FAPESP DAY URUGUAY
November, 13-14th 2025

USP ESALQ CCARBON CENTER FOR CARBON RESEARCH IN TROPICAL AGRICULTURE UNIVERSITY OF SÃO PAULO

ANII AGENCIA NACIONAL DE INVESTIGACIÓN E INNOVACIÓN

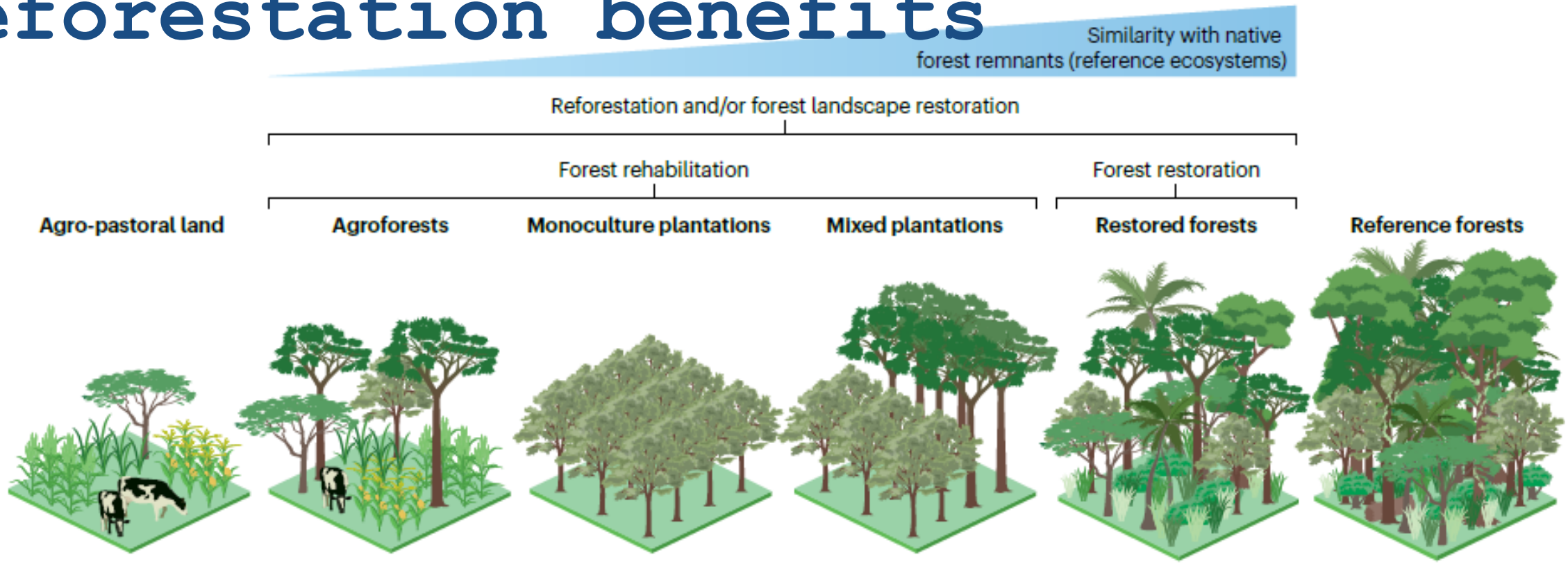
FAPESP SÃO PAULO RESEARCH FOUNDATION

Innovations and Opportunities in Forest Restoration: Experiences from Brazil



Pedro Brancali

Reforestation benefits



	Agro-pastoral land	Agroforests	Monoculture plantations	Mixed plantations	Restored forests	Reference forests
Biodiversity	Low	Low	Low	Moderate	High	High
Water quality	Low	Moderate	Moderate	Moderate	High	High
Carbon	Low	Moderate	High	High	High	High
Timber	Low	Moderate	High	High	Low	Moderate
Food	High	High	Low	Low	Low	Moderate

