GFOI Global Forest Observations Initiative | Plenary 9-11 May 2023

Data Component

History, Overview, and Current Priorities

Sara Goeking (USFS) and Chris Barnes (USGS), component co-managers

GFOI Data Component

The GFOI Data Component seeks:

- To help coordinate the acquisition, accessibility and capacity to use available datasets and tools for forest monitoring and GHG accounting in developing countries.
- To streamline the international offering of these resources so countries can more easily explore the different options available to them and ultimately select the products that best suit their needs.
- To identify gaps in the international offering or other obstacles to progress, and to attempt to fulfil such gaps through collaborative efforts between partners, where resources are available.

A brief history of the Data Component

2018

Data Component created

The Component builds on the successes of the Space Data Coordination Group and includes both space data and in situ data (i.e., ground data).

Four initial focus areas:

1. *Promotion of GFOI registry of products (now GFOI **Family of Resources** & **OpenMRV**)*
2. *Action Panel Integration: Link **REDDcompass** to **SEPAL***
3. **Ground data:**
   - Review existing GFOI guidance on in-situ data and integration with remote sensing data
   - Updates to Methods & Guidance Documentation, version 3.0
4. **Space data / remote sensing:**
   - Continue to advocate for free and open access to satellite data covering all of the world's forests

2023

Ongoing work: Advocate for accessible data and capabilities to use it.

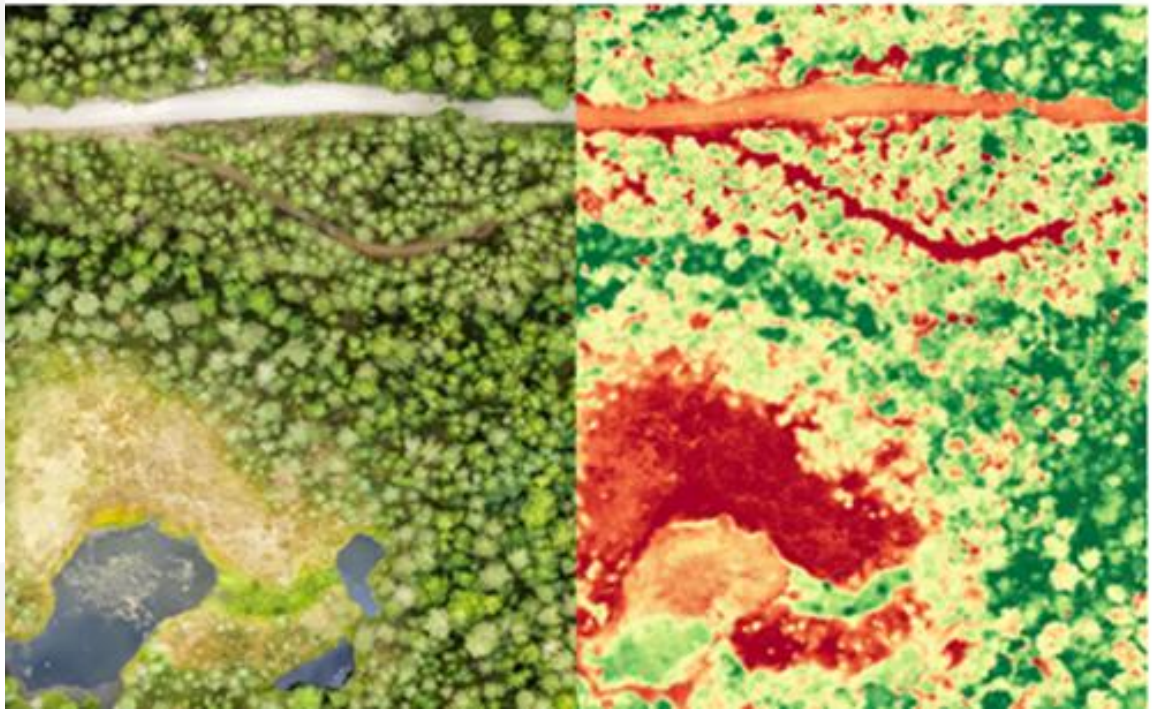
Ground data review

Definition of ground data (from MGD 3.0):

Data gathered by measurements made in the field

Why are we concerned with ground data?

- Integration of ground data and space data can improve accuracy, precision, and efficiency of forest monitoring systems and national forest inventories (NFIs).
- GFOI may be able to offer coordination and transparency among existing bilateral collaborations that focus on many aspects of NFIs.
- Success and ongoing in-country support of NFIs may rely on making the best possible use of the data that have already been collected by adding value for locally relevant forest issues.



Ground data review: Initial recommendations

A common challenge for NFIs: Engaging diverse stakeholders and gaining public support.

