

The FRA2010 Remote Sensing Survey: Making access to data easier

work by FAO and partners

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www.fao.org/forestry/fra2010-remotesensing/en/



Easy access to public imagery through internet

<http://geonetwork4.fao.org/geonetwork/srv/en/fra.home>

1. New gateway for easy access to sample imagery
2. Search by country, or select on the map, or use Google Earth
3. Now has global coverage over 13,000 samples loaded, most have 1990 + 2000 + 2005 images

Global Forest Resources Assessment Portal

User: Administrator Password: ***** Login

SDSU JRC EUROPEAN COMMISSION USGS science for a changing world FAO

About

The Remote Sensing Survey portal provides access to global sample tiles used by the [Global Forest Resource Assessment \(FRA-RSS\)](#). It enables the search, display and download of tile information, associated satellite imagery and auxiliary data. The database consists of 13,689 samples of 10 km squares located at the junction of each latitude and longitude line across the globe (excluding Antarctica).

Public users can find out about the study and view and download the Landsat data. Authorised national expert users can login and download draft labelled polygons for checking and then upload the validated data.

Search Tiles Database

This tool allows you to retrieve single tiles by Latitude and Longitude, or filter all tiles by country and/or ecological region.

Latitude: 0° North Longitude: 0° East GO

Search by country: - All -

and/or ecological zone: - All -

and/or tile status: All No data Preliminary Validated Final

Show samples in Google Earth™
If you are using Internet Explorer, please save the kmz file locally and then double click on it.

Search

Map

eco-zones w199n70

Important notices Contacts Dataset description Sampling Grid

search by country, lat – long or using map



View sample tiles in Google Earth

1. You can download the sample squares in KML format for and load Google Earth

2. Show all samples globally

Global Forest Resources Assessment Portal

User: Administrator Password: Login

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Global Sampling Grid

The global sampling grid covers the latitude range between 75 degrees North/South. A systematic sampling design based on each longitude and latitude intersection has been implemented, with a reduced intensity above 60 degrees North/South latitude due to the curvature of the Earth (every second intersection sampled in between 60 and 75 degrees North/South). The coverage consists of 48,960 samples (tiles), of which 13,689 tiles are located on land (excluding Antarctic). The area covered at each tile is 10 km x 10 km. This global sampling grid is the same as that used for the national forest inventories supported by FAO and by many national forest inventory programs.

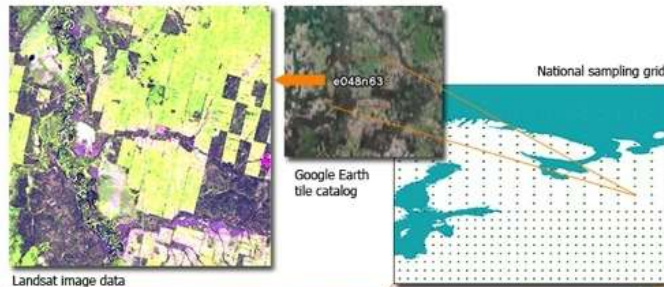
Global tiles	Land tiles (excluding Antarctica)
ESRI Shape format	ESRI Shape format
↓ Tiles locations (center points) [SHP]	↓ Tiles locations (center points) [SHP]
↓ Tiles outlines (10 x 10 km) [SHP]	↓ Tiles outlines (10 x 10 km) [SHP]
↓ Tiles outlines (20 x 20 km) [SHP]	↓ Tiles outlines (20 x 20 km) [SHP]
Google Earth KMZ format	Google Earth KMZ format
↓ Tiles locations (center points) [KMZ]	↓ Tiles locations (center points) [KMZ]
↓ Tiles outlines (10 x 10 km) [KMZ]	↓ Tiles outlines (10 x 10 km) [KMZ]
↓ Tiles outlines (20 x 20 km) [KMZ]	↓ Tiles outlines (20 x 20 km) [KMZ]



Sampling Design

Sampling

The global sampling grid covers the latitude range between 75 degrees North/South. A systematic sampling design based on each longitude and latitude intersection has been implemented, with a reduced intensity above 60 degrees North/South latitude due to the curvature of the Earth (every second intersection sampled in between 60 and 75 degrees North/South). Specifically, every even longitude within the range of 180 degrees West to 178 degrees East and all intersections between 75 degrees North to 75 degrees South were sampled. Every odd longitude within the range of 179 degrees West to 179 degrees East and all intersections between 60 degrees North and 60 degrees South were also sampled.



