



2015 Aquatic Sciences Meeting

Aquatic Sciences: Global And Regional Perspectives — North Meets South

22-27 February 2015 — Granada, Spain

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ABSTRACT

RESOURCE USE EFFICIENCY IS AFFECTED BY PHYTOPLANKTON COMMUNITY CHANGES AND GEOCHEMICAL SHIFTS OVER TIME IN A COASTAL UPWELLING AREA (NE ATLANTIC)

Time series records are crucial to understand the dynamical processes that occur within phytoplankton communities. This is even more important in the context of the current global change that is already forcing alterations of unprecedented nature and might have unknown consequences for multiple ecosystem processes. Here we present time series analyses of the biogeochemical trends that occurred in the shelf of the Galician coast (station 2 off A Coruña, NE Atlantic) since late 1980s. Upwelling strength and sea temperature in the area have not changed substantially during the last decades. However, while nitrate fertilization from upwelled waters has remained relatively stable, phosphate concentration has increased leading to a negative trend in the N:P ratio. Those trends have impacted the phytoplankton resource use efficiency jointly with the evenness of the community. Phytoplankton used resources more efficiently at higher values of upwelling strength and at lower values of nutrient concentration and evenness. Phytoplankton communities that were more even had higher dinoflagellate diversity contrasting to dominance of diatoms that used resources more efficiently. Moreover, variability in resource use efficiency increased with evenness.

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DETAILS

Oral presentation

Session #:116

Date: 2/24/2015

Time: 09:45

Location: Room C (Floor -3)

Presentation is given by student: No



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