

Norway

Overview

Work on trace elements and their isotopes in the ocean included primarily global ocean modeling. In the past year, at the University of Bergen and the Bjerknes Centre for Climate Research, a modeling study on radionuclides and potentially changing particle fluxes as a consequence of progressing ocean acidification has been refined and presented at two different workshops (see below under meeting presentations). All respective model runs with the HAMOCC biogeochemical ocean general model have been repeated several times for slightly improved model versions (among other issues: improved sediment coverage with respect to open ocean CaCO_3 weight fraction). Primarily, simulations of the radioisotope ^{230}Th were used to better constrain marine particle fluxes and their changes due to increasing CO_2 (decreasing pH and CO_3^{2-} saturation). A draft for a corresponding manuscript in preparation has been written (also for a deliverable of the EU FP7 project EPOCA, which has been coordinated by J.-P. Gattuso, France.)

Presentations in meetings

- Heinze, C., and T. Ilyina, 2011a, Potential of radionuclides to detect large scale impacts of ocean acidification, IPCC WGII/WGI Workshop on Impacts of Ocean Acidification on Marine Biology and Ecosystems, Okinawa, Japan, 17-19 January 2011 (poster).
- Heinze, C., and T. Ilyina, 2011b, Monitoring the impact of ocean acidification through ^{230}Th – where and when? 3rd GEOTRACES Data-Model Synergy Workshop, Universitat Autònoma de Barcelona, Spain, November 14-17, 2011 (oral presentation, plenary).

Submitted by: Christoph Heinze