

GOFC-GOLD

Global Observation of Forest and Land Cover Dynamics



GOFC-GOLD Symposium on Forest and Land Cover Observations

**Jena, Germany
13-17 October 2008**

Announcement and Program

Draft: 10-Oct-08

Organized by:
ESA GOFC-GOLD Land Cover Project Office
Friedrich Schiller University Jena, Germany

and

GOFC-GOLD Project Office
Edmonton, Canada



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Introduction

At the beginning of the 21st century, there is a growing global consensus that the cumulative effects human activities are impacting the Earth's ecosystems, atmosphere, and climate, and on their ability to support sustainable development. We need to improve our knowledge of biophysical and social systems and change policies and management practices throughout a broad range of human activities. A key, underpinning requirement to support these activities is to have systematic long-term observations of the forest and land cover characteristics and changes from local to global scales.

Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD) is a coordinated international effort to ensure a continuous program of space-based and in situ forest and land cover observations to better understand global change, to support international assessments and environmental treaties and to contribute to natural resources management. GOFC-GOLD encourages countries to increase their ability to measure and track forest and land cover dynamics by promoting and supporting participation on implementation teams and in regional networks. Through these forums, data users and providers share information to improve understanding of user requirements and product quality. GOFC-GOLD is a Panel of the Global Terrestrial Observing System (GTOS), sponsored by FAO, UNESCO, WMO, ICSU and UNEP.

Organized and hosted by the GOFC-GOLD land cover project office, an international symposium on "Forest and Land Cover Observations" will be held 13-17th October 2008 at the Friedrich Schiller University Jena, Germany. The meeting is driven by the recent GOFC-GOLD activities with the Group on Observation (GEO), the UN conventions including the United Framework Convention on Climate Change (UNFCCC) and the related implementation plan of the Global Climate Observing system (GCOS) and negotiations for a post-2012 climate agreement, the development of the IGOS-P theme for Integrated Global Observations for Land (IGOL), and activities of GTOS, the FAO Forest Resources Assessment 2010 Global Remote Sensing Survey, the GOFC-GOLD regional networks, the European Space Agency and the GLOBCOVER project, and the UN Global Land Cover Network.

The objectives of the meeting include:

1. Present and assess GOFC-GOLD progress in various areas and activities,
2. Review the overall GOFC-GOLD strategy and defined future priorities and areas of activity including interactions with political and policy processes,
3. Engage the global community of forest and land cover monitoring experts to develop technical consensus in critical areas such as:
 - a. Reducing emissions from deforestation and degradation (REDD)
 - b. Boreal forest monitoring
 - c. Development of standards and reporting guidelines
 - d. Assessment and validation of forest and land cover change
 - e. Linking global and regional land mapping monitoring initiatives
4. Formulate action plan for the land cover team and its partners, and foster future joint activities

The meeting is a continuation of international meetings of the GOFC-GOLD land cover project office at the Friedrich Schiller University Jena in:

- 2004 (see report: http://www.fao.org/gtos/gofc-gold/docs/GOLD_18.pdf) and
- 2006 (see report: http://nofc.cfs.nrcan.gc.ca/gofc-gold/Report%20Series/GOLD_28.pdf).

Local host and venue

The meeting is hosted by the Friedrich-Schiller-University in Jena, Germany, jointly organized by the GOFC-GOLD Land Cover Project Office Jena, the Friedrich Schiller University Jena and the GOFC-GOLD Project Office Edmonton, Canada.

The meeting venue are the Rose Halls of the FSU Jena located in the center of town for all days except 15.Oct. were the land cover team meeting will be held at Dornburg Castle.

Organizing Committee

GOFC-GOLD Land Cover Project Office, Jena, Germany:

Christiane Schmullius (c.schmullius@uni-jena.de)

Martin Herold (m.h@uni-jena.de)

Jacqueline Sambale (c6saja@uni-jena.de)

GOFC-GOLD Project Office, Edmonton, Canada:

Michael Brady (mbrady@nrcan.gc.ca)

Erin Naydenov (ENaydeno@NRCan.gc.ca)

Curtis Woodcock (Curtis@bu.edu)

The individual workshops will be organized by members of the land cover implementation team as indicated in the table below.

Overview of Agenda

The meeting will be organized in a number of individual workshops reflecting different GOFC-GOLD activities and involving additional international experts and participants in each of the areas of interest. A detailed agenda is included in the appendices.

