



Global Forest Resources Assessment (FAO)

GLOBAL
FOREST
WATCH

Global Forest Watch (GFW)

To provide a consistent time series of data on regional and global forest resources.

Purpose

To provide access to spatially-explicit and frequently updated tree cover loss and gain data and other related land cover and land use information, and to provide online tools that enable forest stakeholders to visualize and analyze this information in ways that support decision-making.

Aggregates and provides free and open access to the best available official statistics from country reporting for 234 countries and territories plus Landsat and MODIS-based remote sensing at the global, regional and ecozone scales. Data collection is done in cooperation with Collaborative Forest Resources Questionnaire partners which cover some 88% of global forest area. Outputs are provided online and include complete country reports, analysis in a high-impact peer-reviewed journal with over 50 authors, a Desk Reference, a database that is integrated with other official, international landuse-related databases and an FAO Forestry Paper.

Process

Aggregates and provides free and open access to the best available and most current data from many sources, including: global tree cover loss (annual) and gain (cumulative, 2000-2012) data at 30 meter resolution from the University of Maryland; monthly tree cover loss alerts at 500m resolution for the humid tropical forests; active fires data from NASA; global land cover and land use datasets; national datasets showing land concessions and other land use information, and geo-referenced media and user-submitted stories.

Statistics on forest area and characteristics, forest production, protective functions, biodiversity/conservation, disturbance, sustainable forest management, economics/ownership, projections of future forest area.

Results

A collection of spatially-explicit global, regional, and national datasets, presented in an interactive map viewer that allows users to select areas of interest, calculate statistics on tree cover loss, gain, and extent, subscribe to tree clearing alerts, and view and submit stories.

Reports submitted by sovereign governments, Landsat remote sensing analyses of forest landuse time series reviewed and revised by national experts and presented at global and regional scales, other sources.

Data sources

UMD global tree cover change time-series analysis of Landsat, FORMA near-real time tree clearing alerts for the humid tropics, MODIS fires data, global and national land use and land cover data, FRA data, and other spatially-explicit sources.



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Reports forest land use area, not forest cover and are based on a combination of methods including remote sensing, national forest inventory, aggregated local-level reporting and expert opinion.

Forest land vs. tree cover

UMD data report annual tree cover loss, which can be disaggregated according to tree cover density thresholds and overlaid with other datasets showing forest cover or forest area, as defined by a selected tree cover density threshold. FORMA data report alerts, defined as tree clearings of a canopy density greater than 25% at a 500x500 meter resolution.

Landsat, systematic sample grid, global coverage, conversion of forest cover to forest land use, reviewed and revised by national experts, MODIS use for accessible forest, partial canopy cover removal and burned area assessments.

Remote sensing approach

Landsat, wall-to-wall coverage. MODIS for near-real-time detections (FORMA, fires data). Exploring possibilities for multi-sensor change detection systems, including radar.

Every 5 years, with more frequent remote sensing updates of forest land use planned.

Frequency

Annually (UMD), Monthly (FORMA, Imazon SAD alerts), Daily (fires data).

Reported over a 25 year period, not spatially explicit, by forest category.

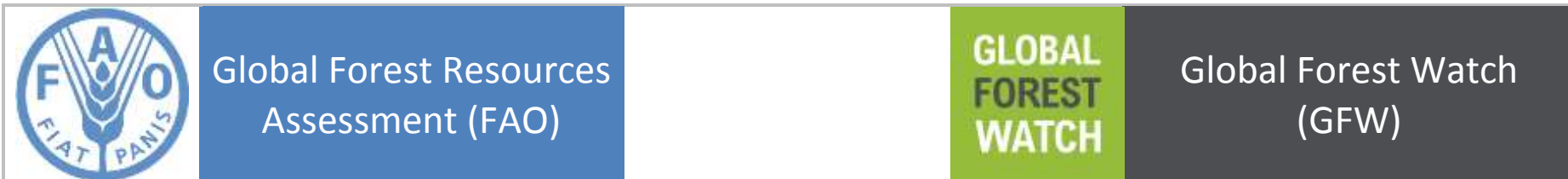
Loss and gain

UMD tree cover loss and tree cover gain can be viewed according to tree cover density threshold selected by the user. "Loss" indicates complete removal of tree cover at a 30x30 meter resolution. FORMA tree clearing alerts indicate a 50% or greater probability that tree cover (of a canopy density greater than 25%) disturbance has occurred at a 500x500 meter resolution. Larger areas of disturbance at the 500x500 meter scale (e.g. complete removal of tree cover) may correspond to higher probabilities.

By forest type (primary, other natural regeneration, planted).

Forest category

UMD and FORMA detect tree cover change including home gardens, oil palm plantations, fruit tree farms, etc. GFW is currently working to develop a global "plantation" layer to allow the user to discriminate between natural tree cover and tree plantations.



Reports growing stock change, carbon stock change, multiple use, production and conservation forest, protective functions, forested protected areas, forest disturbance, SFM-related policies, regulations, stakeholder involvement, management plans, monitoring and reporting methods, area in permanent forest, international and domestic forest certification, revenue, expenditure, ownership and management, contributions to GDP, government targets for forest area.

Forest content/quality

Mirrors reporting from FRA and other sources on selected forest resource variables, plus adding data on forest, mining and agricultural commodity concessions and their ownership.

Synergies

Data sharing. FRA provides forest resource data content to GFW for use in GFW country pages and global summaries.

Data sharing. FRA provides forest resource data content that is made spatially explicit on the GFW map and used to update and expand the country pages and global summaries.

Tree cover change and extent data. FRA encourages countries to review and utilize Landsat mosaics and UMD tree cover change and extent data, as well as FORMA data, as a useful tool provided by the GFW partnership. This data layer may be useful to governments for national monitoring and/or international reporting purposes.

Access. The GFW platform is a useful venue for serving FAO data, including FRA, and we will continue to explore ways in which the data can be displayed on the platform.