

---

# GFOI R&D and GOFC-GOLD Land Cover Science Meeting

The Hague, The Netherlands  
31 October – 4 November, 2016

28-Oct-16

Organized by

The GOFC-GOLD Land Cover Office, and the GFOI R&D Coordination component



# Contents

- List of Acronyms ..... 3
- Introduction ..... 4
- Objectives of the Science meeting..... 5
- Organizing Committee ..... 6
- General and Detailed Agendas..... 7
- Venues in The Hague, The Netherlands..... 7
- Accommodation and Transport ..... 7
- Sponsors ..... 8
- List of Participants ..... 9
- Appendix 1. General Agenda ..... 10
- Appendix 2. Location of the Hotels and the Venues in The Hague..... 11
- Appendix 3. Agenda of the Biomass sessions – Day 1&2 ..... 12
- Appendix 4. Agenda of the GFOI-coordinated R&D and CARLs sessions – Day 1&2..... 14
- Appendix 5. Agenda of the plenary session – Day 3 ..... 16
- Appendix 6. Agenda of the Global Land Cover Mapping, Monitoring, and Validation Sessions – Day 4 ..... 17
- Appendix 7. List of Participants ..... 18

## List of Acronyms

CARL	Communication and Assessment Readiness Levels
ESA	European Space Agency
FAO	Food and Agriculture Organization of the United Nations
GCOS	Global Climate Observing System
GEO	Group on Earth Observations
GFOI	Global Forest Observations Initiative
GOFC-GOLD	Global Observation for Forest Cover and Land Dynamics
IPCC	Intergovernmental Panel on Climate Change
JRC	Joint Research Centre
LC-IT	Land Cover Implementation Team
NASA	National Aeronautics and Space Administration
NFMS	National Forest Monitoring Systems
NSO	Netherlands Space Office
R&D	Research and Development
REDD+	Reducing Emissions from Deforestation and forest Degradation
SDGs	Sustainable Development Goals
UNCBD	United Nations Convention on Biological Diversity
UNFCCC	United Nations Framework Convention on Climate Change
USGS	United States Geological Survey
FCPF	Forest Carbon Partnership Facility
UN SDG	United Nations Sustainable Development Goals
COP-21	Conference Of the Parties – 21 <sup>st</sup> session
CIFOR	Center for International Forestry Research

## Introduction

The 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.

More specifically the primary function of the Land Cover Implementation Team (LC-IT) is to develop and evaluate methods, tools and products for land cover measurements and monitoring using space-borne and in-situ observations. The LC-IT assesses current needs and deficiencies for global and regional monitoring to support global change research, national and regional forest inventories and international policy (i.e. through working with the United Nations Conventions). The LC-IT cooperates with the GOFC-GOLD Fire-IT, Working Groups, and worldwide Regional Networks.

The Global Forest Observations Initiative (GFOI) of the Group on Earth Observations (GEO) fosters actions toward operational national forest monitoring systems (NFMS) that can support REDD+ Measurement, Reporting, and Verification activities. The different Components of the GFOI interact contributing to 1) capture the needs from developing countries toward operational NFMS using remote sensing technologies, 2) identify the R&D gaps and needs and foster synergies among the research partners, 3) facilitate access and use of remote sensing data to countries, and 4) provide guidance and training to countries.

Specifically, the activities of the R&D Coordination component of the GFOI led to the production of strategic reports that identify priority research topics related to the use of remote sensing in NFMS. The R&D Coordination component interacts with the other GFOI components, facilitating access to Earth Observation data to research groups (Space Data Coordination Group Element-3), facilitating the development of training materials on the latest forest monitoring methods (Capacity Building), and advising on the integration of new scientific and technical developments into reports based on their operational level (e.g., Method and Guidance Document, REDD Sourcebook).

In January 2016, the Land Cover Project Office of GOFC-GOLD took the lead of the GFOI R&D Coordination component, thanks to the support of the European Space Agency. Following up on the discussions and outcomes of the last GFOI Plenary and Open Forum<sup>1</sup> (Frascati, Italy, 22-25 February 2016), this joint GOFC-GOLD LC-IT / GFOI R&D Coordination Science meeting aims to provide members of such initiatives, but also external partners such as the SilvaCarbon R&D Programme from

---

<sup>1</sup> <http://www.gfoi.org/2016-gfoi-plenary-and-open-forum/>

the United States Geological Survey (USGS), an opportunity to report on the progress of their work, but also discuss the new and upcoming R&D priorities, and how synergies can be found across the research teams.

## **Objectives of the Science meeting**

The GOFC-GOLD LC-IT and the GFOI R&D Coordination component co-organize this Science meeting to review the recent accomplishments in tropical forest monitoring in the arenas of research, and implementation in developing countries. Specific activities from the GOFC-GOLD LC-IT, GFOI R&D research groups and its partners will be reported. The Science meeting will outline the specific research, applications and development needs that should be targeted by these stakeholders in the future.

The Science meeting will be an opportunity for the GOFC-GOLD LC-IT and the GFOI to communicate on its advancements and on its ongoing and potential contributions to a series of international initiatives notably those related to the Sustainable Development Goals (SDGs), and REDD+. In addition the Science meeting will enable the members of the different groups and initiatives to meet other international experts.

The outcomes of the meeting will enable the GOFC-GOLD LC-IT, and the GFOI R&D Coordination group, to provide its sponsors with updated scientific and technical information to support internationally coordinated initiatives such as those from the United Nations Division for Sustainable Development, the United Nations Framework Convention on Climate Change (UNFCCC), or those from the Global Climate Observing System (GCOS), and GEO as a whole.