Day	Time	Workshops		Venue
Monday, October 13	Morning	Workshop on Monitoring Tropical Deforestation and Degradation (i.e. REDD) (Room 101) <i>[Achard/DeFries/Herold]</i>	Workshop on Monitoring Boreal Forests (Room 103) <i>[Wulder/Schmullius]</i>	Rose Halls, University Jena
	Afternoon			
	Evening			
Tuesday, October 14	Morning	GOFC-GOLD/CEOS Workshop on Land Cover Change Accuracy Assessment (Room 102) <i>[Woodcock/Herold]</i>	R.101:GOFC-GOLD Regional Networks: Strategic Review <i>[Krankina/Brady]</i>	Rose Halls, University Jena
	Afternoon		Regional Networks business meeting <i>[Krankina]</i>	
	Evening	Visitation and dinner at Jena Planetarium		
Wednesday, October 15	Morning	Land Cover Symposium Kaisersaal <i>[Schmullius/Woodcock]</i>		Dornburg Castle
	Afternoon			
	Evening	Symposium Dinner		
Thursday, October 16	Morning	Land Cover Symposium – Break out group discussions (Room 102) <i>[Schmullius/Woodcock]</i>		Rose Halls, University Jena
	Afternoon	GOFC-GOLD strategy review plenary: conclusions and recommendations (Room 103) <i>[Brady/Janetos]</i>		
	Evening	Dinner at Botanical Garden		
Friday, October 17	Morning	LCCS and harmonization workshop (Room 102) <i>[DiGregorio/Herold]</i>		Rose Halls, University Jena
	Afternoon	Land Cover Implementation Team Meeting conclusions and action plan (internal) (Room 103) <i>[Schmullius/Woodcock]</i>		
	Evening			

Participants

The list of invitees is provided in Appendix 1 and consists of the following groups:

- Executive Committee
- Land Cover implementation team members
- Regional Network representatives
- External board, science and technical board, sponsors, and participants
- Representatives for tropical deforestation workshop
- Representatives for boreal forest monitoring workshop
- International land cover monitoring experts

Travel and Accommodation

The workshop will be held at the [University of Jena](#), Germany. [Jena](#) is a town in Thuringia on the river Saale. Jena offers several possibilities for accommodation.

In the following hotels an allocation of rooms has been reserved for symposium participants. You may book a room for you by using the keyword "Land cover". If you wish to participate, you are kindly requested to book as soon as possible, latest until the 26 September 2008.

- Steigenberger Esplanade Jena
Address: Carl-Zeiß-Platz 4, 07743 Jena
Phone: +49 3641 800-0
E-Mail: reservations@jena.steigenberger.de
Internet: www.jena.steigenberger.de
(only a few hundreds meters from the conference room, Single room: 99 €)
IMPORTANT: You need to book by email to indicate the key word "Land Cover"
- Schwarzer Bär Jena
Address: Lutherplatz 2, 07743 Jena
Phone: +49 3641 406-0
E-Mail: hotel@schwarzer-baer-jena.de
Internet: www.schwarzer-baer-jena.de
(only a few hundreds meters from the conference room, Single room: 60 €)
- Hotel IBIS
Address: Teichgraben 1, 07743 Jena
Phone: +49 3641 813-0
E-Mail: h2207@accor.com
Internet: <http://www.accorhotels.com/accorhotels/fichehotel/de/ibi/2207/>
(only a few hundreds meters from the conference room)
- Hotel "Zur Noll"
Address: Oberlauengasse 19, 07743 Jena
Phone: +49 3641 59 77 0
E-Mail: zur.noll@t-online.de
Internet: www.zur-noll.de
(only a few hundreds meters from the conference room, Single room: 60 €)

A list of further accommodations can be found on [Jena's webpage](#) (in German). We can assist with booking hotels.

Jena can be reached by car and by train. A train ride from Jena to the international airport Frankfurt (FRA) takes about 3:30 hours. To Berlin it is about 2:30 hours and to Munich 3:30 hours by train. Some smaller airports are within a one hour drive. Please visit the page for [travel information](#). The following link goes to the German railway company [Deutsche Bahn](#). The workshop will be held in the 'Rosensäle' or Rose Halls (Fürstengraben 27), which belong to the university. You can find them on this [map of Jena's city centre](#) (label 109) just north of the tower (label M9).

Shuttle Transport to Dornburg Castle

On Wednesday the 15th October the GOFC-GOLD Land Cover Symposium will take place at Dornburg Castle (20 minutes far from Jena). Two shuttle busses are organized for the transport. The busses will stop at the hotels in the city center as listed below. Participants who stay in different hotels are kindly asked to come to the indicated meeting points:

1. Hotel ESPLANADE, Carl-Zeiß-Platz 4: departure **8:00 a.m.**
2. Hotel IBIS, Holzmarkt/Jena: departure **8:10 a.m.**
3. Hotel "Schwarzer Bär", departure **8:00 a.m.**
4. Hotel "Zur Noll", departure **8:10 a.m.**

