

# LAND COVER AND CHANGE

Newsletter of the GOFC-GOLD Land Cover Project Office

MAY 2007

NUMBER 14

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## GOFC-GOLD WELCOMES NEW CHAIR

GOFC-GOLD has announced its new chair: Dr. Anthony Janetos.

## ESA ENVISAT SYMPOSIUM

The ESA ENVISAT Symposium held in Montreux provided an overview of various application fields of data from the ENVISAT sensors. A special plenary session was held to focus on the benefits of earth observation for the UN conventions.

## 2<sup>ND</sup> GOFC-GOLD WORKSHOP ON MONITORING TROPICAL DEFORESTATION

On 17-19 April 2007, the 2<sup>nd</sup> GOFC-GOLD workshop on “Measuring and monitoring greenhouse gas emissions from deforestation in developing countries” was held in St. Cruz, Bolivia. Scientists, managers and representatives from various institutions came together with local and regional experts to exchange lessons learned from related case studies and to develop detailed methodological guidelines for the estimation of national GHG emissions using remote sensing and in-situ measurements. The results and conclusions of the workshop were presented at the joint ESA/GOFC-GOLD Side Event at the 26<sup>th</sup> UNFCCC SBSTA, in Bonn and are summarized in this newsletter.



ESA/GOFC-GOLD side event at 26<sup>th</sup> UNFCCC SBSTA



Participants at the GOFC-GOLD Tropical Deforestation Workshop held in Santa Cruz, Bolivia

(picture: FAN Bolivia)



The workshop was initiated by the GOFC-GOLD Working Group on Monitoring Tropical Deforestation in response to current discussions within the UNFCCC to include new support mechanisms for developing countries to reduce the degradation or deforestation of national forest resources in a post Kyoto agreement (see GOFC-GOLD Newsletter 13).

Participants included members of the GOFC-GOLD Executive Committee, the Land Cover Implementation Team, Working Group members as well as international scientists and representatives from Bolivia, Colombia, Brazil and India.

The workshop was divided into one day of presentations and two days of working group discussions. During the first day, representatives from Colombia and Bolivia gave presentations. Recent developments in the UNFCCC process were summarized (i.e. the outcomes of the 2<sup>nd</sup> UNFCCC workshop held from 7-9 March 2007 in Cairns, Australia and their perspectives). Individual RED-DC case studies from Cameroon, India, Brazil, Vanuatu, Bolivia and other developing countries were also presented. More than 50 participants attended the first day of the workshop, including many local participants from Bolivian environmental organizations. Presentations and relevant documents are available at: <http://www.gofc-gold.uni-jena.de/bolivia07.php>.

Days 2 and 3 were dedicated to technical presentations and discussions. Several breakout group discussions synthesized the experiences from various case studies in the areas of monitoring deforestation, forest degradation, changes in carbon stocks and accuracy assessment. The box to the right shows the recommendations and anticipated next steps.

Monday, April 16 <sup>th</sup>	Tuesday, April 17 <sup>th</sup>	Wednesday, April 18 <sup>th</sup>	Thursday, April 19 <sup>th</sup>	Friday, April 20 <sup>th</sup>
GOFC-GOLD Regional Network Meeting	GOFC-GOLD Workshop on Monitoring Tropical deforestation			Field trip (optional)
	Presentation of RED-DC case studies	Breakout group discussions	Breakout group discussions	

Fig. 1: Overview of the workshop agenda



Fig. 2: Impressions from the Bolivia Workshop (a: Karin Columba, Executive Director of FAN Bolivia opens the workshop, b: Gisela Ulloa on the perspective of Bolivia, c: workshop participants, d: Michael Brady from GOFC-GOLD during the discussion)

**Next steps and recommendations**

- Source book for methods & procedures to be developed:
  - Includes estimation of area change and carbon emissions
  - 1st draft anticipated in September 2007
- Charge for EO community: Ensure satellite data availability
- Need for further technical experiences:
  - Monitoring of forest degradation
  - Integration forest area change measures and carbon stocks
  - Accuracy assessment procedures
  - Linking policy decisions/requirements and monitoring options
- Developing countries to build or extend their historical deforestation databases:
  - Start with 1990-2000-2005 deforestation
  - Establish/improve essential infrastructure and resources over time

