

Welcome Remarks to Session 1:

GOFC-GOLD Fire Regional Networks

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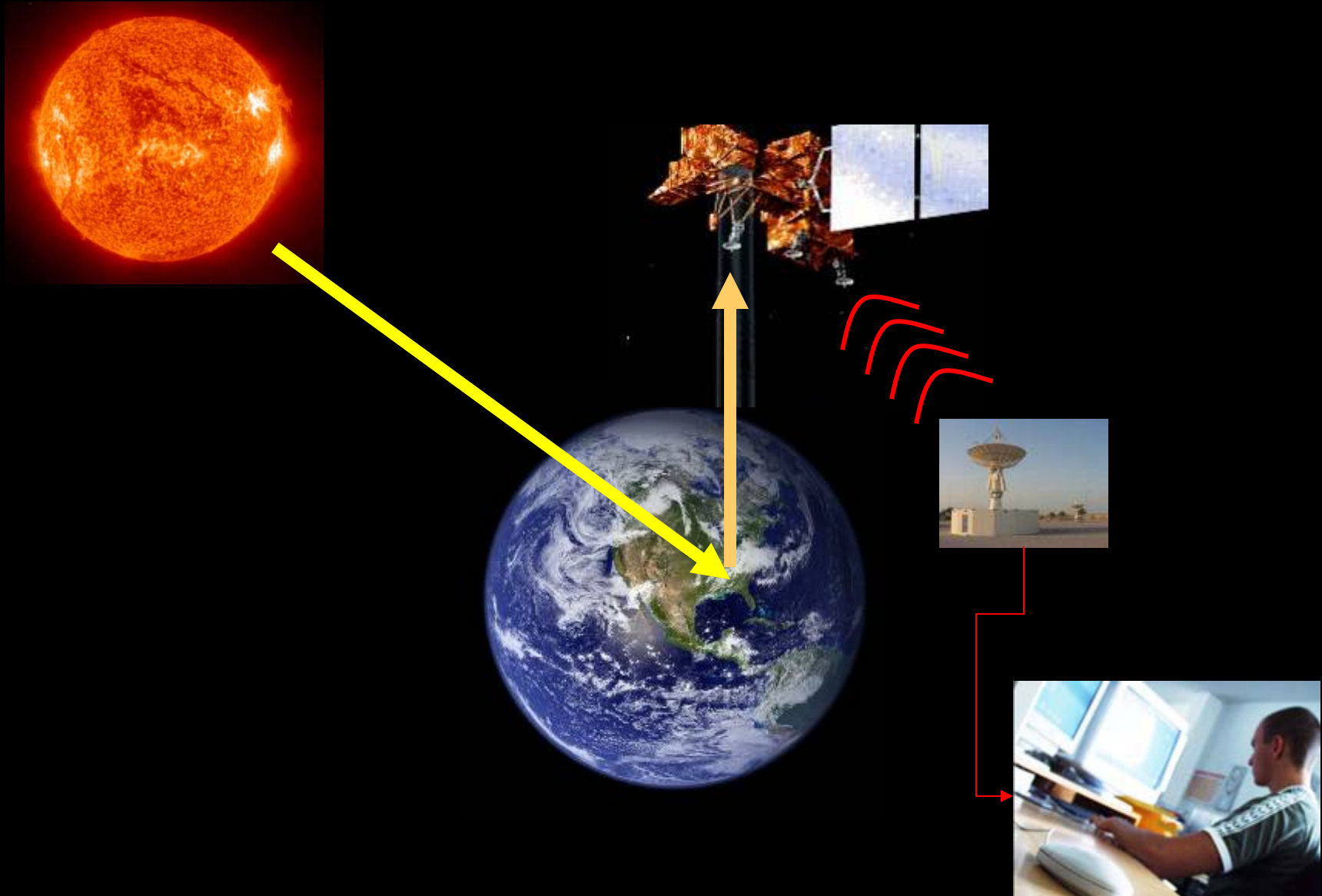
Chris Justice [GOFC-GOLD Fire IT co-chair] & Krishna Vadrevu [GOFC-GOLD Fire IT officer],
University of Maryland, USA



Canadian Space
Agency

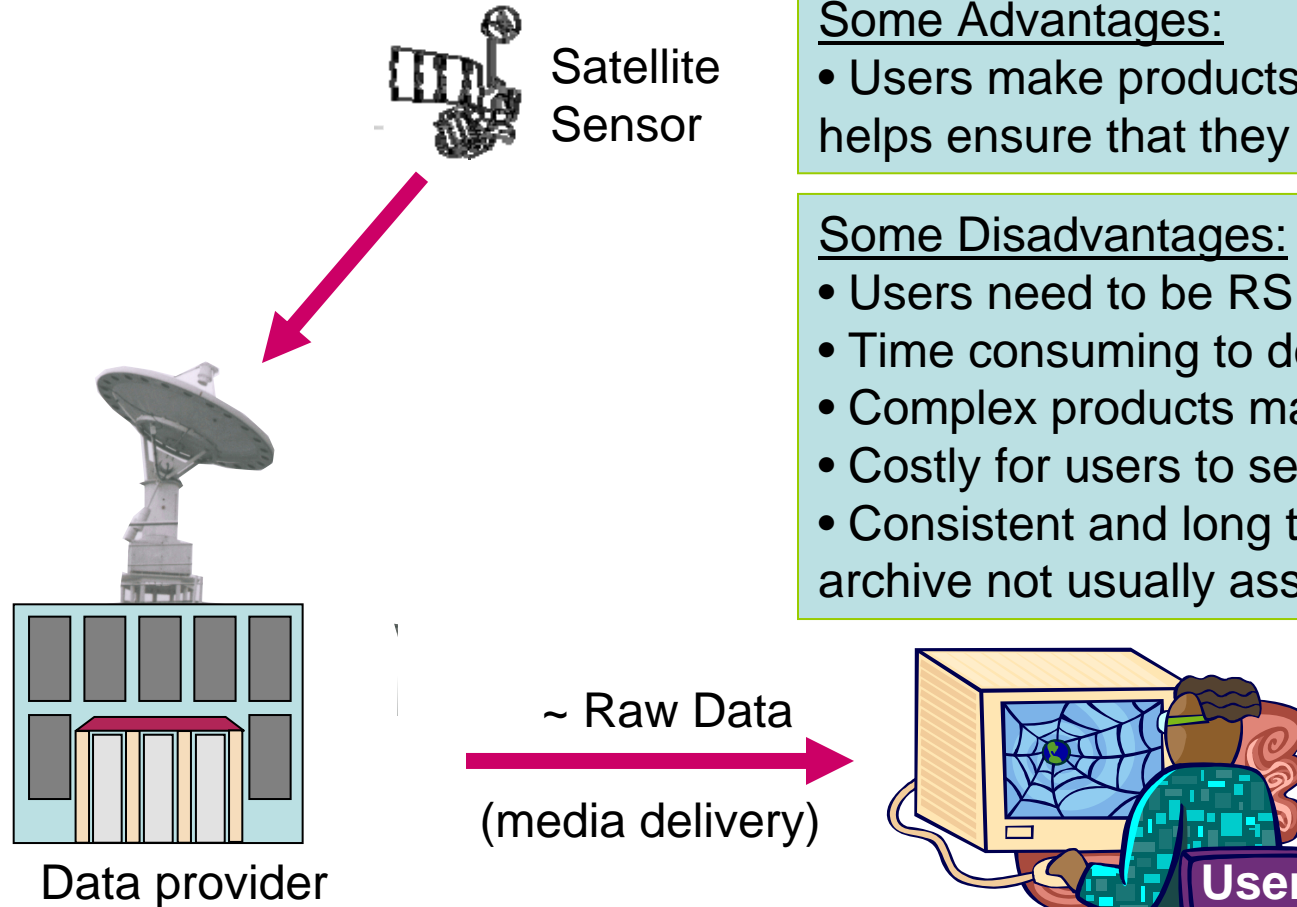


GOFC-GOLD is first and foremost concerned with satellite remote sensing



Evolution of Satellite Products

1970s – 1990s: **Users Make Products**



Some Advantages:

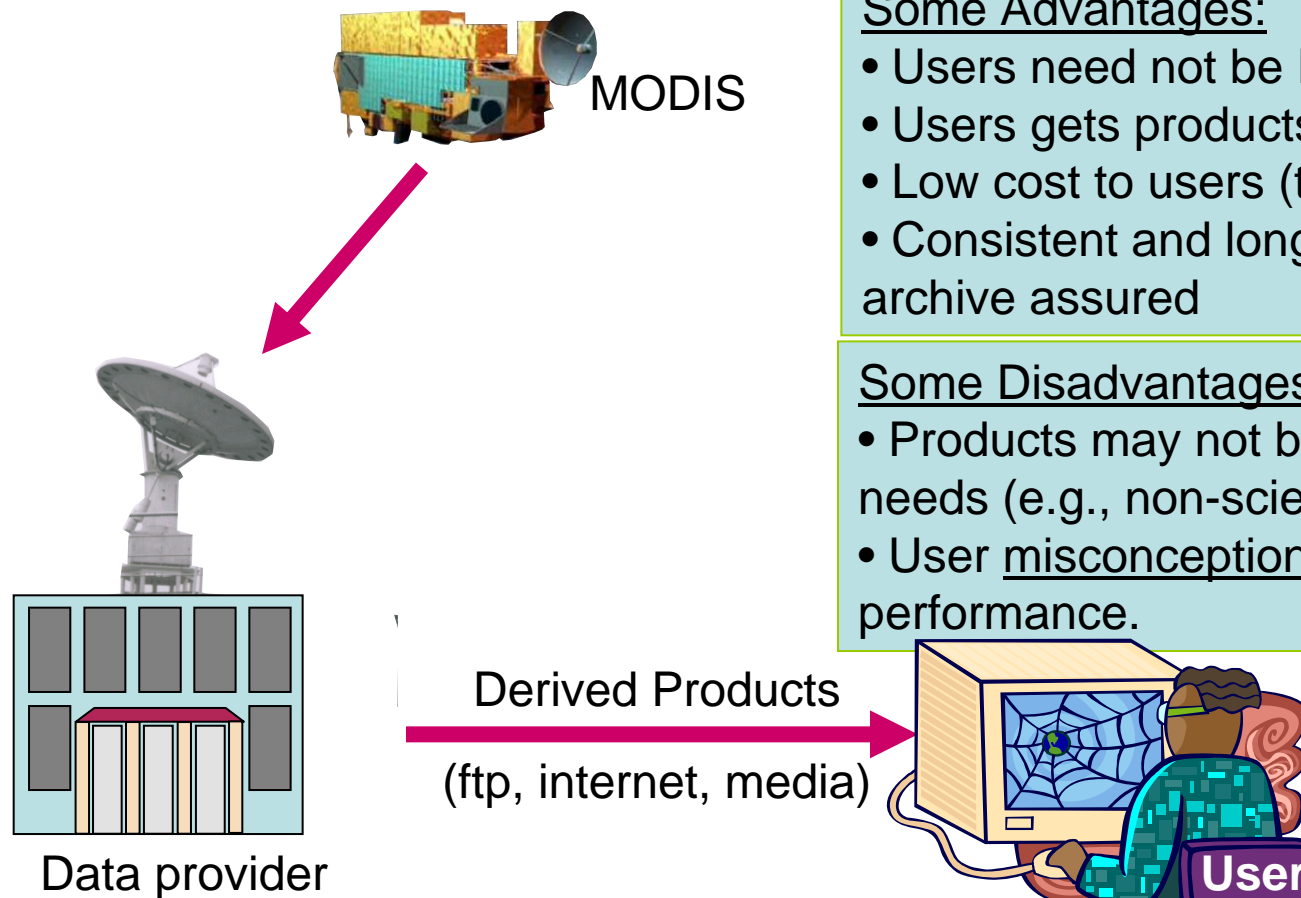
- Users make products themselves, which helps ensure that they are relevant/useful

Some Disadvantages:

- Users need to be RS specialists
- Time consuming to derive products
- Complex products may not be possible
- Costly for users to setup and maintain
- Consistent and long term product archive not usually assured

Evolution of Satellite Products

1990s - present: **Products made for user**



Some Advantages:

- Users need not be RS specialists
- Users gets products delivered directly
- Low cost to users (their time and \$)
- Consistent and long term product archive assured

Some Disadvantages:

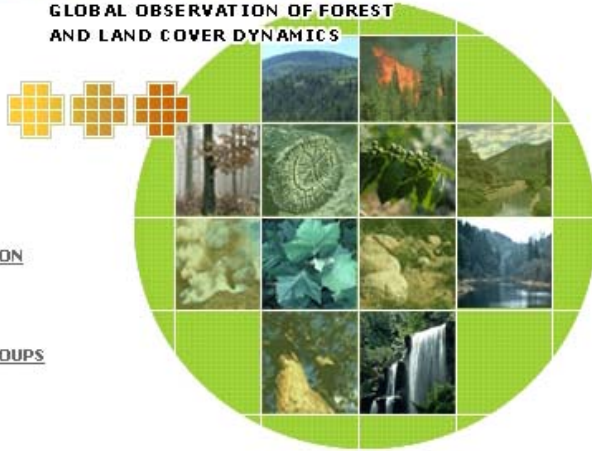
- Products may not best deliver user needs (e.g., non-science applications).
- User misconceptions about product performance.

What is GOFC-GOLD ?

GOFC-GOLD

GLOBAL OBSERVATION OF FOREST
AND LAND COVER DYNAMICS

>GOS HOME
>OVERVIEW
>NEWS
>CALENDAR
>ORGANIZATION
>LAND TEAM
>FIRE TEAM
>NETWORKS
>WORKING GROUPS
>PARTNERS
>DATA
>DOCUMENTS
>SITEMAP



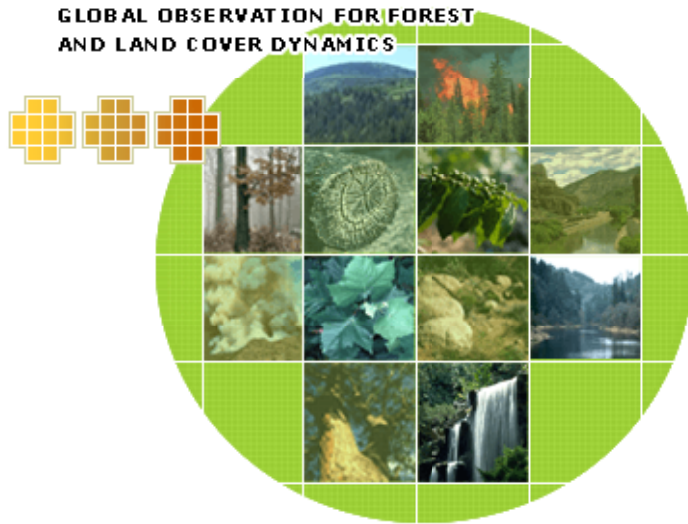
- GOFC-GOLD is a coordinated international effort developed to help ensure a continuous program of space-based and on-the-ground forest, fire and land cover observations.

