

Comments to the Author:

At the early stage of a MIP it is quite common for parts of the protocol to not be defined, or for ad-hoc ensembles to be formed from existing runs or already published runs. This is actually an important thing as it enables experimentation with what protocols work well, which could then be more clearly defined (or not!) in further comparisons. Your MIP is a mixture of all these things. This was explained in your response to me, but you need to add it to the manuscript so that readers not involved in the MIP can also understand the context of the paper.

This is the response I am referring to:

"Ocean-only models are used either to develop the ocean component of a specific climate model or to address specific ocean processes. They are configured using best practices, but each modeling group was empowered to choose what they think is best and that includes initial conditions. The high-resolution experiments are computationally expensive and, when the call for comparison was made, each group leveraged known and proven configurations to perform the requested experiments. Furthermore, some groups had already completed the JRA55-do simulations at high-resolution before this intercomparison was conceived. Given the large computational resources involved, rerunning those experiments to conform to a standard protocol was not an option. "

The points I would like to see emphasised in the paper at the place where the ensemble is introduced are: that some runs were pre-existing; that modellers were free to choose own boundary conditions; and that the runs are presently very computationally expensive.

Response:

The above points were incorporated in the revised paper as recommended (see below). Thank you again for handling this manuscript.