Brancalion *et al.* 2025. *Nature Reviews*

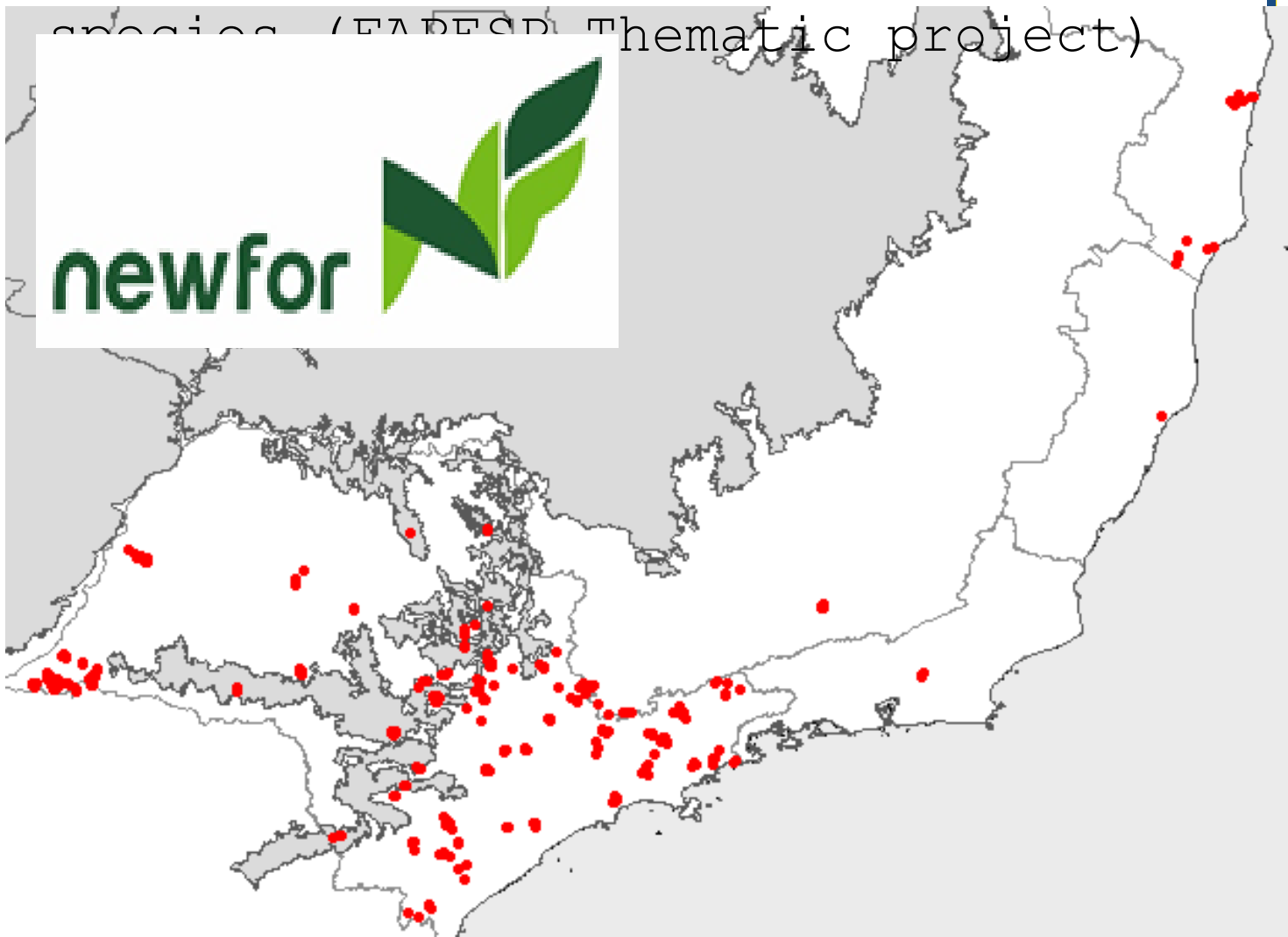
Reforestation benefits







- 6 years fieldwork, >800 plots, 70,000 trees ~1,300 tree species (FAPESP Thematic project)



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Carbon monitoring

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Total 176 indivíduos amostrados

