

Phytoplankton Community Composition in Laguna de Terminos, Mexico, and Its Relationship to Environmental Variables

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Abstract : The phytoplankton community composition was studied in a tropical coastal lagoon of Mexico and relationships with environmental variables were evaluated. Six sites inside the tropical Terminos Lagoon were sampled in order to determine abundances and ecological indexes for phytoplankton from May to December 2017. Water samples were also collected to determine the values of pigments, nutrients, and water solids. Results showed that the composition and abundance of the phytoplankton community were influenced by physicochemical factors, nutrients, water solids, and climate seasons. Sixty-six species were identified as potential HAB producers (44.29% from total). However, abundances were not related to the occurrence of HAB during the study. Multidimensional ANOVA indicated no significant differences between sites while some months revealed significant differences. The canonical analysis suggested that environmental variables explained 49% of community variation of potential phytoplankton species producers of HAB.

Keywords : phytoplankton, environment, lagoon, biodiversity

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