Geophysical Research Abstracts, Vol. 9, 09955, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-09955

Local alkalinity changes in NW Mediterranean following a post-mixing event phytoplankton bloom.

J. A. Morguí (1), M. Vidal (2), M. Emelianov (3), J. L. López-Jurado (4), M. Latasa (3) and J. Salat (3).

(1) Climate Research Laboratory, Science Park of Barcelona (UB), Spain, (2) Ecology Department, University of Barcelona, Spain, (3) Institut de Ciències del Mar (CSIC), Barcelona, Spain, (4) Centre Oceanogràfic de les Balears, Palma de Mallorca, Spain. (jamorgui@pcb.ub.es)

After a deep mixing event in late winter 2005, a phytoplankton bloom developed in the Medoc area (close to 41º 45' N, 5º 7' E). Water samples were taken in a quasi-lagrangian design, following the drift of a floating trap anchored at 200 m depth, during EFLUBIO-2 cruise, between March 25 and April 5 2005. The study included an area south of the Nor Balearic Front (NBF) out of the bloom. Stations were occupied early in the morning and in the afternoon. Profile samples of the superficial waters (ca. 5, 10, 20, 30, 40, 60, 80, 100 m) and also of deep waters (ca. 200, 500, 1000 m) were analysed for dissolved inorganic carbon by the Gran alkalinity titration method. Results showed DIC gradients of 100 μM over 100 m depth. They are discussed in relation to measured O_2 and pH gradients. These values and the CO_2 to O_2 ratios are evaluated upon the rationale of high CO_2 surface uptake and net community production.