UN-REDD PROGRAMME

How REDD+ readiness and implementation efforts in Asia can contribute to national *[and global]* biodiversity objectives

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Outline of talk

1. How the CBD Aichi targets are related to:
    a. The FAO Global Forest Resources Assessment (FRA)
    b. REDD+
2. What is the FRA – and what can it tell us about the CBD Aichi Targets?
3. What is REDD+? - and how does it relate to CBD targets?
4. An example from PNG
5. Conclusions

How REDD+ relates to CBD Aichi targets 5, 14, 15

	Aichi Target (simplified)	FRA	REDD+	Comments
	**Target 5**: By 2020, the rate of loss of all natural habitats, including forests, is at least halved…etc.	Yes √	Yes √	FRA data useful REDD+ provides incentives to reduce forest conversion
	**Target 14**: By 2020, ecosystems providing essential services….. are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	Yes √	Yes √	FRA data useful REDD+ safeguards: • on **biodiversity** • Indigenous peoples
	**Target 15** By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, incl. restoration of at least 15 per cent of degraded ecosystems….etc	Yes √	Yes √	FRA data useful The 5 eligible activities under REDD+ include reducing forest degradation, enhancing carbon

How have the world's forests changed?

Global Forest Resources Assessment (FRA2015)

But first, how has the world changed in the past 25 years from 1990 to 2015?

250%

Forests

-3.2%

1990 = 4,128 M ha to
2015 = 3,999 M ha.

+40%

Food

+37%

People

Economy

Drivers of deforestation.....

FAO Global Forest Resources Assessment (FRA 2015) results

☒ **Global forest area declined by 3% from 1990 to 2015** (from 4,128 M ha down to 3,999 M ha).

✓ rate of **net forest loss 2010 and 2015** (3.3m ha/yr) **was half that in 1990s** (7.3m ha/yr)

☒ **Net forest loss mainly in the tropics** (5.5 M ha/yr) – only 58% of the rate in the 1990's

✓ temperate forest increase rate 2.2 M ha/yr (+China, Viet Nam)

☒ **forest loss highest in low income countries**

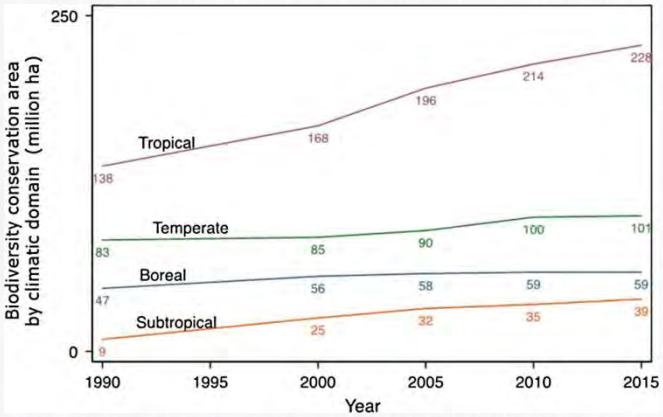
☒ "Natural" forest area declined 239M ha between 1990 and 2015 (from 3,961 M ha to 3,721 M ha)

Food and Agriculture Organization of the United Nations

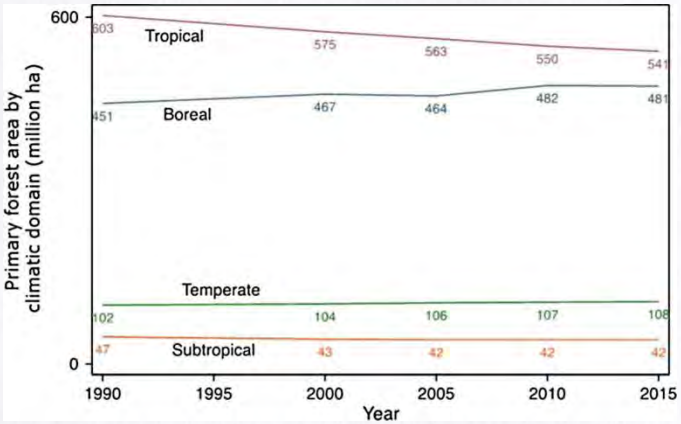
Source: Keenan, R. J., et al. (2015). "Dynamics of global forest area: Results from the FAO Global Forest Resources Assessment 2015." Forest Ecology and Management **352: 9-20.**
http://www.sciencedirect.com/science/article/pii/S0378112715003400

FAO Global Forest Resources Assessment (FRA 2015) results

Forest conservation areas vs time



Primary forest area over time



FRA helps track SDG, Aichi targets:

