

Metadata Details

Title

Biogeochemical studies with special reference to Polar Fronts During VII Southern Ocean Expedition.

Science Keywords

Category	Paleoclimate
Topic	Geo-Chemistry
Expedition Year	2012-2013
ISO Topic	Meteorology

Summary

Abstract

The Southern Ocean is recognized as a region of major significance in the biogeochemical cycle of carbon and nutrients. It is the largest high-nutrient low-chlorophyll (HLNC) zone of the global ocean. The SO is the source and sink for several intermediate and deep water masses of the world oceans. In the SO, there exist various frontal waters, like the Subtropical Front (STF), Subantarctic Front (SAF), the Polar Front (PF) and Antarctic coastal waters. Frontal waters are highly complex systems formed at the mixing of distinctly different water masses, and hence are physico-chemically dynamic regions. Certain areas in the SO can act as a sink for CO₂ by absorbing carbon from the atmosphere by various physical and biochemical processes which help in export of carbon from the surface layer to the deep ocean and finally to the sediments.

Purpose

1. Investigate the fate of carbon dioxide in the PF waters.
 2. Identify the role and major components of organic carbon - Carbon inventory and biogeochemistry.
 3. To understand the nutrient dynamics - processes governing its distribution in the PF waters
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