

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC1
<https://doi.org/10.5194/nhess-2021-65-RC1>, 2021
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Comment on nhess-2021-65

Anonymous Referee #1

Referee comment on "The Cambodian Mekong floodplain under future development plans and climate change" by Alexander J. Horton et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-65-RC1>, 2021

General comments:

The article is a nice academic research piece that brings a good understanding of floodplain impact from water infrastructure development on the Mekong.

- The article mixed the impact of Cambodian or Mekong floodplain and Mekong Delta. It does not seem clear which area refer to this or both are the same.
- Check the definition of flood season and wet season. Or refer to the same season?
- Check the definition of the wet and dry season – from which month to which month?
- The research paper seems to miss the discussion of the results and propose solution and mitigation measure to overcome.
- The baseline period (1985-2008) is a bit old - consider extending it to more recent years.
- It is not clear how the selection of climate change dataset to apply in this study. This would lead to uncertainty of result analysis and interpretation.
- An accurate description of general areas/places is sometimes confusing. This happens in many places throughout the article. Particular attention should be paid when revising the article.

Specific comments:

- Line 93: Add "Hydrological" condition...

- Line 97: Remove "extreme"
- Line 99: "catchment" annual average temperature refers to the catchment of the Model or study area? Rewrite this sentence to make it clearer.
- Line 102&103: What is the wettest month and driest month?
- Table 1: Add year of Topography.
- Table 1: What is Geospatial data? Year?
- Line 135-139: These indices are not common - therefore good to describe more comprehensively.
- Line 162-188: This section can be summarised with a table. This would improve the readability of the section. Hence, it is not sure if Table 2 is really useful.
- Line 226-252: It is hard to read this section. Please consider rewriting it.
- Table 3: This table may need to reconceptualise for better information visualisation.
- Line 253-294: Finding in Section 3.3 looks really interesting – however a simpler presentation of the findings would help improve readability and convey key messages.
- Line 295-316: Not sure if the description of Cambodian provinces in this section is important for the international context of this journal.
- Line 316: It is more appropriate to mention that your model outperformed others – but it does not mean your model is more accurate than others. Consider revising this sentence. This also applies to other parts of this section.
- Line332: Uncertainty may cause by the climate change dataset used in this study – but it may not come from the simulation of climate change of this study. Consider rephrasing this sentence.
- Line 425-426: Water-Energy-Food Nexus could not just look at the Cambodian Mekong floodplain alone. Consider revising this sentence.