

Interactive comment on “Erosion risk assessment and identification of susceptibility lands using the ICONA model and RS and GIS techniques” by Hossein Esmaeili Gholzom et al.

Anonymous Referee #2

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I read the manuscript "Erosion risk assessment and identification of susceptibility lands using the ICONA model and RS and GIS techniques". The manuscript describes the application of remote sensing data, GIS and the erosion risk model ICONA in order to identify areas that might appear to be susceptible to soil erosion. After reading the manuscript, I see a lack of innovation and inconsistencies throughout the entire manuscript. In my opinion, it might be considerable for publication after the authors made some severe modifications and a major revision has been done. With kind regards

General comments - The manuscript is written in poor English and should be revised.

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- The authors do not provide a research gap. The manuscript describes a case study, which is per se not a problem but I see a major lack in innovation. - The conclusions drawn partly do not reflect the outcomes of the approach. - The terms "erosion risk" and "erosion susceptibility" are confusingly and not consistently used throughout the entire manuscript.

Specific comments L12: RS and GIS were never abbreviated. L20: What is meant with "appropriate land cover"? L21: reduced = reduced L21-22: This is a very broad and obvious statement. L24: This not just happens "nowadays". L30: The authors should be careful with the use of the terms "sensitivity" and "potential" in this case. L31: The authors are requested to provide references for the mention models. L35-40: The information provided in this paragraph can be condensed to a single sentence. L43: What are "the four main inputs"? L60: Reference for PSIAC method is required. L60-62: I do not see a scientific innovation or a research gap needed to be filled. L66: Coordinated do not have to be mentioned since they appear in the cross-referenced figure. Figure 1: The illustration of Mazandaran province poses another subplot and should be numbered as the others. The colour scheme from light green to green is rather not beneficial to illustrate elevation. L78-79: Reference for the data sets is requested. L90: Where were those samples collected? L94: "developed and developed". The description of the ICONA model was already mentioned in the introduction. These sentences are redundant. L104: How does the evaluation procedure works precisely? This is too general. L107: Well, validation might be important, but it is not performed in this paper and it cannot be done without ground truth data. L149: 5x5x5 matrix? Which quantitative values have these erosion risk classes? L231: The authors should not use the term "significant" if they did not perform a statistical analysis that provides information about statistical significance. L272-278: This is not a result. L304: Generating a classified slope map is a very limited finding.