

## ***Interactive comment on “Spatiotemporal variability of light attenuation and net ecosystem metabolism in a back-barrier estuary” by Neil K. Ganju et al.***

### **Anonymous Referee #2**

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This paper investigated spatio-temporal variability of light attenuation, of  $P_{gross}$  and  $R$  in Chincoteague Bay, Maryland/Virginia, USA. The authors have valuable long-term data and the paper is overall well-written, however I have some concerns on this version of the manuscript.

Firstly, the result section could be substantially improved. As it is, there is limited quantitative data. For instance, ranges and means of  $P_{gross}$ ,  $P_{net}$  and  $R$  should be clearly reported.

To calculate  $P_{net}$ ,  $P_{gross}$  and  $R$  the authors need flow speed and direction, oxygen, PAR, and wind data. I assume wind data were used in the calculations, however the

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authors should explicitly report the formula and variables used in their calculations.

Also, the authors have a valuable long-term data-set. My main concerns is that the instruments recorded data every 15 min, which is not an ideal resolution, it would be good to comment on this.

The conclusions and overall significance of the study could also be improved substantially. There is not a clear and compelling "take home message" at the moment.

Importantly, a great limitation of many studies on community metabolism is the lack of data on community structure. The authors could extrapolate data on benthic communities in their study sites and discuss the role of community structure in greater detail, this would strengthen the paper.

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