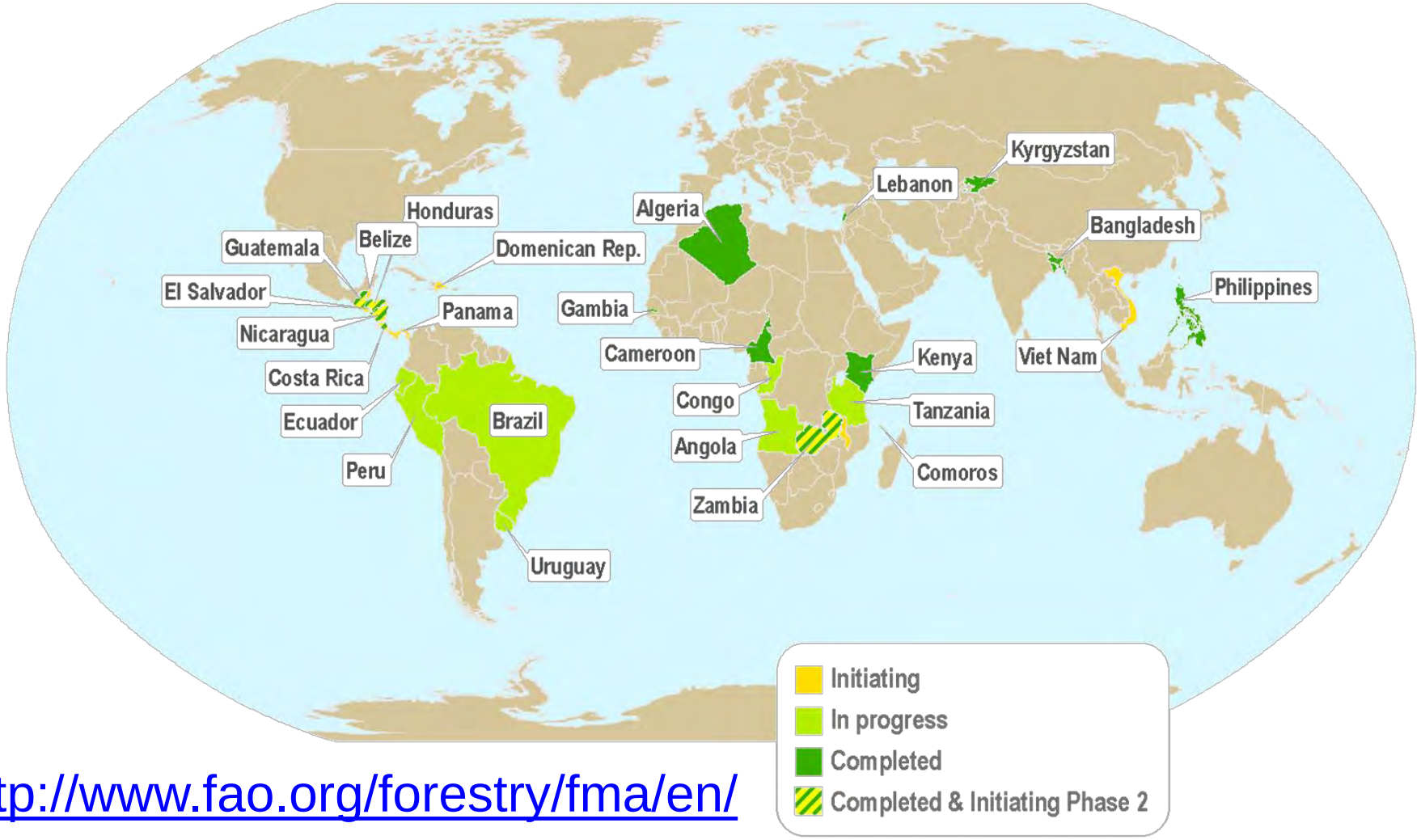
- ✓ Globally 7.7% of forests protected in 1990 rising to 16% in 2015
- ✓ Increase in tropical protected areas 12% in 1990 to 26% in 2015 (but enforcement weak)
- ✓ tropical forest reserves over 200mha
- ☒ BUT primary forest area declined by 2.5% globally and 10% in the tropics 1990–2015
- ☒ Tropical forest loss is continuing concern,
- ✓ but the rate of decline appears to be slowing

Food and Agriculture Organization of the United Nations

Source: Morales-Hidalgo, D., et al. (2015). "Status and trends in global primary forest, protected areas, and areas designated for conservation of biodiversity from the Global Forest Resources Assessment 2015." For.Ecol. 352: 68-77.

Major improvements in national forest monitoring

National Forest Monitoring and Assessment programme NFMA since 2000



http://www.fao.org/forestry/fma/en/

REDD+ supporting improved capacity in national forest monitoring

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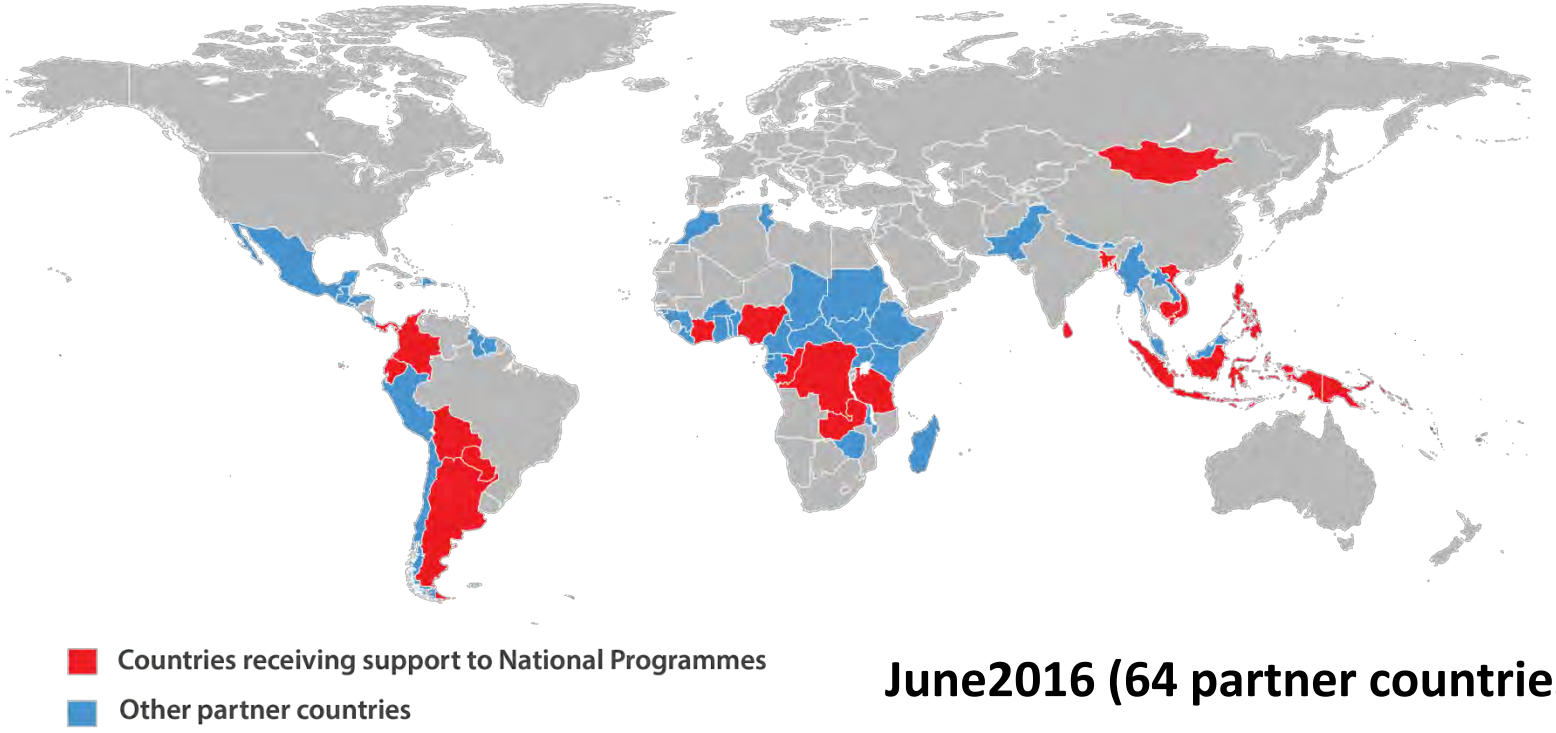
UN-REDD Programme- since 2008

