

## ***Interactive comment on “An eddy-stimulated hotspot for fixed nitrogen-loss from the Peru oxygen minimum zone” by M. A. Altabet et al.***

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First we thank the anonymous referee for his/her thoughtful comments.

Regarding the referee's questions about the 'two phenomena' producing peaks in biogenic N<sub>2</sub> in the hotspot, we are positing that the biogenic N<sub>2</sub> peak sitting just above the OMZ to have developed on the shelf and transported offshore in the eddy streamer. Evidence for this is 1) its co-occurring [O<sub>2</sub>] above suboxic conditions, 2) its high  $\delta^{15}\text{N}_2$  anomaly and 3) its unusual stoichiometry with the NO<sub>3</sub><sup>-</sup> deficit. In contrast, we posit that the biogenic N<sub>2</sub> deeper within the OMZ was produced locally by a local downward injection of organic matter from the overlying eddy streamer. Evidence is the lack of co-occurring O<sub>2</sub> and the presence of expected  $\delta^{15}\text{N}_2$  anomalies and stoichiometry with the NO<sub>3</sub><sup>-</sup> deficit. In our revision, we will make this distinction clearer.

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The referee's 'minor editorial suggestions' are all reasonable and will be incorporated in the revision. We do take [O<sub>2</sub>] < 5  $\mu\text{M}$  as defining the OMZ and this will be noted in the figure legend.

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