Detailed objectives of the Science meeting are:

1) Present, discuss, and synthesize the achievements of the GOFC-GOLD LC-IT, GFOI R&D, and partners like Silvacarbon:

- Update on REDD+ and land use sector mitigation/monitoring needs in the context of the recent Paris Agreement ( UNFCCC COP-21, fall 2015),
- Engagement with key international initiatives: partners and users: GEO, UNFCCC, UNCBD, GCOS, IPCC, FAO, World Bank FCPF, CIFOR, JRC, ESA, NASA, NSO, USGS, and others.
- Interactions between the GOFC-GOLD LC-IT, the GFOI, and SilvaCarbon,
- Enhance uptake of data and services provided by the European Copernicus Programme for global land cover monitoring on 10-30 m resolution that increases the value of such datasets for national and local users worldwide,
- Strengthen the Dutch role and opportunities of the service sector in the Copernicus Global Land Monitoring activities and use of big data approaches,
- Report progress on biomass estimation, current approaches, and next steps,

- Report progress on priority R&D topics and provision of satellite data for the R&D Programme (SDCG Element-3),
- Develop a Communication and Assessment Readiness Level (CARL) framework for GFOI R&D activities that allows assessment and progress tracking of EO-based methods for National Monitoring Systems,
- Contributions of the GOFC-GOLD LC-IT to the GEO Biological Observing Network,
- Contributions of the GOFC-GOLD LC-IT to the GEO Land Cover and Land Cover Change Task (SB-02), next steps coordination,
- Contributions of the GOFC-GOLD LC-IT to the development of global land cover validation efforts and the development of new databases, next steps coordination,
- Progress on observing Land Cover as an Essential Climate Variable, and new GCOS Implementation Plan,

2) Discuss the new orientations the forest mapping and the global land cover research communities should take after the official launch of the UN SDGs, the outcomes of the UNFCCC COP-21 (Paris Agreement), and the evolving needs for observing land cover as an essential climate variable (ECV).

3) Review of the internal organization and coordination of the GOFC-GOLD LC-IT, and GFOI R&D Coordination component, but also their respective places and roles in the context of emerging needs related to international policy, on-going and emerging needs of the land and forest cover user communities.

The biomass monitoring and the GFOI R&D progress sessions will be held in parallel on Monday and Tuesday. These sessions have different objectives. The biomass session is aimed to improve the guidance in the MGD (and related modules) with presentations on day 1 and synthesis discussions on day 2. The GFOI R&D sessions will give the floor on day 1 to R&D groups participating in GFOI to report on the progress of their research activities, in the context of the Communication and Assessment Readiness Level (CARL) framework currently under development within the GFOI. The CARL framework will be discussed and improved further on day 2.

## **Organizing Committee**

GFOI R&D Coordination, GOFC-GOLD Land Cover Project Office and Wageningen University

Brice Mora ([brice.mora@wur.nl](mailto:brice.mora@wur.nl))

Martin Herold ([martin.herold@wur.nl](mailto:martin.herold@wur.nl))

Ake Rosenqvist ([ake.rosenqvist@soloEO.com](mailto:ake.rosenqvist@soloEO.com))

Anthea Mitchell ([a.mitchell@unsw.edu.au](mailto:a.mitchell@unsw.edu.au))

Nadine Drigo ([nadine.drigo@wur.nl](mailto:nadine.drigo@wur.nl))

## General and Detailed Agendas

The general agenda of the Science meeting is provided in Appendix 1, and the detailed agendas of the sessions are provided in the following Appendices.

## Venues in The Hague, The Netherlands

**Day 1 and 2:** New World Campus

Spaarneplein 2, 2515 VK The Hague

<http://www.newworldcampus.nl/>

**Day 3-5:** Ministry of Economic Affairs

Bezuidenhoutseweg 73, 2594 AC The Hague

<https://www.government.nl/ministries/ministry-of-economic-affairs>

## Accommodation and Transport

### Accommodation

A map in Appendix 2 provides the locations of the hotels with respect to the venues.

Hotels that provide discounts via booking links are:

- **Holiday Inn Express The Hague – Parliament \*\*\***

Lange Houtstraat 5, 2511 CV Den Haag

+31 (0)70 820 9980

[info.hagms@hiex.nl](mailto:info.hagms@hiex.nl)

<https://www.ihg.com/holidayinnexpress/hotels/us/en/the-hague/hagms/hoteldetail>

To obtain a discount (109 euros/night + City tax) you **MUST** book your room through the following link:

[Booking Holiday Inn Express](#)

- **Hotel NH Den Haag \*\*\*\***

Pr. Margrietplantsoen 100, 2595 BR Den Haag

+31 (0)70 381 2345

[nhdenhaag@nh-hotels.com](mailto:nhdenhaag@nh-hotels.com)

<http://www.nh-hotels.nl/hotel/nh-den-haag>

To obtain a discount (116 or 126 euros/night + City tax, depending on the day) you **MUST** book your room through the following link:

[Booking Hotel NH](#)

- **Ibis Den Haag City Centre \*\*\***  
Jan Hendrikstraat 10, 2512 GL Den Haag  
+31 (0)70 203 9001

[H1317@accor.com](mailto:H1317@accor.com)

<http://www.accorhotels.com/gb/hotel-3701-ibis-den-haag-city-centre/index.shtml>

To obtain a discount (85 euros/night + City tax) you **MUST** book your room through the following link: [Booking Ibis Hotel](#) (click on 'Modify your search' to adjust the dates)

Other options in the area:

- **Mercure Hotel Den Haag Central \*\*\*\***  
Spui 180, 2511 BW Den Haag  
+31 (0)70 203 9002

[H1317@accor.com](mailto:H1317@accor.com)

<http://www.accorhotels.com/gb/hotel-1317-mercure-hotel-den-haag-central/index.shtml>

- You may find other options on AirBnb and Booking.com as well.

