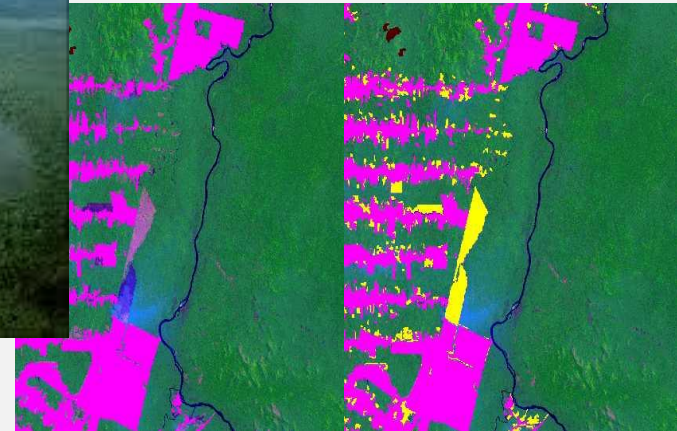
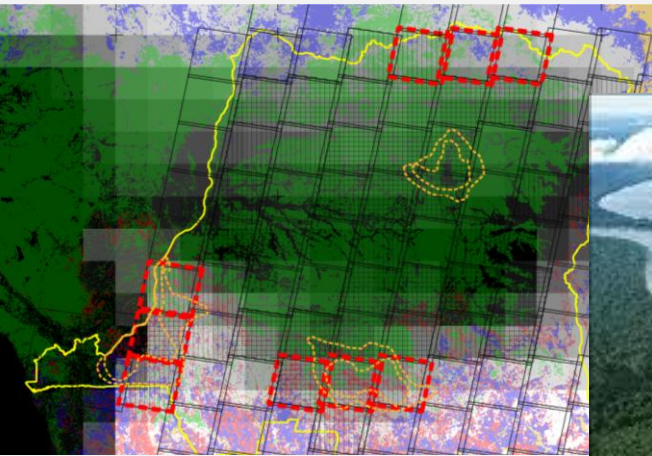


National Forest Monitoring Systems for REDD+: Functions & Tools for Spatial Analysis



Joel Scriven
UN-REDD Programme
FAO Regional Office for Asia & the Pacific



Outline

- National Forest Monitoring Systems for REDD+
 - Purpose and Functions
- Forest Monitoring for REDD+
 - Forest Monitoring Tool: Terra-Amazon & Web-GIS Portal
- MRV of Forest Carbon: Activity Data Assessment
 - Activity Data Tool: Open Foris Collect Earth

