

# New Data Platform: NASA ESA Multi-Mission Algorithm and Analysis Platform (MAAP)

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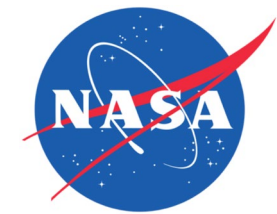
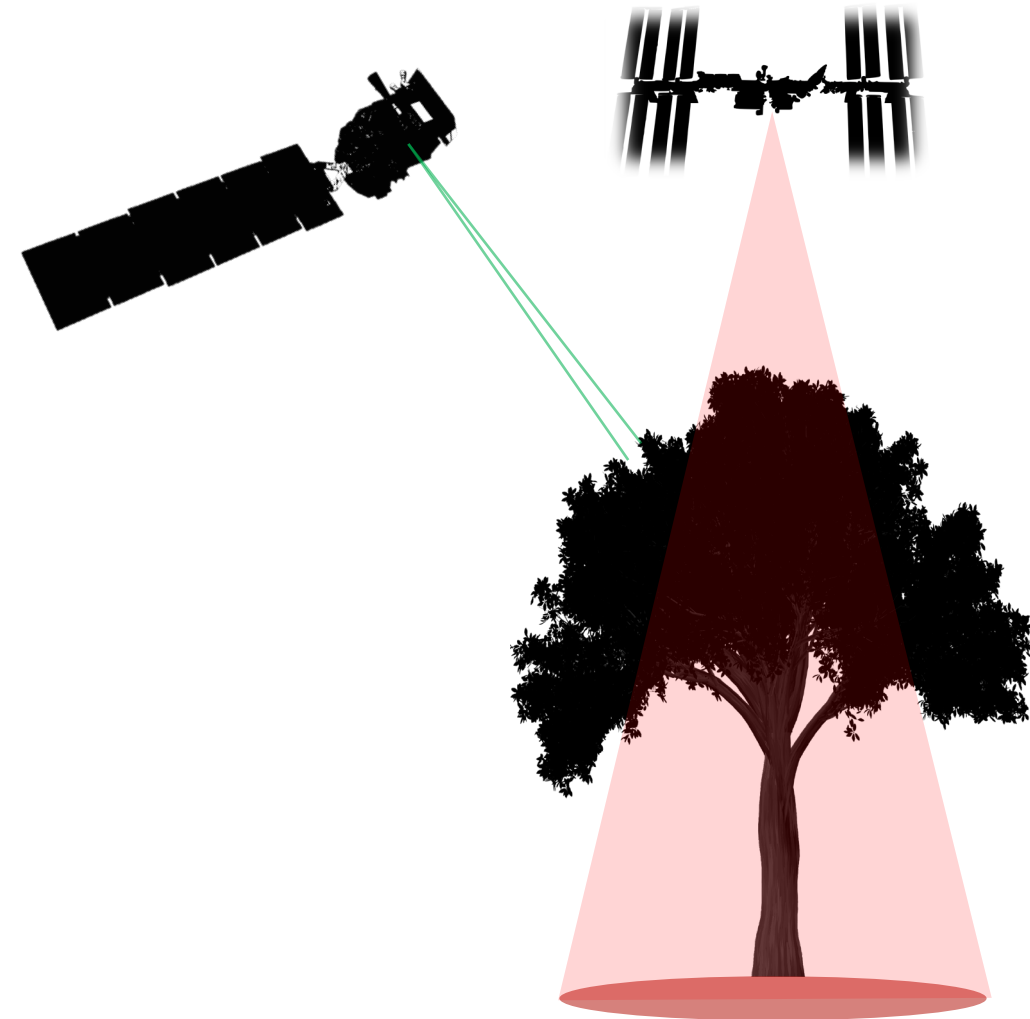
With contributions from:

