Mo in estuaries: Impact on global oceanic budget of Mo

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Dissolved Mo was analyzed in four Indian estuaries i.e. the Narmada, Tapi, Mandovi and the Hooghly falling into the Arabian Sea and the Bay of Bengal respectively. The river water end members range from 1.0 to 10 nmol/kg with the Mandovi and the Hooghly having the lowest and the highest concentration. Among these four estuaries, Mo shows nonconservative mixing in the Hooghly and the Mandovi with its significant removal in lower salinity ranges (0 to 15‰). Similar observation is reported for U in the Hooghly and the Meghna estuaries (Carroll and Moore, 1993,

Somayajulu, 1994). As suggested for U, Mo seems to be removed due to the local anoxia resulting from the wide spread mangrove swamp present in Ganga-Brahmaputra delta.

Available data on Mo supply $(2.0 -2.6 \times 10^8 \text{ mol/y})$ to ocean and sink $(1.1-1.7 \times 10^8$ mol/y) from ocean indicate a significant missing sink of Mo if it is in steady state with respect to input/output (MacManus et al., 2006). The current study provides an estimate of an additional Mo sink in the range of 0.4 to 3.1×10^8 mol/y caused by



Fig: 1 Salinity versus dissolved Mo in the Hooghly and the Mandovi estuaries.

the presence of mangrove swamps worldwide oceans which can serve as an important sink of Mo and could explain the missing sink.in its global oceanic budget

Keywords: Estuary; Mo; Mangrove; Hooghly; seawater

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