Geophysical Research Abstracts,
Vol. 11, EGU2009-8811, 2009
EGU General Assembly 2009


# Shallow Carbon Export from an Iron fertilised Plankton Bloom in the Southern Ocean

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Some regions of the global ocean, notably the Southern Ocean, have high levels of macronutrients yet low levels of chlorophyll (the high nutrient, low chlorophyll or HNLC condition). Numerous artificial iron fertilization experiments conducted in the Southern Ocean have resulted in enhanced phytoplankton biomass and macronutrient drawdown. However the subsequent long-term biogeochemical consequences of such iron fertilization are unclear due in part to the limited size and duration of such experiments. An alternative way to assess the affect of iron over the Southern Ocean biological carbon pump is to observe the evolution of plankton production in regions of the Southern Ocean where shallow topography and Ocean currents interact to promote to release terrestrial iron into HNLC waters. During 2004-5 RRS Discovery conduced a complex programme of observations in such a region around the Crozet Islands in the SW Indian Ocean. The results of this programme, focussing on a quantitative estimate of carbon export per unit iron addition, will be presented.