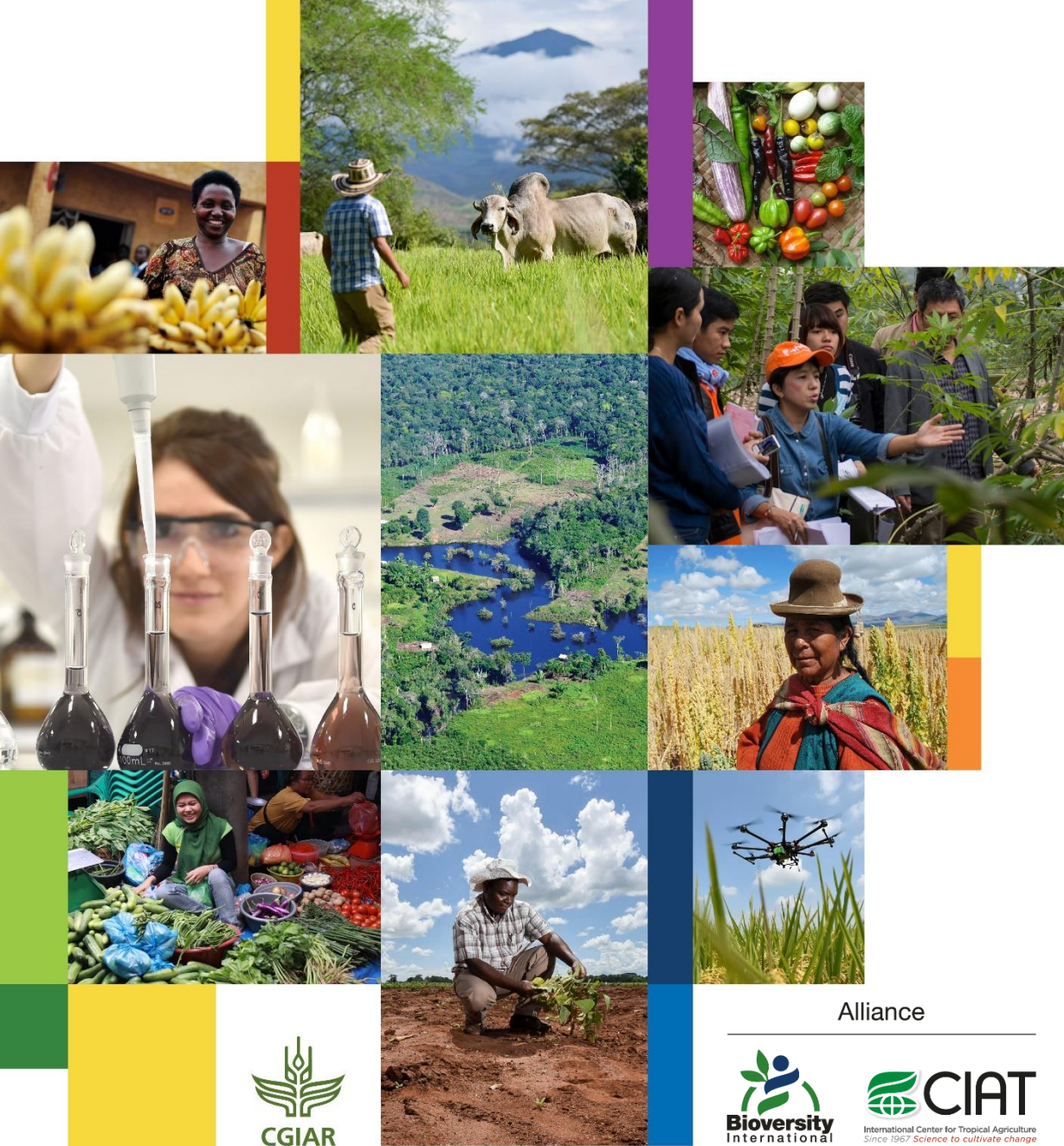




Alliance Bioversity-CIAT monitoring tools and approaches towards deforestation-free coffee

31 March, 2022



Bioversity International and the International Center for Tropical Agriculture (CIAT) are CGIAR Research Centers.
CGIAR is a global research partnership for a food-secure future.



