



Wind-induced temperature anomalies in the tropical and subtropical North Atlantic Ocean in 2010

Charles Troupin (1) and Francisco Machín (2)

(1) GeoHydrodynamics and Environment Research (GHER) - MARE, AGO, University of Liège, Liège, Belgium (ctroupin@student.ulg.ac.be), (2) Facultad de Ciencias del Mar, Universidad de Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain

In 2010, the tropical and subtropical North Atlantic displayed anomalously high temperatures, with values seldom observed during the last decades. In situ and remote sensing data are used to evaluate horizontal, vertical and temporal extensions of the anomalies.

The repercussions on the seasonal evolution of the mixed layer are examined; in particular, it is shown that the northwest Africa coastal upwelling is significantly weakened in comparison to previous years. The consequences on the biological variables are examined by means of satellite-derived measurements.

A simple mechanism related to changes in wind intensity is proposed in order to explain our observations. The wind weakening coincides with a strongly negative value of the North Atlantic Oscillation index.