

## Space Data

- GFOI works with space agencies through CEOS to ensure the long-term, global acquisition of core satellite data
- helps countries meet their individual data needs

## Capacity Building

- GFOI provides capacity building in coordination with others such as UN-REDD. It supports the use of satellite and ground data to monitor forests, and estimate GHG emissions.

## Methods and Guidance

- Guidance on integrating remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests.

## R&D Coordination

- Identifying and promoting R&D needed for improved practical, global implementation of National Forest Monitoring

## GFOI Office at FAO, Rome

- Coordination and Management



- Interface of GFOI with REDD+ countries
- Jointly implemented by US SilvaCarbon and UNREDD-FAO
  - Builds upon their existing work programmes and country partnerships
  - Uses MGD and REDDcompass core syllabus
  - Workshops, one-on-one training, in-country experts, training trainers, webinars and open sources tools.



# PROGRAM OVERVIEW

A flagship program under U.S. fast start financing for REDD+

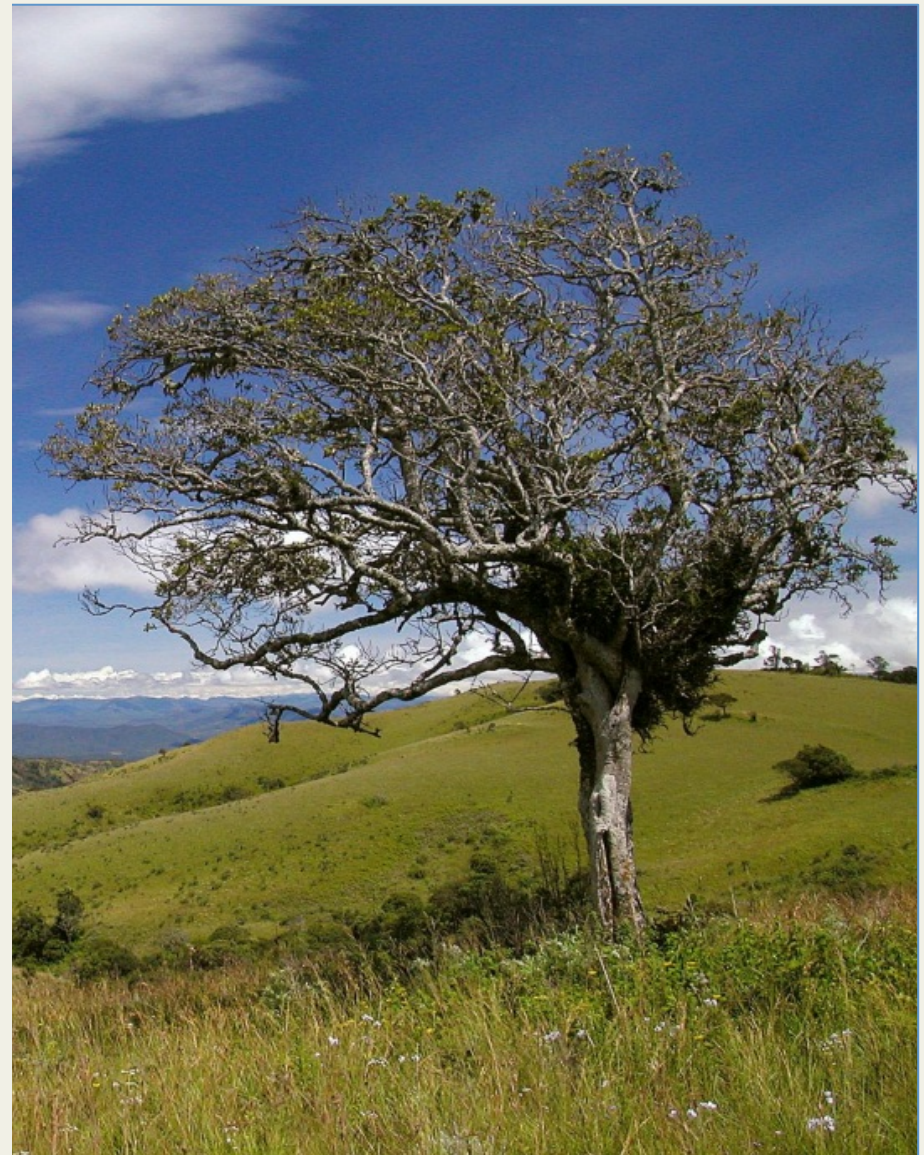
A U.S. contribution to the GEO Global Forest Observation Initiative (GFOI)

