

## ***Interactive comment on “Biogeochemical and biological impacts of diazotroph blooms in a Low Nutrient Low Chlorophyll ecosystem: synthesis from the VAHINE mesocosm experiment (New Caledonia)” by S. Bonnet et al.***

**Anonymous Referee #3**

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The interdisciplinary VAHINE project has already generated a large number of data-rich papers, a dozen of which are cited in this paper. This current manuscript provides a summary (synthesis) of some of the major trends from this controlled mesocosm experiment. I have not gone back and read all the individual papers so I cannot really comment on the accuracy or inclusive nature of this summary; hence, I do not have an informed opinion of whether it is needed as a “stand alone” paper. I was surprised to learn that yet another paper (listed in the reference list as Bonnet et al., in preparation) termed “Introduction to the project VAHINE” is planned. It struck me as odd that no “introduction” had yet been published, given the many papers that have already ap-

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peared. Why not combine the introduction and the synthesis into a single paper? That would seem logical to this reader.

Specific Comments

p. 2, line 11: “a stable water mass” – Was turbulence measured?

p. 3, line 5: ammonia is  $\text{NH}_3$ , ammonium is  $\text{NH}_4^+$

p. 3, line 6: crops, not cultures?

p. 5, line 21: quantified, not qualified?

p. 6, line 22: Eastern Tropical Pacific?

p. 8, line 17: 40 nM  $\text{NO}_3^-$  seems high to me. So does 0.1-0.15  $\mu\text{g Chl a l}^{-1}$

Fig. 3: Why not plot particulate P and DOP?

Fig. 3: units on (h) PON export seem to be incorrect

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