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Comment

## ***Interactive comment on “Seasonal Variability of Tropical Wetland CH<sub>4</sub> emissions: the role of the methanogen-available carbon pool” by A. A. Bloom et al.***

### **Anonymous Referee #2**

Received and published: 7 March 2012

This manuscript by Bloom et al. well describes temporal patterns of CH<sub>4</sub> emission from physical conditions (temperature and moisture) and substrate availability. This is a well-written paper, and their ideas are presented clearly.

I strongly agree with the reviewer 1 that the authors should explicitly consider alternative hypothesis.

I also suggest them to evaluate their simple model. In previous studies, there are more detailed, more mechanistic models. For example, Walter & Heimann (2000, Global Biogeochemical Cycles) explicitly modeled CH<sub>4</sub> transport including diffusion, ebullition, and vascular transport. They also explicitly simulated CH<sub>4</sub> oxidation in aerobic soil

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layers. I think the thickness of aerobic soil layers could strongly control CH<sub>4</sub> dynamics in a way that is not treated by this manuscript by Bloom et al. So, please explain why your simple model is appropriate for this study.

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Interactive comment on Biogeosciences Discuss., 9, 387, 2012.

**BGD**

9, C235–C236, 2012

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