

# The Global Land Cover Facility



## REASoN Activities

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**University of Maryland**  
**January 2004**

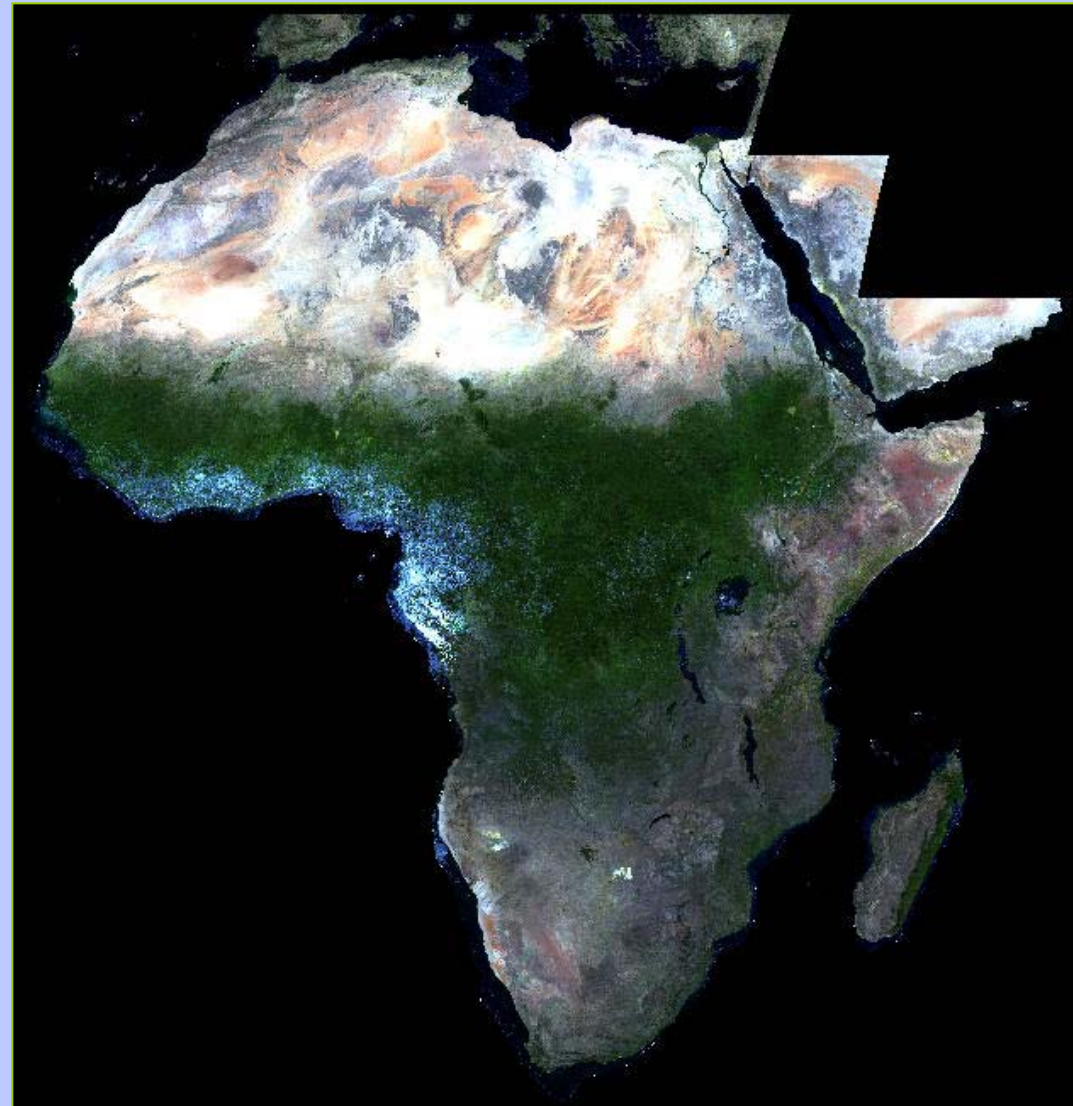
# The GLCF

- **The GLCF research facility is located at the University of Maryland.**
- **The GLCF is a part of the University of Maryland Institute for Advanced Computer Studies (UMIACS).**
- **The GLCF is also associated with the University of Maryland Department of Geography.**
- **The GLCF is a founding member of the Federation of ESIPs.**