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Primary question:
How would you propose to ensure (in light of the Regulation Proposal) that only deforestation-free coffee enters the EU?

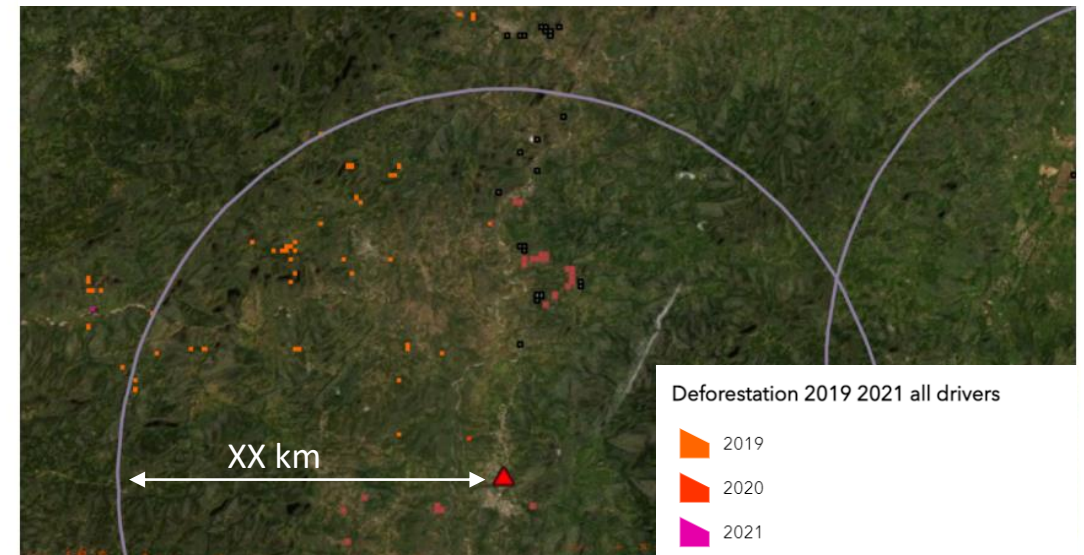
	Regulation Proposal requirements	CIAT's approach in current research
Traceability	Traceability for each container back to farm to demonstrate no risk of deforestation	Apply deforestation threshold at either buying station or jurisdictional level
	Forest definition a technological challenge: <i>"land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10%, or trees able to reach those thresholds in situ"</i>	Use existing deforestation layers or common definition available in all countries
Risk Assessment	National or regional deforestation risk assessment	Deforestation in proximity to coffee can be used to assess risk

How far back in the coffee supply chain would you be able to go, with available technology, replicable to all producing countries?

Proximity to buying station or jurisdictional level

- Define area of interest either as jurisdiction (e.g. district), or in radius of proximity to a mill.
- Within area of interest, calculate extent of deforestation⁽¹⁾
- Our current definition of deforestation is primary forest lost 2001-present

Example of deforestation in proximity to a mill



(1) Deforestation = Primary forest lost since year 2001. Primary forest area are from Turubanova S., Potapov P., Tyukavina, A., and Hansen M. (2018) Ongoing primary forest loss in Brazil, Democratic Republic of the Congo, and Indonesia. Environmental Research Letters <https://doi.org/10.1088/1748-9326/aacd1c>