# A SYNTHESIS OF RECENT REDD CASE STUDIES

## RESULTS OF THE BOLIVIA WORKSHOP PRESENTED AT UNFCCC SBSTA SIDE EVENT

At the 26<sup>th</sup> UNFCCC SBSTA held in Bonn in May 2007, ESA and GOFC-GOLD organized a joint side event to present the results of the Bolivia workshop. Lessons learned, issues of degradation, accuracy assessment, and recommendations for implementation were addressed. The side was held 11<sup>th</sup> March 2007 with attendance of about 60 people. Mark Doherty from ESA chaired the side event and gave an introduction on the need for earth observation for the UNFCCC land use sector activities and for RED-DC process in particular. His presentation provided information from the special "convention" session at the Envisat Symposium (see report in this newsletter) on earth observation input for the UNFCCC. Espen Volden (ESA) presented the GOFC-GOLD tropical deforestation working group activities in response to the UNFCCC discussions, emphasizing the awareness of the Earth observation community and efforts for providing technical input (Fig. 3). Frederic Achard (JRC) summarized a suite



of activities and initiatives for reducing deforestation emission estimation uncertainties on regional and global levels. The technical implications of different policy options for UNFCCC reporting were discussed by Tracey Johns (Johanneum Research). In a synthesis presentation of the case studies, Martin Herold (GOFC-GOLD) presented the recommendations from the working group for implementation at the national level. Given the positive experiences of past and ongoing case studies; countries can start to develop a national monitoring system and establish a historical

deforestation reference using 1990 / 2000 / 2005 Landsat-class data. The GOFC-GOLD working group will continue to follow the negotiations and produce policy-relevant technical inputs through a technical source book for national implementation. Progress will be reported at UNFCCC COP 13. All of the side event presentations are available for download on the UNFCCC website: [http://regserver.unfccc.int/seors/reports/events\\_list.html](http://regserver.unfccc.int/seors/reports/events_list.html).

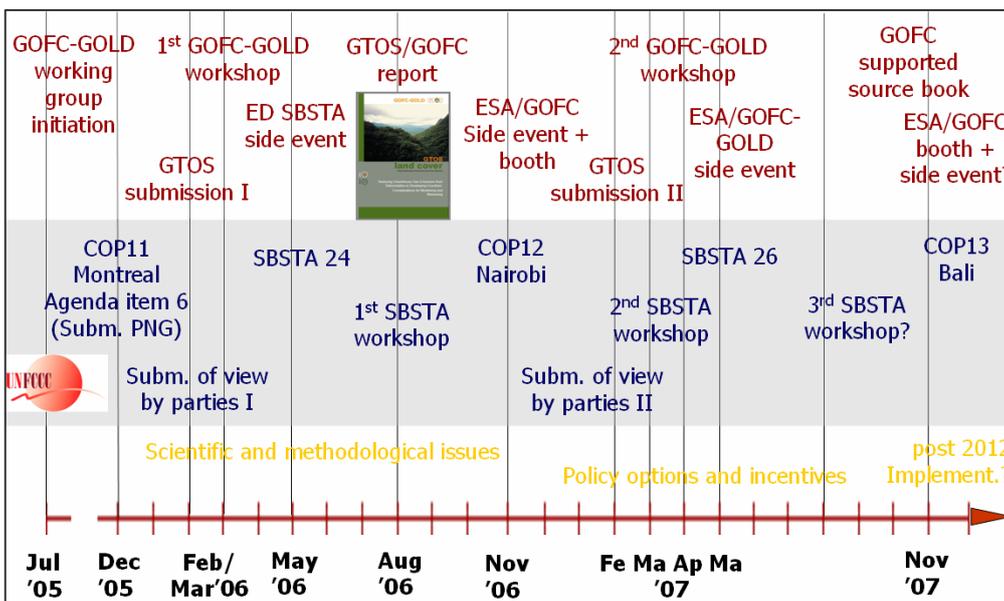


Fig. 3: Timeline emphasizing the contribution and response of the GOFC-GOLD REDD working group to UNFCCC discussions and requests for technical input

# THE GLOBAL LAND PROJECT INTERNATIONAL PROJECT OFFICE STARTS OPERATIONS

## INTERNATIONAL RESEARCH FOCAL POINT ON LAND-CHANGE STUDIES



The Global Land Project (GLP) – a joint project of IGBP (Int.