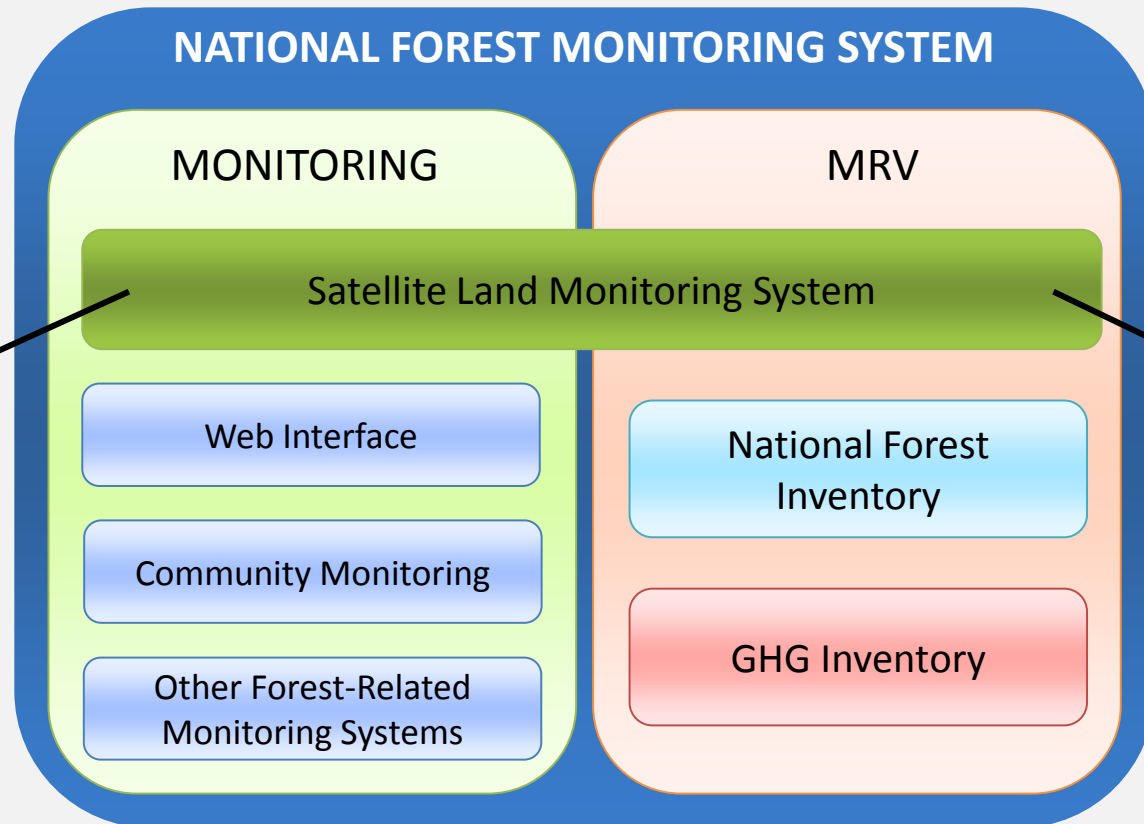


REDD+ Requirements

National forest monitoring systems



National Forest Monitoring Systems for REDD+



NATIONAL FOREST MONITORING SYSTEM

MONITORING

MRV

Satellite Land Monitoring System

Web Interface

Community Monitoring

Other Forest-Related
Monitoring Systems

National Forest
Inventory

GHG Inventory

For
monitoring
and reporting