## Transport

- **From the airport:**

Please use the travel planner: <http://9292.nl/en>

Taxis are also available in front of the Exit door

- **Between the hotels and venues:**

You can walk between hotels and venues (10 to 25 minutes).

For public transports, use the travel planner: <http://9292.nl/en>

## Sponsors

European Space Agency (ESA)

Netherlands Space Office (NSO)

GFOI R&D Coordination component

GOFC-GOLD Land Cover Office

SilvaCarbon

Wageningen University (WU)



## **List of Participants**

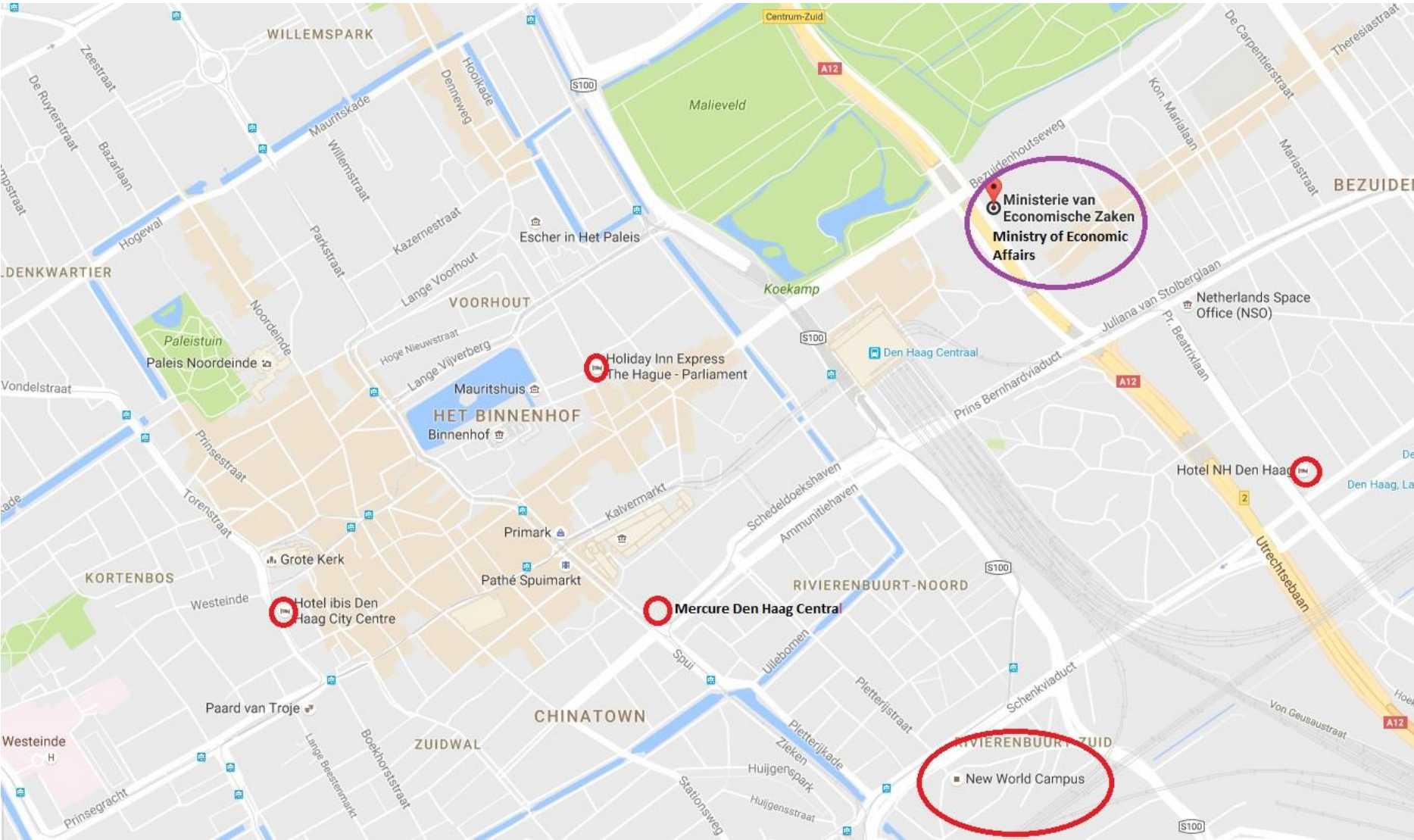
See Appendix 7.

