

# ***Interactive comment on “Comparison of statistical and analytical hierarchy process methods on flood susceptibility mapping: in a case study of Tana sub-basin in northwestern Ethiopia” by Azemeraw Wubalem et al.***

## **Anonymous Referee #1**

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Dear Editor and Authors,

the manuscript "Comparison of statistical and analytical hierarchy process methods on flood susceptibility mapping: in a case study of Tana sub-basin in northwestern Ethiopia" unfortunately does not present enough scientific significance, scientific quality and presentation quality at this stage.

The authors compared different methods for susceptibility mapping with the objective of choosing the best performing one for the region of lake Tana in Ethiopia. Although

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the manuscript in principle would fit the scope of NHESD it is not relevant or, at best, is far from ready for publication in NHESD. This is not to say that the study was not a good technical exercise for the region of lake Tana in Ethiopia.

The manuscript does not address any relevant scientific or technical questions the way it is written. There is a widespread number of papers comparing the methods presented by the authors and it is hard to justify publishing one more of such papers. The only novelty one could perhaps find is the region analysed and the flood dataset used (never used before?). However, simply saying that data was collected from historical records and extensive fieldwork and giving no further detail is unacceptable.

Additionally, a number of strong statements are included in the manuscript without any proper demonstration or reference, for example "even though flood is one of the natural parts of the hydrological cycle, it is increased in both frequency and magnitude from year to year."

Finally, the use of English is poor and the authors give too much attention to describe well-established methods (e.g., logistic regression, GIS...) and terms (e.g., susceptibility, risk...), which make the manuscript very dense (and intractable). This work could be reported in a few pages, focusing on what is essential.

I recommend that, if the authors decide to resubmit the manuscript, please substantially revise the concept focusing on a stronger research question, the unquestionable novelty and the value that the manuscript brings to the scientific community. I also recommend the authors to be very concise and straight to the point, substantially improve the use of English, to be rigorous with the use of technical terms, and careful with statements that are not demonstrated/demonstrable.

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