Geosphere-Biosphere Programme) and IHDP (Int. Human Dimensions Programme) – took its first steps in 2006 as a fully functioning research programme. The successor to the Land Use and Land Cover Change (LUCC) and Global Change and Terrestrial Ecosystems (GCTE) projects, GLP opened its international project office (IPO) in Copenhagen in September 2006. Anette Reenberg was appointed as chair, Tobias Langanke as executive officer, and Lars Jorgensen as administrative officer.

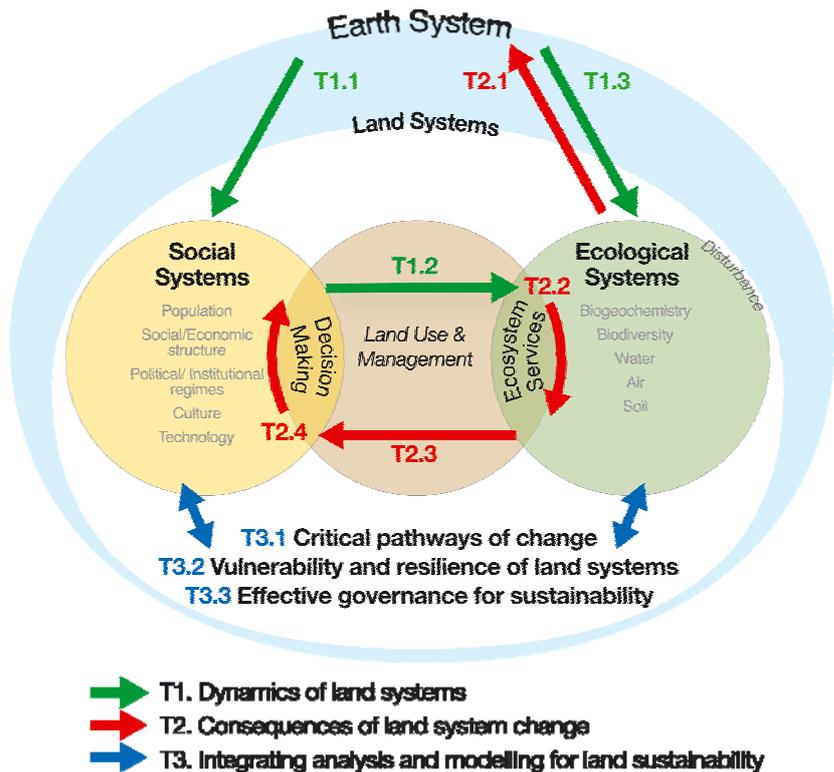
### Objective of GLP

GLP studies the human transformation of ecosystems and landscapes. It looks at the links between decision-making, ecosystem services and global environmental change that define important feedbacks between human-environment interactions at the local, regional, and global scales. GLP research aims to improve the understanding of land system dynamics in the context of Earth System function by measuring, modelling and understanding the coupled human-environmental system. Furthermore, these studies will better predict the consequences of future land system change.

### The Project Office

GLP's International Project Office (IPO) in Denmark manages the project's growing network of scientists, and is creating a database of scientists interested in GLP's research. The IPO also coordinates research through

GLP's three new nodal offices located in Aberdeen, UK (focus on integration and synthesis), Sapporo, Japan (focus on vulnerability, resilience and sustainability of land systems) and Beijing, China (focus on land use - and ecosystem interactions). The nodal offices provide infrastructural, personnel, and scientific input and support in the process of implementing the GLP science plan.