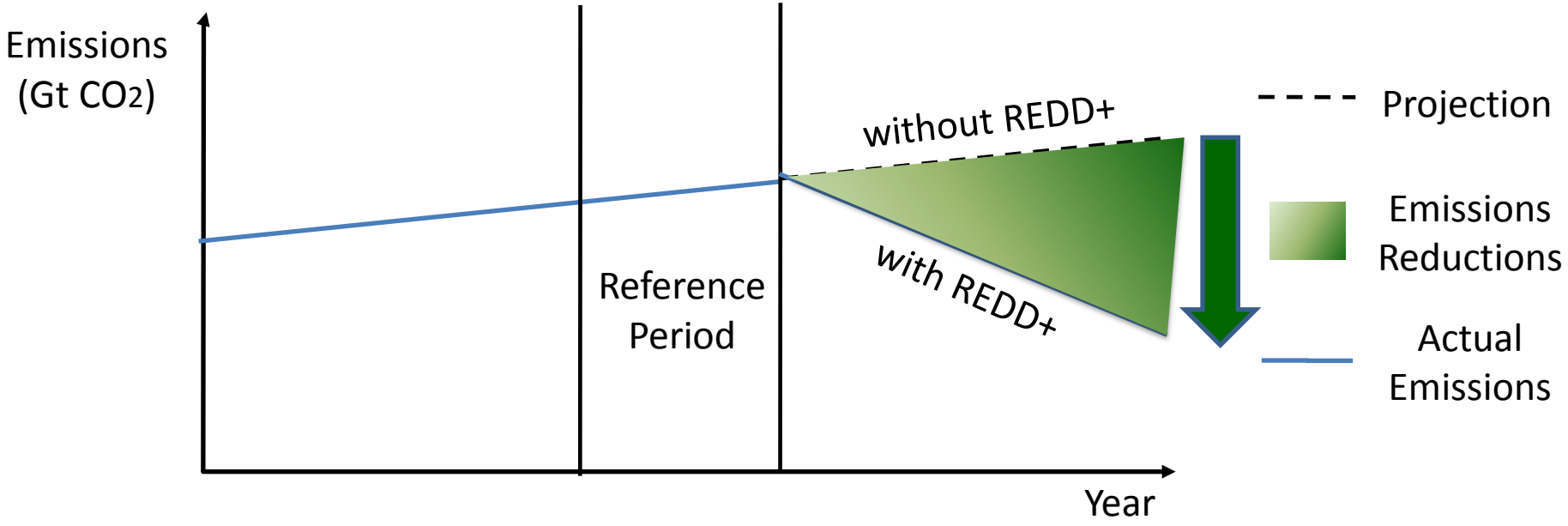
supports national REDD+ readiness efforts in 64 **partner countries** through direct support in the design and implementation of UN-REDD National Programmes including forest monitoring (NFMS) and capacity development.



June2016 (64 partner countries)

http://www.un-redd.org/

How REDD works by Reducing Emissions from Deforestation and forest Degradation



Green shaded area is reduced emissions from REDD+ actions

REDD+ (REDD plus) expanded the concept to include 3 other ways to store carbon and reduce emissions:

1. Reducing emissions from deforestation;
2. Reducing emissions from forest degradation;
3. Conservation of forest carbon stocks;
4. Sustainable management of forests;
5. Enhancement of forest carbon stocks.

REDD+ National Forest Monitoring System (NFMS)

- 1 of the 4 elements required by the UNFCCC to do REDD+
- To measure the climate change mitigation impact (-ve GHG) of REDD+ interventions
- UNFCCC requires both forest inventory and satellite data
- A stepwise approach of continuous improvement is encouraged
- NFMS can serve other purposes beyond REDD+ incl. SFM and CBD

REDD+ safeguards:

- Incl. **biodiversity**
- Indigenous peoples etc

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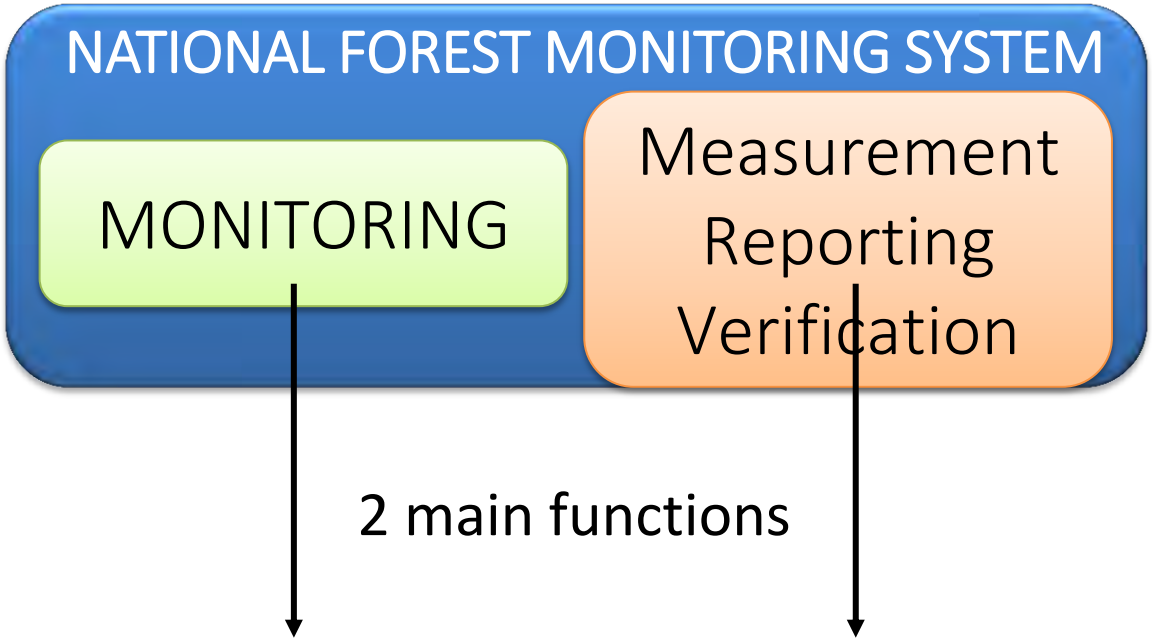
What is a National Forest Monitoring System? (NFMS)



