

Heavy metals dynamics and source in intertidal mangrove sediment of Sabah, Borneo Island.

ABSTRACT

There is increasing concern about the impact of anthropogenic activities in many tropical coastal areas such as in mangrove forest. Heavy metal cycling is a serious problem faced in mangrove environments due to the anthropogenic activities. This study was carried out to investigate the dynamics of heavy metals concentration. The results revealed relatively higher concentrations of heavy metals at high tide compared to low tide. This observation is complex by other factors such as redox condition, presence of hydroxides and oxyhydroxides. The major source of heavy metals in mangrove surface sediment is anthropogenic such as from agricultural, aquaculture and industrial activities. This finding has updated knowledge about intertidal role on heavy metal dynamics in tropical mangrove sediment. The results also influence the concern of using mangrove ecosystems to be an alternate low cost wastewater treatment system.

Keyword: Mangrove surface sediment; Heavy metals; Intertidal.