Appendix 1. List of Invitees

Name	Representing
Participation confirmed	
Participation still unclear	
<i>Participation cancelled</i>	
GOFC-GOLD Executive Committee	
Janetos, Anthony	GOFC-GOLD Chair
Mayaux, Philippe	GOFC-GOLD Co-Chair
Brady, Michael	Executive Director GOFC-GOLD
Woodcock, Curtis	Co-chair Land Cover IT
Schmullius, Christiane	Co-chair Land Cover IT
Latham, John	GTOS, Executive Committee
Gutman, Garik	NASA, Executive Committee
Goldammer, Johann	Co-chair Fire IT
Justice, Chris	Co-chair Fire IT
Kathleen Landauer	START representative
Naydenov, Erin	GOFC-GOLD Project Office Canada
External board, sponsors, and participants	
Arino, Olivier	ESA
Seifert, Frank-Martin	ESA
DiGregorio, Antonio	FAO / GLCN
Gerrand, Adam	FAO / FRA
Hiepe, Claudia	FAO / UN REDD
Hooda, Neeta	UNFCCC Secretariat
Briand, Paul	Canadian Space Agency
Fan, Jinlong	GEO Secretariat
Qamar, Zubair	GTOS Secretariat
Srivastava, Nalin	IPCC National Greenhouse Gas Inventory Program
Kraus, Tanja	DLR (German Aerospace Center)
Erhard, Markus	EEA
Andrasko, Ken	Worldbank, Forest Carbon Partnership Facility (FCPF)
<i>Li, Zengyuan</i>	<i>Chinese Academy of Forestry</i>
Land Cover IT members	
Achard, Frédéric	JRC, European Commission
Bartalev, Sergey	Academy of Science, Russia
DeFries, Ruth	University of Maryland, USA
Hansen, Matthew	South Dakota State University, USA
Herold, Martin	Land Cover IT Office, Germany
Jeanjean, Herve	CNES, France
Loveland, Thomas	USGS
Olsson, Håkan	Swedish University of Agricultural Sciences
<i>Pandey, Devendra</i>	<i>Indian Forest Survey</i>
Souza, Carlos	IMAZON, Brazil
Townshend, John	University of Maryland, USA
Volden, Espen	GMES Bureau, Belgium

Name	Representing
Wulder, Mike	Canadian Forest Service, Canada
Regional Network representatives	
DeMarcken, Paya	OSFAC, Democratic Republic of Congo
Diaw, Amadou Tahirou	WARN, Sénégal
Dlamini, Mdumiseni Wisdom	SAFNet, Swaziland
Dube, Pauline	SAFNet, Botswana
Gamedze, Mduduzi Sunshine	SAFNet, Swaziland
Gordov, Evgeny	NERIN, Russia
Kufogbe, Sosthenes Kwadzo	WARN, Ghana
Krankina, Olga	NERIN, USA
Kwasha, Dominick	Miombo, Zimbabwe
Lawrence, Nsoyuni Ayenika	OSFAC, World Resources Institute
Lopez, Gerardo	Redlatif, Mexico
Mastura, Mahmud	SEARRIN, Malaysia
Masuka, Mufaro	Miombo, Zimbabwe
Spivak, Lev	NERIN, Kazakhstan
Thongbooncho, Narisara	SEARRIN, Thailand
Zulu, Leo	Miombo, Malawi
Representatives for REDD workshop	
Benndorf, Rosemarie	German Federal Environment Agency
Eisbrenner, Katja	Ecofys
Erasmi, Stefan	University of Göttingen, Germany
Fritz, Steffen	International Institute for Applied Systems Analysis
Fujita, Naoko	Forestry and Forest Products Research Institute
Grassi, Giacomo	JRC, European Commission
Hirata, Yasumasa	Forestry and Forest Products Research Institute
Mollicone, Danilo	University of Alcalà, Spain / CfRN
Obersteiner, Michael	International Institute for Applied Systems Analysis
Pena, Naomi	Johanneum Research
Tutu Benefoh, Daniel	Ghana Environment Protection Agency
Wielaard, Niels	SarVision
van Laake, Patrick	ITC
Representatives for Boreal Workshop	
Cohen, Warren	USDA Forest Service
Ershov, Dmitri	Russian Academy of Science
Falkowski, Mike	University of Idaho
Häme, Tuomas	VTT Technical Research Centre of Finland
Næsset, Erik	Norwegian University of Life Sciences (UMB)
Nelson, Ross	NASA Goddard Space Flight Center
Pekkarinen, Anssi	Joint Research Centre, Italy
Reithmaier, Lucia	Joint Research Centre, Italy
Sirin, Andrey	Russian Academy of Sciences' Institute of Forest
Representatives for Land Cover Change Validation workshop	
Baret, Fred	INRA, CEOS WGCV (LPV)
Foody, Giles	University Nottingham, UK
Gallego, Javier	JRC, European Commission

Name	Representing
Stehman, Stephen	SUNY, State University of New York, USA
General participants	
Avitabile, Valerio	Istituto Agronomico per l'Oltremare (IAO)
Bock, Michael	DLR (German Aerospace Center)
Böhm, Christoph	Geodata Solutions, Germany
Breunig, Markus	University Munich
Caccetta, Peter	CSIRO, Department of Climate Change, Australia
Chaowalit, Silapathong	GISTDA
Conrad, Christopher	University Wuerzburg, Germany
Defourny, Pierre	Université Catholique de Louvain, Belgium
Fockelmann, Rainer	GAF AG, Germany
Förster, Johannes	University of Bayreuth, Germany
Fukushima, Yoshikazu	Geographical Survey Institute, Japan
Gomez, Sharon	GAF, Germany
Grim, Ruud	NIVR, Netherlands Aerospace Agency
Häusler, Thomas	GAF, Germany
Held, Alex	CSIRO, Department of Climate Change, Australia
Heimann, Martin	MPI-BGC, Germany
Heinzel, Vanessa	Remote Sensing Solutions GmbH
Hirschmugl, Manuela	Johanneum Research
Hoekman, Dirk	Wageningen Agricultural University, Netherlands
Kuntz, Steffen	Infoterra, Germany
Langanke, Tobias	Global Land Project – International Project Office
Lindquist, Erik	South Dakota State University, USA
Lück, Wolfgang	CSIR Satellite Applications Centre, South Africa
Machwitz, Miriam	University Würzburg
Milenov, Kristian	Remote Sensing Application Center, Bulgaria
Minnemeyer, Susan	World Resources Institute, USA
Olofsson, Johan Pontus	Boston University
Potter, Christopher	NASA Ames Research Center
Ramminger, Gernot	University of Freiburg
Reichstein, Markus	MPI, Germany
Rigal, Didier	Spotimage
Rosengren, Mats	Metria Project Manager - GSEFM
Scholes, Bob	Council for Scientific and Industrial Research (CSIR)
Sharma, Sundar	Regional South Asia Wildland Fire Network
Siegert, Florian	Remote Sensing Solutions GmbH
Siwe, Rene Ngamabou	GAF, Germany
Spessa, Allan	University of Reading, UK
Stephens, Paul	DMC International
Tan, Bingxiang	Chinese Academy of Forestry
Van Brusselen, Jo	European Forest Institute
Vassilev, Vassil	Remote Sensing Application Center, Bulgaria
Zeidler, Julian	University of Bayreuth, Germany

