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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Brief communication: Characteristic properties of extreme wave events in the Baltic Sea" *by* Jan-Victor Björkqvist et al.

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This paper presents an analysis of some extreme wave event that occurred in the Baltic Sea and a comparison between measured data from the wave buoy and the forecasting system. As the introduction, which is well written and easy to read, the whole paper is interesting and in good English. The method is well explained when it is about wave measurements. The wind speed data could have been more detailed: is it gust wind or average wind speed? The forecast modeling is presented as an input data for comparison with measurements, and one might need more explanations about the wave model. This paper is about extreme wave events, but in paragraph 5 it is explained that wave heights of 2,5, 4 and 7m are significant for boats. This paper could have been improved by analyzing the forecast model for smaller wave

heights than 7m. In the introduction, it has been highlighted than during the accident of the MS Estonia, 4-5m wave height has been measured. Is the forecast system more accurate for smaller events which are probably more frequent? In the same idea, I also want to make the observation that some proposals to improve the forecast system could have been welcome as an opening in the conclusion of paragraph 5. In the forecasting paragraph, the comparison between model results and measurements could have been improved by the use of objective indicators (Nash criteria? RMSE ?). The forecast models are compared with a single station for wave parameters. Is this station fully representative of the heterogeneity of the Baltic Sea waves? This point should have been discussed. In conclusion, this small paper is in good format for the "brief communication" and should only be enhanced by taking into account these remarks to improve the scientific discussion.

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