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Solid Earth Discussions

Interactive comment on "Soil erodibility estimation by using five methods of estimating *K* value: A case study in Ansai watershed of Loess Plateau, China" *by* Wenwu Zhao et al.

Anonymous Referee #1

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The manuscript presents an interesting comparison of five methods of estimating K value in a typical loess watershed. The research results that Shirazi model and Torri model are the suitable models to calculate K value will be helpful for soil erosion evaluation at local scale. I'd like to suggest the manuscript can be accepted after some revisions, and it is better to polish the language further.

The detailed suggestions are as follow: Line 30-31, Please delete the detail soil properties in bracket "(e.g., soil texture, permeability and structural stability)". Line 34 Change "research" to "researches" Line 40 Abbreviations should be added in the following of "the nomogram model and the modified nomogram model" Line 86-87 references about

the classification of soil particles should be added. Line 91-92 what is the meaning of "Soil erodibility thus has indirect relationship with the environmental factors." ? Please rewrite it. Line 106 "rainfall erosion" or "rainfall erosivity"? Line 154 Please change "P value >0.05" into "P > 0.05". Part 3.2 Significant negative or positive correlations are in $P < 0.05$ or $P < 0.01$? Need be labelled in the following. Line 202-203 One PC each for apple orchards, native grasslands, sea buckthorn, Caragana korshinskii and pasture grasslands. Why there is only 4 data of percentage in the following sentence. Please check it. Line 264 Soil erodibility has significant correlations with elevation? Please check it. If so, explain why. Line 267 What "soil surface conditions" refer to? Please give some examples. Line 277-278 What is the meaning of "Because all these vegetation types are more or less affected by human activities, soil erodibility can also indirectly be affected by vegetation recovery and land cover change."? Please rewrite it to make it easy to be understand.

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