

Comments on Manuscript WRR-2020WR027212: A Skewed perspective of the Indian rainfall-ENSO Relationship

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Comments submitted by James Doss-Gollin to HESS
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The purpose of this paper is to apply novel methods for bivariate, nonlinear wavelet analysis to understand whether apparent changes in the relationship between indices for ENSO and the Indian Monsoon represent fundamental changes in their relationship. Since the previous submission, the authors have thoughtfully responded to all my comments. I recommend this paper for publication in HESS, pending very minor corrections.

- providing a link to the R software is helpful – I suggest either archiving the particular version of the software used for this code on a repository like Zenodo that generates a permanent DOI, and/or including the code for the online supporting information with this article
- the distinction between “linear coherence” and bicoherence is helpful
- wording and formatting comments were addressed and the overall organization of the manuscript was streamlined
- clarification of the types of nonlinearities that the analysis can identify is useful
- figures are improved
- response to questions about the quality of rainfall and ENSO data is reasonable. The authors should note that this analysis neglects uncertainties in the data themselves, but since the objective is to demonstrate the wavelet method, addressing uncertainties in SST reconstructions should not be a priority
- discussion of the choice of Morlet wavelet with $\omega = 6$ is reasonable

The document needs some copy editing – this is beyond the scope of this review although some comments are provided for the abstract:

L10 “temporally changes” should be “changes in time”

L11 “changing nonlinear characteristics” is a bit unclear – specify

L16 “India sub-continent” should be “Indian”