

## ***Interactive comment on “Neotectonics, flooding patterns and landscape evolution in southern Amazonia” by U. Lombardo***

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more could be done to explain to the reader the global or scientific importance of the region.

The following has been added in Introduction: “The recent designation of three new protected areas has made the LM the world's largest RAMSAR site ([http://www.ramsar.org/cda/en/ramsar-news-archives-2013-bolivia-200-million/main/ramsar/1-26-45-590%5E26064\\_4000\\_0\\_\\_](http://www.ramsar.org/cda/en/ramsar-news-archives-2013-bolivia-200-million/main/ramsar/1-26-45-590%5E26064_4000_0__)). In addition to its biodiversity, the LM is also of great paleoecological importance, as this region constitutes the southern border of the Amazonian rainforest, hence a preferential area to study past

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forest-savannah dynamics (Mayle et al., 2000).”

the original empirical data provided by the author (i.e., two sediment cores, remote sensing data) are simply not enough to ground the interpretation of neotectonic activity, and so much of the results and discussion reads as speculation. This may not be a problem as long as the author can explicitly highlight where data are needed to test specific hypothesis; this paper will only offer questions for study, not answers for understanding.

The following sentences have been added to the text: “. Stratigraphic cores of these structures [the Maniqui fan] would allow us to date the underlying paleosols and the time of the formation of both the Maniqui delta and the Beni crevasse, allowing us to test whether or not their formation followed neotectonic uplifts.”; “Further cores from lakes Largo, Aguas Claras, Oceano and Ginebra are needed in order to date the beginning of the lacustrine sedimentation in these lakes and establish a more reliable chronology of the uplift events.”; “Lake cores from oxbows located within ancient gallery forests of the Beni River paleocourses could help determine the timing of the Beni River avulsions and whether the avulsion were synchronous to the formation of the ria lakes” and “. More data is needed in order to confirm the hypothesis here presented and to better constrain the timing of the different events, such as the formation of ria lakes and interior deltas, river avulsions and deposition of crevasse spays.”

Perhaps a more serious issue is the quality of figures, which depends too heavily on the reader being able to deduce what the author is trying to convey, which is especially difficult given the poor quality of many of the aerial photographs and remote sensing images. These need to be improved before publication, with high resolution images and with more information within figures and figure captions to make absolutely explicit what each figure is communicating.

More information within figures and figure captions has been added, also following the suggestions of reviewer 1#. The quality of the figures depends on the quality of

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the remote sensing imagery. I have used the best satellite images I could find; if the reviewer can suggest any specific source for better quality RS images I would happily use them.

Lastly, I am surprised by the lack of key references in the paper. Dunne et al. (GSA Bulletin, v. 110, p. 450-467) also describe the role of neotectonics in lowland river evolution, and the data and observations they provide are incredibly detailed. Baker (Canadian Society of Petroleum Geologists, Memoir 5, 1977) highlights the potential role of recent climate change in affecting the evolution of lowland environments across the Amazon during the Holocene, which in some ways supports the author's summary. These omissions need to be remedied in the final version.

Suggested literature has been cited. The following text has been added: "Moreover, the changes in river slope due to downriver uplifts would have had an impact on the sedimentary load of the Madeira River and, consequently, of the Amazon River, as neotectonics not only affects the shape and behaviour of channels and flood plains but also determines the rivers' suspended-load transport capacity (Dunne et al., 1998)." And "This situation is similar to what can be seen in the rest of the Amazon Basin, where discharge characteristics and bank stability play an important role in channel pattern variations (Baker, 1977)."

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Interactive comment on Earth Surf. Dynam. Discuss., 2, 635, 2014.