- GOFC-GOLD has a vision to share data, information and knowledge, leading to informed action and decision support,
- is part of a long term process of building an improved match between **Satellite Observations, Data Products & User Needs.**

GOFC-GOLD Program Background

GOFC-GOLD

GLOBAL OBSERVATION FOR FOREST
AND LAND COVER DYNAMICS



*GOFC-GOLD has become one of
the Panels of the Global
Terrestrial Observing System
GTOS (FAO GTOS Secretariat)*

- Developed originally under the Committee on Earth Observation Satellites (CEOS) initially as a pilot to test the concept of an Integrated Global Observing System (IGOS) during 1996 in order to improve:
 - the use of Earth Observation data to address major problems of global concern
 - coordination of national programs
 - co-operation between providers and users of Earth Observation data for regional and global applications.



GOFC-GOLD Sponsors and Partners



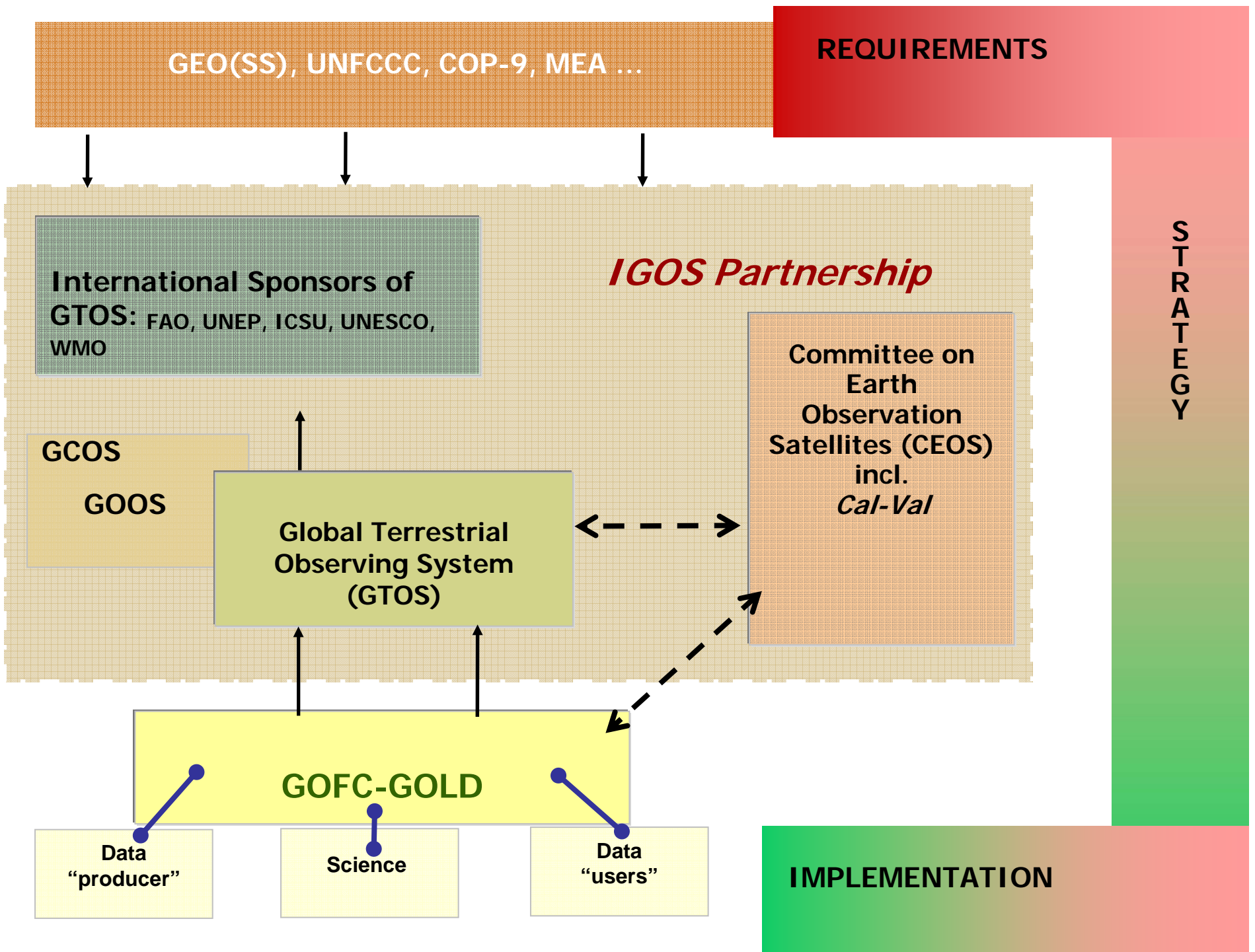
Agence spatiale
canadienne

Canadian Space
Agency



Canadian Forest Service;
Canadian Space Agency;
European Commission;
European Space Agency; Global
Terrestrial Observing System
(FAO, WMO, UNEP, UNESCO,
ICSU), NASA.

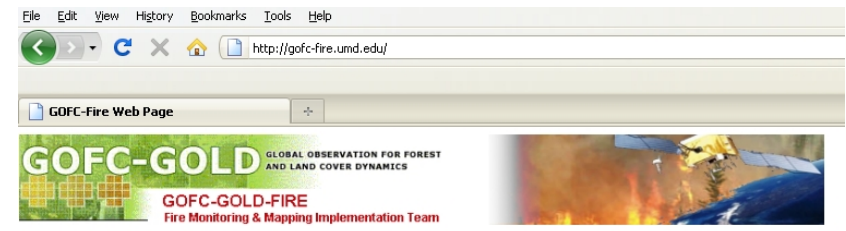
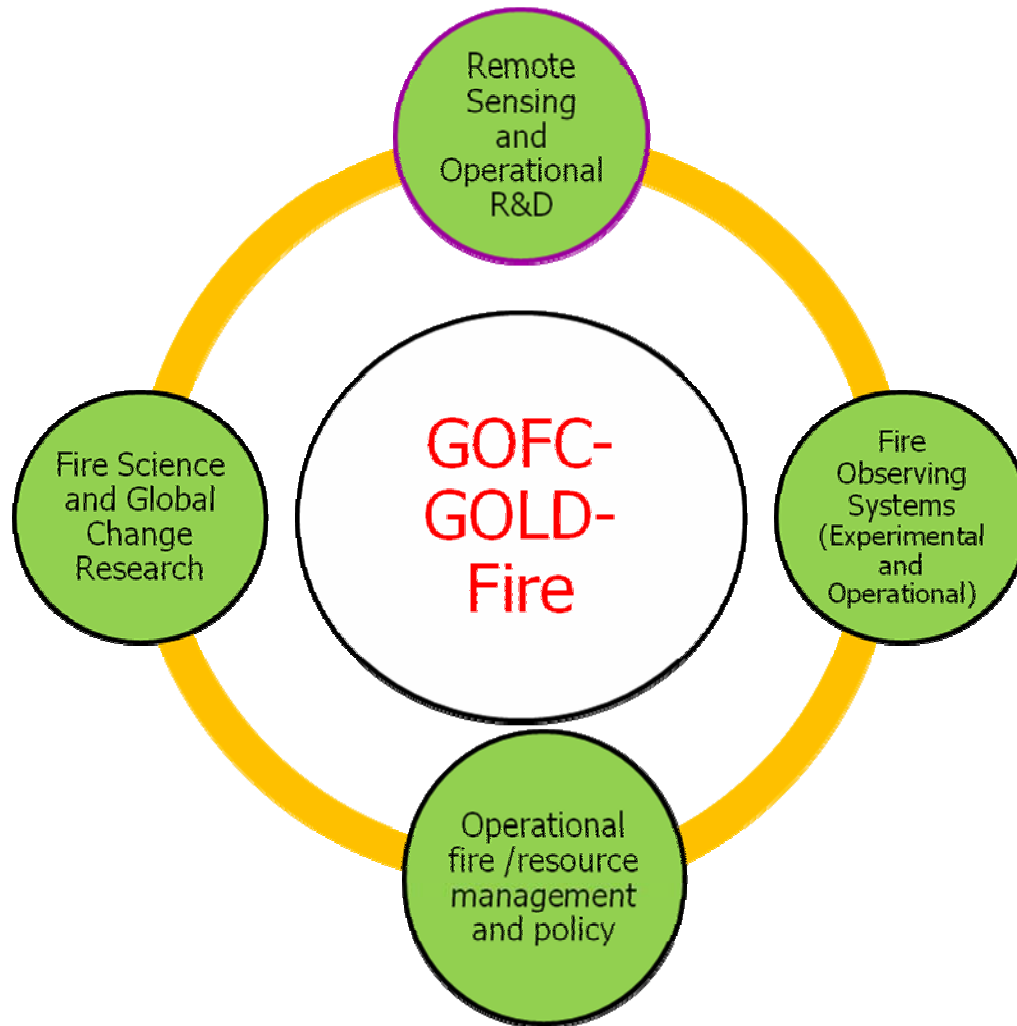




