

环境工程 生命科学

崇明岛土壤重金属含量的空间分布及污染评价

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摘要

以上海市崇明县为研究对象, 采用ArcGIS中的地统计分析模块的普通克里格方法进行空间插值作图, 并运用单因子污染指数评价法和多因子污染指数评价法对崇明县土壤的重金属污染状况进行评价. 结果表明, 崇明县土壤重金属污染程度由高到低依次为Cd>Zn>Cu>Cr>Pb. 主要重金属污染为镉, 平均单项污染指数为1.05, 属于轻度污染. 所测的土壤重金属污染综合指数为0.22~2.59, 平均0.88, 污染程度达警戒级, 但总体污染状况仍属较清洁(尚清洁样点占72.39%).

关键词 [崇明岛](#); [土壤重金属](#); [插值分析](#); [污染评价](#)

分类号

Distribution of soil heavy metal and pollution evaluation in Chongming Island (Chinese)

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Abstract

The distribution maps of heavy metals in soils of Chongming county were drawn using Kriging method in the geo-statistic module of ArcGIS, and the degrees of pollution were evaluated using the single-factor pollution index (SPI) and comprehensive pollution index (CPI). The results showed that the degrees of pollution of heavy metals in soils of Chongming County were Cd>Zn>Cu>Cr>Pb. Among the heavy metals, Cd was the major one. The average SPI of Cd in the soil samples was 1.05, reaching the light degree of pollution. The comprehensive pollution index of 5 heavy metals including all soil samples, ranged from 0.22 to 2.59 with an average of 0.88, reaching the alarm degree of pollution. However, The overall situation of heavy metals in soils were relatively clean, because there were still 72.39% of soil samples showing the cleanness.

Key words [Chongming island](#) [heavy metal in soil](#) [spatial interpolation](#) [pollution evaluation](#)

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