**SilvaCarbon** works to:

**Partner** with developing countries to **improve monitoring** of forest and terrestrial carbon

**Improve understanding** of methodologies and collection and dissemination of data

**Coordinate US** science, innovation, and technical **expertise**



## SILVACARBON PARTNERS

- U.S. Agency for International Development
- U.S. State Department
- U.S. Geological Survey
- U.S. Forest Service
- NASA
- U.S. Environmental Protection Agency
- NOAA
- Smithsonian Institution

As well as U.S. universities, NGOs, donors and industry



# PARTNER COUNTRIES

## Americas

Belize  
Brazil  
Colombia  
Costa Rica  
Ecuador  
El Salvador  
Guatemala  
Honduras  
Mexico  
Nicaragua  
Panama  
Peru

## Africa

Cameroon  
DR of Congo  
Gabon  
R of Congo  
Zambia

## Asia

Bangladesh  
Cambodia  
Indonesia  
Lao PDR  
Nepal  
Philippines  
Thailand  
Vietnam

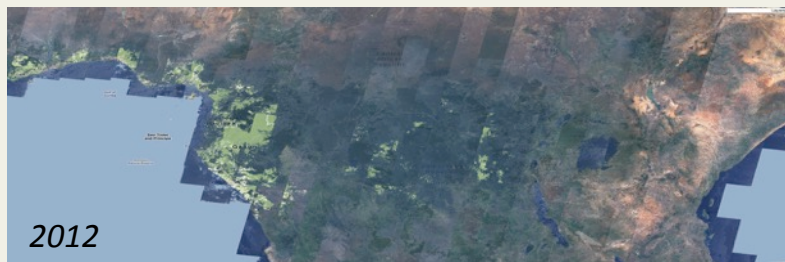


Engagement through **bilateral** and **regional** activities, **research**, and **in-country technical advisors**



# TECHNICAL AREAS

- Improved Forest Inventories
- Improved remote sensing
- Integration of remotely sensed and *in situ* data
- GHG inventory and reporting (ALU tool)



