

## Ocean Iron Fertilization: Exploring Ocean Iron Fertilization: the scientific, economic, legal and political basis

Could dumping iron in the ocean help to mitigate increasing atmospheric CO<sub>2</sub>? Scientists began to study that question in earnest after John Martin's famous quote "Give me half a ship load of iron...I could give you an ice age". Martin's comment, made more or less facetiously at a July 1988 WHOI Journal Club lecture, was based upon the fact that ocean phytoplankton take up carbon dioxide to grow, and that this growth can be stimulated in certain ocean basins by the addition of iron, a necessary micronutrient that is common on land, but often rare in the ocean. This knowledge has led to the suggestion that we could intentionally change atmospheric CO<sub>2</sub> concentrations, and climate, by adding iron to the ocean, and there are now plans underway to do this on a large-scale, commercial basis. However, there is considerable uncertainty and disagreement as to whether we should move ahead with ocean iron fertilization on large scales, whether this would do more harm than good, and the legal and political framework under which this might take place.

We had a Symposium on September 26-27, 2007 on the topic of ocean iron fertilization. We felt that the time was right to bring together natural and social scientists, policy makers, and commercial interests to inform each other, and the public, about this important topic. Our goal was to present the state of the science and discuss remaining uncertainties regarding the impacts and efficacy of ocean iron fertilization and issues that arise with the commercialization of this process. The format included a select set of invited speakers and panel discussions over the course of two full days at the Woods Hole Oceanographic Institution. Participation was limited to a small number of invited guests, so we could maximize the chances for interaction among the group.

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