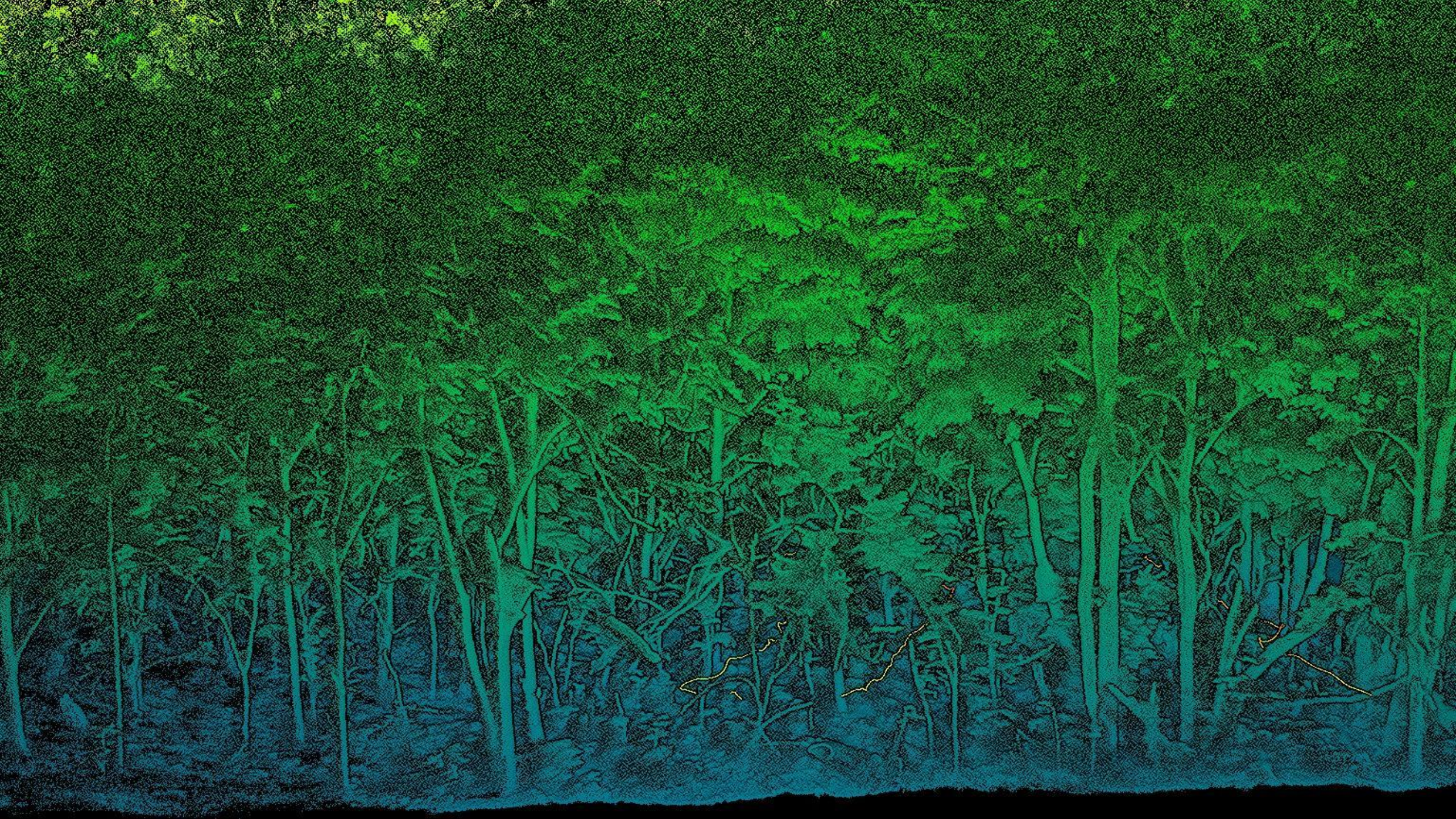
- ✓ 152 árvores plantadas (parte aérea)
  - ✓ 40 com biomassa radicular
- ✓ 24 indivíduos regenerantes (parte aérea)









