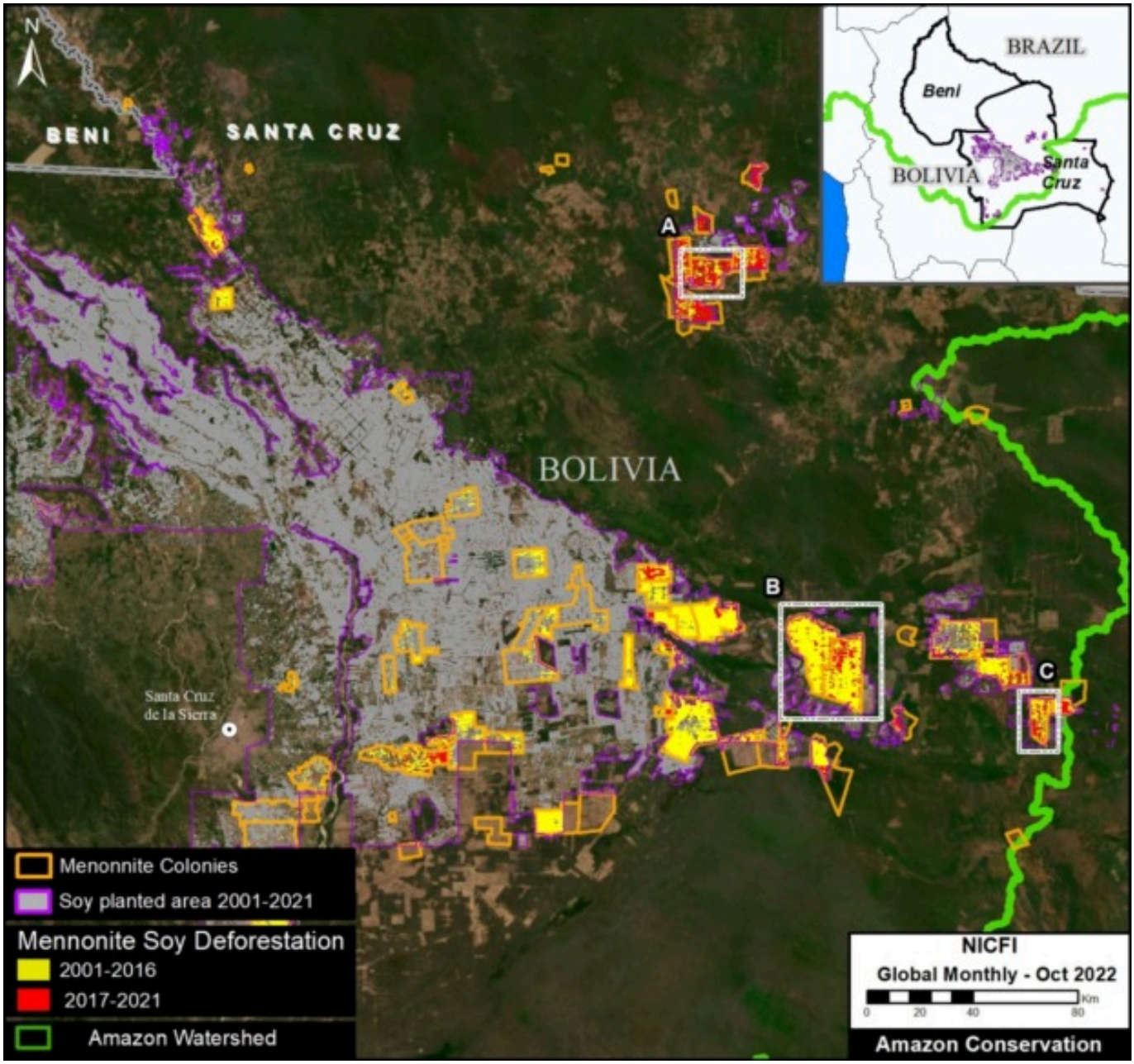
MAAP #180: Mennonites & Soy Deforestation in the Bolivian Amazon

February 15, 2023



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Base Map. Soy deforestation by Mennonite colonies in the Bolivian Amazon.

