Comment on bg-2022-70
Anonymous Referee #2

Referee comment on "Subsurface oxygen maximum in oligotrophic marine ecosystems: mapping the interaction between physical and biogeochemical processes" by Valeria Di Biagio et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2022-70-RC2, 2022

Review of “Subsurface oxygen maximum in oligotrophic marine ecosystems: mapping the interaction between physical and biogeochemical processes” by Di Biagio et al.

The authors analyzed an existing coupled physical-biogeochemical model and mapped the subsurface oxygen maximum concentration and depth in the Mediterranean Sea. They proposed SOM to be a suitable feature in oligotrophic seas to evaluate and monitor the ecosystem state.

This manuscript is very well written and structured, and its topic is interesting enough. However, I have one major concern. The model applied data assimilation for biological variables. How would this artificial factor impact vertical structures of biological variables and their budget analysis? Does their present conclusion/result still stand? This concern has to be addressed to insure that the analysis is meaningful and make their story convincing.