Interactive comment on "A stepwise GIS approach for the delineation of river valley bottom within drainage basins using a cost distance accumulation analysis" *by* Gasper L. Sechu et al.

Anonymous Referee #2

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The manuscript proposes a tool for river valley bottom delineation. The topic is surely interesting and the manuscript easy to read, however in the manuscript there are some drawbacks listed as in the following, that should be addressed.

1) In the Introduction the review is not complete either concerning the existing flooding based methods (for instance: Nardi et al. 2019) and concerning the slope-based approaches (for instance: DTW approach, as mentioned by the first reviewer).

2) It should be clearer the added value of the proposed tool comparing the results to the other available methods.

3) I found unclear the difference between floodplain and river valley bottom definition.

4) It should be clarified the proposed method description. If the reader would like to apply the method and he/she follows the Section 3.2, I do not think he/she would be able to do that. For instance line 171 "small positive value" is vague; the same for lines 186-187; and 193-194.

5) why the validation is not performed on the entire Denmark? three validation areas can not support conclusion for the reasons mentioned by the authors in the discussion.

References:

Nardi, F., Annis, A., Baldassarre, G.D., Vivoni, E.R., Grimaldi, S. GFPLAIN250m, a global high-resolution dataset of earth's floodplains (2019) Scientific Data, 6, art. no. 309.