

Interactive comment on “Isoprene emission and photosynthesis during heat waves and drought in black locust” by Ines Bamberger et al.

Anonymous Referee #2

Received and published: 27 February 2017

This manuscript makes the point that that isoprene emission model parameters are likely to be different for stressed plants than for unstressed plants. This is a good point to make. However, I found the manuscript to be problematic. Temperature of the individual leaves could not be controlled and so the temperature response curves of the control and heat or heat-drought treatments were almost non-overlapping. I found the description of the methods to be difficult. It is not clear to me whether leaves not currently being measured had an air flow of if the airflow only occurred during a measurement.

A great deal of variation in isoprene emission rates was observed. I was not convinced that the statistical treatments accurately reflected the variability. Isoprene emission is exceedingly difficult to predict, a point made by this lab that affects how these data need to be interpreted. While a lot of work has gone into this report, I have significant

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concerns including that leaf temperature is not known and measurement temperature during isoprene emission measurement was almost non-overlapping.

The authors have an important point to make but the manuscript as written will not make that point very strongly. I made a number of comments on the pdf that I hope will be helpful to the authors.

Please also note the supplement to this comment:

<http://www.biogeosciences-discuss.net/bg-2017-32/bg-2017-32-RC2-supplement.pdf>

Interactive comment on Biogeosciences Discuss., doi:10.5194/bg-2017-32, 2017.

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