Comment on egusphere-2022-319
Anonymous Referee #2

Referee comment on "Assessing riverbank erosion in Bangladesh using time series of Sentinel-1 radar imagery in the Google Earth Engine" by Jan Freihardt and Othmar Frey, EGUsphere, https://doi.org/10.5194/egusphere-2022-319-RC2, 2022

The paper has presented a crucial topic of land use change and high-intensity natural hazards in the case study Jamuna. It has used open source data and tools for overcoming high-quality and up-to-date data access for river erosion-related disaster events and even river management in comparison to the optical RS approach. It has also tried to address the need of the stakeholder and practitioners rather than only theoretical contributions. The study satisfied open science practice in the publication of results. The source code has been made available which can promote reproducibility and transparency. However, there are still scopes for revision for enhancing readability before taking a publication decision.

Here are some thoughts and observations:

• Title: an observation– highlighting “google earth engine” in the title is not necessary; but the author can think to highlight their important study finding …. “We found that with Sentinel-1 data, erosion locations can be determined already one month after the end of the monsoon, and hence potentially earlier than using optical satellite images” for example.

• Introduction: The orientation of the Case study Bangladesh can come a bit later, so far this paper does not have any dedicated section for theoretical discussion or literature review, it this is thinkable to address here. It will help to understand the state of the art and detect the research gap and that even can relate to the motivation of the case study section and the formulation of the objective.

• Section 2 “Method and data”: some of the sub-section headings are identical to section 3 “Results” e.g. 2.3 same as 3.1, 2.4 same as 3.2. This is completely confusing and contributes to poor readability. It is recommended to revise the sub-section headings in the “Results” section. They should be more declarative rather than general about the particular highlights or findings of the section.

• Some terminology can be more clarified – e.g. “land” - does it refer to open space / agricultural land/ forest?

• The URL link for code and tool needs to be presented in a standard format and with Meta-description (repository like platform Zenodo with DOI may be an option) and push the access link URL, DOI in them in the annexe of the paper only refer them in the original text.

• After opening the given link - in the current state – it makes to rethink the author’s statement “the code and tool developed in this study might be of interest to both policymakers and practitioners working in the fields of disaster risk management and communication” (SECTION 430)

• The paper focused only on the physical aspect by quantification changes and intensity of...
erosion; however, it will be necessary to shed light on some discussion and policy implications – how these results can be fed to the other research direction for example socio-economic dimensions.

- So far, the data processing task allows for to production of indicators in time series and spatial scale; the reader may also expect - what is the scope to do some predictive analytics in the future research scope.