



sustainacraft

■ **Advancing Brazil's NDCs through  
Scalable Forest Analysis for  
Sustainable Forest Management**

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## Who we are

sustainacraft is a Tokyo-based startup that conducts due diligence on nature-based carbon projects and connects project developers with credit buyers

One of our core capabilities is satellite data analysis

Project Developers	
Types	JCM & Voluntary
Activity	<p><b>NbS</b> REDD+, ARR, ALM, WRC, IFM</p> <p><b>Hybrid CDR</b> Biochar, TSB, ERW</p>
Geography	Worldwide

sustainacraft	
Founded	October 2021
Size	10+ members
Services	<p>Our services include:</p> <ul style="list-style-type: none"> <li>● Due diligence of carbon projects</li> <li>● Carbon projects origination</li> <li>● Market intelligence</li> </ul>

Require satellite data analysis capability

Project origination / Offtaking contract

Buyers (Our clients)
<p>Large corporations including:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>* The logos shown here represent only a small selection of our clients</p>

Supported by:   
 Transformational Start Ups' Business Acceleration for the SDGs Agenda

## What we do

sustainacraft is building a model to estimate biomass to monitor restoration activities, together with Conservation International Brazil, supported by IDB Lab



### Restoration target

To monitor at least 30,000 hectares of restoration project area in three distinct biomes of forest (Amazonia, Cerrado, Atlantic Forest).