# GLCF REASoN Brings Renewal

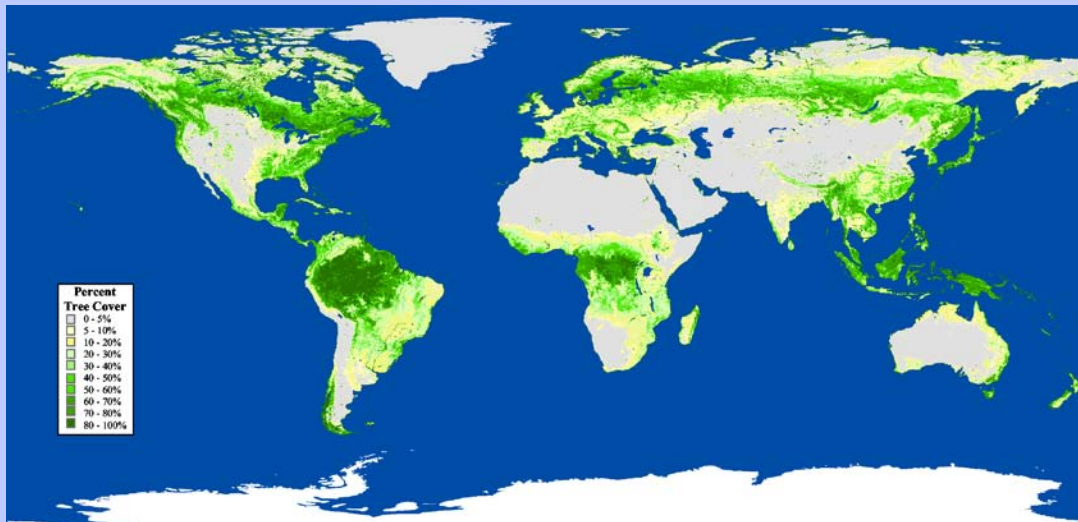
- **The Global Land Cover Facility began as an ESIP in 1998.**
- **The GLCF will continue under REASoN for another three years.**



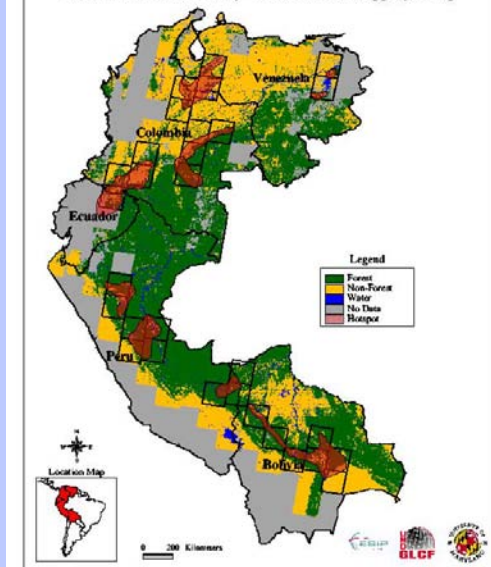
# GLCF ESIP Success Stories

The GLCF accomplished many Earth science and computer science activities as an ESIP:

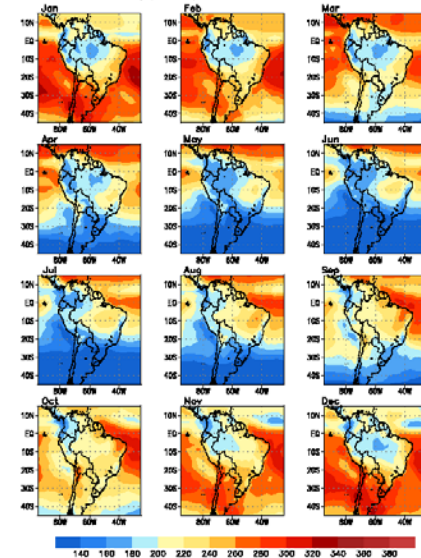
- Massive distribution of Earth Science data
- Integration of Earth science and computer science
- Development of land cover products
- Collaborations with major Earth science organizations



Forest Cover and Hotspot Map for the Pan-Amazon Region  
Global Land Cover Facility - Deforestation Mapping Group



