

Interactive comment on “Enhanced microbial nitrogen transformations in association with intertidal macrobiota” by Catherine A. Pfister and Mark A. Altabet

Anonymous Referee #1

Received and published: 27 June 2018

General comments:

This article seeks to tease apart the effects of coastal biota and the settlement surface they provide on microbial nitrogen cycling. The article further aims to determine how this is influenced by factors including light vs dark and addition of glucose (mimicking provision of DOC via excretion from biota).

Understanding of the role of macrobiota communities in coastal nitrogen cycling sits well within the scope of the Biogeosciences journal and is particularly important given the widespread increase in coastal nitrogen concentrations and interest in the ability of coastal habitats to cope with or buffer against this.

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The paper is not overly novel, but provides new data for this area of research and demonstrates the potential for changes in macrobiota to alter coastal N processing, which is of general interest. The authors could broaden the scope/interest of the paper by providing comment on how applicable these results are likely to be for other biota and regions, and by providing additional background information on environmental conditions, etc. It would also be helpful to see some further discussion of the possible mechanisms underlying the role of biota (vs inert substrate) in eliciting changes in microbial N transformations.

Overall, the manuscript would benefit from re-working to improve clarity, particularly relating to the methods and statistical analyses used. I found this section to be confusing, making it difficult to ascertain how reliable/robust the results are.

Please see the supplement for specific comments and technical corrections.

Please also note the supplement to this comment:

<https://www.biogeosciences-discuss.net/bg-2018-198/bg-2018-198-RC1-supplement.pdf>

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2018-198>, 2018.

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