



**Partnering to Measure  
Forest Carbon**

30 July 2014

# Program Overview

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

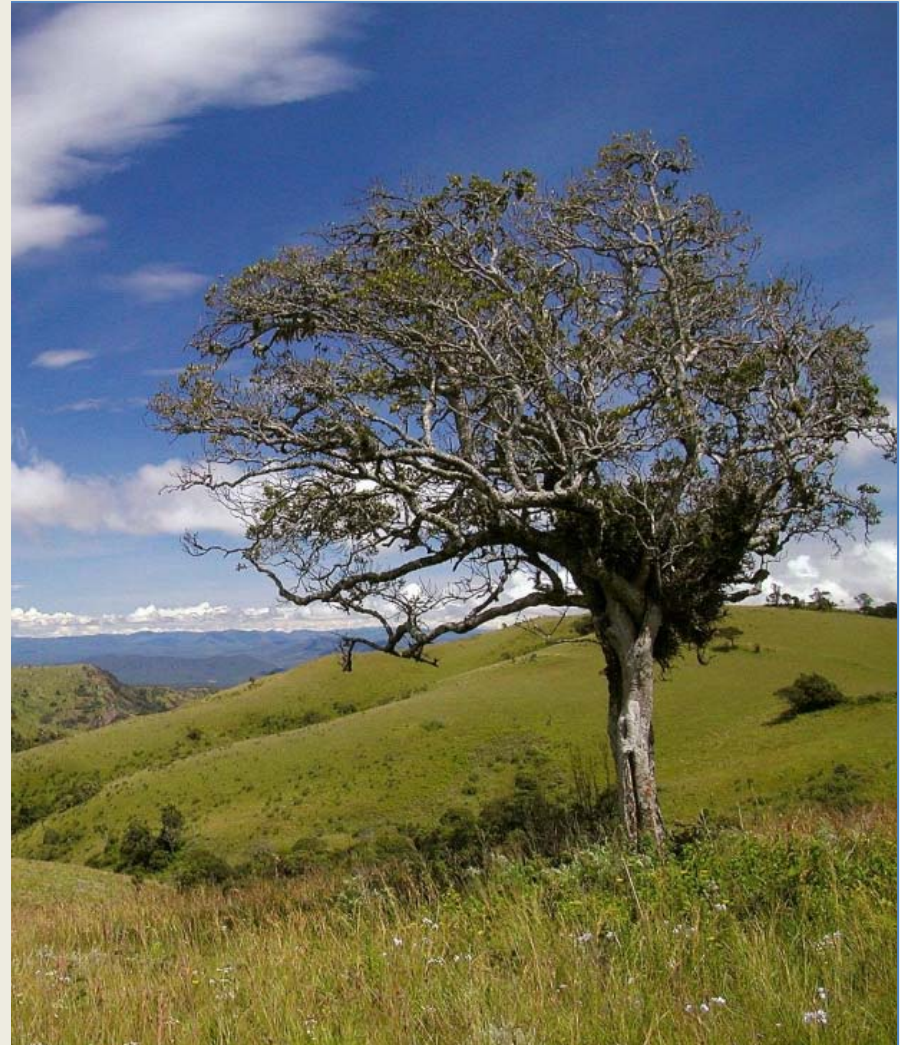
A U.S. contribution to the GEO Global Forest Observation Initiative (GFOI)

**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**





# REDD+ Activities

*“Encourages developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:*

- *Reducing emissions from deforestation;*
- *Reducing emissions from forest degradation;*
- *Conservation of forest carbon stocks;*
- *Sustainable management of forests;*
- *Enhancement of forest carbon stocks.”*

Source: Maria Sanz (FAO)

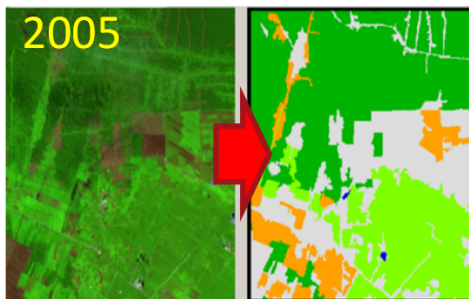
**UN-REDD**  
PROGRAMME



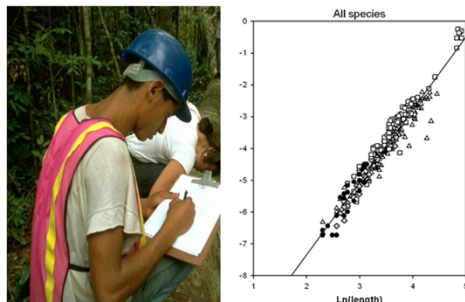
# MRV vs. the components

M

ACTIVITY DATA  
(SLMS)

