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Biogeosciences Discussions

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.

Anonymous Referee #2

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This paper presents laboratory results based on in situ aerosol and water samples to study the biogeochemical impact of East Asian aerosols to the phytoplankton community structure in the South China Sea. Aerosol's biogeochemical impact to the South China Sea biogeochemistry is a much-unexplored field, especially there is little existing work reporting the impact on the phytoplankton community structure dynamics. It is thus worth publishing. A number of recommendations for minor revisions are summarised 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.

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

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.

Interactive comment on Biogeosciences Discuss., 8, 6637, 2011.