

GOFC-GOLD
Global Observation of Forest and Land Cover Dynamics



GOFC-GOLD and CEOS WGCV LPV expert meeting:

**“Global land cover validation and accuracy assessment for
land cover change and area estimates: updates, progress,
next steps”**

**IIASA premises, Laxenburg, Austria
16-17 June 2011**

Draft Announcement and Program

Draft: 13-Jun-11

Organized by:
Center for Geoinformation, Wageningen University, Netherlands
GOFC-GOLD Project Office and Natural Resources Canada, Canadian Forest Service
Institute for Applied System Analysis (IIASA)



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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.

Previous efforts of GOFC-GOLD and the CEOS Cal Val working group (land validation subgroup) 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 evolving global land cover validation efforts and the emerging 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 for observing Essential Climate Variables and for on reducing emissions from deforestation and degradation (REDD).

The specific objectives of the workshop are:

- Updates on ongoing and planned global land cover validation efforts and means of international coordination with particular emphasis on evolving activities for observing land cover as Essential Climate Variable
- 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
- Present and discuss the approaches of the FAO FRA remote sensing survey
- Evolve consensus and make recommendations towards developing a "best practices" technical document and "good practices" technical input to specific monitoring processes

The workshop objectives are building on previous meetings of similar type and the related outcomes, i.e. see GOFC-GOLD-38: <http://www.fao.org/gtos/gofc-gold/series.html>

Local host and venue

The meeting is hosted by Institute for Applied System Analysis (IIASA) in Laxenburg, Austria.

More details on logistics and the venue is available on the website:

<http://www.iiasa.ac.at/Research/FOR/lc/calval.html>

Organizing Committee

GOFC-GOLD Project Office and Natural Resources Canada, Canadian Forest Service:
Michael Brady (mbrady@nrcan.gc.ca)

Wageningen University:
Martin Herold (martin.herold@wur.nl)

Institute for Applied System Analysis (IIASA)
Steffen FRITZ (fritz@iiasa.ac.at)

Participants

The meeting is set up as open expert meeting. The list of invitees is provided in Appendix 1 and consists of the following groups:

- GOFC-GOLD Land Cover implementation team members
- CEOS WGCV LPV team members
- International land cover accuracy assessment experts
- Experts involved in related international initiatives and monitoring projects

Travel and Accommodation

See recommendations at: <http://www.iiasa.ac.at/Research/FOR/lc/calval.html>

Appendix 1. List of registered participants

First Name	Last Name	Institution
Abdel Aziz	Sheta	Faculty of Agric. Ain Shams Univ.,
Adam	Gerrand	Food and Agriculture Organization of the United Nations
Alex	Held	CSIRO
Andre	Nonguierma	UNECA
Bernardo	Rudorff	National Institute for Space Research
Bruno	G�rard	International Livestock Research Institute
Chris	Justice	Dept of Geography, University of Maryland
Christoph	Sannier	SIRS
Curtis	Woodcock	Department of Geography and Environment, University of Boston
Elodie	Vintrou	CIRAD, Maison de la T�l�d�tection
Erik	Lindquist	United Nations Food and Agriculture Organization
Frederic	Achard	European Commission - Joint Research Centre
Giles	Foody	School of Geography, University of Nottingham
Jaiteh	Malanding	CIESIN at Columbia University, Lamont Doherty Earth Observatory
Jinlong	Fan	National Satellite Meteorological Center, China Meteorological Administration
Joanne	Nightingale	NASA Goddard Space Flight Center
Joe	Sexton	Global Land Cover Facility, University of Maryland
Jorma	Kilpi	VTT
Kim	Lowell	Cooperative Research Centre for Spatial Information
LeeAnn	King	University of Maryland
Li	Qiangzi	Institute of Remote Sensing Applications (IRSA), Chinese Academy of Sciences (CAS)
Liangzhi	You	International Food Policy Research Institute
Lucy	Bastin	Joint Research Centre of the EC
Martin	Kappas	Institut of Geography
Matt	Hansen	South Dakota State University
Mike	Wulder	Canadian Forest Service
Mohammed	El Gamri	College of Forestry and Range Science-Sudan University of Science and Technology
Myriam	Haffani	Centre National de la Cartographie et de la teledetection
Noriko	Hosonuma	MEXT of Japan / Wageningen University
Olga	Krankina	Oregon State University, College of Forestry
Olusegun	Adeaga	Department of Geography, University of Lagos
Pei	Zhiyuan	Chinese Academy of Agricultural Engineering
Peng	Gong	Tsinghua University
Philippe	Mayaux	European Commission - Joint Research Centre (IES/GEM)
Pierre	Defourny	Earth and Life Institute, Universit� Catholique De Louvain
Pontus	Olofsson	Dept of Geography and Environment, Boston University
Tom	Loveland	USGS EROS
Wu	Bingfang	Institute of Remote Sensing Applications (IRSA), Chinese Academy of Sciences (CAS)
Wu	Wenbin	Institute of Agricultural Resources & Regional Planning, Chinese Academy of Agricultural Sciences
Xiangming	Xiao	Stephenson Research and Technology Center, University of Oklahoma
Yosio	Shimabakuro	National Institute for Space Research

