

## **GFOI R&D coordination meeting on 30. Jan. 2023**

**as part of the Capacity Building Summit in Washington DC, January 31 - Feb 03, 2023**

### **Background**

The Global Forest Observations Initiative (GFOI) convenes a Capacity Building Summit every few years to bring together countries and development partners to discuss, plan and refine international collaboration on capacity building support to countries on forest monitoring and MRV issues.

The last GFOI Capacity Building Summit was convened in Kathmandu, Nepal in September 2017 and yielded several new collaborative activities as well as GFOI's first principles for capacity building good practice. The next Summit will be convened in the Washington DC area during the week beginning 30 January 2023 and will provide an opportunity to refresh these principles and the broader collaborative approaching to capacity building under GFOI.

The R&D (Research and Development) Coordination fosters a community of experts who aim to address methodological and technical issues hindering countries' forest monitoring capacities and therefore greenhouse gases (GHG) accounting efforts. Once solutions have been identified and proven ready for operation, these can then be proposed for inclusion in the GFOI's Methods and Guidance Documentation (MGD) and subsequently used in capacity-building activities to support countries' monitoring efforts.

Due to the COVID-19 pandemic and a lack of dedicated support the GFOI R&D coordination has been limited to few virtual meetings. The GFOI expert meetings that have been proven a successful part of the GFOI implementation have not been able to be held on a regular basis. Now with new support from the European Space Agency (ESA) for the GFOI R&D coordination component it was the right moment to initiate activities of GFOI's R&D Component and convene an expert meeting during the same week as the GFOI Capacity Building Summit.

### **Goals**

The goals for the R&D coordination meeting on the first day of GFOI Capacity Building Summit 2023 were to:

- Update and recap on recent progress of the GFOI R&D component
- Interact with countries on GFOI R&D priorities
- Plan for the upcoming GFOI R&D coordination activities

### **Date and Location**

The meeting was held on 30 January 2023, followed by the GFOI Capacity Building Summit (January 31 to February 02) at the University of Maryland. Virtual participation was also offered.

### **Organizers**

Martin Herold and Daniela Requena (GFZ/WUR)

Sylvia Wilson – US Geological Survey

Evan Notman and Janet Nackony, USAID

Frank-Martin Seifert, ESA

Thomas Harvey – GFOI Secretariat



## Detailed agenda

Monday January 30, 2022

Session	Time	Speakers
<b>Facilitator: Tom Harvey</b>		
Welcome and introductions	9am – 10am	T. Harvey F.M. Seifert M. Herold
Overview of GFOI R&D recent progress and plans	10:00 –10:30am	M. Herold
Recap/review of GFOI R&D priorities	10:30 - 11:00am	D. Requena
Coffee Break	11:00 - 11:30am	
Discussion of evolving country R&D priorities and engagement with R&D component	11:30- 12:30pm	Country-reps, experts
<b>Lunch</b>	12:30 –13:30pm	
<p>Progress and plans for work on integrating space-based biomass and NFI/national forest monitoring, incl. emission factors, new technologies (LIDAR), national estimation and uncertainties (5 min short presentations):</p> <ol style="list-style-type: none"> <li>1) Recap of Paraguay workshop (Sean, Sylvia)</li> <li>2) NFI country status assessment (Martin)</li> <li>3) Example of NFI analysis – Peru (Daniela)</li> <li>4) Worldbank work in Mozambique (Naikoa)</li> <li>5) Biomass harmonization work (Laura)</li> </ol> <p>Followed up by an open discussion on next steps</p>	13:30 –15:30pm	Martin Herold (Moderator)
Coffee break	15:30–16:00pm	
<p>Planning for the next R&amp;D component activities:</p> <ul style="list-style-type: none"> <li>- Next workshops and priorities</li> <li>- GFOI plenary</li> <li>- AOB</li> </ul>	16:00–17:30pm	Martin Herold



## Participants

Virtual participation was also possible. The following list includes only in-person attendees.

No	Name	Institution
1	Inge Jonckheere	FAO
2	Erik Lindquist	FAO
3	Till Neef	FAO
4	Ellie Peneva-Reed	FAO-GFOI
5	Sara Maulo	FAO-GFOI
6	Tom Harvey	FAO-GFOI
7	Martin Herold	GFZ
8	Jennifer Smith	USFS
9	Sara Goeking	USFS
10	Sean Healey	USFS
11	Sylvia Wilson	USGS
12	Pontus Olofsson	NASA
13	Lola Fatoyimbo	NASA
14	Emil Cherrington	NASA/SERVIR
15	Laura Duncanson	University of Maryland
16	Matt Hansen	University of Maryland
17	Robert Kennedy	Oregon State University
18	Jeff Cardille	McGill University
19	Paul Berkowitz	University of Hawaii
20	Marco Iniguez	CONAFOR, Mexico
21	Kenset Rosales	MAERN, Guatemala
22	Gustavo Galindo	IDEAM, Colombia
23	Cuong Vo Viet	Vietnam
24	Jeremy Ferrand	Lao PDR
25	Nguyen Ngoc Thuy	Vietnam
26	Carine Milandou	Republic of the Congo
27	Aboubakar Mambimba	AGEOS, Gabon
28	Shiva Khanal	Nepal
29	Mohammed Shorab	Fiji
30	Gaby Nuñez	GFOI
31	Naikoa Aguilar	World Bank (WB)
32	Darcee Killpack	USGS
33	Ruth Nogueron	WRI
34	Fred Stolle	WRI
35	Andre Orth	GIZ
37	Daniela Requena Suarez	Wageningen University and Research
38	Jean Patrick Mosengo	FAO
39	Jack Taylor	USGS



