

Interactive comment on “Patterns in Woody Vegetation Structure across African Savannas” by Christoffer R. Axelsson and Niall P. Hanan

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We thank Aoife Hutton for comments on the Discussion section:

1. In Discussion, the relationship between woody cover, crown size and crown density is introduced (Line 225), yet seems not to be mentioned in any section before – perhaps it would be fitting to highlight this relationship in an earlier section.

Response: We have re-arranged this and it is now introduced in the Introduction.

2. In line 228, the term ‘woody density’ is used, causing the reader some confusion, as previously the distinction was made between woody cover and woody density. Is this new term intentional?

Response: We have updated the manuscript to use the term “crown density” consis-

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tently and avoid “woody density”.

3. We had some queries surrounding the focus on sites with rainfall seasonality above 0.8 (Line 245) - what is the justification for this focus? Is this where a sensitivity lies in terms of woody density response, and is this a causative relationship? Some more detail here would benefit the discussion.

Response: We mentioned 0.8 to draw attention to the linear relationship that appear if the less seasonal sites in East Africa are excluded. The East African sites appeared to diverge from the general pattern and we suspected that this could be a result of elephant browsing and not rainfall seasonality.

4. On line 243, ‘previous literature’ is mentioned but no references are given immediately. Although individual associations are then explained and cited, the opening sentence omitting these references could be improved by restructuring this paragraph.

Response: We have added a reference to the opening sentence in this paragraph.

5. The use of the word ‘So’ to open line 268 does engage the reader, but seems inconsistent with the more formal writing style in the rest of the paper. General comments on the study Ecosystem services is mentioned near the beginning of the paper but is not revisited in discussion – how relevant are ecosystem services to this study? ‘Processes’ seem like a more accurate description of relationships mentioned. Although the effects of primary variables were investigated, no interaction effects investigated. Are there any coupling effects of say, rainfall and slope on woody density?

Response: Agreed, “So” has been removed. Ecosystem services is not a focus of this paper, but served as an example for why it is important to know about tree sizes and densities as opposed to only know the woody cover. The boosted regression tree R package identifies interactions between variables, but we chose not to report them. We deemed interactions were less important than the main response functions and it would have taken up much space to visualize all interactions.

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