Appendix 2. Background, objectives and agenda for the GOFC-GOLD REDD workshop

Held 13.10.2008 in Jena, Germany

Background

In contribution to the UNFCCC/REDD process, GOFC-GOLD has organized two previous technical workshops in March 2006 in Jena, Germany (Report: http://nofc.cfs.nrcan.gc.ca/gofc-gold/Report%20Series/GOLD_27.pdf) and in April 2007 in Santa Cruz, Bolivia (Report: http://nofc.cfs.nrcan.gc.ca/gofc-gold/Report%20Series/GOLD_30.pdf). The activities have resulted in the GOFC-GOLD sourcebook on: “Reducing Greenhouse Gas Emissions from Deforestation and Degradation in Developing Countries: A Sourcebook of Methods and Procedures for Monitoring, Measuring and Reporting”. It aims to provide further explanation, clarification, and methodologies in addition to IPCC Guidelines for reporting changes in forest carbon stocks at the national level, and to support REDD early actions and readiness mechanisms for building national REDD monitoring systems. Version COP 13.2 has been released at the recent UNFCCC REDD methodological workshop in June 2008 in Tokyo, Japan (http://unfccc.int/methods_and_science/lulucf/items/4289.php) and is available for download (<http://www.gofc-gold.uni-jena.de/redd/index.php>).

The objectives of the third GOFC-GOLD workshop are:

- Present and discuss UNFCCC developments and evolving requirements for monitoring forest carbon changes in developing countries,
- Formulate technical and methodological recommendations for implementation on issues including fire monitoring, evolving technologies, accuracy assessment etc.
- Discuss specifically key challenging issues relevant to support building national level REDD capabilities and develop national REDD implementation strategies,
- Outline developments and elaborate contributions of GOFC-GOLD to related international processes evolving under the Group on Earth Observation (GEO) and the IPCC.

The results of the workshop are intended to be used for the next round of updates for the GOFC-GOLD sourcebook and presented at UNFCCC COP 14 in December 2008 in Poznan. Participants of this workshop are encouraged to attend the other events during the week of the GOFC-GOLD symposium, in particular the dedicated workshop on “Accuracy assessment of land cover change and associated area estimates” on Tuesday, 14.Oct. 2008 (the day after the REDD workshop). Given limited presentation time, a poster session of REDD case studies will be held in parallel to the workshop.

Agenda

GOFC-GOLD Workshop on Reducing Emissions from Deforestation and Forest Degradation (REDD)		
Monday, 13.10.2008, Rose Halls, Room 101		
SESSION 1: Introduction and requirements		
09.00-09.15	Opening and objectives	Herold
09.15-09.20	Welcome note	Benndorf
09.20-09.35	Status of UNFCCC discussions/decisions	Hooda
09.35-09.50	Australian activities and new GEO task	Held
09.50-10.00	Status of Landsat data access	Loveland
10.00-10.10	ESA activities on REDD	Seifert
10.10-10.20	Japanese REDD activities	Hirata
10.20-10.30	UN REDD roadmap	Hiepe
<i>10.30-11.00 Break (incl. poster session of REDD case studies)</i>		
SESSION 2: New sourcebook chapters and critical issues (10 min presentation)		
11.00-11.10	Sourcebook progress and evolution	Achard
11.10-11.20	Monitoring forest regrowth	Achard/DeFries
11.20-11.30	Advances in monitoring degradation	Souza
11.30-11.40	GHG from biomass burning	Justice
11.40-11.50	Section on uncertainties	Grassi
11.50-12.00	Evolving technologies	Herold
12.00-12.10	Carbon budget model examples	Mollicone
12.10-12.20	Community-based inventories	Van Laake
12.20-12.30	Role of regional networks	Mayaux
<i>12.30-13.30 Lunch (incl. poster session of REDD case studies)</i>		
SESSION 3: Evolving issues and breakout groups		
13.30-14.00	Discussion and definition of breakout groups	DeFries/Achard/Herold
14.00-15.00	Breakout group discussions	All
<i>15.00-15.30 Break (incl. poster session of REDD case studies)</i>		
SESSION 4: Breakout group discussions		
15.30-16.30	Breakout group discussions Potential groups: Monitoring forest degradation Evolving technologies Data collection for REDD	All
<i>16.30-17.00 Break (incl. poster session of REDD case studies)</i>		
SESSION 5: Breakout group reports and discussions		
17.00-17.30	Report from breakout groups	All
17.30-18.00	Open discussions	
18.00-18.30	Define actions and plan for COP14	

