

# Activities and research priorities of the GFOI R&D Coordination Component 2019

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The [Research and Development Coordination Component](#) of the [Global Forest Observations Initiative](#) works to address methodological and technical issues that are obstacles to progress in developing countries' forest monitoring and GHG accounting efforts. The Component fosters a community of experts to identify science and technologies that can reduce uncertainties and improve the efficiency of forest monitoring efforts; thus addressing unmet country needs.

This document sets out the list of **activities** which are planned to begin in 2019, including a list of **priority research topics** which will be the focus of the R&D activities this year.

Activities address methods, tools, and data which are at various stages of operationality, from the research stage where further testing and development is required, to operational methods for which guidance documentation on the use of methods and tools in practice is developed.

The following activities are planned for 2019:

- Leading the R&D Coordination Component and engaging with other aspects of GFOI including in the **GFOI Plenary 2019**, where a Component meeting will be held to discuss plans for 2019 and beyond. Engaging with other components of GFOI will also be a priority. The focus will be to lead the component on several **priority research topics**:
  - The Use of data from **new satellite missions** including for **biomass mapping from space** taking advantage of 6-7 upcoming missions
  - Integration of **Sentinel data** along with Landsat data for example (integration of optical and radar data), in contexts including early warning (see later)
  - **Early warning**: responding to user needs, demonstration and upscaling in the theme of near-real time forest monitoring (see later)
  - Use of **high resolution data** for targeted sampling in stratified area change estimation (for long-term monitoring)
  - Exploring the idea of **super-sites for key research activities**, which can demonstrate operational use of new methods and technologies
- The Component will continue to gather information on user needs, through the GFOI **User Needs Assessments**, and from dialogues with key actors including GFOI partners (FAO, WB FCPF, national REDD+ monitoring agencies, UNFCCC) and other stakeholders to revise the **list of priority research topics** as needed. This will be supported through engagement with REDDCopernicus (H2020). Specifically, we will engage with a **systematic review of MRV requirements for international policy mechanisms**, which will include a survey to assess stakeholder needs in relation to meeting these policy monitoring requirements. An assessment of **available forest monitoring space-assets and infrastructures** will also be conducted resulting in a public database of the findings.
- Dedicated expert workshops have been held to provide a synthesis of state-of-the-art forest monitoring methods, the aim being to produce a series of stand-alone **guidance documents**, that can be ultimately incorporated into the GFOI Methods and Guidance Documentation (MGD). By fostering a large and diverse group of experts and practitioners, options to address the challenges and bottlenecks that hinder progress can be developed. The R&D Coordination Component, working closely with the other GFOI components and partners organized workshops in

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[Bilbao](#) and [Paris](#) in 2018. Two outputs from these workshops will be developed further in 2019. Firstly, to complement the [FAQ document on Activity data](#), a similar **FAQ document** with a focus on **emissions factors and the use of maps to estimate biomass and change** will be produced. Secondly a case study synthesis will be prepared to support this entitled “Examples of estimation of emission factors in GFOI/SilvaCarbon partner countries”. A **scientific journal article** will also be published in Surveys in Geophysics, on “The Role and Need for Space-Based Forest Biomass-Related Measurements in Environmental Management and Policy”, which will further support this work.

- A report will be produced which will summarize experiences of the currently 17 **Science Teams** and will highlight their **new research results**. This report will be promoted at the CEOS Strategic Implementation Team(SIT) meeting in 2019. The R&D component hopes to continue these successful collaborations and to also extend its work beyond the existing science teams. Work to build science networks and to focus more on large-area demonstrations which can be developed into operational approaches rather than smaller test studies has been set out in a [strategy document](#), and will begin in 2019. Operational approaches will be identified by utilizing the [CALM tool](#), which uses a Technical Readiness Level approach to identify the level of operability of methods, tools and data, based on three main levels: research, pre-operational and operational.
- Work with the Early Warning Working Group on [joint R&D activities](#), and contribute specifically to the production of a **document showcasing experiences** of those producing and/or applying EW data related to tropical deforestation. Potential examples include national government agencies **building their own EW systems**, law enforcement officials applying EW to their work, NGOs assisting private land-owners to use EW data, and protected area managers **using EW data** to plan patrol routes. These experiences will provide guidance for those who are considering creating their own systems or applying them in their work.
- One key focus is on leveraging the potential for **Sentinel data for forest monitoring activities**, and through the work of REDDCopernicus, the use of Sentinel data (for example as described in recent scientific literature, or through the stakeholder survey) will be reported and discussed. This will in future lead to an update of the REDD sourcebook.
- Showcase the work of the R&D Coordination Component through a **presentation at the [ESA Living Planet Symposium](#)** entitled “GFOI and Satellite Data to Support Countries in REDD+ Monitoring and Reporting”. This direct communication with space agencies and other relevant stakeholders will also allow user needs to reach the data providers, and seeks to engage new research partners in our activities.

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