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Topic:

Historical accumulation of Trace elementos in sediment cores from TIETÊ river, São Paulo, Brazil

S. Damatto, F. Rocha, D. Baumgardt, L. Martins, P. Silva, D. Fávoro

IPEN-CNEN

Abstract text

Tietê River, with 1100 kmof extension, is one of the most economically important river of the state of São Paulo, Brazil and throughout its length can be found reservoirs formed by damming its waters. This river is considered one of the most polluted rivers in the world, especially when it passes through the city of São Paulo. As a result of pollution observed since the 1950s, a project was established with the aim of evaluating the historic concentration of the trace elements As, Ba, Br, Ca, Ce, Co, Cr, Cs, Eu, Fe, Hf, La, Lu, Na, Nd, Rb, Sb, Sc, Sm, Ta, Tb, Th, U, Yb and Zn (mg.kg^{-1}), in sediment cores dated by ^{210}Pb method, sampled is several points of the river, since its source in Salesópolis up the mouth, on the Paraná River. This work presents the results obtained by the trace elements above determined in two sediment cores collected in reservoirs in the city of Salesópolis and Pirapora do Bom Jesus. The analytical techniques used for the analysis were instrumental neutron activation analysis and gross beta measurement, respectively. The results obtained for the elements Br, Ce, Cr, Cs, Eu, Nd, Sb, Sm, Th and U are higher than the values of Upper Continental Crust and the sedimentation rate obtained for the reservoir in Salesópolis, 1.53 cm.y^{-1} , suggest silting processes. The enrichment factor and the geoaccumulation index were used to assess the presence of anthropogenic sources of pollution.