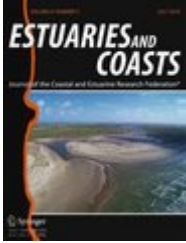


## Publication MIO : Floriane Delpy, Bruno Serranito, Jean-Louis Jamet (MIO), Gérald Grégori (MIO), Christophe Le Poupon (MIO), Dominique Jamet (MIO)- Pico- and Nanophytoplankton Dynamics in Two Coupled but Contrasting Coastal Bays in the NW Mediterranean Sea (France) in Estuaries and Coasts

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### Abstract

Due to its ecological context, the Toulon bay represents a site of scientific interest to study temporal plankton distribution, particularly pico- and nanophytoplankton dynamics. A monthly monitoring was performed during a two-year cycle (October 2013–December 2015) at two coupled sampling sites, referred to as Little and Large bays, which had different morphometric characteristics and human pressures. Flow cytometry analyses highlighted the fact that pico- and nanophytoplankton were more abundant in the eutrophic Little bay. Furthermore, it evidenced two community structures across the Toulon bays : at times, a co-dominance of picoeukaryotes, nanoeukaryotes, *Synechococcus* 1-like cells and *Prochlorococcus*-like cells was found, and at other times, a *Synechococcus* 1-like dominated community existed. The alternation of one structure or the other can be explained by a combined action of temperature regime, nutrient conditions and degree of contamination. This study showed that pico- and nanophytoplankton dynamics were mainly driven by temperature in both sites, as in other temperate Mediterranean regions. Thus, the community was mainly composed of picoeukaryotes and *Prochlorococcus*-like cells in the winter ( 20 °C). Additionally, the multiple human stressors in the Little bay seemed to affect the increase in abundance of *Synechococcus* 1-like cells as they were preferentially observed in the Large bay.

### Keywords

Pico- and nanophytoplankton Flow cytometry Coastal environments Mediterranean Sea Spatiotemporal distribution

Voir en ligne : <https://link.springer.com/article/1...>