1. Monitor REDD+ interventions (could also help CBD?)

2. Measure changes in GHG emissions and removals from forests

REDD+ activities by countries to UNFCCC will use NFMS to report against Forest Reference (Emission) Levels (FREL/FRLs)

Deforestation	Forest degradation	Reforestation	Enhancement
Brazil	Brazil	Brazil	Brazil
Colombia	Colombia	Colombia	Colombia
Mexico	Mexico	Mexico	Mexico
Malaysia	Malaysia	Malaysia	Malaysia
Ecuador	Ecuador	Ecuador	Ecuador
Congo	**Congo**	Congo	Congo
Ethiopia	Ethiopia	**Ethiopia**	Ethiopia
Paraguay	Paraguay	Paraguay	Paraguay
Viet Nam	**Viet Nam**	**Viet Nam**	**Viet Nam**
Zambia	Zambia	Zambia	Zambia
Chile	**Chile**	**Chile**	**Chile**
Costa Rica	Costa Rica	**Costa Rica**	**Costa Rica**
Indonesia	**Indonesia**	Indonesia	Indonesia
Peru	Peru	Peru	Peru

SMF: Malaysia

Conservation: Chile, Viet Nam

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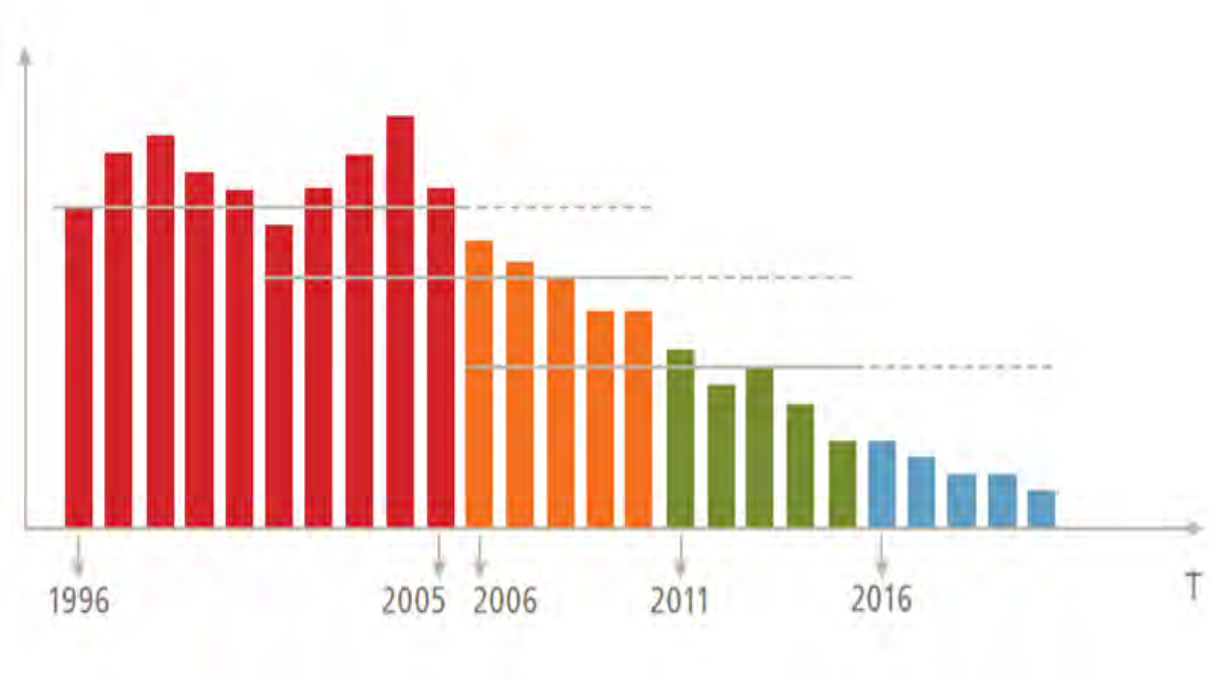
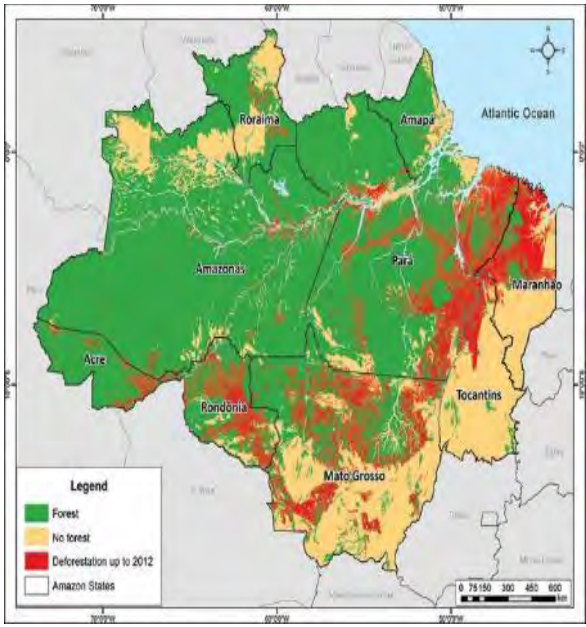
Brazil's Amazon Fund FREL +$1 billion paid