on **REDD+**
activities

For assessing
national area
change over
time (**Activity
Data**)

NFMS Functions

Monitoring of REDD+ activities





Forest Monitoring for REDD+: Deter (2004)



Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) Field Control Document

Tempo Real - Microsoft Internet Explorer

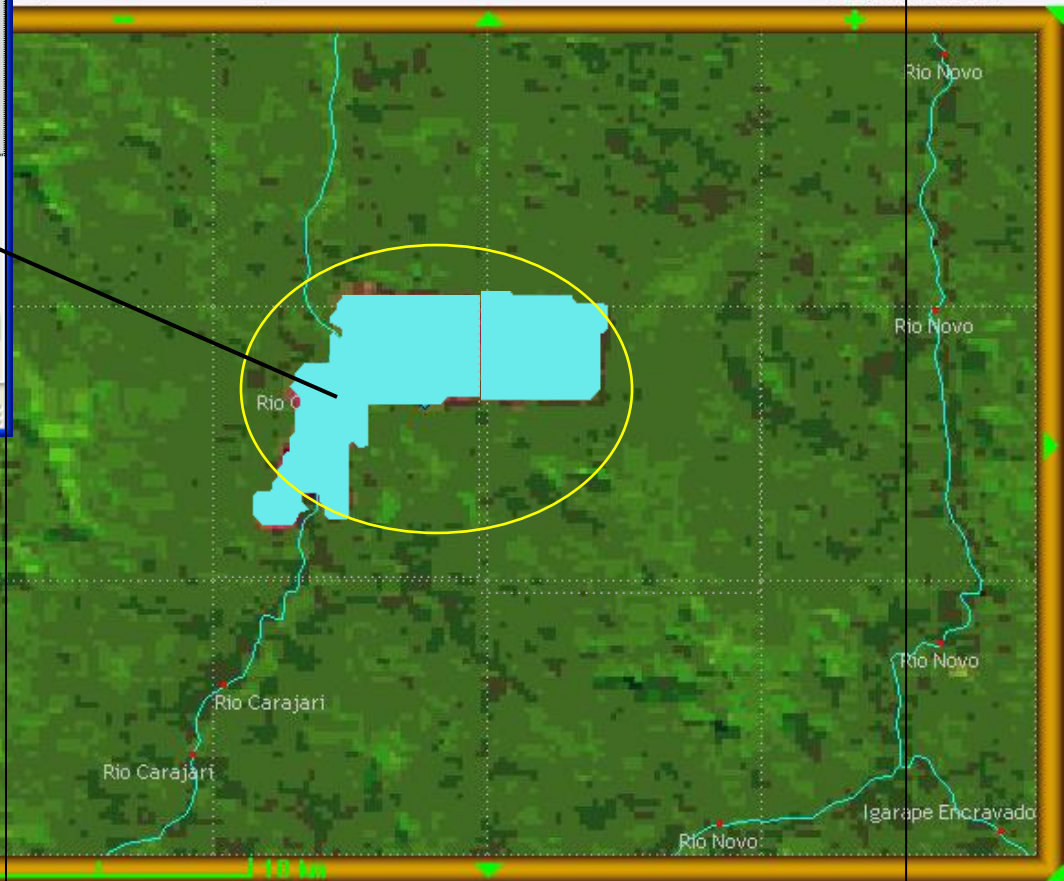
Endereço <http://www.obt.inpe.br/deter/>

