

**37- Title:** Oxygen variability over the continental shelf of southern Senegal

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**Abstract:** South Atlantic Central Waters in the eastern subtropical Atlantic Ocean are characterized by an oxygen minimum zone which borders the shelf where coastal upwelling occurs. Hence waters depleted in oxygen are advected over the shelf where they undergo changes related to both physical and biological processes. Occurrence of hypoxia associated to demersal fish has been reported in the past. Since 2012, four oceanographic cruises have been carried out in Senegalese waters during the upwelling season. Two months of bottom oxygen variability has also been recorded between February and April 2015 at Melax buoy's location (14°20'N-17°13'W). These observations are completed with regional physical-biogeochemical modelling. In this study, we present the variability of bottom oxygen observed across the shelf and provide the context for hypoxic or even anoxic events to occur, which most likely impact demersal and pelagic habitats.

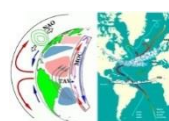
**38- Title:** Dynamical functioning of the southern Senegal upwelling as a new explanation of small pelagic spawning pattern

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**Abstract:** In the south at part of the large marine ecosystem of the Canary Current, off Southern Senegal is situated a peculiar upwelling sector characterized by a major coastline irregularity in its northern part (the 'Cap-Vert' peninsula) and a wide continental shelf further South. The southern Senegal coastal Ocean plays a major role in the national ecosystem production. Its dynamical functioning is investigated using ROMS (regional oceanographic Oceanic Modeling System) numerical simulations at horizontal resolution  $\sim 2\text{km}$ , i.e. resolving fine-scale details of the frontal system present over the continental shelf during the upwelling season. The presence of Cap-Vert peninsula in the North exerts a major influence over the mesoscale activity, Ekman coastal divergence and upwelling patterns, and more generally over the pathways followed by cold subsurface water feeding the coastal divergence. Our dynamical analysis offers important new insight into the spawning patterns of major exploited fish species observed in the region, e.g. during the recent surveys at sea.

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