

CHEMICAL SPECIATION OF ELEMENTS IN SEDIMENT SAMPLES COLLECTED AT LAKES VOLVI AND KORONIA, N. GREECE

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EXTENDED ABSTRACT

A five-step sequential extraction procedure was applied for the determination of the distribution of seven elements (Cd, Pb, Cr, Cu, Mn, Zn, Fe) in sediment samples collected at two lakes Volvi and Koronia, located in N. Greece. Samples were taken in two seasons and the average concentration of the elements was calculated. The accuracy evaluated by comparing total trace metal concentrations with the sum of the five individual fractions, proved to be satisfactory. Based on the results determined at one sampling point in Koronia and two sampling points along the lake Volvi, it seems that the two lakes have not yet been polluted. There were no significant changes in the individual seasonal concentrations of elements in this monitoring period. Cd, Pb, Cu and Cr are associated with the oxidizable, carbonates and residual fractions. Zn and Fe are associated with residual and reducible fractions. The metals that we most easily extracted in the samples analysed in both lakes are Pb, Cr, Cd, Cu and also Mn in the case of Koronia lake.

Key words: Chemical speciation, lake sediment, heavy metals