

Distribution of ^{210}Po and ^{210}Pb at GEOTRACES stations in the South East Pacific Ocean

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The ^{210}Po and ^{210}Pb radionuclides in the natural ^{238}U -series have been extensively utilized as key tracers in marine systems since the GEOSECS program in the early 1970s. As one example, the disequilibrium of this parent-granddaughter pair has been used to quantify POC removal fluxes in the world oceans. As such, ^{210}Po and ^{210}Pb are also identified as priority tracers by the U.S. GEOTRACES Scientific Steering Committee in their '**Principles and Priorities of the U.S. GEOTRACES Intercalibration Initiative.**' In the North Atlantic GEOTRACES transects the dissolved and particulate fractions of ^{210}Po and ^{210}Pb are being measured at ocean margins, intermediate and benthic nepheloid layers and hydrothermal plumes to model removal rates of biogenic (Po) and lithogenic (Pb) components.

Likewise we propose to continue our joint-collaborative study of these nuclides along proposed GEOTRACES transects in the eastern Pacific Ocean targeting similar interfaces. The nuclides will be collected at Super Stations along the proposed Zonal Section between Peru and Tahiti south of the equator. Stations in the east include the intense upwelling region (Peru Margin) and across the extensive oxygen minimum zone. Those in the west include expansion of the hydrothermal plume associated with the East Pacific Rise. Our proposed study, in conjunction with other projects investigating the distribution and cycling of other TEIs, will significantly enhance our quantification of the scavenging dynamics of trace elements in the south eastern Pacific.