Projection

The Universal Transverse Mercator (UTM) projection was used for data distribution. For the Southern Hemisphere, no false northing (y-axis point-of-origin shift) was implemented. The use of negative coordinates in Southern Hemisphere is consistent with Landsat data provided by USGS and simplifies working with data in ESRI, Leica Geosystems (ERDAS) and PCI software. For every sampling point, the UTM zone was specified. For intersection points overlapping with UTM zone boundaries, the Eastern zone was selected. The name (Tile ID) of the intersection was created using the pattern: e/w000n/s00. The UTM coordinates (meters, with 1 cm precision) were calculated for every sampling tile center point.



Tile boundaries

3. Zoom into one sample for higher resolution validation



Gateway can download and upload data

1. Login as Guest
2. Guests can view and download Landsat data
3. We want others to use these areas to build results
4. But NOT the labeled tiles (unless authorised)

The screenshot shows the 'Global Forest Resources Assessment Portal' interface. At the top, the user is logged in as 'Guest', which is circled in red. The main content area is divided into several sections:

- About:** A brief description of the Remote Sensing survey portal and its purpose.
- Search Tiles Database:** A search interface with fields for Latitude, Longitude, Country (set to 'Australia (715)'), and Ecological Zone (set to '- All -'). It includes radio buttons for tile status: 'All', 'No data', 'Preliminary', 'Validated', and 'Final'. A 'Search' button is at the bottom right.
- Map:** A map of Australia showing eco-zones, with a red dot indicating the selected tile location. The map title is 'eco-zones' and the tile ID is 'e107x38'.
- Australia:** A section for the selected country, showing statistics: 'No data: 703', 'Preliminary: 13', 'Validated: 0', 'Finalized: 0'. A list of tile IDs is shown, with 'e141s38' highlighted in red.
- e141s38 Preliminary:** A detailed view of the selected tile, showing its location (39°S 141°E), elevation, water content, and biome/ecoregion (Subtropical dry forest, Naracorte woodlands ecoregion). It also lists external information resources and MODIS data.
- e141s38 - Satellite Imagery:** A section showing satellite imagery options for Landsat TM (1990), Landsat ETM+ (2000), and Landsat ETM+ (2005). Each option includes a thumbnail, path/row information, data within tile, cloud cover, and a 'Download image data' link.

Red annotations include a circle around 'Guest', a red 'no' symbol over the 'Preliminary' status, and another red 'no' symbol over the 'e141s38' tile ID in the list.



Labeled data hidden from unauthorised users until cleared

1. Authorized login as country (e.g. Australia) ✓
2. Authorized user can view and download Landsat data
3. PLUS download the labeled tiles
4. + Upload validated tiles
5. + add ancillary data (maps, pictures, docs)

The screenshot displays the 'Global Forest Resources Assessment Portal' interface. At the top, the 'Logout' button is circled in red. The main content area is divided into several sections:

- About:** Describes the Remote Sensing survey portal and its capabilities.
- Search Tiles Database:** A search interface with fields for Latitude, Longitude, Country (set to 'Australia (715)'), and Ecological zone. It includes a 'Search' button.
- Map:** A map of Australia showing eco-zones, with a red dot indicating the selected tile location.
- Australia:** A section for the selected country, showing statistics (No data: 703, Preliminary: 13, Validated: 0, Finalized: 0) and a list of tile IDs. The tile ID 'e141s38' is highlighted in red.
- e141s38 Preliminary:** A detailed view of the selected tile, showing its location (38°S 141°E), elevation (40m), water content (12.75%), and biome/ecoregion (Subtropical dry forest). It also includes a 'MODIS data' section with a tree canopy cover map and a 'Download MODIS-derived tree canopy cover and SR TM water mask (GeoTIF)' link.
- e141s38 - Satellite Imagery:** A section showing satellite imagery for the tile, including Landsat TM (1990), Landsat ETM+ (2000), and Landsat ETM+ (2005).

A green circle highlights the 'Preliminary' status of the tile, with a green checkmark next to it.



