We thank the Referee for his time to carefully read the manuscript and for his comments that helped us improving the manuscript.

1. **Comment from referee:**

   1) I think the authors should take more in consideration some of the recent theoretical

   results.

   The analytical model of Redolfi et al. (2016), which represents a fully two-dimensional extension of the Bolla Pittaluga et al. (2003, 2015) model, has been proven to effectively predict the stability of both gravel and sand bed bifurcation (Redolfi et al. 2019) with the key advantage of avoiding the calibration of a specific parameter (like the α parameter of Bolla Pittaluga el al., 2003). I think these recent advancements should be at least mentioned in the Introduction and/or in the Discussion (Section 4.2).

   Similarly, in the the work of Salter et al. (2017) which specifically focuses on the effect of downstream conditions on the bifurcation stability, should be considered in the Introduction.

   Please ignore this comment if you think it is too personal (I am the main author of the above-mentioned papers).

   Author's response:

   We agree that the mentioned work is a good extension of the work of Bolla Pittaluga et al (2003; 2015), although the fundamentals are still the same. Furthermore, we are aware of the work of Salter et al. (2017).

   Author's changes in manuscript:

   We will add these references in both introduction and discussion. We did not fully compare out model results with the mentioned papers because by using a 2DH model we don't need a nodal point relation.

2. **Comment from referee:**

   2) Line 52: this sentence is misleading, as Bolla Pittaluga et al. (2003) did not test the effect of meandering bends. 3) Line 97: the sentence "the 2D approach also results in reliable morphodynamic simulations" is very vague, as the reliability of depth-averaged models clearly depends on the specific problem under consideration.

   Author's response:

   Line 52: We agree that the text is not very clear in the previous version. We meant that the transverse channel slope, as studied by Kleinhans et al. (2008), was similar as in Bolla Pittaluga et al. (2003). However, Kleinhans et al. (2008) added the effect of meandering upstream channel in the transverse transport calculation.

   Line 97: Since in this study we are interested to investigate a large scale morphological development, simulating a detail 3D result is not our goal. Therefore, 2D model is sufficient and can reduce the computational cost.

   Author's changes in manuscript:

Line 52: We will remove the citation to Bolla Pittaluga et al. (2003) for this sentence to avoid misunderstanding.

Line 97: In Section 2.1 (Model set-up) in the new version, we will strengthen and elaborate our argument why we chose 2D model instead of 3D according to the reasoning that we mention in the Author response.

3. **Comment from referee:**

4) Section 4.2: it would be useful to provide an indication of the average Shields number.

Author's response:

We agree. We will provide a table of Shields numbers and flow conditions at the bifurcation.

Author's changes in manuscript:

We will make a table that provides the information of: tide averaged Shields number, maximum Shields number, mean flow velocity, and M_2 velocity amplitude at the bifurcation in Appendix.

4. **Comment from referee:**

5) Code availability: to enable the reproducibility of the results, I recommend the authors to share the configuration files.

Author's response:

We will provide the configuration files for all simulations in the supplement.

Author's changes in manuscript:

The supplement will be mentioned in the new version.

5. **Comment from referee:**

6) System of coordinates: I cannot see the reason for placing the bifurcation at x=220 km an y~9 km. What is the meaning of the origin (i.e. x=0, y=0) point? Setting x=0 and y=0 at the bifurcation node would have been more meaningful, and it would have facilitated the reading of the maps.

Author's response:

This coordinate system was due to the way the grid was built in which x=0 is located at the upstream end of upstream channel.

Author's changes in manuscript:

We will move the origin of the x and y coordinate system to the bifurcation in the new version.

6. **Comment from referee:**

7) Units: space between value and unit is sometimes missing (e.g., line 177); please also note that units should not appear in italic (Equation 1);

Author's response and changes in manuscript:

The space will be added in the new version for all missing space. Equation 1 will be also fixed.

7. Comment from referee:

8) Graphics: in several figures (e.g., Figures 7 and 11) the labels are disproportionately small; in Figure A1: the quantities represented on the two axes are "x" and "y", not "x-axis" and "y-axis.

Author's response and changes in manuscript:

The labels and the axes will be improved according to this comment in the new version.