The GEDI Team & ICESat-2 Science Teams

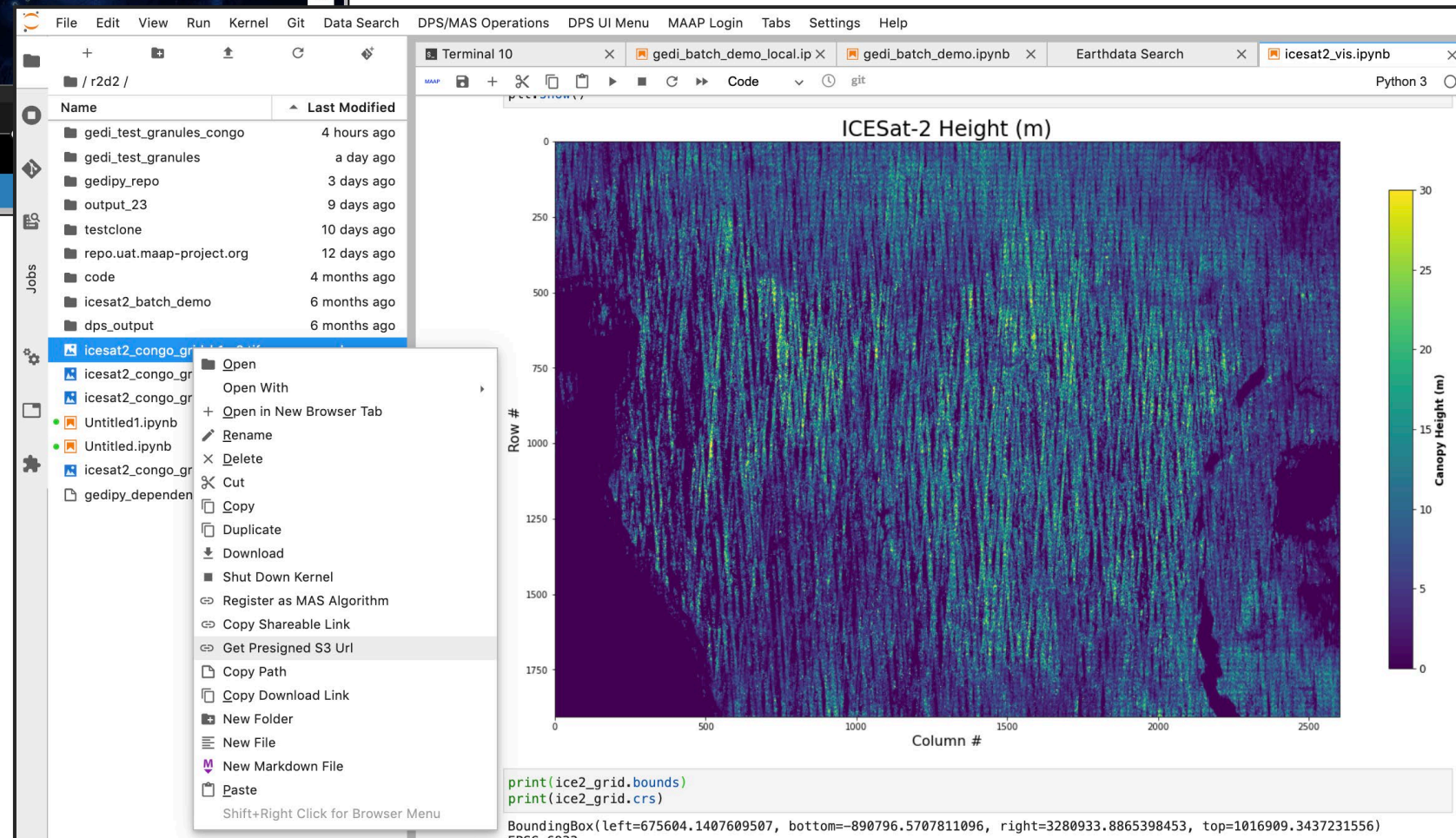
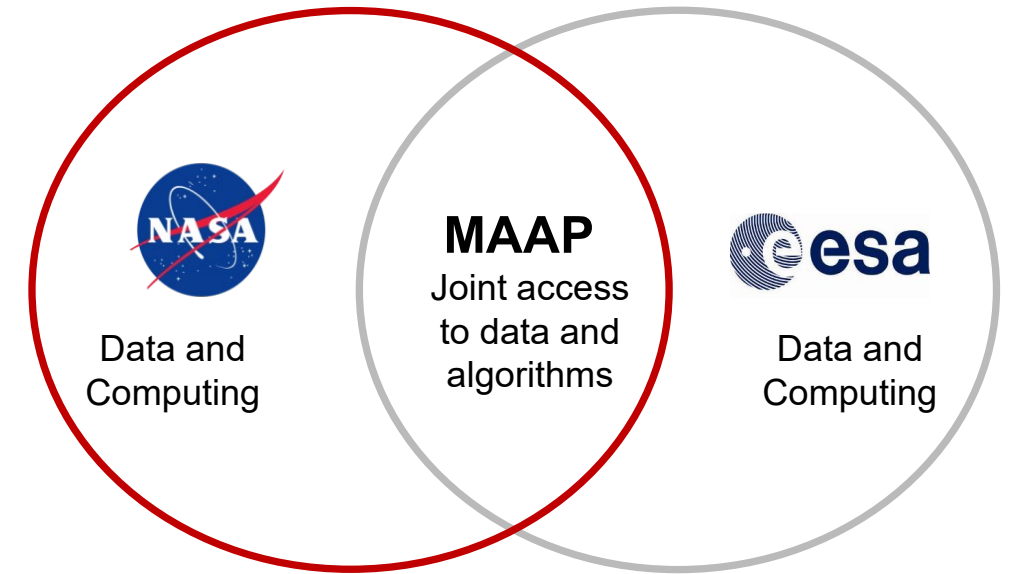
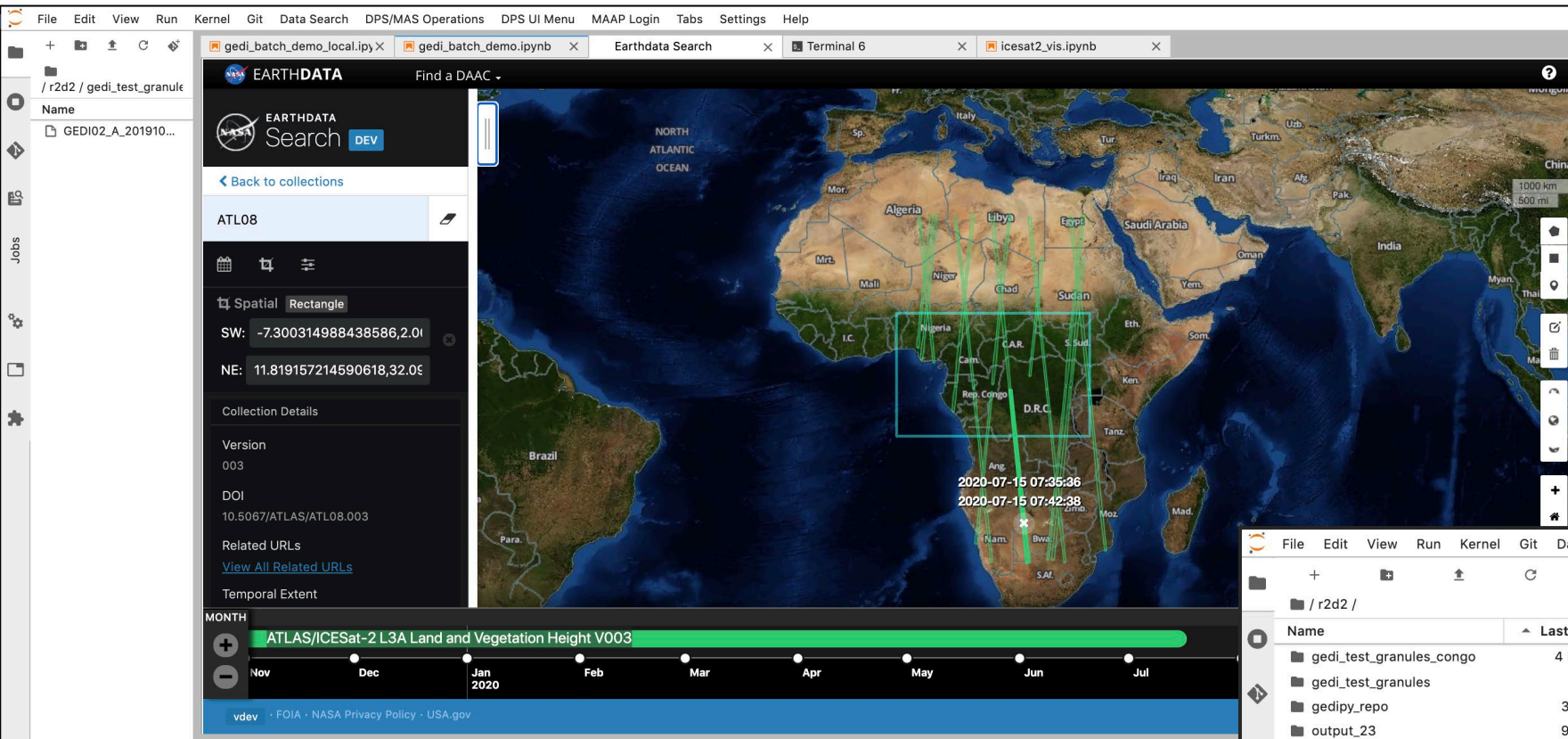
The NASA-ESA Multi-Mission Algorithm and Analysis Platform (MAAP)

