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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Estimates of global terrestrial isoprene emissions using MEGAN (Model of Emissions of Gases and Aerosols from Nature)" *by* A. Guenther et al.

A. Guenther et al.

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We greatly appreciate the helpful comments of this anonymous reviewer and will address them in our revised manuscript.

General comments:

We will add a table to the revised manuscript to improve the description of the required driving variables. This table will include information on the availability of these driving variables. We agree with the need for further field studies and will state this in the revised manuscript.

Specific comments: Page 112: We agree that it would be of great interest to learn about the ecological triggers for the isoprene release by plants. However, it is beyond the scope of this manuscript to discuss the reasons why plants might emit isoprene. The other reviewers have already indicated that the manuscript is very long. The revised manuscript will refer readers to other references on this topic.

Page 113: We will discuss these uncertainties in the revised manuscript

Page 114: We will add text to describe the reasons for having these standard conditions.

Page 114: we will add a table to list the driving variables for each of the MEGAN options.

Page 116: We will add discussion of these points in the revised manuscript.

Page 117: We will add this statement in section 3 and revise Figure 1.

Page 120: We will add this statement at this point in the text.

Page 122: we will add a comparison to previous algorithms.

Page 127: We will discuss the implications of both options related to the leaf age algorithm. We will better describe the soil layer model and the soil moisture depth.

Page 136: The revised manuscript will not include the designation “MEGAN-EZ” but will just describe each of the model approach options. As suggested by this reviewer, each option will be accompanied by a clear description of the advantages associated with each alternative and the potential impact on accuracy.

Page 161: Figures 5 and 7 provide a regional view of the differences due to LAI and PFT databases. We will extend our discussion of these regional differences (and for the tropics in particular) in the revised manuscript.

Canopy loss and production, rho: We will include a discussion of future plans to con-

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sider the production and loss of oxidation products. We will also note the results of the Koppmann et al. study.

Technical corrections: We will make the suggested corrections.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 107, 2006.