Appendix 2. Detailed agenda

GOFC-GOLD and CEOS WGCV LPV expert meeting		
Thursday, 16 June 2011		
SESSION 1: Introduction and workshop planning		
09.00-09.15	Opening and welcome session –	Herold, Woodcock
09.15-09.40	Intro, background and objectives	Herold
09.40-10.00	CEOS WGCV LPV overview and efforts	Nightingale
<i>10.00-10.30 Break</i>		
SESSION 2: Overview of global land cover validation experiences and activities I		
10:30-10:40	IIASA harmonization/online framework	Fritz
10:40-11:00	GLOBCOVER 2005 and 2009 validation results	Defourny
11:00-11:15	GOFC global validation: sampling design	Olofsson
11:15-11:30	GOFC validation: response design	Woodcock
11.30-11:45	GOFC validation: analysis options	Ahlquist
11.45-12.00	GOFC validation: next steps	Woodcock
<i>12.00-13.00 Lunch</i>		
SESSION 3: Overview of global land cover validation experiences and activities II		
13.00-13.20	ESA climate change initiative validation plan	Mayaux
13.20-13.40	FRA RSS progress and approach - quality improvement through engaging national experts	Gerrand
14.00-14.20	JRC TREES consistency assessment	Achard
14.20-14.40	Google efforts	Thau
14.40-15.00	Chinese global land cover effort & validation	Peng Gong
<i>15.00-15.30 Break</i>		
SESSION 4: Breakout group discussions		
15.30-17.30	Breakout group discussions on issues requiring coordination, for example: 1) Response design: reference data acquisitions (satellite data, interpretation, crowd sourcing etc.) 2) Accuracy analysis and reporting (i.e. for ECVs)	all
<i>17.30 Closing of first day</i>		
Dinner (tbc)		

GOFC-GOLD and CEOS WGCV LPV expert meeting		
Friday, 17 June 2011		
SESSION 5: Approaches for the accuracy assessment of area changes		
08.30-09.00	Current status/needs of “best practices” doc	Woodcock
09.00-09.15	Land cover change validation approaches	Footy
09.15-09.30	Statistical issues	Stehman
09.30-09.45	GEO FCT accuracy assessment framework	Lowell
09.45-10.00	FAO remote sensing survey approach	Lindquist
<i>10.00-10.30 Break</i>		
SESSION 6: Discussions on developing good and best practices		
10.30-12.00	Group discussions continued	all
<i>12.00-13.00 Lunch</i>		
SESSION 7: BOG group presentation and discussions		
13.00-14.00	Several BOG presentations	several
<i>14.00-14.30 Break</i>		
SESSION 8: Presentation of advanced land cover cal/val measurement (networks)		
14.30-14.50	WU activities and approaches (i.e. Riegl, Pastis)	Herold
14.50-15.10	Need for advanced cal/val approaches and Australian experiences (i.e. TERN, Echidna etc.)	Held
15.30-15.50	BU approaches: incl. below canopy Lidar	Woodcock
15.50-16.00	Canadian CFS/UBC activities and approaches	Wulder (tbc)
16.15-17.00	Discussion on better coordination and joint activities and approaches	all
<i>17.00 Closing of the meeting</i>		