NASA's ABoVE Program

The CEOS Biomass Harmonization Activity



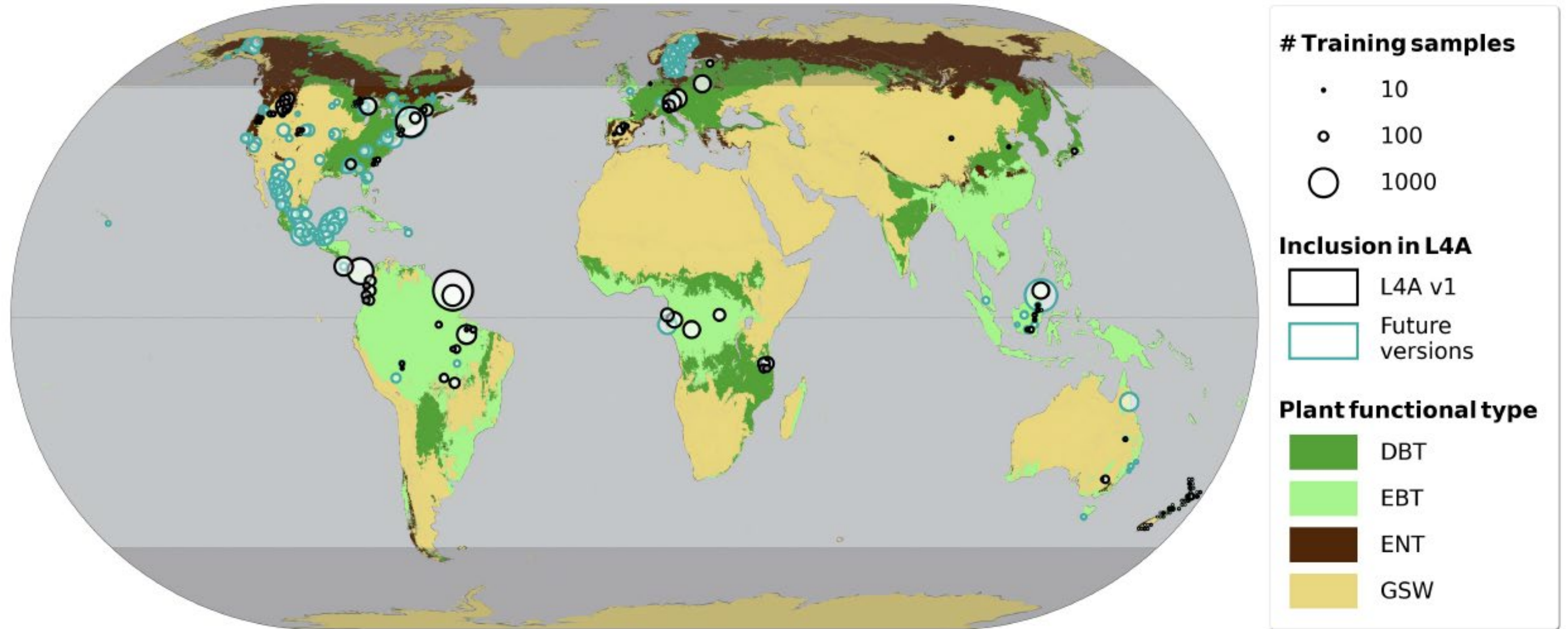
# New open science platform - the Multi-Mission Algorithm and Analysis Platform (MAAP)



