

Impact of dissolved trace metals on human health in tropical river estuaries, South-West Coast of India.

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Three tropical river estuaries, Swarna, Sharavati, and Kali, were investigated to highlight the impact of dissolved trace metals (Fe, Mn, Co, Ni, Cu, Cd, and Pb) on the human health through dermal exposure pathway. Risk was assessed for adults and children groups. Exposure to the skin was similar in both the studied seasons viz. post monsoon and pre-monsoon. Amongst the metals, Mn and Fe exposure rates were significantly higher than other elements in all the three estuaries. These metals could be sourced from the catchment rocks of the Western Ghats that hosts Mn and Fe ore bodies. Hazard index values for the studied metals in adults and children are below risk thresholds, though children are more prone to health risk through the dermal pathway. Such results will be useful to the policymakers to devise pollution control strategies to safeguard human health.