

Response to the editor

Dear Dr. Mills,

Thank you very much for the positive feedback to our reviewed manuscript. We have made the further amendments to the manuscript, as suggested in your review report, explained below.

* In C1.3, the reviewer noted the edge case in which a river line flowing along the boundary of the grid will result in no runoff contribution to that river line. The authors note in R1.3 that they tested this possibility and fixed it, and that "the contribution is now evenly split between grid cells intersecting the line at the boundary". I would like to see the authors explicitly state in the text that this case is handled in this way: In their code they have fixed the reviewer's concern, but I do not see (please tell me if I have overlooked it) where the text explains this. If reviewer 1 was led by the text to conclude that there is a problem with river lines along the boundary of the grid, I believe that other readers may also wonder about this if this is not explicitly addressed in the text.

We have added the following short explanation in page 10, section about Area-to-Line interpolation, right under Equation 4.

In some combinations of river lines and source zones, the river may flow exactly along the boundary of two or more source zones. Since this portion intersects both source zones, such cases are explicitly handled by hydrostreamer to split the contribution evenly among the source zones for the portion of river line at the boundary.

* I do not see where reviewer comment C2.6 about flow regimes below monthly scales has been explicitly addressed in the text. The Appendix B mentioned in R2.6 is a valuable addition to the paper. However, I would like to see a sentence or two explicitly mentioning the need for caution around the limitation mentioned in C2.6. I actually believe that the authors have already written something appropriate in R2.6; they just need to put this in the paper. (Again, let me know if I have overlooked this.)

In page 14, to the end of the river routing section, we added a short paragraph mentioning validation issue about the temporal resolution.

Note that, our case study example and Appendix B provide validation for the routing with monthly timeseries only. We therefore recommend caution and careful review of hydrostreamer outputs in applications using sub-monthly timeseries, until proper validation for the method is published.

We hope these amendments cover the two points we had not explicitly included in the manuscript. The only other change made to the manuscript at this stage is that we have unified the spelling of Area-to-Line interpolation to have upper case first letters. The previous version had mixed capital and lower and upper case letters.