



The papers contained in this issue originate from cruises under an initiative of the Intergovernmental Oceanographic Commission's (IOC) Committee on the Global Investigation of Pollution in the Marine Environment (GIPME), with additional funding and provision of research vessels by host countries and funding agencies, particularly the US National Science Foundation. This initiative has fostered a thorough biogeochemical investigation of trace metals and other trace substances in the Atlantic. Three cruises have taken place: 1. in March-April 1990, aboard the Meteor from Cape Town, South Africa to Funchal, Madeira; 2. in August 1993 aboard the CSS Hudson from St. Johns, Newfoundland to Reykjavik, Iceland; and 3. in May-June 1996 aboard the RV Knorr from Montevideo, Uruguay to Georgetown, Barbados.

These cruises were designed to sample the major water masses of the Atlantic Ocean and were international in scope. Previous papers have been published on this subject in *Marine Chemistry* (Volume 49, No. 4 (1995) and Volume 61, No. 1-2 (1998)).

This issue of *Deep-Sea Research* contains papers from the second and third cruises, three papers dealing with the former (1993) and five the latter (1996). The North Atlantic cruise sampled surface waters and deep waters in the region of North Atlantic deep water formation while the western Atlantic cruise was designed to sample surface waters and water masses formed in the Southern Ocean, as well as North Atlantic Deep Water. Papers deal with radiotracer studies of particle transport and water mass movement, mercury biogeochemistry in the ocean and atmosphere, as well as silver and sulfide.

Overall, these papers provide new and innovative information on the factors influencing the biogeochemical cycling of trace substances in surface and deep waters of the Atlantic Ocean.

- . Biogeochemical cycling of trace substances in the Atlantic Ocean: - an introduction -- 865-866

Gregory A. Cutter and Christopher I. Measures -- The 1996 IOC contaminant baseline survey in the Atlantic Ocean from 33°S to 10°N: introduction, sampling protocols, and hydrographic data -- 867-884

Matthew A. Charette and S. Bradley Moran -- Rates of particle scavenging and particulate organic carbon export estimated using ²³⁴Th as a tracer in the subtropical and equatorial Atlantic Ocean -- 885-906

M.M. Sarin, Guebuem Kim and T.M. Church -- ²¹⁰Po and ²¹⁰Pb in the South-equatorial Atlantic: - distribution and disequilibrium in the Upper 500m -- 907-917

A.J. Véron, T.M. Church, I. Rivera-Duarte and A.R. Flegal -- Stable lead isotopic ratios trace thermohaline circulation in the subarctic North Atlantic -- 919-935

R.P. Mason and K.A. Sullivan -- The distribution and speciation of mercury in the South and equatorial Atlantic -- 937-956

C.H. Lamborg, K.R. Rolfhus, W.F. Fitzgerald and G. Kim -- The atmospheric cycling and air-sea exchange of mercury species in the South and equatorial Atlantic Ocean -- 957-977

I. Rivera-Duarte, A.R. Flegal, S.A. Sañudo-Wilhelmy and A.J. Véron -- Silver in the far North Atlantic Ocean -- 979-990

Gregory A. Cutter, Russell S. Walsh and Catarina Silva de Echols -- Production and speciation of hydrogen sulfide in surface waters of the high latitude North Atlantic Ocean -- 991-1010