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Assessment of trace metal contamination of wetland sediments from eastern and western coastal region of India dominated with mangrove forest.

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10 **Abstract**

11 Ecosystem and biodiversity of India's coastal areas dominated with mangrove forest have
12 been threatened by growing anthropogenic activities. The present work aims to investigate
13 the contamination of wetland sediments with trace elements and assess the sediment quality
14 at different sampling locations in eastern and western coastal region dominated with mangrove
15 forest. The longitudinal profile of trace elements in sediments from different sampling
16 locations analyzed by employing Energy Dispersive X-ray Fluorescence (EDXRF)
17 spectrometer shows variations in distribution of elements like Al, Si, K, Ca, V, Cr, Mn, Fe,
18 Ni, Cu, Zn and Pb. The enrichment factor (EF) and Geo-accumulation index (I_{geo}) values
19 suggested depletion of clay minerals and enrichment of heavy metals like Cr, Cu Fe and Mn.
20 Depending on the variations in I_{geo} values, the elements are put into I_{geo} Class 0 to 3 levels of
21 contamination. Contamination factor (Cf) and pollution load index (PLI) suggested
22 deterioration of sediments analyzed in the present study. Assessment of ecological risk
23 potential of elements suggests that few elements (Cr and Cu) are moderately contaminated
24 and may cause environmental stress on the exposed flora and fauna.

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