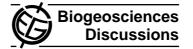
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Interactive Comment

# Interactive comment on "Variability and recent trends in the African carbon balance" by P. Ciais et al.

### P. Canadell (Referee)

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Received and published: 6 November 2008

This is an exceptionally well written and executed modelling study of the quantities and components of the net carbon balance of Africa. The analysis establishes a first baseline budget for the continent to be further improved and tested by assimilating in situ and remote sensing datasets, and further developing the model for African conditions. I applaud the effort and I recommend publication in Biogeosciences after a number of minor revisions are incorporated in a revised manuscript.

1. Abstracts and throughout the text. Yet the period analysed is 1901-2002, there is only discussion on the last two decades. Eg, Abstract, lines 5-7, and also in results. The reader will keep asking, what happened prior to 1980?. Please include key results in text.

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- 2. pg. 3499, lines 1-2. Provide a range of NPP for Savannas, not just one number from an unpublished source.
- 3. pg. 3499, lines 8-9. Articulate better the reason why is important to quantify the carbon balance of Africa. An increase population is not a good one.
- 4. pg. 3500, line 2. Houghton 2003 reference is missing in the Reference section. Also, please check the paper same special issue by Canadell, Raupach and Houghton (2008).
- 5. line 10. spell out REDD
- 6. pg. 3501, line 5. Webber is missing in reference section. Please check all reference in text against Reference section.
- 7. line 22. The description of the model includes a ...model dealing with vegetation dynamics processes. The text comes across as inconsistent with an early statement in the abstract (lines 4-5) ..but the natural vegetation dynamics were ignored. Please clarify this apparent inconsistency.
- 8. pg. 3504. Provide full citation for Weber, and consistent with previous citation.
- 9. pg. 3505 and 3506. Make consistent the reference to Fig. Use simple (Fig. X) and delete additional sentences such as (This is shown in Fig. 1).
- 10. pg. 3505, line 20. See edits: autotrophic respiration (RA (..) decreases more than two times the heterotrophic;
- 11. pg. 3507, line 2. Spell out EOF.
- 12. pg. 3509, lines 24-26. Inconsistent with the statement in the Introduction (pg. 3500, lines 6-9).
- 13. pg. 3510, line 6. policy incentive; not incentive policy.
- 14. pg. 3512, line 8, the continents;. Do you mean all continents or continental wide

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# Africa only?

- 15. Should the 13% (line 8) and 89% (line 13) add up to 100%?
- 16. Discussion on lines 18-21, see also Canadell, Raupach and Houghton (same special issue).

Interactive comment on Biogeosciences Discuss., 5, 3497, 2008.

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