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Geoscientific Model Development Discussions

Interactive comment on "Dealing with discontinuos meteorological forcing in operational ocean modelling" *by* Bjarne Büchmann

Anonymous Referee #2

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General comment.

A priori, I was very interested in reviewing this paper because it addressed a question I had in mind since a long time and never found the time to analyze: the impact of the discontinuity introduced by the analysis step of the meteorological forcing used to drive operational ocean models and, more specifically, North Sea storm surge models. Unfortunately, the analysis is fairly limited: only a time series of surge elevation at station Wick without ramping and with ramp6 is presented and the difference between both simply indicate that spurious oscillations are generated when the no ramping method is applied. This is by far not enough to demonstrate the added value of the ramping method. Note also that this latter is, from my point of view, insufficiently explained. For instance, Figure 4 is supposed presenting the method for ramp3 and ramp6. If ramp3

seems really to be a linear interpolation between the field at t -1H and that at t + 4H this seems not to be the case for ramp6 (linear interpolation between t -1H and t + 6H). How is the method really working? But, the most disappointing point, from my point of view, is that no results are shown for the method the most commonly used in the operational oceanographic community according to the author himself, i.e., the ramp0 method. I would like to see this paper to be published but with a stronger demonstration of the benefit linked to the ramping method and, in particular with respect to the ramp0 approach.

Specific comments

As the paper needs a major revision, specific comments will be made on that version.

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