What is GOFC-GOLD Fire ?

- A theme of GOFC-GOLD
- aimed at refining and articulating the international observation requirements and making the best possible use of fire products from the existing and future satellite observing systems, for
 - fire management
 - policy decision-making
 - global change research
- Activities of GOFC-GOLD fire program include:
 - Availability of satellite observations that support fire monitoring
 - Adequacy and advocacy of satellite fire products
 - Validation and assessment of fire products
 - Regional networks and capacity building
 - Shared data, information and knowledge

GOFC-GOLD Fire



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Acknowledgments

What is GOFC/GOLD-Fire?

GOFC/GOLD (Global Observations of Forest and Land Cover Dynamics) is a project of the Global Terrestrial Observing System (GTOS) program, which is sponsored by the Integrated Global Observing Strategy (IGOS). The main goal of GOFC/GOLD is to provide a forum for international information exchange, observation and data coordination, and a framework for establishing the necessary long-term monitoring systems.

The GOFC/GOLD-Fire Mapping and Monitoring Theme is aimed at refining and articulating the international observation requirements and making the best possible use of fire products from the existing and future satellite observing systems, for fire management, policy decision-making and global change research.

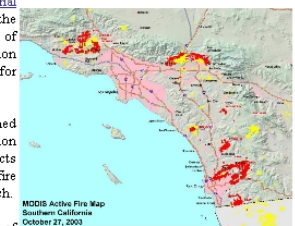
GOFC/GOLD is promoting a self-organized regional networks of data users, data brokers and providers, where closer linkages and collaborations are established with emphasis on an improved understanding of user requirements and product quality. GOFC/GOLD-Fire is pursuing, in a joint effort with the [Committee on Earth Observing Satellites \(CEOS\) Working Group on Calibration and Validation \(WGCV\) Land Product Validation \(LPV\)](#) subgroup, the coordinated validation of fire products by standardized protocols.

GOFC/GOLD-Fire is partnering with the [Global Fire Monitoring Center \(GFMC\)](#), and the [United Nations International Strategy for Disaster Reduction \(UNISDR\) Wildland Fire Advisory Group / Global Wildland Fire Network](#).

Latest [meeting](#) information. Click [here](#) for latest news.

Featured contributory project

USFS Remote Sensing Application Center



Click on the image for summary and link to project website. [Refresh](#) this page for more projects, or go to the [full list of projects](#).

GOFC/GOLD-Fire is one of the three themes of the overall GOFC/GOLD initiative.

Maintained by
Dr. Krishna Prasad Vadrevu at University of Maryland, Department of Geography.

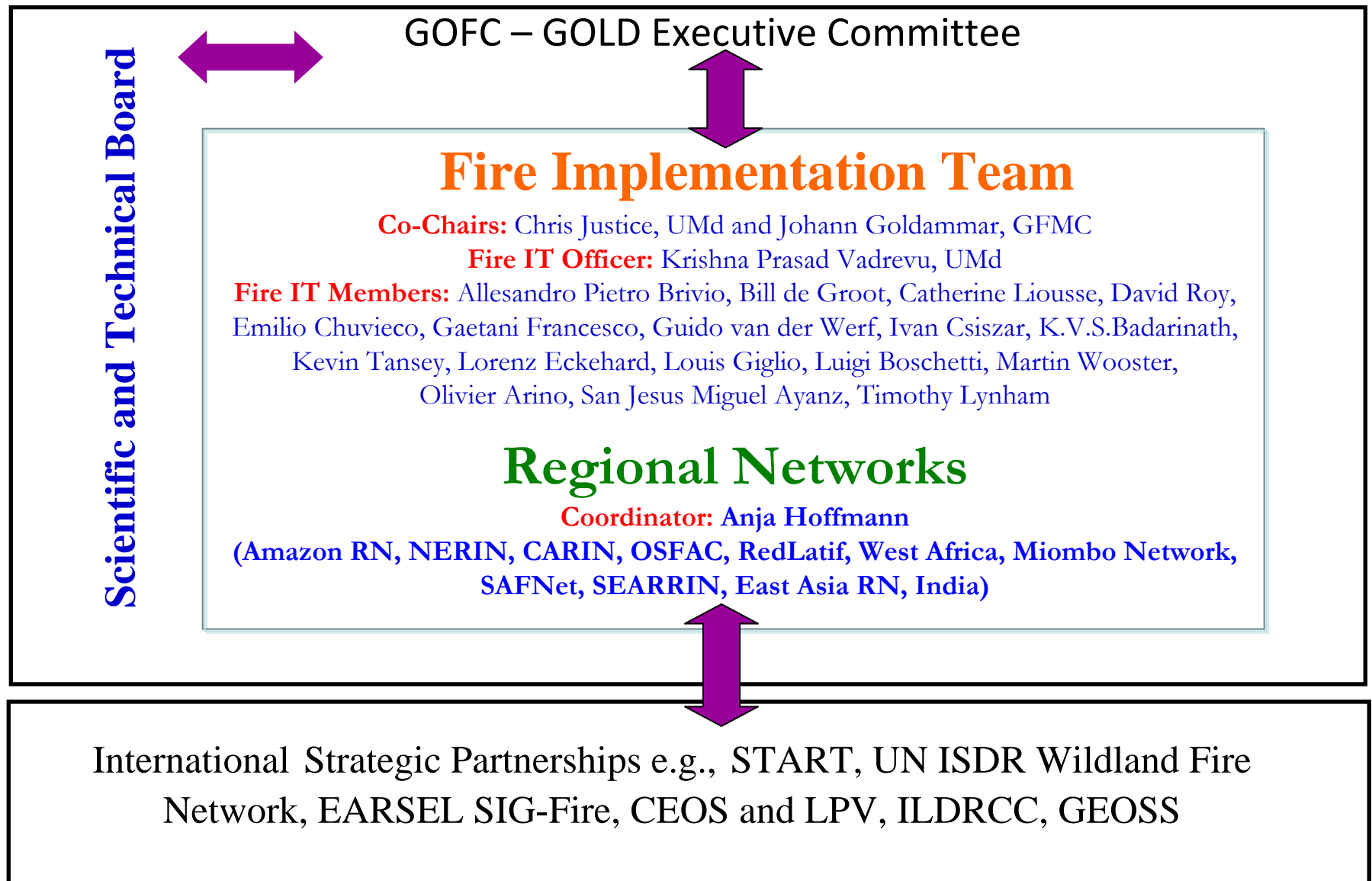
NOTE: Many documents on this site are available in Adobe Acrobat format.