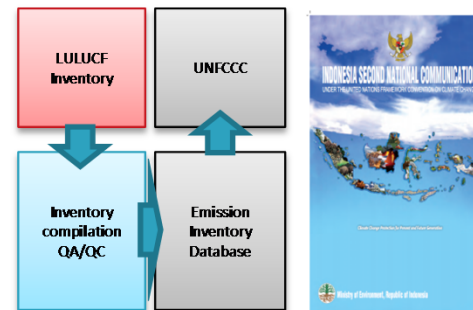


EMISSION FACTORS  
(National Forest  
Inventories)



R

GHGs inventories



V



UNFCCC secretariat  
Roster of Experts



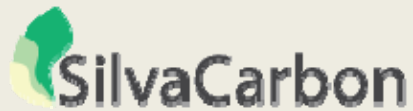
UN-REDD  
PROGRAMME

# Harnessing the Technical Capacities of the United States

- 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



## SilvaCarbon coordination with other USG support

- The US supports a number of different bi-lateral, regional, and global programs that work on forest monitoring in addition to SilvaCarbon
- Examples
  - Global:
    - Forest, Carbon, Markets, and communities program (FCMC);
    - WRI Global Forest Watch
    - SERVIR (NASA)
  - Regional:
    - Central Africa Regional Program for the Environment (CARPE);
    - the Initiative for Conservation in the Andean Amazon (ICAA)
  - Bilateral
    - Mexico's Reduced Emissions from Deforestation and Degradation Program(M-REDD)
    - BIOREDD (Colombia)
- SilvaCarbon has collaborative activities with a number of programs and works to ad-hoc to ensure collaboration with other programs working in the same countries.

# Partner Countries



## Latin America

- Peru
- Colombia
- Ecuador
- *Brazil and Mexico*

## Africa

- Gabon
- Congo Basin

## Asia

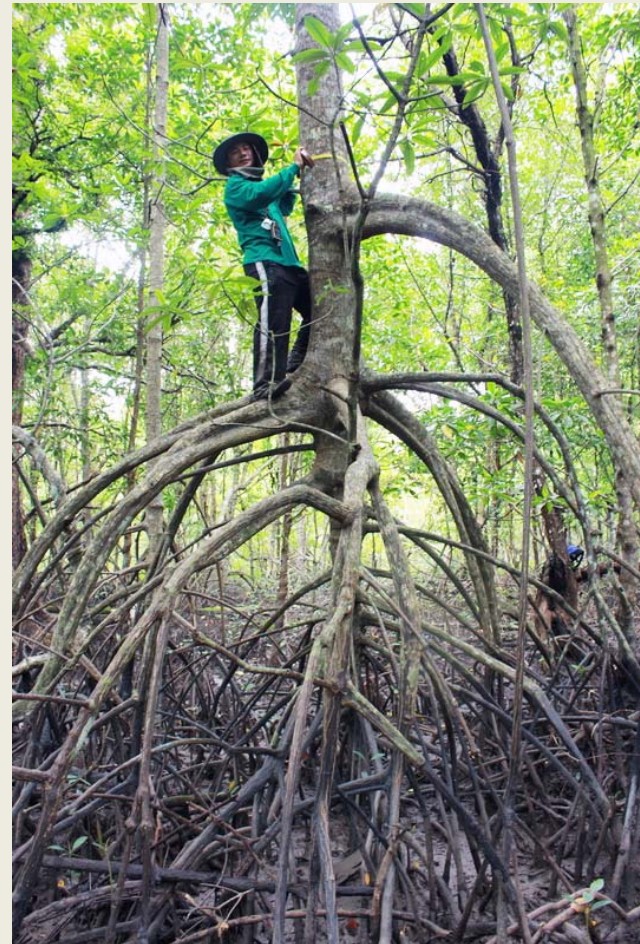
- Vietnam
- Bangladesh
- Southeast Asia

## Major 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



# Andean Amazon



Regional activities (Colombia, Ecuador, Peru and Mexico)

- GEO GFOI workshops including Mexico

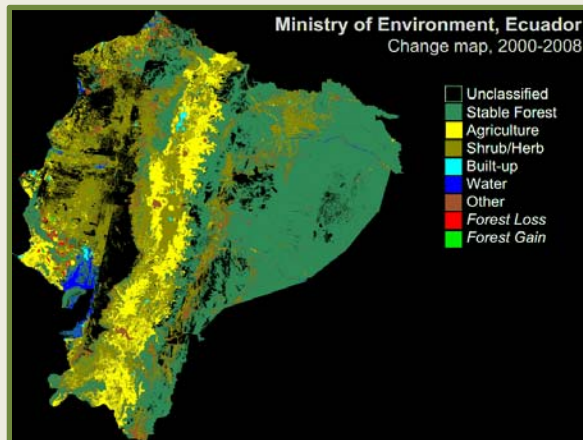
Country based activities (Colombia, Ecuador and Peru)