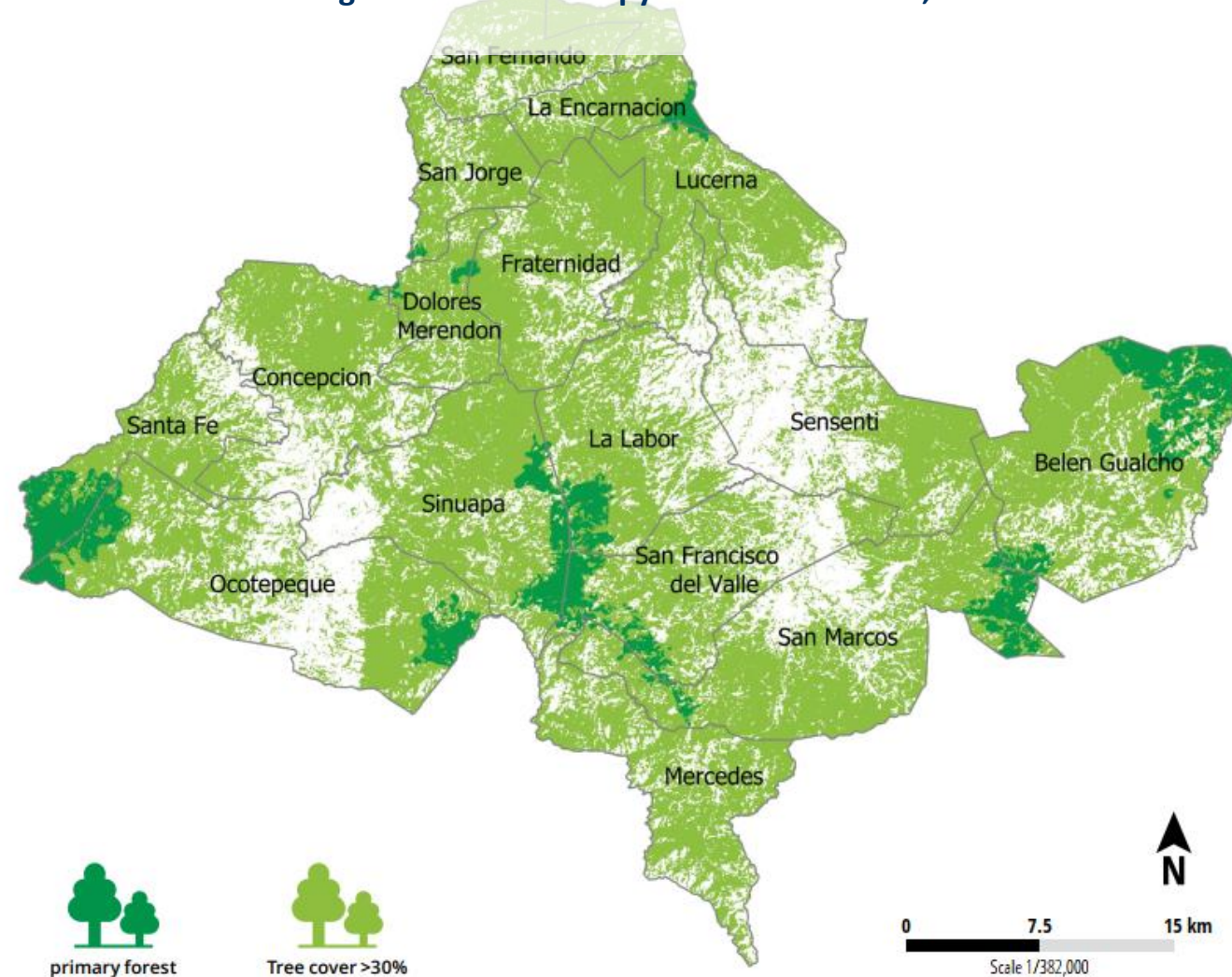
(2) Coffee land cover = all coffee farms of trees at least 3 years old, identified using AI with overall accuracy of 82%

Would you be able to identify deforestation from forests as per regulation definition and coffee-driven deforestation?

Not with our current method

- EU Regulation forest layer definition = “land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10%, or trees able to reach those thresholds in situ.”
- Risk that overly inclusive definition of forest reduces risk level of deforestation events

