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

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Reviewer:

Recommendation: Minor revision required

The authors have extensively investigated heavy metal pollution in soils across the Debrecen region using a combination of pollution indices, multivariate analysis, and geostatistical modeling. The spatial mapping and stochastic simulation provide novel insights into the heterogeneity of topsoil contaminant concentrations and distributions. However, some minor revisions would further improve the clarity and quality of the study:

1. In the introduction, paragraph 1, the authors wrote <∨p> what do they mean?
2. The introduction must explain the toxic effects of these metals on human health by referencing this article

https://www.tandfonline.com/doi/abs/10.1080/09603123.2023.2294472

https://www.sciencedirect.com/science/article/abs/pii/S0889157523001564

1. To explain soil sampling, the map is required
2. Why did the authors depend on XRF, not ICP-MS?
3. What about the health risk assessment model? (Non-carcinogenic and carcinogenic risk)
4. The authors must calculate HQ, I_{geo} index, CF value, pollution load index (PLI)