

***Interactive comment on***  
**“Photosynthesis-irradiance parameters of marine  
phytoplankton: synthesis of a global data set” by  
Heather A. Bouman et al.**

**Anonymous Referee #1**

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The manuscript of Bouman et al. synthesizes a global data set on P-E parameters, and tries to insure equality among all experiments to provide a data set that is truly comparable. The data set is good, and while some measurements that I am familiar with are not included, I suspect that this is true for most reviewers, even those that have published on the topic. I am not sure how ESSD treats the addition of new data, but no matter – that is not an issue here.

The analysis is solid; no problems. I would have liked to see some discussion about the variations among selected geographic regions or bio-provinces, but understand that the static description of those regions makes it difficult. Is it possible to run simple

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statistics to look for significant spatial differences? I admit I am not sure how powerful they would be, but is the reader to conclude that differences among the broad regions are insignificant? Perhaps a more strongly worded conclusion on that result would be helpful.

The authors also discuss the effects of phytoplankton composition on the parameter estimates. I wonder if using a broad description of pigments as available in ESSD might provide some insights into the variations observed in P-E parameters?

In short, the paper is well written and a useful composite of P-E data available. I recommend publication with minor changes.

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