



## **Response of Phytoplankton Community Structure to Ocean Acidification in the South China Sea — Preliminary Results**

B. Q. Huang, K. S. Gao, L. Wang, and G. Gao

State Key Laboratory of Marine Environmental Science, Environmental Science Research Center, Xiamen University, Xiamen 361005, China. (bqhuang@xmu.edu.cn)

The effects of ocean acidification on the phytoplankton community structure and biomass were studied in shelf and basin of the South China Sea (SCS) in Jan. 2010. High CO<sub>2</sub> concentration (800 ppm) and control (390 ppm) were introduced on board incubations for 7 d. Phytoplankton pigments were determined using HPLC and the community structure was calculated using CHEMTAX program.

The results showed that TChl a (Mv-Chl a+Dv-Chl a) decreased slightly in the acidification treatment (800 ppm). Most of the pigments declined in the acidification incubation except the 19'hex-fucoxanthin, 19'but-fucoxanthin and Mv- Chl b in the basin station, which increased. The response of community structure and biomass also represented differently between shelf and basin of SCS. Diatoms dominated and was equal to control under the acidification treatment in the shelf station. Simultaneity, the Haptophytes\_4, Haptophytes\_3 and Prasinophytes increased in term of contribution, while the Haptophytes\_4 increased in term of TChl a biomass in the shelf station. Cyanobacteria and Prochlorophytes increased in the treatments in basin station in term of both contribution and biomass. However, Diatoms, Haptophytes\_3, Haptophytes\_4 and Prasinophytes decreased in the basin station by contribution and biomass. The ocean acidification could affect both of the community composition and biomass, but response might vary between the shelf and the basin in the SCS.