Nature of Suspended Particulate Matter and Concentrations of Heavy Metals in Sediment in the Southern Part of Lake Victoria, East Africa

By

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Abstract

The concentrations of metals in bottom sediment in the Tanzanian waters of Lake Victoria and the nature of suspended particulate matter (SPM) were analysed. The objective of the study was to compare levels of metals in sediment from different locations and to establish their sources. Metal concentrations were higher in sediment in locations within urban catchments. There were significant differences between sites for concentrations of Cu, Cr, Zn, Hg and Pb in sediment. Mercury concentration was higher in Nungwe Bay sediment compared to other areas, and Cr was higher in Magu Bay, while Cu, Pb and Zn were higher in Mwanza Gulf. Watershed characteristics such as urbanisation, and lake characteristics such as algal biomass, influence the nature of SPM, and hence the concentration of metals in the sediment. The potential to distinguish between different origins of metals in the lake, if the sources of SPM are well construed, is demonstrated.

Keywords

C/N ratios; gold mines; organic carbon; stable isotopes; urbanisation