



Session 4

Spatial and temporal variability of primary production in the north-west African upwelling: A modelling approach.

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Abstract

An analysis based on a multi-decadal physical–biogeochemical hindcast simulation (1980– 2009) was conducted to characterize the drivers of the spatial distribution of phytoplankton biomass and production in the north-west (NW) African upwelling system. To that end, a comparative box analysis representing homogeneous sub-regions in the NW African upwelling system has been conducted. The sub-regions have been defined using the near-surface horizontal circulation patterns. In each box, we analysed the dynamics of primary productivity and nutrients with regard to advective and diffusive matter fluxes at the boundaries and local biological production and/or uptake. The nature and variability of the matter exported from the coastal margin to the adjacent open ocean were also subsequently depicted. This variability of the primary production may impact the distribution and abundance of fish populations, and their associated fisheries, on a large range of timescales.



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