

Interactive comment on “Multi-sensor in situ observations to resolve the sub-mesoscale in the stratified Gulf of Finland, Baltic Sea” by U. Lips et al.

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This MS is a very useful contribution to the understanding of physical processes in a coastal sea. The main issue is the use of different observational techniques like moorings, Surveys and Ferryboxes to obtain high Resolution high frequency data on physical and biological Parameters. The paper is well written and easily understandable. There are some language issues which Need to be solved by a native Speaker and one Point of criticism should be taken on board by the authors. The paper is very descriptive, thus there is a need to add some questions or hypotheses which were tested by performing this scientific approach. It is a pity that there is relatively little Connection between the very detailed physical Analysis and the potential consequences

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for the biology, e.g. in the introduction the authors mention that These physical processes might influence the species composition of the Phytoplankton. In reality there is just Chlorophyll and one Bloom forming species is mentioned. If there is more Information on the species composition under changing physical conditions of up- and downwelling or intrusions of other water bodies, then this would Support the Quality of the paper. A final Point is the Quality of the Chlorophyll calibrations: different sensors or fluorimeters were used, how good were the intercalibrations between these different measurement devices and how stable were they. This would be important Information for other groups dealing with this problem of data conversion. Were the 11 water samples taken over the week or during one transect? In Fig. 6 and 8 legends regarding the o- and x- should be added, to avoid any misunderstanding. All figures are of good Quality and their legends are clear. I did not check the references but at least they are up-to-date. F. Colijn, March 2, 2016

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