

研究报告

上海市崇明岛城镇河流沉积物重金属累积与环境风险

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收稿日期 2006-4-24 修回日期 网络版发布日期 2007-8-14 接受日期 2007-3-20

摘要 小城镇河流沉积物重金属累积状况间接指示了河流水环境质量现状, 研究河流沉积物重金属累积水平与环境风险具有重要的现实意义. 对上海市崇明岛崇南分区3个典型城镇(城桥镇、堡镇、陈家镇)河流沉积物重金属累积特征进行了研究. 结果表明, 3个城镇河流沉积物中Zn、Cr、Cu、Pb和Cd平均含量分别为: 城桥镇103.1、79.2、39.0、29.7和0.300 mg·kg⁻¹; 堡镇99.0、104.0、50.5、32.7和0.308 mg·kg⁻¹; 陈家镇86.7、79.5、32.2、30.5和0.274 mg·kg⁻¹; 崇南分区94.72、81.35、38.52、30.78和0.297 mg·kg⁻¹. 用地累积指数法(I_{geo})对沉积物重金属进行的环境风险评估结果为: 崇明3个城镇河流沉积物重金属均为低-中等环境风险, 其中3个城镇达到中等环境风险的概率为城桥镇>堡镇>陈家镇.

关键词 [沉积物](#) [重金属](#) [环境风险](#) [崇明岛](#)

分类号

Heavy metals accumulation in river sediments of Chongming Island, Shanghai City, and its environmental risk.

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Abstract

Heavy metals accumulation in river sediments can reflect the environmental quality of river waters. It's of practical significance to study the accumulation level of heavy metals in river sediments and its environmental risk. In this paper, the heavy metals accumulation in river sediments of three typical towns of Chongming Island was studied, and the results showed that the average accumulation of Zn, Cr, Cu, Pb and Cd in Chengqiao Town, Baozhen Town and Chenjia Town was 103.1, 79.2, 39.0, 29.7 and 0.300 mg·kg⁻¹, 99.0, 104.0, 50.5, 32.7 and 0.308 mg·kg⁻¹, and 86.7, 79.5, 32.2, 30.5 and 0.274 mg·kg⁻¹, respectively. In South Chongming, the average accumulation of Zn, Cr, Cu, Pb and Cd was 94.72, 81.35, 38.52, 30.78 and 0.297 mg·kg⁻¹, respectively. The environmental risk assessment by using geoaccumulation index (I_{geo}) indicated that these three towns had a low-medium rank environmental risk of heavy metals accumulation in river sediments, and the probability of achieving medium rank risk was in the order of Chengqiao>Baozhen>Chenjia.

Key words [sediment](#) [heavy metal](#) [environmental risk](#) [Chongming Island](#)

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