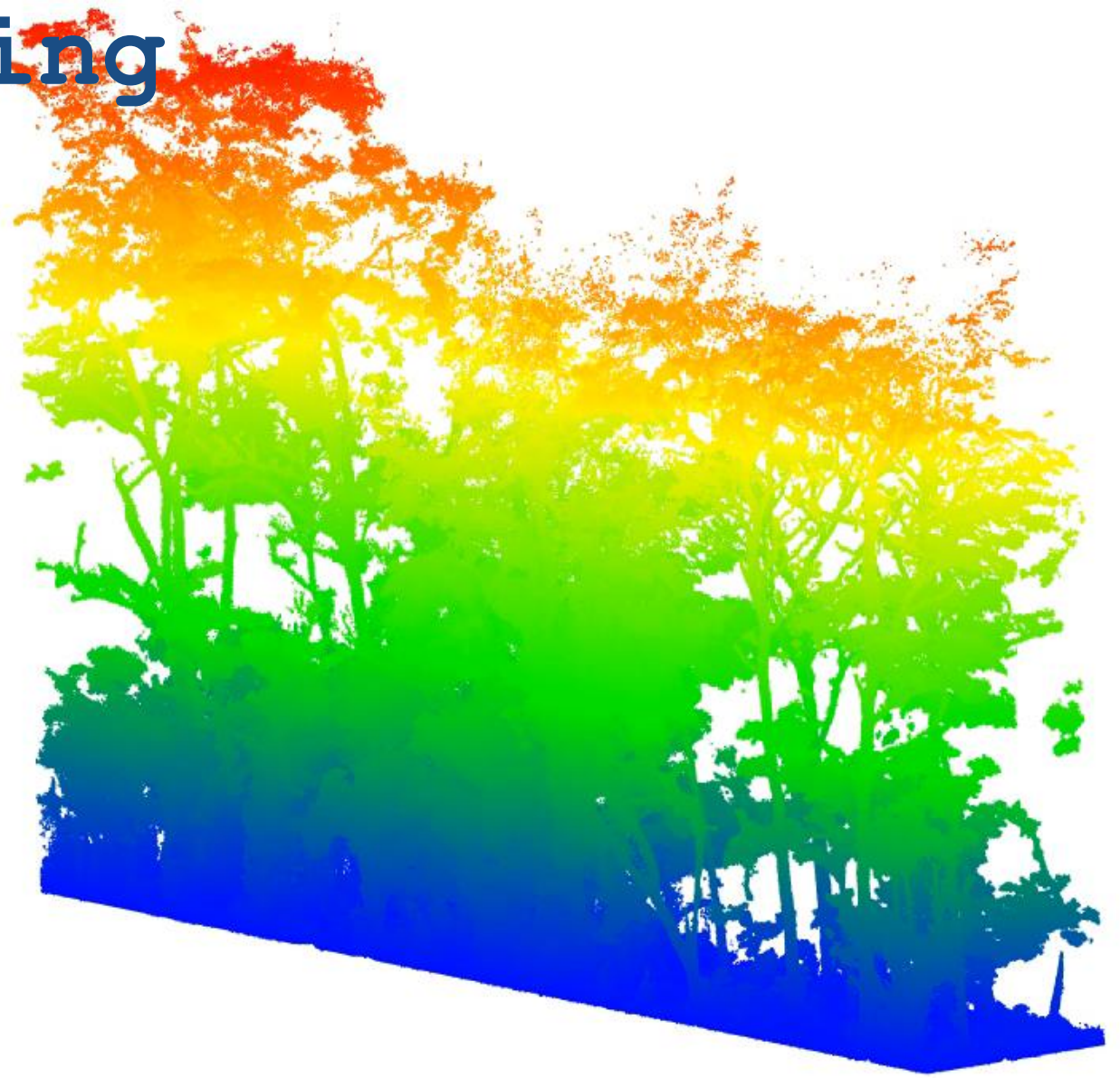


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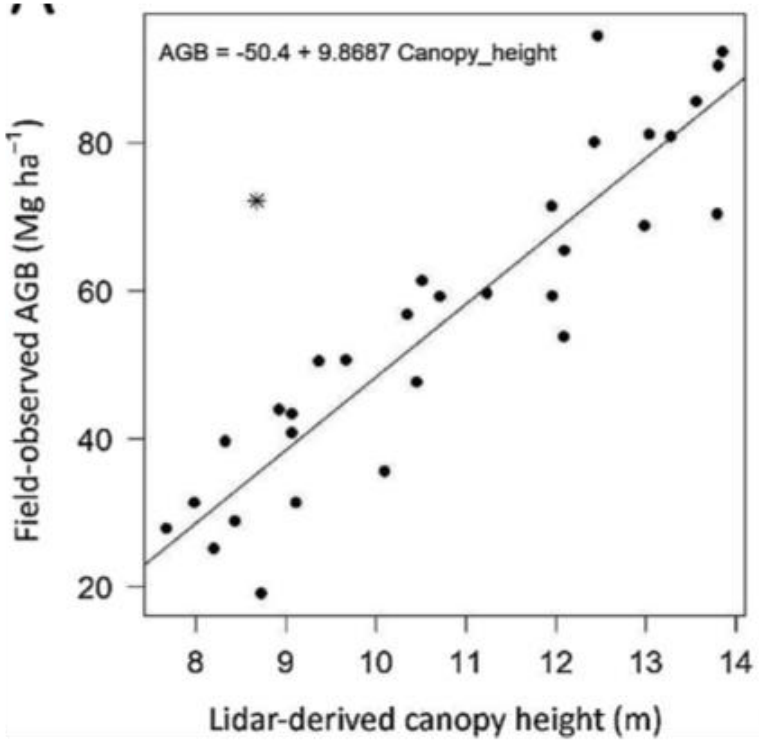
