

Interactive comment on “Usefulness of high resolution coastal models for operational oil spill forecast: the Full City accident” by G. Broström et al.

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We have made the following response to Referee#1 comments. 1. A table describing the different models has been included. 2. For the question on why the three model systems, which are quite different gives similar result we have included the following paragraph in the discussion section. “The three different modeling systems use very different formulations for forcing and oil drift (see Table 1), nevertheless, the results of the model are quite similar. The reason is most likely that different formulations are in practice rather similar. It is likely that the atmospheric forcing is quite similar given that the data that are used to force the atmospheric models are shared among

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the different meteorological institutes. The “wave” factor in the oil drift can either be described according to Stokes drift or as say 2-3% of the wind speed, this latter follows from an assumption that the wave field is entirely governed by the wind speed. The main difference is probably in the ocean model, although based on similar dynamics they will differ in the details on the placement and strength of eddies and the dynamics in near shore areas.” 3. The question on how the weathering influences the trajectories is very interesting. It is not straightforward to remove weathering in the OD3D code, but experiments with different oil types do not change the patterns of the oil movements in any major way. We have not included a discussion on this important topic as we consider it to be beyond the scope of this manuscript. We consider the focus to be on comparison of the three different models, not on details within each model. However, it is an interesting question and may spawn new work. 4. Locations listed in the text have been included in the figure, or described in more detail. 5. The DWD weather model is called COSMO-EU, this is now included in the manuscript. 6. As far as we can tell the calculation of the internal Rossby radius is ok for this area and this situation. The fact that it does not appear correct in the figures is probably due to the low resolution of the model and the complex topography of the area, 7. The typographic errors have been corrected.

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