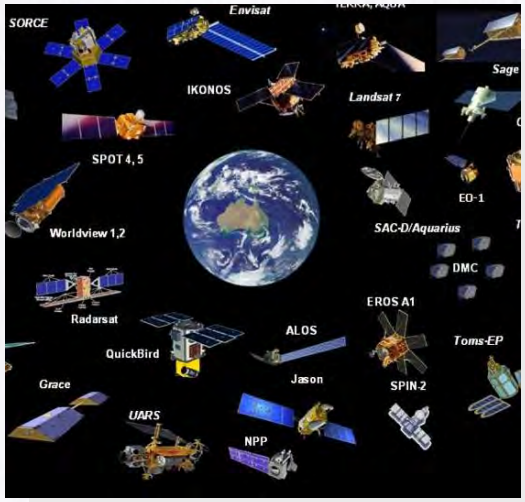


AMAZON FUND



- Brazil has dramatically reduced deforestation between 2004-2013
- Scope: **Deforestation** only
- Scale: **Amazon biome** (subnational)
- Approach: **Historical "rolling" 10-year average reference level** (updated every 5 years)

Opportunities



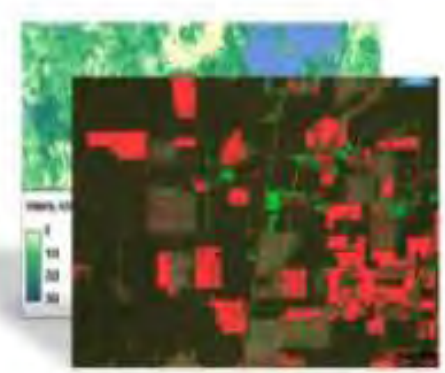
- an explosion of satellite image data becoming available - much of it free
- Huge increases in computing power and reduction in storage costs (or in the “cloud”)
- More accessible and easier user processing

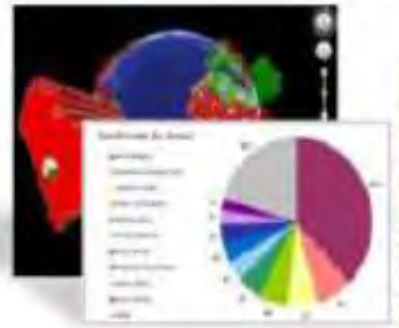
- Tools like Google Earth and Collect Earth make it easier and more accessible to public and NGOs, not just gov’t / academia
- Open source software is often free and customisable
- But capacity, number of skilled users still low in many countries
- REDD+ provides incentive to measure ($) and helps build capacity
- Combined effects = huge opportunities for forest and biodiversity monitoring

Using Open Foris tools

- free, open source customisable software

Design and planning → **Data collection** → **Analysis** → **Reporting results**





Collect Earth
Visual interpretation of

Collect
Data collecton on PC and

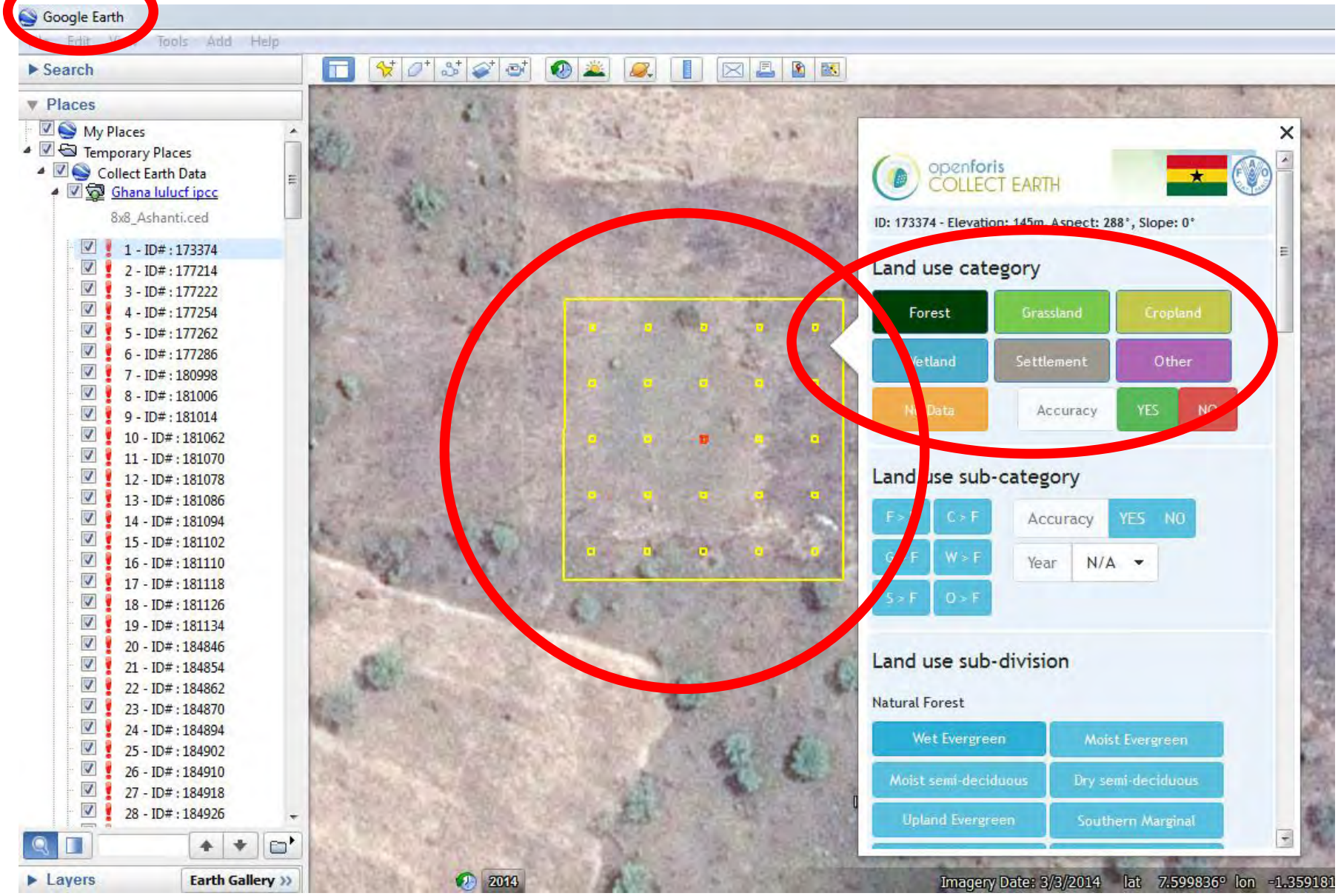
Collect Mobile
Data mobile collector via Android

