

Interactive comment on “The Sicily Channel Regional Model forecasting system: initial boundary conditions sensitivity and case study evaluation” by S. Gaberšek et al.

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General comments:

We have added a short comment on advantages of using a regional model instead of OGCM.

Specific comments:

1) In the past, we have performed a perpetual-year experiment (hindcast) using a regional model to assess the ability of the model to develop its own dynamics. The scope of our paper was to i) perform sensitivity study using VIFOP and ii) evaluate the model performance using various measurements. We agree that performing a perpetual-year

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simulation to obtain an equilibrium and then slowly allow VIFOP optimized boundary lateral conditions would be a possible way to approach the problem, although computationally very expensive (with current computing capabilities the model runs for 3 months in order to simulate an 8-year climatological run).

SSH altimetric data was not assimilated. The data we had access to contains baroclinic and barotropic waves, piling of water, tides and free surface displacement. SCRM's SSH has much smaller magnitude than the observations - it does not include all the components so we steered away from i) assimilation ii) model SSH evaluation.

2) We added the following sentence: "The bathymetry is based on a regular grid with spacing of 1 minute and bilinearly interpolated onto a regular SCRM grid (3 km)."

3) We added the following sentence: "We also performed additional four case studies using different dates (one 5-day forecast in each month from September to December 2004) and got similar results (not shown). We chose the April case because we initially planned to extend our study to comparison of atmospheric forcing."

4) I disagree on that point. Although horizontal maps of T,S,U and V would be visually easier to process, it would be hard to quantify the effect of VIFOP. Also, we were interested in the temporal evolution of the error, to see from which simulation time on the results are useful. 2D maps are mere snapshots and one can not show what we achieved. The only possible way to create 2D maps would be by using Hovmueller diagrams (time/space on each axis). But it does not show decay of oscillations of certain frequencies, or at least it would be very hard to extract this information.

Interactive comment on Ocean Sci. Discuss., 3, 221, 2006.

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