Biogeosciences Discuss., 7, C4415–C4416, 2010
www.biogeosciences-discuss.net/7/C4415/2010/

Biogeosciences Discussions

Interactive comment on "Deep plant-derived carbon storage in Amazonian podzols" *by* C. R. Montes et al.

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Received and published: 17 December 2010

Thanks to the reviewer for his (her?) very positive comments! The misuse of the term "equilibrium" was also raised by referee R. Merckx. We used this term in reference to the concept of "dynamic equilibrium" of soil minerals as explained in Lucas, 2001 (Annu. Rev. Earth Planet. Sci. 29:135–63) or Cornu et al.1997 (Pedobiologia, 41 (5): 456-471), which is based on thermodynamic considerations. However, as this concept is unfamiliar to many readers non-specialists of pedogenesis, the text will be modified in order to suppress any misinterpretation. Lines 4 to 10, page 7609, will be replaced by: "These systems have been reported on both crystalline or sedimentary rocks. They can develop when soil solutions turn hyper-acidic, due to very low alkali or alkaline-earth cations in the soil solution, turning negative the alkaline reserve (Grimaldi and Pedro,

1996) or when the soil material is sandy enough to allow the leaching of Al- and Fe-organic matter complexes, resulting in the dissolution of clay minerals, Al-hydroxides and Fe-oxides or Fe-oxyhydroxides (Lucas, 2001)."

Interactive comment on Biogeosciences Discuss., 7, 7607, 2010.