Geospatial Toolkit
Processing of satellite images

Calc
Data analysis and result

Open Foris Tools

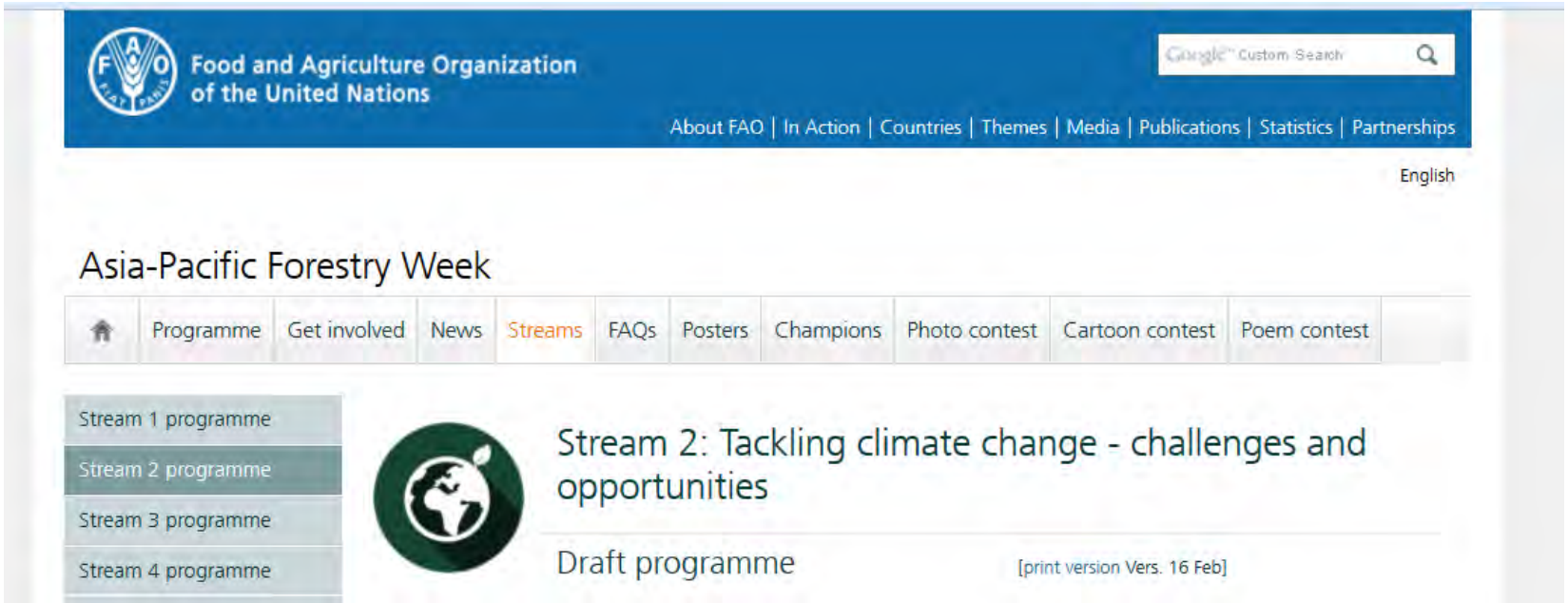
Collect-Earth: users classification screen



