

# A Sourcebook of Methods and Procedures for Monitoring Essential Biodiversity Variables in Tropical Forests with Remote Sensing

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## Background

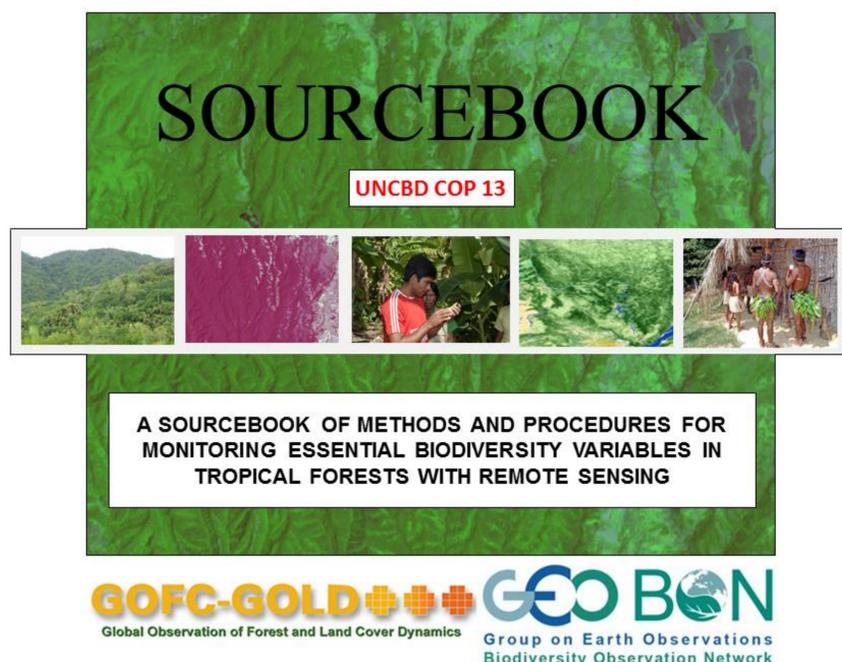
Past decades have seen a **growing demand for biodiversity data** to inform development decisions at the local to national scale for underpinning global and sub-global assessments (e.g. United Nations Convention on Biological Diversity (**UN CBD**), and National Biodiversity Strategies and Action Plans (**NBSAP**)).

The Essential Biodiversity Variables (**EBV**) concept proposed by GEO BON, Space Agencies, and the Earth Observation research community at large aims to support efforts for biodiversity monitoring. However, there is a lack of information and consensus on the **standardised** and **harmonised** biodiversity **data** and **monitoring methods** that are required to assess how **tropical forest biodiversity** is evolving, and what the drivers of change are.

In this context GOFC-GOLD and GEO BON propose a new **sourcebook**. This joint effort based on a wide international group of forest researchers and Earth observation practitioners, aims to promote the **best operational monitoring practices** for the relevant EBVs based on scientific literature, and consensus.

## Objectives

- **Purpose:** guide biodiversity monitoring in tropical forests using remote sensing to inform national and sub-national policy and decisions, convention commitments and targets.
- **Target Users:** project managers, technical level practitioners in national, sub-national government agencies, academic institutions, NGOs, assuming audience has a background in remote sensing.



- **Focus:** validated remote sensing techniques, integration of *in situ* and remote sensing observations, present sampling approaches, emerging technologies presented separately, list available Earth observation datasets, discuss synergies between biodiversity monitoring and REDD+ activities.

## Outline

The biodiversity sourcebook is structured around relevant EBVs for tropical forest environments presented in Chapter 2. Related remote sensing and sampling techniques are presented in Chapters 4, and 5.

- **Chapter 1:** Policy context and rationale underpinning EBVs,
- **Chapter 2:** Five relevant EBVs presented: Vegetation phenology, Net primary productivity, Ecosystem extent and fragmentation, Habitat structure, Disturbance regime
- **Chapter 3:** Drivers of biodiversity loss
- **Chapter 4:** Guidance on remote sensing data and methods
- **Chapter 5:** Emerging approaches
- **Chapter 6:** Citizen science-based monitoring approaches
- **Chapter 7:** Regional biodiversity networks
- **Chapter 8:** Synergies with REDD+

## Release

The release of the **first version** of the biodiversity sourcebook was made during the IPBES Plenary 2017. This release follows the 13<sup>th</sup> UN CBD Conference of Parties (COP) held in December 2016, and hence is labelled as "COP 13" release. **Updates** will be made on a **yearly basis** following policy, scientific, and technical developments. More than **70 authors** have contributed to the sourcebook.

The biodiversity sourcebook is accessible in **pdf format for free** from:

- GOFC-GOLD Land Cover Office website: [http://www.gofcgold.wur.nl/sites/gofcgold-geobon\\_biodiversitysourcebook.php](http://www.gofcgold.wur.nl/sites/gofcgold-geobon_biodiversitysourcebook.php)
- GEO BON website: <http://geobon.org/>



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