



## **Preliminar phytoplankton classification in blooms at Argentinian continental shelf and its influence in the carbon cycle**

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The growing up of phytoplankton is one the most important factors that influence the “biological pump”, controlling partly the carbon cycle in the ocean. The CO<sub>2</sub> captured by phytoplankton in shallow waters is transported to deeper layers in the ocean. 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.

This study is focused on the southwestern Atlantic region, over the Argentinian continental shelf (between 36° and 50°S) where the Malvinas and Brazil currents meet. It gives a confluence zone very rich in nutrients with shallow and euphotic waters. These properties promote the proliferation of phytoplanktonic blooms, giving areas with high biomass concentration.

The type and concentration of phytoplankton has been determined and classified according to their size. Those were sorted in three groups: microplankton, nanoplankton and picoplankton. For this classification they were analysed the kind and concentration of the pigments presents in the studied zone, applying high pressure liquid chromatography with UV detection (HPLC-UV). These results have been related with marine biogeochemical factors presents in studied zone.