We continue with the second part in our series on **soy deforestation in the Bolivian Amazon**.

In the first part, see **MAAP #179** (https://www.maapprogram.org/2023/soy-bolivia-amazon/), we documented the massive soy-driven deforestation of 904,518 hectares (2.2 million acres) between 2001 and 2021 in the Bolivian Amazon.

During this time period, a large number of farming-based **Mennonite colonies** have been established in the southern Bolivian Amazon, helping drive the increase in soybean expansion in the region.[1,2]

Here, we incorporate colony location data to estimate the role of Mennonite colonies in this soy deforestation.

In summary, we find that Mennonites have caused a third (33%) of the soy deforestation in the Bolivian Amazon over the past 5 years (see **Base Map**).

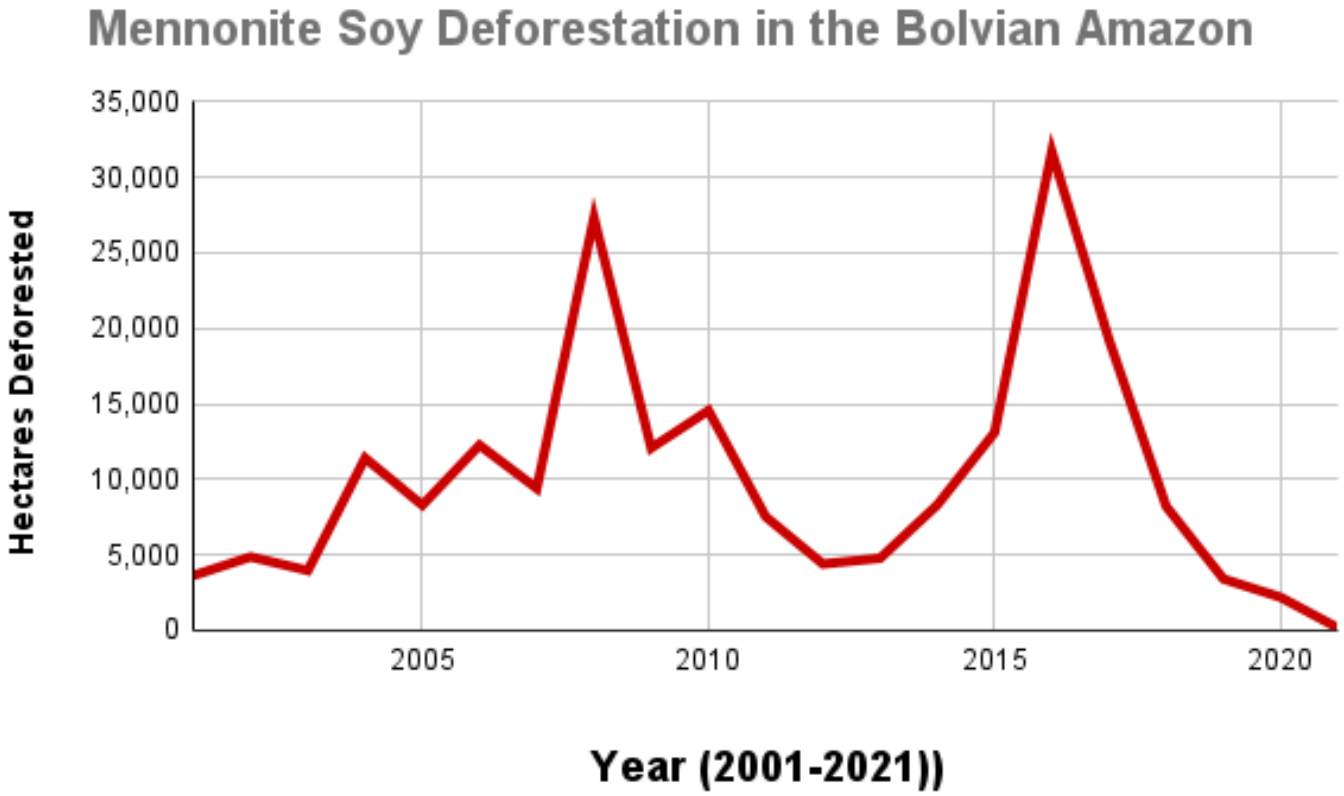
Overall, Mennonites caused nearly a quarter (23%) of the total soy deforestation over the past 20 years (210,980 hectares, or 521,344 acres).

