



Non stationary impact of the Equatorial Atlantic on the El Niño Southern Oscillation

B. Rodríguez de Fonseca (1), I. Polo (2), T. Losada (3), E. Mohino (4), and R. Mechoso (5)

(1) Universidad Complutense de Madrid, CSIC-IGEO, (2) University of Reading, (3) Universidad de Castilla La Mancha, (4) Universidad Complutense de Madrid, (5) University of California at Los Angeles

The observed statistical connection between the Equatorial Atlantic (ATL3 or Zonal Mode) and Pacific Niños was shown to be significant from 1970's in a set of papers. Nevertheless, no physical explanation to this link had been proposed until recent works have demonstrated with observations and model simulations how the Atlantic Equatorial mode can alter the convection over the Atlantic, modifying the Walker circulation over the Pacific and thus, the surface winds over El Niño region in the Pacific, which in turn are able to trigger the dynamical mechanisms responsible to develop a Pacific ENSO in the next winter.

Nevertheless, a discussion is still open about the stationarity of this connection.

Using an AGCM with prescribed SSTs from 1950 in the Atlantic, we demonstrate the nonstationarity of this connection through the variability of the Walker circulation .