Review of paper entitled "Developing an early warning system for storm surge inundation for the Philippines"

General Comments

The paper makes use of historical storm track data to force a storm surge model of Manila Bay. Modeled surge heights are used to generate exceedance probability distribution curves. Surge heights for each exceedance level are then used to drive an inundation model to map out potential impact areas for different storm strengths. Information provided will be helpful for disaster preparedness planning.

Specific comments

- The title is misleading as the paper describes a vulnerability assessment of some areas of Metro Manila to storm surge instead of developing an early warning system as the title suggests. I suggest changing the title to reflect paper contents and limiting the entire paper as a vulnerability assessment paper.

- Include a map showing location of observation points. Some observations points are very close to each other, some separated by less than the length of the surge model grid and likely less than the scale of storm surges. If I understood the method right, surge height at adjacent observation points for the same surge/typhoon were counted separately in the frequency distribution tables. What effect would this have in the calculation of the exceedance curves if essentially a single surge event is counted multiple times.

- The number of storms that produced PSWS#4 in Manila is only 2. How reasonable can an exceedance probability curve for PSWS#4 be created based on only 2 storms?

- The tides were simply added to the results of the surge model to come up with the storm tide. How significant is the tide and surge interaction to the final surge height?

- No attempt was made to validate the JMA surge model for Manila Bay. Sea level monitoring data is available for Manila Bay and it is straightforward to compare model surge heights with actual sea level data. My concern is that storm surge heights are highly influenced by bathymetry of the adjacent coastal waters. The model uses the ETPO 2 minute bathymetry database. In Manila Bay, that is equivalent to about a 3km grid resolution. I recommend doing a comparison of the model surge height with actual sea level data to validate the model. If it does not correlate, then perhaps a refinement to the

model (using better bathymetry data for instance) may be needed before it can be used for the analysis.

- Maybe include a discussion on the significance of using a PSWS based early warning system instead of using forecasted storm tracks? The PSWS is based solely on wind speeds forecasted for a specific area. It does not give information about storm track direction, and probable wind directions, parameters important for storm surge forecasting.

I think the paper provides very important information about potential storm surge impact areas in Metro Manila and has enough merit for publication. However, I would strongly recommend that aside from addressing comments above, the authors provide a more detailed discussion of how the surge model is setup, how it is linked to the inundation model and do a validation experiment with sea level time series data available for the area.