

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2  
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## **Comment on hess-2022-251**

Anonymous Referee #2

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Referee comment on "Investigating coastal backwater effects and flooding in the coastal zone using a global river transport model on an unstructured mesh" by Dongyu Feng et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2022-251-RC2>, 2022

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This paper presents a method to address the interactive phenomenon of river flooding and storm surge, using an unstructured mesh and focusing on two US coasts with different characteristics. The study underscores the role of backwater effects in representing the impact. Overall the study is well written and the results are clearly demonstrated. I have one minor comment.

P 5 L 135 Here the river widths are estimated using an empirical equation. This can be the source of uncertainty in simulations, so it should be relied only when other available and reliable data cannot be obtained. The target area is US, so there should be more reliable data. At least, global river width dataset has also been developed such as GWD-LR (Yamazaki et al. 2014). I would not ask the authors to re-calculate all the results, but just add some discussion on this point and consider using other data in future work.