Mennonites & Soy Deforestation in the Bolivian Amazon

We estimate that Mennonite colonies have caused the deforestation of **210,980 hectares** (521,344 acres) for soy expansion in the Bolivian Amazon between 2001 and 2021 (see **Base Map**). This accounts for **23%** of the total soybean deforestation in Bolivia over the past 20 years.

This Mennonite-driven soy deforestation peaked in 2016 (31,728 hectares), following a previous peak in 2008 (see Graph 1). In general, note that Mennonite soy deforestation has been relatively high (>2,000 hectares) every year from 2001 to 2020.

Focusing on just the past five years (2017-21), Mennonites have cleared 33,234 hectares (82,123 acres). This represents an increase to **33%** of the total soybean deforestation during this time period.

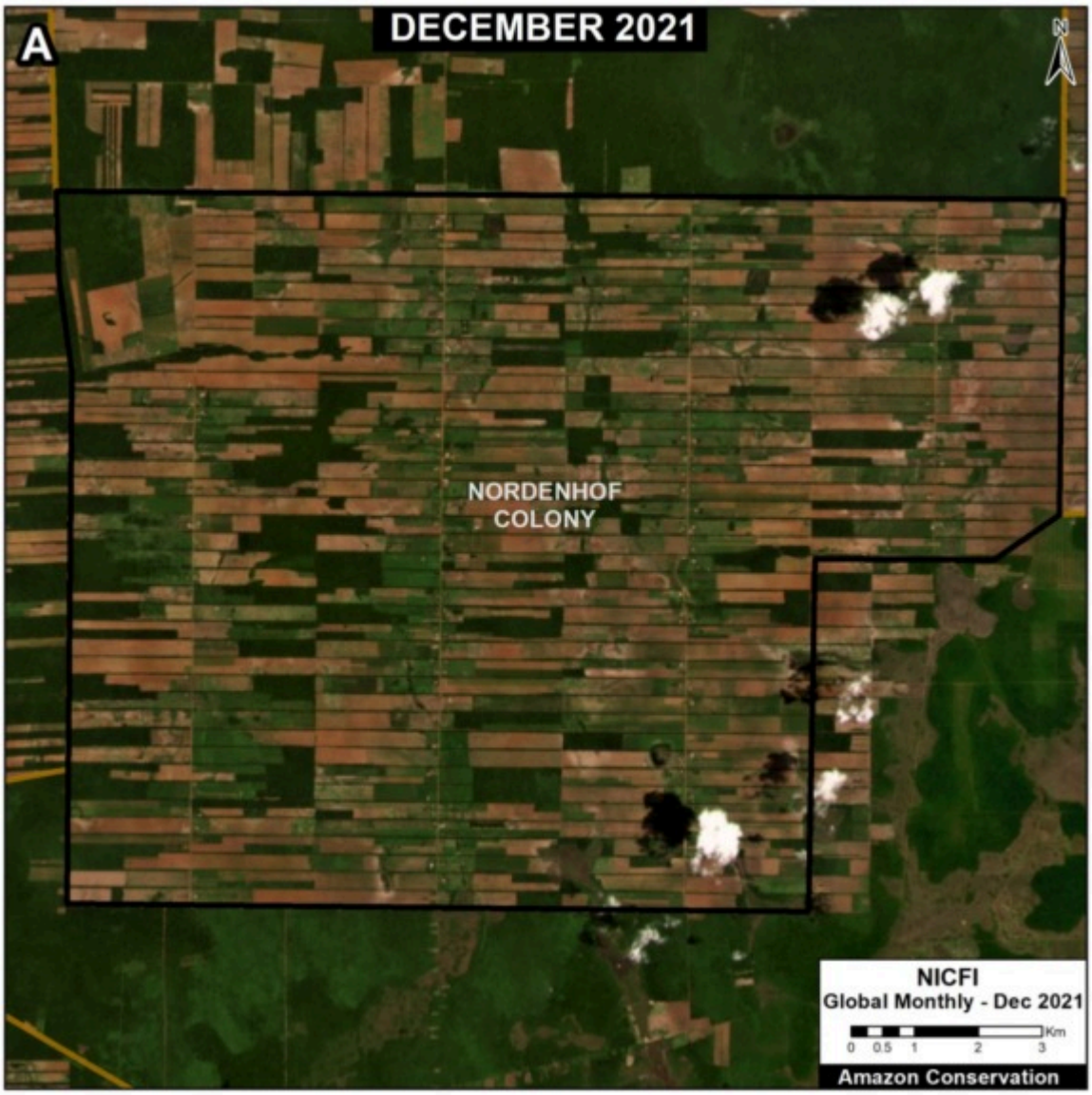


(https://www.maapprogram.org/wp-content/uploads/2023/02/maaproject.org-maap-xyx-mennonites-amp-soy-deforestation-in-the-bolivian-amazon-Mennonite-Soy-Deforestation-in-the-Bolvian-Amazon.png)

Graph 1. Soy deforestation caused by Mennonites in the Bolivian Amazon, 2001-2021.

Satellite Images of Mennonite Colonies in the Bolivian Amazon

We present a series of recent satellite images showing examples of Mennonite colonies in the Bolivian Amazon. See the Base Map above for the location of the three zooms (A-C). Note that they are made up of highly-organized and connected agricultural plots that have been created following deforestation events over the past 20 years.



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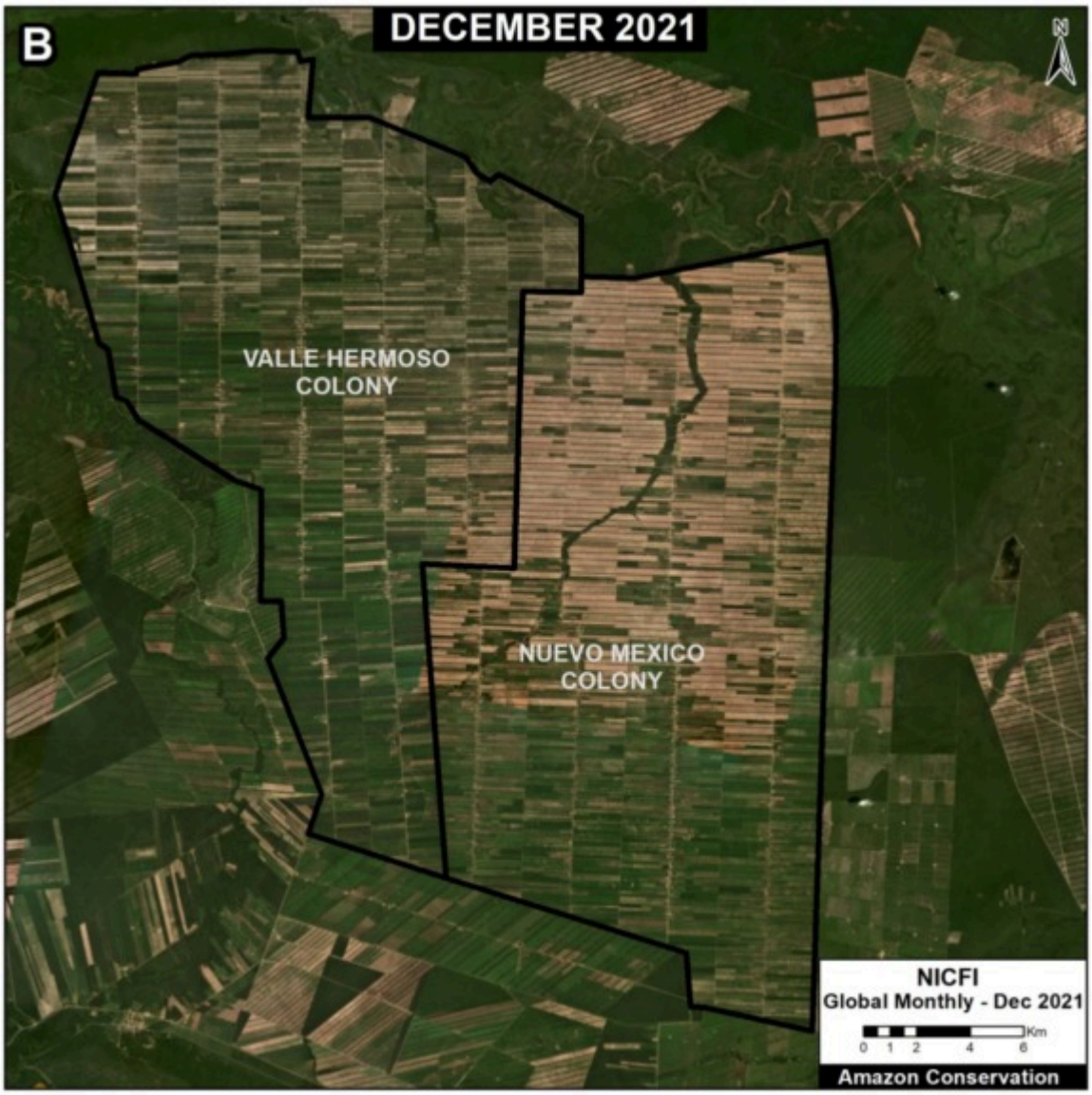

