

袁旭音,陈骏,吕宝源,许乃政,姜月华.太湖沉积物微量元素特征和变化:自然与人类活动的影响[J].地质论评,2003,49(5):552-560

太湖沉积物微量元素特征和变化:自然与人类活动的影响 [点此下载全文](#)

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基金项目:江苏省自然科学基金(编号 BK99204-1),国土资源大调查项目(编号 0299203003)

DOI:

摘要:

通过对太湖沉积物微量元素的测定,分析了沉积物的元素含量特征及变化趋势,指出了重金属元素的分布特点。沉积物和岩石微量元素的上地壳标准化值显示,它们的曲线存在明显的区别,反映了物质在风化和沉积过程中不同的性质差异。重金属在太湖北部地区较高,在南部地区较低,特别是As、Hg、Cu、Zn、Ni。对照背景值,探讨了重金属元素的富集程度,并运用地累积指数评估了沉积物的污染程度。根据1987年和2000年的数据,计算了重金属的累积速率。最后,讨论了自然作用和人类活动对微量元素的影响。

关键词: [微量元素](#) [重金属元素](#) [沉积物](#) [太湖](#) [自然作用](#) [人类活动](#)

Characteristics and Variation of Trace Elements in Sediments from Taihu Lake: Effects of Natural Processes and Human Activities [Download Fulltext](#)

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Abstract:

Trace elements of Taihu Lake are detected and their characteristics and variation trends are analyzed. The upper-crust standardized values of trace elements show that the pattern of the sediment is different from that of the rock. The concentrations of heavy metals, especially As, Hg, Cu, Zn and Ni, are relatively high in northern Taihu Lake, which is the major polluted source of heavy metals. We discuss the enrichment of heavy metals based on the background values and evaluate the pollution degree using the geoaccumulation index. The chart of element enrichment shows that Ni, Pb and Cu have larger enrichment levels than others. Based on the data of 1987 and 2000, we have calculated the accumulation rates of heavy metals in sediments. It is found that most of heavy metals are accumulated in the past decade. By comparison of elements between rock, soil and sediment, we also conclude that most of trace elements in sediments depend on weathering and natural processes, and only heavy metals as we know are affected by human activity.

Keywords: [trace element](#) [heavy metals](#) [sediment](#) [Tai hu Lake](#)

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