GLOBAL FOREST WATCH

DATA PLAYBOOK

This is a guide to how Global Forest Watch (GFW) prioritizes, acquires, assesses, and incorporates new data into the Global Forest Watch System. All hyperlinks are in blue.

BEFORE YOU START

Watch the GFW Introduction Video, explore the GFW website, connect with us on Twitter, Facebook, or Instagram, and browse our Open Data Portal.

WHAT TYPE OF DATA IS GLOBAL FOREST WATCH INTERESTED IN?

Global Forest Watch aims to radically improve knowledge and transparency about forest landscapes globally by openly providing the best available, most complete, and most up-to-date forest data available.

In particular, Global Forest Watch seeks data which:

- Improve the accuracy or timeliness of **forest change** detection globally and for heavily forested regions
- Illustrate **drivers of change**, including local land use and industrial activity. Priority sectors include logging, mining, agricultural commodities (palm oil, beef, soy, etc.), and infrastructure
- Indicate the **health or status of remaining forests**, such as biodiversity, landscape connectivity, or carbon
- Outline the **ownership or management of land** and associated resources, including indigenous lands, government land leased through concessions or permits, community forests, and private land

Current data is grouped into the categories *Forest Change*, *Forest Cover*, *Land Use*, *Conservation*, *People*, and *Stories*. To view the existing categories of GFW data, please visit the GFW Interactive Map.

Global Forest Watch assesses potential new data sets across a number of quality indicators, including timeliness, accuracy, completeness, geographic coverage, innovation, and objectivity. Global Forest Watch is a global platform, thus we prioritize data sets that are global in nature. However, we recognize that not all data sets cover the entire globe and that global data is often too coarse for local applications. For this reason, we also visualize a number of national and subnational data sets, especially those that relate to the use and management of natural resources.

HOW DOES GFW ACQUIRE NEW DATA FOR THE WEBSITE?

Data on Global Forest Watch come from a variety of sources, including governments, NGOs, academia, and industry. To acquire new data, we:

- Research and incorporate publicly available open data
- Form partnerships to move data into the public domain
- Fund the creation of data sets to fill key gaps
- Apply cutting-edge science and technology to produce new data (e.g. FORMA alerts)

WHAT IS THE PROCESS FOR SHARING DATA SETS WITH GFW?

Generally, the process begins with a conversation between GFW and the data provider about which data sets will be visualized. The data provider will also be asked to sign a Data Sharing Agreement, which gives Global Forest Watch permission to visualize the data on the website and (in most cases) make the data downloadable.

Data (raster, vector, or table) can be shared with the Global Forest Watch platform through various formats including:

- **Shapefiles, CSV, file database, tiff, or other geo referenced files** shared directly with GFW (preferred)
- Through a **webmap (WMS) or other online map service**
- Through a **GeoJSON feed** or an **API**

Often, the data provider shares the data through a file sharing service such as Dropbox. We can take data in any projection. We convert data to WGS1984 for visualization on the website, but we make all data available in its original projection on our Open Data Portal.

The time elapsed between receiving a new data set and deploying it to the Global Forest Watch platform can vary for many reasons, including the size and complexity of the data, the completeness and quality of the attribute data, and communication with the data provider. You can shorten this process by adhering to our metadata and attribute data standards (see below). We do our best to get data on the website as quickly as possible, and will work with you to meet specific deadlines.

WHAT TYPE OF METADATA AND ATTRIBUTE DATA DOES GFW REQUIRE?

The World Resources Institute has robust metadata standards for all data products created or hosted by our organization, based on the ISO 19115 style guide for geographic information. Please see the table at the end

of this document for our minimum metadata standards for GFW data, though we always encourage additional metadata when relevant.

Attribute data differs by data type. For example, company name is an important attribute for industrial concessions, but is not relevant to other types of data, such as indigenous territories or protected areas. GFW's attribute standards (below) identify the key attribute information we are interested in displaying on the GFW interactive map for land use and people data. Data providers are encouraged to include information for the standard attributes, but don't have to complete them all if information does not exist. Data providers are also welcome to provide additional attributes, which GFW can make available for download and exploration on the Open Data Portal. Other types of data will have different attributes. Please contact GFW if there are questions about which attributes should be included.

