National Forest Monitoring Information System and Capacity Building for REDD+

A new project bridging forestry and climate change mitigation[1]

The reduction of greenhouse gas emissions from deforestation and forest degradation (REDD) is critical to achieving emission reduction targets and avoiding dangerous levels of anthropogenic climate change. In this global endeavor to stabilize the world's climate system, Parties of the United Nations Framework Convention on Climate Change (UNFCCC) have reiterated the importance of providing technical, technological and financial support for developing countries to implement REDD and other types of national mitigation actions (Decision 1/Conference of the Parties 16). The Parties have recently decided that countries establish "robust national forest monitoring systems… that are transparent, consistent over time and suitable for measuring reporting and verifying anthropogenic forest-related emissions" (Decision 11/CP.19).

Above and beyond REDD monitoring requirements

With the support of the German International Climate Initiative (ICI)[2], FAO is strengthening the Open Foris Initiative launched by the FAO-Finland Technical Cooperation Programme to develop methods and open-source software tools for forest monitoring. Collect Earth™ is one software product within the Open Foris suite that facilitates land use assessment and REDD-related forest monitoring pursuant of IPCC guidelines. FAO is partnering with 18 non-Annex I countries to strengthen GIS and remote sensing capacity through the use of Collect Earth and other free, open source software. The project's targeted capacity building and user-friendly tools facilitate robust, transparent and consistent monitoring of REDD activities and national reporting to the UNFCCC regarding land use, land use change and forestry.

Partnering countries [3]
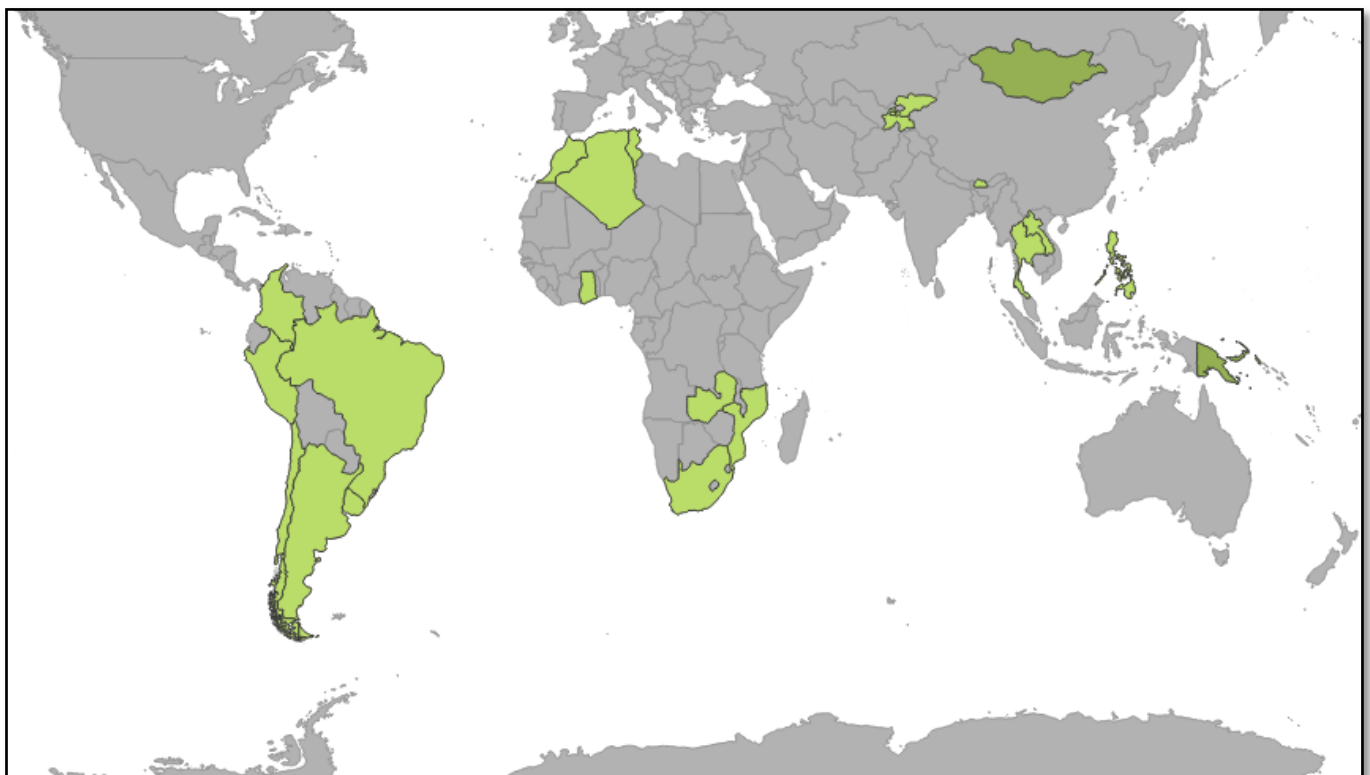
ICI BMU funded: Algeria, Argentina, Bhutan, Brazil (implementing partner), Chile, Colombia, Ghana, Kyrgyzstan, Lao People's Democratic Republic, Morocco, Mozambique, Peru, Philippines, South Africa, Tajikistan, Thailand, Tunisia, Uruguay, Zambia

