Dear Dr. Brigolin,

Thanks for replying the comments on your article Modelling biogeochemical processes in sediments from the north western Adriatic Sea: response to enhanced POC fluxes. The answers to the editor's observations address most of the aspects commented by the reviewers. It would have been nice to see the same response quality for the reviewers' comments.

Let me comment on your answer to the editor's observations related to using remote sensing products (Sea Surface Temperature and Chlorophyll-a concentration).

The fact that your model represents the evolution of the mussels' features to values similar to the ones observed within the farm, it is used to indicate that values of Chl-a and SST from remote sensing products represent the study area. This is a good point, but if someone shows that the Chl-a o SST values used by your model have issues, then questions are raised about the model and how did you use it. Which means, this results as the only support it is not good.

As example, a quick look into Chla MODIS data shows that your study area is located in a zone with Chl-a values greater than 1.5-2 mg/m^3 most of the year. This feature points that the coastal waters of your study area are under the influence of "something" that enhances the Chl-a concentration or its estimation is affected on remote sensing products. You have not address this point and this questions your model results!!!. It looks like rivers could have a role/impact in the study area. This need to be supported in a better way, to be in the edge means that the river could have a significant influence considering that you use the four pixel average.

Some ideas that could help you to address the aforementioned comments at some level.

1. Observation of Chl-a and SST that could validate the values of Chl-a concentration and SST are not over- or under-estimated and support that values are greater than 1.5-2 mg/m3 most of the year. Lavigne et al. (2015) describe some observations near your study area. https://www.biogeosciences.net/12/5021/2015/
2. To state the limitations of using Chl-a data based on remote sensing products and make a sensitivity analysis of the model. As example, to describe a variability range for Chla values where the final modeled results are still similar to the observed with the mussel farm.

Another comment about using Chla and SST remote sensing products in your model. These products are surface observation and mussels are located deeper than 2-4 meters without considering that the ropes are another 4 meters suspended downward. Not sure if the Chl-a concentration is affected at that depth, but I am more concern about the values of temperature. The optical properties of the water in the study area will have a significant role in the vertical variability, as well as the riverine water could impart the SST temperature. Surface riverine water is usually a thin surface layer that could lead your model to be using under-estimation of temperature.

One last point, I did not have the time to look into the model used for representing the mussel growth, but the model could be a solution itself if the remote sensing values differ from observations. As example, a linear model can be calibrated to reach the values observed by changing the linear coefficient. If this was the case, this could complement the point 2. To state that limitations of using Chl-a and SST and how the method is planned to address this issue by calibrating the linear coefficient (if this is your case, probably not)