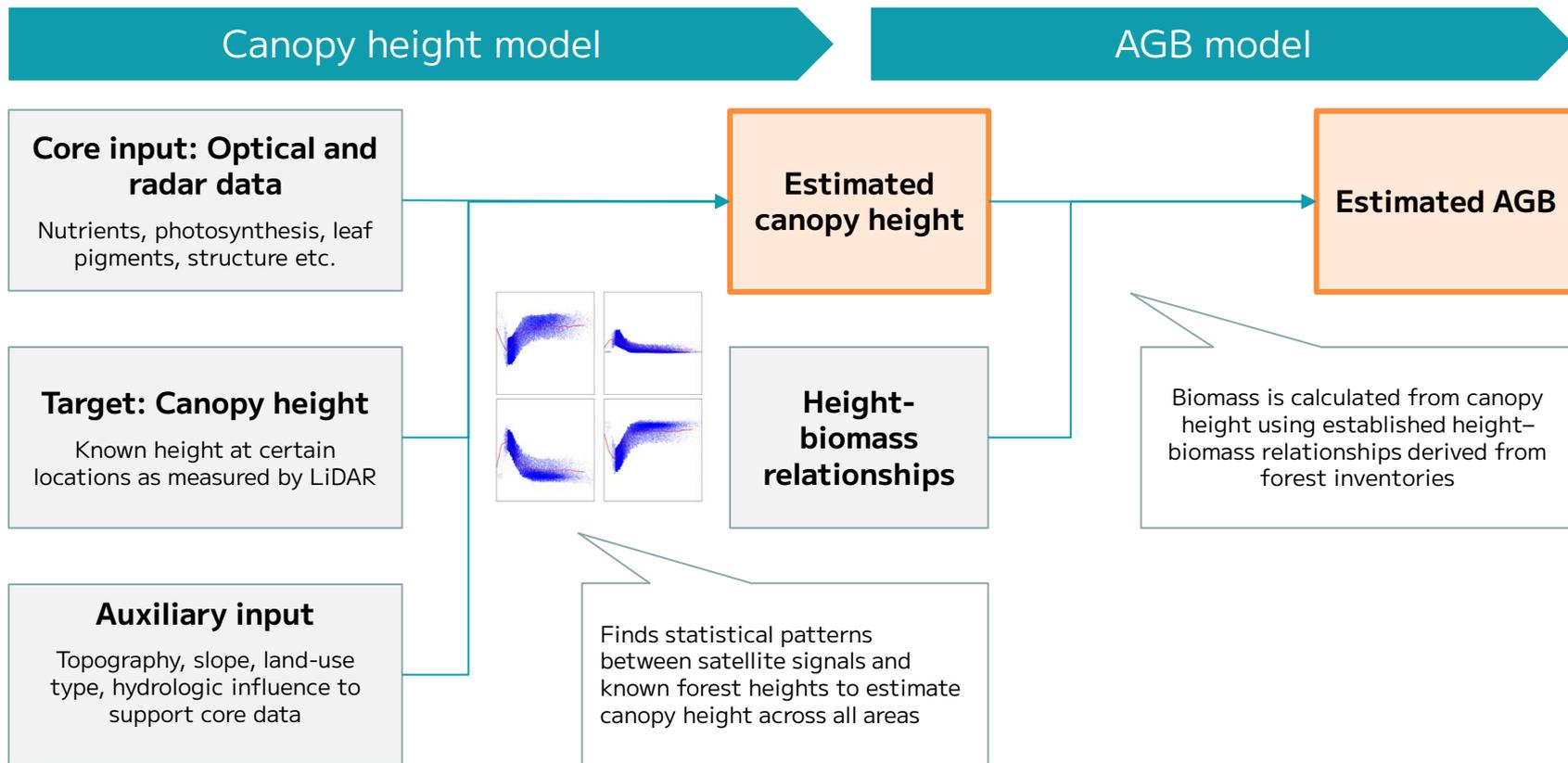
### The challenge

For restoration goals of such scale, it is not feasible to constantly obtain field survey measurements due to geographic inaccessibility and high labor costs.

### The solution

By combining initial survey data with state-of-the-art **satellite remote sensing data and machine learning methods**, we can efficiently build aboveground biomass models to monitor change in vegetation conditions.

# Aboveground Biomass (AGB) is estimated through a scalable workflow

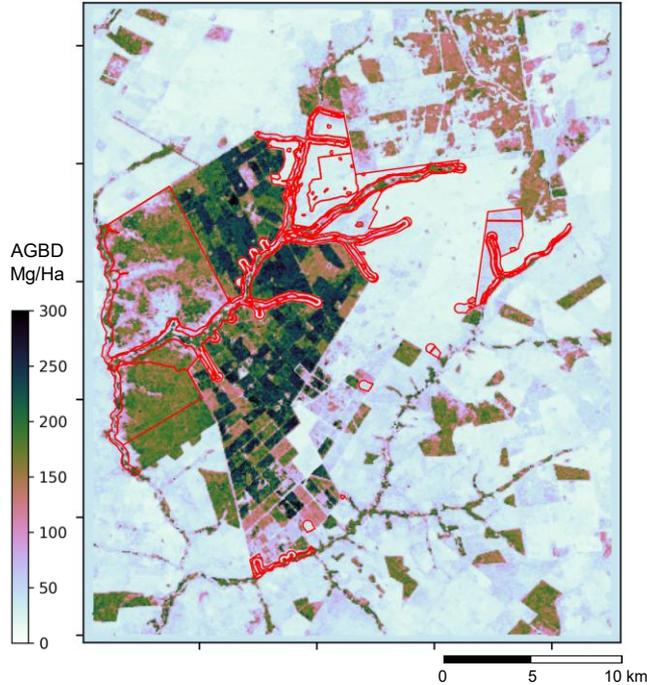


## What we do

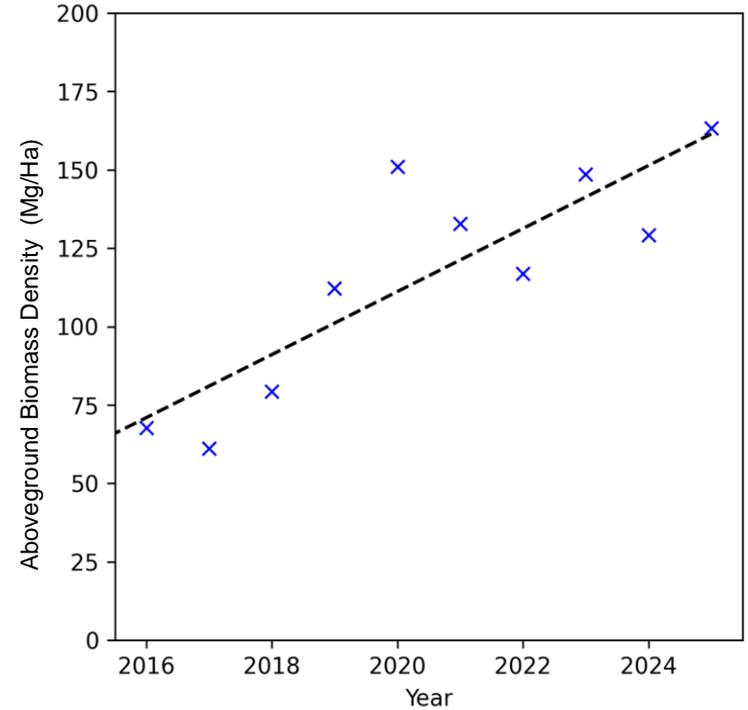
# AGB model output shows an increasing trend in biomass within restoration area