## Appendix 1. General Agenda

Monday, 31 October		Tuesday, 1 November		Wednesday, 2 November	Thursday, 3 November	Friday, 4 November
Opening Session		Biomass Synthesis session	R&D Progress and CARLs Session	Plenary Session (1) International policy requirements and Sustainable Development Goals	Global land cover mapping & monitoring	GFOI Capacity building coordination meeting <i>(invitation only)</i>
Biomass Session 1	R&D Progress Session 1					
<i>Lunch break</i>		<i>Lunch break</i>		<i>Lunch break</i>	<i>Lunch break</i>	<i>Lunch break</i>
Biomass Session 2	R&D Progress Session 2	Biomass Synthesis session	R&D Progress and CARLs Synthesis session	Plenary Session (2) Revised strategy for GOF-C-GOLD and global land and forest monitoring	Global land cover validation	
		GFOI R&D Coordination internal meeting				

**CARLs:** Communication and Assessment Readiness Levels

## Appendix 2. Location of the Hotels and the Venues in The Hague



## Appendix 3. Agenda of the Biomass sessions – Day 1&2

<b>Monday, October 31, 2016</b>		
SESSION Introduction, Venue: New World Campus, Room Serendipity		
9.00-9.10	Opening/welcome	Herold
9.10-9.20	GFOI intro	Moad <i>on behalf of</i> Harvey
9.20-9.30	GOFC and GFOI R&D intro	Mora
9.30-9.40	ESA welcome	Seifert
9.40-9.50	Silvacarbon welcome	Moad
9.50-10.00	Agenda and objectives	Herold/Mora
<i>10.00-10.30 Coffee Break</i>		
SESSION Biomass 1, Venue: New World Campus, Room Innovation Chair: tbc		
<b>Large area biomass mapping progress</b>		
10.30-11.00	Globbiomass: new products and approaches	Schmullius/Santoro
11.00-11.20	The 4th Mission – The need for a global plot based biomass reference	Schepaschenko
11.20-11.40	Linking land trajectories and emissions	Olofsson
11.40-12.00	Integrating Earth Observation and Forest Inventory Data in Quantifying Biomass in Degraded Forests of the Republic of Congo	Olofsson <i>on behalf of</i> Hansen
12.00-12.20	Forest height and biomass change 2000-2012 with wall-to-wall InSAR data for Uganda	Solberg
<i>12.20-1.15 Lunch</i>		
SESSION Biomass 2 Venue: New World Campus, Room Innovation Chair: Alan Strahler		
<b>TLS for tropical forest biomass estimation</b>		
1.15-1.35	Various Campaigns with highly portable TLS	Schaaf
1.55-2.15	Biomass and allometry estimation	Disney/Calders
2.15-2.35	Tropical tree biomass estimation in different tropical countries	Bartholomeus
2.35-2.55	TLSIIG activities and synthesis for biomass	Strahler
2.55-3.15	Discussion	
<i>3.15-3.45 Coffee Break</i>		
<b>Emission factors and uncertainties</b> Chair: Chris Schmullius		
3.45-4.05	Addressing Carbon Emissions and Removals from Selective Logging In Support of MRV System Capabilities in Gabon	Saatchi
4.05-4.25	Emission factors for land use change and uncertainty estimation	Herold/de Sy
4.25-4.45	Uncertainty estimation suggestion of options if country has no NFI	McRoberts
4.45-5.05	GlobBiomass: Kalimantan as regional case	Lohberger
5.05-5.25	Estimating biomass and biomass change in different African forest types with different types of remotely sensed data	Naeset
5.25-5.45	Contribution of Trees Outside Forests in carbon stock and Limitations	Pandey
5.45-6.30	Discussion	

<b>Tuesday, November 1, 2016</b>		
SESSION Biomass Synthesis, Venue: New World Campus, Room Innovation		
Chair: Martin Herold		
<b>Introduction/status</b>		
9.00-9.30	Review of MGD modules/progress (incl. For use of global datasets – activity data)	Olofsson
9.30-10.00	Review of progress from Oslo June 2015 incl. decision tree and next steps for guidance	Olofsson/ McRoberts
10.00-10.30	General discussion on progress/guidance on using biomass datasets for national purposes	All
10.30-11.00 <i>Coffee Break</i>		
11.00-12.30	Group/plenary discussions on new guidance	
12.30-1.30 <i>Lunch</i>		
1.30-2.30	Discussion continued	
2.30-3.00	Synthesis session	
3.00-3.30 <i>Coffee Break</i>		
SESSION <b>GFOI <u>R&amp;D teams</u></b> , Venue: New World Campus, Room Serendipity		
Chair: A. Rosenqvist		
3.30-5.30	GFOI R&D coordination component meeting <i>See detailed agenda in next Appendix (#4)</i>	GFOI R&D groups
5.30 <i>Closing of the day</i>		

