

Interactive comment on “Evaluating the spatial heterogeneity of soil loss tolerance and its effects on erosion risk in the carbonate areas of South China” by Yue Li et al.

Anonymous Referee #1

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The present manuscript discover the spatial heterogeneity and diversity of soil erosion tolerance in the carbonate areas of south China, and disprove the old “one region, one T value” concept, proposed a new viewpoint: in karst regions, a large soil erosion modulus does not correspond to severe soil erosion, and clarified the heterogeneity of T values and the effects of this value on the erosion risk in karst eco-environments. The work is interesting and inspiring to the field of soil erosion in karst area. Therefore I recommend this paper to be published. And it is better if the authors consider the following mentioned remarks and further improve the manuscript before submitting the final version. (1) In order to let readers understand the study and progress of soil erosion and soil loss tolerance in foreign and domestic, author should add a bit of

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references. In addition, there are some mistakes in the reference, such as line 352-253, I suggest author modify it and check the citation format for other documents carefully. (2) When researchers were evaluating the harm of soil and water loss in karst area, if only from the perspective of soil erosion modulus, there would be appear a trend that with the increasing harm of soil erosion, soil erosion modulus from low to high, and then from high to low, that is soil erosion to the degree of “soilless can flow”, but in fact, the erosion modulus decreases, and at this time rocky desertification area is actually in the expanding stage. So, I suggest that the author can try to evaluate the damage of soil and water loss in karst area in two stages: Under the premise of soil coverage, using soil erosion modulus to evaluate the harm of water and soil loss; When soil erosion is serious and many bare rocks on the hillside, that is rock exposed rate is very high, you can evaluated the harm of water and soil loss by the increase of rocky desertification area. In general, I think the author should describe some ideas for the future research, it can bring some inspires to some researchers who are engaged in studying soil erosions.

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