10-year mean shortwave surface downwelling flux ( $w/m^2$ ) from ISCCP D1 data

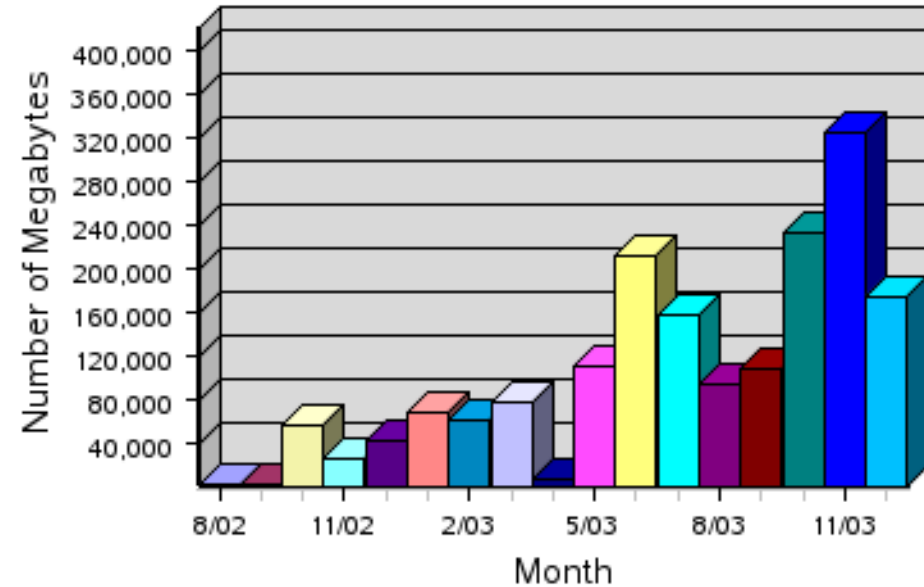
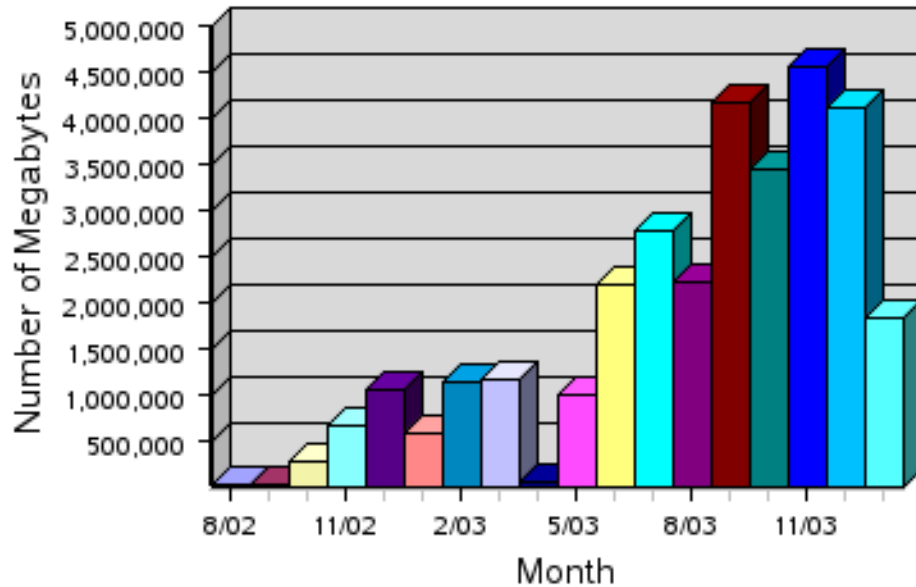


# GLCF Current Activities

The GLCF has become a leading provider of Earth science data.

