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Spatial distribution and contamination assessment of heavy metals in street dust from Camagüey city (Cuba) using X-ray fluorescence

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Concentrations of various chemical elements in street dusts from Camagüey city were studied by X-ray fluorescence analysis. The mean Cr, Co, Ni, Cu, Zn and Pb contents (in $mg.kg^{-1}$ dry weight) in the urban dust samples were compared with mean concentrations in other cities around the world. Spatial distribution maps indicated the same behaviour for Cr–Ni and Pb–Zn–Cu, whereas the spatial distribution of Co differs from the other heavy metals. The metal-to-iron normalization using Cuban average metal soil contents as background showed that street dusts from Camagüey city are moderately or significantly enriched with Zn-Pb in those areas associated with heavy traffic density and metallurgic plant location. However, the calculation of the potential ecological risk index shows that metal content do not represent a risk for the city´s population.

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