INTRODUCTION

The increase in the anthropogenic CO₂ released to the atmosphere, induces an increase in the dissolved CO₂ in the ocean, causing elevated pCO₂ values and a pH decrease. Due to the increasing atmospheric CO₂, several on-going research programs are evaluating the impact of acidification on marine organisms, intent to predict their future. In this mesocosm experiment (KOSMOS 14GC), we assessed the effect of different CO₂ concentrations on metabolism in microplankton (0.7-50μm size) and in biogenic particles harvested by sediment traps.

MATERIAL AND METHODS

RESULTS

CONCLUSIONS

- Preliminary observations about the effect of the different pCO₂ treatments on potential respiratory activity show that the time-courses of all measured parameters were similar for all treatments.
- The appearance of two peaks in the IDH time-course suggests a change in the microplankton community.
- IDH activity is more variable than IDH, and may be related to changes in the metabolic pathways of the microplankton community.
- In sediment traps, the maximum concentration of live biogenic particles occurred around two weeks after deep-water addition.

All parameters display a maximum value, in all mesocosms, on the day 41, except for MS where it appears on day 37. This value occurred in different pCO₂ treatment for each of the parameters.

The appearance of two peaks in the IDH time-course suggests a change in the microplankton community.

Note that IDH activity, in M4, still has a peak on the last day of the experiment.

LITERATURE CITED

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