- Bilateral platform between ESA and NASA
- Designed for collaborative **open science**, algorithm and product development
- Pilot focuses on forest biomass mapping
- Cloud compute (AWS)
- Hosts lidar (GEDI, ICESat-2) and future SAR (NISAR, BIOMASS) + reference data
- Used for the biomass harmonization activity



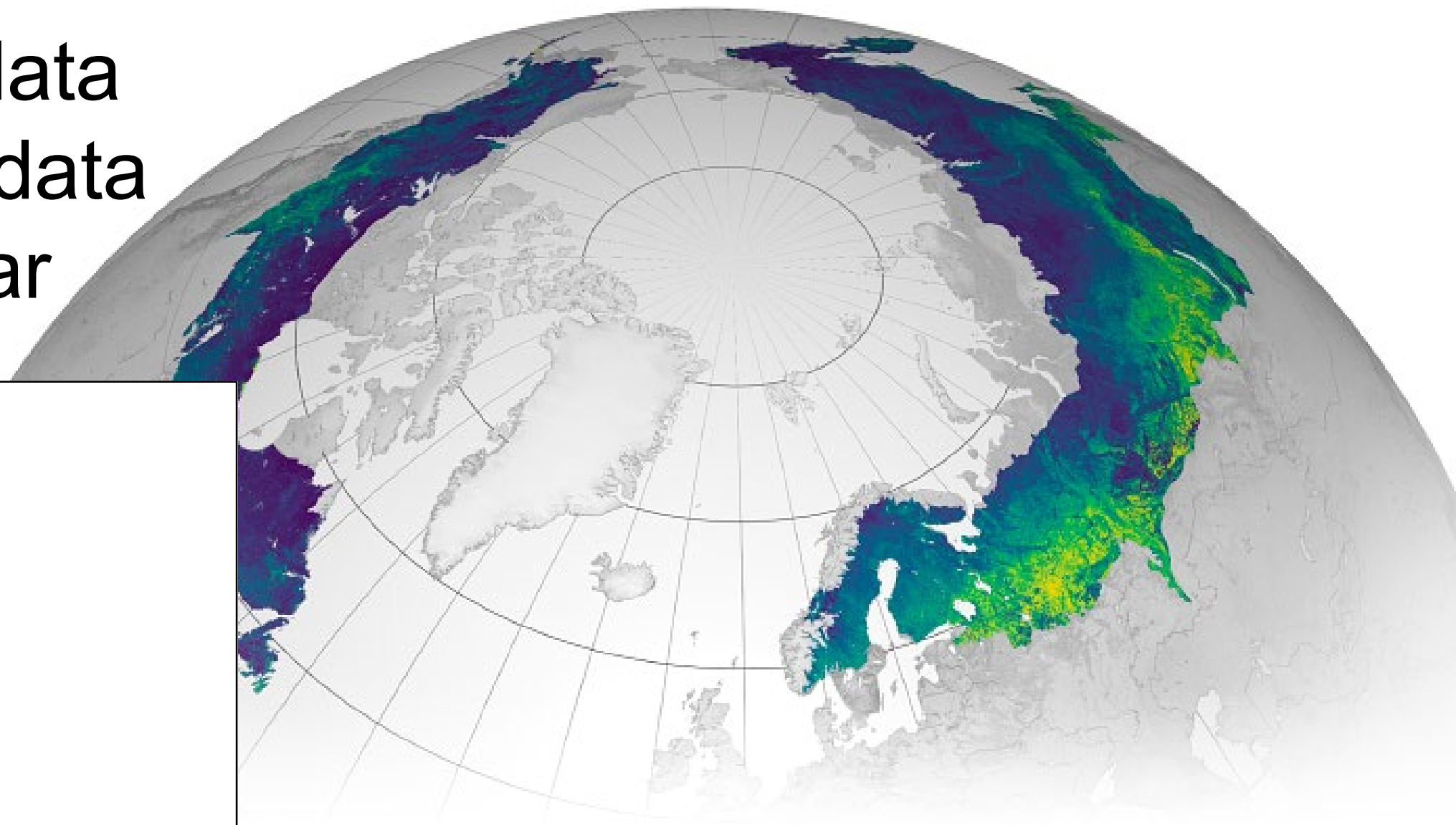
# GEDI Forest Structure & Biomass Database



Public Portion is available in MAAP



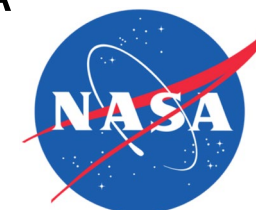
# NASA's ICESat-2 data fill GEDI's northern data gap for global lidar mapping



Boreal Forest Aboveground Biomass Density (Mg/ha)



Open science product created on the NASA-ESA  
MAAP (scimaap.net). Explore this map here:  
<https://earthdata.nasa.gov/maap-biomass>





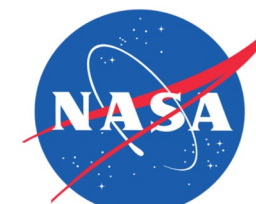
# Comparing and Validating New Biomass Products

