



## **Long-term variability of the upper layer structure of the northern part of Canary Current Upwelling System**

Patricia Laginha Silva (1), Paulo Relvas (1), and Miguel Santos (2)

(1) Centro de Ciências do Mar da Universidade do Algarve, Faro, Portugal, (2) Instituto Português do Mar e da Atmosfera, Lisboa, Portugal

The Canary Current Upwelling System (CCUS) is one of the major four Eastern Boundary Upwelling Systems (EBUS) of the world. The strong dynamic link between the atmosphere and the ocean in these regions makes them highly sensitive to global changes.

In this work a particular attention is given to the long-term variability of the coastal upwelling that dominates the oceanography of the region during a large part of the year. We will investigate the long-term variability of the thermocline depth and the mixed layer depth, along with the temporal evolution of the stratification. This study describes the response, at decadal scales, of the ocean sub-surface structure off Western Iberia and North Africa (CCUS northern segment: 43°N to 30°N) to the observed global warming during the last 64 years (1950 to 2013). To evaluate the variability of the subsurface structure it was utilized the oceanographic database available in the World Ocean Database (NODC) 2009. The NODC 2009 database has a good spatial and temporal resolution for our study area

A generalized warming trend is observed in the subsurface coastal waters of the Iberia Margin, even in a slight extent in the north continental platform. This warming is more intense in the upper layers above the thermocline with an intensification of the stratification. In the offshore area the warming is less intense in the upper layers with a diminishing of the stratification.