<http://gofc-fire.umd.edu/>

GOFC-GOLD Fire Organization

- GOFC-GOLD-Fire consists of 5 elements:
 - Scientific and Technical Board
 - Fire Implementation team
 - Regional Networks
 - Project Office
 - Executive committee

Organization of GOFC-GOLD Fire



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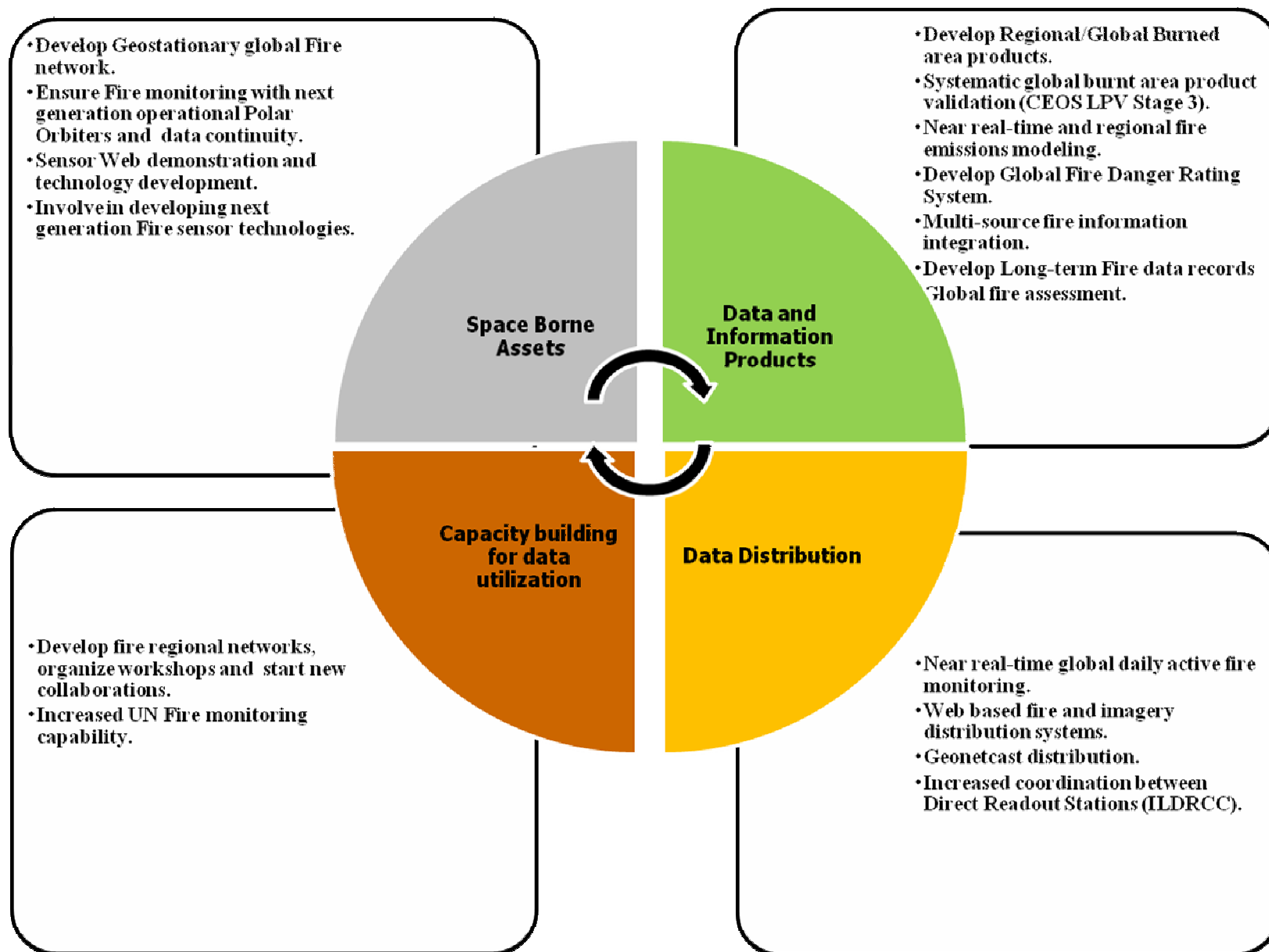
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GOFC-GOLD Fire Implementation Team

- an international forum for ensuring the provision of long-term, systematic satellite observations necessary for the production of the full suite of fire products
- Working approach
 - ✦ Identify 'community' goals associated with fire observations and data products.
 - ✦ Pursue and promote enabling conditions and activities to achieve these goals.
 - ✦ Periodic revisiting of the goals, identification of gaps and priorities.

GOFC-GOLD Fire IT Goals and Sub-tasks



GOFC Fire IT Meeting

(March 23-25th 2010, Frascati, Italy)



*Summary published in
The Earth Observer, September-October, Issue, No. 5. Vol. 22. 2010.*

Current GOFC-GOLD Fire IT Goals

- Increase user awareness and data use
- Establish a geostationary global fire network
- Secure *operational* polar orbiters (coarse and moderate) with adequate fire monitoring capability
- Determine product accuracies
- Develop a Fire Early Warning System providing operational global fire danger / susceptibility products
- Develop fire emissions product suites
- Develop long-term fire data records
- Establish enhanced user products and improved data access
- Promote experimental fire observation systems and related research

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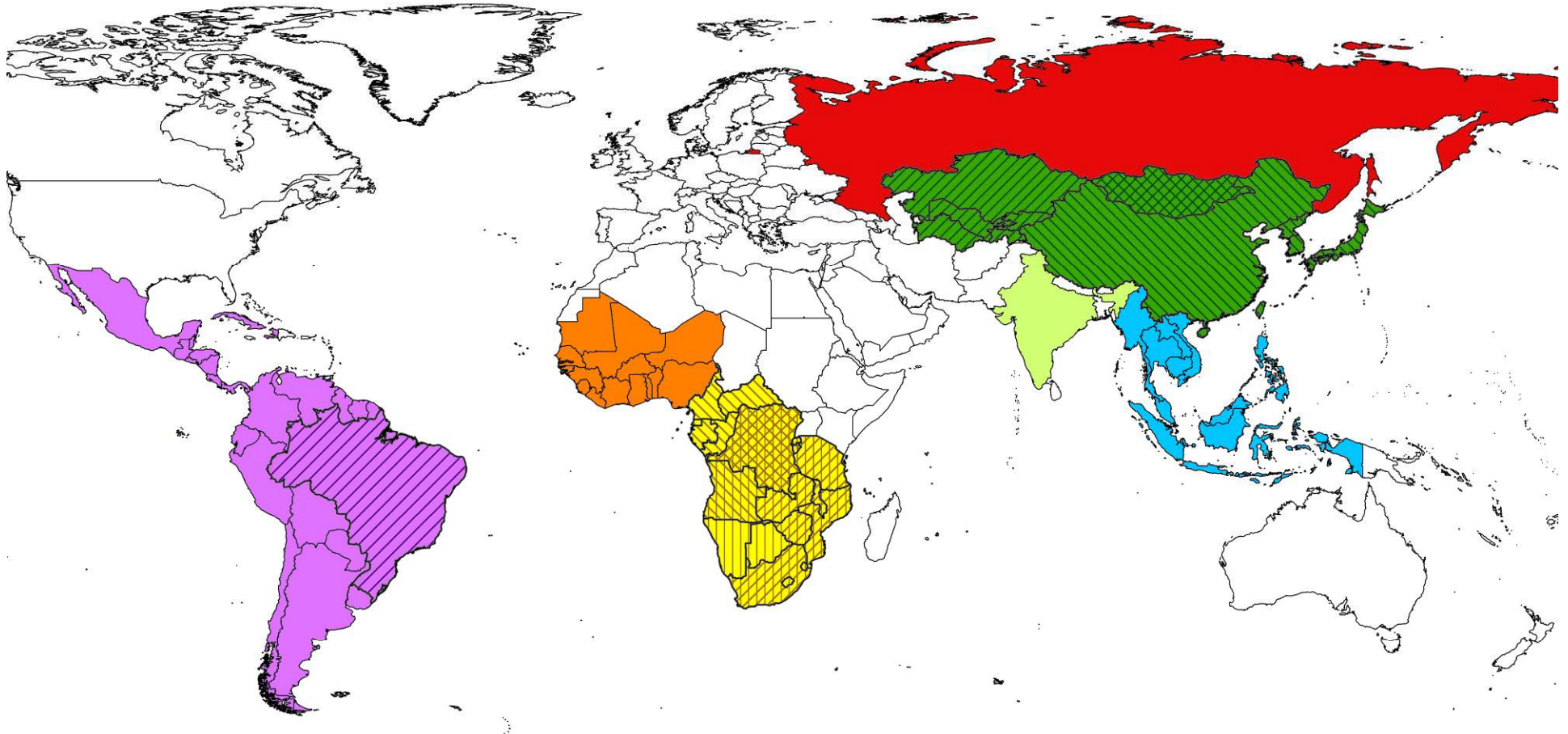
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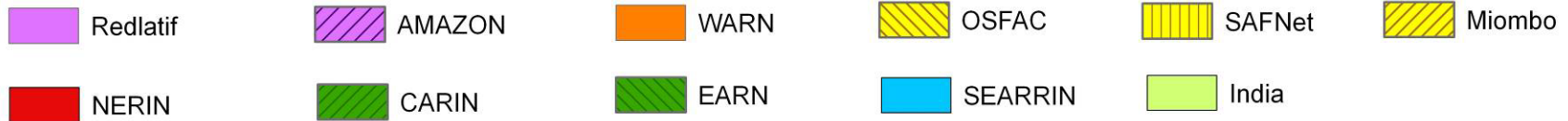
GOFC-GOLD Regional Networks

