

***Interactive comment on “The role of tidal modulation in coastal flooding on a micro-tidal coast during Central American Cold Surge events” by Wilmer Rey et al.***

**Anonymous Referee #2**

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Research investigates coastal flooding in Mexico from storm tides.

I found the text / descriptions are confusing and could do with improvement please; e.g., if high-pressure cold front event induced flooding I would expect, due to the inverse barometer effect, that storm surge is small and driven exclusively by wind stress? By improving the text will reduce reader fatigue. As the writing needs much improvement to improve readability, it may be easiest to simply re-submit. Moreover, I have a number of concerns with the method and results that I think ought to be addressed before re-submission:

(1) Tide-surge interaction means that “wetting and drying” is likely to be extreme impor-

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tant in the model - yet this is not discussed/perhaps not included in the model? (2) Why are waves included in the method if not included in the model for the 30 year run ? This could be done easily uncoupled - as coupled modelling likely to not be necessary? (3) The resolution and time-step of the CFSR forcing data needs to be discussed (hourly, 3hourly etc) - including a sensitivity test please. (4) More model validation please: “In general, a good agreement can be seen for the sea surface elevation during the storms the Pearson correlation ranges from 0.78 to 0.87 and the root mean square error (RMSE) ranges from 0.11 to 0.17” This model validation seems very poor. What is the RMSE as a percentage of the signal (NRMSE) ? Especially as a micro-tidal site and only a few validation locations (and limited time-length) appears to be used for validation

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