Review of: "Probabilistic Assessment of the Heavy Metal Pollution in Debrecen's Topsoil"

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Potential competing interests: No potential competing interests to declare.

This potential paper examines heavy metal contamination in urban soils, emphasizing Debrecen. The study examines 300 soil samples and maps the distribution of important heavy metals such as As, Cd, Cr, Co, Cu, Mo, Ni, Pb, and Zn using sequential Gaussian simulation. The study identified Cd, Mo, and Cu as the most harmful contaminants in Debrecen topsoils, with concentrations that surpass threshold limits. Stochastic models evaluate uncertainties and dangers associated with heavy metal distribution, revealing a significant association between pollution levels and threshold exceedance. The ecological pollution index classifies Debrecen as a contamination hotspot, underscoring the importance of ongoing monitoring and remediation to properly address environmental and health threats.

The paper presents intriguing content demonstrating commendable scientific and English writing skills. However, several areas require improvement:

1. It is recommended to update references concerning heavy metals in urban soil.
2. The methodology section lacks a quality control description and the year of sampling.
3. A discussion section is missing, which is crucial for highlighting the significance of the study and comparing it with existing research.

Please, include these references in the discussion part:

Troudi, N., Tzoraki, O., Hamzaoui-Azaza, F., Melki, F., & Zammouri, M. (2022). Estimating adults and children's potential health risks to heavy metals in water through ingestion and dermal contact in a rural area, Northern Tunisia. Environmental Science and Pollution Research, 29(37), 56792-56813.

Abbasi, N. A., He, C., & Ahmad, S. R. (2024). Exposure and human health risk assessment of chlorinated paraffins in indoor and outdoor dust from a metropolitan city, Lahore, Pakistan. Chemosphere, 347, 140687.

Wu, Y., Gao, S., Zeng, X., Liang, Y., Liu, Z., He, L., ... & Yu, Z. (2023). Levels and diverse composition profiles of chlorinated paraffins in indoor dust: possible sources and potential human health related concerns. Environmental Geochemistry and Health, 45(7), 4631-4642.

Regarding the authors' mention of anthropogenic or natural sources as causes for high heavy metal levels, it would be beneficial to elaborate on geogenic factors that significantly contribute to elevated heavy metal concentrations in soil.