

Interactive comment on “Identification of vulnerable areas to soil erosion risk in India using GIS methods” by H. Biswas et al.

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Anonymous Referee #1 We take this opportunity to express our deep sense of gratitude to you for your constructive remarks, that will definitely help in improving this manuscript COMMENT 1: Introduction: -Some parts of this section are quite descriptive regarding the erosion risk in the study area. Maybe, it would be better to move that data to the section "Study area" or "Results" in order to the state of erosion risk. -Thus, this section should be rewritten and present the state-of-art in erosion risk assessment using GIS, for instance, what it the main topic of the manuscript. RESPONSE/CHANGES: Thank you, Sir. The introduction section has been restructured by moving some sentences to other sections and by adding some more information as suggested to strengthen the objectives of the study. COMMENT 2: Methods: -Correct.

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RESPONSE/CHANGES: No action was taken COMMENT 3: Results and discussion: -Results are correctly address, but not discussion. Somehow authors should support their results about the major erosion risk areas with observed data in field and/or laboratory for corroborating what was obtained with the mapping methodology. The discussion found in the manuscript is very short, so authors should go deeper into this section. RESPONSE/CHANGES: Thank you, Sir for your valuable suggestion. We do admit that the discussion part is short. This is because of limited information or field work in the study area that could back up our findings. The mapping methodology and statistical analysis have helped us identify the districts of the newly formed state that need immediate attention in terms of soil and water conservation. This study, particularly undertaken to provide district-wise information on soil erosion risk to policy planners is the first of its kind for any state in the country. We could not find sufficient field or laboratory data to directly corroborate our results. Hence, we had to depend on secondary data (cropping intensity, rainfall, general landform, soil depth, etc.) to explain our analysis. We have tried to improve the discussion by including some studies that have been carried out in the country, and added a table containing information on secondary but related parameters that could help in comparing the districts from the point of view of soil erosion risk. We strongly feel that our results can serve as benchmark for further studies with enhanced precision.

COMMENT 4: Conclusion: -Correct. Figures: -In general, all maps should be improved from the quality point of view. For instance, a map is always framed. Scale must be clearer. Study area must be better highlighted. -Fig. 4. The graph frame is missing. -Fig. 5. The correct unit is $\text{Mg ha}^{-1} \text{y}^{-1}$. RESPONSE/CHANGES: Thank you very much. The figures have been improved from the quality point of view, and the necessary suggestions have been incorporated.

Interactive comment on Solid Earth Discuss., 7, 1611, 2015.

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