

Interactive comment on “Phospholipid synthesis rates in the eastern subtropical South Pacific Ocean” by B. A. S. Van Mooy et al.

E. Ingall (Referee)

ingall@eas.gatech.edu

Received and published: 9 October 2007

Phosphorus availability in vast ocean regions is much more important than previously thought as evidenced by several recent papers in *Nature* and *Science*. The “big picture” reason for this interest in phosphorus stems from its role as a nutrient element, whose availability can control marine productivity. In turn, marine productivity connects the cycle of P to many other elements including carbon. This paper presents insights as to which organisms are storing phosphorus and into the forms by which these organisms are storing phosphorus.

This manuscript presents data indicating P going toward P-lipid synthesis is higher in heterotrophic bacteria in comparison to phytoplankton in oligotrophic systems. Thus, shifts in ecosystems will likely lead to changes in P utilization and the chemistry of

organic P in these systems. P lipid synthesis rates measured over a range of oceanographic conditions are presented. This is relatively unique data that should be useful to other researchers. This data is a nice complement to the author's previous work showing that ecosystems under severe P limitation may shift to organisms with reduced P requirements.

This is a well-written paper presenting unique data. The conclusions drawn from the data are reasonable and interesting. As such, no significant revisions are recommended other than the correction of typos on the lines listed below.

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Interactive comment on Biogeosciences Discuss., 4, 2793, 2007.

BGD

4, S1610–S1611, 2007

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