

Interactive
Comment

Interactive comment on “An operational model for the West Iberian coast: products and services” by M. Mateus et al.

Anonymous Referee #1

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General comments

The paper is generally well written, although it could do with some clarification in places. It is well structured, and the aims of the work are clearly explained and detailed.

The paper is part of the MyOcean special issue, although the model being described is not part of the marine core services but is a system that relies upon MyOcean. The paper is a little misleading in this respect, in that it appears as if the MyOcean project has lead to this MOHID operational configuration, which I do not believe is (or at least should have been) the case. It would therefore be good to see some demonstration (or at least discussion) of the benefit of the MyOcean provision of model data compared to the previous system that existed prior to MyOcean.

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The model details are a little vague, and more details would be useful, either by referring to a MOHID paper or describing in more detail in this paper.

The section on the areas of use (Marine Safety, Marine Resources, Coastal and Marine Environment etc.) are detailed and useful in that they demonstrate potential users. It seems the paper, though, is trying to be all things to all people – a system description, a validation study and a review of use or potential uses – which makes it difficult to follow and means it does none of these things particularly successfully.

specific comments

p1653, line 10: See comments above regarding the MyOcean project and clarifying that the MyOcean project has not funded the building of MOHID. The way this is written implies that MyOcean funded the development of an intermediate service which, as MyOcean only funded “core” services and testing of their impact for key users, is probably not correct. I presume what is meant that the work to evaluate the impact of the use of MyOcean core products in this intermediate service was done within MyOcean.

p1656, line 18: The choice of coordinates is an unusual one, and it is not clear why you would chose this setup. Could this be explained in more detail.

p1656, line 28: Letiao et al 2005 does not appear to describe a methodology (at least as far as I could tell from a quick read) except to say that MOHID uses linear superimposition of the tides. It does not for example say how frequently, whether one uses SSH and/or currents, etc.

p1657, line 21: “... a slow connection ..” is a strange way of describing the system. A ramped increase in forcing seems to be what this means, but it is not clear.

Section 3.1 Validation refers to validation of 2-D surface fields. It does not specify if these are best-guess fields or forecasts. The quality of an operational model is different between when it is run in test mode with the best available inputs and in forecasts, when there are degrade atm and other upstream inputs. Some explanation of the

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implications for the forecasts should be included. It seems clear from some of the SST and current fields presented there is a spurious eddy in the SW corner of the domain (and perhaps others) that is probably caused by the boundary conditions, and doesn't reflect real eddy activity. Some evidence of the improvement in the forecasts compared with climatology and/or the parent Mercator model would give some idea of the value added by the MOHID downscaling.

P1661, ~line 20: there is a discussion of eddies that decompose and reform in time. It seems there is at least one permanent eddies exist in the SW corner of the domain, which judging by SST errors in figure 3 does not exist in the observations, and is present in all the other figures shown. This is almost certainly spurious – is it caused by energy trapping by the boundaries, despite the initialisation process?

P1663, line ~20: The discussion on skin temperatures, bulk temperatures and the depth of the mixed layers is a little confusing, and seems to be confusing the change in the depth of the surface mixed layer between seasons and the difference between bulk and skin temperatures.

P1667, line 3: The authors state there is no joint effort between ocean modellers and the fisheries industry. It is worth pointing out the existence of the ICES Working Group Operational Oceanographic Products for Fisheries and the Environment.

P1670, line 5: states the MOHID system uses atmospheric model data from the My-Ocean catalogue. The MyOcean catalogue does not include atmospheric data

Fig 2 and 3: The scatter plot of model vs satellite SST shows some worrying horizontal lines which could be indicative of processing problems.

technical corrections

p1652, line 8: “... validation methodology and type of results”: what does this mean?

P1653, ine 21: MOHID is an acronym .. please specify what it stands for.

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p1653, line 23: “... anchored at MARETEC”. Clearer to say “... from MARETEC” or something similar (anchored doesn’t work, perhaps based is what you mean).

p1653, line 25: “... which considers the hydrostatic ...”. Clearer to say “... which uses the hydrostatic”

p1664, line 24: “third largest EEZ” in Europe?? There are a number of acronyms which are not spelled out (MOHID, MOHID_PCOMS, PSY2V2).

P1672, line 25: Euroxpean (near Mexico??)

P1673, line 26: url does not take you to the correct article.

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