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Study of phytoplankton group distribution in the NW African upwelling system and its relation with hydrographical parameters

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Phytoplankton is one important factor in biogeochemical cycles in the ocean, controlling partly the carbon cycle in the ocean. The CO2 captured by phytoplankton in shallow waters is transported to deeper layers in the ocean (Anderson, 2005). This only happens when microplankton or nanoplankton is formed due to their bigger size contributes their sinking to deeper layers. In the case of picoplankton the carbon is recycled in the same zone where is produced. The type of phytoplankton predominant can vary according to hydrographical and chemical properties present (Jeffrey et al., 2005).
Pigment speciation can provide valuable ecological information in the form of classification of phytoplanktonic biomass in different groups (chlorophyta, diatoms, dinoflagellates, coccolithophorids or silicoflagellates) organized in different sizes: microphytoplankton (20-200 μm), nanophytoplankton (2-20 μm) and picophytoplankton (0.2-2 μm). There are different data processing methodologies for obtaining these classifications, one of the most accepted is the procedure taken by NASA (Hooker et al., 2005) developed by Vidussi et al. (2001), and also the use of CHEMTAX program (Mackey, 1996).
It was studied pigment composition of phytoplankton and several physical and chemical properties, focused in the Northwestern African Upwelling area, including Senegal area, Mauritanian and Cape Blanc area and Morroco area. Pigment composition was analyzed by high pressure liquid chromatography and determined in different samples in the studied area, with this composition it was obtained phytoplankton classification, according to their size and to the different phytoplankton groups.
These results have been related with marine biogeochemical factors presents in studied zone.

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