

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 paper comprehensively assesses the heavy metal pollution in one of the cities in Hungary, which has environmental implications. However, the following comments should be considered:

1. Figure 1 only shows an arrow.
2. Reference for the soil sampling procedure?
3. The soil samples were air-dried. What quality control measures were taken to ensure that airborne particles (potentially contaminated with heavy metals) did not contaminate the soil? Similar to the use of XRF, what were the quality assurance and quality control (QA/QC) measures taken? Please include them in the manuscript.
4. For the HMEI, include an explanation of why the total iron concentration was used as a reference element.
5. Please fix the equation (arrangement-wise) shown in Section 2.4.3.
6. Please specify the reference for the toxicity coefficients.
7. For Section 2.5, the authors may consider including the assumptions met in conducting the multivariate statistical analyses (i.e., PCA).
8. Some statements in Section 3.1 are considered "unsubstantiated."
9. The legends in Figure 2 were unreadable.
10. Section 3.3 mainly emphasized mining as one of the potential sources of heavy metal pollution, yet it was not mentioned in the rationale or even the study area.
11. The results still need further and more in-depth discussion, particularly on the environmental implications. In addition, the authors should consider improvements in the language aspect.

Hopefully, this paper will be published soon.