Poster session

(Rose Halls, Room: 102)

GAF AG: “REDD Pilot Project Cameroon, Quantifying Deforestation and Degradation”

HIRATA, Y.: “Research on the feasibility to estimate the GHG emissions reduction through avoiding deforestation”

WIELAARD: “PALSAR and ASAR radar for systematic monitoring of tropical (peat swamp) forest”

ERASMI, S.: “Stability of rainforest margins in Central Sulawesi, Indonesia”

SPESSA: Fire in the Vegetation and Peatlands of Equatorial SE Asia: Patterns, Drivers and Emissions.

SPESSA: Seasonal Fire Activity Predictions Using a Coupled Fire and Vegetation Model.

SAMBALE, J. et al.: “Developing national forest monitoring capacities for REDD participation: Vanuatu“

Appendix 3. Background, objectives and agenda for the GOFC-GOLD boreal and temperate forest monitoring workshop

Held 13.10.2008 in Jena, Germany

Background

Many wall-to-wall data products based upon remotely sensed data exist. Once produced large area maps of land cover of change can quickly become dated, providing an indication of conditions at a given period in time. Monitoring of conditions implies a repeated measurement of conditions over time. Wide area mapping, of regions, nations, or the globe, are costly and time consuming to perform, especially at the higher spatial resolutions now typically desired in support of reporting and management objectives. Scenarios by which remotely sensed data from a variety of sensors can be integrated to enable large area monitoring are desirable. For instance, coarse spatial resolution sensors can capture changes over large areas on an annual basis. The loss of spatial detail over more high spatial resolution instruments is compensated for by the frequent temporal coverage. Further, land cover data that is produced in a wall-to-wall fashion can be used to stratify sampling and aid in the extrapolation of detailed structural measures, such as those produced by airborne lidar instruments. Samples of imagery, particularly Landsat, have been used successfully to characterize both land cover and dynamics for reporting purposes. Dense time series of imagery of sample locations over large areas have also been demonstrated as a means to characterize forest disturbance and recovery, to inform on long-term carbon dynamics. In this session we will present the context for using hierarchical analysis or sample based approaches for forest monitoring over large areas. Issues, examples, and opportunities for the use of hierarchical or sample based monitoring approaches will also be presented. Building upon the presented materials, notions for continued developments and opportunities will be explored.

Planned outcomes of the workshop include the statement of context, identification of possible elements of a multi-scale monitoring framework, identification of possible and existing data sources, data acquisition and analysis opportunities, plus statistical and other technical considerations. We plan to produce a report describing the state-of-the-art, opportunities, and limits for the use multi-source, multi-scale, data for large-area forest characterization. The goal is not the development or promotion of a single approach, but to document and communicate potential practices and opportunities based upon the nature of the information need (as a function of say timing, attributes, detail, support data, as examples).

Agenda

GOFC-GOLD Workshop on Boreal and Temperate Forest Monitoring Theme: Multi-source, multi-scale, sampling for large area forest characterizations		
Monday, 13.10.2008, Rose Halls, Room 103		
SESSION 1: Introduction and requirements		
09.00-09.10	Opening and meeting objectives	Wulder/Schmullius
09.10-09.30	Context for multi-source, multi-scale, boreal and temperate forest characterization	Wulder
09.30-09.50	Circum-boreal forest change mapping	Hansen
09.50-10.10	Accuracy of sample versus area-wide mapping (including for change)	Stehman
10.10-10.30	Forest cover mapping over Europe at 3 dates (1990, 2000, 2006)	Reithmaier and Pekkarinen
<i>10.30-11.00 Break</i>		
SESSION 2: Background and applications		
11.00-11.20	Dense time series analysis: applications / methods	Olsson
11.20-11.40	Sample based dense time series analysis for regional monitoring	Cohen
11.40-12.00	The 2010 remote sensing-based Forest Resource Assessment as a sample based monitoring example	Gerrand
12.00-12.20	Samples of high spatial resolution satellite imagery for large area characterization	Falkowski
12:20-12:30	Session summary	Wulder
<i>12.30-13.30 Lunch</i>		
SESSION 3: Evolving and upcoming issues		
13.30-13.50	Wall-to-wall datasets for baseline and stratification: Notion of a best available map	Woodcock
13.50-14.10	Continental Land Cover Monitoring for Russia	Bartalev
14.10-14.30	Lidar based sampling for monitoring of large areas	Nelson
14.30-14.50	Lidar based sampling for subtle change, developments, and status	Næsset
14.50-15.10	Operational multi-scale biomass products	Schmullius
<i>15.10-15.40 Break</i>		
SESSION 4: Breakout group discussions		
	Discussion and definition of breakout groups	All/ Wulder
15.40-16.30	Breakout group discussions Issue and opportunities Evolving technologies Capacity building Long term monitoring needs (e.g., spatial, temporal, attribution, etc.)	All
<i>16.30-17.00 Break</i>		
SESSION 5: Breakout group reports and discussions		
17.00-17.30	Report from breakout groups	All
17.30-18.00	Open discussions	All
18.00-18.30	Synthesis (then closing remarks)	Wulder

