

## ***Interactive comment on “Physical-biogeochemical regional ocean model uncertainties stemming from stochastic parameterizations and potential impact on data assimilation” by Vassilios D. Vervatis et al.***

**Anonymous Referee #2**

Received and published: 20 May 2019

In this article, the authors present a thorough procedure for generating physical-biogeochemical ensembles using various stochastic parameterization techniques. The ensembles are verified using observations such as SST, SLA, chlorophyll (ocean color) and later tested in a data assimilation framework. The presented research can be useful however, my major concern is the relevancy of the paper to GMD journal. There is technically no model development but rather a detailed application of stochastic techniques for generating and studying ocean variability. Overall, the paper is quite long and there are lots of sections that seem disconnected sometimes making it really diffi-

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cult to follow. It took me a long time to read through and I'm disappointed for not being able to prepare a better review. It's just hard to grasp on everything. One other issue is structure and the flow of the manuscript, it felt more like a report rather than a directed scientific study. There is probably some novelty in the choice of the stochastic schemes but I wonder if that's enough for justifying this lengthy article. In general, if this to be reconsidered I strongly encourage a detailed polish so the procedure could look more clear, concise and easier to follow.

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Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2019-31>, 2019.

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