

Interactive comment on “Biomass burning emissions estimated with a global fire assimilation system based on observed fire radiative power” by J. W. Kaiser et al.

Anonymous Referee #1

Received and published: 23 October 2011

General Comments

This paper describes a Global Fire Assimilation System which estimates biomass burning emissions by assimilating fire radiative power observations in a complete and detailed manner, and I think it's worth publishing. The methodology is well applied as far as I can see and the paper offers several advances in emissions estimation from biomass burning. The description of experiments and calculations is sufficiently complete and precise to allow their reproduction by fellow scientists, so the traceability of results is guaranteed. I sincerely congratulate the authors for such a high quality scientific paper and encourage them to keep on publishing their results.

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I have included below some minor corrections which aim to help the authors improve the paper.

Technical Corrections

Page 7341, line 11. Please provide reference after this sentence: "... a rise in atmospheric CO₂".

Page 7346, line 14. Please provide definition of "alfa" in equation 16 in order to facilitate the reader to understand the terminology.

Page 7350, line 22. Could you include the reference for Kronecker's delta?

Page 7356, line 10. Could you explain why it is important to represent hydrophilic and hydrophobic organic matter and black carbon in the model?

Page 7364, line 14. Why is the main effect attributed to a lower detection threshold of the FRP-based approach than the approach based on burnt area? Could you explain it in more detail?

Page 7367, line 2. Tipping error: "there a various interactions..."

Figure 1-3 and 5. Please include a scale reference in every map. If the projection system change from one map to the other please indicate in the caption the projection used to represent the data.

Figure 12 and 13. the color "olive" selected to represent the data is not clearly visible in the printed version. It's also recommended to use a more intense blue color to represent the AERONET observations or represent them as in figure 13.

Interactive comment on Biogeosciences Discuss., 8, 7339, 2011.

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