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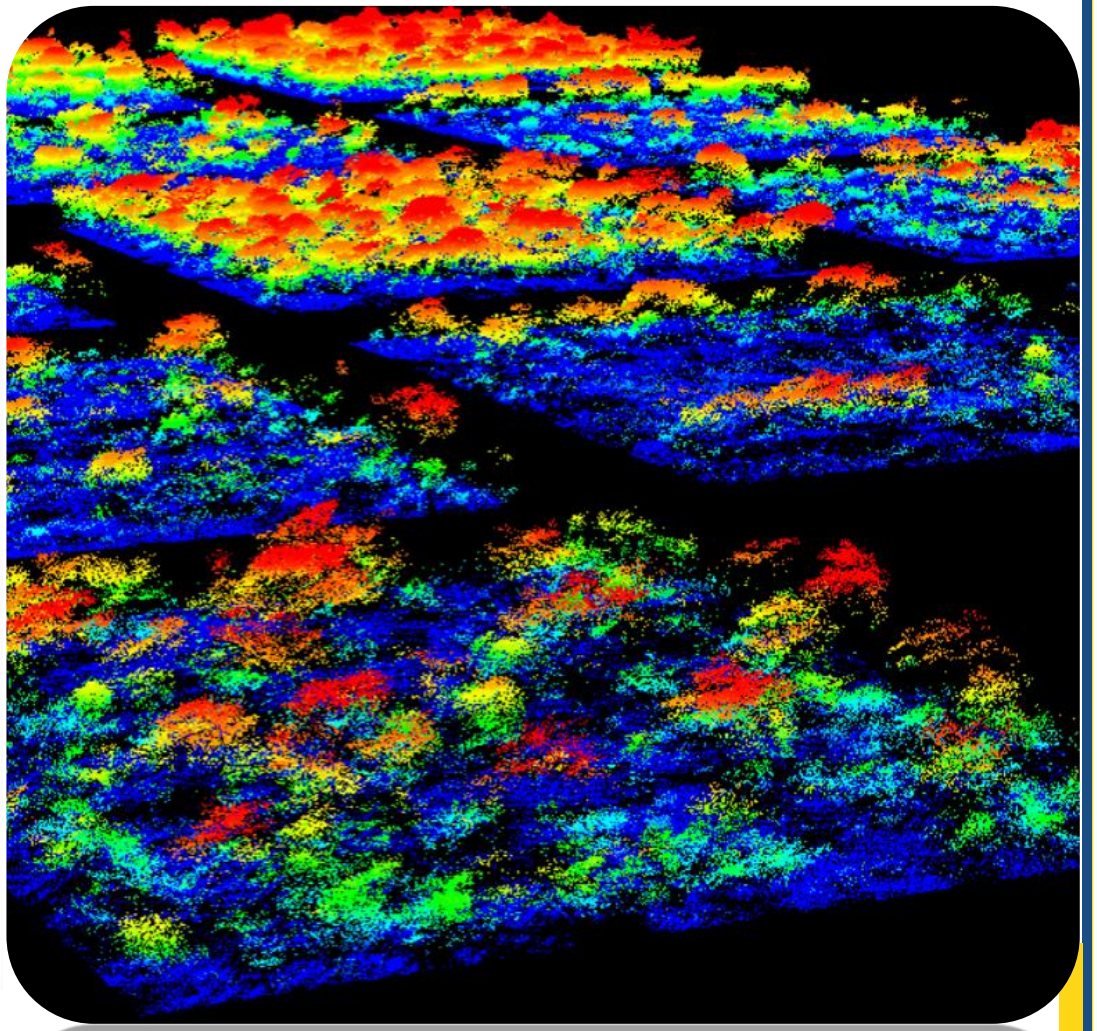
Carbon monitoring