FTP Downloads as of January 18, 2004

FTP Downloads as of December 17, 2003



Landsat & AVHRR Products Archive

MODIS Products Archive

\*April 2003 logs were lost

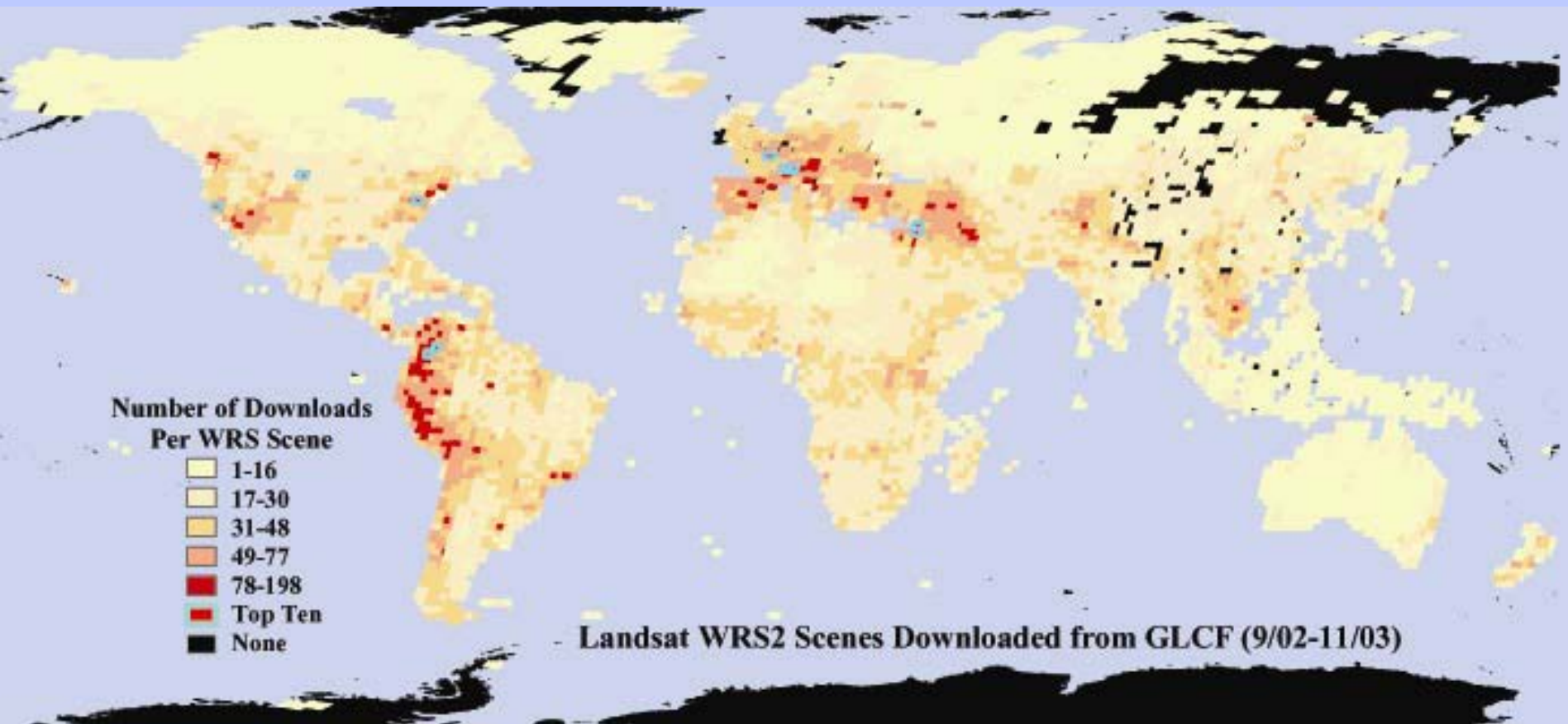
# GLCF Current Activities

The GLCF is involved in the processing and delivery of three global multiple series MODIS products:

- **Vegetation Continuous Fields (VCF); 3 layers: Percent Tree Cover, Percent Herbaceous Cover, Percent Bare Cover**
- **32-Day 500m Composites**
- **Vegetation Cover Conversion (VCC)**



