

Hydrol. Earth Syst. Sci. Discuss., referee comment RC1  
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## **Comment on hess-2021-86**

Anonymous Referee #1

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Referee comment on "Compositional balance should be considered in the mapping of soil particle-size fractions using hybrid interpolators" by Mo Zhang and Wenjiao Shi, Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2021-86-RC1>, 2021

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Dear authors please see the following comments: I think the major problem is the presentation of an extended uncertainty analysis.

- 1) why 29 ECs and not groups of categorical and continuous or mixture of them, a test is needed like PCA and others
- 2) It is not clear mathematically how you apply the proposed methodologies
- 3) For RK: you should provide more details about the RK process: regression type, variogram types, parameters, nugget, fitting method, suitability of data for geostatistical analysis e.t.c
- 4) Table 2 needs better explanation
- 5) It is not explained how the uncertainty has been calculated. A more clear and extended presentation and calculation of uncertainty is required.
- 6) Generally different algorithms have been applied but it is unclear how the uncertainty propagation affects the final results
- 7) The mixture of categorical and continues data needs more explanation in terms of methods applications and uncertainty of the results