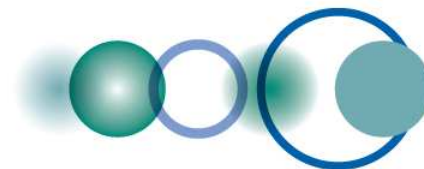


# 2<sup>nd</sup> GEO Forest Monitoring Symposium Forest and Land Cover Dynamics

T.Hame VTT Finland

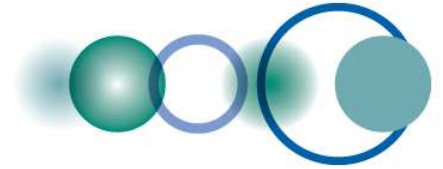
2nd GEO Forest Monitoring Symposium  
July 1-3, 2009 Chiang-Rai, Thailand





## Forest and Land Cover Dynamics

Cross-Cutting Products and Services	US-09-03b	Forest Mapping and change Monitoring
Global Data Sets	DA-09-03a	Global Land Cover
Interoperable Systems for GEOSS	AR-09-02a	Virtual Constellations (LSI)
Warning Systems for Disasters	DI-09-03b	Implementation of a fire warning system at global level

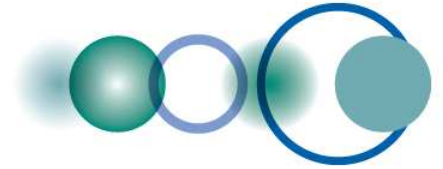


## DA-09-03a Global Land Cover

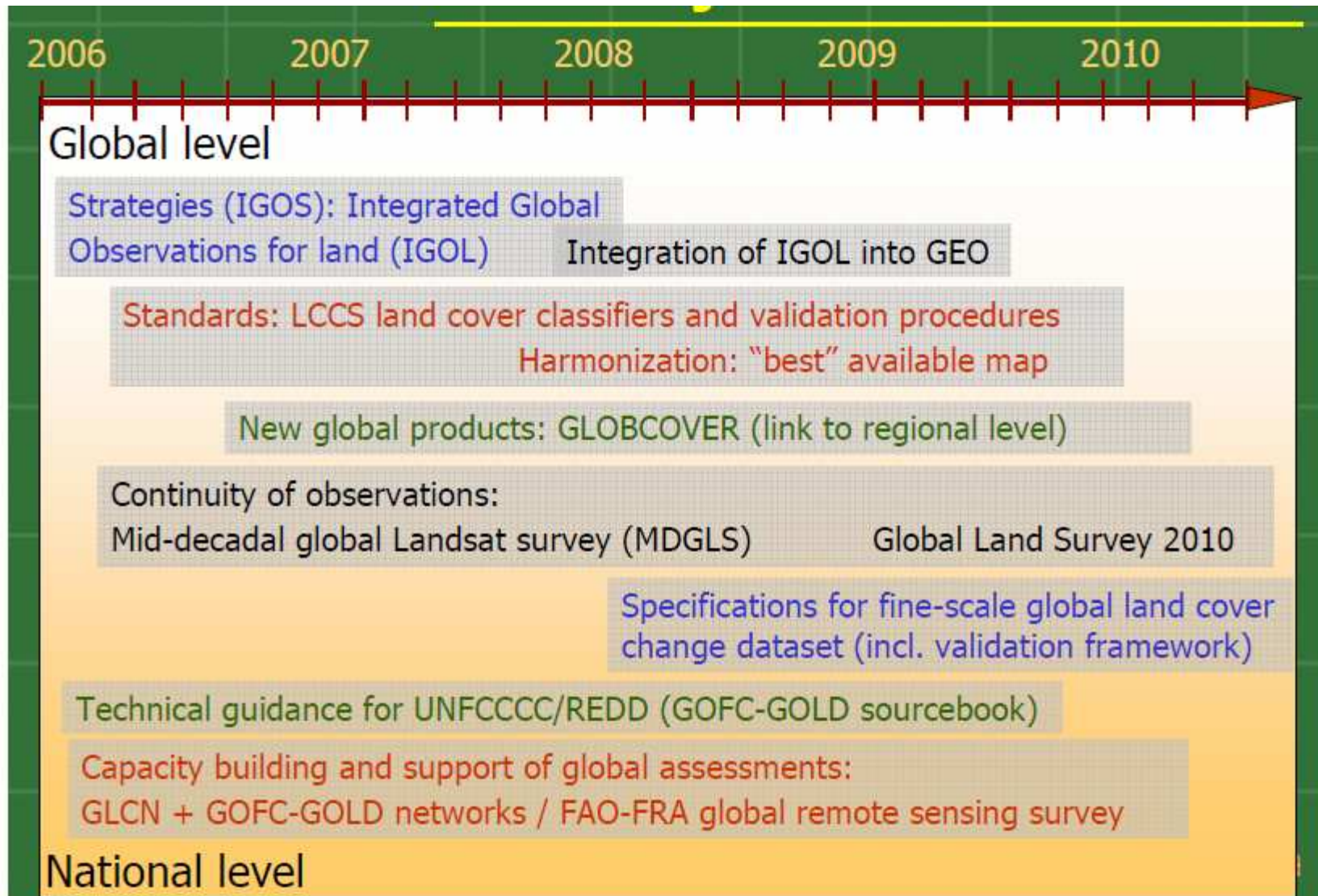
### Key 2015 GEOSS Forest Observation Targets

