



Spatial distribution and assessment of heavy metal pollution in the soils of Copou Park, Iasi, Romania

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Abstract

The parks and green spaces from large urban areas, whose positive social, economic and environmental impact is recognized nowadays throughout the world, are subject to the actions of anthropic factors. As part of the present study, the authors determined the Fe, Mn, Cr, Co, Ni, Cu, Zn, Pb, As and Cd contents of 42 samples collected from the soils of Copou Park and 7 soil samples collected from the green area between the pavement bordering Copou Park and the road adjacent to it. The statistical parameters, the geochemical background and the geo-accumulation index allowed the emphasizing of heavy metal contents which, according to the national soil quality standards, exceed the alert thresholds (Cr, Cu, Zn, Pb, As) and/or the intervention thresholds (Zn, Pb, As), which may be attributed to anthropogenic inputs. The spatial patterns were analyzed with the help of semivariograms, whose parameters were used in the kriging method in order to estimate heavy metal contents in the locations not subjected to measurements.

Keywords: Copou Park, heavy metal contamination, geo-accumulation index, spatial variability, Iasi, Romania.
