as Antarctica, deploying and maintaining meteorological stations.

The activities described above have been conducted with the close collaboration of several scientific institutions, both Spanish and foreign.

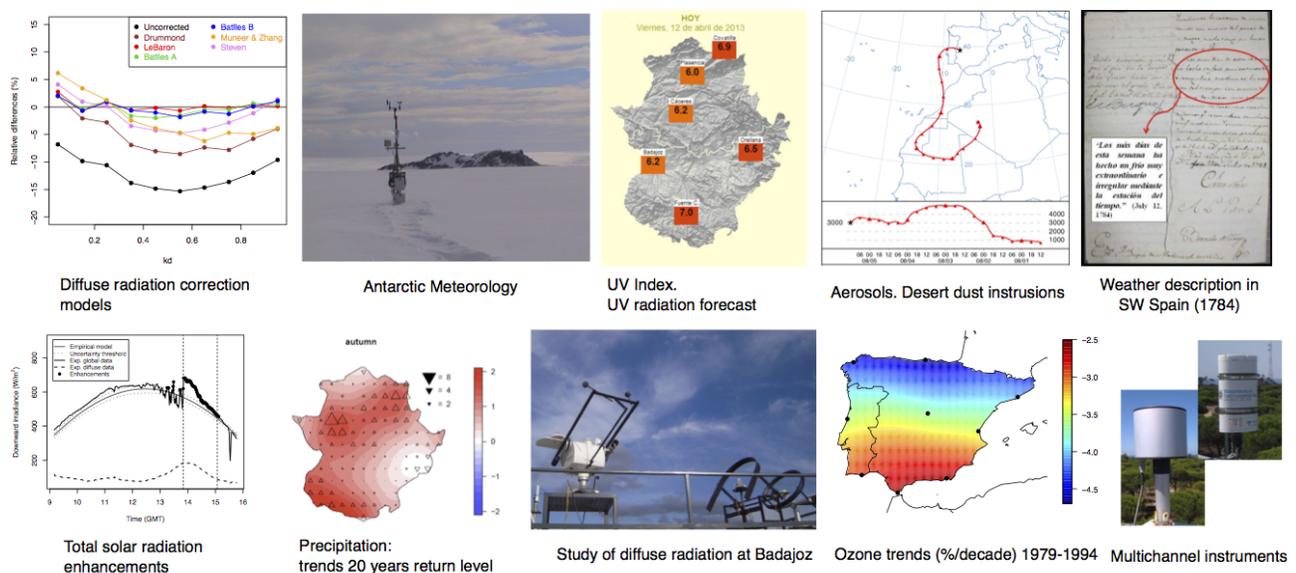


Figure 1. Examples of some studies by The AIRE Research Group.