Appendix 4. Background, objectives and agenda for the GOFC-GOLD/CEOS LPV workshop on accuracy assessment for land cover change and area estimates

Held 14.10.2008 in Jena, Germany

Background

Previous efforts of GOFC-GOLD and the CEOS Cal Val working group have resulted in an international, consensus document on the validation of global land cover maps (<http://landval.gsfc.nasa.gov/pdf/GlobalLandCoverValidation.pdf>). This workshop is a continuation of these activities focusing on the issue of accuracy assessment for land cover change and area estimates. The goal would be to synthesize experiences in a related "best practices" type document and to provide dedicated technical input to ongoing international processes, i.e. in the context of the UNFCCC efforts on reducing emissions from deforestation and degradation (REDD). The specific objectives of the workshop are:

- Review, discuss and synthesize experiences on approaches for accuracy assessments of land cover change and area estimates from both the technical and scientific community and from the context of ongoing near-operational land monitoring projects and programs
- Provide a forum to identify and discuss critical issues and outline avenues on how to approach them
- Evolve consensus and make recommendations towards developing a "best practices" technical document and "good practices" technical input to specific monitoring processes

Agenda

GOFC-GOLD Workshop on Accuracy Assessment of Land Cover Change and Area Estimates		
Tuesday, 14.10.2008, Rose Halls, Room 102		
SESSION 1: Opening and background (10 min presentation + 5 min discussion)		
09.00-09.10	Opening and meeting objectives	Woodcock/Herold
09.10-09.25	GOFC-GOLD validation activities	Woodcock
09.25-09.40	CEOS Cal Val land activities	Baret
09.40-09.55	Land cover change/events/magnitude/scales	Wulder
09.55-10.15	Change accuracy assessment: methodology	Stehman
10.15-10.30	AA Methods and current challenges	Foody
<i>10.30-11.00 Break</i>		
SESSION 2: Project examples/experiences and requirements (10 min + 5 min)		
11.00-11.15	Coarse scale estimates MODIS/Landsat	Hansen
11.15-11.30	JRC examples and methodologies	Gallego
11.45-12.00	Australian LULCC/NCAS methodology	Cacetta/Held
12.00-12.15	Methods for B4G analysis & CORINE upd	Kuntz
12.15-12.30	REDD/LULUCF implementation	Herold/Achard
12.30-12.45	Congo basin deforestation assessment exam.	Defourny
12.45-13.00	Discussions	
<i>13.00-14.00 Lunch</i>		
SESSION 3: Breakout group discussions		
14.00-14.10	Charge to breakout groups	All
14.10-16.00	Breakout group discussions	
<i>16.00-16.30 Break</i>		
SESSION 3: Breakout group reports		
16.30-17.30	Reports from breakout groups	All
17.30-18.30	Concluding discussions and next steps	
<i>18.30 Adjourn and informal discussions</i>		

Appendix 5. Background, objectives and agenda for the GOFC-GOLD strategy review meeting

Held 14. and 16.10.2008 in Jena, Germany

Background

Following the meeting of the Science and Technical Board meeting in Beijing in 2005 resulting in GOFC-GOLD strategy (see Townshend and Brady, 2006,), the purpose of this meeting is to revise the GOFC-GOLD strategy, goals, and priorities for future activities through:

- Present and discuss recent GOFC-GOLD achievements and activities
- Elaborate on evolving requirements, expectations and functions for GOFC-GOLD
- Scope a revised strategy and implementation priorities for the next 1-2 years
- Specify an organizational scheme and funding framework
- Initiate planning for next GOFC-GOLD Science and Technical Board meeting (2009)

Agenda

GOFC-GOLD strategy meeting		
Tuesday, 14.10.2008, Rose halls, Room 103		
SESSION 1: Presentation of GOFC-GOLD strategy and achievements		
13.30-14.00	Introduction to the GOFC-GOLD strategy	Janetos
14.00-14.15	GOFC-GOLD Project Office report	Brady
14.15-14.30	Recent priorities and achievements: land co.	Woodcock/Schmullius
14.30-14.45	Recent priorities and achievements: fire	Justice
14.45-15.00	Discussion	Janetos
<i>15.00 – 15.30 Break</i>		
SESSION 2: Discussion on requirements and role of GOFC-GOLD		
15.30-16.30	10 minute presentations and statements from Scientific and Technical Board members (ESA, CSA, FAO, GTOS, EEA, CEOS WGCV)	All
16.30-17.30	5 minute presentations and statements from other partners and stakeholders (GEO, UNFCCC, Kopernicus, GLP, IIASA, NAA, GISTDA, WRI, etc.)	All
17.30-18.00	Round table discussion on drivers for future GOFC-GOLD activities including: <ul style="list-style-type: none"> - Evolving user needs and political processes - International observation and assessment programs - Role to support or lead international and national implementation activities - Capacity building needs - ... 	Janetos and Brady
<i>18.00 Adjourn</i>		
NOTE: the agenda for the strategy meeting on 16.Oct is described in the LC-IT meeting		

