

Detailed Responses to the Comments Received

Manuscript No.: nhess-2013-183

Title: Characteristics of High waves Observed at Multiple Stations along the East Coast of Korea

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First, we appreciate the Reviewer's interest and comments on our manuscript. In the following, we provide responses to the Reviewer's comments in a question-answer format. *The answers are typed in italic.*

General comments:

The manuscript presents characteristics of high storm waves along the east coast of Korea based on observations of wind waves. I found that the information provided in the manuscript is comprehensive and useful in advancing our understanding of the process of high storm waves in the East Sea in winter. However, I feel the manuscript is very lengthy and descriptive with many figures that could be shorten/reorganized for better presentation for readers. I think it is acceptable for publication in NHSS after reflecting the following major and minor comments in the manuscript.

Major comments:

1. It could be much better to include the detailed bathymetry in front of the stations in Figure 1.

⇒ *Fig. 1 was modified to include sea bottom bathymetry following the Reviewer's suggestion.*

2. The figure captions should be more informative. For example, it would be more informative for readers if the sentence from P3381L14 to P3381L16 is moved to the caption of Fig. 6. It applies to other figures as well.

⇒ Captions of figures were revised so as to provide more detailed information or explanation to the readers.

3. For some figures, it could be better to combine to be more informative for readers, reducing the number of figures at the same time. For example, the Figs. 4 and 5 are better to be combined. For Sokcho and Jukbyeon, the wind and wave direction, and the wind speed and wave height in Figs. 8, 13 and 14 are better to be combined. Even Figs. 11, 12, 8, 13, and 14 for each or one of the high wave events could be combined similar to Fig. 3 in Lee (2013) to be more informative and integrated, and to highlight the direct influence of the meteorological conditions.

⇒ Following the Reviewer's suggestion, Figs. 4 and 5 in the original manuscript were combined into one figure (Fig. 4 in the revised manuscript). In addition, Figs. 8, 13, and 14 were also merged to provide more integrated information as Reviewer pointed out. However, we hope to keep Figs. 11 and 12 as in the original manuscript (now Figs. 9 and 10 in the revised manuscript) because each figure provides many information about the similarity and dissimilarity of the three high wave events regarding paths of the low pressure center and variations of its atmospheric pressure, respectively. If the two figures are placed in the same page in the final published format of the paper, the reader would readily get integrated understanding from the two figures as well.

Minor comments (P: Page number, L: Line number) :

1. P3376L20: the East sea => the East Sea

⇒ The expression was corrected in the revised manuscript.

2. P3377L4: abnormally => This word sounds in more statistical sense such that it needs some evidence or criteria for normal and abnormal waves.

⇒ *The word was replaced with “swell-like waves”, for which a criterion was described in the previous paragraph.*

3. P3378L23: LT ⇒ Local Time? Does it indicate the Korean Standard Time (KST)? In addition, the time zone should be mentioned for the date and time described throughout the manuscript.

⇒ *The expression seems to be differently appeared from our submitted manuscript. We replaced it with KST (Korea Standard Time) and provided a description about it in the revised manuscript.*

4. P3382L7: the double peaks ⇒ Please, explain how the two peaks are divided to calculate the Hs for each peak?

⇒ *It means the each maximum wave height during the first and second rising periods of the wave growth. The authors explain about this in the revised manuscript.*

5. P3383L10: $f=0.15$ Hz ⇒ $f=0.15 \sim 0.2$ Hz would be more precise.

⇒ *The authors agree with Reviewer’s suggestion. It was modified in the revised manuscript.*

6. P3383L10: “,which could be a result of self-wave interaction activated under string wind forcing.” ⇒ Please, provide a reference if any.

⇒ *Two references were included in the revised manuscript.*

7. P3383L13: condition ⇒ conditions

⇒ *The expression was corrected in the revised manuscript.*

8. P3384L9: of East Sea ⇒ of the East Sea

⇒ *The expression was corrected in the revised manuscript.*

9. P3385L26: of East Sea ⇒ of the East Sea

⇒ *The expression was corrected in the revised manuscript.*

10. P3385L4: “can relatively clearly be identified directly” => by visual way?

⇒ *The central position of the low pressure in a weather chart was found visually by eyes.*

We added this description in the revised manuscript.

11. P3393L11: to East Sea => to the East Sea

⇒ *The expression was corrected in the revised manuscript.*

Reference

Lee, H.S., 2013. Abnormal storm waves in the East Sea (Japan Sea) in April 2012 In: Conley, D.C., Masselink, G., Russell, P.E. and O’Hare, T.J. (eds.), Proceedings 12th International Coastal Symposium (Plymouth, England), Journal of Coastal Research, Special Issue No. 65, pp. 748-753, ISSN 0749-0208.

⇒ *The reference was included in the reference and cited in the revised manuscript.*