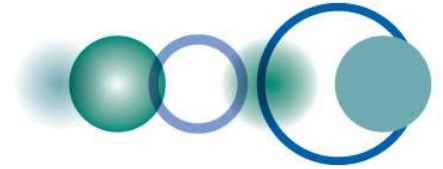
---

- Global, internationally accepted, validated, high resolution land cover datasets provided by operational programs (DA-07-02). Near real-time operational monitoring of forest and land cover change, using a combination of ground and satellite information, and internationally agreed standards (AG-06-04).



## DA-09-03a Global Land Cover



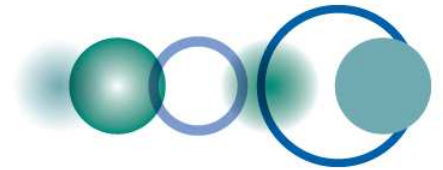


## US-09-03b Forest mapping and change monitoring

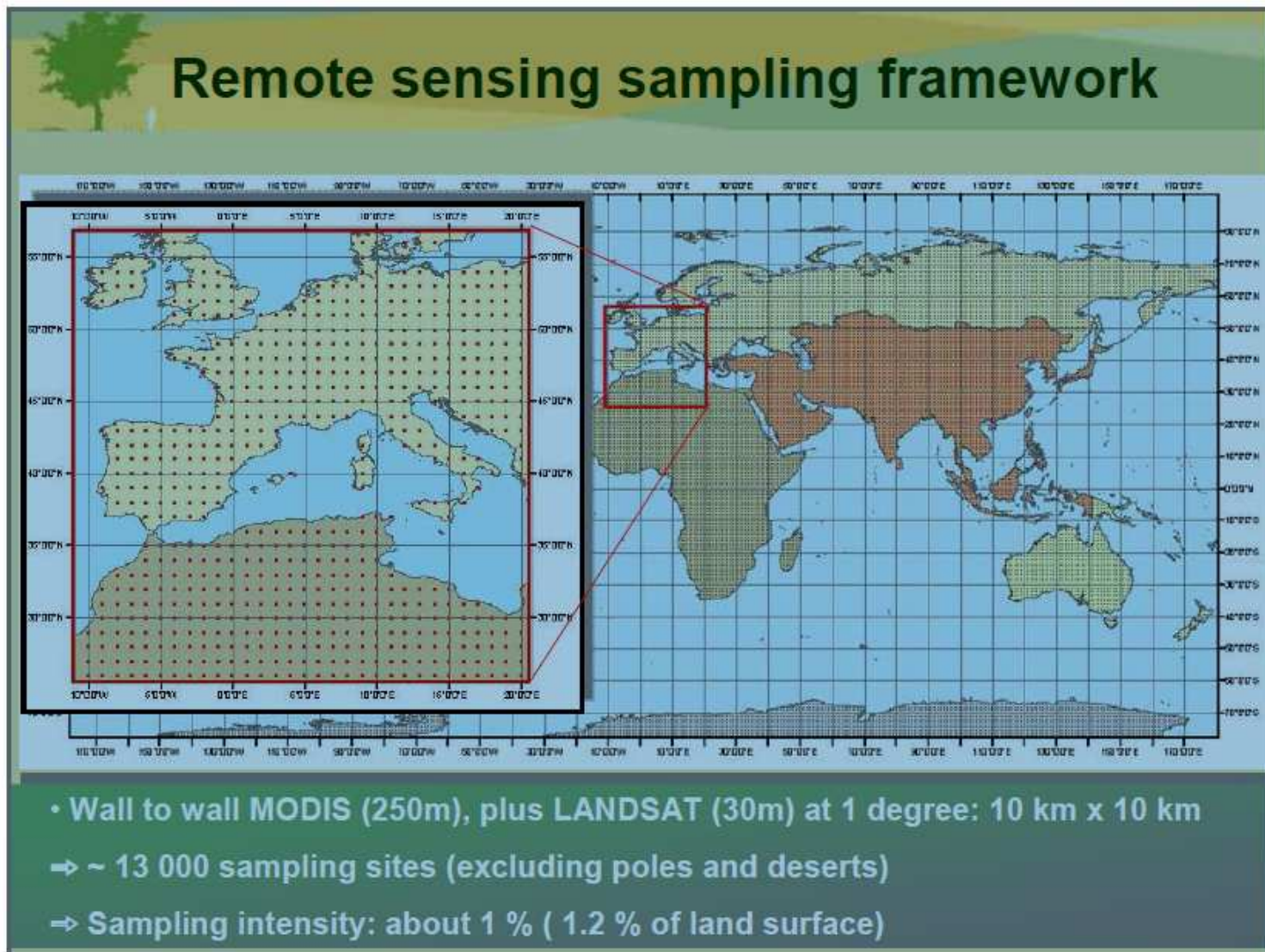
### FRA RSS expected outputs

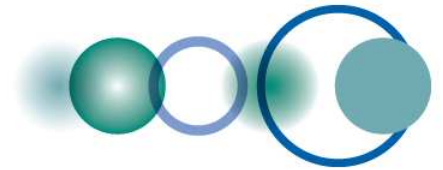
1. Tree cover maps (from MODIS)
2. Regional, biome/ecozone, global trends (not national) for 1975-1990-2000-2005:
  - area change statistics (from Landsat)
  - information on land use dynamics

---
