Geoscientific
Model Development
Discussions

Interactive comment on "Evaluation of improved land use and canopy representation in BEIS v3.61 with biogenic VOC measurements in California" *by* J. O. Bash et al.
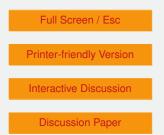
J. O. Bash et al.

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The authors would like to thank P.K. Misztal for the comment on the work presented in this manuscript. Dr. Misztal is concerned that the discussion of Misztal et al. 2014 in the evaluation of the MEGAN simulations misrepresents their MEGAN evaluation. The discrepancy between the evaluation in this manuscript and in Misztal et al. 2014 are discussed below.

The authors agree that measurements in Misztal et al. 2014 indeed showed an overall good evaluation against MEGAN 2.1 emission factors when considering the entire spatial extent of the observations. However, the MEGAN 2.1 emission factors were

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much larger than the aircraft observations in Cool, CA to Blodgett Forest Research Station transect that was the focus of this manuscript. This is apparent in Figure 7a in Misztal et al. 2014 where the MEGAN 2.1 emission factors for much of Northern California appear to be higher than the observations. To better describe the context for the discrepancies between MEGAN 2.1 and the measurements of Misztal et al. (2014), the following text was added to section 3.4 "The airborne flux measurements of Misztal et al. (2014) are lower than the MEGAN estimates for the Northern California modeling domain evaluated here and the MEGAN canopy model behaved similarly to BEIS 3.61 (Figure 1) indicating that the MEGAN over estimate in isoprene is likely due to the MEGAN 2.1 emission factors in the modeling domain."