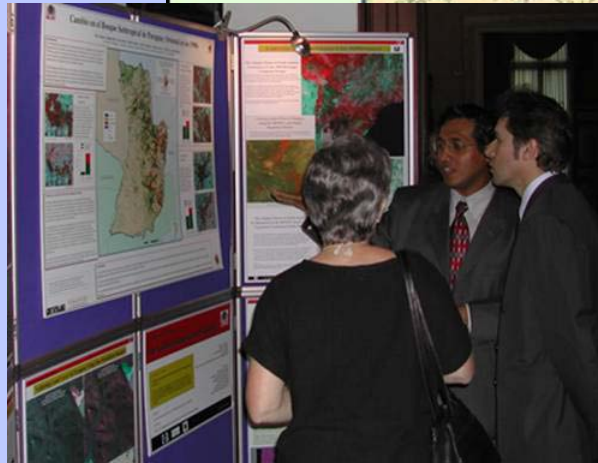
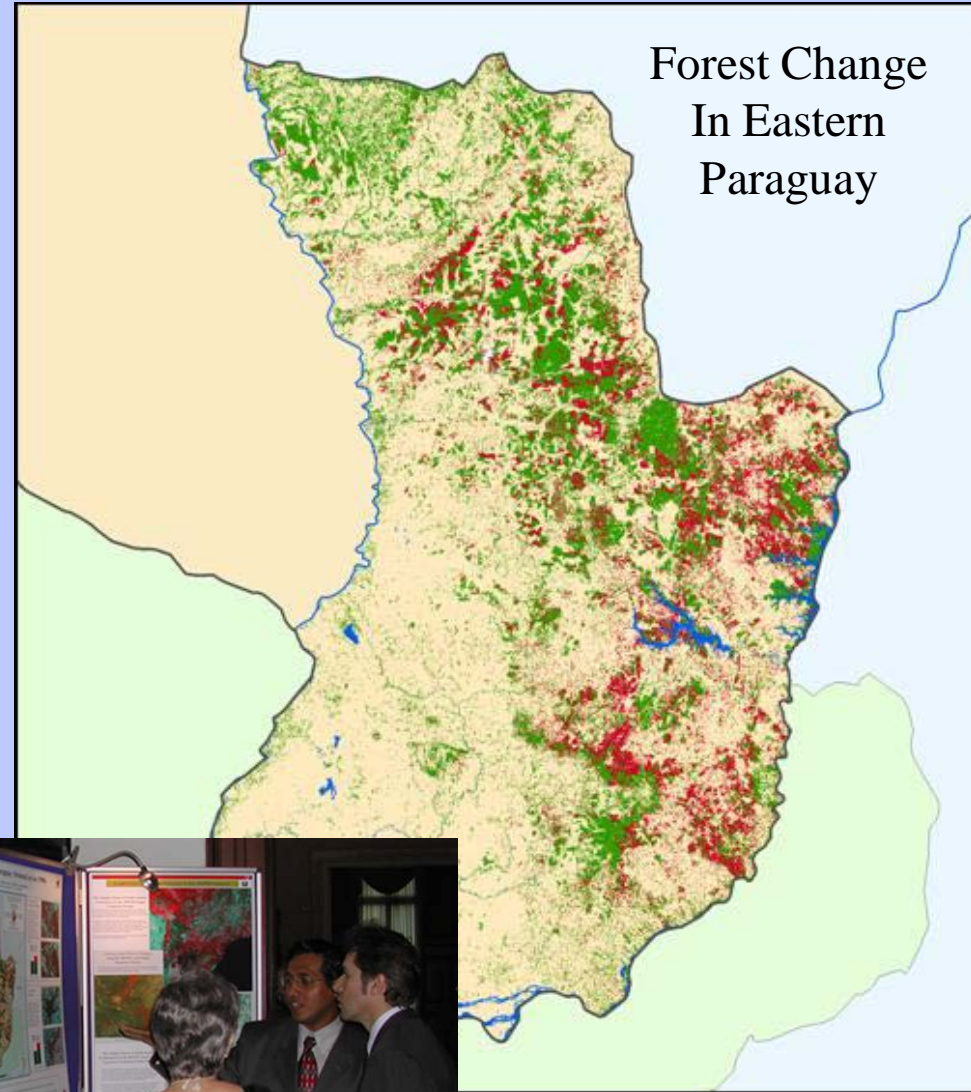
# GLCF Current Activities



# GLCF Current Activities

**The Deforestation Mapping Group (DMG) at GLCF specializes in assessing forest cover change, with primary experience in:**

- **The Amazon rainforest in Colombia, Venezuela, Ecuador, Peru and Bolivia**
- **The central African rainforest in Dem. Rep. Congo, Congo, Gabon, Cameroon, Equatorial Guinea, Central African Republic**
- **The boreal forest of Canada**
- **The rainforests of Indonesia**
- **The Atlantic Forest and Chacoan forests of Paraguay**



GLCF staff present products to Vice President of Paraguay



# IT Research

- Land applications of DODS/OpeNDAP
  - Designed to remotely process data before returning to client by specifying a set of allows transformations.
  - Command set to control how transformations occur.
- Data GRID
  - SRB (Storage Resource Broker)
  - Designed as a data repository with remote process execution as opposed to registering processed data sets. DODS: web based service, stateless queries.
  - This means it's easily scalable using today's web technologies, load balancers, etc.
  - Ability to open, read, seek into files. It allows data in the srb to be more easily treated as a local file.
  - MCAT tracks registered objects and organizes them into collections. Metadata on objects and collections is also stored.

# The GLCF Translation into REASoN

**With REASoN support, the GLCF will continue as a critical Earth Science research and data center.**

**The continuing overall mission of the GLCF is:** “To encourage the use of remotely sensed imagery, derived products and applications within a broad range of science communities in a manner that improves comprehension of the nature and causes of land cover change and its impact on the Earth.”

