Geophysical Research Abstracts,
Vol. 11, EGU2009-7899-1, 2009
EGU General Assembly 2009

Comparison of COADS and MIROC climatologies as forcing of the Iberian Upwelling Ecosystem

A. Cordeiro Pires (1), R. Nolasco (1), J. Dubert (1), A. Rocha (1), and A. Peliz (2)

(1) Centro de Estudos do Ambiente e do Mar (CESAM), Universidade de Aveiro, Portugal (anacpires@ua.pt, +351234370985), (2) Instituto de Oceanografia, Universidade de Lisboa, Portugal

In order to better understand the variability of the Iberian Upwelling Ecosystem, numerical simulations with the Regional Ocean Modelling System (ROMS) were setup. These configurations allow to study the long term and large scale ocean circulation features, and also the mesoscale features associated to the coastal transition zone. It is also intended to obtain boundary conditions for ROMS with the purpose of simulating high-resolution and local small-scale physical phenomena like the upwelling dynamics and to study its seasonal-to-interannual variability, for the western coast of the Iberian Peninsula.

In this study, we intended to setup and compare two systems of atmospheric forcings: the first of these obtained from the Comprehensive Ocean-Atmospheric Data Set (COADS) climatology, and the second generated by a multi-year simulation performed by the Model for Interdisciplinary Research on Climate (MIROC) for the Northeast Atlantic circulation for the present climate. The region considered extends from the Azores Islands to the Iberian Peninsula, and from the Canary Islands to mid-Ireland. We find that the model is able to represent the major dynamic features when forced by COADS and the MIROC model, such as the Azores Frontal-Current System, and its connections to the Gulf of Cadiz. The ultimate objective is to evaluate the Iberian Upwelling Ecosystem dynamics changes by comparing two simulations of ROMS when forced by boundary conditions generated by MIROC for a present and a future climate.