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Ocean Science Discussions

Interactive comment on "High-resolution nested model for the Lebanese coastal area, Eastern Mediterranean: implementation and climatological runs" *by* N. Kabbara et al.

N. Kabbara et al.

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I am offering these comments without the consultation of N. Kabbara, who has not been available due to the recent conflict in his home country of Lebanon. He has more intimate knowledge of the topic, and would undoubtedly provide a more complete response.

The reviewer believes comparing nested model results with parent model is wrong. However, we note that it is commonly done, even in small areas (see Sorgente et al., 2003 and Brenner, 2003). We do not in fact see "obvious" agreement. We attempt to emphasize the differences, the primary one being the development of anticyclonic eddies along the shelf break. We have tried to validate using satellite and in situ data

and other climatological runs (all of which are reported in other papers). This could be discussed in more detail, as requested by the reviewer. This should also clarify that the high resolution model shows important improvements.

The description of POM should be shortened, especially the equations, as the reviewer requests.

We feel that the model set up (section 2) should include lateral and forcing description, and is placed well. We will state the horizontal resolution of the forcing function, but the initial condition resolution is already stated (end of 2.1).

Conclusions will be renamed “Summary and Conclusions” and more text will be added to emphasize the main conclusions of the paper. That is, a high-resolution model is necessary to simulate the eddies commonly observed off the Lebanese coast. As a result, any applications of such a model (oil spill predictions, search and rescue, etc.) can be expected to be much more accurate than those from the lower resolution model.

Figures 8 and 9 can be easily modified to use the same colour scale and contour intervals.

The simulation very nearly reaches a steady state, the annual cycles are just as reasonable (or more so) to those simulated in previous nested climatological simulation studies (Sorgente et al., 2003, Brenner, 2003). The second and third year cycles are nearly indistinguishable, the oscillations being much, much larger than any trend.

Interactive comment on Ocean Sci. Discuss., 3, 373, 2006.