Response letter to the Chief-Editor-Comment

We appreciate your willingness to comply with the policy; however, it is my interpretation that the repository that you have linked in your response is not enough to comply with the policy, as it does not contain all the code necessary to replicate your work, but only a few files to run with the main model. It is your responsibility to provide all the code that you use and is necessary.

Also, I strongly recommend you to provide separated repositories for the code and for the data. Currently it is necessary to download the output files to check the code, which is not operational.

***Response*:**

Thank you for your valuable suggestions. We appreciate your concerns regarding the completeness and operability of the code, so we now provide further clarification on this matter below.

Our model is built on the MITgcm (MIT General Circulation Model) framework, and its operation depends on the MITgcm environment. MITgcm is an open-source ocean model, and its source code and documentation are publicly accessible on its official website (https://mitgcm.org/source-code/, last access: 10 February 2025). Our research extends and optimizes the MITgcm framework, and as such, the model requires the MITgcm environment to function properly—a point explicitly highlighted in the repository description. In the submitted code repository, we have included the core code files necessary for interfacing with MITgcm, which are critical for running our model. However, I am uncertain whether creating a Zenodo repository for the MITgcm source code might violate its licensing terms or intellectual property rights. Could you please clarify this?

Additionally, we fully agree with your suggestion to separate the code and data. In the updates, we now store the code and data in separate files and provide detailed instructions to make it easier for users to access and run our model (https://doi.org/10.5281/zenodo.14842090).

Overall, the “Code and data availability” is now rewritten as “The MODIS satellite imagery can be freely downloaded from the NASA Worldview website (https://worldview.earthdata.nasa.gov, last access: 11 July 2024, Plato et al., 2019). The code of Massachusetts Institute of Technology general circulation model can be accessed at https://mitgcm.org/source-code/ (last access: 10 February 2025). The input files, including initial and boundary conditions, as well as the corresponding output data for ISWFM-NSCS v2.0, are freely accessible through an open-access data repository available at https://doi.org/10.5281/zenodo.14842090 (Gong, 2025, last access: 10 February 2025)”.