

## THE EFFECTS OF OCEAN ACIDIFICATION AND SIDEROPHORE ADDITIONS ON TRACE-METAL DYNAMICS DURING AN EMILIANIA HUXLEYI-DOMINATED BLOOM IN A COASTAL MESOCOSM EXPERIMENT.

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The combined impacts of high CO<sub>2</sub> and changes in trace metal availability on plankton remain largely unknown. A 22 days mesocosm experiment was carried out in the Raunefjord, off Bergen, Norway (June 2012) to investigate the interactive effects of increased CO<sub>2</sub> and changes in iron availability in the pelagic community. Twelve mesocosms covered by PAR and UVR transparent lids were used. The CO<sub>2</sub> treatments consisted of present (LC; 390 ppmV) and predicted levels for year 2100 (HC; 900 ppmV). On day 7, half of the mesocosms were amended with the siderophore desferoxamine B (DFB) at 70 nM (final concentration). We studied changes in dissolved Cu (dCu) and Fe (dFe), and in the elemental composition of particles. Dissolved Fe and dCu were measured by chemiluminescence flow injection analysis, while particulate metals were determined by high-resolution inductively coupled mass spectrometry. The metals were normalised to P and Al to evaluate the relative influence of biotic and abiotic sources. Samples were taken throughout a bloom of the coccolithophore *E. huxleyi*. Further details will be discussed.