

Interactive comment on “Global analysis of radiative forcing from fire-induced shortwave albedo change” by G. López-Salda na et al.

Anonymous Referee #1

Received and published: 26 June 2014

This study from López-Saldaña et al. aims at quantifying the change in surface albedo induced by biomass burning and the associated change in radiative forcings. Overall, the manuscript is clear, concise and answers the issues stated by the authors. However, my main concern is the lack of perspectives provided by this study. While it is always useful and important to state the numbers, I believe this manuscript would be much more insightful if it also provided some perspectives in regard of other numbers. For example a comparison with other radiative forcings induced by fires (through greenhouse gases or aerosols) and not only global CO₂ would be appreciable. Another addition to the manuscript could be the study of the evolution of the time the burning season over a specific region: is it the same during the 10 years of study, or is it evolving, and what are the associated change in radiative forcings?

C2838

Specific comments:

P7778-L25-26: “Using the three BRDF ...” is not clear and should be rephrased

P7779-L15: “per year” → “each year”?

P7780: What about peatlands? In which class are they included?

P7781L3: identify->identified

P7781L17: missing coma

P7781L24: uncertainties

P7782L9-14: The phrase is too long and should be cut.

P7782L15: DF_{surface} or DF₀? Is it the same parameter? If so be consistent

P7782L10: It would be appreciable if the authors could justify why they neglect the longwave calculations. A quick computation could prove if a change in albedo has a significant influence or not on the amount of energy absorbed by the surface and re emitted as LW flux.

P7782-L22: It's very hard to see any correlated trends between BA and RF with this Y-axis scale. Maybe try to change the Y-axis for the RF?

P7782-L24: Figures should be introduced before referring to them. The authors should also explain the results from the figures instead of letting the reader decides what he should see in them.

P7783-L10: and – and

P7784-L0-7: Rephrase (too long)

Table 1 not useful (only 3 parameter), better to state the number in full text.

Fig.1 not usefull. It would be more interesting if we had other information than the name of continents on it (i.e. global change in SW of albedo)

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Fig.2 not easy to read:

- Thicker lines + text
- Change to a/b/c/d instead of blue red lines
- What is the linear regression of the linear fit? /year

Fig 5-6: Add a-b-c-d) instead of top middle etc.

Background color white would be easier to read

Interactive comment on Biogeosciences Discuss., 11, 7775, 2014.