Open Foris Initiative

Free and Open Source Tools and Methods for Data Collection, Analysis and Reporting

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openforis is a suite of 5 tools to help you collect and process forest plot and image data

Collect

Collect Mobile

Collect Earth

Calc

Geospatial Toolkit

Using Open Foris tools

Design and planning → Data collection → Analysis → Reporting results

Collect Earth	Collect	Collect Mobile	Geospatial Toolkit	Calc
Visual interpretation of	Data collecton on PC and server storing	Data mobile collector via Android	Processing of satellite images	Data analysis and result calculation

Open Foris Tools

Collect tool

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For Office

For field use

Collect desktop is a flexible tool for office or field camp based inventory data entry. Customizable validation rules minimize data entry errors and feedback reports help to identify potential problems.

For Field
Collect Mobile is an easy to use Collect client for mobile Android devices. Entering the data already in the field can significantly improve the quality of the data and reduce time needed for data cleansing.

For Fast Delivery
Collect Earth is an interactive image interpretation tool which uses Google Earth interface. Collect Earth allows you to collect land cover and land use information in the fastest possible way and with minimum GIS experience.

Main Features

- Easy-to-use interface for complex surveys

- Survey designer

  – From scratch/using template

  – Validation rules – checks your data in the field to reduce mistakes

- Data entry interface generated automatically

- Standard workflow: entry, cleansing, analysis

- Server / desktop

Collect Mobile - Main Features

- Field-data collection using Collect survey

- On-the-fly validation

- Export collected data to Collect Desktop

- Android 4+ phones and tablets

Objectives

- Support large, complex, surveys

- Simple and efficient to use

- Optimize for field use

- Use device camera and GPS

- Focus on data quality

- Data safety – some advantages over paper, but also some risks

- Validation in the field

- Integrated code and species lists

- Easy backups

- Saves typing in handwritten forms

Show CollectEarth video (8 minutes)

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

Visual interpretation tool for land use/cover classification

Widely used: 21+ countries

ICI BMU funded: Algeria, Argentina, Bhutan, Brazil (implementing partner), Chile, Colombia, Ghana, Kyrgyzstan, Lao People's Democratic Republic, Morocco, Mozambique, Peru, Philippines, South Africa, Tajikistan, Thailand, Tunisia, Uruguay, Zambia

Norway funded: Mongolia, Papua New Guinea

Ghana LU scheme

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Forest land	Cropland	Grassland	Wetland	Settlement	Other land

IPCC LU

Forest land	Cropland	Grassland	Wetland	Settlement	Other land
F > F, C > F	C > C, F > C	G > G, C > G	W > W, C > W	S > S, C > S	O > O, C > O
G > F, W > F	G > C, W > C	F > G, W > G	G > W, F > W	G > S, W > S	G > O, W > O
S > F, O > F	S > C, O > C	S > G, O > G	S > W, O > W	F > S, O > S	S > O, F > O

National land use sub-divisions

Forest land	Cropland	Grassland	Wetland	Settlement	Other land
Wet evergreen	Rice	Guinea savannah woodland	Lake	City / village	Rock / stone
Moist evergreen	Other cereals	Sudan savannah woodland	Permanent river	Road	Sand
Moist semi-deciduous	Root and tubers	Transition woodland	Seasonal river	Mining	Bare area
Dry semi-deciduous	Legumes	Bush / scrub	Swamp	Infrastructure	
Upland evergreen	Fruits	Grassland	Coastal water body		
Southern marginal	Vegetables				
Mangrove forest	Cacao				
Riparian	Oil palm				
Swamp forest	Coffee				
Teak plantation	Other industrial crops				
Rubber plantation					
Terminalia plantation					
Other plantation					

Geo-synchronized

Easy data analysis and charts

Advanced features

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With Google Earth Engine
e.g. LANDSAT greenest pixel

e.g. analysis of NDVI or EVI over time

openforis Calc

Easy Import
Calc is a fully customizable tool for facilitated data analysis. You can import data directly from Collect, import external equations and build complex processing chains.

For experts and end-users
Calc is designed for both experts and end-users. Whereas the experts can build the processing chains, end users can just hit play and repeat the calculation processes.

Reporting
Calc results can be presented using Saiku Analytics. This allows easy reporting and presenting the results in both tabular and graphical form.

Easy data analysis and charts

What does the Geospatial toolkit do?

- for automating processes

- ~ 70 programs / scripts written in C,C++, awk, bash, perl and python

- Image arithmetics, classification, segmentation, sample generation, raster2vector, histogram, gap-filling, filtering, knn, change detection, pixel value extractor, ...

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NAFORMA

MULTI-SOURCE PILOT - Volume

m3/ha
- 0
- 10
- 20
- 30
- 40
- 50
- 60
- 70
- 80
- 100
- 200 -

0   10 km

Efficient image analysis
a collection of professional image processing tools which allow automatic processing of different kinds of images.

From pre-processing to mapping
tools for every image processing phases from pre-processing to calculation of forest resources of given area.

On low cost-hardware and on the cloud
When combined with a cloud computing interface, can b used to process massive amounts of data.

Satellite data storage and processing system in the "cloud"

http://www.globallometree.org/

- Manual on tree volume and biomass
  - Detailed instructions for field use
- Globallometree website
  - Over 1,000 volume equations
  - Tools for comparing equations
  - Sharing knowledge

Resource partners

Contributors/Users

More info: *www.openforis.org*