- GOFC-GOLD has facilitated the development of a number of regional networks across the world
 - primarily among developing and economically emergent countries
 - some networks are fire specific
 - some networks are forest and land cover specific
- The GOFC-GOLD Regional networks
 - allow for lateral exchange of information, data, technology and methods within and between regions
 - provide a means for strengthening regional and in particular national related fire activities
- The GOFC-GOLD Fire Implementation Team works with the GOFC-GOLD Regional Networks to bring together fire data providers and fire data users to exchange information on capabilities and needs

Map of GOFC-GOLD Regional Networks




Networks



GOFC-GOLD Regional Networks


- Have no secure funding; no salaries
- Membership necessarily based on voluntary participation
- Network membership “topology” is usually like a flower - members and coordinators are like petals - some come & go & some regrow
- A network meeting is held usually every 1 to 2 years
- The network coordinator(s) lead the network organization, outreach, and reporting to GOFC-GOLD Fire Implementation Team
- The most effective regional network coordinators
 - prioritize membership participation from within the region
 - delegate responsibilities within the regional network membership
 - ensure lateral exchange of information, technology and methods within network membership and within region
 - write and obtain letters of support for network proposals

A typical
GOFC-GOLD
regional
network
Web Site



SAFNET

Southern African Fire Network




Menu

- Home
- Overview
- Activities
- Meetings
- Links
- Contacts
- Products

Welcome!

The **Southern African Fire Network** is a regional network that fosters collaborative efforts in fire monitoring and management in southern Africa. SAFNet is a **Global Observation for Forest and Land Cover Dynamics (GOFC/GOLD)** regional fire network and contributes to meeting the goals of the GOFC/GOLD program. SAFNet was initiated using small seed funding grants from NASA, USAID (EMIS and GISD) and START. Future collaboration with partners and funding agents is being sought.



The SAFNet Mission

SAFNet's **goal** is to achieve more effective and appropriate fire management policies and practices in southern Africa through the use of remote sensing and other geospatial information technology.

SAFNet's **purpose** is to enhance the use of information from field observations and remote sensing of fires for natural resource management in southern Africa.

Announcements

8th SAFNET meeting at Golden Gate National Park

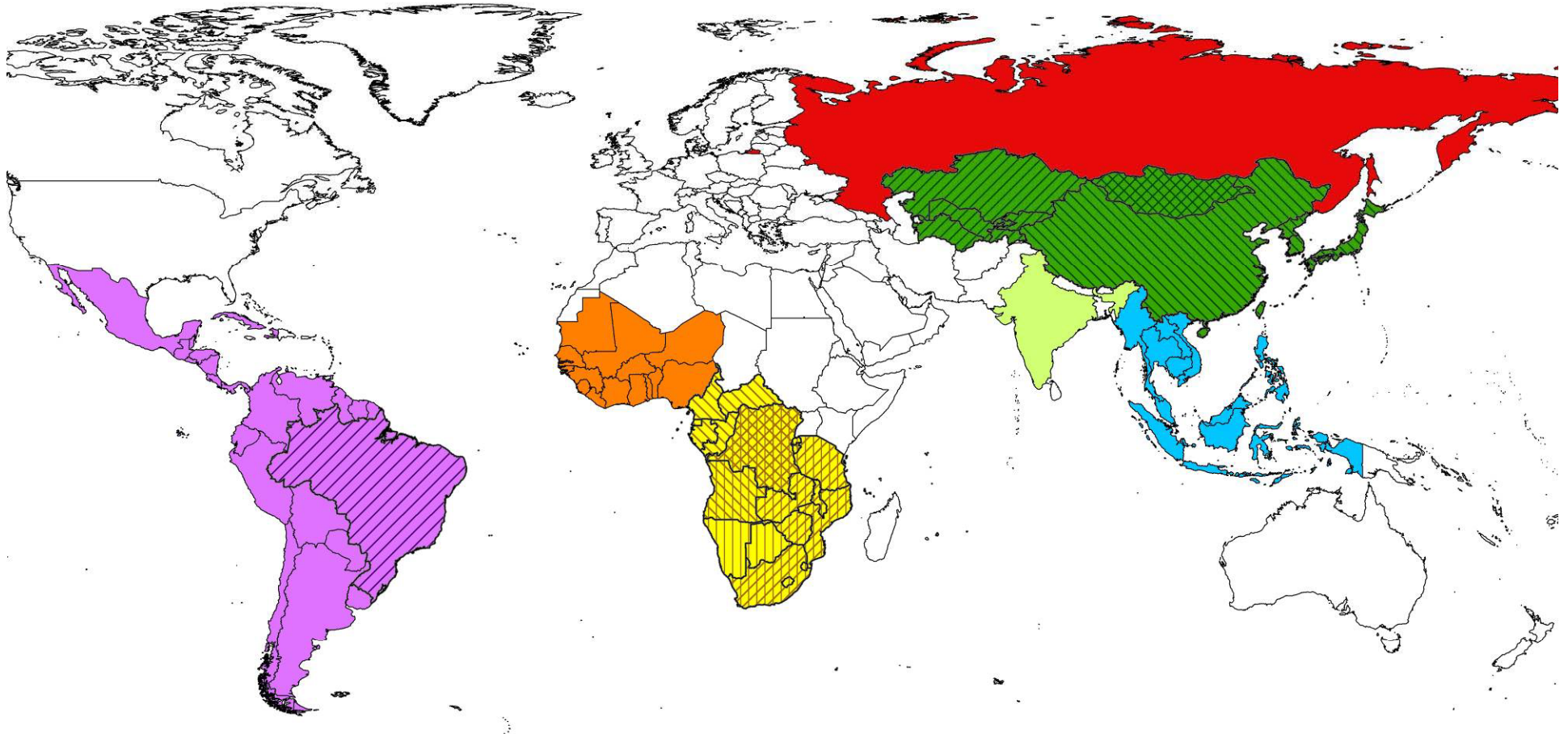
2010-09-28

The 8th Southern Africa Fire Network meeting will be held at Golden Gate National Park, South Africa from 5 -8 May 2011. The meeting will take place a few days before the Wildfire 2011 conference (that will be held at Sun City) to allow SAFNET participants to also attend the Wildfire event. More detail will be posted soon!