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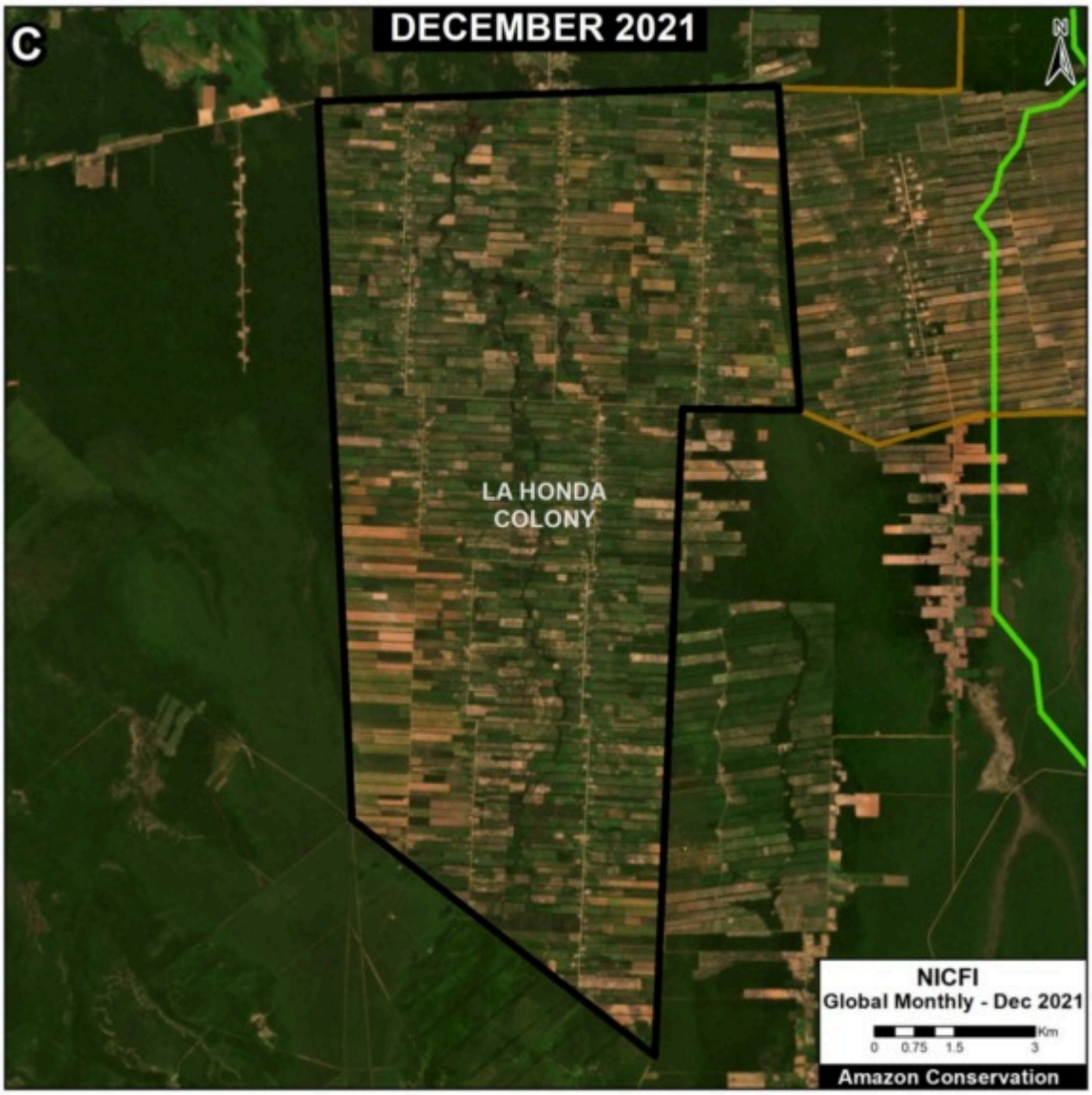

