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Ocean Science
Discussions

Interactive comment on "The Civitavecchia Coastal Environment Monitoring System (C-CEMS): a new tool to analyse the conflicts between coastal pressures and sensitivity areas" *by* S. Bonamano et al.

Anonymous Referee #2

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This is an interesting paper with useful analysis yielding some insight into the multi-temporal C-CEMS approach to create an observatory and forecast system that can provide rapid and comprehensive information for the management of coastal conflicts and the potential effects of pollution. Unfortunately, I do not recommend this manuscript for publication as it is. My concerns are not with the authors' methodsâĂŤindeed, the paper is arguably at its best in the technical details of data processing (e.g. Data & Methods section) even if is often unclear the flow chart of the processing chain. I know the methods represent a tremendous amount of work, and I applaud the authors for

their thoroughness.

There are many potential good things about this paper that are still missing and include: (1) conveys a good deal of relevant factual information, (2) update references relevant and useful for the topics especdially dealing with the MSFD, (3) the resource management for coastal issue is timely and important but not well addressed (is not even considered the MSP Framework Directive (Directive 2014/89/EU), (4) the author(s) could convey familiarity with the mediterranean region in question not only to the local scale, and (4) EO processing are not in the good-to-excellent range. So, I think there are some serious flaws in the paper structures that makes the presentation really difficult to follow. The problem is that the reader comes away from the paper wondering what the paper is about. Somehow the assemblge of words, sentences, paragraphs, equations, and tables fails to convey a central themes that I know how to paraphrase. This is in part a severe problem with organization. All is there. The authors need to state that the paper is primarily about a key resource managment issue related to coastal issue considering MSFD. Then they need to relate the various sections of the paper to this problem thereby accounting for material in sections, sub-sections, and paragraphs. I cannot recommend publication of this paper until I can state what the central themes and sub-themes of the paper are. Why the author's choose the two applied examples? Are they related? Is the MSFD related to both of them and in which way? Unfortunately, this makes the paper extremely difficult to read. So although I cite "unclear" organization is the reason that I do not recommend publication as it is, the key issue is the failure to convey ideas and thoughts in an orderly fashion. So in the interest of expediency I'll list my comment short considering the whole manuscript:

1. The introduction must have way much more background on MSFD and very recent scientific papers on the matter. No need to cover everything, but is good to increase the litterature review especially in respect of MSFD. A cursory literature review turns up numerous examples of similar technical applications on other coastlines with more scientific questions related to MSFD, including:

- Cristina, Sónia, et al. "Using remote sensing as a support to the implementation of the European Marine Strategy Framework Directive in SW Portugal." Continental Shelf Research (2015). - Jayasinghe, RP Prabath K., Upali S. Amarasinghe, and Alice Newton. "Evaluation of marine subareas of Europe using life history parameters and trophic levels of selected fish populations." Marine Environmental Research (2015). - Pieralice, Francesca, et al. "An innovative methodological approach in the frame of Marine Strategy Framework Directive: A statistical model based on ship detection SAR data for monitoring programmes." Marine environmental research 102 (2014): 18-35.

2. The innovation missing from this paper is perhaps the great challenge of remote sensing combined with the insitu analisys and the modelling: once you make the detection of different varialbes, what do you really increase into the remote sensing community or in the coastal managers community? What specific, physical or ecological insight do C-CEMS approach allow? What exactly do we gain from combined temporal C-CEMS approach that we cannot determine, for example, from a classical method? The technological advantageâĂŤ and whether or not the analysis of that advantage is innovativeâĂŤdepends on the research question. At this stage the paper represent a seires of analysis that is unclear how they set up the innovative method.

3. The C-CEMS approach analysis is sound enough, but for a methodological paper, a more robust testing or assessment is needed. There is a light comparison with field based data especially within the EO part. There is a new bunch of litteraure more than the MODIS and AVHRR processing chain cosidering MERIS and the new Sentinel-2 (Filipponi, F., et al. "GENERATION OF GRIDDED OCEAN COLOR PRODUCTS FROM MERIS: AN EFFICIENT PROCESSING CHAIN). Considering the new Copernicus world is the speculation of EO within the paper sound enough? If I also consider what was developed under FP7 EU Project COBIOS and what is under development with the BEAM project (http://www.brockmann-consult.de/cms/web/beam/) I do highlight to the author that the message that additional data processing and analysis can help define boundaries better is no doubt true, but not very enlightening–the

same would apply to additional effort paid to others analysis. I do consider the authors expert in the area if they want to relate in management procedure (this part is really confusioning to my knowledge).

4. Lastly, but importantly, the manuscript in its current form is crippled by disorganization. The Introduction and Results & Discussion sections are sprawling and difficult to follow. I do prefer to see in a scientific paper results and dicssuion well separeted. The Data & physical section is not reasonably clean and is lacking in information, but the Methods & Methodology section is impenetrable with a lack of a simple workflow that could help the reader (Figure 2 is not helping the reader in that direction). Wherever it gets published, any subsequent version of this work needs to clarify explicitly the authors' research question, motivation, hypothesis, and outcomes. It is much too long & too detailed (I propose to reduce the length as well as the # of tables and figures with at least 20%). While reading I had the impression that it was rather a report of a technical project than a paper; e.g. the different details used during the paper. You must focus much more on the novelties and skip all superfluous background information & details.

So far my first comments. Good luck & lot's of courage to finetune the paper! Best regards.

Interactive comment on Ocean Sci. Discuss., 12, 1595, 2015.