**GLCF goals include:** “Provide free access to an integrated collection of critical land cover and Earth science data through systems that are designed to maximize user outreach and that promote development of novel tools for ordering, visualizing and manipulating spatial data.”

# GLCF REASoN Tasks

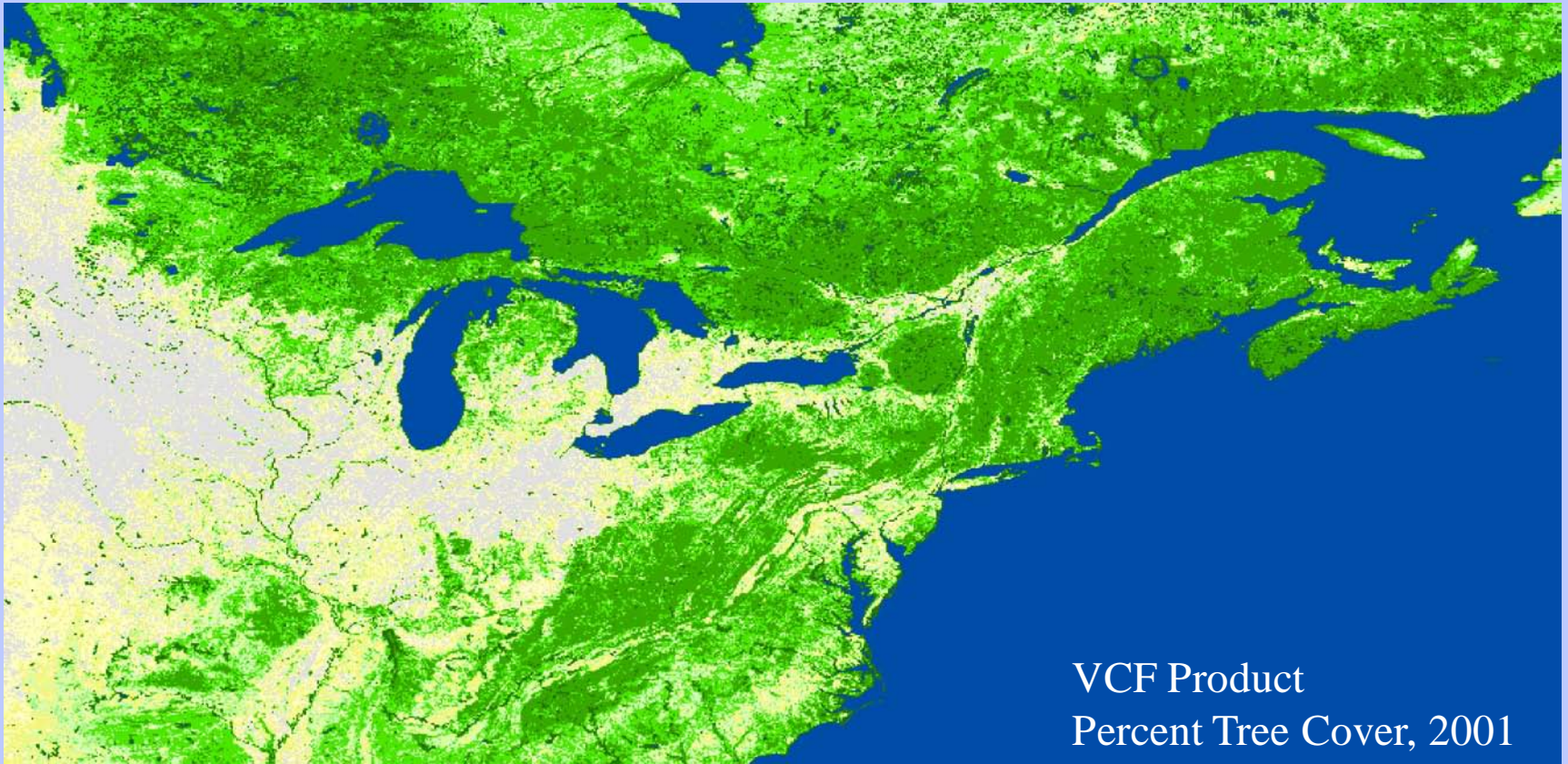
**The GLCF has a variety of tasks to accomplish through the REASoN program, including:**

