Chemical Characteristics and Trace Metal (Cd, Cu, Ni) Partitioning in Near-shore Waters off Taiwan's West Coast

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Abstract

Hydrological data and water samples were collected on two different investigation surveys (November 2004 and May 2005), representing opposite seasonal conditions, along the west coast of Taiwan. On each occasion, 25 surface coastal seawater samples were collected using "clean" sampling procedures (Wen, 1996; Wen et al., 1999). Nutrients (N, P, Si), total dissolved and particulate metal concentrations (Cd, Cu and Ni), along with chemical affinity fractions (labile-cationic, organic-anionic, and inert-unexchangeable) of dissolved trace metals (Jiann and Presley, 2002), were determined in those samples. Large spatial and temporal variations were found for most parameters along the coast and between those two cruises, respectively. Trace metal partitioning between particulate and dissolved phases, among their dissolved chemical affinity fractions and against hydrochemical parameters, for the two sampling times also showed distinct patterns, indicating that various factors controlled the distribution of trace metals in the near-shore coastal seawater.

Reference

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