Geophysical Research Abstracts, Vol. 8, 02166, 2006
SRef-ID: 1607-7962/gra/EGU06-A-02166

Decadal changes in the Canary upwelling ecosystem as revealed by satellite observations

A. M. P. Santos (1), A. S. Kazmin (2) and A. Peliz (3)

(1) Instituto Nacional de Investigação Agrária e das Pescas-IPIMAR, Lisboa, Portugal, (2) P. P. Shirshov Institute of Oceanology, Russian Academy of Science, Moscow, Russia, (3) Departamento Física/CESAM, University Aveiro, Aveiro, Portugal (amsantos@ipimar.pt / Fax: +351 213015948 / Phone: +351 213027193)

Satellite-derived sea-surface temperature (SST) data were used to study the variability of the Canary Upwelling Ecosystem-CUE (12º to 43º N) over the last two decades of the 20th century. The analysis reveals well known patterns of climatology and seasonal variability in this upwelling system. In contrast to quasi-regular decadal oscillations of SST anomalies observed in the open ocean, the coastal variability during the 1980s–1990s was better described as a decadal scale shift of the upwelling regime intensity. The analysis of the upwelling index and coastal zonal gradient of SST showed that this shift occurred earlier ($\sim$1992) in the northern part of the CUE (off western Iberia) and some years later ($\sim$1995) off the northwest African coast. The long-term variability of upwelling-favorable wind forcing during the examined period provides reasonable explanations for the observed shift of the upwelling intensity and its timing for the whole CUE. Finally, changes in the productivity of several small pelagic fish species observed for the same period suggest that there was a response of the ecosystem to these changes.