Interactive comment on "Numerical Investigation of Typhoon Waves Generated by Three Typhoons in the China Sea" *by* Qing Shi et al.

Anonymous Referee #3

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A numerical simulation of combined waves generated by a series of three typhoons in the China Sea in 2015 was described by the article. A wave model based on a third generation wind-wave model was used where the driving wind field was derived from three types of data sets. The simulation of multiple typhoon waves involves, admittedly, complicated computations and difficult to attain high level of accuracy. Furthermore, it has not been rigorously investigated and validated before. Thus this article presented a methodology that would be of interest to those investigating the impact of typhoons acting in tandem or simultaneously. To what extent this has been achieved needs to be thoroughly discussed including the fundamental aspects of the physical processes that occur. The paper should cut to the chase and focus on the novelty of the investigation, which is the simulation of waves resulting from three simultaneous typhoons.

The following comments and suggestions are given:

Description of the model set-up should be complete with details of the three typhoons and how these were implemented in the model. Do the three typhoons occur exactly simultaneously during the duration of the simulation period from 1st to 18th July 2015. Describe the path-lines of the three typhoons and the significance of the location of the four buoys. Same comment applies to the typhoons shown in Figure 8.

Referring to Figure 4 that compare wave height variation at the buoy stations, it was observed that the time periods (T Day/Hour) are different for each stations. Explain this.

It was also noted that buoy #4 is the closest to Linfa (1510) path. Would this has any bearing to the results at buoy #4? Considering it proximity to the path of Linfa and comparatively sheltered by islands, would a single typhoon simulation (of Linfa only) produce a better correlation? The statements between lines 171 to 178 did not touch on this point.

LINE 225 – how was CCMP justified as giving the best performance?

LINE 254 – explain how the K-values were determined for the three typhoons.

Figure 7 – which line is before and which line is after correction of wind?

Figure 8 - label should be "in 2016"

LINE 321 – comparison between blended/CCMP were made in Figure 12. Some differences were noted. How do they compare with observed data?

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