

The ANTARES-Ubatuba coastal time-series station (SP/Brazil): nine years of *in situ* and satellite monitoring

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Coastal zones are highly dynamic systems in the interface of ocean-climate and continental processes, and thus highly vulnerable to natural and anthropogenic changes. This complex system embraces important coastal and marine ecosystems and is usually combined with highly populated areas, sharing different activities. It is thus very important to understand the processes regarding these interfaces and monitor the changes and their effects.



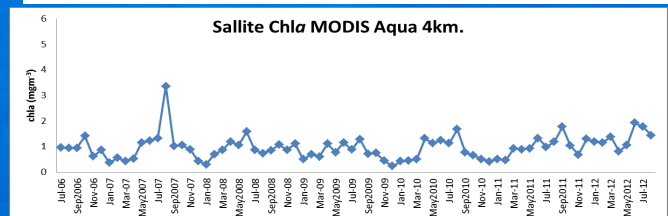
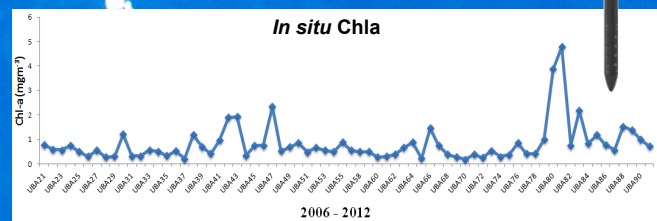
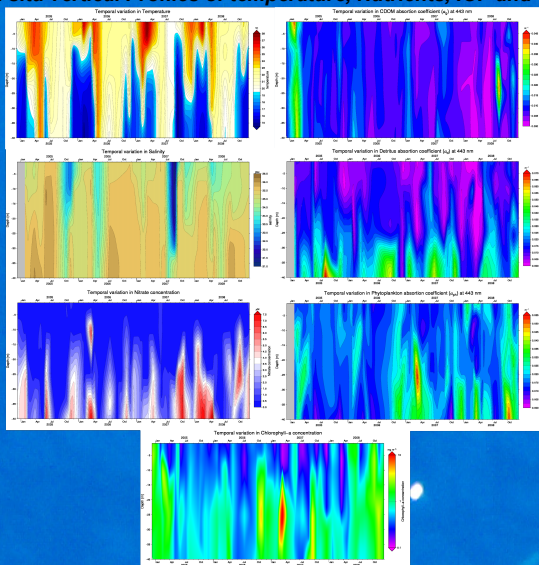
Ocean colour remote sensing is a powerful tool for environmental monitoring, and the only means to obtain the spatio-temporal distribution of biogeochemical properties in large geographical scales with a high frequency of acquisition. However, the determination of these properties in coastal optically complex waters is a challenge for bio-optical modeling.

The ANTARES regional network aims the validation and adjustment of bio-optical models, and the monitoring of climate and anthropogenic changes in coastal zones around Latin America.

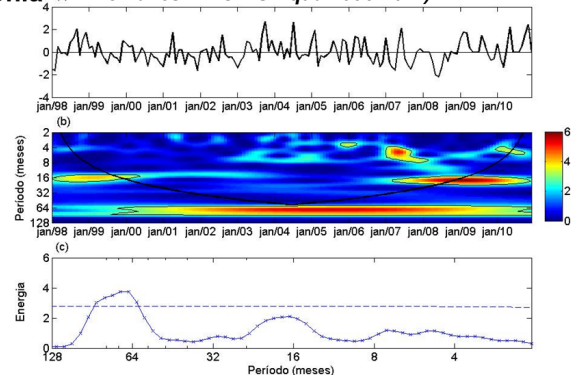
The Brazilian southeastern continental is an important environmental and social-economic region with biological protected areas, high tourism activities, local fisheries, aquaculture activities and with one of the greatest natural gas reserve of the Brazilian coast.



In situ vertical Profiles of temperature, Nutrients, IOP and Chla



Chla (a) Anomalies – MODIS Aqua 1998-2011



The ANTARES-Ubatuba monitoring program aims to provide reliable and accurate ocean colour products for the region, as well, as monitor the processes that regulate the distribution of biogeochemical properties, as the phytoplankton distribution and coloured dissolved organic matter, and detect possible changes that may affect (or be affected by) the human activities and natural environment.