Coordenação-Geral de Observação da Terra - OBT

Recompor Imagens Satélite Base Cartografica Mapas Temáticos Tamanho da Tela

22 junho 2004/Rios Principais

S05:00:00 O53:42:00



Estado/State/Provincia PA

Unidade/Área de Conservação	
Tamanho do arquivo/formato Shape	0.71 MBytes
Download	Deter_20040622_shp.zip

Internet

Clique em "Ver/View"

Gráficos

Tipo:

Procurar Município

Nome:

Estado:

Ordenar:

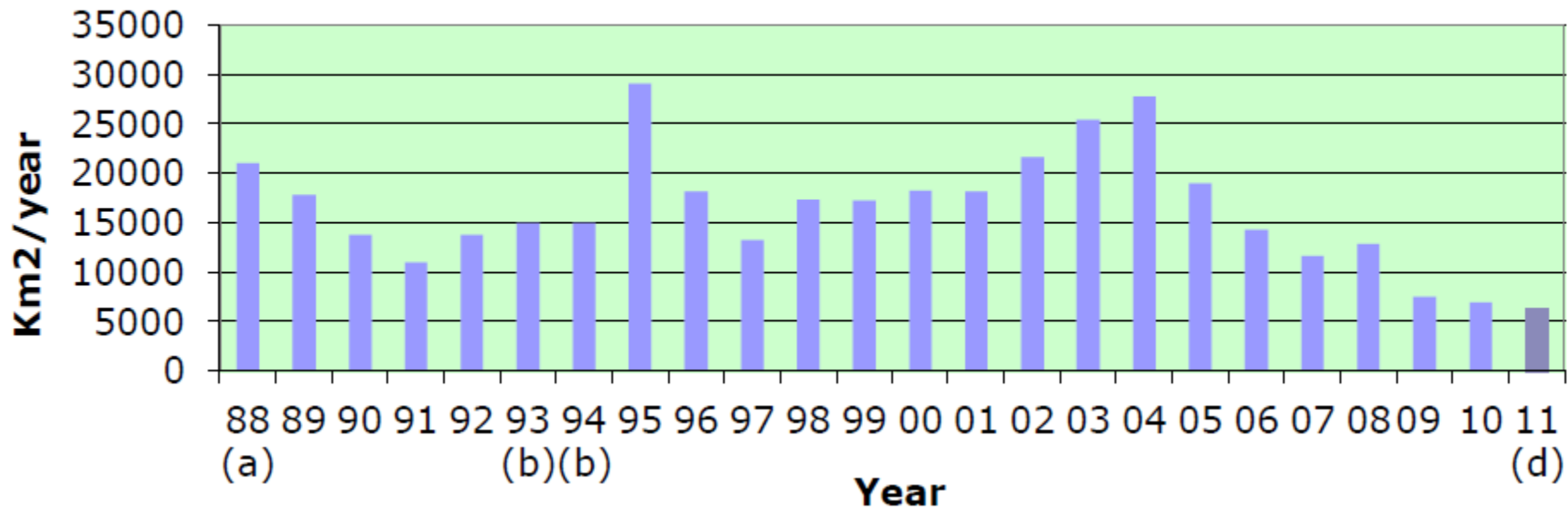
[Ajuda...](#)

