Corrigendum: Size and frequency of natural forest disturbances and the Amazon forest carbon balance

Fernando D.B. Espírito-Santo, Manuel Gloor, Michael Keller, Yadvinder Malhi, Sassan Saatchi, Bruce Nelson, Raimundo C. Oliveira Junior, Cleuton Pereira, Jon Lloyd, Steve Frolking, Michael Palace, Yosio E. Shimabukuro, Valdete Duarte, Abel Monteagudo Mendoza, Gabriela López-González, Tim R. Baker, Ted R. Feldpausch, Roel J.W. Brienen, Gregory P. Asner, Doreen S. Boyd & Oliver L. Phillips

The original version of this Article contained an error in the computation of the total basin-wide mass loss per year. Following publication of the paper, it was brought to our attention by Mr Silva and Dr Kellner of Brown University that losses from both small and intermediate disturbances had been wrongly calculated, resulting in an overestimate of total disturbance loss. For small disturbances, losses from the pan-Amazon RAINFOR permanent plot network and large plots in the Tapajós National Forest were summed, when instead a weighted mean should have been used, while for intermediate disturbances all LiDAR-detected losses $>4\,m^2$ were summed, whereas only disturbances $>0.1\,ha$ should have been included. For example, values for the aboveground biomass losses attributed to small-, intermediate- and large-scale disturbances, detailed in the Abstract (and the associated percentages in the Results section), required revision from ~ 1.7 to ~ 1.28 (88.3 to 98.6%), 0.2 to 0.01 (12.7 to 1.1%) and 0.004 to 0.003 (0.02 to 0.3%) $Pg\,C\,y^{-1}$, respectively. In the Results, the estimated total carbon released as a result of these natural disturbances has been revised from 1.88 to 1.30 $Pg\,C\,y^{-1}$. The conversion of the mortality to Amazon forest areas, also detailed in the Results, has also been modified to reflect the corrected disturbance losses. The modified values reflect that natural mortality affects only $7.80 \times 10^6\,ha\,y^{-1}$ (1.15% of the total forest area of $\sim 6.8 \times 10^8\,ha$) rather than c. $2.0 \times 10^7\,ha\,y^{-1}$, with contributions of 98.7%, $\sim 1.1\%$ and 0.3%, rather than 80.0%, 19.9% and 0.1% from small-, intermediate- and large-scale disturbances, respectively. These changes have now been applied throughout the PDF and HTML versions of the Article.