



## **Influence of the reduction of the incoming radiation over the Atlantic Southern Ocean on the simulation of the tropical Atlantic variability and its impacts on the equatorial Pacific.**

Teresa Losada (1), Belén Rodríguez-Fonseca (1,2), Antonio Castaño-Tierno (1), Elsa Mohino (1), and C. Roberto Mechoso (3)

(1) Universidad Complutense de Madrid, Facultad de Ciencias Físicas, Departamento de Física de la Tierra I, Madrid, Spain (tldoval@fis.ucm.es), (2) Instituto de Geociencias (CSIC-UCM), Facultad de Ciencias Físicas, UCM, Plaza de las Ciencias 1, 28040 Madrid (Spain), (3) Department of Atmospheric and Oceanic Sciences, University of California, Los Angeles, CA, 90095 (USA).

Coupled global climate models (CGCMs) show important biases in the simulation of SST, not only in the tropics, but also over the Southern Ocean. A recent work has shown that improving the errors in the Southern Ocean SST can result in an improvement of the tropical biases in the UCLA CGCM.

In this work, we analyse how this model simulates the tropical Atlantic Niño mode in a control run and we compare the results with the variability of a second simulation in which we apply an idealized reduction of the incoming shortwave radiation over the Atlantic sector of the Southern Ocean.

Our results show an improvement of the simulation of the tropical Atlantic variability at interannual timescales in the idealized simulation. The representation of the interbasin tropical teleconnection between Atlantic and Pacific Niños is also improved, with a realistic representation of its multidecadal variability.