S05:18:00 O54:06:00

Brazil

Amazonian deforestation rates 1988-2011

Yearly Deforestation in Brazilian Amazon



Forest Monitoring Tool

Terramazon & web-interface



TerraAmazon Platform

- **GIS tool** designed to be a multi-user editor of geographic vector data
- **Free** of charge
- Extensible through **plug-ins** (Digital image processing: layer-stacking, georeferencing, contrast enhancement, band operation, Mixture Model, thresholding, classification, segmentation, etc.)
- Up to **20 concurrent users** during the interpretation phase

Web portal

- Allows a country to **monitor the outcomes of the implementation of its REDD+** policies and measures and **communicate the results** to the international community (transparent and open data access)
- Allows any user to interact with the system through a user-friendly **web-interface**
- Visualise data; Download statistics; Visualise information on logging concessions, protected areas, REDD+ activities, etc.
- Allows users to provide **feedback**, e.g. on areas of deforestation



Forest Monitoring for REDD+

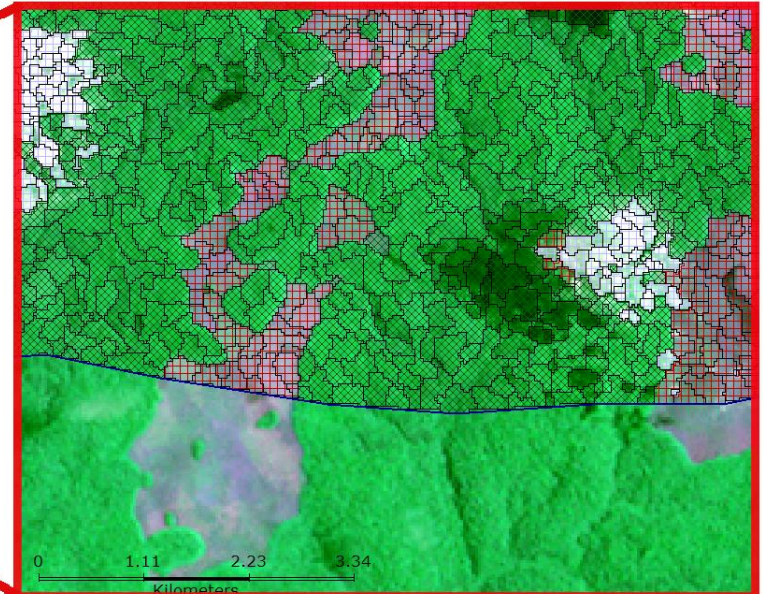
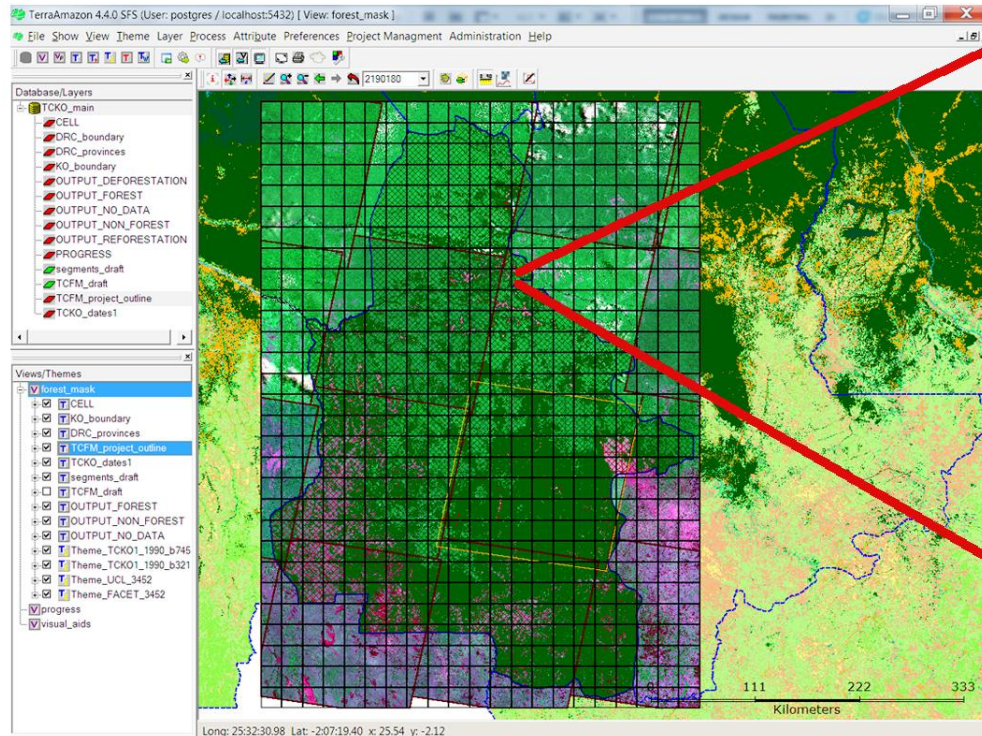


