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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "A validation of an operational wave and surge prediction system for the Dutch Coast" *by* L. Sembiring et al.

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I enjoyed reading this manuscript because it deals with an extremely relevant topic from a societal perspective and because the model and approach adopted can be considered as "cutting-edge" from a scientific perspective. The manuscript is well-structured and clearly written (in some instances English usage and wording could be improved though), the results are properly presented and overall I think this is an interesting manuscript that deserves publication and that will be of interest to the nearshore community. At the same time, I need to point out that the manuscript does not really describe new concepts, ideas or methods (the criteria for 'scientific significance' of the present journal). Here, a modelling suite already described in other publications is val-

idated using data from the Dutch coast. In my opinion this is certainly relevant and scientifically significant to the point of deserving publication (even though the manuscript is not necessarily in line with the journal requirements).

My main problem with the manuscript is that no 'Discussion' section is included. Results are presented in great detail but then they are not discussed or placed in the context of other existing modelling efforts (even if at other sites, e.g., the Mediterranean coast or the Irish sea, Ferrarin et al., 2013; Brown et al., 2010). In some way, the manuscript lacks a discussion that indicates, at the simplest level, if the results are good or if the errors are so large that the model cannot be used for monitoring activities. To me results seem definitely good (the errors are always small in a relative sense) but are they 'good enough' to monitor or to predict coastal flooding? How important is the underestimation of the swell component? I think adding a discussion would also give the authors the possibility to address in more detail which shortcomings need to be more urgently tackled by researchers (at the moment only one line of text is devoted to this). This would give more breadth to the manuscript which otherwise becomes an application/validation exercise.

I would also urge the authors to explain in more detail why no attention to extremes is given. An "average" year has been chosen for validation but the title of the manuscript is more general (the word 'operational' is used) and I suspect many readers would expect an operational model to be also validated for extreme cases. I do not ask for such a validation but in the discussion section, the authors should more clearly reason the choice for using an average year and not looking at extreme events. I admit I remain confused by the objective of the work, in the introduction dune erosion, storm impacts and monitoring are mentioned in the context of an operational model but I am not entirely sure the model is really "operational" (no validation of extreme cases and no validation on impacts).

Finally, I have also shared the manuscript with a PhD student (Alba Cid, University of Cantabria) currently working on storm surge hindcast. She has pointed out at the ref-

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erences indicate above and has also indicated that some more details should be given about the model set-up. At present it is not obvious how the model has been set up and more details about the wind and pressure data used to drive the model (including for example their temporal resolution) would be beneficial especially for readers that will try to set up a similar system at other locations or that want to replicate the study.

Best regards giovanni coco

Brown, Jennifer M., Alejandro J. Souza, and Judith Wolf. "An 11-year validation of wave-surge modelling in the Irish Sea, using a nested POLCOMS–WAM modelling system." Ocean Modelling 33.1 (2010): 118-128. Ferrarin, Christian, et al. "Tide-surge-wave modelling and forecasting in the Mediterranean Sea with focus on the Italian coast." Ocean Modelling 61 (2013): 38-48.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 3251, 2014.