Product	Data Type	Missions	Years represented	Spatial Resolution	Spatial Domain	Availability
GLOBIOMASS	SAR, lidar	ALOS, ENVISAT, ICESat GLAS	2010	100-m	Global	Available now
GEOCARBON	Fusion of other products	Inputs to other products (lidar, SAR, Optical)	~2010	0.01°	Global	Available now
NASA JPL	Lidar, SAR	GLAS, ALOS	2015	10-km	Global	Available now
CCI Biomass	SAR and Optical	ALOS, Sentinel-1	2017, 2018	100-m	Global	Available now
NASA JPL	Lidar, SAR and optical	GLAS, ALOS-2	2020	100-m	Global	Available now
NCEO Africa	Lidar, SAR, Optical	GLAS, ALOS-2, Landsat	2007 - 2017	100-m	Africa	Available now
CCI Biomass	Lidar, SAR and Optical	ALOS, Sentinel-1, GEDI, ICESat-2	2020	100-m	Global	Available now
NASA GEDI mission Product	Lidar	GEDI	2019-2021	1-km	+/- ~51.6° latitude	Available Q4 2021
NASA ICESat-2 boreal product	Lidar	ICESat-2, Landsat	2019-2021	30-m	Boreal (50-75° N)	Available now



Past Products

Inputs to Biomass Harmonization Activity



# Biomass Harmonization: Membership and Status

- Intercomparison and validation of biomass products in partner countries
- Harmonization framework still in discussion; harmonized product / framework expected 2023
- **Country-level summaries** Created with user-friendly notebooks

## ESA (+EU/UK Researchers):

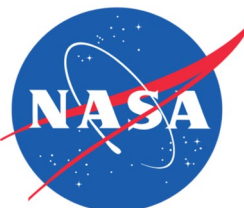
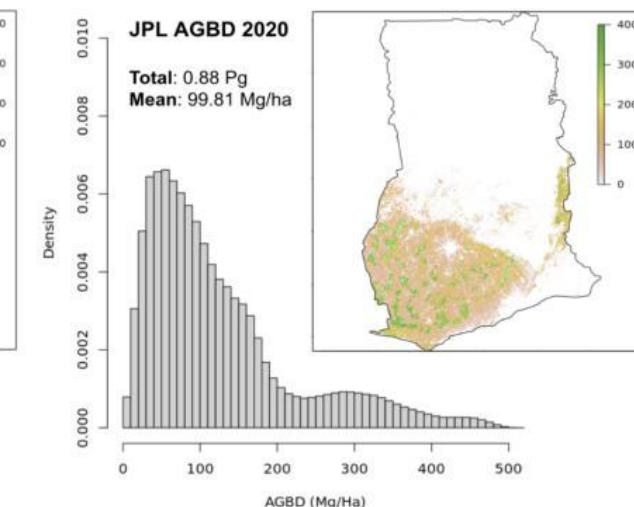
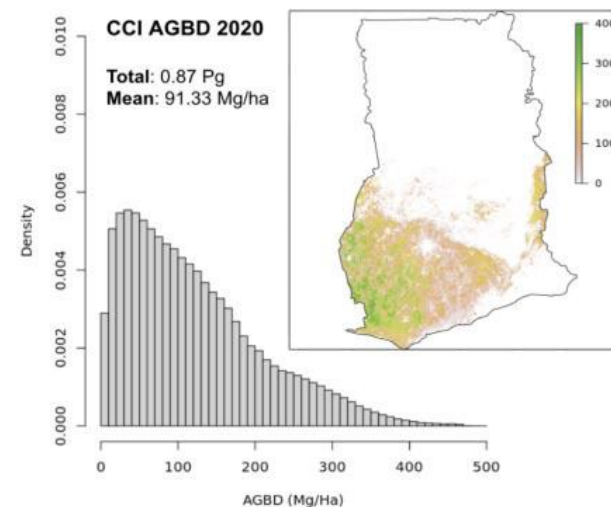
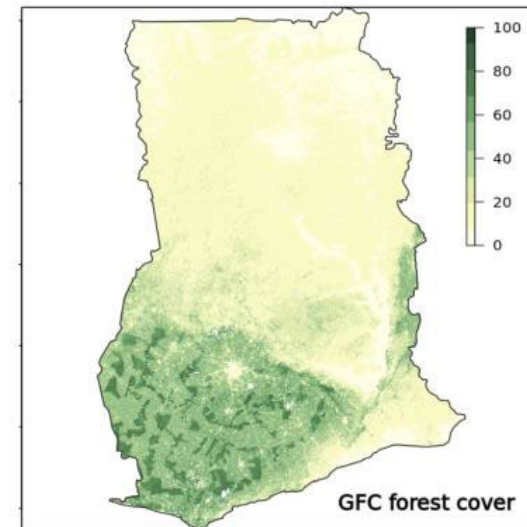
- Clement Albinet
- Martin Herold
- Heather Kay
- Richard Lucas
- Joana Melo
- Erik Næsset
- Kostas Papathanassiou
- Klaus Scipal
- Frank-Martin Seifert
- Pedro Rodriguez Veiga

## NASA (+US Researchers):

- John Armston
- Ralph Dubayah
- Laura Duncanson
- David Minor
- Vero Leitold
- Sean Healey
- Ron McRoberts
- Sassan Saatchi
- Sylvia Wilson

