Title: Distributed Environments for Ocean Forecasting: the role of Cloud Computing

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Report: Ocean prediction: present status and state of the art

Dear Reviewer,

We would warmly thank you for the detailed and fruitful critical analysis of the paper, and for having provided many items to support further improvement of the overall manuscript. We carefully analysed them and in the following we provide punctual answers to your questions/remarks proposing new drafted paragraphs.

In the following:

- In black, your original comments.
- In blue, our answers to them.

General comments

The document is very well written, with very clear English that it is easy to follow and understand.

The manuscript presents a basic state of the art of the cloud concept and cloud providers angled to modelers to inform them with the advantages of running their models in a cloud environment.

The manuscript contains enough relevant references.

My only concern is the manuscript is not particularly innovative or exciting; presents cloud concepts that have been used for almost two decades. I recognize that the target audience may not be familiar with those concepts, and there is nothing wrong with presenting them again if they lead somewhere. And that is the biggest problem with the manuscript; while I see where the authors are leading the reader, there is no enough strong arguments in section 2 to properly inform or convince a modeler that the cloud approach is the right one.

Considering your main concern, we totally revised the structure of the paper, providing in Section 2 basic key concepts on Cloud Computing and in Section 3 an outlook on possible benefits/challenges of such technologies in operational ocean forecasting systems.

I am not against the publication of this work, but I would like to ask the authors to revise their work;

- The introduction should introduce the problem they are trying to solve, not just the concept of the cloud. The content of the current introduction is relevant but reading it I don't understand the problem the paper tries to address.

A new version of the introduction is now proposed, trying to better address the scope of the manuscript and the relevance of considering cloud computing for improving ocean value chain.

- Section 1 is fine, informative. The authors talk about Linux containers in page 6, but I believe they are trying to describe container technology, which is not just used for Linux, they can be used for any OS. Linux containers is an umbrella term used for container technologies under Linux. Please clarify this potentially swapping Linux containers for just containers. In the same page the authors claim that Docker has not made strides into the HPC world due to technical limitations. There is no text or reference to substantiate such claim.

The reference originally provided to Linux-containers has been removed and the section has been restructured to a) introduce brief history on cloud computing and b) discussing cloud computing technology through a set of tables, elaborated from the additional provided comments by Reviewer #1. The section has been revised, the message on technical limitations in using containers in HPC environments is now supported by references and revised.

- Section 2. This should be the main part of the manuscript where the authors should work more, better articulating how modelers can leverage cloud technologies. The two examples provided are relevant but reading them they are just informative, there is no clear narrative giving the reader a cohesive view. This could be address with some extra text after the three examples.

The section has been totally rewritten, giving an overview of how cloud computing technology can support specific components of the ocean value chain.

There is no closing section; what have we learnt?, what are the future cloud technological developments and trends the reader should keep an eye on?.

"Conclusions" have been included now.

I am more than happy to provide the authors with further comments if they have any questions.

We would be more than happy to have new feedback from you based on new revised and (we hope) improved version of the manuscript.