**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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First of all, I do my review on the submitted version as usual. See also guidelines to review process and/or interactive public discussion.

The k_min impact is a matter of turbulence parameterization, not the process controlling oxygen in the Baltic. I acknowledged the improvement of the air-sea fluxes; however this is parameterization too not a process study. As I said, I am missing an appealing scientific question fitting in the scope of the journal. To my mind it is an interesting sensitivity study which unfortunately lacks integration into burning questions of the oxygen dynamics of the Baltic Sea.

Nobody stated 3D is better than 1D or vice versa, but a model should be able to cap-

ture first order processes. Oxygen concentration below the pycnocline, and this is the interesting part for oxygen in the Baltic Sea, is inter alia controlled by lateral transport of oxygen, POC and vertical transport of POC. I hardly believe a 1D model is able to simulate these processes right.

Justifying 1D models by referring to a 5 years old publication is not a proper style. Have e.g. a look at: Kari Eilola, H.E. Markus Meier, Elin Almroth, 2009: On the dynamics of oxygen, phosphorus and cyanobacteria in the Baltic Sea; A model study. Journal of Marine Systems 75, 163-184

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