

## ***Interactive comment on “Initial Assessment of Landslide Prone Area using Soil Properties” by Yanto et al.***

**Anonymous Referee #1**

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This paper addresses the problem of soil depth distribution in the context of landslide assessments. The consideration of the spatial variability of soil depth is crucial, especially as input parameter for modeling, and therefore this paper contributes to an important topic. Different interpolation methods were tested and thoroughly validated. The results lead to a better understanding of which method is the best fit for this study, therefore it would have been great if the study area would also be reflected in the title. The paper is interesting, although certain aspects should be improved, especially in order to better understand where the focus of the study lies. The authors mention the use of covariates for Co-Kriging, a detailed information about why they did not use it for all interpolation methods or on what basis they did chose CK, would be very helpful and contribute to a better understanding. The authors state that applicable spatial interpo-

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lation is the central contribution of the study (page 2, line 8), therefore this should be mentioned in the title. In addition, another option could be to mention the study area in the title (as mentioned above), as the paper is more focused on the case study (page 2, line 17) rather than the development of new methods. It would have been interesting to discuss, if these findings are applicable to other study areas. A detailed description of the data and a characterization of the data properties used in this study would be very helpful and would increase the comprehensibility. The methods are clearly explained and if you would specify how these methods were applied in this study, for example, how many points were used for the error estimation, which parameters were used, etc., this would be a helpful addition. In the text ‘landslide disaster events/occurrences’ is used, but do you really mean disastrous or could ‘landslide events/occurrences’ also be enough here? Maybe not all events were disastrous? Is a detailed description of the structure of the paper necessary (Page 2, chapter 2), as the structure is self-explanatory? The same applies for chapter 4 and maybe it would improve readability if you could briefly explain the purpose of the following subchapters instead. Is subchapter 4.1 the corresponding result of subchapter 3.4? If this is the case, maybe you could give them the same names, as you did with 3.5 and 4.2. In chapter 4.3 there is a visual evaluation of figure 7, maybe an additional simple statistical analysis would make the results more reliable. In chapter 2, please clarify what exactly is meant by ‘tectonic and extrusive lithology? In some places, the English should be checked and corrected. Especially plural should be used more. For example - Page 1, line 7, plural on ‘landslides’ and occur without ‘s’. Page 1, line 9: exchange ‘employed’ by ‘applied’, same at line 14. Page 1, line 20: ‘the’ before ‘last’; line 21: with ‘the occurrence of’ 1404 events in the Central Java province. Page 1, line 23: ‘houses were damaged’. Page 1, sentence starting in line 28 is unclear. Page 2, ‘is’ before ‘obtainable’. Page 2, line 8: ‘the’ before ‘central’. Page 7, ‘rupture surface’ instead of ‘surface to rupture’. Page 7, line 23, ‘mechanisms’ commonly ‘occurring’ in Indonesia. Page 8, line 8: ‘landslides are’ likely. Figure 3, a legend or explanation in the figure description would improve the understanding of the figures. Figure 7, legend is incomplete (landslide sites missing).

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Figure 8, the x axis should have the same distribution as the y axis, also a legend would be helpful and therefore you would not have to repeat the classes in the text (page 7, line 19).

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