Norway funded: Mongolia, Papua New Guinea

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[1] National Forest Monitoring Information System and Capacity Building for REDD+: www.fao.org/forestry/nfms-for-redd/en/
[2] German International Climate Initiative (ICI): www.international-climate-initiative.com/en/
[3] The designations employed and the presentation of material in the map(s) do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal or constitutional status of any country, territory or sea area, or concerning the delimitation of frontiers.

During this 3-year project, FAO, INPE and partnering countries will work toward the following objectives:

- Develop Collect Earth software that is compatible with free tools such as Google Earth Engine, Saiku and the FAO Open Foris Software Suite;

- Establish robust and transparent National Forest Monitoring Systems for 18 countries to generate and disseminate information regarding current land use, historical land use change, deforestation, sustainable management of forests and the enhancement of forest carbon stocks;

Collect Earth training workshop in Mongolia, 2014

- Fully equip GIS and remote sensing laboratories within government institutions in each country;
  - Implement comprehensive technical training workshops for staff from governmental institutions and non-governmental organizations to analyze freely available satellite imagery with free and open-source GIS and remote sensing software using sampling and wall-to-wall mapping approaches;
- Enable efficient and cost-effective reporting of land use, land use change and forestry (LULUCF) metrics to the UNFCCC and other international agreements;
- Provide flexible tools for monitoring and analyzing of REDD+ social and environmental safeguards.

Collect Earth: A free, open-source and sustainable tool for land use monitoring
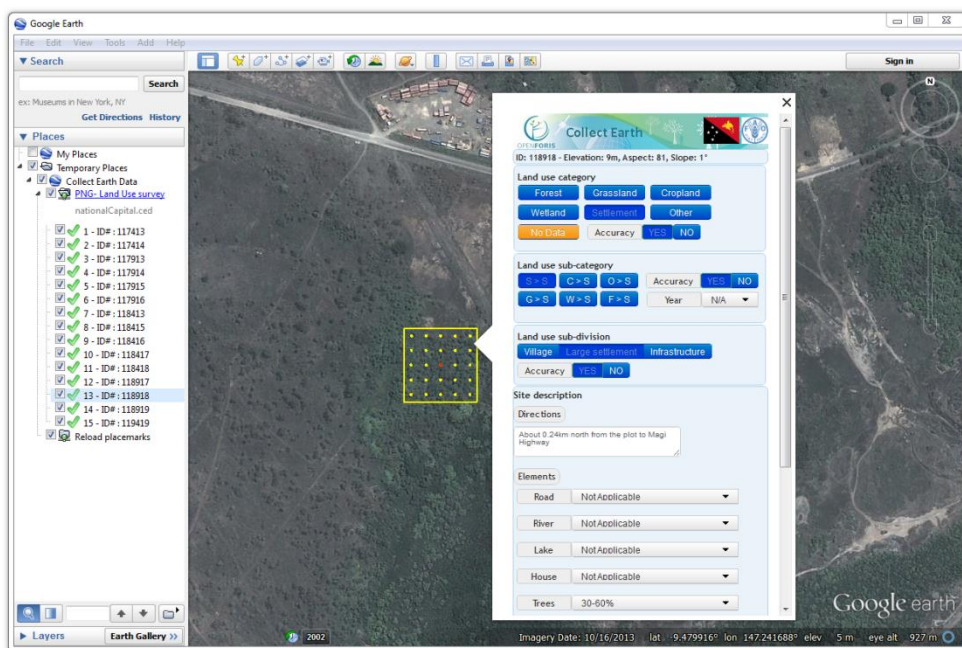
Sample Collect Earth interface for assessing land use with freely available satellite imagery

Collect Earth is a Java-based Google Earth plugin developed by FAO for land use, land use change and forest assessment in conjunction with Google Earth Engine and Bing Maps.

FAO customizes Collect Earth to suit country-specific classification schemes within the recommend IPCC LULUCF framework.

Collect Earth is a product within the Open Foris software suite[4], which also includes: Collect – a mobile data collection and desktop field data management system; Calc – a modular, browser-based tool utilizing forest inventory data in statistical analysis; and Geospatial Toolkit – a collection of command-line utilities for processing geographical data.

Project team
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[4] Open Foris Initiative: www.fao.org/forestry/fma/openforis/en/