

Interactive comment on “Biogeochemical characteristics of suspended particulates at deep chlorophyll maximum layers in the East China Sea” by Qianqian Liu et al.

P.A. Meyers (Referee)

pameyers@umich.edu

Received and published: 3 August 2017

Liu and colleagues present the results of their study of the organic carbon and nitrogen contents in suspended particles collected around deep chlorophyll maximum layers in the East China Sea. They measured carbon and nitrogen concentrations and isotopic compositions of 36 samples collected from 7 cross-shelf transects and augmented these data with a suite of standard hydrographic measurements. These data allowed them to conclude that little land-derived organic matter contributes to the suspended particulate matter despite the proximity of the sampling locations to the mouth of the Yangtze River. Instead, the organic matter freshly produced by phytoplankton. The

Printer-friendly version

Discussion paper



authors attribute variations that they found in the carbon and nitrogen isotopic values of the organic matter to local differences in productivity rates and differences in the nitrate isotopic signatures of the major water masses in the area. The study seems to have been designed well, and the authors seem to have interpreted their results properly, but problems with the presentation make this contribution hard to read and appreciate. The English badly needs refining, and some additional details should be addressed.

For a start, the second paragraph of the Introduction seems to be missing something (lines 27-32. After that, Section 3.1 on sample collection should include a tabulation of the 36 samples that shows their water depths and some of their hydrographic properties. This tabulation could be an appendix, but the information that it would contain should be available to interested readers. Then, the explanation for higher $d^{13}C$ and C/N values in surface sediments that phytoplankton (page 14, lines 10-16) seems out of place. This contribution is about POM, not sediments.

To continue with details that need correction, neither Table 1 nor Table 2 contribute much to the paper as they exist. I suggest either expanding Table 1 as suggested above or deleting it and providing a detailed appendix. The figures are effective, but Figure 3 could be improved by inverting the salinity color code so that salinity (and hence density) increases downward and Figure 8 needs to have the spelling of Redfield corrected the left panel and in the legend.

Phil Meyers August 3, 2017

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2017-290>, 2017.

Printer-friendly version

Discussion paper