## Appendix 4. Agenda of the GFOI-coordinated R&D and CARLs sessions – Day 1&2

<b>Monday, October 31, 2016</b>		
<b>SESSION</b> Science Meeting Introduction, Venue: New World Campus, Room Serendipity		
9.00-9.10	Opening/welcome	M. Herold
9.10-9.20	GFOI intro	Moad <i>on behalf of</i> Harvey
9.20-9.30	GOFC and GFOI R&D intro	B. Mora
9.30-9.40	ESA welcome	F.M. Seifert
9.40-9.50	SilvaCarbon welcome	A. Moad
9.50-10.00	Agenda and objectives	M. Herold/B. Mora
<i>10.00-10.30 Coffee Break</i>		
<b>SESSION</b> R&D in support of the GFOI mission - Progress 1, Room Serendipity Chair: A. Rosenqvist		
<b>Programme intro</b>		
10.30-10.50	GFOI R&D Programme: objectives and contributions to GFOI Methods and Guidance	A. Mitchell
10.50-11.10	Reporting requirements and SDCG data provision	A. Rosenqvist
<b>Forest structure and biomass estimation</b>		
11.10-11.30	Forest height monitoring and aboveground biomass variability in Indonesia's tropical forests	F. Siegert (Group 14)
11.30-11.50	Forest structural classification and above ground biomass estimation for Australia	R. Lucas (Group 11)
11.50-12.10	Integration of remote sensing data with ground plot information for MRV	A. Lister (SilvaCarbon)
<i>12.10-1.15 Lunch</i>		
<b>SESSION</b> R&D in support of the GFOI mission - Progress 2, Room Serendipity Chair: A. Mitchell		
<b>Forest monitoring and generation of activity data</b>		
1.15-1.35	Automated wide-area forest change monitoring with Sentinel-1 and TerraSAR-X	D. Hoekman (Group 6)
1.35-1.55	Combining SAR and optical time series for monitoring tropical forest change	J. Reiche (Group 4)
1.55-2.15	Forest monitoring techniques with Forestry Thematic Exploitation Platform to support REDD+	T. Haeme (Group 9)
2.15-2.35	Forest, land cover and forest change mapping with SAR from ENVISAT/ALOS to Sentinel1/ALOS-2 in the Mai-Ndombe district, DRC	J. Haarpaintner (Group 17)
2.35-2.55	A prototype MRV system for a sub-region in Colombia compliant with IPCC approach for securing activity data	P. Olofsson (Group 3)
2.55-3.15	Inventory and remote sensing based assessments of forest degradation	R. McRoberts (USFS)
<i>3.15-3.45 Coffee Break</i>		

<b>SESSION R&amp;D in support of the GFOI mission - Progress 3, Room Serendipity</b> Chair: B. Mora		
<b>Forest degradation and disturbance monitoring</b>		
3.45-4.05	How useful is forest canopy change detection for forest degradation monitoring?	F. von Poncet (Group 15)
4.05-4.25	Sentinel4REDD - Sentinel-1/2 time series for REDD+ product generation	C. Thiel (Group 18)
4.25-4.45	Near-real time forest disturbance monitoring in Gabon from 2015 to 2016 using a combination of Landsat and Sentinel2 imagery	C. Sannier (Group 2)
4.45-5.05	Mapping tropical deforestation and land use change using time-series and large area image compositing	D. Pflugmacher (Group 13)
5.05-5.25	SAR-time series analysis and future opportunities with the NISAR mission	J. Kellndorfer (Group 3)
5.25 <i>Closing of the session</i>		

<b>Tuesday, November 1, 2016</b>		
<b>SESSION 3 Communication &amp; Assessment Readiness Level framework (CARL),</b> Room Serendipity Chair: B. Mora		
9.00-10.00	CARLs and relevance to GFOI R&D	B. Mora
10.00-10.30 <i>Coffee Break</i>		
10.30-11.30	Break out group discussions on CARLs	All
11.30-12.30	Synthesis discussion on CARLs	All
12.30-1.30 <i>Lunch</i>		
1.30-2.15	SilvaCarbon R&D activities	A. Moad
2.15-3.00	Update of GFOI R&D priority topics	B. Mora
3.00-3.30 <i>Coffee Break</i>		
<b>SESSION GFOI <u>R&amp;D teams</u>, Venue: New World Campus, Room Serendipity</b> Chair: A. Rosenqvist / A. Mitchell		
3.30-5.30	GFOI R&D coordination component meeting - outcomes of the GFOI review by James Baker, - how can R&D coordination component better assist R&D groups? - how can R&D coordination component stimulate donors to support R&D activities? - how to improve coordination and contribution with other components? -activities for next phase: annual report, meetings/workshops	GFOI R&D groups
5.30 <i>Closing of the day</i>		

## Appendix 5. Agenda of the plenary session – Day 3

### “Space for Sustainable Development: the role of Global Land Monitoring”

<b>Wednesday, November 2, 2016</b>		
Policy Workshop on GOFC-GOLD support to international policy requirements Venue Ministry of Economic Affairs, Room Veegenzaal Chair: Janetos		
<b>Opening</b>		
9.00-9.10	Welcome Dutch Ministry of Economic Affairs and Netherlands Space Office	Grim
9.10-9.40	Overview and review of GOFC-GOLD land cover activities	Herold/Janetos
<b>GOFC-GOLD support and evolving requirements</b>		
9.40-9.50	Worldbank FCPF	v.d. Linden
9.50-10.00	WMO / GCOS	Eggleston
10.00-10.10	GFOI	Moad <i>on behalf of</i> Harvey
10.10-10.50	Panel discussion	Janetos (moderator)
<i>10.50-11.15 Coffee Break</i>		
11.15-11.25	Land monitoring needs for SDGs	Scott
11.25-11.35	OECD needs	Hascic
11.35-11.45	Needs for sustainable supply chains (Unilever)	Vis
11.45-12.30	Panel discussion	Janetos (moderator)
<i>12.30-1.30 Lunch</i>		
Afternoon session Venue Ministry of Economic Affairs, Room Veegenzaal Chair: Mora		
<b>New opportunities</b>		
1.30-1.45	Summary of international policy requirements	Mora
1.45-2.00	NASA LCLUC programme	Gutman
2.00-2.15	US Silvacarbon and collaborations with GFOI	Wilson
2.15-2.30	ESA and Sentinels	Seifert
2.30-2.45	Global Forest Watch: Making remote sensing science transparent, accessible and applicable to the policy community	Petersen
2.45-3.00	GEO BON activities	Skidmore
3.00-3.15	Dutch service sector presentation (Satelligence)	Schut
3.15-3.30	Planet's contribution to forest monitoring	Rosso
<i>3.30-4.00 Coffee Break</i>		
<b>Discussion on future GOFC-GOLD strategy</b>		
4.00-4.15	Summary of presentations	Janetos/ Woodcock
4.15-5.15	Discussion on how policy requirements evolve and how to respond to them	All
<i>5.15 Closing of the session and drinks</i>		



