

Interactive comment on “Differential photosynthetic response of marine planktonic and benthic diatoms to ultraviolet radiation under various temperature regimes” by Yaping Wu et al.

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Received and published: 7 May 2017

First of all, thanks for the comment. I would like to respond to the major criticisms shortly, before the final response. 1. The reviewer pointed out that 10 degree C increase is very unrealistic. However, the present manu is focusing on the temperature increase on the intertidal flat during low tide period, rather than a mimic of future scenario of global warming. As measured by Laviale et al., (2015, Environmental Microbiology), the in situ temperature change on the intertidal flat was greater than 10 degree C. So I felt that the simulation of temperature is close to what happened in the nature environment. I realized that the last sentence in the abstract might confuse the reviewer that we are dealing with global warming issue, I will delete it in the revision. 2. I agree

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with the reviewer that some of data should be analyzed by RM- and two-way ANOVA. I have done this statistical work here, and will incorporated these results to the revision. The major conclusions would not change, while some of the intepretation need to be revised. 3. For the results, Fig 1 and Fig 2 will be removed to supplimentary, as suggested by the reviewer. 4. For the Aquapen fluorometer, the full volume of cuvette is around 4ml, while during the experiment, we withdrew 2ml for measurement (which is adequate by pre-test). So 35ml sample is enough for the whole experiment. 5. For the propagation errors, we calculated all data with the original Fv/Fm of triplicate, e.g. UVR inhibition, repair, damage rate, and r:k ratio. So the errors were not propagated during the calculation. 6. For the editorial comments, we will revise the text accordingly.

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Interactive comment on Biogeosciences Discuss., doi:10.5194/bg-2017-76, 2017.

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