

Assessment of metals contamination in Klang River surface sediments by using different indexes.

ABSTRACT

Surface sediments (0-5 cm) from 21 stations throughout Klang River were sampled for metal concentration as well sediment's pH, total organic carbon (TOC) and particles sizes to obtain an overall classification of metal contaminations in the area. The concentration of metals ($\mu\text{g/g}$, Fe%, dw) were as follows: 0.57- 2.19 Cd; 31.89-272.33 Zn; 5.96-24.47 Ni; 10.57-52.87 Cu; 24.23-64.11 Pb and 1.56-3.03 Fe. The degree of sediment contaminations were computed using an enrichment factor (EF) and geoaccumulation index (Igeo). The results suggested that enrichment factor and geoaccumulation values of Cd were greatest among the studied metals. Pearson's correlation indicated that effectiveness of TOC in controlling the distribution and enrichment of metals was a more important factor than that of the grain size ($<63\mu\text{m}$). The study revealed that on the basis of computed indexes, Klang River is classified as moderately polluted river.

Keyword: Klang River; Heavy metals; Indexes; Surface sediment; Contamination.