## Appendix 6. Agenda of the Global Land Cover Mapping, Monitoring, and Validation Sessions – Day 4

Thursday, November 3, 2016		
SESSION Global Land Cover Mapping Activities, Venue Ministry of Economic Affairs, Room Zijlstrazaal Chair: Herold		
9.00-9.20	ESA CCI Global Land Cover time series	Defourny
9.20-9.40	Land cover mapping activities from Tsinghua University	Yu
9.40-10.00	Globeland30	Chen
10.00-10.20	Copernicus Global Land Service	Smets (VITO/JRC)
10.20-10.50 <i>Coffee Break</i>		
10.50-11.10	GEO Global Land Cover strategies and activities	Geller
11.10-11.30	Boston university efforts	Woodcock/Olofsson
11.30-11.50	USGS land cover mapping activities	Woodcock (Loveland)
11.50-12.10	Advancing global land cover monitoring	Hansen
12.10-1.30 <i>Lunch</i>		
SESSION Global Land Cover Validation, Venue Ministry of Economic Affairs, Room Zijlstrazaal Chair: McRoberts		
1.30-1.50	Report on CEOS Cal/Val activities	Herold/Olofsson
1.50-2.10	GlobeLand30 products validation	Chen
2.10-2.30	Copernicus Global Land Services - LC validation	Tsendbazar
2.30-2.50	ESA CCI Land Cover and land cover change validation strategy	Defourny
2.50-3.20 <i>Coffee Break</i>		
3.20-3.40	IIASA GeoWiki land cover map accuracy assessment activities	See
3.40-3.50	USGS land cover map validation efforts	Olofsson (Loveland)
3.50-4.10	Boston efforts	Olofsson/ Woodcock
4.10-5.45	Discussion / WG towards more joint and agreed efforts	All
5.45 <i>Closing of the session</i>		

## Appendix 7. List of Participants

First Name	Last Name	Affiliation	Email
Jana	Albrechtová	Charles University	<a href="mailto:albrecht@natur.cuni.cz">albrecht@natur.cuni.cz</a>
Gabriela	Alfaro	U.del Valle de Guatemala	<a href="mailto:galfaro@uvg.edu.gt">galfaro@uvg.edu.gt</a>
Valerio	Avitabile	JRC	<a href="mailto:valerio.avitabile@jrc.ec.europa.eu">valerio.avitabile@jrc.ec.europa.eu</a>
Adri	Bakker	Netherlands Space Office	<a href="mailto:a.bakker@spaceoffice.nl">a.bakker@spaceoffice.nl</a>
Uwe	Ballhorn	RSS	<a href="mailto:ballhorn@rssgmbh.de">ballhorn@rssgmbh.de</a>
Harm	Bartholomeus	Wageningen University	<a href="mailto:harm.bartholomeus@wur.nl">harm.bartholomeus@wur.nl</a>
Michael	Bock	DLR Space Administration	<a href="mailto:michael.bock@dlr.de">michael.bock@dlr.de</a>
Nico	Bos	Ministry of Economic Affairs	<a href="mailto:n.bos@minez.nl">n.bos@minez.nl</a>
Astrid	Bos	Wageningen University	<a href="mailto:astrid.bos@wur.nl">astrid.bos@wur.nl</a>
Xander	De Bruine	Water Footprint Network	<a href="mailto:xander.debruine@waterfootprint.org">xander.debruine@waterfootprint.org</a>
Kim	Calders	NPL & UCL UK	<a href="mailto:kim.calders@npl.co.uk">kim.calders@npl.co.uk</a>
Sarah	Carter	Wageningen University	<a href="mailto:sarah.carter@wur.nl">sarah.carter@wur.nl</a>
Lijun	Chen	National Geomatics Center of China	<a href="mailto:chenlj@nsdi.gov.cn">chenlj@nsdi.gov.cn</a>
Jun	Chen	National Geomatics Center of China	<a href="mailto:chenjun@nsdi.gov.cn">chenjun@nsdi.gov.cn</a>
Tim	Condon	Boston University	<a href="mailto:condontd@bu.edu">condontd@bu.edu</a>
Chelsea	Cook	USGS SilvaCarbon	<a href="mailto:cjcook@usgs.gov">cjcook@usgs.gov</a>
Veronique	De Sy	Wageningen University	<a href="mailto:niki.desy@wur.nl">niki.desy@wur.nl</a>
Pierre	Defourny	UC Louvain	<a href="mailto:pierre.defourny@uclouvain.be">pierre.defourny@uclouvain.be</a>
Matt	Disney	U. College London	<a href="mailto:mathias.disney@ucl.ac.uk">mathias.disney@ucl.ac.uk</a>
Simon	Eggleston	GCOS	<a href="mailto:seggleston@wmo.int">seggleston@wmo.int</a>
Eric	Fee	Environmental Protection Agency (DE)	<a href="mailto:eric.fee@uba.de">eric.fee@uba.de</a>
Rubén	Ferrer	Fed. Research Inst. for Rural Areas, Forestry & Fisheries	<a href="mailto:ruben.ferrer@thuenen.de">ruben.ferrer@thuenen.de</a>
José Gildardo	Gálvez	M. of Environment and N. Resources	<a href="mailto:jggalvez@marn.gob.gt">jggalvez@marn.gob.gt</a>
Gary	Geller	Group on Earth Observations	<a href="mailto:ggeller@geosec.org">ggeller@geosec.org</a>
Cor	Graveland	CBS Statistics Netherlands	<a href="mailto:c.graveland@cbs.nl">c.graveland@cbs.nl</a>
Ruud	Grim	Netherlands Space Office	<a href="mailto:r.grim@spaceoffice.nl">r.grim@spaceoffice.nl</a>
Garik	Gutman	NASA/HQ	<a href="mailto:ggutman@nasa.gov">ggutman@nasa.gov</a>
Jörg	Haarpaintner	Norut - Northern Research Institute	<a href="mailto:joergh@norut.no">joergh@norut.no</a>
Tuomas	Häme	VTT Tech. Research Centre of Finland	<a href="mailto:tuomas.hame@vtt.fi">tuomas.hame@vtt.fi</a>
Matthew	Hansen	University of Maryland	<a href="mailto:mhansen@umd.edu">mhansen@umd.edu</a>
Ivan	Hascic	OECD Environment Directorate	<a href="mailto:ivan.hascic@oecd.org">ivan.hascic@oecd.org</a>
Martin	Herold	Wageningen University	<a href="mailto:martin.herold@wur.nl">martin.herold@wur.nl</a>
Jenny	Hewson	Conservation	<a href="mailto:jhewson@conservation.org">jhewson@conservation.org</a>
Dirk	Hoekman	Wageningen University	<a href="mailto:dirk.hoekman@wur.nl">dirk.hoekman@wur.nl</a>
Tony	Janetos	Boston University	<a href="mailto:ajanetos@bu.edu">ajanetos@bu.edu</a>
Josef	Kellndorfer	Earth Big Data LLC	<a href="mailto:josef@earthbigdata.com">josef@earthbigdata.com</a>
Alvaro	Lau Sarmiento	Wageningen University	<a href="mailto:alvaro.lausarmiento@wur.nl">alvaro.lausarmiento@wur.nl</a>
Erik	Lindquist	FAO	<a href="mailto:erik.lindquist@fao.org">erik.lindquist@fao.org</a>
Melvin	Lippe	Fed. Research Inst. for Rural Areas, Forestry and Fisheries	<a href="mailto:melvin.lippe@thuenen.de">melvin.lippe@thuenen.de</a>
Andrew	Lister	USDA Forest Service SilvaCarbon	<a href="mailto:alister@fs.fed.us">alister@fs.fed.us</a>

