The limnology of the lake Tanganyika sub catchment

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Abstract

A limnological study covering the Lake Tanganyika sub catchment was conducted during the dry season at 20 accessible sites on 8 rivers, 2 lakes and a dam. Standard methods were used to determine the levels of abiotic parameters from water samples. Physical parameters including EC, Eh, turbidity, temperature, pH and secchi transparency were measured in situ while chlorophyll a was determined in the laboratory. Nutrients such as NO3
-, SiO2, PO4 3- and Fe2+ were determined along with HCO3
-. Significant changes in the levels of the abiotic parameters
and nutrients have been observed at various sampling sites throughout the study area. The mean variation of NO3 -, SiO2, PO4
3- and Fe2+ concentrations with depth ranged from 0.4 to 2.6 mg l-1,
2.7 to 35.3 mg l-1, 0.01 to 0.16 mg l-1 and from <0.010 to 0.020 mg l-1 respectively for the entire sub catchment. Data conclude that processes including dissolution, diffusion, adsorption, absorption, nitrification, denitrification, mixing and reduction along with the anthropogenic
activities and increased photosynthetic activity of algae contribute to the variation of the abiotic parameters. It is recommended that quantification of river flows, sediment load and nutrient budget at various sampling points be determined seasonally for proper evaluation of the limnological functioning of the ecosystem.