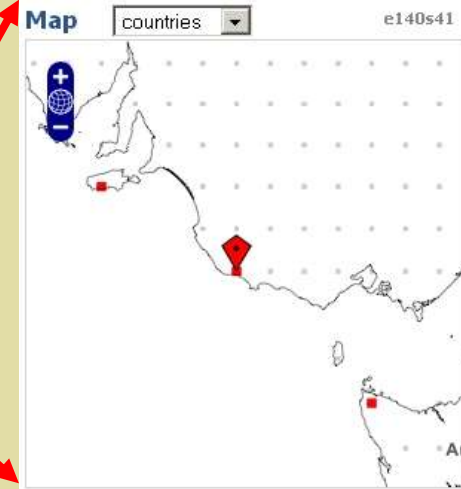
Easily view status of tiles & overall progress

Tile progress (status) is colour coded (and in map)

1. No data
2. Preliminary
3. Validated
4. Final

The screenshot shows the 'Global Forest Resources Assessment Portal' interface. At the top, it includes logos for JRC (European Commission) and USGS. The main content area is divided into several sections:

- About:** A text block explaining the Remote Sensing Survey portal and the Global Forest Resources Assessment (GFRA-RSS).
- Search Tiles Database:** A search interface with fields for Latitude (0°), Longitude (0°), and Country (Australia (715)). It also has filters for ecological zone and tile status (All, No data, Preliminary, Validated, Final).
- Map:** A map of Australia with a grid overlay. A red diamond icon is placed on the map, indicating a specific tile. A red arrow points from this icon to a larger map on the right.
- Statistics:** A section for 'Australia' showing statistics: No data: 703, Preliminary: 13, Validated: 0, Finalized: 0.
- Tile List:** A list of tile IDs (e.g., e141s31, e141s32, etc.) with 'e141s38' highlighted in red.
- Tile Details (e141s38 - Preliminary):** Information about the selected tile, including location (38°S 141°E), elevation (40m), and water content (12.75%). It also shows satellite imagery for Landsat TM (1990), Landsat ETM+ (2000), and Landsat ETM+ (2005).



Map shows the status of tiles (e.g. red = draft labels)



Handling sensitive data with care

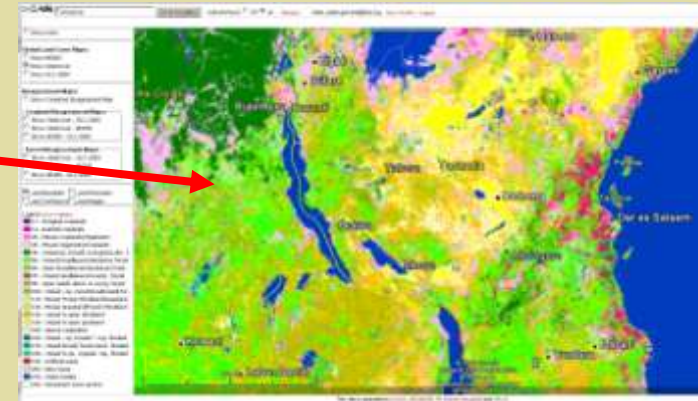
Processing

1. Authorised users can download labeled polygons
 2. Countries validate & upload polygons
 3. Countries recommend if public or not
- Data automatically compiled for analysis

The screenshot displays the 'Global Forest Resources Assessment Portal' interface. At the top, it shows the user 'admin admin' with options for 'Logout', 'Administration', and 'Report'. Logos for SDSU, the European Commission, JRC, and USGS are visible. The main content area is titled 'e141s38 Preliminary' and includes tabs for 'General data', 'Ancillary data', and 'Processing'. A sidebar on the left lists 'All countries' with a 'STATISTICS' section showing 'Preliminary: 136'. The main processing area is divided into three steps: Step 1 (Preliminary), Step 2 (Validated), and Step 3 (Final). Step 1 is currently active, showing a 'Submitted by Administrator on 19/07/2007' status and a 'Preliminary' icon. Step 2 shows a 'Validated' icon and an 'Upload validated file (zip)' form with fields for 'name', 'email', and 'notes', along with 'Browse...' and 'Upload' buttons. Step 3 shows a 'Final' icon, a 'Final approval' button, and a checked 'Publish' checkbox. Red circles and numbers 1 and 2 highlight the Step 1 and Step 2 icons respectively.

New functions can be developed

- Current portal is draft version
- Comments welcome
- New functions can be developed
 - add more imagery
 - Google Earth or Gmaps interface?
 - View Globcover or other national data?
 - enable simple viewer for RS imagery?
- Tell us what you'd like to see and do...



Conclusions

1. Benefits from using new portal
 - a) making easy access through internet
 - b) managing sensitive data carefully during processing
 - c) creates a central archive of complex global data for all partners
2. Data access and management challenges, system built to handle:
 - a) tile upload and download via internet
 - b) ancillary data upload (country maps, reports etc)
 - c) administration & reporting functions to track progress
3. New functions can be developed
 - comments welcome

****[insert comments webpage address]****

