



Profiles of Heavy Metal Species in Maharlu Lake, SW Iran; An Implication for Metal Sources

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In order to study the geochemical characteristics of contamination history of metals in Maharlu Lake (SW Iran), total and chemical partitioning of As, Cr, Cu, Cd, Pb, Zn, Ni, Co, Fe and Mn were determined in core sediments. A five stage sequential extraction procedure was applied for the determination of metal speciation. The texture, L.O.I, CEC, and pH were also determined using standard modes. Results show that Cu, Cr and Fe are mainly associated with the residual fraction; Mn, Co, Pb, and Ni are mainly associated with carbonate phase. A major proportion of As is associated with reducible fraction, and Cd is dominantly exists as an exchangeable phase. The increase of total concentration and percentage of non-residual phases of As, Cd, Pb, Zn, Ni, Co, and Mn in the upper layers of the cores indicated the anthropogenic source of these elements, introduced through seasonal drainages. The upper sediments of the cores were found to have more residual fraction of Cr, Fe, and Cu, which suggested the natural source of these metals. The relationship between sediment properties and metal partitioning is also discussed.