

Interactive comment on “Responses of lower trophic-level organisms to typhoon passage on the outer shelf of the East China Sea: an incubation experiment” by N. Yasuki et al.

Anonymous Referee #4

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General comments

In this manuscript, nutrient manipulation and water transplantation experiments were conducted to simulate the effect of typhoons on marine ecosystems. Various ecological parameters, including photosynthetic pigments, bacterial abundance, microplankton species composition, and nutrient concentrations, were measured to study changes in community structure and the source of seed population that induced the diatom bloom. The simulation of a typhoon was achieved by exposing deep water to high light and by mixing surface and deep waters. Since the same effects are also produced by processes such as tidal mixing, winter storms, and shelf break upwellings, the authors may want to explain why their results are more applicable to typhoons. The third design

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is especially puzzling. The addition of 800 μM N and 50 μM P needs justification. Another concern of mine is the lack of statistical treatments in this manuscript. Each manipulation was performed in duplicates, yet data points in all figures had no error bar attached. There was no description about variations between duplicates in the text, either. In addition, some of the conclusions were not supported well enough by the data. Counting ciliates but not nanoflagellates leads to a weak explanation about biomass changes of bacteria and cyanobacteria. Similarly, without a comparison between surface and deep diatom compositions, it is difficult to determine the source of seed population since blooms of *Pseudo-nitzschia* occurred in all 3 treatments.

Specific comments

p. 6605. The title is misleading. Must clearly state that this is a simulation. p. 6606, line 9. The exact concentration added should be provided. p. 6611, line 14. Why not measure cyanobacterial abundance as well? This would provide better support to cyanobacteria time courses during the incubation period (Fig. 5). p. 6615, line 13. The observed patterns were not “Typhoon-induced”. p. 6618, line 17. “Trophic upgrading” occurred in the simulation containers instead of after a “typhoon passage”. p. 6633, Fig. 7. Diatom Chl. *a* reached 8 $\mu\text{g/L}$ while microplankton Chl. *a* was only 3 $\mu\text{g/L}$. Shouldn’t diatoms be a part of microplankton?

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