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Methodology

For this series of reports, we employed a three-part methodology.

First, we mapped out "soy planted area" for 2001 to 2021 based on the data from Song et al 2021. This data is available on the University of Maryland's GLAD site "Commodity Crop Mapping and Monitoring in South America (https://glad.umd.edu/projects/commodity-crop-mapping-and-monitoring-south-america)."[3]

Second, on top of the soy planted area noted above, we mapped out forest loss for 2001 to 2021, also based on data from the University of Maryland.[4] This served as our estimate of soy-driven deforestation.

Third, on top of the soy planted area noted above, we incorporated an additional dataset from a recent study on the expansion of Mennonite colonies in Latin America.[1] Spatial data from this study available here (https://borealisdata.ca/dataverse/lendev). We then estimated forest loss for these select Mennonite soy areas.

References

[1]Yann le Polain de Waroux, Janice Neumann, Anna O'Driscoll & Kerstin Schreiber (2021) Pious pioneers: the expansion of Mennonite colonies in Latin America, Journal of Land Use Science, 16:1, 1-17, DOI: 10.1080/1747423X.2020.1855266 (https://doi.org/10.1080/1747423X.2020.1855266)

[2]Nobbs-Thiessen, B. (2020). *Landscape of Migration*. The University of North Carolina Press.

[3]Song, X.P., M.C. Hansen, P. Potopov, B. Adusei, J. Pickering, M. Adami, A. Lima, V. Zalles, S.V. Stehman, D.M. Di Bella, C.M. Cecilia, E.J. Copati, L.B. Fernandes, A. Hernandez-Serna, S.M. Jantz, A.H. Pickens, S. Turubanova, and A. Tyukavina. 2021. Massive soybean expansion in South America since 2000 and implications for conservation.

[4]Hansen, M. C., P. V. Potapov, R. Moore, M. Hancher, S. A. Turubanova, A. Tyukavina, D. Thau, S. V. Stehman, S. J. Goetz, T. R. Loveland, A. Kommareddy, A. Egorov, L. Chini, C. O. Justice, and J. R. G. Townshend. 2013. "High-Resolution Global Maps of 21st-Century Forest Cover Change." Science 342 (15 November): 850–53. Data available from: earthenginepartners.appspot.com/science-2013-global-forest.

Acknowledgements

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Citation

Finer M, Ariñez A (2023) Mennonites & Soy Deforestation in the Bolivian Amazon. MAAP #179.