

Point 1: The paper would benefit from a language revision, since there are several grammar mistakes throughout the paper.

Response 1: A native English speaker reviews the paper.

Point 2: The description of the model is detailed and clear, but it should not be included in the Introduction section, but rather in a specific section named “Numerical model” or something similar. Alternatively, and probably a better option, it can be included as a subsection in the “Materials and methods” section

Response 2: Modify In the text

Point 3: The numbering of the Materials and methods is wrong (number 1 should be number 2).

Response 3: Modify In the text

Point 4: The authors report a computational time of 4 days. I guess such a long computational time is because they have probably not activated the IberPlus plugin, which enables the High Performance Computing implementation of Iber, performing parallelized computations in GPU (provided that the computer has an NVIDIA graphics card) or in CPU (provided that the computer has several threads). I guess this is the case because the authors do not cite the 2 papers in which the HPU implementation of Iber is presented, namely:

- García-Feal, O., Cea, L., Gonzalez-Cao, J., Domínguez, J. M., & Gomez-Gesteira, M. (2020). IberWQ: A GPU accelerated tool for 2D water quality modeling in rivers and estuaries. *Water*, 12(2), 413.

- García-Feal, O., González-Cao, J., Gómez-Gesteira, M., Cea, L., Domínguez, J. M., & Formella, A. (2018). An accelerated tool for flood modelling based on Iber. *Water*, 10(10), 1459.

It would be interesting if the authors could do at least one simulation with the IberPlus implementation activated, in order to check the speed up in computational time. In García-Feal et al. (2020), speed-ups between 10 and 100 are reported, depending on the mesh size. This means that the computational time would probably be a couple of hours instead of 4 days. In any case, even if they do not perform this check, they should mention the HPC implementation of Iber and cite the previous references.

Response 4b: It is considered in the last paragraph of conclusions. Also, references were included

Point 5: The calibration presented in section 2.1 shows very good results. However, the authors do not give many details about the calibration procedure (automatic or manually, and which criteria was used to quantify the comparison between observed and modelled)

Response 5: It was considered in section 2.7 and 3.2

Point 6: The quality/resolution of Figures 6, 7 and 8 should be improved, otherwise it is difficult to read.

Response 6: We change the figures

Point 7: In Figure 6, the longitudinal profile of DO and EC seems coherent to me, but I don't fully understand the oscillations in Temperature. Do the authors have any physical explanation for this behaviour?

Response 7: Temperature oscillations are in correlation with dissolved oxygen.

Point 8: I would start the conclusions with a general comment about the calibration and performance of Iber (second paragraph in the present manuscript).

Response 8: Modify In the text