Coleta de dados Lidar em parcelas com inventário florestal



Relação entre métricas Lidar x biomassa



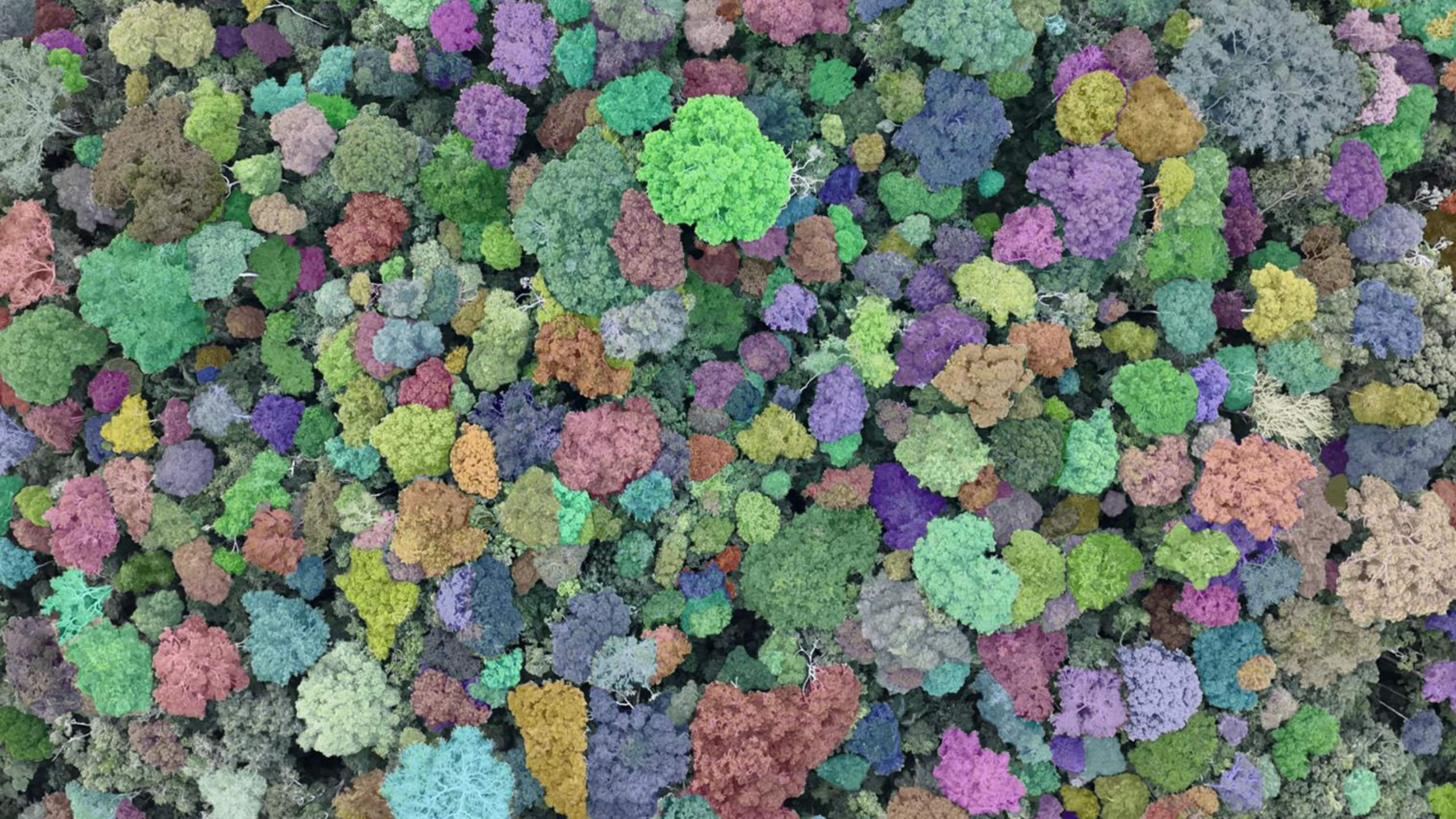
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Biodiversity monitoring