- **Continue Earth science data & products distribution**
- **SEEDS committees responsibilities**
- **Delivery of GeoCover products**
- **Support of collaborating agencies (NGOs, UN)**
- **Develop & distribute enhanced MODIS products**
- **Develop subsets for MODIS products**
- **Design online subset tool**
- **Improve Web interface tools**
- **Interoperability research and operation (data grid, OpenDAP, Terascale)**
- **Advanced visualization tools**
- **GloPEM dataset**

## GLCF REASoN Tasks

**The GLCF will undertake several activities involving MODIS data:**

- **Six new 16-day NDVI and VCF products for the United States to feed the Forestry and Inventory Analysis (FIA) program of the USFS**
- **Design and implement a system for making MODIS products subsets in a format and size readily accessible to most public users.**
- **Update current MODIS products formats (projections, data formats), possibly including NDVI products.**



# GLCF REASoN Tasks

**The GLCF is responsible to NASA for delivery of the EarthSat GeoCover Landsat collection to the developing nations of the world. This involves:**

- Coordination through the United Nations Environment Programme**
- Providing each country with a copy of all GeoCover imagery covering their area.**

**This program will provide each environmental agency of every developing country with a free copy of imagery for their use.**

**The EarthSat GeoCover product was sponsored by NASA under the Science Data Purchase, and includes orthorectified Landsat imagery for all land surfaces in three editions: 1975, 1990 and 2000.**

**The GLCF provides access to all GeoCover imagery via FTP – free to the world.**

<http://glcf.umiacs.umd.edu>

Landsat WRS2 scenes for Sudan



# GLCF REASoN Tasks

**The GLCF participates in the SEEDS Metrics Working Group. This group is designated to help facilitate metrics collection for the REASoN awardees. GLCF staff currently hold the co-chair position of the working group.**

**This activity continues the GLCF efforts at designing, processing and delivering metrics for Earth science research activities.**

The screenshot shows a web browser window titled "ESIP Federation: Evaluation Resources - Microsoft Internet Explorer". The address bar contains the URL "http://glcfapp.umiacs.umd.edu:8080/eval/index.jsp". The page content includes the ESIP Federation logo and the title "ESIP Federation Quarterly Metrics Reporting Form".

The page is divided into two main sections: "Users" and "Data & Services".

**Users Section:**

- Data and service users
  - By domain
  - By market share
- Repeat users
  - Information consumers
    - By domain
    - By market share
  - Total distinct customers

**Data & Services Section:**

- Total data volume in archives
  - Data volume
- Datasets
  - New datasets
- Data products delivered
  - Volume of products delivered
- Services available to users
  - New services
  - Services rendered
- Components used by others
  - Delivery time
  - Error Tracking
- Non-web products
  - Web page hits
- User satisfaction surveys

**Reporting Form:**

ESIP:	GLCF
Quarter:	2003 : Fourth Quarter
Email Address:	<input type="text"/>

Buttons:

Please send any comments to webmaster  
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# GLCF REASoN Tasks

The GLCF is involved in and will continue visualization research under the REASoN. This includes both enhancing current interface tools and developing new applications to help users gain easy and rapid access to Earth science data.

New edition of the GLCF's successful Earth Science Data Interface (ESDI)

Global Land Cover Facility  
Earth Science Data Interface

Home Map Search Product Search Path/Row Search Workspace Login News Help Contact Us GLCF

Welcome to the Earth Science Data Interface (ESDI) at the Global Land Cover Facility

The Earth Science Data Interface is the GLCF's web application for searching, browsing, and downloading data from our online holdings.

- **Returning ESDI Users:** [Please read](#) about important changes that have been made in this version before starting.
- **New ESDI Users:** [Complete documentation](#) is available to help you learn how to use ESDI effectively.

**ESDI Login**

Email:

Password:

[Lost password?](#)

**What's new in ESDI?**

- **124 Landsat Scenes Added for Northeastern Africa**  
(posted 2003-12-17)
- **All Data Have Been Restored**  
(posted 2003-12-15)
- **ESDI Release Announcement**  
(posted 2003-12-12)

**Map Search** **Path/Row Search** **Product Search**

Map Search allows you to search our datasets by using an interactive world map to view spatial coverages. If you are searching for Landsat data and already know the WRS paths and rows for your area of interest, you can use the [Path/Row Search](#) text-based tool instead. Use the [Product Search](#) page to select derived data products based on dataset-specific attributes.

