

Reply on RC1

Louise Chini et al.

Author comment on "Land-use harmonization datasets for annual global carbon budgets" by Louise Chini et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-388-AC1>, 2021

Thank you for your summary and assessment of our manuscript. Our responses to your specific comments are listed below (along with the original reviewer comments).

1) Sect. 2.3, page 7, line 197-200: For LUH2-GCB2019, a significant update was performed to correct an error in the previously used input data, especially for the country of Brazil. What's the sources of these new data that used for the correction? Does the updated cropland or grazing land data in Brazil based on FAO or HYDE?

Response: The sources for these corrections are listed later in that same paragraph and include updated FAO and HYDE data, as well as ESA satellite data and data from Brazil's IGBE. We have added some new wording at the beginning of the paragraph to make these data sources clearer.

2) Page 5, line 135-137: there are some minor corrections to the method for determining the spatial patterns of wood harvesting. What specific corrections? Or is there any references information?

Response: At the time the LUH2-GCB2019 dataset was produced, some small corrections had been made to the original LUH2 wood harvest algorithm. These corrections resulted in slightly different spatial patterns of primary and secondary wood harvest within each country. These spatial pattern changes were a result of correcting a rounding error in the original algorithm that was used to determine how far from existing human activity the wood harvest patterns were likely to extend. Since these corrections were not a main focus of this paper, we have opted to focus the discussion on the changes in spatial patterns of cropland and grazing land, specifically within Brazil, that were updated for the GCB 2019 studies.

3) Please define acronym FAO, HYDE on first usage. The authors may need to follow this practice throughout the manuscript.

Response: Thank you for catching these oversights. We have added definitions at first usage for the acronyms FAO, HYDE, CMIP6, and checked for other instances as well.

4) Table 1 needs better presentation, the HYDE simulation years should be given as well.

Response: The table formatting has been updated to reflect design characteristics of

tables in other Copernicus publications. An additional column has also been added to the table to provide the HYDE simulation years.