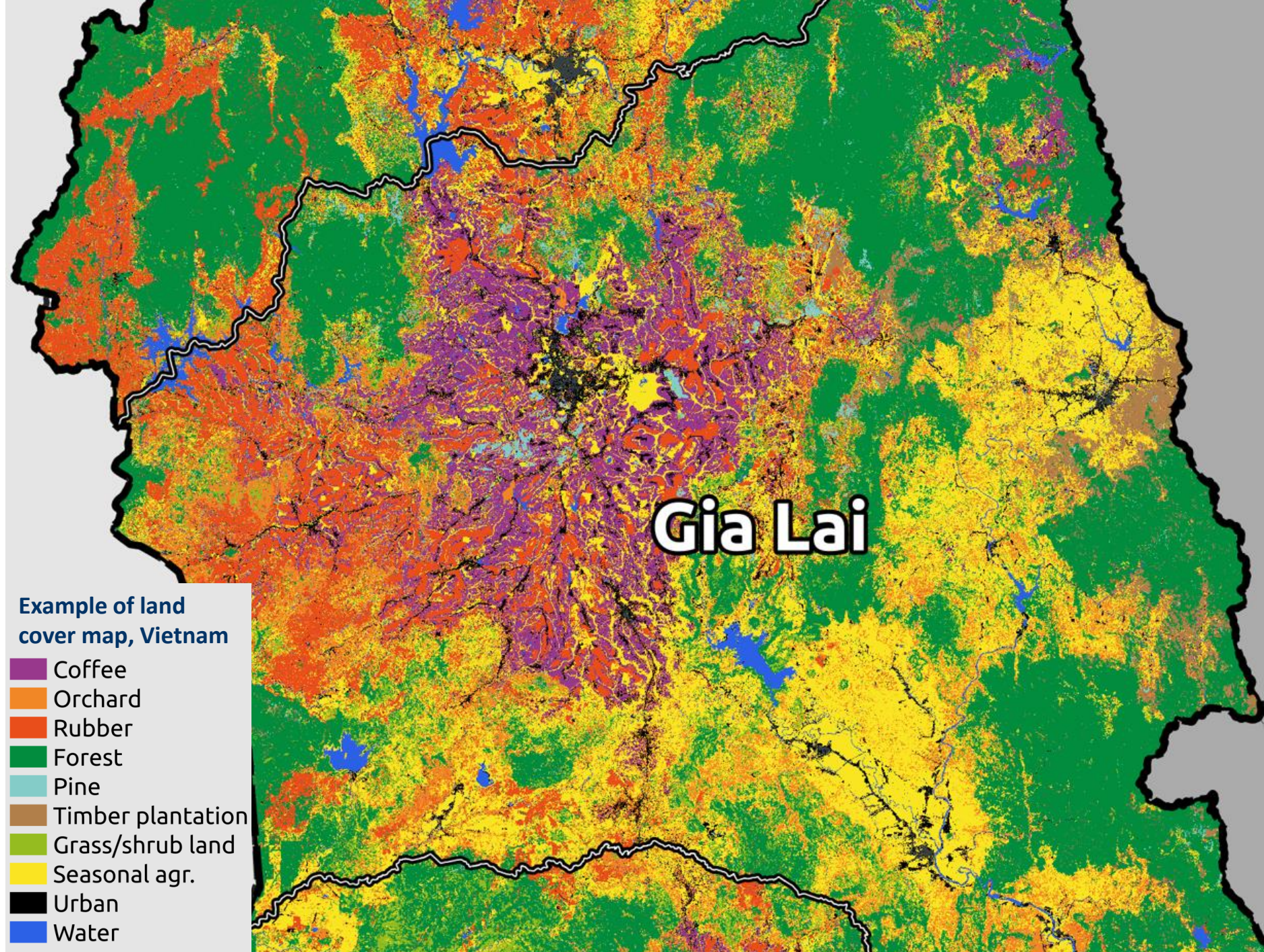
Example of extent of forest using definition of canopy >30% in Honduras, 2000



- (1) Primary forest area are from Turubanova S., Potapov P., Tyukavina, A., and Hansen M. (2018) Ongoing primary forest loss in Brazil, Democratic Republic of the Congo, and Indonesia. Environmental Research Letters <https://doi.org/10.1088/1748-9326/aacd1c>
- (2) Tree cover area are from 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 on-line from: <http://earthenginepartners.appspot.com/science-2013-global-forest>