3. A framework to support further monitoring of forests, land use and the environment
4. Baseline data for research & modeling

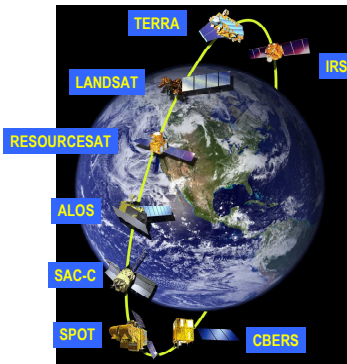


## US-09-03b Forest mapping and change monitoring

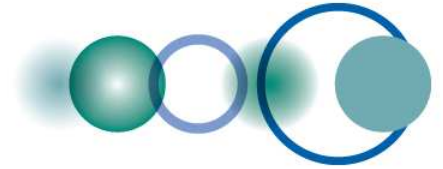




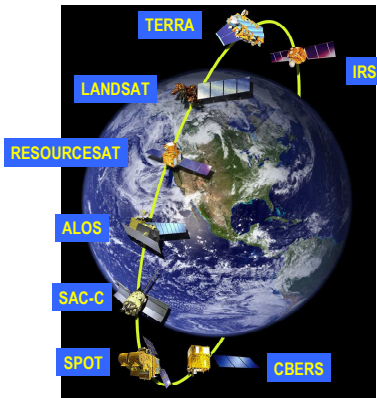
# Land Surface Imaging Constellation LSI



- A prototype LSI Constellation Portal for Mid-Resolution Optical LSI Satellite System Information and Enhanced Data Access was developed and demonstrated at GEO V in Bucharest.
- The Working Group on Radar (WGR), has been established to lead LSI Constellation radar activities.
- The Working Group on Regional Data Set Compilation (WGRDSC) currently is working to assemble initial data sets.
  - Regional areas in South America, Africa, and SE Asia have been defined.