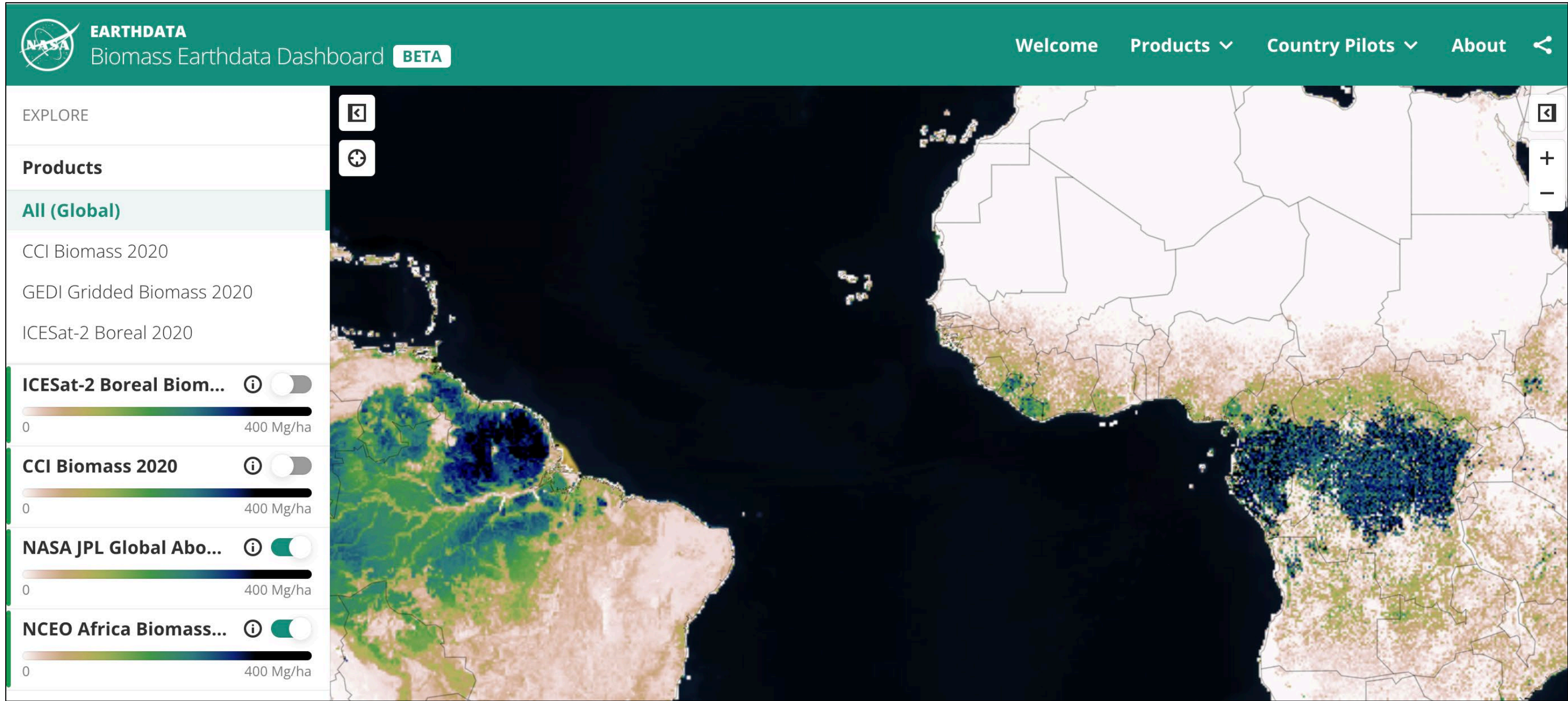
## JAXA:

- Osamu Ochiai
- Ake Rosenqvist
- Takeo Tadono
- Masato Hayashi

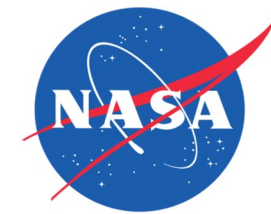




# New dashboard for COP26 - Explore 2020 Biomass Products!



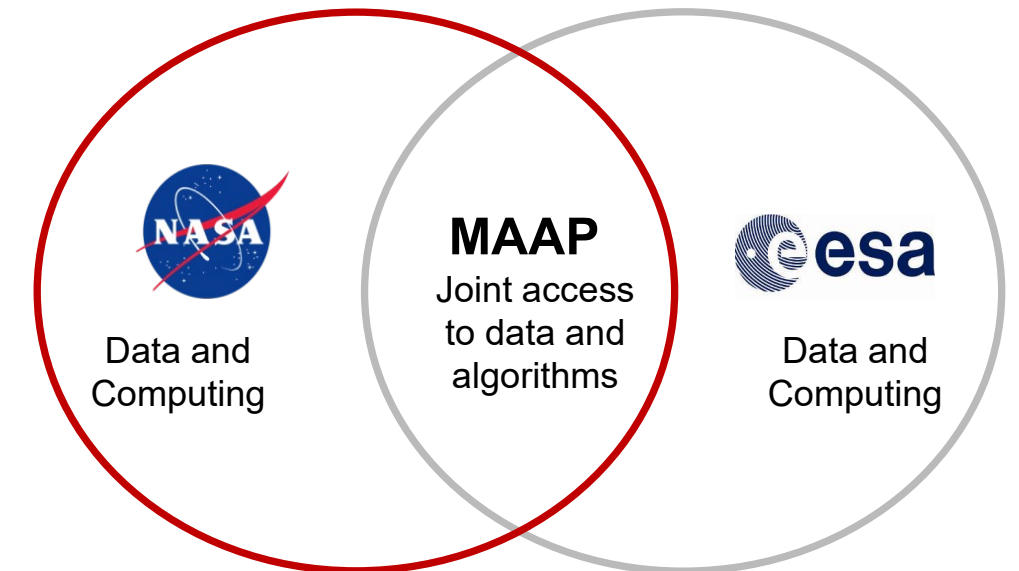
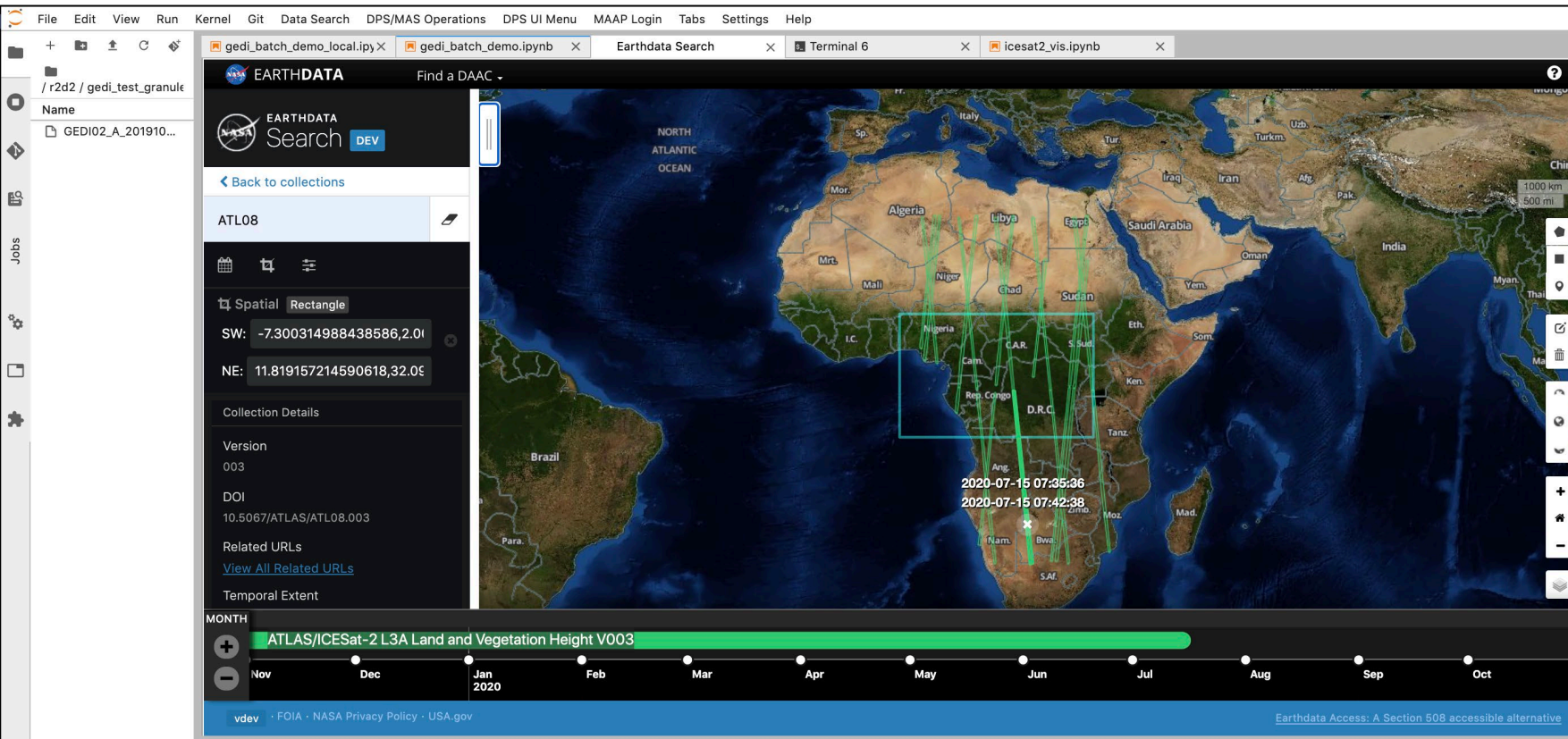
<https://earthdata.nasa.gov/maap-biomass>