## Summary

The morning discussions centered on the current five priority areas for GFOI R&D:

1. **Degradation and Regrowth Mapping:** The discussion focused on the importance and implications for using or responding to different definitions of degradation and regrowth. Furthermore, the need to consider regrowth for both forests and trees outside forests was also discussed.
2. **Biomass / Emission Factor Estimation:** The discussions noted the large differences among different global biomass maps, and also high uncertainties in their estimates. The reasons behind limited use of biomass maps by countries was also discussed. The discussion also touched on the need for a biomass estimation protocol that also focuses on estimating biomass change, as part of CEOS efforts. Finally, linking the GEOTREES network with NFMS was also discussed.
3. **Deforestation Alerts:** the need to prioritize early warning systems (now called “deforestation alerts”) was emphasised, including the need to specify the drivers of forest disturbances, in line with new EU regulations. The discussion also touched on the use of two-way flows of information, including data streams from the ground up when elaborating and using deforestation alerts. It was also suggested that risk modelling and deforestation predictions may be more useful than deforestation alerts, with an interesting case study of the elaboration of deforestation predictions with WWF in Gabon being highlighted. The reactivation of the Early Warning Working Group was also suggested.
4. **Land Use and Greenhouse Gases:** The meeting discussed the evolution of different approaches, including local/regional efforts and private sector projects, and how to monitor and reconcile the results from different approaches (mainly GHG Inventories and inversion modelling). The discussion also touched on the consideration of other gases (non-CO2 gases) and offering suitable approaches, which may require additional guidance.
5. **Uncertainty Analysis:** The meeting noted that uncertainties remain a key topic for country reporting. Clear communication about behind the methods to derive this uncertainties are still needed, and the focus should be mostly on assessing and reducing bias. Recent country efforts to combine NFI plots with space-based data also require clear guidance on how to estimate the uncertainties associated with this process.

Other key points discussed included:

- The differences between **project/jurisdictional versus national forest/carbon monitoring** requirements were discussed. Different reporting mechanisms requiring area estimates versus maps, and whether both can be achieved with the same data input sources.
- The availability of **very high-resolution spatial resolution datasets** and the sustainability of Planet/NICFI data, which may be an issue for many countries in operational uptake in their NFMS.
- **Specific country examples**, such as Mozambique and Paraguay and their use of technologies like TLS, UAV-LS, and airborne LS for the MRV 2.0 approach, which seeks to test high-quality measurements (TLS, UAV-LS) within national forest monitoring systems.
- The **use of LIDAR data to measure biomass** in logged/degraded forests, with a focus on measuring biomass change.

In the afternoon, there were five presentations about recent R&D efforts related to the National Forest Monitoring Systems and the estimation of forest biomass:

1. A recap of **the Paraguay workshop, and the collaboration with INFONA** on developing biomass means using Paraguay's NFI data and matching GEDI shots with field plots.
2. A discussion on the **best practices to integrate ground (NFI) and space-based data**, which highlighted the challenges faced by different countries.
3. A presentation on the results of the **collaboration with SERFOR on reducing the uncertainties of sub-national biomass estimates for Peru** by combining Peru's NFI data with the 2018 CCI Biomass map.
4. **World Bank's work in Mozambique**, where they are trying to find solutions to integrate various data sources efficiently by developing an integrative approach towards “MRV 2.0”. This is essentially an R&D exercise focusing on the combination of high-quality measurements (TLS, UAV-LS) with national forest monitoring systems (NFIs).



5. A presentation was about the **Biomass Harmonization Initiative**, the **GEDI mission** and its future plans.

The meeting ended with a discussion regarding the next steps of the R&D component:

- **Shifting focus of GFOI:** GFOI was created in relation to REDD, but after Article 6 of the Paris Agreement, there may now be more need to provide guidance for local reporting. The emergence of project-level activities has a technical, governance, and political dimension. More discussions, and subsequently guidance, are needed on this topic. Furthermore, guidance for working within the NDCs, particularly in relation to other sectors, is now of importance. Finally, “Going beyond REDD+”, for example by exploring forest-related adaptation monitoring was discussed.
- **Deforestation risk modelling:** There is ongoing research on how to use deforestation risk modelling (i.e. deforestation predictions), but guidance for countries are needed.
- **Biodiversity credits and data linkages:** There is a need to focus on what kind of data NFMS are getting and where linkages should be made for future biodiversity requirements.
- **GFOI R&D Priorities:** Based on the morning discussions, the priorities will be evaluated, and updated if needed. A side event at the GFOI Plenary will be held, discussing the recent advances in these fields.
- **Integration of NFI with space-based data:** a GFOI components meeting prior to the GFOI Plenary, with a focus of R&D and Data in the morning and Capacity Development in the afternoon was envisioned.
- **Linkages with capacity development activities:** R&D efforts on the integration of NFMS and space-based data need to be done in close collaboration with countries and researchers in the tropics.