Forest definition, alternative method

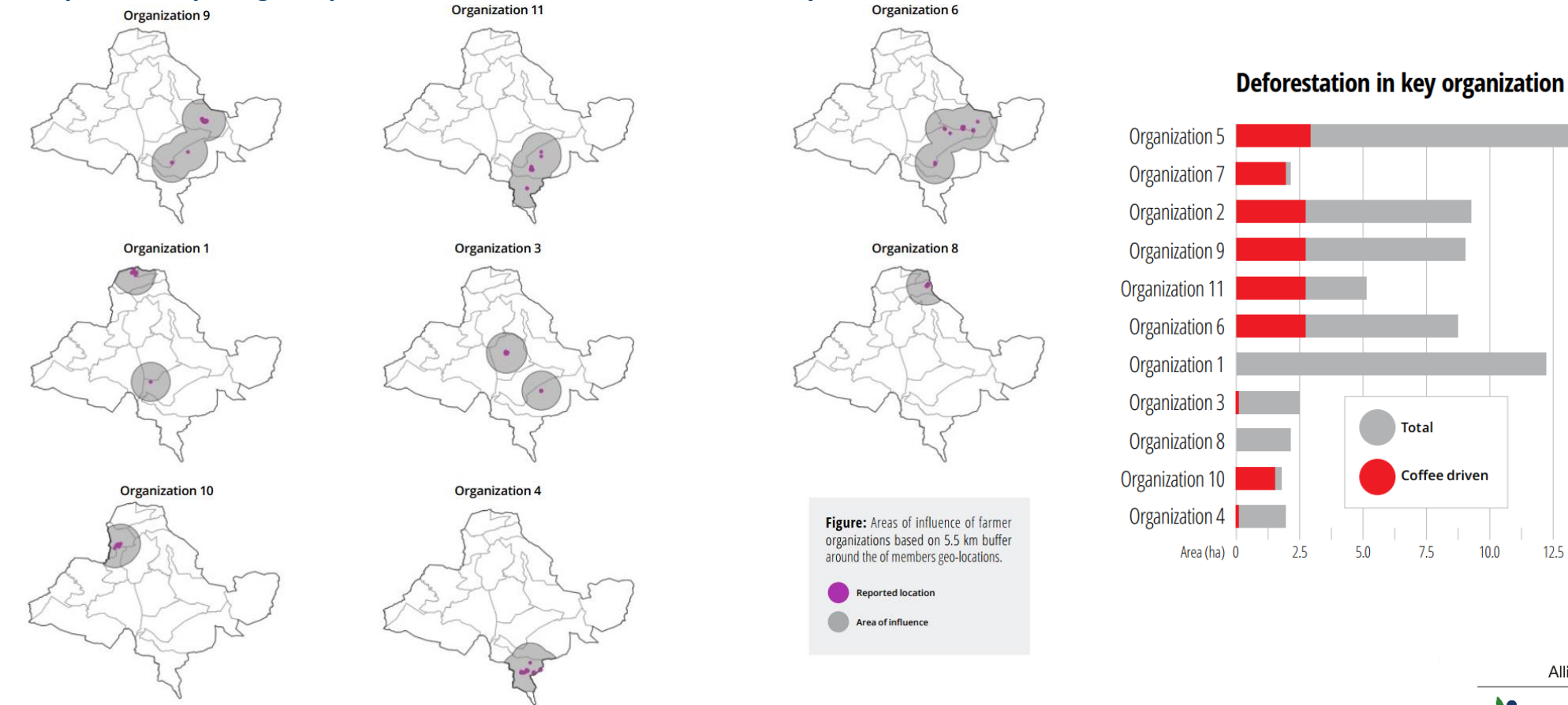
- CIAT uses artificial intelligence to identify “natural forests” based on interpretation of Sentinel 1 and 2 satellite imagery.
- The result is a forest layer that is up-to-date and can be produced using a consistent method across the globe



What would it entail for each actor of the supply chain: producing country, EU importer and competent authority checking at the border?