- [Search by Granule ID](#)

Please send any comments to [glcf@umiacs.umd.edu](mailto:glcf@umiacs.umd.edu)  
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Global Land Cover Facility  
Earth Science Data Interface

Home Map Search Product Search Path/Row Search Workspace Login News Help Contact Us GLCF

ETM+  
WRS-2, Path 015, Row 033  
1999-12-03  
USGS / GLCF  
L1G  
United States  
Online: 023-714  
Compressed Size: 222 MB; Actual Size: 592 MB

Click on an ID below to Preview and Download. Click on the preview above to see a larger browse image.

<< First < Previous Page 1 of 1 Next > Last >>

show/hide column

Search Results (9)	[ ID ]	Status	[ WRS: P/R ]	[ Acq. Date ]	Dataset	Producer	Attr.	Type	Loc:
	<a href="#">019-276</a>	Online	2: 015/033	2000-03-24	ETM+	USGS / GLCF	L1G	BSQ	Un Stz
	<a href="#">019-295</a>	Online	2: 015/033	1999-07-28	ETM+	USGS / GLCF	L1G	BSQ	Un Stz
	<a href="#">020-432</a>	Online	2: 015/033	2001-10-05	ETM+	EarthSat	Ortho, NV	GeoTIFF	Un Stz
	<a href="#">023-713</a>	Online	2: 015/033	1999-11-01	ETM+	USGS / GLCF	L1G	BSQ	Un Stz
	<a href="#">023-714</a>	Online	2: 015/033	1999-12-03	ETM+	USGS / GLCF	L1G	BSQ	Un Stz
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	<a href="#">026-052</a>	Online	2: 015/033	2000-04-09	ETM+	USGS / GLCF	L1G	BSQ	Un Stz

Please send any comments to [glcf@umiacs.umd.edu](mailto:glcf@umiacs.umd.edu)  
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# GLCF REASoN Tasks

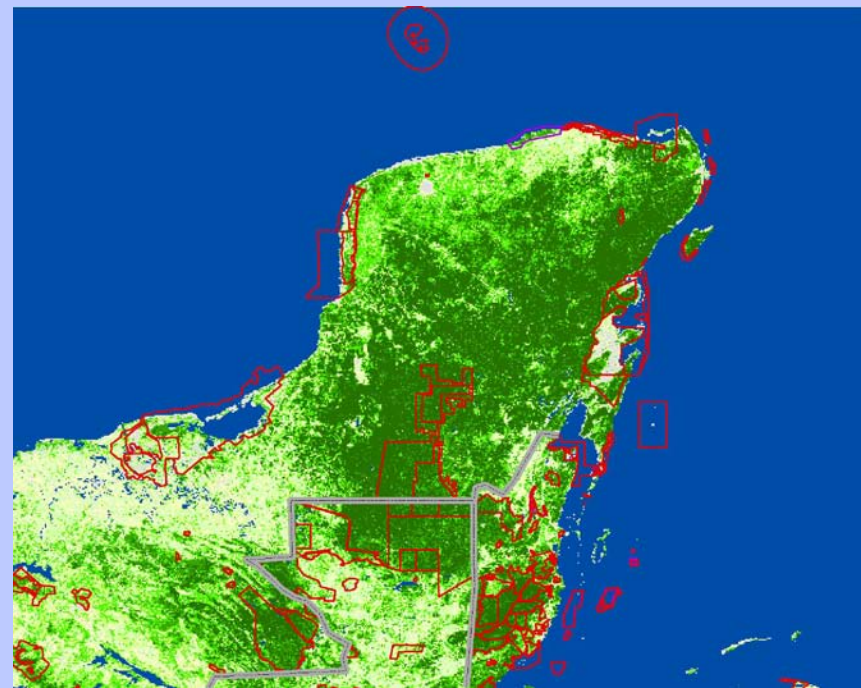
**Complimentary Activities:** The GLCF is involved with many complimentary research and distribution activities, including:

- Large scale data distribution
- Metrics formulation and collection
- Forest change assessment

**Collaborations:** The GLCF actively participates in research and distribution activities with many science and related organizations including:

- The United Nations (FAO, UNEP)
- GOFC
- IUCN
- World Wildlife Fund
- NASA NGOs

IUCN/UNEP Protected Areas (red)  
and MODIS VCF Percent Tree Cover (green)





# The GLCF is Serving the Earth Science Community Today

For Further Information:

<http://glcf.umiacs.umd.edu>

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ASTER  
over  
Baltimore