**Fig. 4: Global land project science plan showing the conceptual framework and where the 10 main issues (or science questions) are located within the framework. See GLP science plan available at [www.globallandproject.org](http://www.globallandproject.org) for more details.**

Through strong communication and outreach efforts, GLP informs and updates its scientists and a broader audience of international researchers. The project published its first newsletter in September 2006 and launched its website in October. In 2006, GLP held two SSC meetings: one in Rome, the other in Beijing during the Earth System Science Partnership's Open Science Conference. The SSC meeting for 2007 will be held in Copenhagen in October 2007.

To supplement the ongoing endorsement and networking activities, a number of activities were held in 2007 or are planned for the coming months. These include a workshop and a seminar for junior researchers in Sapporo, a workshop and two conferences co-organized by GLP in Copenhagen and a number of activities that are planned by the Aberdeen nodal office and the Beijing nodal office.

The GLP Science Plan will be implemented through a combination of detailed regional studies with a global, comparative perspective. As GLP cannot fund research although it cooperates with projects

On the GLP webpage you can join the network by registering on the GLP database ("Newsletter registration"). You will then receive a bi-annual Newsletter and occasional email-updates from GLP."

Dr. Tobias Langanke

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**Benefits for GLP endorsed projects:**

- access to an emerging network of integrated global environmental change (GEC) research on land systems including activities such as workshops, conferences and educational activities
- additional global perspective to local/regional studies including global or inter-regional comparisons
- publication opportunities
- possibly easier access to funding for endorsed projects

and activities that are already funded. Cooperation with interested projects is initiated through an endorsement step. GLP invites and encourages interested scientists from various disciplines to join it's network and consider submitting projects for endorsement that help implement GLP's agenda.

To join the GLP network and to find out more about how you can get involved, please visit: [www.globallandproject.org](http://www.globallandproject.org)

## GOFC-GOLD WELCOMES NEW CHAIR

In April, the GOFC-GOLD Executive Committee welcomed **Dr. Anthony Janetos** as the new Chair of GOFC-GOLD. He takes over the position from Dr. John Townshend.

Dr. Janetos is director of the Joint Global Change Research Institute at the University of Maryland and was involved in GOFC-GOLD during the initial stages of the panel's development in the late 1990s. Tony Janetos indicated that GOFC-GOLD has positioned itself well for a range of activities and he is looking forward to leading and supporting the panel's activities. He has communicated with policy, business, and scientific audiences on the need for scientific input and assessment in the policymaking process and the need to understand environmental,

economic, and policy linkages among major global environmental issues.

Dr. Janetos has served on several national and international study teams, including co-chairing the U.S. National Assessment of the Potential Consequences of Climate Variability and Change. He was an author of the Intergovernmental Panel on Climate Change's Special Report on Land-Use Change and Forestry, the Global Biodiversity Assessment, and a coordinating lead author in the recently published Millennium Ecosystem Assessment. He is currently a member of the National Research Council Committee on Earth Science and Applications from Space. Dr. Janetos graduated from Harvard College with B.Sc. in Biology and earned

a master's degree and Ph.D. in Biology from Princeton University. Dr. Janetos contact email is:

[anthony.janetos@pnl.gov](mailto:anthony.janetos@pnl.gov)



# CONVENTION PANEL AT ESA ENVISAT SYMPOSIUM

## SPECIAL SESSION DISCUSSED RECENT EFFORTS AND FUTURE CHALLENGES FOR EARTH OBSERVATION SUPPORT TO THE UN CONVENTIONS

The objective of the ESA ENVISAT Symposium, held from 23-27 April 2007, in Montreux/Switzerland was to present the results of on-going research project activities using ENVISAT and ERS. A variety of application fields were represented as e.g. ozone hole monitoring, sea level rise, sea surface temperature, ice sheets and sea ice variations, volcanoes and earthquakes, land cover changes and others (see: [www.envisat07.org](http://www.envisat07.org)).

