

Donor country Canada			
Project/programme title Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD)			
Purpose The GOFC-GOLD Implementation Project provides leadership and support to ensure a systematic long-term program of space-based and on the ground observations of land cover and forest change, including the role of fire.			
Recipient country International	Sector Forest	Total funding CAD 900K/year contributed by 6 international sponsors (incl. \$300K/year from CFS and CSA)	Years in operation 1999-present
<p>Description</p> <p>GOFC-GOLD is a coordinated international effort to ensure a systematic long-term program of space-based and on-the-ground observations of land cover and forest change, including the role of fire. It is designed to help provide the data needed for global monitoring of terrestrial resources, study of global change, and improved natural resources management. As a panel of the Global Terrestrial Observing System (GTOS), GOFC-GOLD interacts with several United Nations bodies and numerous international and national scientific and technical organizations. It develops contributory products at regional and global scales in two thematic areas: Land Cover Characteristics and Change; and Fire Monitoring and Mapping. A new biomass mapping theme is being developed.</p> <p>By promoting and supporting participation on implementation teams and in regional networks, GOFC-GOLD provides the international coordination to articulate user needs, specify requirements for products, assess algorithms and data assimilation procedures, and develop harmonization protocols and standards. It also provides information to support international assessments and protocols. Capacity is strengthened by working with regional networks, which provide guidance on regional needs and promote the transfer of technology and experience in South East Asia, Central, Western and Southern Africa, Northern Eurasia, Latin America, and East Asia. GOFC-GOLD also acts as an independent forum to advocate for the continuity of observations and their validation and availability.</p> <p>GOFC-GOLD initially focused on defining the requirements for observational products and their specifications. More recently, GOFC-GOLD has also directed its efforts towards addressing the needs for terrestrial observations for the following initiatives:</p> <ul style="list-style-type: none"> ▪ International environmental conventions such as United Nations Framework Convention on Climate Change (UNFCCC), including methods and procedures for monitoring, measuring and reporting on reducing greenhouse gas emissions from deforestation and degradation in developing countries. ▪ Implementation Plan for the Global Climate Observing System (GCOS IP). ▪ Land theme of the Integrated Global Observing Strategy Partnership (IGOL). ▪ Societal benefit areas of the 10-year work plan towards a Global Earth Observation System of Systems (GEOSS). ▪ Proposed international land earth observation satellite network composed of multiple satellites with 30-m (or better) capabilities. <p>The GOFC-GOLD Project Office is located in Canada and is hosted by Natural Resources Canada's Canadian Forest Service and the Canadian Space Agency</p>			
<p>Indicate factors that led to project's success</p> <p>During the 2006-2009 project period there were 92 cumulative GOFC-GOLD sponsored and co-sponsored events including technical seminars, workshops, missions, meetings and training courses held internationally and in Canada. In addition, with CFS Project Office support, the Implementation Teams and Regional Networks produced and released 40 documents during the reporting period. The events and document production mentioned above provided opportunities for GOFC-GOLD outreach to approximately 4765 people during the reporting period. The</p>			

Implementation Project engaged 55 Canadian specialists and officials from nine organizations with an interest in the Earth Observation functions of GOFC-GOLD.

Technology transferred

Collaboration with China: As part of a 2007 APEC Summit commitment, China is leading the development of the Asia-Pacific Network on Forest Monitoring. In support of the GOFC-GOLD East Asia Regional Network, the Project Office is supporting the Chinese State Forest Administration in developing the Asia-Pacific Forest Monitoring Network as a contribution to the China-led Asia-Pacific Network for Sustainable Forest Management and Rehabilitation (APFNet). The Project Office has co-organized a series of workshops in China, providing technical presentations and providing travel support for participants from Southeast Asia to attend. Results of the workshops are included in the APFNet progress reports delivered by China at APEC Ministers meetings.

Forest Carbon Tracking task of the international Group on Earth Observations (GEO): The Project Office is collaborating with the Canadian Space Agency (CSA) to support this task to improve global monitoring of reducing emissions from deforestation and forestation (REDD). The task is demonstrating that Earth observations can be acquired in a planned and systematic manner and be used for forest carbon tracking in the post 2012 framework of the UNFCCC. The forest carbon tracking task will be highlighted at the 2009 GEO Plenary at Washington, DC. The White House Office of Science and Technology Policy (OSTP) is following the task closely in relation to the forest offset component of new energy and climate bill now being debated in the senate. The Project Office will attend as part of Canada's delegation led by EC.