Satellite data, maps, algorithms, expertise



Basic image interpretation
Database
Storage
Review / Revision
Validation

TerraAmazon Projects



**pre-classified segments
within the project area**

Democratic Republic of Congo (DRC)

Forest Monitoring for REDD+

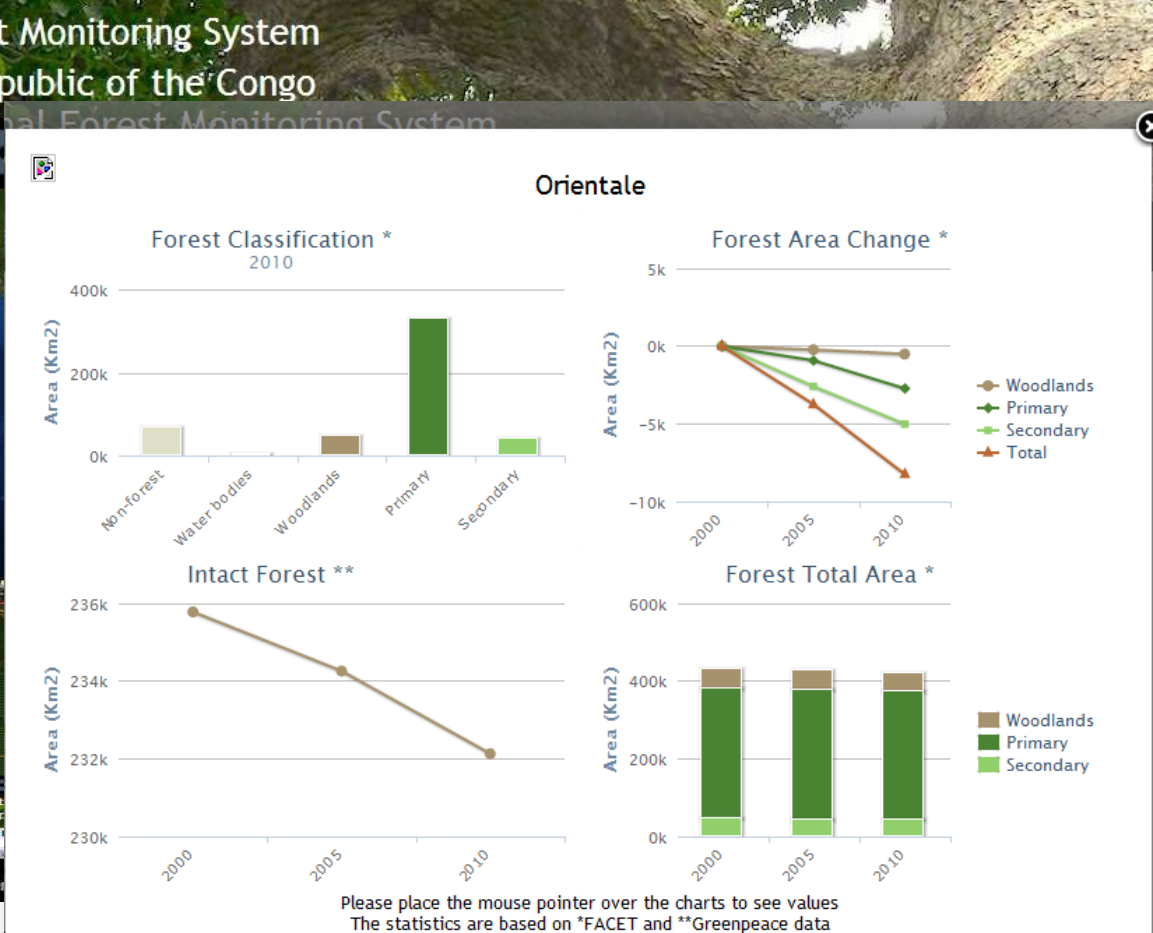
National Forest Monitoring System
Democratic Republic of the Congo