A special panel addressed on efforts and challenges for earth observation technologies in supporting the United Nations Environmental Conventions. Representatives from the EEA, UNFCCC, UNCCD, Ramsar Convention, FAO, UNESCO WCRP and IGBP gave an overview on recent developments and activities and their perspectives and needs concerning a comprehensive earth observation system.

Dr. Roberto Acosta (UNFCCC Coordinator of the Adaptation, Technology and Science Programme) emphasized the importance of a close communication between the science community and the conventions. Science could participate actively in the convention processes by following requests of the SBSTA's and relevant developed guidelines. Critical issues are to increase the use of remote sensing and the improvement of accuracy and methods, e. g. the modelling of green house gas emissions and the recent discussions on reducing emissions from deforestation. As a priority for EO regarding the UNFCCC he identified the acquisition of the Essential Climate Variables (ECV'S) as

described in the GCOS Implementation Plan and to ensure data continuity of earth observation in the future. There are thirteen ECV's in the terrestrial domain including land cover and fire. The GOFC-GOLD land cover office has reported progress in addressing the GCOS IP ECV "land cover" tasks in Newsletter 8: [http://www.gofc-gold.uni-jena.de/documents/newsletter/GOFC-newsletter\\_no8.pdf](http://www.gofc-gold.uni-jena.de/documents/newsletter/GOFC-newsletter_no8.pdf).

Dr. Jeff Tschirley from FAO highlighted the importance of linking the science to users and applications. As future targets, he mentioned the need for high resolution forest and land cover products (every five years), operational real time fire product, and a global biomass product.

In the second session presentations from selected ESA DUE projects. GlobCarbon, GlobIce, GlobColour, GOFC-GOLD and GlobCover showed their results and achievements regarding their benefits for the specific conventions. The GlobCover Consortium presented the first global bi-monthly mosaics for May-June 2005 and March-April 2006. They can now be accessed through the Ionia GlobCover web map server Portal (Fig. 5).

To further the release of the GlobCover products, a first user consultation meeting will be held at JRC in Ispra, Italy, on 20 June 2007. It will provide users a platform to discuss the quality of the released GlobCover bimonthly global composites and how GlobCover products will be integrated into their work. Users are encouraged to provide feedback on data access and product quality by email to [due@esa.int](mailto:due@esa.int). Those interested in attending the user consultation meeting may apply by emailing the same address. User feedback and applications for the user consultation meeting can be sent by 10 June (the period has been extended).

The screenshot shows the Ionia GlobCover Portal interface. At the top, there is a header with the ESA logo and 'EO Applications Development Ionia GlobCover'. Below this is a navigation bar with links to 'ESA Home', 'DUE Home', and 'Ionia Home'. A sidebar on the left contains a menu with items like 'Home', 'Login/Register', 'Data Access', 'Geonetwork', 'Documents', 'News', 'F.A.Q.', 'GlobCover Product Specification', 'Contact Us', and 'User Feedback'. The main content area starts with a 'Welcome to the European Space Agency Ionia GlobCover Portal' message. It then provides information about the GlobCover project, including its purpose and the data it uses. A 'Sign In' button is visible in the sidebar. At the bottom, there is a section for 'Useful Links' and a footer note about the first user consultation meeting at JRC on 20 June 2007.

**Fig. 5: Access to the GLOBCOVER products on the new IONIA Web map server ([www.esa.int/duel/tonia/globcover](http://www.esa.int/duel/tonia/globcover))**

# UPCOMING LAND COVER EVENTS

## EVENTS / CONFERENCES / WORKSHOPS

### May 2007

#### 4th International Wild land Fire Conference, Fire IT & Regional Network meeting

**Venue:** Seville, Spain

**Date:** 13-17 May

**Info:** [http://www.fire.uni-freiburg.de/course/meeting/2007/meet2007\\_01.htm](http://www.fire.uni-freiburg.de/course/meeting/2007/meet2007_01.htm)

