

Interactive comment on “Operational ocean models in the Adriatic Sea: a skill assessment” by J. Chiggiato and P. Oddo

J. Chiggiato and P. Oddo

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Review of the manuscript: ” Operational ocean models in the Adriatic sea: a skill assessment”, by J. Chiggiato and P. Oddo. The submitted manuscript describes a skill assessment study for two pre-operational regional ocean forecasting systems (AREG and AdriaROMS) developed for the Adriatic Sea. The assessment, based on statistical methods, is done against in-situ (temperature, salinity) and remote sensing (temperature) data. Comparison is also done against the basin scale operational forecasting system of the Mediterranean Sea (MFS). Overall, the paper deals with an interesting topic and the presented methodology can be a good reference for future works (skill assessment of ocean forecasting systems). However, the paper would benefit from an extensive editorial work that will:

- improve the presentation of results in section 3. There is a lot of information provided

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but with a rather unstructured way. It is really difficult for the reader to depict the main messages-conclusions of this section. Furthermore, some statements need further justification or explanation (e.g. second paragraph of page 2095 starting at line 7; last paragraph, line 29 of the same page; in both cases the authors should better explain why

We thanks the reviewer for this suggestion. Section 3 has been now partially rewritten to improve readability. Besides, we would like to apologize for taking so long time to complete the review process.

To explain better the sentence page2095-L29 (in the previous manuscript version) we modified the previous statement with : "Given the depth at G4 (>200m), and the time-scale of the major regional processes, this is unlikely due directly to surface forcing, but to the proximity of the open boundary and to the heat content derived by the initialization, since MFS-GCM itself is similarly biased in that region. AREG gives good accuracy for G1 and G4, while lower temperatures in G2-G3. This behaviour is associated with horizontal diffusion problems, yielding the spreading of cold coastal waters inside the basin (Oddo et al, 2005). In general, even the temperature in MFS-GCM is lower than the observed temperature, with the exception of G1 due to the lack of the cold coastal water signal. Analyzing the performance on salinity, both regional OOFs have larger ME and RMSE in the very shallow group. This is easily explained by the difficulty to simulate the exact salinity in the western coastal current, since the models are anyway using climatological data for all rivers except the Po river. Errors decrease going toward deeper locations. Based on ME and RMSE, MFS-GCM is generally the most accurate".

MSESS results [last paragraph, line 29 same page, old ms.] are generally direct consequences of results on RMSE, so in this case we didn't give further interpretation.

- extend and improve the content of section 5 (summary and conclusions). This section should really summarize all the major conclusions of the paper with short and concise

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statements. Currently, this section contains only a short summary and 2-3 conclusions poorly described and supported.

This section has been now rewritten following the reviewer's suggestions, in order to obtain a more robust section.

We thanks the reviewer for his/her patient work about minor and editorial remarks . All the suggested remarks have been addressed and the text modified accordingly.

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