

Interactive comment on “Dynamics of phytoplankton community structure in the South China Sea in response to the East Asian aerosol input” by C. Guo et al.

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We thank the reviewer for her/his constructive suggestions for our paper. Please see our detailed response to reviewer's comments below.

1. Last sentence in Section 1: this work report results based on one cruise in the South China Sea, it is too general to suggest it is a report in the Northwest Pacific region.

We have changed the "Northwest Pacific region" to "the South China Sea".

2. Abstract: 'high levels of aerosol loading profoundly relieved phytoplankton nitrogen..': this point is yet to be proved.

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We draw this point based on the hydrotropic condition in the South China Sea (N is limited according to the data of this cruise), the aerosol chemical composition (our aerosol samples had high amount of N and high N/P ratio), and the observation of significant increase of phytoplankton biomass.

3. As the result of this paper contains the results based on only 1 cruise during the winter season, it will be clearer to add more discussion regarding this aspect, as the responses in the other seasons may be very different. In addition, the aerosol types in the other seasons can be different too. 4. Similar point as in point 3, as the sampling stations are located in the northern South China Sea, it will be clearer to add some discussion about this aspect, indicating the response in the southern South China Sea can be different from the results in the northern South China Sea. Especially satellite observations have found that southern South China Sea biogeochemistry can be more sensitive to the aerosol loading as compared to the northern South China Sea.

Agree. We have added more information in the discussion part as suggested.

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