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Interactive comment on "Determining the variation of soil properties in the Batumi Delta" *by* Bülent Turgut and Merve Ateş

Anonymous Referee #1

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The manuscript describes a unique dataset on soil properties that has been collected in interesting geomorphological settings. Analytical methods are appropriate. Data analysis, however, should be improved. Authors indicate that there are differences in soil properties among soils in different geomorphological conditions. This opens several interesting research questions that could be addressed in further data analysis. 1. Are the significant relationships among between soil basic properties and soil water retention statistically significantly different in different geomorphological units? Are there significant correlations between the same variables in different units? Which unit-specific processes might impose, enhance, or weaken such correlations? 2. Can standard multidimensional classification methods group soil samples according the geomorphological units where they were taken? Which soil variables are most suitable for grouping soil samples into groups corresponding to the geomorphological positions?

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Discussion paper

3. What are the factors/variables controlling the available water content that is an important variable in crop production? 4. Does the accuracy of water retention estimation depend on the landscape position? Will it be beneficial to use the multiple regression? How about logistic regression? Have you observed any nonlinearity in relationships between water retention and soil basic properties? 5. A very high water contents at -1500 kPa were observed. What is special about these samples? What is their origin? This is, of course, not a complete list of questions that can be addressed using the rich dataset that authors present. However, without addressing at least some of these questions, the paper is not really interesting, and may not be sufficiently informative for an international reader.

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