#### ISPRS Workshop on High-Resolution Earth Imaging for Geospatial Information, Hanover

**Venue:** Hanover, Germany

**Date:** 29 May-1 June

**Info:** <http://www.ipi.uni-hannover.de/>

#### International Standard Organization ISO/TC 211 Geographic information/Geomatics Conference

**Venue:** FAO, Rome

**Date:** 31 May-1 June

**Info:** <http://dwms.fao.org/isomeeting/index.htm>

### June 2007

#### 27th EARSeL Symposium: "Geoinformation in Europe"

**Including Workshops on:**

- Tools and Techniques for the Analysis of Time series Image Data
- Remote Sensing of the Coastal Zone
- GMES
- Geologic Hazards in Mountainous Areas

**Venue:** Bolzano, Italy

**Date:** 4-7 June

**Info:** [http://milano.irea.cnr.it/EARSeL/Symposium\\_2007.html](http://milano.irea.cnr.it/EARSeL/Symposium_2007.html)

#### Joint Annual Conference of Swiss, German and Austrian Remote Sensing Organizations (SDPBF, DGPF and OVG)

**Venue:** Muttentz/Basel, Switzerland

**Date:** 19-21 June

**Info:** <http://www.dgpf.de/>

#### ISRSE Meeting with Fire IT & Conabio fire session, San Jose

**Venue:** San José, Costa Rica

**Date:** 25-29 June

**Info:** [http://www.fire.uni-freiburg.de/course/meeting/2007/meet2007\\_08.htm](http://www.fire.uni-freiburg.de/course/meeting/2007/meet2007_08.htm)

### July 2007

#### XXIV IUGG General Assembly

**Venue:** Perugia, Italy

**Date:** 2-13 July

**Info:** <http://www.iugg2007perugia.it>

#### IGARSS 2007 "Sensing and understanding our planet"

**Venue:** Barcelona, Spain

**Date:** 23-27 July

**Info:** <http://www.igarss07.org/frontal/Inicio.asp>

#### Workshop to develop a Strategy for Global Agricultural Monitoring in the framework of Group on Earth Observations (GEO)

**Venue:** FAO/Rome, July

**Date:** 16-18 July 2007

**Info:** <http://www.fao.org/gtos/meetGEO1.html>

**EVENTS / CONFERENCES / WORKSHOPS****September 2007****Non-boreal side workshop at NASA LCLUC Science Team meeting**

**Venue:** Urumqi, China  
**Date:** September 2007?  
**Contact:** Olga Krankina

**Eight Conference of the Parties of the United Nations Convention to Combat Desertification (UNCCD COP8)**

**Venue:** Madrid, Spain  
**Date:** 3-14 September

**October 2007****GOFC-GOLD fire workshop with Russia Space Research Institute annual terrestrial remote sensing conference**

**Venue:** Moscow, Russia  
**Date:** October 2007?  
**Contact:** Chris Justice

**GOFC-GOLD Pan Africa Symposium**

**Venue:** Accra, Ghana  
**Date:** 22- 27 October 2007  
**Contact:** Michael Brady

**November 2007 and later****GTOS Steering Committee Meeting**

**Venue:** Nairobi, Kenya  
**Date:** 5 - 7 November 2007

**GEO Ministerial meeting and Plenary**

**Venue:** Cape Town, South Africa  
**Date:** 28 - 30 November 2007  
**Contact:** Michael Brady

**UNFCCC Conference of the Parties (COP 13)**

**Venue:** Bali, Indonesia  
**Date:** 3-14 December

**Newsletter archives of related projects**

**GLOBCOVER Newsletter:** <http://dup.esrin.esa.it/projects/summary68.asp>

**GLCN Newsletter** (Global Land Cover Network): <http://www.glcnet.org/news/>

**The ESA GOFC GOLD Land Cover Project Office Newsletter:**

The Newsletter is distributed free of charge to all members listed in the ESA Land Cover Project Office database. To update your information, to subscribe or to be removed from our database, please contact us or visit the newsletter website:

<http://www.gofc-gold.uni-ena.de/sites/letter.html>

If you have any suggestions or recommendations for future contributions in this Newsletter please feel free to contact us.

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