

Interactive comment on “The influence of sea surface temperature on the intensity and associated storm surge of tropical cyclone Yasi: A sensitivity study” by Sally L. Lavender et al.

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Received and published: 22 December 2017

Abstract should be significantly shortened and focus on key outcomes of the study (see 6th point below). It is not immediately clear from the abstract what the focus of the study is - the ability of the model to simulate TC Yasi, or influence of SST changes on storm morphology or the resulting storm surge heights.

There is no further mention in the manuscript of impacts or mitigation - suggest removing this from the abstract.

Page 3, line 5: in-text reference to Miglietta (2011) should be Miglietta et al. (2011)

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Page 8, lines 11-14: The sensitivity of maximum storm surge height to TC forward speed, location of landfall and RMW would be useful to open the discussion on the sensitivity to SST. I suggest reworking this paragraph and the preceding one to indicate the above characteristics influence storm surge height as background to the discussion on variability with SST (i.e. move these lines ahead of the preceding paragraph to help set the context of the discussion on SST influence).

Page 10, line 11: in-text reference to Evans et al. (2004) - should this be Evans et al. (1994), or is there a reference missing in the reference list?

I would like to see more discussion (throughout if possible) on the final point made in the manuscript: "...the results suggest maximum storm surge heights would have been several metres less had a similar TC formed when overall SST were 1-2C lower...". This is probably the most important outcome of the sensitivity study, but it is only included as the second to last sentence. In the context of future climate scenarios, increasing storm surge heights (and precipitation) associated with increasing SSTs is a major finding and deserves more (and more prominent) discussion.

Figure 4: caption for subplots (b) and (c) need to be swapped.

Figure 5: all panels need a label on the horizontal axis.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2017-397>, 2017.

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