Aboveground Biomass estimates for a site in Mato Grosso do Sul (project site in red)



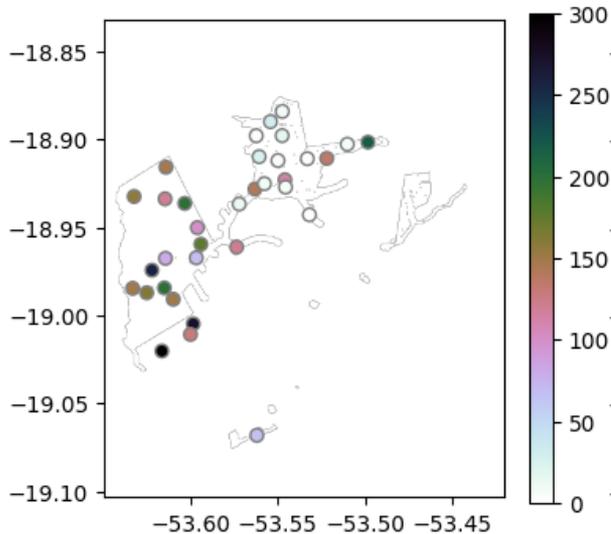
Our model indicates there has been an increasing trend in biomass through the years within restoration area



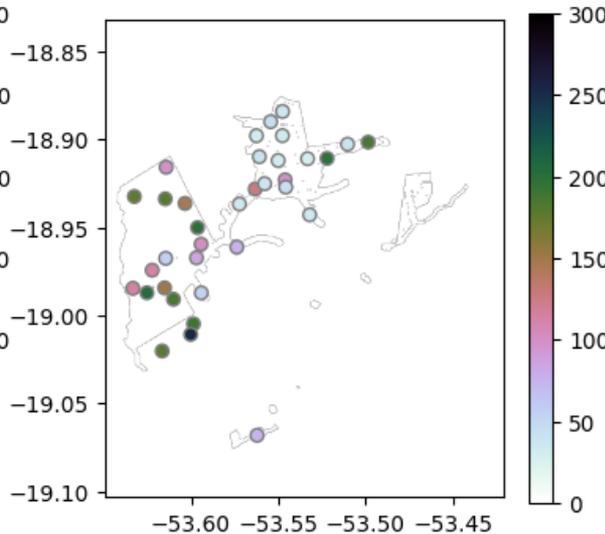
## What we do

The accuracy of the model output is validated by field data, indicating that it is reliable

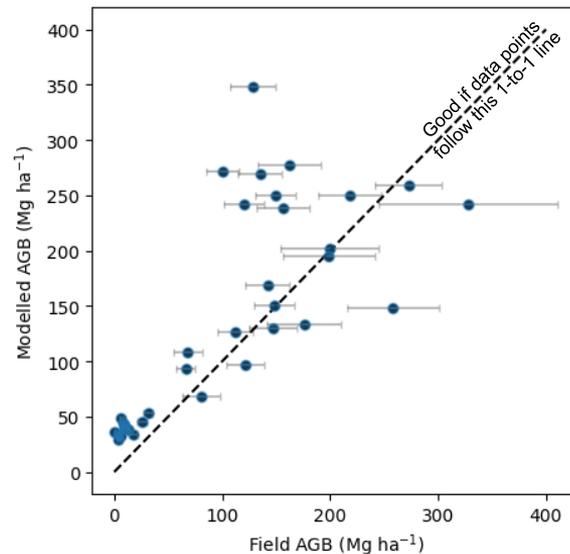
### Field AGB measured by CI Brazil



### Our modelled AGB estimates



### They agree quite well



**Supplemental slides**

# Assessing the impact of different restoration strategies



## Full-area planting

Land has little or no capacity to regenerate naturally.

Planting cuttings, seedlings or seeds of native species directly in entire area.



## Densification planting

Insufficient density of regenerating individuals.

Plant fast-growing filling group species at dense spacing.



## Enrichment planting

Areas with significant natural regen., but limited arrival of seeds from successional species

Seedlings planted in understory of existing forest with preferential treatment.



