

Interactive comment on “Seasonal Variability of Tropical Wetland CH₄ 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 CH₄ 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 CH₄ transport including diffusion, ebullition, and vascular transport. They also explicitly simulated CH₄ oxidation in aerobic soil

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layers. I think the thickness of aerobic soil layers could strongly control CH₄ 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.

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