# Land Surface Imaging Constellation LSI



LSI Portal - Windows Internet Explorer

http://wgiss.ceos.org/lsp/satellites\_midres1.shtml

LSI Portal

## CEOS Land Surface Imaging Constellation Portal

for  
Mid-Resolution Optical LSI Satellite System Information and Enhanced Data Access

Home CEOS LSI About LSIC About Portal Contact

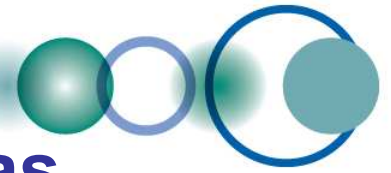
### Overview

- CEOS Agency Mid-Resolution Optical Satellite Systems
- Satellites
  - Satellites & Sensors
  - Status & Launches
  - Orbit Information
- Sensors
  - Band Information
  - Visible & NIR Bands
    - SWIR Bands
    - Thermal Bands
  - Panchromatic Bands
  - Hyperspectral Bands
    - Radiometric & Geometric Characteristics
    - Geographic Characteristics
- Data
  - Data Access
  - Documentation

### CEOS Agency Current and Former Mid-Resolution Optical Satellites & Sensors

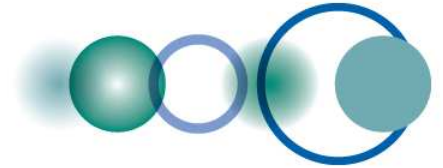
Satellite	Sensors	Agencies
ADEOS-1	AVNIR-1	JAXA
ALOS	AVNIR-2	JAXA
CBERS-1	HRCC, IRMSS	CAST, INPE
CBERS-2	HRCC, IRMSS	CAST, INPE
CBERS-2B	HRCC	CAST, INPE
EO-1	ALI, Hyperion	NASA, USGS
IMS-1	MX-T	ISRO
IRS-1A	LISS-I, LISS-II	ISRO
IRS-1B	LISS-I, LISS-II	ISRO
IRS-1C	LISS-III A	ISRO
IRS-1D	LISS-III A	ISRO
IRS-P2	LISS-III A	ISRO
IRS-P6	LISS-III B, AWiFS	ISRO
JERS-1	OPS	JAXA
Landsat 1	MSS	NASA, USGS
Landsat 2	MSS	NASA, USGS
Landsat 3	MSS-B	NASA, USGS
Landsat 4	MSS, TM	NASA, USGS
Landsat 5	MSS, TM	NASA, USGS
Landsat 7	ETM+	NASA, USGS
SAC-C	HRTC	CONAE
SPOT-1	HRV	CNES
SPOT-2	HRV	CNES
SPOT-3	HRV	CNES
SPOT-4	HRVIR	CNES
SPOT-5	HRG	CNES
Terra	ASTER	METI, NASA
THEOS	MS	GISTDA

Start | G. Bryan Bailey - Inbox... | Data Availability & Acces... | Characteristics of LSI Sa... | LSI Portal - Windows... | Internet | 100% | 5:08 AM



# Regional Data Set Compilation Areas



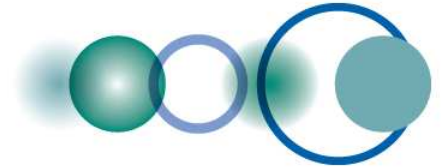


## Fire warning system at global level

### Countries with Fire Danger Rating Information \*



\* FDR information is provided on an operational basis.  
Type of information and level of implementation varies widely.