Appendix 6. Background, objectives and agenda for the GOFC-GOLD regional network meeting

Held 14.10.2008 in Jena, Germany
Room: Rose Halls, Jena

Background

GOFC-GOLD Regional Networks provide a mechanism for sharing of resources and expertise, and a forum for regional scientists, data providers, and operational users to articulate their information requirements and improve access to and use of the earth observations. Sustaining these networks in developing regions is among the primary objectives of the current GOFC-GOLD Strategy. The previous 4th meeting of the GOFC-GOLD Regional Networks (Friedrich-Schiller University, Jena, Germany, 25 March 2006) discussed the changing roles and responsibilities of the Regional Networks. Six Regional Networks (*SAFNet*, *Miombo*, *OSFAC*, *SEARRIN*, *NERIN*, *REDLATIF-Fire*; <http://www.fao.org/gtos/gofc-gold/networks.html>) were reviewed and new areas for network activities were identified including strengthening contacts with Implementation Teams (IT). Regular telcons and network representation at the Executive Committee were instituted to promote information exchange and ongoing coordination. In the past two years, the networks conducted 21 regional workshops and participated in 15 IT workshops and symposia. In addition, the initial workshop was held for *WARN* (West Africa), the initial workshop for *Amazon* network has been planned, and discussions on forming new networks in East Asia, Eastern Europe, and India/South Asia are ongoing.

This meeting consists of two sessions (*Strategic Review* and *Business Meeting*) with an overall goal to plan future activities and collaborations. The specific objectives are:

- Review expectations and functions of networks within GOFC-GOLD
- Discuss emerging activities including:
 - GOFC-GOLD Regional Network Data Initiative
 - Collaborative activities with Land Cover IT (FRA 2010, Land cover product validation)
 - Collaborative activities with Fire IT (Global Fire Assessment 2010)
- Review and discuss GOFC-GOLD policies and collaborative plans for networks

Expected outcomes include the consensus strategy for regional networks development for the next 2-3 years and shorter-term action plans for projects and activities where opportunities for network participation have been identified.

Agenda

GOFC-GOLD Regional network meeting		
Tuesday, 14.10.2008, Rose halls, Room 102		
SESSION 1: <i>Strategic Review</i>		
09.00-09.40	Workshop overview and RN introductions (round table)	Olga Krankina, RN reps (9 networks – 3 min each)
09.40-10.00	Functions of networks within GOFC-GOLD	Janetos, Brady
10.00-10.15	Regional Network Data Initiative	Justice, Loveland
10.15-10.30	FRA 2010 and the role for networks	Gerrand, Mayaux, Hansen
<i>10.30-11.00 Break</i>		
SESSION 1 <i>Strategic Review</i> (continued)		
11.00 – 11.15	Global Fire Assessment 2010 and the role of the regional networks	Justice
11:15 – 11.30	Links to Global Wildland Fire Networks	Sharma
11.30 – 11.45	Land Cover Product Validation Initiative	Woodcock, Herold
11:45 – 12.00	FAO: capacity building and GLCN collaboration	?
12.00 – 12.15	CEOS Cal Val land activities (VALERI?)	Baret
12.15 – 12.30	GEO call for participation, RASTER init.	Briand
<i>12.30-13.30 Lunch</i>		
SESSION 2 <i>Business meeting</i>		
13.30-14.00	Action plan for pilot phase of Regional Network Data Initiative	Krankina, Loveland and RN Reps
14.00-15.00	Plans for New Networks (Amazon, E. Europe., E. Asia, NERIN-south)	Souza, Woodcock/East Europe rep, Townshend/ Li, Sharma, Spivak
<i>15.00-15.30 Break</i>		
SESSION 2 <i>Business meeting</i> (Continued)		
15:30-15:45	Review of RN representation/coordination	Krankina
15:45-16:00	Policy on organizational support	Naydenov
16:00-17:00	Planning for RN participation in IT activities	Justice, Mayaux
17:00-17:30	General discussion of future activities and collaborations	All RN Reps
<i>18:00 Adjourn</i>		

Appendix 7. Background, objectives and agenda for the GOFC-GOLD land cover implementation team meeting

Held 15-17.10.2008 in Jena, Germany

Background

The last LC-IT meeting was held in Boston in Oct. 2007. The purpose of this meeting is to present, assess and discuss the GOFC-GOLD land cover progress in various areas and activities to define a future action plan for the team in the next few years. The specific objectives are:

1. Provide an overview and update on key land cover team activities,
2. Engage the global community of forest and land cover monitoring experts to develop technical consensus in critical areas such as:
 - a. Reducing emissions from deforestation and degradation (REDD)
 - b. Boreal forest monitoring
 - c. Development of standards and reporting guidelines
 - d. Assessment and validation of forest and land cover change
 - e. Linking global and regional land mapping monitoring initiatives
3. Interact with GOFC-GOLD strategy partners and review the overall GOFC-GOLD strategy to defined future priorities and areas of activity including interactions with political and policy processes
4. Formulate action plan and foster joint future activities for the GOFC-GOLD land cover team, the fire team, the regional networks and partners.

