



U.S. DEPARTMENT OF THE INTERIOR INTERNATIONAL TECHNICAL ASSISTANCE PROGRAM

Land Cover for Climate

The Department of the Interior International Technical Assistance Program's (DOI-ITAP) Land Cover for Climate project aims to **enhance the capacity of developing country partners to improve techniques to generate and/or update existing land cover information using satellite imagery**. Land cover and land use data are critical components for climate monitoring applications such as:

- Greenhouse gas emission (GHG) reports,
- Monitoring emissions from deforestation (UN REDD+)
- Low emission development strategies (LEDS)



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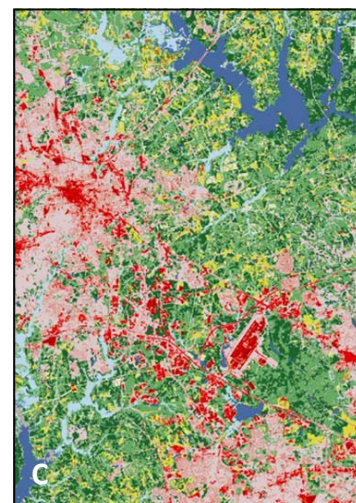
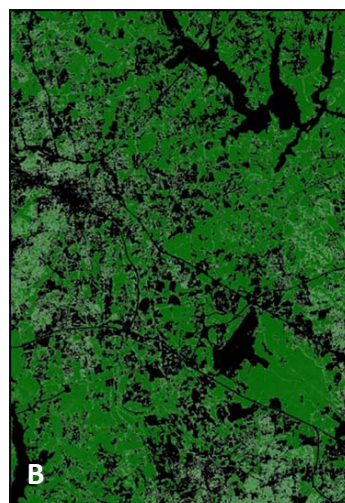
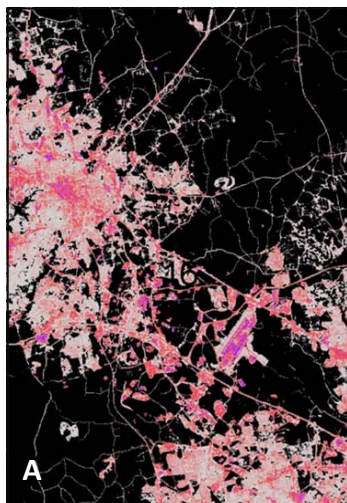
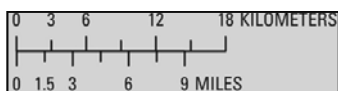
Landsat satellite receiver at the Earth Resources Observation and Science Center in South Dakota. Photo courtesy of USGS.

Land Cover Monitoring for Climate Adaptation

Climate change is one of the most critical challenges the world faces today. Access to global coverage of satellite imagery greatly enhances the ability to monitor the effects of climate change on natural resources and provides a tool for conducting carbon assessments. For example, global and regional land cover datasets provide a measurement and monitoring tool for certain reporting requirements (e.g. UN REDD+, GHG, and LEDS). Monitoring land cover change over time is an essential tool for quantifying ecosystem health and biodiversity. Unfortunately global land cover datasets frequently lack sufficient detail, accuracy, and reliability for national planning and reporting. Building capacity in developing countries to improve their land cover data collection methods—improving the ways in which they can monitor land cover changes and verify forest cover and natural resource environments for climate mitigation and adaptation—is greatly needed. In addition, systematically incorporating improved national-level datasets into the Group on Earth Observation's (GEO) Global Land Cover and Land Cover Change activities will enhance regional land cover data and provide an avenue for improving the global database.

National Land Cover Database

Examples of National Land Cover Database (NLCD) 2001 products. (A) Building and road development, (B) Forest cover, and (C) All land cover themes near Research Triangle Park, North Carolina. (Courtesy of USGS)



Landsat Satellite Imagery



Landsat images showing a considerable rate of deforestation and land cover change in the southern Shinyanga Region of Tanzania. Images courtesy of USGS and European Commission Joint Research Center

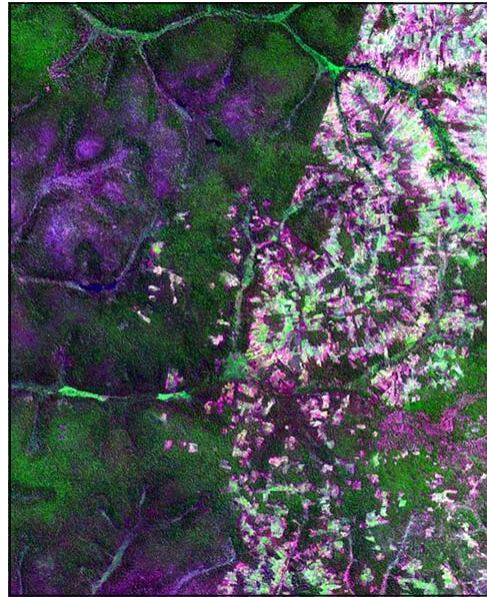


Image taken May 16th, 2000



Image taken June 18th, 2009

U.S. Department of the Interior's Climate Change Monitoring Expertise



DOI's U.S. Geological Survey (USGS) manages the Landsat series of Earth observation satellites which provides systematic and impartial observations of our world from space. With the data generated from over forty years of continuously monitoring the globe with these satellites, land cover change can be documented anywhere in the world. The USGS is a world leader in developing global land cover datasets and monitoring land cover change with the U.S. National Land Cover Database. DOI's technical expertise in remote sensing, land cover mapping, and carbon assessment monitoring provides a strong foundation for capacity building for the Land Cover for Climate project.

Land Cover for Climate

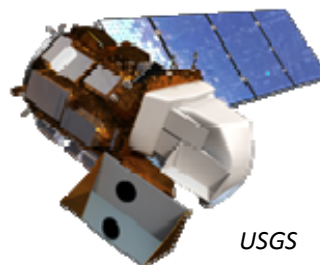
Land Cover for Climate will work with ongoing initiatives in Africa and Southeast Asia to:

- Conduct technology assessment of existing land cover datasets
- Improve and apply appropriate methodology for local needs
- Host regional and national capacity building activities
- Facilitate participation of local expertise for enhancing global land cover initiatives

Ultimately this data will be used to analyze the effects of climate change on partners' area of concern, to deliver accurate data for carbon sequestration assessments, and to provide a collaborative pathway to improve the global land cover data.

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USGS

Landsat 8, launched in February 2013 as part of the Landsat Data Continuity Project. The mission will continue to provide necessary Earth observations to monitor land cover change.