

Terceira Sessão: Conservação e áreas afins – Pôsteres

What drives the water transparency changing in Alcatrazes Archipelago?

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Sea water transparency usually is represented by the Secchi disk depth (ZSD) and the monitoring of this variable indicates water quality and provides relevant information to understand characteristics, patterns, environmental variations and general events in a given location. The light attenuation in aquatic systems can be quantified by coefficients determining the decrease in solar irradiance with depth (KdPAR). The present study aims to estimate the relationship between in situ measurements of ZSD and abiotic factors as a temperature, salinity, PAR and KdPAR in Alcatrazes Archipelago (São Paulo, Brazil). The region is known for its transparent waters, but also receives periodic contributions of distinct water masses. Data were collected between December/2021 and July/2023 using a standard Secchi disk and a number of CTDs, some including PAR sensors (AAQ-Rinko/JFE, Maestro/RBR and CastAway/SonTek/YSI). Irradiance data as a function of depth were processed, removing the first 4 meters and calculating the variables averages referring to the mixed layer (ML) when present or up to the maximum depth. KdPAR data showed a correlation of 0.65 with ZSD and 0.46 with temperature; ZSD showed a correlation of -0.30 with salinity; and the temperature of 0.57 with PAR. When we evaluated the presence of colder waters in the water column, we noticed a decrease in the correlation between KdPAR and ZSD (0.09) and an increase between ZSD and salinity (0.61). Profiling PAR in the water column is very complex, and with that we are developing a new way of obtaining and processing data. Although these are preliminary results, it is possible to verify that the presence of colder waters changes the variables related to water transparency and their correlations.

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