Agenda

GOFC-GOLD land cover implementation team meeting		
Wednesday, 15.10.2008, Dornburg castle		
SESSION 1: Opening and objectives		
09.00-09.15	Opening and introduction	Schmullius
09.15-09.25	Opening remarks from FSU Jena	Witte
09.25-10.00	Drivers/function of GOFC-GOLD activities	Janetos
10.00-10.15	LC-IT activities and meeting objectives	Woodcock
<i>10.15-10.45 Break</i>		
SESSION 2: Supporting international activities and assessments (10 min + 5 min)		
10.45-11.00	IGOL/GEO activities	Townshend
11.00-11.15	GEO task progress for forests	Brady
11.15-11.30	ESA activities: GLOBCOVER/clim. change	Arino
11.30-11.45	FAO FRA 2010 remote sensing survey	Gerrand
11.45-12.00	UNFCCC/REDD activities	DeFries
12.00-12.15	ECV standard for land cover/biomass	Herold
<i>12.15-13.30 Lunch</i>		
SESSION 3: New global datasets and activities (10 min + 5 min)		

13.30-13.45	GMES global land monitoring activities	Volden
13.45-14.00	GLOBCOVER	Defourny
14.00-14.15	JRC activities	Achard/Mayaux
14.15-14.30	Global forest monitoring: MODIS/Landsat	Hansen
14.30-14.45	Global validation/best available map	Woodcock
<i>14.45-15.15 Break</i>		
SESSION 4: Ongoing regional activities and projects (10 min + 5 min)		
15.15-15.30	Regional network activities	Krankina
15.30-15.45	EEA plans and global activity plans	Erhard
15.45-16.00	GMES Land Monitoring Core Service	Kuntz
16.00-16.15	Boreal forest monitoring	Schmullius
16.15-16.30	Russian academy of science activities	Bartalev
16.30-16.45	Global/regional WRI forest mon. activities	Minnemeyer
<i>16.45-17.15 Break</i>		
SESSION 5: Supporting national activities and closing (10 min + 5 min)		
17.15-17.30	Australian land cover/use monitoring	Caccetta
17.30-17.45	Involvement with national programs	Loveland
17.45-18.00	Accuracy assessment of lc change/area est.	Stehman
18.00-18.15	Global Mapping project - ISCGM	Fukushima
18.00-18.30	Closing discussions and charge for next day	Woodcock/Schmullius
<i>Workshop dinner at Dornburg castle</i>		
GOFC-GOLD land cover implementation team meeting		
Thursday, 16.10.2008, Rose Halls, Room 102		
SESSION 1: Review of day 1 and charge for day 2		
09.00-09.15	Opening and review of previous day	Woodcock/Schmullius
09.15-10.15	Breakout group discussions 1 Potential groups (implementation): ECV standard: land cover/biomass Global deforestation monitoring Global land cover validation exercise	All
<i>10.15-10.30 Break</i>		
SESSION 2: Report and 2 nd set of breakout groups		
10.30-11.30	Individual group summary presentation Breakout group discussions 2 Potential groups (define action plans): Involvement with national programs (GEO)	All
11.30-12.30	Regional network action plan Concepts: Land change/use monitoring STB internal discussions	
<i>12.30-13.30 Lunch</i>		
SESSION 3: Report and discussions		

13.30-14.15	Individual group summary presentation	All
14.15-15.00	Summary discussions	Woodcock/Schmullius
<i>15.00-15.30 Break</i>		
SESSION 4: STB feedback and panel discussions		
15.30-16.00	Comments and feedback to GOFC-GOLD	Strategy Panel
16.00-16.30	Open discussion	All
16.30-17.30	Outlining future priorities and action plan	Janetos
<i>17.30 Adjourn and informal discussions</i>		
GOFC-GOLD land cover implementation team meeting		
Friday, 17.10.2008, Rose Halls, Room 102		
SESSION 1: Land cover classification system (LCCS) concept and tutorial		
09.00-09.15	Opening and objectives of the day	Woodcock
09.15-10.15	Introduction of LCCS 3 concept and tutorial	DiGregorio
10.15-10.45	Discussion/questions on LCCS 3	All
<i>10.45-11.15 Break</i>		
SESSION 2: Land cover classification system (LCCS) feedback forum		
11.15-11.30	Harmonization/legend translation	Herold
11.30-11.45	Applying LCCS concept: feedback	Woodcock
11.45-12.00	LCCS feedback from regional networks	Krankina
12.00-12.30	Discussion on next steps	All
<i>12.30-13.30 Lunch</i>		
SESSION 3: Informal LC-IT meeting		
13.30-14.00	Team discussions, review of last days	Woodcock/Schmullius
14.00-15.00	Final team decisions on important issues, i.e. ECV standards, validation plan, membership issues etc.	
<i>15.00-15.30 Break</i>		
SESSION 4: Defining next steps		
15.30-17.00	Outlining future priorities and action plan	Janetos/ Brady / Woodcock / Schmullius
<i>17.30 Adjourn</i>		