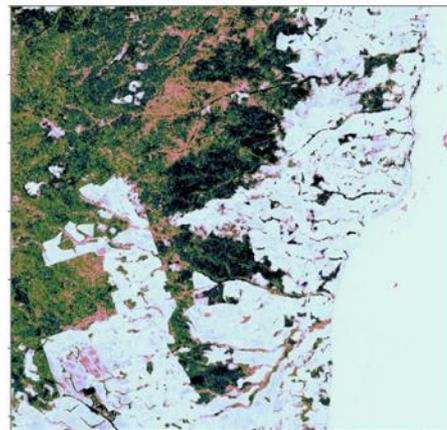
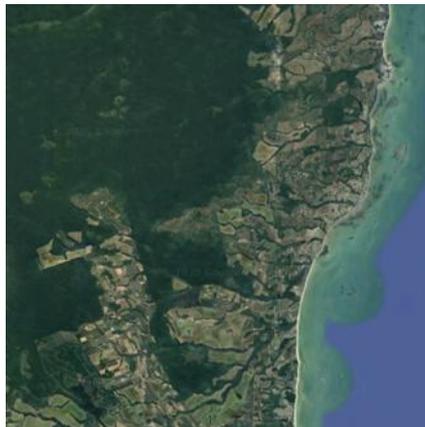
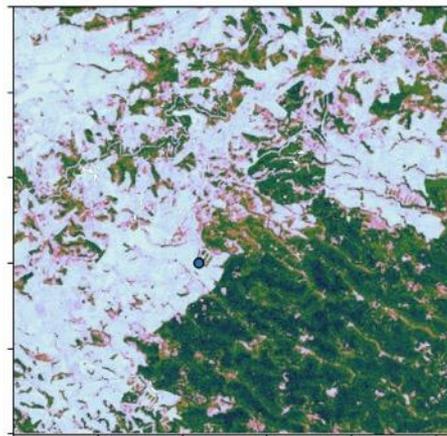
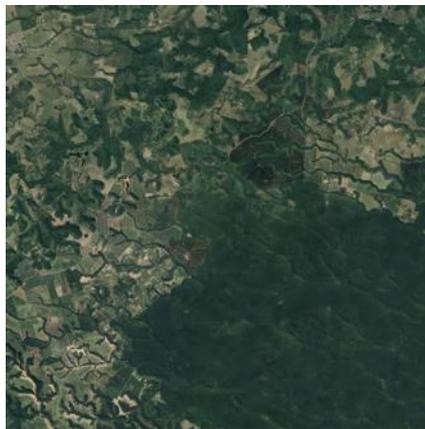
## Natural regeneration

Degraded areas that still retain viable seed banks and forest fragments.

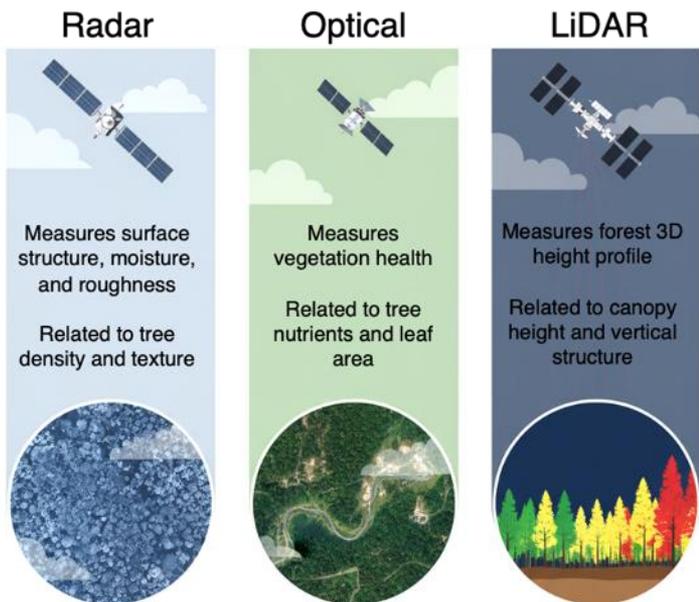
Succession driven by natural seed dispersal and recruitment.



# Case study: Model reveals non-uniform biomass distribution within same forest stands



# Eyes in the sky — satellites provide different information about vegetation conditions



We utilize satellite data that are free and open to the public: Landsat-8/9 (optical), Sentinel-1 (radar), Sentinel-2 (radar), and GEDI (LiDAR), ensuring future conservation monitoring efforts can access the same dataset.