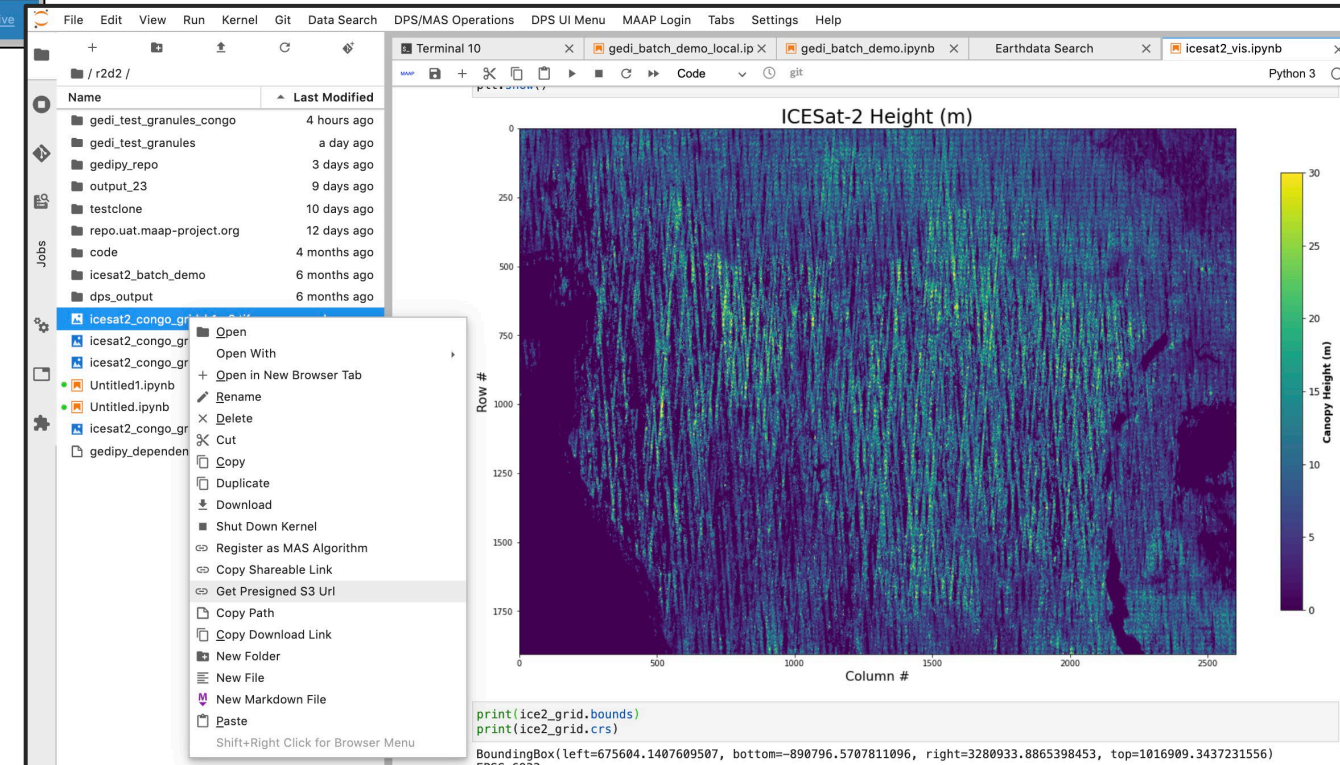


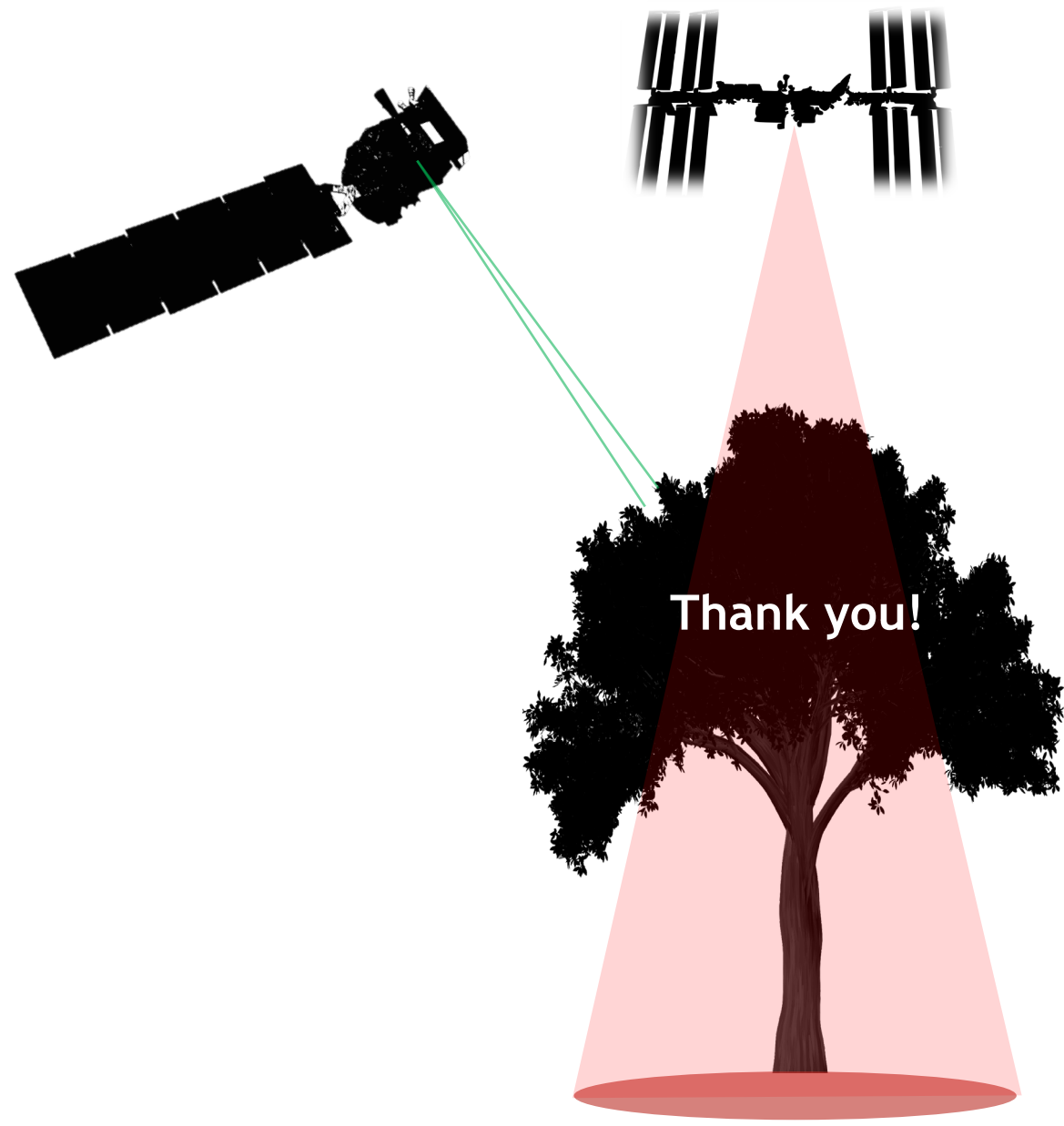


# How and when will MAAP be available to the broader community? Stay tuned!



- Several funded pilot projects helping guide the platform design & development
- All formal MAAP generated products will be published at the appropriate DAAC (e.g. ORNL)
- Current projects require approval and focus on forest structure with active remote sensing
- Expansion to other communities starting and likely to expand





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