Task collaboration with Mexico - Specifically, the Project Office acts as a task co-lead and is collaborating with the Mexico REDD Committee to support Mexico's involvement in the task as a national demonstrator. The effort compliments the CFS Carbon Accounting team's collaboration with Mexico to transfer the Carbon Budget Model of the Canadian Forest Sector (CBM-CFS3). Activities include meetings and workshops with the Mexico REDD Committee. The Project Office has presented information on the GEO forest task and held technical discussions on Mexico national demonstrator activities. Task collaboration with international space agencies - With Project Office support, the CSA is providing its Radarsat 1 and 2 data to seven national demonstrator countries, including Mexico. As well, it is leading the data acquisition coordination for the radar data to be provided by several space agencies (CSA, ESA, JAXA, etc.)

Task collaboration with international organizations - Several task meetings and workshops were held in 2008 and 2009 in partnership with several international organizations including the Prince's Rainforest Project, Google Foundation, UN-REDD Programme and Clinton Foundation. The events reviewed strategies for the implementation of forest carbon monitoring, reporting and verification, and identified collaborative opportunities. The Project Office has provided technical presentations and travel support for participant to attend from developing countries.

Collaboration with Argentina: The Aquarius/SAC-D satellite mission involves Argentina, the United States, Italy, Canada, France and Brazil, to launch a satellite observatory. A series of workshops were held during the reporting period to bring together the International Aquarius/SAC-D Science Team. Canada's Wildland Fire Information System (which produces annual estimates of Carbon emissions from forest fires) will benefit from the mission by receiving thermal infra-red data from one instrument, the New Infra-Red Sensor Technology (NIRST).

Sourcebook of measurement and monitoring methodologies for REDD: Provides a consensus perspective from the global community of earth observation and carbon experts on methodological issues relating to quantifying the green house gas (GHG) impacts of implementing activities to reduce emissions from deforestation and degradation in developing countries (REDD) (<http://www.gofc-gold.uni-jena.de/redd/index.php>). Based on the current status of negotiations and UNFCCC approved methodologies, the Sourcebook aims to provide additional explanation, clarification, and methodologies to support REDD early actions and readiness mechanisms for building national REDD monitoring systems. It emphasizes the role of satellite remote sensing as an important tool for monitoring changes in forest cover, and provides clarification on applying the IPCC Guidelines for reporting changes in forest carbon stocks at the national level. The Sourcebook includes a description of Canada's CBM-CFS3. The Project Office supports the

GOFC-GOLD Sourcebook working Group. It is printing a brochure and CD of the new version of the Sourcebook for distribution at side events and forest learning days at the UNFCCC CoP-15, Copenhagen.

Central Africa Regional GOFC-GOLD network: OSFAC (Observatoire Satellital des Forêts d'Afrique Centrale, <http://osfac.umd.edu/index.htm>) works to improve the quality and availability of satellite observations of forest and land cover in the Congo Basin and to produce useful and timely information products for a wide variety of users. An OSFAC Regional workshop and Carbon REDD meeting is planned for late 2009 at Kinshasa. The event will involve the OSFAC member countries including Cameroon where the CFS IMFN Secretariat is supporting an African Model Forest Initiative. The Project Office is providing technical presentations and travel support for participants from OSFAC network countries and GOFC-GOLD Implementation Team specialists to attend.

Africa Pilot of the GOFC-GOLD Regional Network Data Initiative: The Initiative has a developing country emphasis and takes advantage of the data recently made available through the opening up of the USGS Landsat archive. Its goals are to: 1) disseminate Landsat data to the international science community in regions where currently available distribution methods are not effective; 2) compile regional and country-level data sets relevant to land cover and fire observations and make them freely available to the community of users in the regions; and 3) engage regional science expertise in the global data set development, evaluation, and validation. The first initiative took place in 2008 and involved data specialists from the regional networks: OSFAC (Central Africa Regional Network); SAFNET (Southern Africa Regional Fire Network); WARN (West Africa Regional Network); East Africa Regional network (emerging, initiated by Sudan); and Miombo (Miombo Regional Network). Based on the results of the Africa pilot, further initiatives will be undertaken for the other GOFC-GOLD regional networks, including NERIN (Northern Eurasia), SEARRIN (Southeast Asia), RedLatif (Latin America) and emerging networks in Amazon and East Asia.

Impact on greenhouse gas emissions/sinks