2010

Layers Selected layers

- Base Layers
- Administrative Areas
- REDD+ Initiatives
- REDD+ Registry
- Forest area and forest area change
- Other

Information note Satisfaction survey Disclaimers



English Français

Legend

Scale = 1 : 14M

NFMS Functions

MRV of forest carbon





Activity Data:

Step 1: Representation of Land Use

- Land Use categories: Forest land
 - Land Use sub-categories: Forest Land remaining Forest Land or Other Land becoming Forest Land

Forest land remaining Forest Land Subdivisions

- Low altitude forest on plains and fans
- Low altitude forest on uplands
- Lower montane forest
- Montane forest
- Dry seasonal forest
- Littoral forest
- Seral forest
- Swamp forest
- Woodland
- Savanna
- Scrub
- Mangrove

Other Land becoming Forest Land Subdivisions

- Cropland becoming Forest Land
- Grassland becoming Forest Land
- Wetland becoming Forest Land
- Settlement becoming Forest Land
- Other Land becoming Forest Land

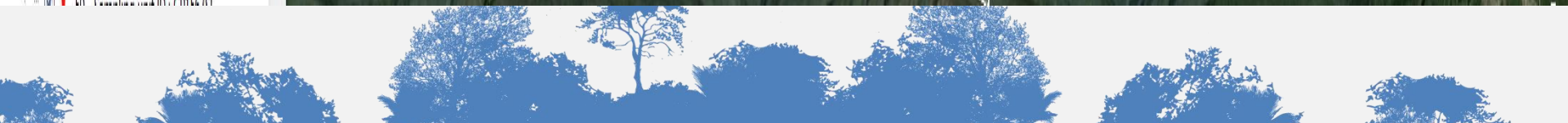
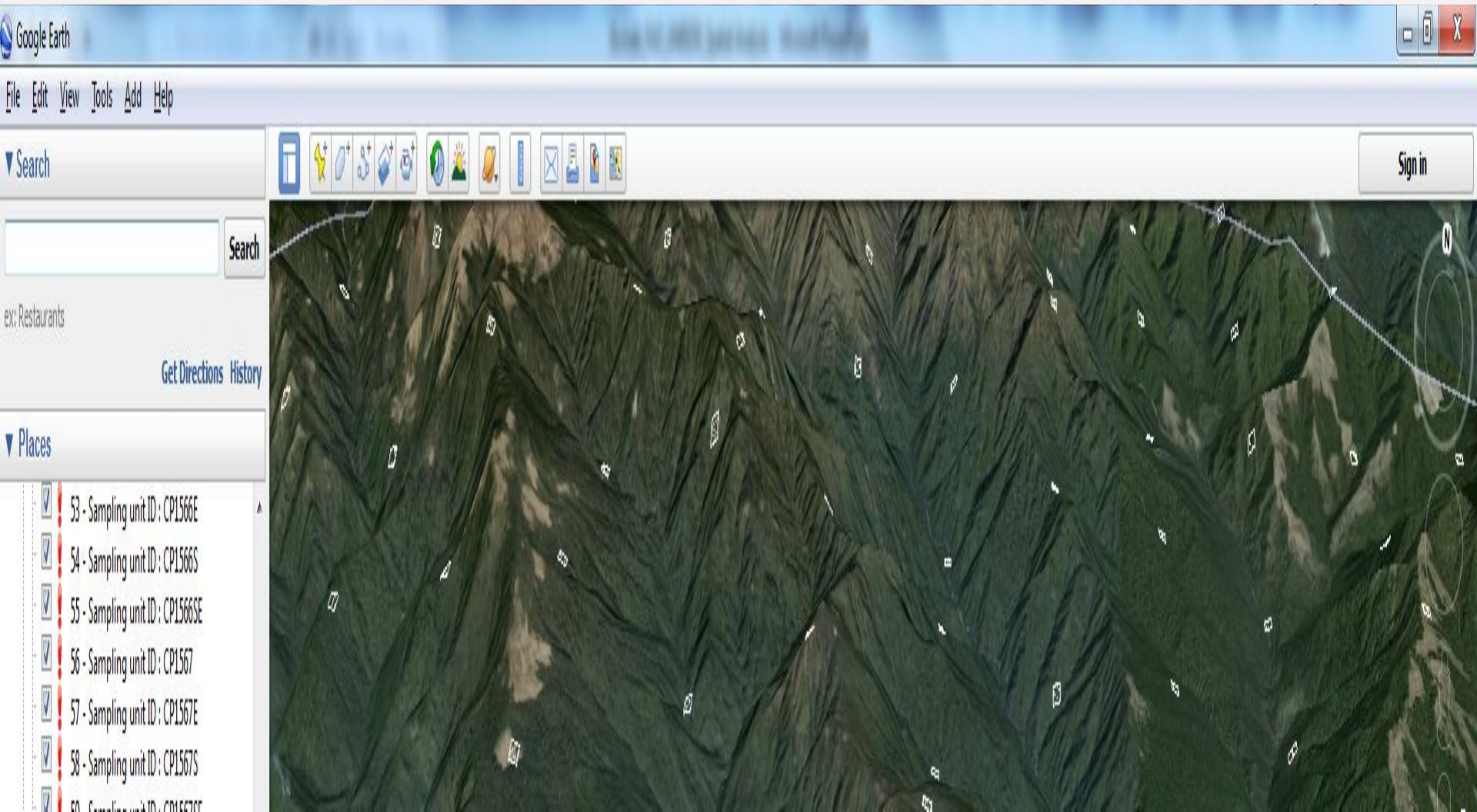


