**Ocean Science
Discussions**

Interactive comment on "Integration of a relocatable ocean model in the Mediterranean Forecasting System" *by* A. Russo and A. Coluccelli

Anonymous Referee #1

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General Comments:

This paper addresses a relevant issue in operational oceanography, regarding the need to obtain accurate predictions for specific applications, within certain spatial and temporal ranges that might not be the same as the underlying operational modeling system. The authors propose to achieve this goal through a relocatable nested system, based on the Harvard Ocean Modeling System (HOPS).

Overall, this paper has an informative/descriptive nature, not detailing technical aspects that might also be relevant regarding numerical limitations and errors and specific multi-scale dynamics estimation issues, taking only the results published in some of the

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references of the paper.

Specific Comments: 1 - The authors propose there is a direct correlation between the model resolution and forecast accuracy (eg. abstract). Why ? Actually only introducing higher frequency components without proper IC, assimilation and forcing might actually do the opposite!

2 - I suggest to introduce some discussions regarding the objectives and metrics of the relocatable system: aimed forecast ranges and resolutions (100km 2days, every hour and 1km ?); surface velocity and temperature relative error estimation (in regard to MFSTEP), etc.

3 - The relocatable system is using an higher resolution surface forcing field and local data assimilation, that might not be consistent with the MFSTEP BC. How is the interface tool handling this problems ?

4 - The examples given for the forecast improvements are only qualitative and do not show any profile data comparisons. Do you have any other type of metrics for comparison ? How was the MFSTEP fields comparing with the same Seawifs color image patterns ? I suggest the authors to detail and expand a little bit more this validation work section, including also the forecast range goals they propose to achieve in the discussion.

Interactive comment on Ocean Sci. Discuss., 3, 1609, 2006.

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