Comment on essd-2020-388
Anonymous Referee #1

Referee 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-RC1, 2021

General comment:

This paper describes the method for producing the LUH2-GCB datasets, as well as specific details of the recent changes made to the LUH2-GCB2019 dataset. LUH2-GCB2019 dataset corrects cropland and grazing area errors in the underlying input datasets for the globally important region of Brazil, as far back as 1950. This is a very valuable dataset used by both bookkeeping models and Dynamic Global Vegetation Models (DGVMs) for the annual Global Carbon Budget (GCB) assessments.

Specific comments:

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?

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?

Please define acronym FAO, HYDE on first usage. The authors may need to follow this practice throughout the manuscript.
Table 1 needs better presentation, the HYDE simulation years should be given as well.