



Terceira Sessão: Conservação e áreas afins – Comunicações orais

Implementation of remote sensing data in CETESB Water Quality Monitoring Program: Support for environmental conservation in the São Sebastião Channel

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Virtual monitoring systems built from satellite imagery, numerical models and in-situ data aim to provide valuable information about coastal ecosystems and overcome gaps in monitoring programs based only on field campaigns. This study aims to evaluate the use of satellite images in the development of a virtual system for monitoring ocean color and water quality parameters in the São Sebastião Channel, seeking to verify the viability of applying remote sensing data to build a monitoring system in quasi-real time (daily - 8 days) and improve the resolution of the time series (semi-annual) of CETESB coastal water quality program. Preliminary results include the correlation analysis between chlorophyll-a and salinity (-0.3 to 0.05), sea temperature (-0.37 and -0.2) and total organic carbon (-0.13 to 0.2) collected by CETESB at 5 points that demonstrated distinct environmental characteristics along the São Sebastião Channel. A matchup exercise was performed between chlorophyll-a estimates from the VIIRS sensor (OC3) and the percentage difference between in-situ and satellite data was between 4% and 300% and revealed the challenges in using easily accessible information and 750m spatial resolution. Next steps in the research include processing data from the high spatial resolution sensors (300, 100m, 30m and 15m) and identifying possible sources of errors and uncertainties in ocean color estimates. The aim is to enable the accurate collection of ocean color data by satellite in a highly complex coastal system such as the São Sebastião Channel and to subsidize the creation of computational tools for observing ocean color parameters in the region.

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