

Interactive comment on “Ocean Forecasting: From Regional to Coastal Scales” by Emil V. Stanev et al.

Anonymous Referee #3

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The main purpose of the manuscript entitled “Ocean Forecasting: From Regional to Coastal Scales” is to present various modelling applications mainly by HZG in order to elucidate different interesting scientific aspects of ocean forecasting at the coastal scale. Although its style refers to a review paper about ocean forecasting on the coastal scale it mainly (if not only) refers to the COSYNA observing system and various applications over the German Bight. The manuscript contains a lot of information (from Data assimilation to tides, wave – current interactions estuarine and search & rescue applications) which in most situations is not well structured/organized and sometimes becomes quite confusing for the reader. Moreover no mention at all for the effect of atmospheric forcing in coastal forecasting is given. I think a whole subsection should be devoted to this important for coastal applications aspect. Along this line air-sea interaction and issues related to wave current interactions (for example the momentum

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and energy surface boundary condition) should be discussed in more detail. I think that the authors should concentrate on mostly 2-3 topics (for example data assimilation of HF Radar or satellite/in-situ SST data on the coastal scale and wave –current interactions) instead of overwhelming the reader with excessive material which is not complete (for example in section 4.6 where the important topic of wave – current interactions is involved/discussed the reader is just referred the paper by Staneva et al., 2015 for the scientific approach & discussion) and cannot be easily digested. In this sense, I propose a major revision of the present manuscript with drastic restructuring and focusing on a much more limited list of topics related to coastal forecasting.

Specific comments:

-The title of the manuscript should contain the toponym "German Bight". I agree with the new title proposed by the anonymous referee #1

-Section 3.1: The approach proposed to overcome the situation where the assimilation degrades the model results due to hf perturbations, is never presented explicitly in this paper.

-Section 3.3: what do we see in fig. 5b? The analysis RMSE? If yes I would prefer to judge the performance of the assimilation system by checking the forecast RMSE. In any case a more in depth analysis of the results is needed in order to understand the impact of OSTIA and in-situ observations.

-Section 4.4 can be omitted. I do not understand its role in this manuscript.

-Section 4.6: more in depth presentation and analysis of the results is needed.

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