Biogeosciences Discuss., 9, C727–C728, 2012
www.biogeosciences-discuss.net/9/C727/2012/

Biogeosciences Discussions

Interactive comment on "High-resolution Mapping of Forest Carbon Stocks in the Colombian Amazon" *by* G. P. Asner et al.

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Received and published: 21 April 2012

General comments: The paper includes an impressive amount of work and applies innovative ideas that were developed in previous papers by the same research group. It will greatly benefit carbon stocks inventories in remote areas.

Minor comments (all page references from the pdf version) Page 2448 . The authors mention a universal Lidar equation to estimate ACD. However, the samples used for this equation were all derived from Tropical forest. Any references to Boreal or Temperate forests? Do you really mean "universal" for Tropical biomes? Page 2449. The authors do not mention potential problems of Lidar estimations derived from cloud coverage. Are they problematic in Tropical regions? Page 2448-50. The authors do not mention in the literature review the potential interest of discriminating between different fractions

of aboveground biomass: foliar, branches, trunks. Some Lidar-base studies (Garcia et al., 2010 RSE), have successfully explore this possibility. Page 2451. Additionally to include full details in the supplement, here at least a brief description of the Lidar data acquired would help the reader. Page 2457: Did the authors have soil maps of the region to account for its impact on spatial variation of ACD? Why did they not use human-related variables (distances to roads, populated areas)? Would it benefit the stratification/regression models? Page 2463. The authors should include some ideas on how their work would benefit carbon inventories in other Tropical regions, and what are the main limitations of Lidar data to use it operationally within the REDD+ programs. My personal experience is that researchers/managers in Tropical countries are reluctant toward this technique for operational inventories.

Interactive comment on Biogeosciences Discuss., 9, 2445, 2012.