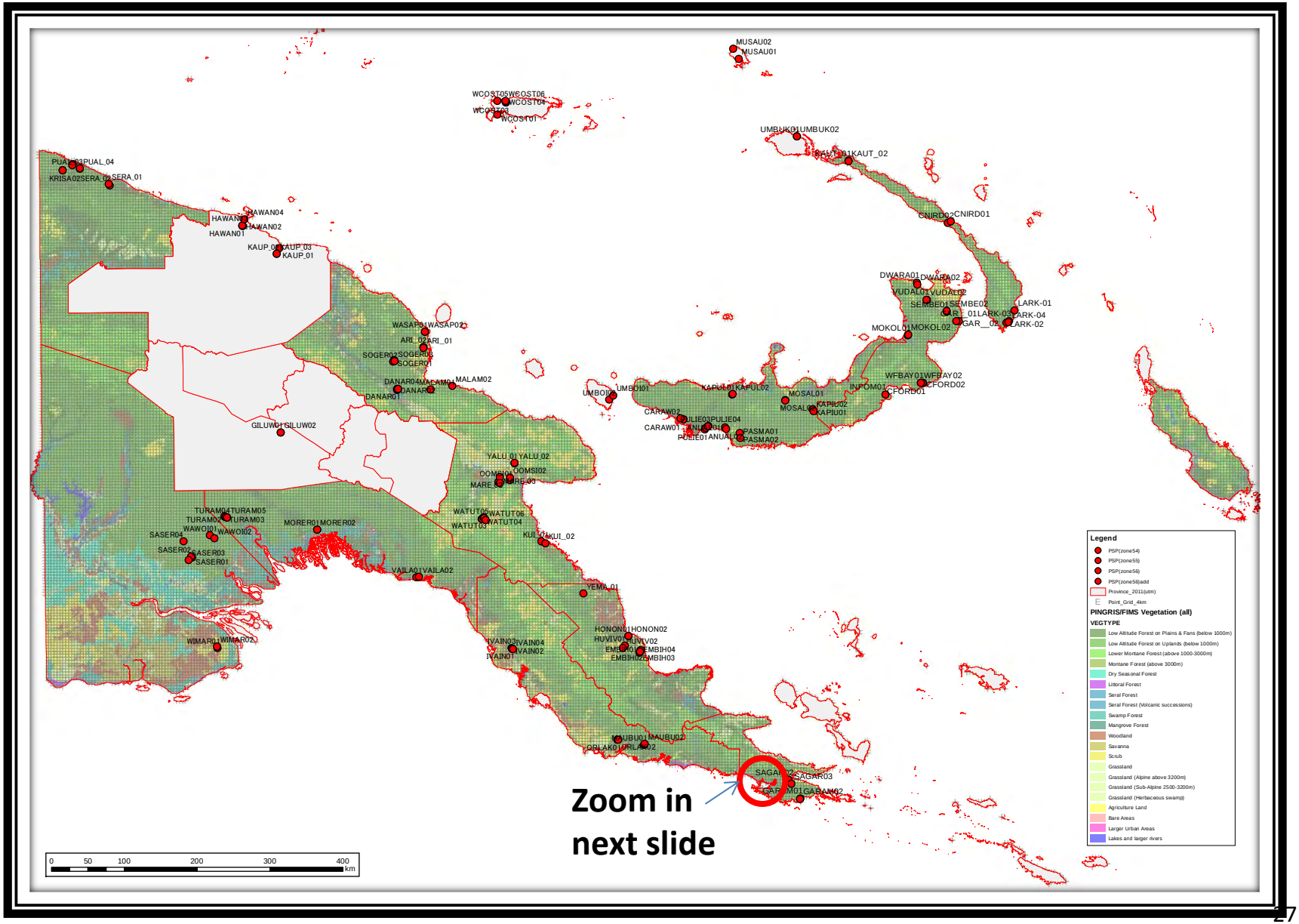
Example of using Collect-Earth

Forest and land use in PNG 2013, Gewa Gamoga

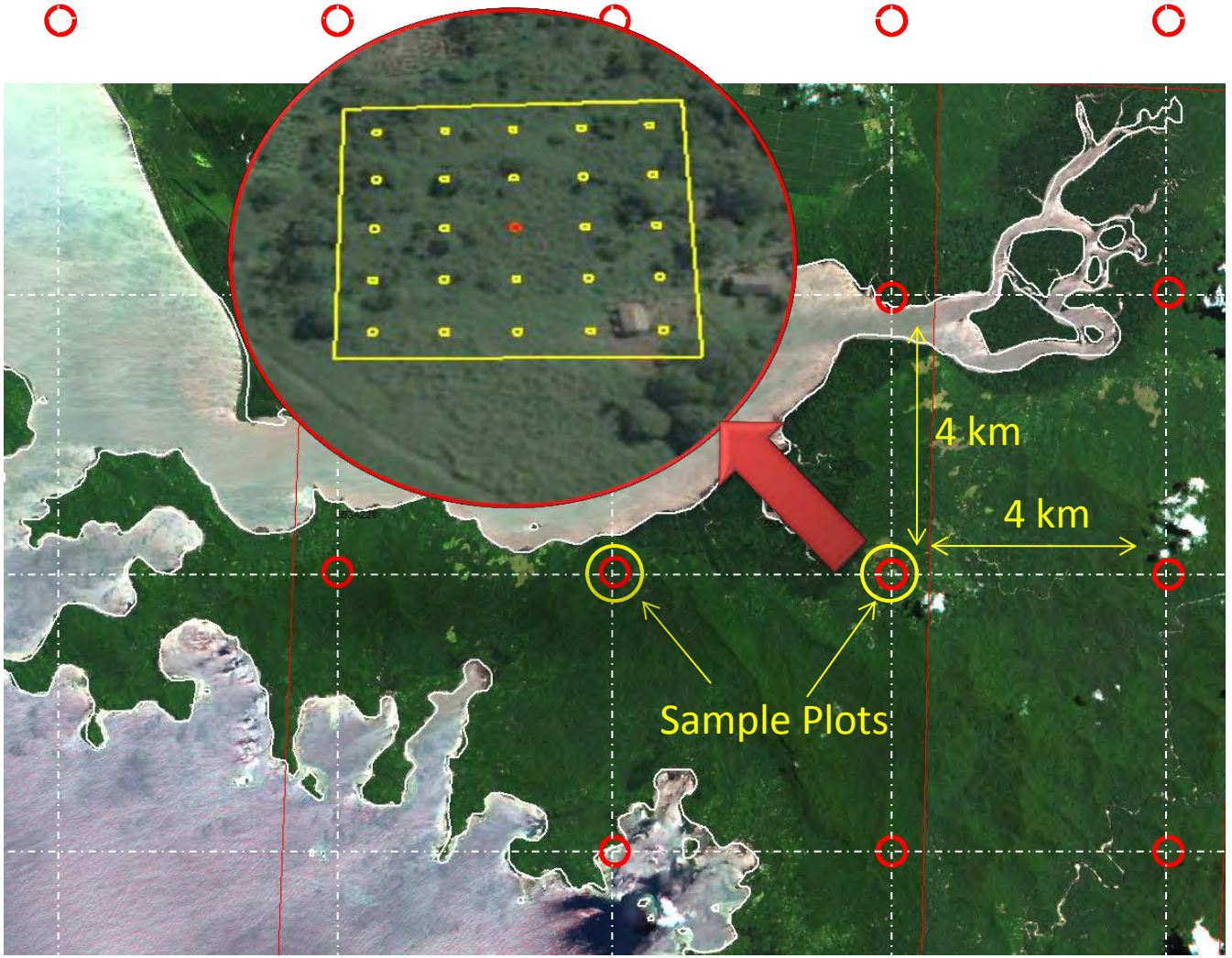
http://www.fao.org/about/meetings/asia-pacific-forestry-week/streams/stream-2-programme/en/



4x4 km systematic grid over all PNG - 25,279 "plots"



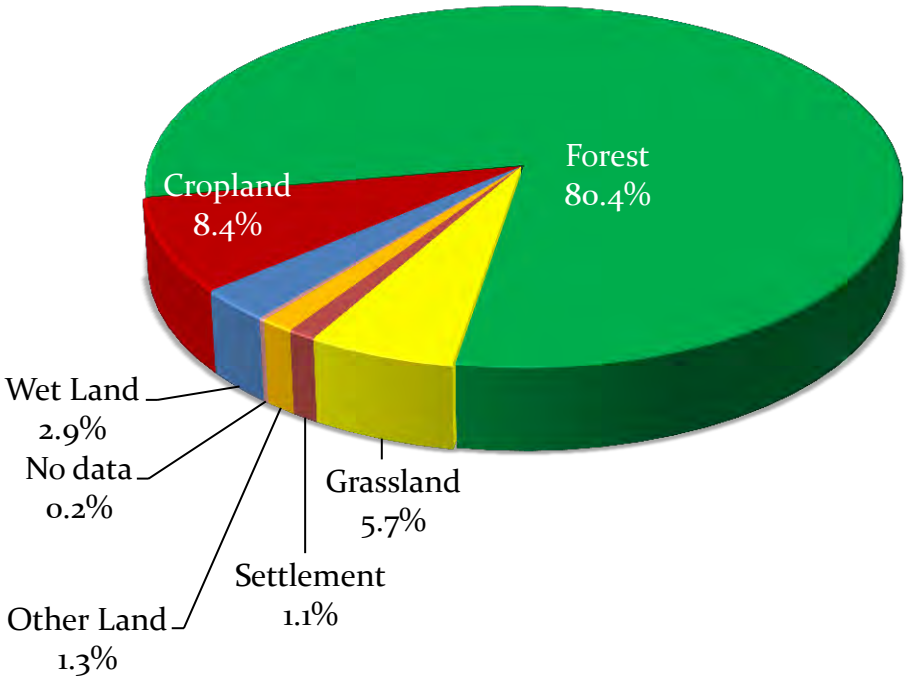
Landscape detail of Rapid Eye image coverage with sample plots distribution



