

Review response:

This manuscript presents an effort where a well-known community model POP/CICE has been applied for the Baltic Sea. This report presents basic information of the model configurations and shows a few examples of the hindcast simulations conducted. This work could lead to some interesting findings, but unfortunately the manuscript fails in presenting any new results and thus it is useless for the scientific community and I have to recommend a rejection of this manuscript.

Main points

1. Lack of original science. I didn't find any new scientific results from this manuscript. The manuscript is a technical report describing how a freely available community model has been implemented on the users' computing system. These are important issues to be documented, but the peer-review journal is not a proper place to make it available for the community.

We will leave this decision for the editors.

2. There is not a detailed description of the model parameters and how those have been selected (heat fluxes, momentum fluxes, bottom stress, mixing coefficients, parameters of sea ice model ...). The only issue that is shown is that two different mixing schemes have been tested (Richardson vs. KPP), but there is not any information of parameters used in the schemes. It would be desirable to conduct more sensitivity studies in order to find proper model parameters.

We have added description of ocean model equations in appendix. We do not think it should be as an equation. The ice model is not a topic of this paper – we have left it unchanged.

3. Validation of the model has been done superficially. Basically, only sea surface temperature has been validated. More important is to show validation of salinity, vertical stratification, water level and ice thickness.

We also added more detailed validation together with vertical stratification.

We would like to express our thanks to Reviewer for his/her very instructive and profound comments.