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comment

Interactive comment on "Automated quantification of floating wood pieces in rivers from video monitoring: a new software tool and validation" *by* Hossein Ghaffarian et al.

Anonymous Referee #2

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General comments: In this work, the authors present a software that can automatically detect floating wood from video files of a river cross section. They introduce the processing steps of the software involving the formation of wood masks from training data followed by automatic detection and post-processing based on the recall rates of wood pieces. They discuss the factors that affect wood detection and present a quantitative analysis for automatically extracting wood from imagery. The automatic delineation of wood in imagery is not trivial and I believe this work would be of significant interest to readers of Earth Surface Dynamics and wood researchers. However, there are aspects of the manuscript that could be improved. Overall, I believe the work would benefit from further clarification of the masking procedure and the post-processing

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Discussion paper

steps. Given how important these steps are for accurate analysis, a more detailed description of these components would assist readers when using the software. For example, L151-153,283-285, how are images chosen for the annotation and how many are recommended? A recommendation or assessment of the amount of training data would assist future users of the software. In the post-processing (L475) it was unclear to me how the precision matrices were applied to the day of interest. Are these matrices generated for each piece of wood detected? What about the assessment of wood length between the manual annotations with the software? Also, at the times in the manuscript, it was unclear when you mention "it" or "object" what you were actually referring to- the software, a wood piece, the entire video set? I highlight some specific examples of this below. Specific comments: I may have missed it, but a link to the software or the details of how to access the software would be useful. L164: I was confused on your use of "stable" here. Wouldn't "stable" wood detections be false positives as they would actually be vegetation or the bridge being detected? L150 and 168: You first define variable x as the pixel light intensity and then again as position in the image. Please revise. L429: How did you measure the correlation between these parameters? L443: What is "it"? Technical comments: L209: Replace"by" with "be" L222: should be "calculate" L241: Please revise sentence L278: Should be "manual" L288-290: Some grammar issues, please revise. L452: Unclear what you mean by "many noises in a frame". Table 5: Is PR improvement also a percentage? L506: Replace "counting" with "counted" Fig 15: Horizontal axis label is cut off

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Interactive comment on Earth Surf. Dynam. Discuss., https://doi.org/10.5194/esurf-2020-96, 2020.