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Biogeosciences Discussions

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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In my previous short comments I did not question the validity of mechanistic emission model approaches, which can be particularly useful when studying a single leaf. It is certainly important to improve our understanding of these types of models. However this is not the entire issue here. You mention a great example. Where would the CO2 community be today, if it was still trying to upscale an ensemble of individual leaf level emission rates to derive global GPP? Even the best mechanistic approach will not be able to predict reasonable (e.g. reasonable in the sense that an AQM can predict accurate ozone forecasts) regional scale BVOC fluxes without top-down constraints from

observational techniques. This goes beyond what you call a "correlational modeling" approach. I would rather call it "establishing the ground truth". The introduction of the manuscript is heavily advertizing the need to improve BVOC emission models because of atmospheric chemistry. If this is really the point you are trying to bring across, I would argue that top down methods should provide the benchmark for any BVOC modeling activity trying to establish a framework that can be used on scales that matter for atmospheric chemistry.

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