Natural Hazards
and Earth System
Sciences
Discussions

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.

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I read the article "Erosion risk assessment and identification of susceptibility lands using the ICONA model and RS and GIS techniques" by Hossein Esmaeili Gholzom et al. (nhess-2020-85)" on the Natural Hazards and Earth System Sciences web site. For me, there are questions to improve the article that I sent. TOTAL COMMENT: Overall, the article addresses an interesting theme and uses an innovative and low-cost methodology that has produced satisfactory results in different regions of the world. The methodology is consistent and meets the requirements of the ICONA model. However, the article requires corrections and modifications before it can be published. In

this research, very good activities have been done with the data of the study area, information obtained from RS&GIS techniques to use the model. This article will be useful if the following comments are taken into consideration and corrected.

1- It is essential that the entire article be rewritten by a native English speaker. Abstract 2- In the abstract, the ICONA model method is mentioned. Give the ICONA model steps in two or three sentences. 3- Line 16 "Based on the erosion risk map, results show that the moderate class had the highest percentage of erosion risk (26.26%) at the watershed." Reword this sentence. Suggestion: Based on the erosion risk map, the results show that the moderate class had the highest percentage of erosion risk (26.26%) at the watershed level. Introduction 4- Line 52 "A study by Sedighi (2011) in the Tangier-Red watershed of Shiraz, Iran, using the ICONA model and the use of GIS & RS techniques. Reword this sentence Suggestion: A study by Sedighi (2011) in the Tangier-Red watershed in Shiraz, Iran, also used the ICONA model and GIS & RS techniques. 5- In the introduction, a better explanation should be given about the purpose of the research and the situation of the study area. Data and methods 6- In the study area section, provide information about rainfall and the annual temperature of the study area. 7- Line 95 correct "It is a model for estimating the degree of erosion risk in watersheds that affect Its basis can be estimated at large scales of erosion risk, which is applicable in European countries and many Mediterranean regions and is similar to many of the effective ways to predict erosion using RS and GIS, the model was adopted in the above countries with similar climatic conditions (ICONA 1991)." 8- Line 112, 113 Why you put the symbol % before the value? Correct in text, all figures and all tables. Results 9- The legend of maps numbers 3c, 4c, 5, 6, 7b should be modified to be very low, low, moderate, high and very high, respectively. 10- Table 2, the acronyms (EN, EB, MB, a, b, etc...) below the table 2. 11- Delete Table 5 and bring the effective coefficients such as kappa index and Overall accuracy percent in section 2.2 of the data and methods. 12- To evaluate the accuracy of the ICONA model, bring a combination of the erosion risk map with the erosion forms in the study area. 13- Section 3.3, if the use of the MPSIAC method (base model) is discussed, it is better

to compare the results of the ICONA model with the MPSIAC method that you did in the study area, and do not use the term validation with the MPSIAC model and delete this term. Discussion 14- Discussion should be properly organized according to the results. References 15- Line 428, correct the year of publication as other references.

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