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Ocean Science
Discussions

Interactive comment on "Fate of river Tiber discharge investigated through numerical simulation and satellite monitoring" *by* R. Inghilesi et al.

Anonymous Referee #1

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General comments:

General Comments

This is a study of a local phenomena and it is important that the authors make a strong case as to why readers of the journal should be interested – what is the underlying scientific hypothesis and what are the broader implications of the findings?

There are 31 figures in this relatively short paper, all based on single images without key locations such as the estuary mouth indicated on the model outputs. While acknowledging that the predicted plumes and satellite image often display qualitatively similar patterns, more quantitative comparisons are not possible with the data as pre-

sented. The authors need to generate composite (side-by-side or overlay) plots on the same geographical scale so that more quantitative comparisons can be made. They might also consider additional metrics that could form the basis for quantitative comparisons.

Technical Corrections:

The first paragraph of the introduction covers 2 pages.

P1602, L4: g' and d0 are not defined.

P1602, L17: f is not defined.

P1603, L10-11: MAW and LIW are not defined.

P1604, L10: Usual term is 'along-shelf' rather than 'downshelf'.

P1604: Separate descriptions of satellite, wind and river discharge into paragraphs.

Fig.3: Poor quality figure, location of river and city not clear.

P1605, L12: Give resolution of the MFS model in which the POM model was nested.

P1605: Note that particle tracking experiments (at coarser scale) can be easily run directly within the MFS model using the online tool CONNIE (www.csiro.au/connie2/).

P1606, L15: Were the winds used in the MFS and ICE-POM models consistent and, if so, can that be demonstrated in the manuscript.

P1607, L3: The representation of the sub-grid river discharge is a significant component of the model and a slightly more detailed description (beyond the Oey 1996 reference) would be useful.

P1608, L23: A 10 day spin-up seems very short for adjustment of the temperature and salinity fields?

Results section: the results need to be represented as outlined under the general

comments above.

Conclusion: there needs to be discussion of the broader significance of the findings as outlined in the general comments above.

Interactive comment on Ocean Sci. Discuss., 9, 1599, 2012.