Dear Professor Juan Añel and Dr. Farneti,

Thank you very much for the comment. On behalf of all authors, I have the following reply and clarifications regarding the issues in your comment, mainly concerning the JASMIN software. The detailed reply is as follows, and in general we want to emphasize that, JASMIN is a third-party, infrastructural software of the model we presented (instead of the model itself), and we have updated the approaches of applying/using JASMIN, as follows.

(1) About the role of JASMIN as an infrastructure to our modeling study:

In the manuscript we introduced the model of OMARE, including the detailed process of constructing it, as well as initial results of numerical experiments. JASMIN is the environment that we construct and run the model. The scenario here, in our opinion, is similar to that for porting a model (e.g., NEMO) onto a specific computational platform (e.g., CUDA). This example, very similar to ours, also involves the refactorization of model code, and code compilation/linkage as well as execution on the platform. Similar to JASMIN, the CUDA toolkit (available from NVIDIA, but closed-source, commercial software) serves as the infrastructure to the model development. Also similar to CUDA-alike software platforms, JASMIN is general-purposed, not specifically made for geophysical fluid models.

Furthermore, similar works to the platform-specific model development are actually very common in the GMD journal, which are all based on closed-source software. Not to mention the compilers and MPI environment, many of which are closed source. For the clarification from our point of view, given that the software (here JASMIN) serves as the model’s infrastructure, its open-source status should not be a limiting factor, and it does NOT constitute compliance issues with GMD policy. Of course, the prerequisite is that the infrastructural software IS INDEED available for use/validation, which is addressed further below.

(2) On the open-source status of our work:

Upon the reminder from the editor, we immediately open-sourced the code, together with some of the output for public access. The newly added code (based on NEMO codebase) consists of about 100’000 new lines, in either FORTRAN or C++, and the whole source is already provided. Besides, due to the sheer volume of the model output, we could only publish some results, and the full set is readily available upon request.

We would like to emphasize that: we totally agree with the spirit of open-source for both contribution to the community and reproducibility/validation by peer scientists. At the same time, we are also aware of the various practical limitations of many existing papers (including recent ones), such as the licensing of model software to a limited (type of) audience, which are not uncommon on GMD or journals with similar focus. As model developers, we benefit from this movement, and we are definitely willing to contribute our efforts at GMD to the community.
(3) On the status & availability of JASMIN:

JASMIN is developed by Institute of Applied Physics and Computational Mathematics (IAPCM) and IACPM holds the full copyright to it. We, as external users of JASMIN, do not have access to the code, not to mention the right to disclose the code. Some of the authors of our paper are affiliated with IAPCM who helped with the software porting process, but this is an independent issue to the open-source status of JASMIN.

Currently JASMIN is distributed in the binary format. Third-party application, such as ours, are developed according to JASMIN’s software API, and linked with the binary library of JASMIN. This is also common practice for using third-party software, and it is counterpart to the practice with open-source software which requires the end user to compile from scratch.

In order to overcome the availability issues of JASMIN as raised in CEC, we have provided the following two ways for applying JASMIN. First, one can apply for JASMIN by writing to: yang_zhang@iapcm.cn. The JASMIN software will be provided through replies. Any inquiries/questions about using JASMIN and OMARE are also handled through this contact.

Second, since the English version of the webpage for JASMIN application is under construction, we provide the step-by-step instruction in the following pages. This guide is based on the original JASMIN application page at: http://www.caep-scns.ac.cn/JASMIN.php. And it provided in case that anyone interested in selecting specific version/platform for JASMIN.

We would like to express our sincere thanks again to the editors for their help. And we hope that our reply has fully addressed the comments by the chief editor.

Shiming Xu, on behalf of all authors
An instruction of the webpage for JASMIN application

Step 0: Registration & Login
Step 1: Select a JASMIN version
Step 2: Fill the application form
Step 3: Follow the agreement

Step 4: Wait for approval (1~3 working days)
Step 5: Download after approval (jasmin_JASMIN4-4.0.0-Linux-x86_64.sh)