Sandra	Lohberger	RSS - Remote Sensing Solutions GmbH	<a href="mailto:lohberger@rssgmbh.de">lohberger@rssgmbh.de</a>
Richard	Lucas	University of New South Wales	<a href="mailto:richard.lucas@unsw.edu.au">richard.lucas@unsw.edu.au</a>
Ron	McRoberts	U.S. Forest Service	<a href="mailto:rmcroberts@fs.fed.us">rmcroberts@fs.fed.us</a>
Hugo G.	von Meijenfeldt	Buitenlandse Zaken	<a href="mailto:Hugo.vonMeijenfeldt@minbuza.nl">Hugo.vonMeijenfeldt@minbuza.nl</a>
Anthea	Mitchell	University of New South Wales	<a href="mailto:a.mitchell@unsw.edu.au">a.mitchell@unsw.edu.au</a>
Alex	Moad	US Forest Service	<a href="mailto:amoad@fs.fed.us">amoad@fs.fed.us</a>
Brice	Mora	GOFC-GOLD / GFOI R&D	<a href="mailto:brice.mora@wur.nl">brice.mora@wur.nl</a>
Kalkidan	Mulatu	Wageningen University	<a href="mailto:kalkidan.mulatu@wur.nl">kalkidan.mulatu@wur.nl</a>
Erik	Næsset	Norwegian U. of Life Sciences	<a href="mailto:erik.naesset@nmbu.no">erik.naesset@nmbu.no</a>
Mark	Noort	HCP International	<a href="mailto:m.noort@hcpinternational.com">m.noort@hcpinternational.com</a>
Pontus	Olofsson	Boston University	<a href="mailto:olofsson@bu.edu">olofsson@bu.edu</a>
Eva	Oskam	Ministerie van Buitenlandse Zaken	<a href="mailto:eva.oskam@minbuza.nl">eva.oskam@minbuza.nl</a>
Devendra	Pandey	Forest Survey of India	<a href="mailto:dpandeyifs@rediffmail.com">dpandeyifs@rediffmail.com</a>
Rachael	Petersen	Global Forest Watch	<a href="mailto:RPetersen@wri.org">RPetersen@wri.org</a>
Dirk	Pflugmacher	Humboldt-Universitat zu berlin	<a href="mailto:dirk.pflugmacher@geo.hu-berlin.de">dirk.pflugmacher@geo.hu-berlin.de</a>
Arun Kumar	Pratihast	Wageningen University	<a href="mailto:arun.pratihast@wur.nl">arun.pratihast@wur.nl</a>
Johannes	Reiche	Wageningen University	<a href="mailto:johannes.reiche@wur.nl">johannes.reiche@wur.nl</a>
Roy	Remme	RIVM	<a href="mailto:roy.remme@rivm.nl">roy.remme@rivm.nl</a>
Erika	Romijn	Wageningen University	<a href="mailto:erika.romijn@wur.nl">erika.romijn@wur.nl</a>
Sabina	Rosca	Wageningen University	<a href="mailto:sabina.rosca@wur.nl">sabina.rosca@wur.nl</a>
Ake	Rosenqvist	soloEO	<a href="mailto:ake.rosenqvist@soloeo.com">ake.rosenqvist@soloeo.com</a>
Pablo	Rosso	Planet	<a href="mailto:pablo.rosso@planet.com">pablo.rosso@planet.com</a>
Danae	Rozendaal	Wageningen University	<a href="mailto:danaerozendaal@gmail.com">danaerozendaal@gmail.com</a>
Sassan	Saatchi	Nasa	<a href="mailto:Sassan.S.Saatchi@jpl.nasa.gov">Sassan.S.Saatchi@jpl.nasa.gov</a>
Christophe	Sannier	SIRS	<a href="mailto:christophe.sannier@sirs-fr.com">christophe.sannier@sirs-fr.com</a>
Maurizio	Santoro	GAMMA Remote Sensing	<a href="mailto:santoro@gamma-rs.ch">santoro@gamma-rs.ch</a>
Maria Jose	Sanz Sanchez	Basque centre for climate change	<a href="mailto:susana.perez@bc3research.org">susana.perez@bc3research.org</a>
Crystal	Schaaf	University of Massachusetts Boston	<a href="mailto:crystal.schaaf@umb.edu">crystal.schaaf@umb.edu</a>
Dmitry	Schepaschenko	IIASA	<a href="mailto:schepd@iiasa.ac.at">schepd@iiasa.ac.at</a>
Christiane	Schmullius	University Jena	<a href="mailto:c.schmullius@uni-jena.de">c.schmullius@uni-jena.de</a>
Hans	Scholten	Ministry of Infrastructure and Environment	<a href="mailto:Hans.Scholten@minienm.nl">Hans.Scholten@minienm.nl</a>
Vincent	Schut	Satelligence	<a href="mailto:schut@satelligence.com">schut@satelligence.com</a>
Greg	Scott	United Nations	<a href="mailto:scott12@un.org">scott12@un.org</a>
Linda	See	IIASA	<a href="mailto:see@iiasa.ac.at">see@iiasa.ac.at</a>
Frank Martin	Seifert	ESA	<a href="mailto:frank.martin.seifert@esa.int">frank.martin.seifert@esa.int</a>
Tadashi	Shimizu	TAC International Ltd	<a href="mailto:mtshimizu@gmail.com">mtshimizu@gmail.com</a>
Florian	Siegert	RSS - Remote Sensing Solutions GmbH	<a href="mailto:siegert@rssgmbh.de">siegert@rssgmbh.de</a>
Croqué	Sjoerd	Ministry of Economic Affaires	<a href="mailto:s.r.r.croque@minez.nl">s.r.r.croque@minez.nl</a>
Andrew	Skidmore	ITC	<a href="mailto:skidmore@itc.nl">skidmore@itc.nl</a>
Bruno	Smets	VITO	<a href="mailto:bruno.smets@vito.be">bruno.smets@vito.be</a>
Svein	Solberg	Norwegian forest and landscape Inst.	<a href="mailto:sos@skogoglandskap.no">sos@skogoglandskap.no</a>
Alan	Strahler	Boston University	<a href="mailto:alan@bu.edu">alan@bu.edu</a>
Vincent	Swinkels	Ministerie van Buitenlandse Zaken	<a href="mailto:vincent.swinkels@minbuza.nl">vincent.swinkels@minbuza.nl</a>

