Geophysical Research Abstracts
Vol. 17, EGU2015-13643-1, 2015
EGU General Assembly 2015

Characterization of the intrinsic and forced variability and climate change evolution of the wind speed in the iberian peninsula

William Cabos (1), Guillermo Gómez (1), Dmitry Sein (2), Giovanni Liguori (3), and José Antonio de Frutos (4)

(1) Universidad de Alcala, Dpto de Fisica, Alcala de Henares, Madrid, Spain (william.cabos@uah.es), (2) Alfred Wegener Institute for Polar and Marine Research, Am Handelshafen 12, 27570, Bremerhaven, Germany, (3) School of Earth and Atmospheric Sciences,Georgia Institute of Technology,311 Ferst Drive Atlanta, USA, (4) Department of Automatic, University of Alcalá de Henares, 28871 Madrid, Spain

We quantify the impact of climate change on the surface wind speed field over the Iberian Peninsula (IP) using the results of high-resolution EURO-CORDEX ensemble simulations. The dependence of the robustness of the regional climate signal for the wind on the global forcing is investigated. For this purpose we take simulations where different regional models forced by the same Global Coupled Model or Earth System Model. We also evaluate the dependence of the robustness of the climate signal for a given Regional Climate Model, when it is forced by different Global Models.
To this end, regions of the Iberian Peninsula with coherent temporal variability in wind speed in each of the models are identified and analyzed using cluster analysis. Then, the robustness of the evolution of the simulated wind speed under the RCP climate change scenarios in the identified regions for the 2031–2050 and 2081-2100 periods in the Iberian Peninsula is analyzed.