We recommend a jurisdictional approach that demonstrates that deforestation within the area of interest is below a maximum allowable threshold

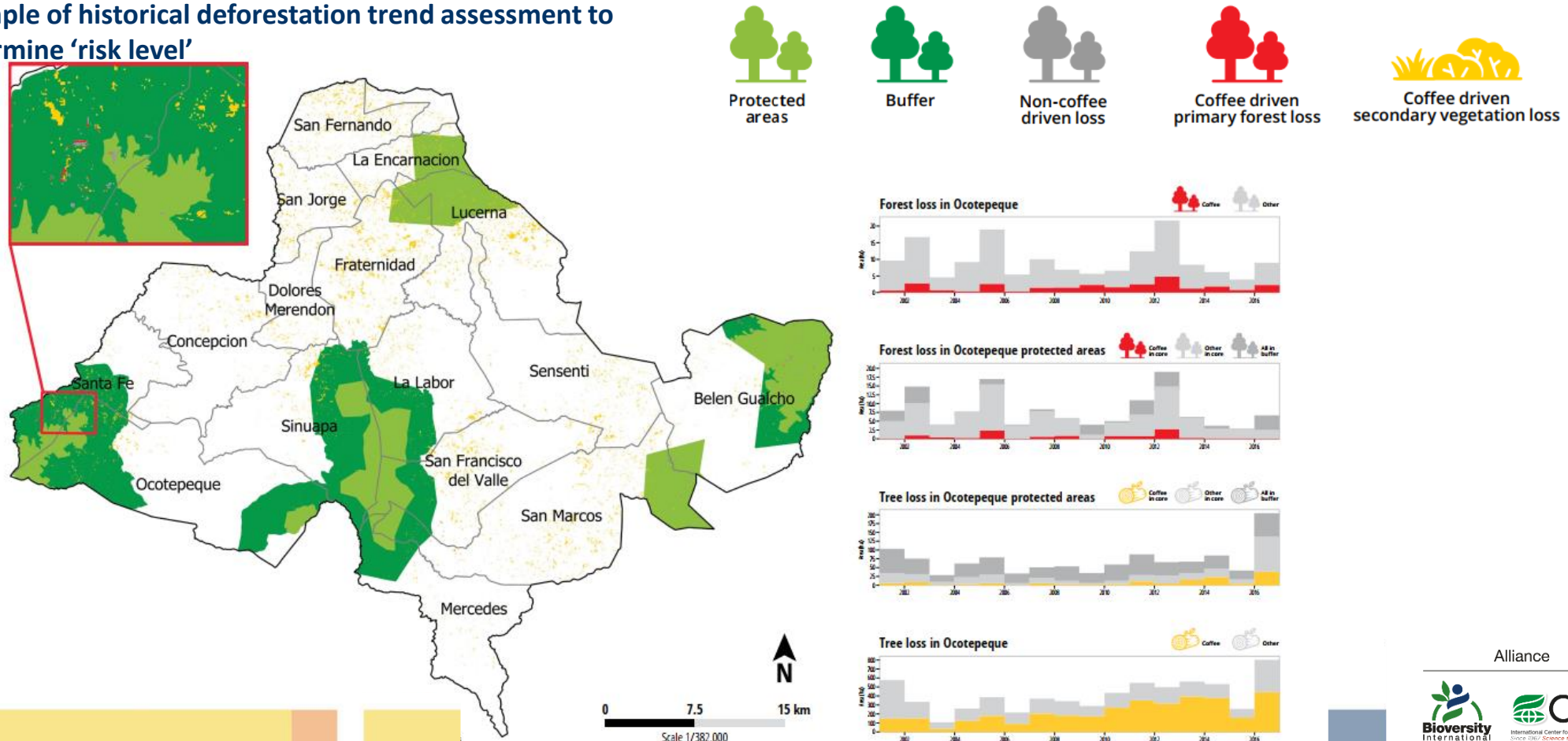
Example of comparing compliance on zero deforestation across buyers in Honduras



Which would be the applied definition of deforestation and how would the risk levels be attributed?

- Risk level definition can be tailored to priorities such as protected status, current land cover, time since the event, and distance between events/ land covers
- This risk level definition is 100% remote sensing based to protect independence

Example of historical deforestation trend assessment to determine 'risk level'



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Questions or suggestions? Please
contact one of our team:

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