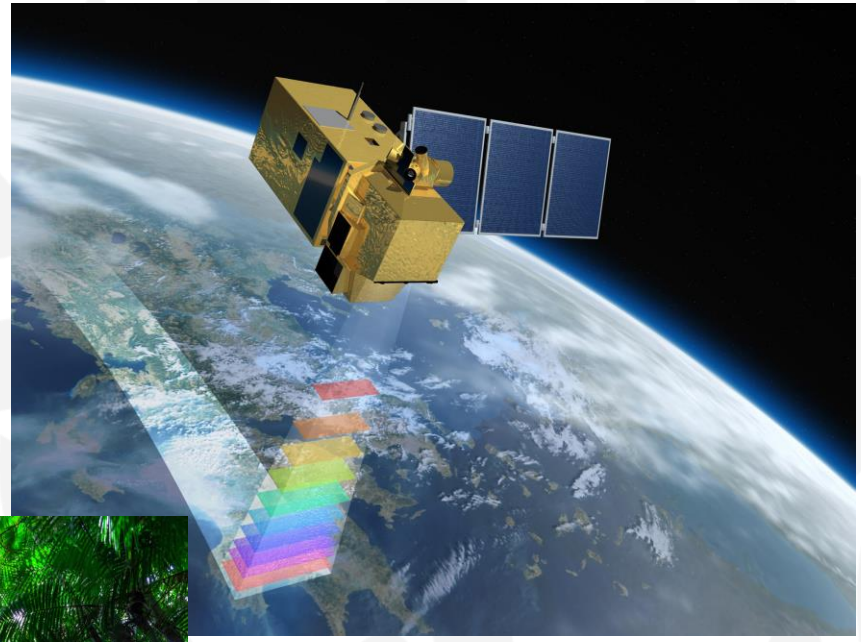
- Engaging stakeholders is a broad area, with regionally/nationally specific challenges and opportunities for increased NFI uptake and support.
- NFIs collect ground data that can be applied to a variety of resource problems, such as:
  - **Biodiversity**: Species of interest, number of species, wildlife habitat, etc.
  - **Within-country reporting**, e.g., forest change by locally/nationally specific categories
  - Other forest resource values, e.g., nontimber forest products, watershed values

Technical challenges remain, such as:

- Techniques for combining ground data and/or remote sensing datasets at multiple resolutions
- What to do about missing observations (due to COVID-19, hazardous areas, etc.)
- How to handle changes in designs or methods used within a country's NFI

We welcome comments on how to distribute and implement our findings and recommendations.

Remotely Sensed (RS) Observations Review

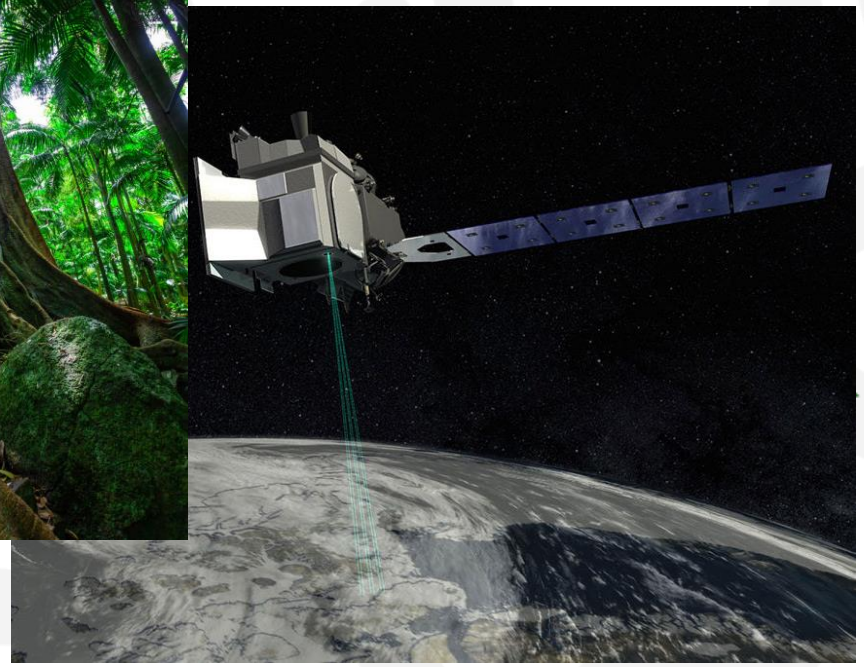


Definition of RS Observations (from MGD 3.0):

Acquiring and using data from satellites, aircraft, close range remote sensing or other platforms.

What are the benefits of RS Observations?

- Systematic RS observations of the Earth's atmosphere and surface from ground-based, airborne and space-based sensors can support both the ***Mitigation and Adaptation*** goals of the Paris Agreement.
- High spatial resolution RS observations of land cover type, above-ground biomass and disturbances can provide **direct support for the development of emissions inventories** for agriculture, forestry and other land use (AFOLU).
- RS observations provide capacity to **respond** to change rather than simply observing what has happened in the past.



RS Observations Review: Initial Recommendations

RS Observations Challenges:

- EO product developers to interact with groups/experts familiar with GHG inventories and IPCC guidance
- Uptake of RS observations in national inventory and reporting processes
- Country-level calibration and validation opportunities of global CEOS land cover products (*e.g., harmonized above-ground biomass product, Global Mangrove Watch Global Dataset*) building on the experience of SilvaCarbon pilot regional workshops as part of the CEOS Strategy to Support the Global Stocktake of the UNFCCC Paris Agreement

RS Observations Technical Challenges:

- ***Agriculture*** – A need to harmonize regional mapping efforts to be consistent with IPCC guidelines
- ***Land Cover & Forest*** – Reconcile different approaches/definitions and address issues of accuracy/consistency of time series
- ***Aboveground Biomass*** - Limited sensitivity to the biomass of forest components (e.g., signal saturation, partial observations)
- ***User Engagement*** - Generate user feedback from countries to inform future missions and technology developments by CEOS agencies and other remote sensing partners

Thank you for your attention.

Data Component Managers:

Sara Goeking (sara.goeking@usda.gov)

Chris Barnes (barnes@contractor.usgs.gov)