

Metadata Details

Title

Glaciochemical Studies in Antarctica.

Science Keywords

Category	Cryosphere
Topic	Glaciers/Ice Sheets
Expedition Year	1985-1986
ISO Topic	Water Chemistry

Summary

Abstract

The concentration of some major ions (Na, K, Cl) and heavy metals (Fe, Co, Ni, Ca, Mg, Zn, Cu, Pb and Cd) of ten snow, ice and lake water samples collected near Dakshin Gangotri (D.G.) Station (70°S, 12°E) have been measured. The concentrations of major ions are normalised to Na. These ratios are similar to that of seawater indicating that snow/ice/lake-water samples are influenced by the marine salts. However, the reason for high Cl/Na ratios in Maitree glacier ice and Wohlthat lake are somewhat puzzling. The concentrations of heavy metals Zn, Cu, Pb, Cd, Co, Ni are below the detection limit indicating no significant anthropogenic contribution in the region under investigation.

Purpose

The Antarctic ice sheet is considered to be one of the important driving forces behind global atmospheric circulation. Antarctica is very well known to be the reference point for all environmental and pollution studies because of its remoteness and the climatic conditions, restricting human activities to minimal in this region. An examination of potential pollutants, therefore, should give a base value for comparing with time their increase in the marine environment. The comparison of glacial ice of Antarctica with the Himalayan glaciers can indicate the concentrations of pollutants at the southern and northern extremities of the Indian Ocean.

Data Center