Standardized Attributes: Land Use Layers

Logging
Name
Company
Group company
Group country
Legal term
Status
Certification
Province
Area (ha)
Source
Last update

Mining
Name
Company
Mineral
Permit
Permit code
Status
Area (ha)
Province
Type
Source
Last update

Oil Palm
Name
Company
Group company
Group ID
Subgroup
Type
Certification
Area (ha)
Source
Last update

Wood Fiber
Name
Group company
Type
Certification
Area (ha)
Source
Last update

Standardized Attributes: People Layers

Resource Rights
Name
Legal term
Legal recognition
Area (ha)
Source
Last update

Land Rights
Name
Legal term
Legal recognition
Area (ha)
Source
Last update

HOW DOES GFW MAKE DATA DOWNLOADABLE?

When permissible by the data provider, GFW will make data downloadable from its Open Data Portal. To prepare data for the Open Data Portal, GFW registers files or map services with ArcGIS Online. Once registered in ArcGIS Online, we can display the data in a map and table in the Open Data Portal, and allow users to download the data in multiple formats. Users may also use ArcGIS Online to develop their own interactive maps or apps with GFW data.

HOW DOES GFW ENSURE DATA ARE UP-TO-DATE?

When data are updated by a provider, we request the provider notify us so we can accommodate the changes and make it clear to users how the changes may impact their use of the data. When data are updated routinely (i.e. multiple times in a year) we prefer to automate the update process by pulling from a central location where the provider updates the data (i.e. a webservice, API, or stable download URL).

For data from publicly available data sets, GFW's research team regularly conducts inventories to make sure the latest iteration of the data set has been processed and added to the GFW interactive map (and, if applicable, the Open Data Portal).

HOW DO I CONTACT GLOBAL FOREST WATCH?

To give us feedback on the GFW platform so that we can continue to meet the needs of our users, please visit our Feedback Page. For general inquiries, suggestions of new data sets, or questions about sharing your data with us, email us at gfw@wri.org.

MINIMUM METADATA STANDARDS FOR GFW			
Field Name	**Description**	**Location in ArcCatalog**	**Example**
TITLE	Name of data set	Overview / Item Description / Title	USA land cover
FUNCTION	Function or purpose of the data (i.e. how to use the data and what it represents)	Overview / Item Description / Summary	Identifies land cover for the United States, utilizing the National Land Cover Database (NLCD) for 2011
RESOLUTION / SCALE	Cell size (for raster data only)	Resources / Spatial Representation Information / Georectified representation / Dimension / Column (x-axis) / Size ... / Column (y-axis) / Size	30 x 30 meters
GEOGRAPHIC COVERAGE	Keyword for geographic coverage	Overview / Topics & Keywords / Place Keyword	Contiguous United States (excluding Alaska and Hawaii)
SOURCE DATA	Data that was input to the data set	Resource / Lineage / Data Source / Source Description	Landsat
FREQUENCY OF UPDATES	Description of what is updated, when to expect next update, etc.	Resources / Maintenance / Custom Frequency	Every 5 years
DATE OF CONTENT	Date or time period that the data represents	Resources / Extent / Temporal period	2011
CAUTIONS	Use limitations	Overview / Item Description / Use Limitations	An assessment of accuracy for the NLCD land cover product found overall accuracies for the 2001 and 2006 products were 79% and 78%...
OVERVIEW	Description or abstract of the data and methodology	Overview / Item Description / Description	The National Land Cover Database 2011 (NLCD 2011) is the most recent national data product created by the United States Multi-Resolution Land Characteristics (MRLC) Consortium... (generally multiple paragraphs)
CITATION	How a user should cite the data	Overview / Citation / Other Details	Jin, S., Yang, L., Danielson, P., Homer, C., Fry, J., and Xian, G. 2013. “A comprehensive change detection method for updating the National Land Cover Database to circa 2011.” Remote Sensing of Environment, 132: 159 – 175.

Field Name	Description	Location in ArcCatalog	Example
KEYWORDS	Descriptive keywords that make it easy to search for the data	Overview / Item Description / Tags	Land cover, United States, Landsat, remote sensing, forests, agriculture, development
LAST UPDATE	Date when data set was last updated	Overview / Citation / Dates / Revised	2015
LICENSE	License under which data are published	Resources / Constraints / General Constraints / Use Limitation	Creative Commons CC By 4.0