Christian	Thiel	Friedrich-Schiller-University	<a href="mailto:christian.thiel@uni-jena.de">christian.thiel@uni-jena.de</a>
Mandar	Trivedi	Dpt of Energy and Climate Change (UK)	<a href="mailto:Mandar.Trivedi@beis.gov.uk">Mandar.Trivedi@beis.gov.uk</a>
Nandika	Tsendbazar	Wageningen University	<a href="mailto:nandin.tsendbazar@wur.nl">nandin.tsendbazar@wur.nl</a>
Ruben	Van De Kerchove	VITO	<a href="mailto:ruben.vandekerchove@vito.be">ruben.vandekerchove@vito.be</a>
Marco	Van der Linden	WB FCPF	<a href="mailto:mvanderlinden@worldbank.org">mvanderlinden@worldbank.org</a>
Jan	Verbesselt	Wageningen University	<a href="mailto:jan.verbesselt@wur.nl">jan.verbesselt@wur.nl</a>
Jan-Kees	Vis	Unilever	<a href="mailto:Jan-Kees.Vis@unilever.com">Jan-Kees.Vis@unilever.com</a>
Felicitas	von Poncet	Airbus Defence and Space	<a href="mailto:felicitas.poncet@airbus.com">felicitas.poncet@airbus.com</a>
Tjeerd	de Vries	Ministerie van Buitenlandse Zaken	<a href="mailto:Tjeerd.devries@minbuza.nl">Tjeerd.devries@minbuza.nl</a>
Sylvia	Wilson	USGS - SilvaCarbon/GFOI	<a href="mailto:snwilson@usgs.gov">snwilson@usgs.gov</a>
Curtis	Woodcock	Boston University	<a href="mailto:curtis@bu.edu">curtis@bu.edu</a>
Dean	Xiaohua Tong	Tongji University	<a href="mailto:xhtong@tongji.edu.cn">xhtong@tongji.edu.cn</a>
Le	Yu	Tsinghua University	<a href="mailto:leyu@tsinghua.edu.cn">leyu@tsinghua.edu.cn</a>
Ivo	De Zwaan	Ministry of Infrastructure and Environment	<a href="mailto:ivo.de.zwaan@minienm.nl">ivo.de.zwaan@minienm.nl</a>