Key Message

PNG now has the capacity to monitor:

1. PNG's Forest, Land Use & Land Use Change
2. REDD+ activities
3. ***Could it be used for CBD?***



Useful for:

1. Monitoring policies & Measures
2. Forest Stratification for future NFI
3. FREL/RL
4. CBD Aichi targets?

Key messages 1: Data, systems and results

1. **Forest area continues to decline** but rate is slowing down
   - Net forest loss is mainly in the tropics
   - Some countries have forest increases (including China and Viet Nam)
2. **Increased forests in protected areas**
   - Globally 7.7% forests protected in 1990 to 16% in 2015
   - Tropical forest protected areas doubled to 26% in 2015 (but enforcement?)
3. **Primary forest area loss** is particularly bad for biodiversity
4. **Huge expansion in free, good quality satellite data, tools**
5. **Major improvements** in forest area change monitoring and in forest inventory data and capacities (FRA and REDD+ have helped build capacity and with reporting)

Key messages 2: Capacity & investment needs

6. **Global processes like FRA, UNFCCC and REDD+ have increased high level attention on forests** and had a **positive impact** on country forest monitoring capacity

7. **Carbon pool reporting** capacities did not increase as dramatically (yet! but maybe coming?) and biodiversity is still not well monitored

8. **Continued capacity building investments are needed** to ensure that countries can accurately monitor tropical forest areas

9. **Further investments** will enable countries to develop systems to obtain accurate and reliable data on forest area and forest resources
   - needed to **refine policies** and monitor actions/decisions
   - to **track drivers of deforestation**,
   - to **improve compliance and enforcement**
   - to **conserve forests** and to
   - improve forest management for a range of values incl. biodiversity.

FAO For more information on FRA 2015

Global Forest Resources Assessment (FRA2015)

Forest Ecology and Management

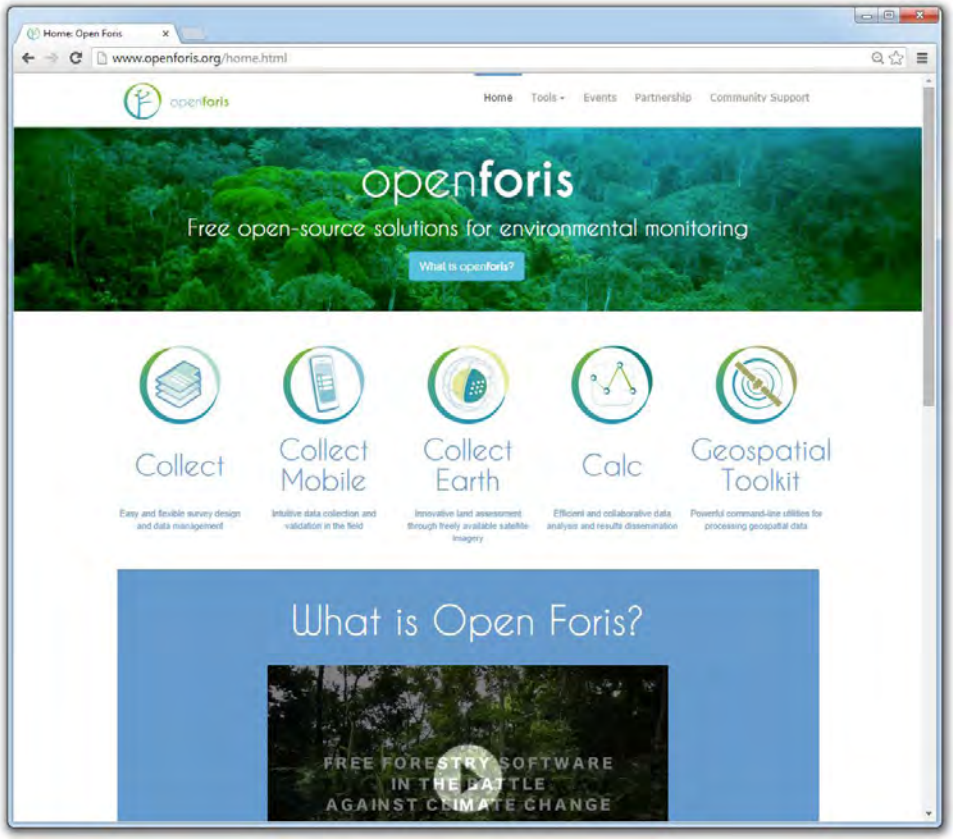
Special Issue: Changes in Global Forest Resources from 1990 to 2015

- Forest Ecology and Management **352.**

- **http://www.sciencedirect.com/science/journal/03781127/352/supp/C**

Food and Agriculture Organization of the United Nations

More info: www.openforis.org



You can also watch the 8 minute video on

CollectEarth:

https://www.youtube.com/watch?v=FxOCck_c5CU

All 12 REDD+ Academy modules are online at http://www.uncclearn.org/

The course has 12 modules:

1. Forest, Carbon Sequestration and Climate Change
2. Understanding REDD+ and the UNFCCC
3. Drivers of Deforestation and Forest Degradation
4. National Strategies and Action Plans
5. **National Forest Monitoring Systems for REDD+**
6. Forest Reference Emission Levels for REDD+
7. Policies and Measures for REDD+ Implementation
8. REDD+ Safeguards under the UNFCCC
9. REDD+ Finance
10. Approaches for Allocation of Incentives
11. Introduction to Stakeholder Engagement
12. Good governance

REDD+ Academy e-course