Capacity building in support of the implementation of national MRV systems

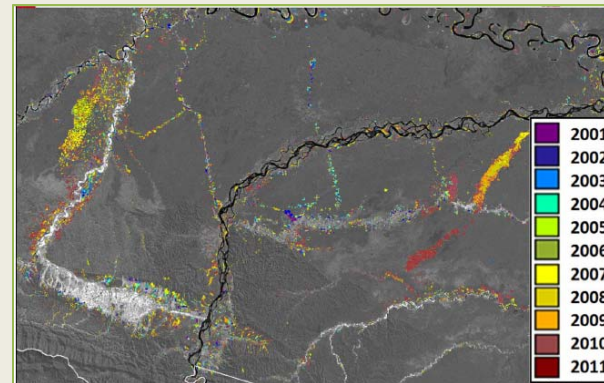
- Mapping support for MRV
- Forest inventory support
- GHG inventories

# Multi agency cooperation for remote sensing capacity building

Agencies involved: USGS, USFS, and EPA  
Countries: Colombia, Ecuador and Peru



Land Cover Change Map  
Source: Ministry of Environment, Ecuador



Forest lost by mining in Madre de Dios  
Source: Ministry of Environment, Peru

- Forest change maps
- Six IPCC land cover classes map
- Accuracy assessment and validation of maps



# Congo Basin Regional Activities

## Background

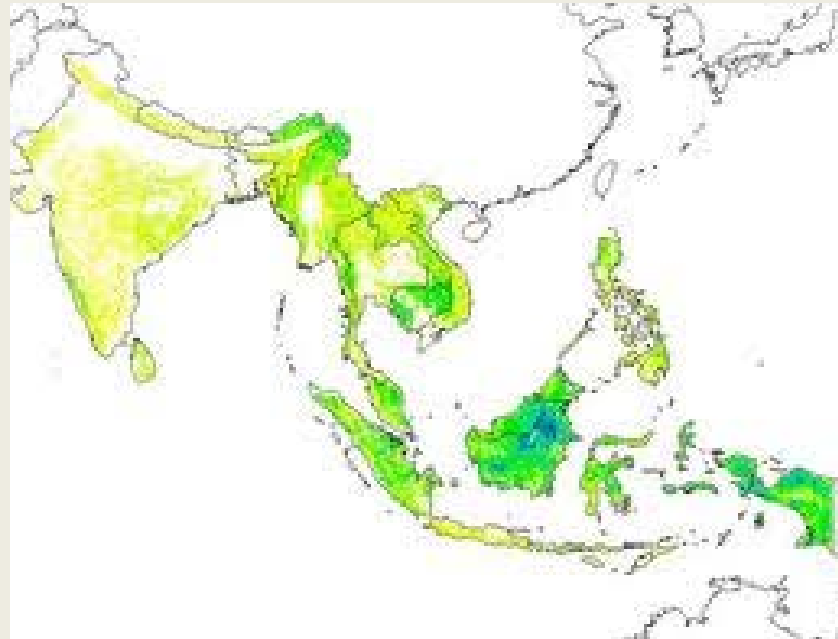
- Congo Basin is globally important forest area with low capacity
- Planned SilvaCarbon activities could add significant value to assist countries in ongoing forest monitoring programs



## Opportunities to leverage

- USFS (CARPE), FAO and JICA support on forest pre-inventory;
- CARPE 3 starting with longer-term engagement plan on sustainable forest management and climate change focus;
- Regional State Department program on MRV capacity building
- U.S. taking lead on Congo Basin Forest Partnership Facilitation

# Vietnam and Southeast Asia



## SE Asia Regional Activities

Series of Regional Workshops and Trainings for Thailand, Laos, Cambodia, Vietnam, The Philippines, Indonesia and Nepal on:

- **National Forest Monitoring Systems** in Cooperation with FAO/UN-REDD
- **Regional Users and User Requirements** for Remote Sensing
- **Integrating Remote Sensing and Ground Data for Forest Inventory**

Supporting bilateral activities in the Philippines and Indonesia

Partnership with RDMA and other USG Programs, including LEAD, LEAF, and SWAMP

Coordinating Workplan with FAO and other Donors





## SilvaCarbon Proposals Funded 2014

- Measuring forest degradation for REDD+: a synthesis study across five SilvaCarbon countries.
- Biomass in degraded forests in Peru and Brazil: Evaluation using airborne lidar remote sensing.
- A prototype MRV system for a subregion in Colombia compliant with IPCC *Approach 3* for securing activity data.



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**USGS**





## SilvaCarbon Proposals Funded 2014

- Addressing Carbon Emissions and Removals from Selective Logging In Support of MRV System Capabilities in Gabon
- Integration of Remote Sensing Data with Ground Plot Information for MRV
- Integrating earth observation and forest inventory data in quantifying biomass in degraded forests of the Republic of Congo



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## Key Accomplishments

- Inter-agency coordination
- Leveraging funding
- Supporting regional and national programs (e.g. LEAF, ICCC, FCMC)
- Provision of data
- Strengthening national science partnerships
- Technical advisory role to nations and US policy

## Next Steps

- Focus on regional work
- Expand to new countries
- Develop a model for continuing to use SilvaCarbon through Mission-led programs



## Questions

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More information available at  
**[www.SilvaCarbon.org](http://www.SilvaCarbon.org)**

