

Trace Metals in Deposits of the Lower Amur Lakes: Contents, Forms and Behavior

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Abstract

Contents, potential mobility and behavior of some trace (heavy) metals were studied in lakes of the Lower Amur valley. Trace metals concentrations are determined to be low – even compared to data from background non-contaminated areas. According to potential mobility rate two evident groups of metals are distinguished: 1) mobile ones as Zn, Cu, Mn, and Pb; and 2) metals bound to confining compounds as Cr, Hg, Co, Ni, and Sb. We found Pb exhibits the highest sensibility to sedimentation conditions. The Hg in sediments speaks about sustainable long-term technogenic contamination in the Lake Petropavlovskoye nearby Khabarovsk-city, and, obviously, in the Lake Gassi and the Lake Chlya. The data obtained show high geochemical individuality of studied lakes that requires further more detailed investigation their hydrological and sedimentation regimes.

Keywords: lake, Lower Amur, sedimentation, trace metals