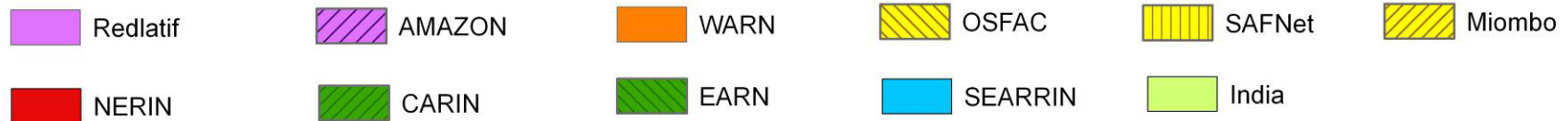
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GOFC-GOLD Regional Networks



Networks

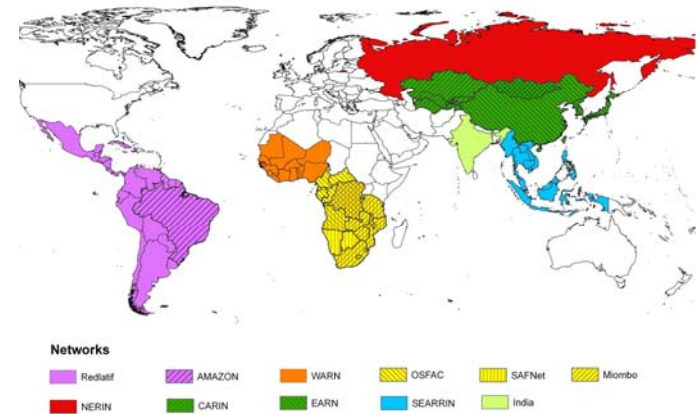


GOFC-GOLD Regional Networks and Coordinators

Regional Network	Coordinator	Country	Organization	Email
AMAZON RN	Souza, Carlos	Brazil	Imazon - Inst. do Homem e Meio Ambiente da Amazônia	souzajr@imazon.org.br
NERIN	Krankina, Olga	USA/Russia	Oregon State University	olga.krankina@oregonstate.edu
CARIN - Fire	Erdenetuya, M	Mongolia	Institute of Remote Sensing	m_erdenetuya@yahoo.com
OSFAC	Mane, Landing	DR Congo	OSFAC Office, Kinshasa, DRC	lmane@osfac.net
Redlatif	Cruz, Isabel	Mexico	CONABIO National Commission for the Knowledge and Use of the Biodiversity	isabel.cruz@conabio.gob.m
West Africa RN	Mbow, Cheikh	Sénégal	Université Cheikh Anta Diop	cheikh_penda@yahoo.fr
Miombo Network	Natasha Ribeiro	Mozambique	Eduardo Mondlane Univeristy	nriberiro@uem.mz
SAFNet	Frost, Philip Govender, Navashni Dlamini, Wisdom Sikaundi, Gift	South Africa, Swaziland, Zambia	CSIR-Meraka Institute, SANParks, Swaziland National Trust Commission, Environmental Council of Zambia	pfrost@csir.co.za navashni.govender@sanparks.org mwdlamini@gmail.com gift@necz.org.zm
SEARRIN	Thongboonchoo, Narisara	Thailand	King Mongkut's Institute of Technology	nthongbo@gamil.com
East Asia RN	Pang, Yong	China	Chinese Academy of Forestry	caf.pang@gmail.com
India	Badarinath, Murthy	India	National Remote Sensing Center	badarikvs@yahoo.com

Some of the Roles of Regional Networks

- ❖ Strengthen involvement of regional network scientists for improved validation of global satellite fire products.
- ❖ Play increased role in future satellite missions/products through responding to questionnaires/surveys from agencies.



- ❖ Share information, technology, methods, and data, more openly and assist in regional product calibration, validation and assessment.
- ❖ Share experiences in utilizing satellite fire products across region
- ❖ Interact with the other Regional network scientists effectively to secure funding from International agencies.
- ❖ Improve and extend outreach activities through international collaborations and the GOFC Fire Implementation Team.

Wrap up Slides

**GOFC-GOLD: Providing the International Coordination needed for
Global Observation of Forest, Fire and Land Cover Dynamics.**

New Drivers for GOFC-GOLD Fire

- Changing World-Changing Fire Regimes – Economies and Climate
- IPCC Evolution Requiring New Science and Data Sets
 - **WGs 1,2,3 – Agency Emphasis on Impacts, Adaptation, Mitigation**
- Catastrophic Fire/On-Going Disasters – fire and forest management
- International Environmental Conventions:
 - **UNFCC – observations needs**
 - **National Emissions Inventories and UN REDD**
- GCOS Implementation Plan:
 - **Establish international standards for fire observations**
 - **Reliable methods for accuracy assessment**
 - **Develop and apply validation protocols**
- GEO & GEOSS work plans and tasks related to fire
- Changing playing field with respect to
 - satellite fire observations
 - ease of production of satellite fire products

GOFC-GOLD Fire Responses to Drivers

International Coordination Initiatives

- Global Fire Early Warning System w. UN ISDR
- Global Geostationary Fire Network w. CEOS, GSICS
- Validation and Reporting Protocols w. CEOS LPV WG
- REDD Sourcebook – Fire
- Global Fire Assessment (trying to secure funding)
- Fire Data Continuity on future satellites – VIIRS, Sentinel ...
- Improving Data Access
 - FIRMS >FAO
 - GEONetcast Regional Access
 - Land Direct Broadcast Coordination Group (ILDRCG)