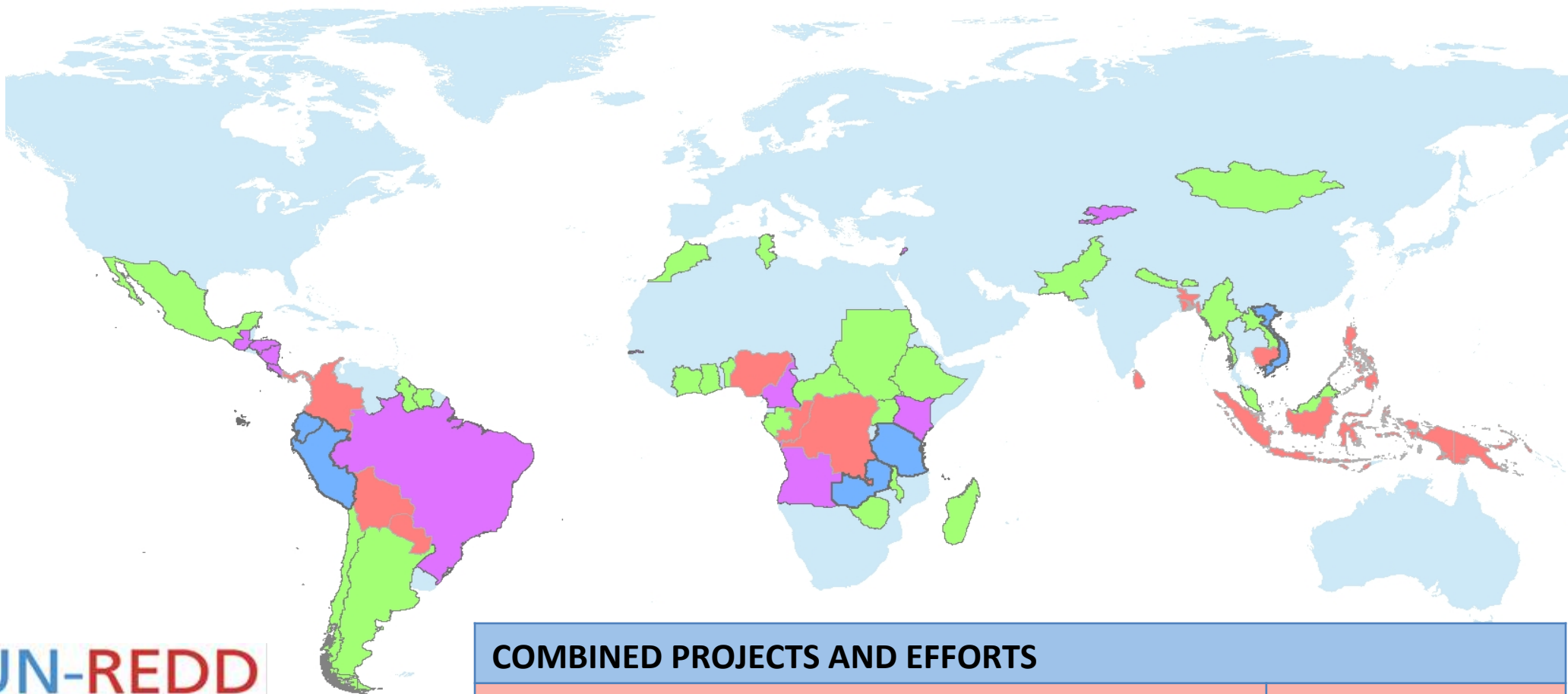
Example Mosaics of Cloud Free of 2011 and 2012 Landsat-7  
Computed by Earth Engine



# UNREDD – supporting 61 countries



UN-REDD  
Programme



COMBINED PROJECTS AND EFFORTS	
UN-REDD (Norway, CE, Denmark, Spain, Japan, Luxemburg)	18 pilot countries
UN-REDD (Norway, CE, Denmark, Spain, Japan, Luxemburg)	32 countries
FAO-Finland (Finland)	5 countries
NFMA (Sweden, Finland, USA, Brazil, Angola, FAO TCP, GEF)	19 countries

\* Several countries are supported by more than one programme (e.g. Vietnam)

# FAO approach

- Seeking best way to use available data
- Combine data with local knowledge to produce national appropriate estimates
- Building national ownership in the results and capacity
- Range of level of engagement with global datasets: some only for comparison, some as training input, some will only use global datasets
- Use of global datasets
  - as training points for a supervised classification of change at national level within the Google Earth Engine-API: examples Kenya, ROC, Ethiopia, DRC
  - For mapping , carrying out an accuracy assessment to produce adjusted area estimates with CI: Angola



# openforis

Free open-source solutions for environmental monitoring

What is openforis?



Collect



Collect  
Mobile



Collect  
Earth



Calc



Geospatial  
Toolkit

<http://www.openforis.org>

- This work is done in collaboration with FAO as a prototyping for the OpenForis system
- SEPAL → Amazon Web Services (AWS)
  - Cloud-based data processing workflow



Food and Agriculture  
Organization of the  
United Nations



**SEPAL**

SYSTEM FOR EARTH OBSERVATION  
DATA ACCESS, PROCESSING &  
ANALYSIS FOR LAND MONITORING

- Workshop series focused on training existing national experts in the use of GFOI & partners' tools:
  - MGD, REDDcompass, GOFC–GOLD Source Book, FCPF Decision Support Tool etc.
- Four workshop series: SE Asia, Latin America, Africa x 2 (English and French)
  - SE Asia already happened – productive approach to knowledge dissemination.