Response to the comments made by Reviewer 2: Dušan Žagar

We thank the Reviewer for the meticulous revision of the manuscript. Please find below responses to the each of your remarks in a comment-by-comment basis.

R2-Comment 1: The accuracy of the initial riverbed topography modelling: nowhere in the text the agreement with (scarce, definitely, but not entirely non-existent!) measurements are mentioned. Even the qualitative agreement (of phenomena – sedimentation/erosion) is questionable with simulations using a poorly matched riverbed. Quantification of sedimentation/erosion is of course even more questionable. A comparison (where available) would help to increase the scientific and practical value of the results.

We thank the Reviewer for the constructive criticism. This comment is similar to what was pointed out by Reviewer 1, so we kindly refer to the respective response for a complete explanation. However, as stated in the response, we will include a description of the procedure to derive and validate the bathymetry, as well as a comparison with actual measurement where the available information so allows it. Due to the scarce available topographic data a more rigorous comparison is not possible.
For a complete and detailed description of the on the derivation and validation of the initial bathymetry please refer to the master thesis by Barrera Crespo (2016). Delft3D Flexible Mesh modelling of the Guayas River and Estuary system in Ecuador. Delft University of Technology, National University of Singapore, http://resolver.tudelft.nl/uuid:c8a4c2f1-208b-4332-a17f-8afb28ec71e6

R2-Comment 2: Very coarse river discharge data. The monthly averaged discharge presented in figure 2 lies within a relatively large range of discharges between the months. What is the daily discharge dynamics? At least a reference to a (more or less detailed) hydrology study of the river(s) under consideration would be very helpful. Without at least the range of (minimum/maximum) discharge or the variance of discharge within a month all short-term events are excluded from simulations. Possible extreme events are never mentioned in the text (is there none?).

We thank the Reviewer for pointing this out. Nevertheless, we are not aware of any recent hydrological study that would demonstrate the relevance of including such daily variations. In the manuscript we present mid-term effects in a yearly basis, within this context short-terms events are averaged out and don not affect the overall sediment balance. Moreover, the discharges are imposed as boundary conditions for the Daule and Babahoyo rivers. Each of these boundaries are located about 50 km landward from the confluence of both rivers, so there is no immediate or direct influence of the imposed discharges in the area of interest. Once the at the confluence, the influence of the tide dominates the flow dynamics.

R2-Comment 3: Minor comments to the manuscript.

We appreciate the extensive revision made by the reviewer to the wording of the manuscript. Attending the suggestions we will include the visualization of the El Palmar islet in Figure 1. Additionally, regarding the examples presented subsection 4.2, we derived knowledge based on our involvement in projects with direct contact with data and local experts. In that regard, we will add the following references:

- Garay Bohórquez, C. (2015), Personal communication. CorMagdalena, Colombia.

- Gaurav, K., R. Sinha & P.K. Panda (2011), The Indus flood of 2010 in Pakistan: a perspective analysis using remote sensing data. Natural Hazards, Journal of the International Society for the Prevention and Mitigation of Natural Hazards, ISSN 0921-030X, DOI 10.1007/s11069-011-9869-6.
- Sloff, C.J. (2014), Personal communication on sedimentation in the lower Kura River in Azerbaijan. River morphology expert involved in Flood Prevention Program Azerbaijan.

Finally, in the same subsection 4.2, we will also change the sentence “Examples include sedimentation by water abstraction (e.g. Indus River in Pakistan)” into “Examples include sedimentation by embankments, barrages and water abstraction (e.g. Indus River in Pakistan)”.

References

Barrera Crespo, P. D. (2016). “Delft3D Flexible Mesh modelling of the Guayas River and Estuary system in Ecuador.” Delft University of Technology, National University of Singapore, Delft. (http://resolver.tudelft.nl/uuid:c8a4c2f1-208b-4332-a17f-8afb28ec71e6).