

Interactive comment on “Global carbon budget 2014” by C. Le Quéré et al.

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Thank you for your comments.

We have noted in Section 3.1.1 that the decrease from the 1990s to the 2000s in our analysis was not consistent with your analysis based on spatially-explicit satellite data. The new text reads: “The LUC emissions of the 2000s are consistent also with emissions based on land-cover change estimates from spatially-explicit satellite data (Achard et al., 2014; Harris et al., 2012). However, whereas the decrease in emissions from LUC between the 1990s and 2000s is also present in the DGVMs (Fig. 6), it was not found in the study of tropical deforestation of Achard et al. (2014) where the fluxes in the 1990s were similar to those of the 2000s and outside our uncertainty range.”

Some of the discrepancy over the 1990s can be accounted for by extra-tropical fluxes,

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however the breakdown by region shown in the IPCC AR5 Chapter 6 (WGI Table 6.3) suggests that this is only a small contribution and thus we have not mentioned this in the manuscript. We also added a sentence in the discussion to highlight the issue raised with land-cover change: “Current FAO estimates are based on statistics reported at the country level and are not spatially-explicit. Advances in satellite recovery of land-cover change could help to keep track of LUC through time (Achard et al., 2014; Harris et al., 2014).”

References: Achard F. et al. Determination of tropical deforestation rates and related carbon losses from 1990 to 2010. *Global Change Biology* 20, 2540-2554, 2014. Harris N. et al. Baseline map of carbon emissions from deforestation in tropical regions. *Science*, 336, 1573-1576, 2012.

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