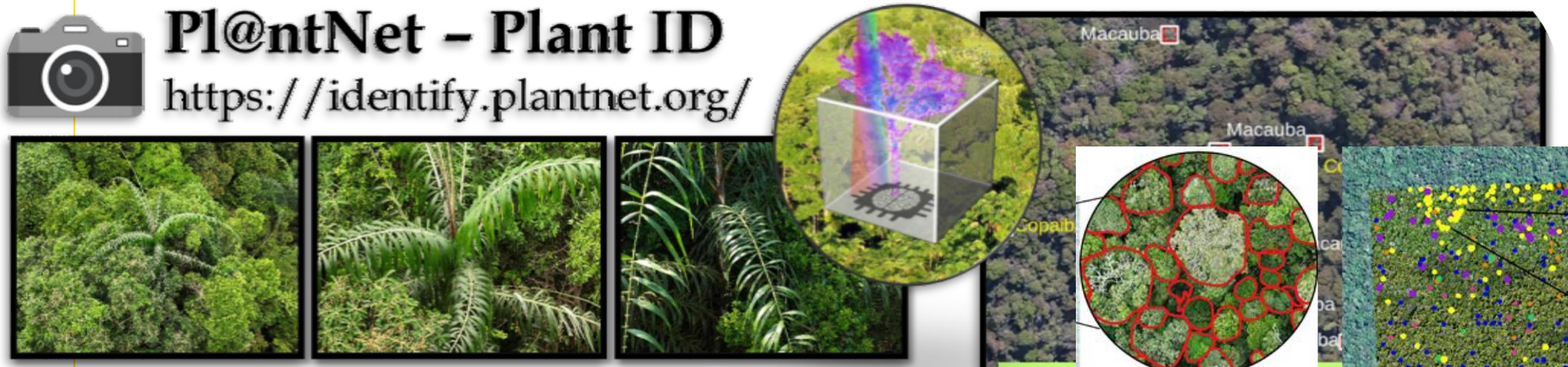
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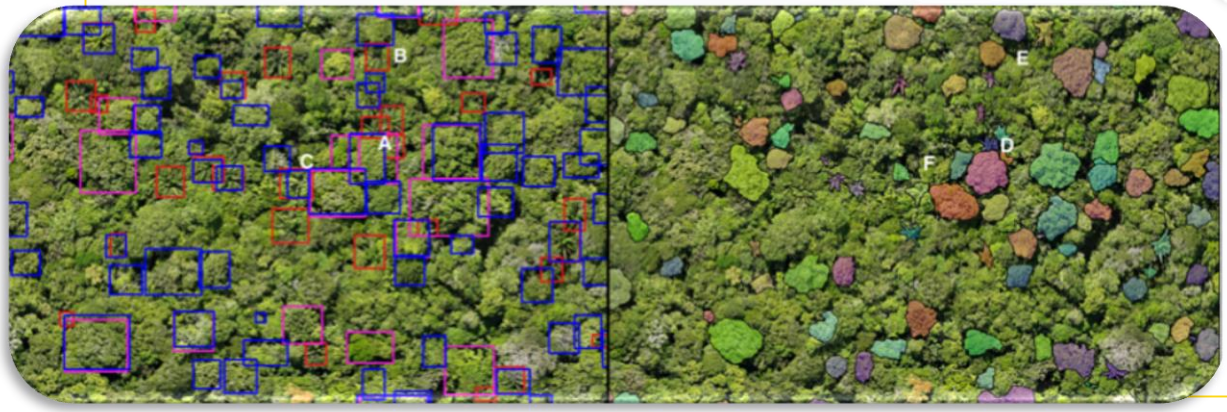
Pl@ntNet – Plant ID

