

Interactive comment on “Influence of ENSO and tropical Atlantic climate variability on flood characteristics in the Amazon basin” by Jamie Towner et al.

Anonymous Referee #2

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The study examines the influence of ENSO on the flood characteristics in the Amazon basin. While the article is packed with the statistical analyses, it fails to explore the large-scale physical mechanism associated with ENSO and flood characteristics, which plays a important role in the prediction and projections. Therefore, the article in the present form is not in the publication level of HESS and requires major modifications.

My comments/suggestion are:

1. Authors should explore more towards explaining the physical mechanism associated with the relation they found in the present article.

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2. Zhang et al. (2017) found that Pacific Meridional Mode (PMM) also influences the precipitation over Amazon basin through a classical baroclinic Gill responses. It should be noted that PMM could also incite or trigger the ENSO (Larson and Kirtman, 2013). Considering these, it would be also necessary to analyse the association between PMM and flood characteristics over the basin.

3. The manuscript needs some changes in the orientation. The author can move some of the figures to supplementary and just keep important ones in the main document, specifically Figures 2 to 10.

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