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Biogeosciences Discussions

Interactive comment on "Effects of the interaction of ocean acidification, solar radiation, and warming on biogenic dimethylated sulfur compounds cycling in the Changjiang River Estuary" *by* Shan Jian et al.

Anonymous Referee #2

Received and published: 14 December 2017

I must start by recognizing the efforts of Anonymous Reviewer #1 – a very detailed, fair and constructive review which provides the authors with a comprehensive understanding of the status of this paper.

Importantly, I would like to stress that I unequivocally agree with Reviewer #1 on all points. Unfortunately, this paper fails to deliver on the promise of its title. In its current form, it falls far short of the standards of Biogeosciences and would require some significant and extensive re-working to be considered suitable. I don't feel that another detailed review would useful for the authors, so I will briefly cover a few points without

repeating the suggestions and comments of Reviewer #1.

1. Lack of reference to the existing literature: There are now a good number of published papers out there that report the effects of OA on DMS and related compounds, but the authors have only cited a handful. In particular, the works of Archer et al. (Arctic mesocosm), Webb et al. (various mesocosms), and Hopkins et al. (various mesocosms and shipboard studies), Hussherr et al. (shipboard) are not mentioned at all, which seems a little odd. To me, it is important to place your findings within the context of the existing literature. They do mention a few examples, but with some errors in referencing: e.g. Avgoustidi et al. 2012 is given in the reference list, but they also mention Avgoustidi 2006 in the text but not the list of references.

2. Lack of appreciation of the 'bigger picture': Why do we perform these kinds of experiments? Ultimately, it is to generate data that may be utilised by modellers within earth system models. Some recognition/discussion of this would be useful. At least, some discussion of published studies (Six et al., Schwinger et al.) to provide the reader with an understanding of the potential DMS-climate feedbacks resulting from OA. Otherwise why do we care?

3. Language weaknesses: The entire paper needs language checking. The structure of the paper needs some consideration – for example, large chunks of the 'Results' text would probably be considered more suitable for the 'Discussion'.

I would recommend that the authors carefully consider all of the above and the detailed points raised by Reviewer #1 before even considering resubmitting this paper. In its current form, it is far from suitable for publication.

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