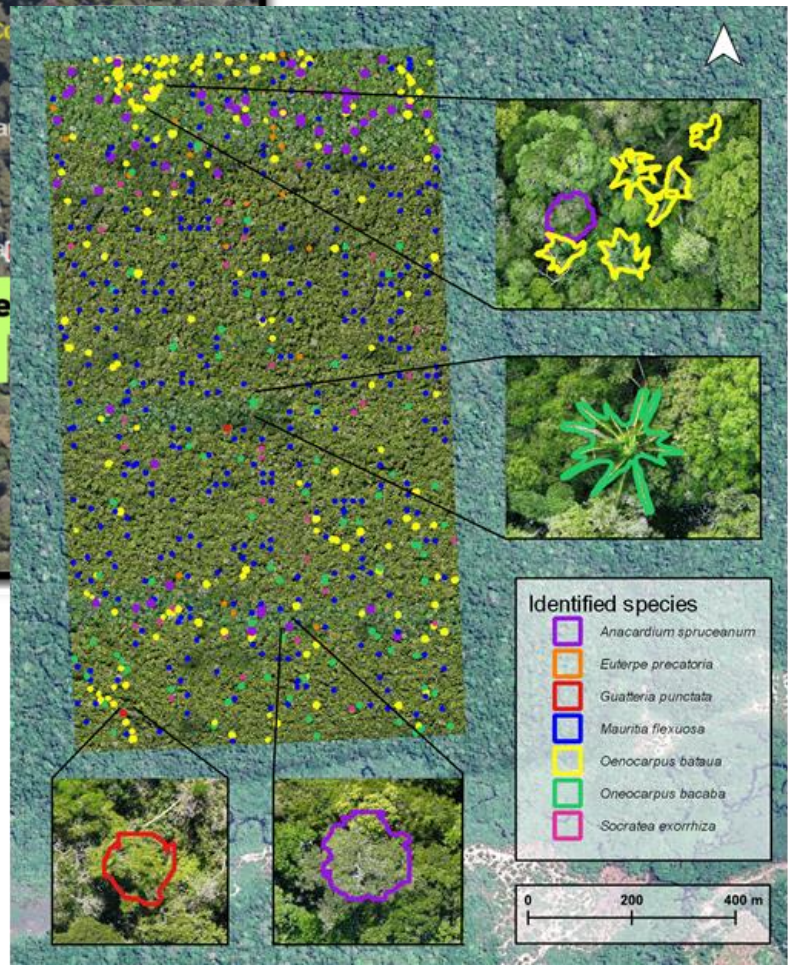
https://identify.plantnet.org/











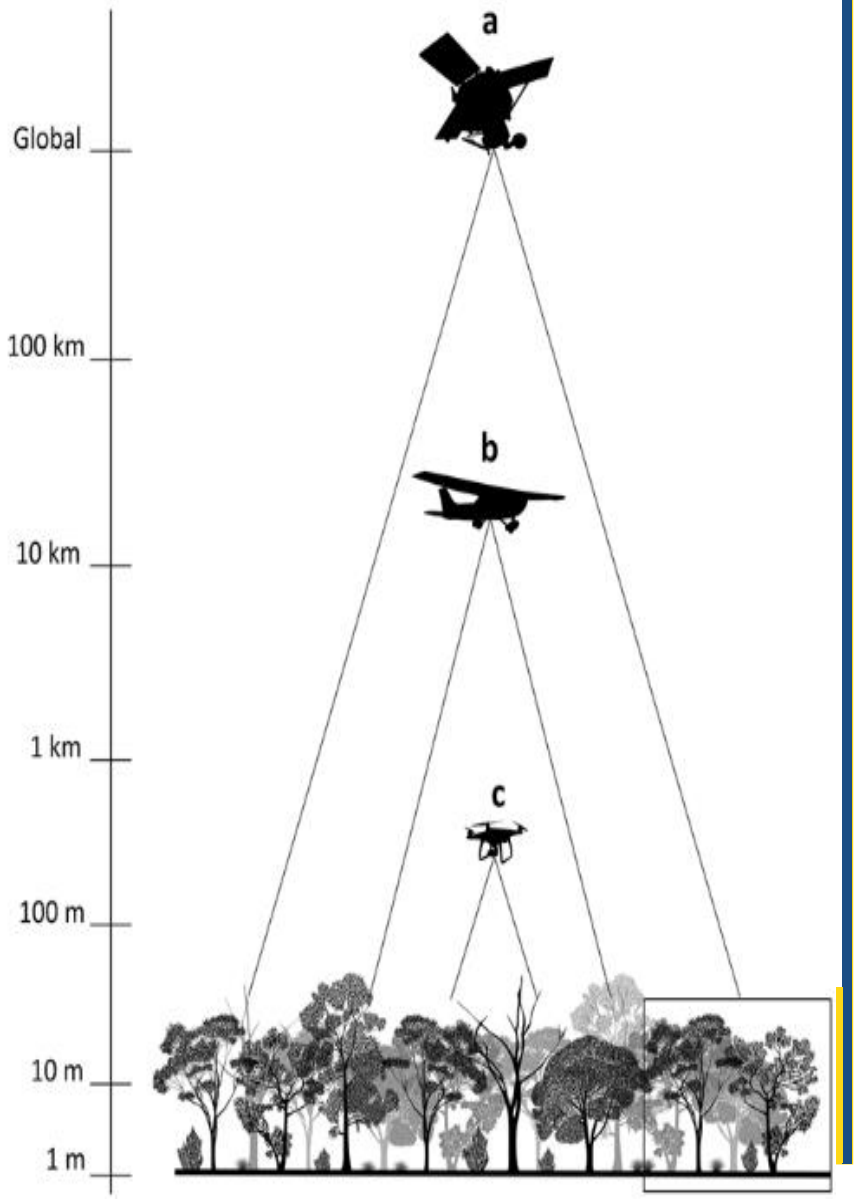
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Integrated monitoring





Impacts



THE EARTHSHOT PRIZE


Gracias!
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