

# GOFC-GOLD

Global Observation of Forest and Land Cover Dynamics



# GOFC-GOLD: Future Directions for International Cooperation and Coordination of Land Earth Observations

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# GOFC-GOLD Abbreviated History

- Created originally as a project of CEOs
- Transformed itself into a broader-themed organization to take advantage of both the developing science and policy interest in forest and land-cover related issues
- With an ongoing emphasis on scientific capacity building

# Core Functions of GOFC-GOLD

1. Specifying requirements for products
2. Assessing algorithms and data assimilation procedures
3. Ensuring the availability of observations
4. Harmonization and the development of protocols and standards
5. Ensuring that operational products meet accuracy requirements
6. Capacity building and the role of regional networks
7. Creating GOFC-GOLD products and services
8. Providing information to support international assessments
9. Advocacy role, especially in relation to the continuity of observations and validation



# Structure

Governmental and Intergovernmental Processes

User Needs

Executive Committee

Land-Cover IT

Biomass Working Group

Fire IT

REDD Sourcebook WG

Regional Networks

Project Office



**GOFC-GOLD**

# Samples of Accomplishments

- Land Cover
  - Extensive use of historical archives, global products, emphasis on validation
- Fire
  - Global fire risk using satellite data, global and regional fire assessments
- REDD
  - Extensive use of the Sourcebook
- Networks
  - Bringing regional expertise to bear in many parts of the world
- Biomass
  - Galvanizing the scientific community to pursue new opportunities

# Continued Strategic Thrusts

- Advocacy for free and open access to data
- Continuity of observations and coordination of observing programs
- Importance of validation of products
- Moving towards higher-level products
- Building capacity in regional networks
- Engaging regional experts with important processes and activities

# Major Directions

- Coordination of Major Space Systems
  - NASA/NOAA imaging and ESA systems
  - Coordination with Brazil, China
  - Coordination with private sector very high spatial resolution
- Requires a clear sense of strategy for global observations and sampling
  - But this strategy is currently lacking
  - Will need to come from scientific community



# Coordination on Forest and Land Observations

- Working through GEO
  - Clearly the organization of choice for governmental coordination of space agencies
- Support for GEO activities
  - GFOI
  - GEOGLAM
- Methods documentation
- Common software and standards for analysis
- Data for validation

# Longer-Term Coordination

- REDD Sourcebook for deforestation and forest degradation
- Essential climate variables
- Operational fire monitoring
- Habitat change for biodiversity studies
- Biomass retrievals
- Urban landscapes and tradeoffs with other land uses

# New Issues from IPCC Assessments and Climate Policy Processes

- Role of systematic observations of climate impacts
- Development of indicators systems
- Disentangling human-driven changes from climate-driven changes
- Applications for climate adaptation studies

# New Issues from IPCC Assessments and Climate Policy Processes

- Climate mitigation and carbon management
  - Change in carbon content of ecosystems
  - Change in extent of ecosystems
- Systematic tracking of forest loss and gain
- Systematic tracking of forest degradation
- Above-ground carbon retrievals
- Links to model development and validation
- Monitoring and verification analyses

# Concluding Thoughts

- There continues to be an important role for extra-governmental scientific organizations like GOFC-GOLD
  - Development of methods
  - Organization of validation data
  - Intercomparison of data sources
- Scientific foundations and assistance to the science and space agencies for their objectives and mission development