Activity Data Assessment Tool

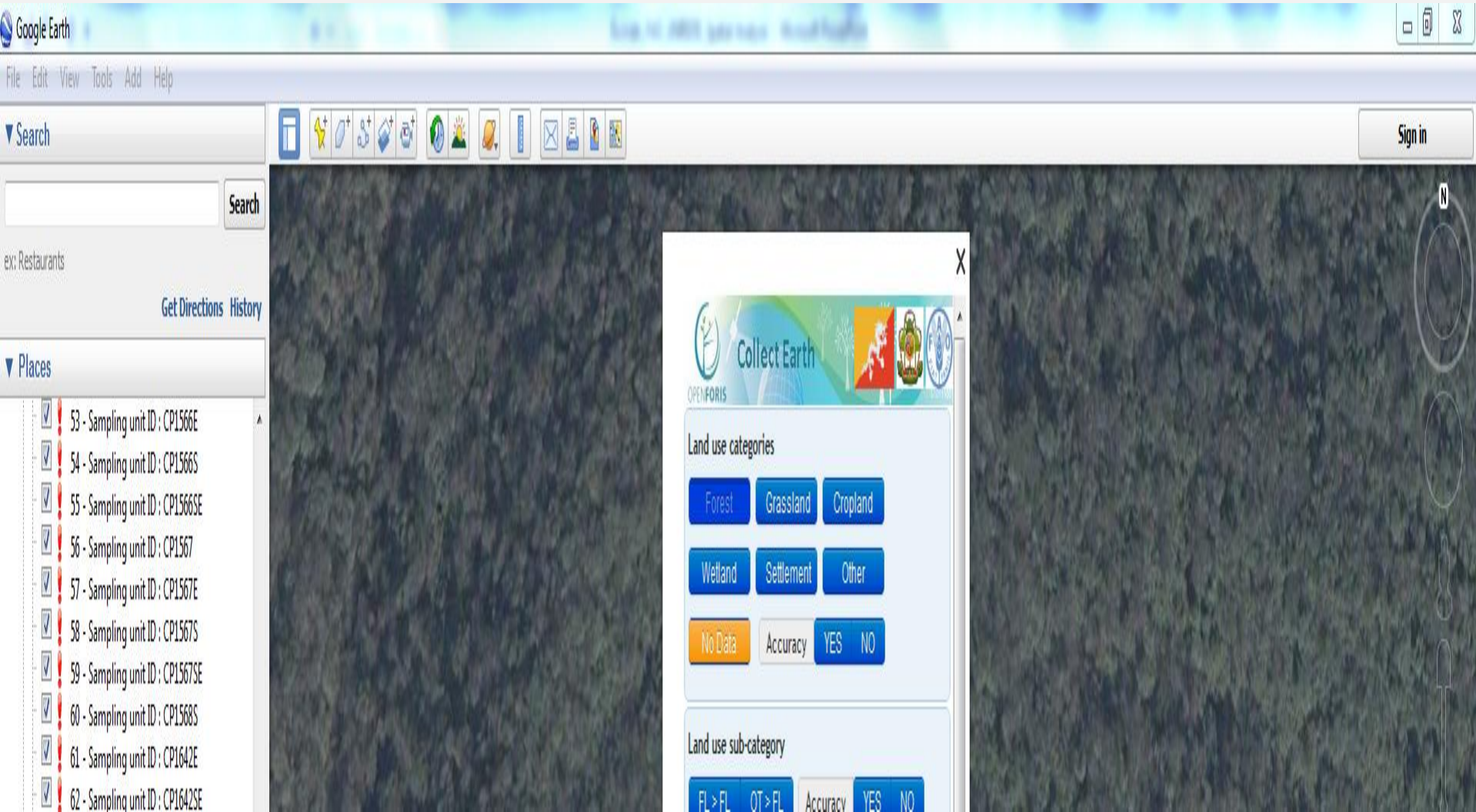
Open foris collect earth



Open Foris Collect Earth – Bhutan



Open Foris Collect Earth – Bhutan



The screenshot shows the Google Earth web interface. On the left, the search bar contains the text "Search" and "Search". Below it, there are links for "Get Directions" and "History". The "Places" list on the left contains several entries, each with a red location pin icon and a sampling unit ID:

- 53 - Sampling unit ID: CP1566E
- 54 - Sampling unit ID: CP1566S
- 55 - Sampling unit ID: CP1566SE
- 56 - Sampling unit ID: CP1567
- 57 - Sampling unit ID: CP1567E
- 58 - Sampling unit ID: CP1567S
- 59 - Sampling unit ID: CP1567SE
- 60 - Sampling unit ID: CP1568S
- 61 - Sampling unit ID: CP1642E
- 62 - Sampling unit ID: CP1642SE

The main map area shows a satellite view of a forest. Overlaid on the map is the Open Foris Collect Earth interface. At the top of the overlay, it says "Collect Earth" and "OPENFORIS". Below this, there are logos for FAO, UNDP, and UNEP. The interface is divided into two main sections: "Land use categories" and "Land use sub-category".

Land use categories:

- Forest
- Grassland
- Cropland
- Wetland
- Settlement
- Other
- No Data
- Accuracy
- YES
- NO

Land use sub-category:

- FL > FL
- OT > FL
- Accuracy
- YES
- NO





Thank you