# Fire warning system at global level

## Global Level Products

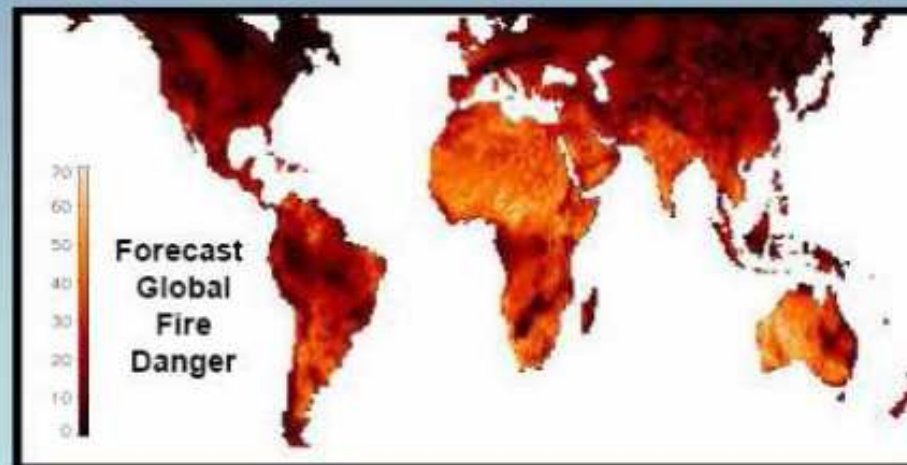
### Fire Danger Rating Products

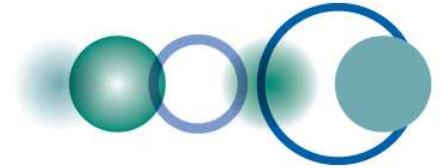
#### Actual fire danger

- compilation of current national FDR's
- continuous updating - approx. 6 hours

#### Forecast fire danger

- 1 to 14 day forecast fire weather
- global modeling of several national FDR's (FWI, McArthur, etc.)



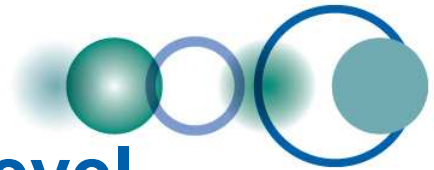


## Fire warning system at global level

### Next Step

#### Secure funding

- Most cost is related to in-kind funding for human resources; minor other costs
- 3-yr timeframe to implement system
- If minimal funding, initially develop system for a specific global region (several potential areas)



# Fire warning system at global level

Global Fire Monitoring Center (GFMC)

The GFMC is an Activity of the UN International Strategy for Disaster Reduction (ISDR)




Last Update: 5 November 2008 09:08

Search on the GFMC Website

- Global Fire Monitoring Center
- Current Global Fire Status
- Early Warning of Wildland Fire
- International Assistance in Wildland Fire Emergencies
- Global Wildland Fire Network
- Int. Wildland Fire Summit 2003
- 4th International Wildland Fire Conference 2007
- Global Fire Inventories and Models
- International Forest Fire News (IFFN)
- International Organizations
- International Fire Management Programmes
- International Wildland Fire Research Programmes
- Fire Meetings, Fire Management Training Courses & Jobs
- Fire Glossaries, Literature and Software
- Links
- Sitemap

This website is optimized for Internet Explorer 5 or higher and a resolution of 1024x768 pixels

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International Strategy for Disaster Reduction (ISDR) Global Wildland Fire Network



- [The Global Wildland Fire Network: Rationale and Introduction](#)
- [The Global Wildland Fire Network at the 4th International Wildland Fire Conference 2007](#)



This world map (click for enlargement) shows the delineation of the ISDR-GFMC Regional Wildland Fire Networks. The vegetation types corresponding to characteristic fire regimes in the regions that are described in the background documents on the regional network web pages.

The Global Wildland Fire Network is an cooperative effort with the Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD)

**Regional Wildland Fire Networks**

- [Regional Sub-Saharan Africa Wildland Fire Network \(Afrifirenet\)](#)
- [Regional Baltic Wildland Fire Network](#)
- [Regional Southeast Europe / Caucasus Wildland Fire Network](#)
- [Regional Central Asia Wildland Fire Network](#)
- [Regional Northeast Asia Wildland Fire Network](#)
- [Regional South Asia Wildland Fire Network](#)
- [Regional South East Asia Wildland Fire Network \(ASEAN\)](#)
- [Regional Australia Wildland Fire Network](#)
- [Regional North America Wildland Fire Network](#)
- [Regional South America Wildland Fire Network](#)
- [Regional Mesoamerica Wildland Fire Network](#)
- [Regional Caribbean Wildland Fire Network](#)
- [Regional Mediterranean Wildland Fire Network](#)