

Interactive comment on “Expansion of oil palm and other cash crops causes an increase of land surface temperature in Indonesia” by Clifton R. Sabajo et al.

Anonymous Referee #1

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Review: Expansion of oil palm and other cash crops causes an increase of land surface temperature in Indonesia

General: The authors investigate the effect of land cover change (from forests to ‘other’ and mostly oil palm plantations) on regional land surface temperatures. They use remote sensing to determine LST (and albedo, NDVI, and ET). They conclude that conversion from forests had led to a ~1 degree C temperature (positive) change after accounting for albedo. They also conclude that this is a positive feedback to climate warming. I only suggest some minor edits and (if the authors can) and expansion of the discussion of what these LST changes might translate to in the atmosphere? How

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much larger of a region will they affect? How would you determine this?

Introduction: nicely written and I appreciate the well thought out definitions. Line 96: missing an “as” after “such” Methods: Could you describe the study sites in a little more detail (rather than the reference Drescher) 1. ET calculations: I’m familiar with the use of satellite data for all of the variables except for ET. Did you compare ET with the tower sites? How well does it work? I see that you added this to the supplement, but it would be nice to have a validation of this method explained in the main text.

Results: Line 405-406: Hot = red? And cool = Blue colors. Can you please specify this?

Discussion: Line 668: When I look at the figures, there also seems to be a high correlation between NDVI and ET (simply because the response pattern, the pattern of the changes, look very similar). Can you explain this? Is it because of the ET calculation? Line 763: “concurrent to” should be “concurrent with” Line 768: “governmental” should be “government”

Final remarks: This is a well-written, well-organized manuscript. I support publication in biogeosciences.

Interactive comment on Biogeosciences Discuss., https://doi.org/10.5194/bg-2017-203, 2017.

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