Nat. Hazards Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/nhess-2019-122-RC2, 2019

Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Influencing factors and their interactions of water erosion based on yearly and monthly scale analysis: A case study in the Yellow River basin of China" *by* T. Hua et al.

Anonymous Referee #2

Received and published: 30 May 2019

Soil erosion is a global ecological environment problem that limits the sustainable development of social economy, the study of soil erosion in the Yellow River Basin is of significant importance for livelihood of local resident. However, this study didn't give the meaningful contribution to soil erosion control. The comments and suggestions are as follows: (1) What is the meaning to do the quantitative attribution analysis of soil erosion in different months, as we all know, in the rainy season soil erosion is much higher than other months. In addition, the policy made to control soil erosion is usually based on the spatial distribution of soil erosion, not based on temporal distribution of soil erosion. For example, the construction of check dam, the dam will be used for a long time, rather than during some months. (2) The quantitative attribution analysis of soil erosion

and its variability have been done by other researchers previously, thus innovation was lacked in this paper. (3) In page 2, line 51, there is a problem in the format of reference cited. (4) Please check the unit of soil erosion calculated by RUSLE model, ton/(km2 a) or ton/(ha a). (5) Do you have any verification of the results simulated by RUSLE model? The validity of the results is the basement for the following analysis. By the way, I doubt the soil erosion module mentioned in abstract, it is too small for the Yellow River Basin. (6) In the uncertainty analysis part," Other classification methods, such as the geometrical interval and equal interval methods, are also worth trying", why don't you try other methods and select the most appropriate method for your study. (7) The language expression need to be improved, for example, "Topographical factors such as slope and surface roughness have a greater impact on the spatial distribution of soil erosion, while rainfall and vegetation are as follows." In this language, there is no adversative relation.

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