

Interactive comment on “The emission factor of volatile isoprenoids: caveats, model algorithms, response shapes and scaling” by Ü. Niinemets et al.

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Received and published: 12 April 2010

I don't think there is much argument on the assertion that upscaling of emission factor algorithms is in need of an integrated assessment. However, the suggestion that because significant error lies in the upscaling process, we can generally dismiss inaccuracies in the application of the underlying emission factor algorithms is dangerous. This type of argument is often offered by those interested in assessing modeled outputs from higher-scale perspectives - e.g., variations in the underlying, biochemical algorithms provide insignificant noise to a modeling process that has the most significant errors at higher levels of the scaling. I would challenge this assertion given

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the information in the current paper, which shows potential for broad variance in the emission factors provided by these algorithms in the face of the wide range of different environmental conditions that are typically averaged in upscaling exercises. The averaging errors can only be corrected by having accurate algorithms by which to apply to the independent conditions being aggregated in the averaging schemes. The point of this paper is to provide perspective on the drivers of variance in the algorithms across the environmental conditions being considered. It is potentially just as important as assessment of averaging errors during upscaling exercises.

Interactive comment on Biogeosciences Discuss., 7, 1233, 2010.

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