MODIS Satellites - 6 year design life



Terra Launch: Dec. 18, 1999
First Image: Feb. 24, 2000

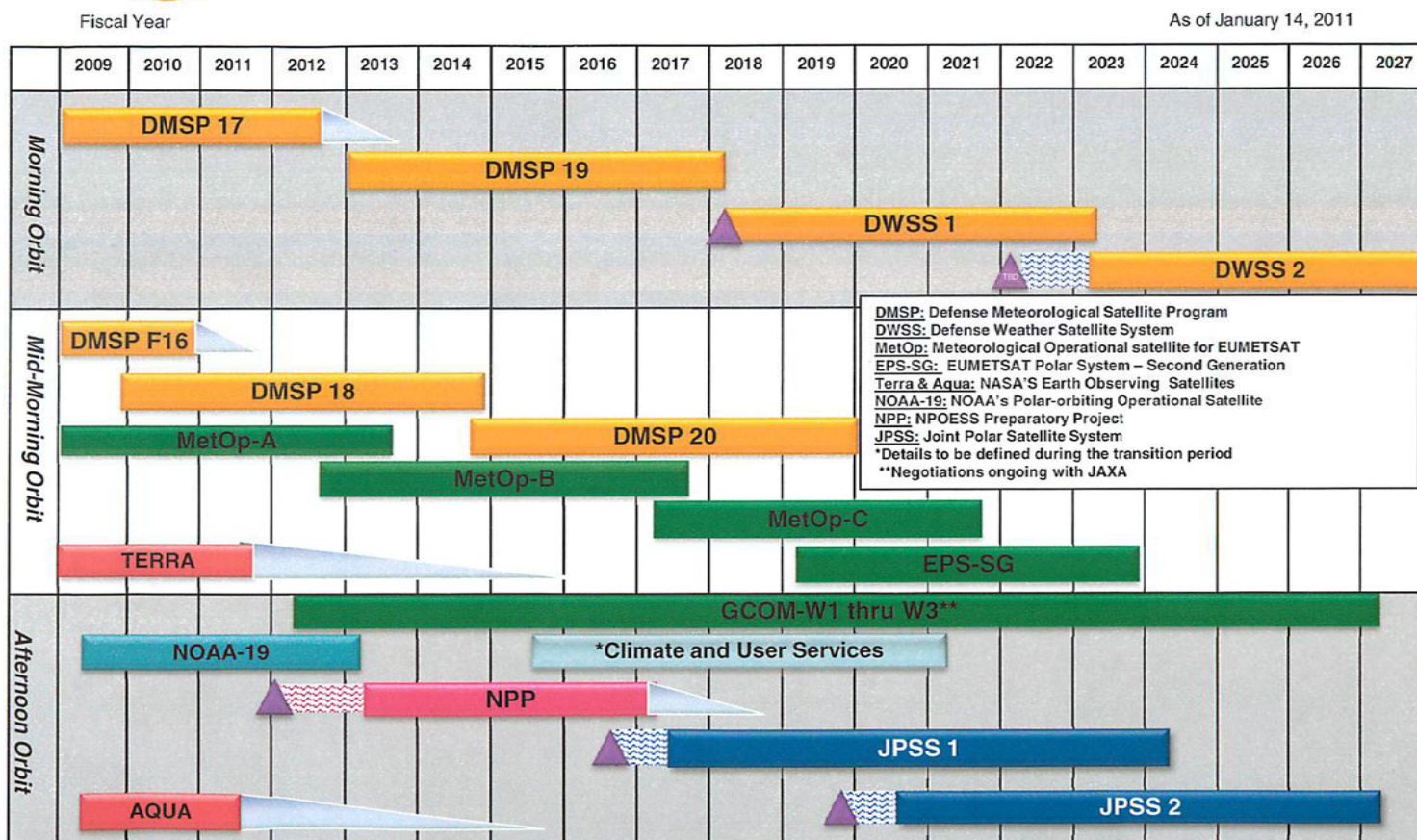


Aqua Launch: May 04, 2002
First Image: June 26, 2002

Continuity of Polar Operational Satellites



Continuity of Polar Operational Satellite Programs



Approved: *M. E. Meyer*
 Assistant Administrator for
 Satellite and Information Services

Future Satellite Missions with Fire monitoring capability and/or useful for fire Research

Geostationary

Satellite / sensor	Resolution	Bands
GOES-R ABI (2015)	500 m - 2 km	VIS, NIR, SWIR, MIR, TIR

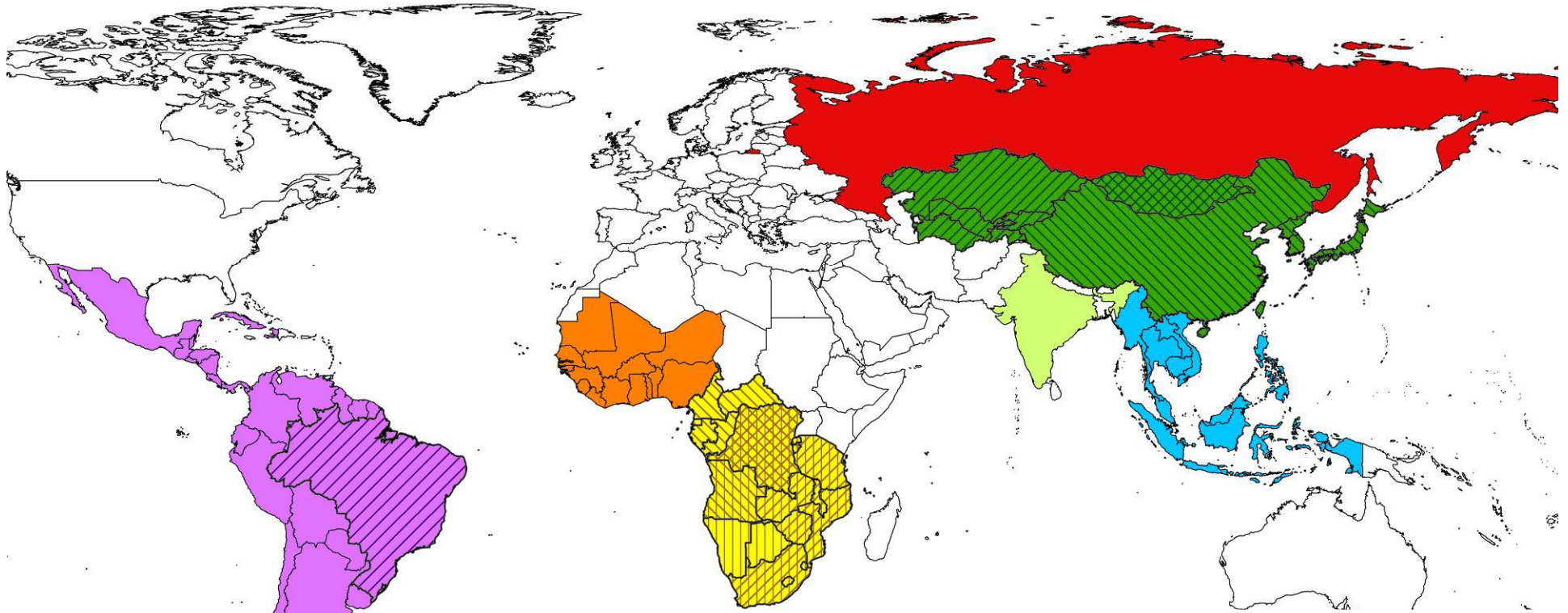
Polar

Satellite / sensor	Resolution	Bands
GMES Sentinel-2 MSI (2012)	15, 20, 60 m	VIS, NIR, SWIR
GMES Sentinel-3 SLST (2012)	500 m - 1 km	VIS, NIR, SWIR, MIR, TIR
NPP/NPOESS VIIRS (2011)	375 m, 750 m	VIS, NIR, SWIR, MIR, IR
TET-1 (2010)	42 m, 370 m	SW, NIR, MIR, TIR
GCOM-C SGLI (2014)	250 m, 500 m, 1 km	VIS, NIR, SWIR, TIR
HyspIRI (2013)	60 m	VIS - SWIR, MIR, TIR
LDCM (2012)	15, 30, 100 m	VIS, NIR, SWIR, TIR

Continuing Challenges for GOFC-GOLD Fire












- Resources for GOFC-GOLD Regional Networks ?
- Funding and global implementation plan for Global Fire Early Warning System ?
- Support for the International Global Fire Assessment
- Help users understand the different products
 - Product inter-comparison and regional joint validation initiatives via the GOFC / UN Fire Networks
- Putting fire higher on the agency observation priorities
- Ensuring continued support for GOFC-GOLD Fire related activities – need a fire project office ?
- A Global Fire Monitoring System of Systems ?

GOFC-GOLD Regional Networks



Chris Justice says: Big Thanks for being part of GOFC-GOLD, your participation is important and appreciated.

Networks

 Redlatif	 AMAZON	 WARN	 OSFAC	 SAFNet	 Miombo
 NERIN	 CARIN	 EARN	 SEARRIN	 India	