



Spatial characterization of biogeochemical fluxes in the North West African upwelling

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Abstract

Using state-of-the art dynamical and biogeochemical models, we aimed at documenting the regionalization and seasonal variability of the ocean biogeochemistry in the North West African upwelling system. An interannual simulation covering the 1980-2009 period have been performed and has been shown to represent reasonably well the dynamical, biogeochemical features and variability of the North West African upwelling. In our simulation, the sensitivity of nearshore surface (0-100m) phytoplankton biomass (and/or Chl concentration) to upwelling intensity has been shown to display a meridional structure. Following this regionalization, we present here the main processes explaining the phytoplankton biomass patterns, its offshore extension and the related seasonality. Our study is crucial to a better understanding of the phytoplankton variability and its potential impact on higher trophic levels and therefore halieuticressources.

Keywords: dynamical model, biogeochemical model, interannual, seasonality, phytoplankton variability.



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