**Ocean Science
Discussions**

Interactive comment on "The relative importance of selected factors controlling the oxygen dynamics in the water column of the Baltic Sea" *by* S. Miladinova and A. Stips

Anonymous Referee #2

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The authors apply a 1D biogeochemical model to explore oxygen dynamics in dependence on different parameterizations. In general, I am missing a scientific question which is studied in the manuscript. Furthermore, 1D models are not longer timely to investigate inhomogeneous environments like the Baltic Sea. Taking this into account, I do not propose a publication of this manuscript.

Detailed comments: I appreciate the proposed improvement of the oxygen air-sea flux parameterization. Moreover, also the sensitivity exercises are a nice example for using 1D models. However, this is rather a technical report for e.g. the GOTM community than a scientific paper.

page 2117, line20: Please do not use the term "dead zones". They are definitely not dead, just other forms of life.

page 2118, line 1: Be careful with the term "prediction". In most cases it is rather a projection or scenario.

page 2120, line 19: At least the Omstedt model is not a "simple" 1D model. It considers hypsography and different basins.

page 2129, line 27: "The discrepancy is probably due to ...". Why not trying it out with the model?

page 2132, line 1: Peak of vernal bloom depends on nutrient winter concentration too and not on N:C:Chl ratio only.

page 2132, line 20: I propose to remove the annual cycle at least for temperature before doing Taylor diagram statistics.

Fig. 3: I think the good match of data and observations is due to the relaxation works fine and not a measure of model performance.

Interactive comment on Ocean Sci. Discuss., 6, 2115, 2009.