



3rd Expert workshop on
lessons learned from Accuracy
Assessments in the context of REDD+:
Uncertainties of emission factors and biomass maps

Bilbao, Spain

12-14 February 2018

DRAFT: Information and Agenda

9-Feb-18

Organized by:

Basque Centre for Climate Change (BC3)
Global Forest Observation Initiative (GFOI)
Global Observations of Forest and Land Dynamics (GOFC-GOLD)

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Background

UNFCCC negotiations have identified the need to establish national forest monitoring systems that use an appropriate combination of remote sensing and ground-based forest carbon inventory approaches for estimating anthropogenic forest-related greenhouse gas emissions by sources, and removals by sinks to support REDD+ implementation and assessing performance in implementing REDD+ activities. Countries and jurisdictions have been advancing in the development of their Reference Levels in order to be able to measure performance of their REDD+ activities in the context of results based payments. In order to set their Reference Levels, countries have to generate forest cover change information in order to estimate activity data that would facilitate combination with Emission Factors and estimate (historical) emissions.

The GFOI R&D coordination component (lead by the GOF-C-GOLD land cover office, <http://www.gofcgold.wur.nl>) holds regular expert workshops with the aim to provide expert synthesis and guidance to countries through GFOI (see <http://www.gfoi.org/rd/>). Recent meetings on the topic of accuracy assessments include:

- The GFOI R&D and GOF-C-GOLD Science Meeting (The Hague, Netherlands, Oct. 31-Nov. 4, 2016, http://www.gofcgold.wur.nl/sites/gofcgold-gfoi_sciencemeeting2016.php).
- Expert meeting and technical workshop to discuss assessments for map accuracy purposes versus assessments for unbiased estimation of areas and how the two different objectives can be addressed in country monitoring (FAO, Rome, April 3-4 2017). *A summary of outputs can be found in the annex of the following document:* http://www.gofcgold.wur.nl/documents/SecondAccuracyAssessmentWS_2017/GFOI_AA_2nd_expert%20ws26-28.June_Oslo_v4.pdf.
- Lessons learned from Accuracy Assessments in the context of REDD+. The main aim of this meeting was to discuss and present country examples and case studies for accuracy assessments, and to draw lessons learned from these. These lessons were synthesized into good practice guidance for accuracy assessments, and a new MGD 'module' was drafted after the meeting. Two additional technical modules were discussed, and will be produced on Statistical inference and reference data. (Oslo, Norway, June 26-28, 2017), http://www.gofcgold.wur.nl/sites/gofcgold-gfoi_sciencemeetingNorwayAccuracy2017.php).

In the past, technical workshops resulted in several new MGD modules to target issues that require better guidance to countries and examples pertaining to the development of national forest monitoring systems in tropical MRV systems – in particular. These modules have since been incorporated into MGD2 and include:

1. Inference for activity data (Section 5.1.5 in MGD2). A workshop was organized in Boston 2013 by Boston University that brought together authors (McRoberts, Næsset, Olofsson, Stehman, and others) of various estimation protocols for the purpose of estimating areas of activity data. The aim of the workshop was to provide guidance for estimation of activity data. The result of this effort was a decision tree with related text that guides practitioners through various decisions related to the nature of available maps and reference observations. It also generated a longer review of estimators and sampling designs of relevance for estimating activity data, which that is currently being prepared for submission to a scientific journal.
2. Inference for emissions factors (Section 5.2.5 in MGD2). A workshop was organized in Oslo 2015 by the Norwegian Space Centre to develop similar material as described above but for emissions factors. Göran Ståhl and Christoph Kleinn among others participated in addition to many of the authors of the activity data inference section. A decision tree and related text were the main outcomes of the workshop, which have been incorporated into MGD2.

3. The use global forest cover change maps (Section 4.1.7 in MGD2). Following the writing of MGD1 was the release of a global forest cover change map at 30 m spatial resolution by the Hansen lab at University of Maryland. SilvaCarbon identified a need for guidance on the use of this dataset in national forest monitoring systems. The new leadership of the GFOI R&D component by GOFC-GOLD organized a larger workshop in Wageningen in 2015 with the aim of providing tangible guidelines to be provided to the community. A five-page document outlining recommendations and guidelines was authored and published as a MGD module until incorporated into MGD2.

At the last GFOI plenary in 2017, several items have been discussed as key priorities for future R&D expert workshop. These topics include:

- Follow up from 3/4 April expert meeting: Sampling design, stratification options for area estimation, how to decrease uncertainty (country experiences/examples, new guidance, R&D gaps) (*this was addressed in the meeting in Oslo, Norway June 26-28, 2017*).
- 3/4 April expert meeting /The Hague meeting outcomes: Emission factor uncertainty (relation to total C-emissions) and uncertainty of the trend (*this will be discussed in the meeting in Bilbao*)
- Assess the potential inconsistency in MGD2/The Hague meeting outcomes: Uncertainty estimation from “fully integrated tools” (wall-to-wall output such as maps of carbon emissions and removals) for Tier 3 reporting (*meeting to be scheduled*)

Objectives

Overall, we envision a similar workshop to previous ones, and the overall aim is to provide improved guidance on accuracy assessments in the context of REDD+. In particular, the workshop will provide guidance to practitioners to meet the IPCC good practice criteria related to bias and uncertainty in estimates of emissions factors. Drawing from previous meetings, we aim specifically to:

- Assess current issues with estimation of emission factors and emissions in REDD+ capacity development and implementation programs (i.e. Worldbank FCPF, UN-REDD, bilaterals). This includes the review of country cases
- Present and discuss the status quo on approaches and experiences in assessing the uncertainty of biomass maps and emission factors, including:
 - Discuss biomass data sources the issues related to uncertainty assessments
 - Identify the components requiring attention (determining the uncertainty of EFs) i.e. biomass, allometry, BCEF, root/shoot, and their sources, for example measurement uncertainty.
 - Discuss how global / regional / pantropical biomass maps can be used to increase precision in national estimates In particular for countries that don't have a designed-based/probabilistic sample NFI and for countries that don't have any data
 - Define needs to construct a new biomass map to improve IPCC-compliant estimates
- Provide guidance on the estimation and propagation (including through Monte Carlo simulations) of uncertainty related to both activity data and emissions factors towards including it in the next MGD
- Discuss issues for GFOI R&D synthesis related to EFs and for contributions to 2019 methodological refinement of the IPCC GPG

Sponsors

Basque Centre for Climate Change (BC3)
Center for International Forest Research (CIFOR)
European Space Agency (ESA)
Global Forest Observations Initiative (GFOI) R&D component
GOFC-GOLD Land Cover Office
US Silvacarbon Program
Wageningen University
Worldbank FCPF

Local Organizing Committee Leaders

Maria Sanz Sanchez (BC3)
Martin Herold and Sarah Carter (GFOI, GOFC-GOLD)

Agenda

Monday, 12. February 2018		
09:00	Opening and coffee	BC3
09:30	Background and objectives	Martin
10:00	Summary of previous workshop on this topic:	Carly
Coffee at ~10:30	<ul style="list-style-type: none"> - What has been agreed? - What requires further discussion at this workshop? - Outputs (<u>short 5 minute presentations</u>): <ul style="list-style-type: none"> o FAQ style document "Summary of Country experiences and critical issues related to activity data" – Carly o Technical module: Statistical inference - Pontus o Technical module: Reference data – Ron, Erik 	
11:30	Updates from 2019 IPCC GPG refinement (<u>15 mins each</u>): Biomass maps and defaults– Martin Considerations for uncertainties related to default EFs - Maria	Martin
12:30	<i>Lunch break</i>	
13:30	Priorities for MGD guidance related to EF uncertainty and emissions/removals uncertainty: User needs and specific concepts, methods and tools.	Carly & Maria
14:15	Presentation of case studies and experiences, on the status quo of approaches and experiences in assessing the uncertainty of biomass maps and emissions factors (<u>presentations should be related to country experiences of dealing with biomass and EF uncertainties and should be 10 mins each</u>):	Presentations from donors: WB FCPF, GiZ, FAO, SilvaCarbon
Coffee at ~15:30	<ul style="list-style-type: none"> - lessons we can learn from the country examples - biomass data sources - current biomass maps and their use to increase precision in national estimates In particular for countries that don't have a designed-based/probabilistic sample NFI and for countries that don't have any data - the components requiring attention (determining the uncertainty of EFs) i.e. biomass, allometry, BCEF, root/shoot. - Uncertainty analysis and propagation of sources of uncertainty 	Presentations from countries: Indonesia, Mexico
17:30	Closing for the day	
17:30-18:30	Discussion to finalize the FAQ document output from the Oslo workshop (June 2017)	Participants involved this document

Tuesday, 13. February 2018		
09:00		Breakout groups can be used to discuss topics as needed after presentations from experts on the following two topics (<u>10 mins each</u>) <u>Biomass maps</u>
Coffee ~10:30	at	<ul style="list-style-type: none"> - Uncertainty of the estimates and prediction from existing global and pantropical biomass maps - Using the data (particularly for countries who do not have their own data) <u>General discussion topics</u> <ul style="list-style-type: none"> - Sources of uncertainty (including assumptions which contribute to these uncertainty estimates), and how to reduce this uncertainty - Quantifying and accounting for bias (and removing it) - Propagation of uncertainty, i.e. Monte Carlo simulations (this is key for particular funders – is a requirement for World Bank funding)
12:30		<i>Lunch break</i> Presentation during lunch: BC3's integrated modelling with geospatial and other ancillary data
13:30		Working session (in groups)
Coffee ~15:30	at	<ul style="list-style-type: none"> - GFOI guidance - The need for new MGD modules: <ul style="list-style-type: none"> o What key guidance is needed for the MGD? o How can we formulate this (modules / other format?)? o How can we ensure that useful and practical information emerges which can be used by countries o How can we make sure that we are aligned with funders' requirements (see Monte Carlo comment above) - How can we relate our work to EFs and other contributions to 2019 methodological refinement of the IPCC GPG
19:00		Conference dinner in Bilbao (<u>please note, unfortunately we had to prioritize our funding, so you will have to cover the costs of this yourself</u>)
		Chair: Maria Technical experts USFS, SIRS / ESA, Alessandro, Danaë, Jerome, Pontus, Erik N., Naikoa
		Chair: Maria

Wednesday, 14. February 2018		
09:00		Reporting from groups, and then discussions on documents to be produced (scoping / drafting modules etc.)
Coffee ~10:30	at	
12:30		<i>Lunch break</i>
13:30		Next steps (maybe separate groups):
Coffee ~15:30	at	<ul style="list-style-type: none"> - Next workshop - Tasks and responsibilities
16:00		Closing of meeting
		Discussion facilitated by TBC
		Discussion facilitated by Maria

Invited participants

Confirmed, to be confirmed (TBC), or Invited.

Name	Entity	Email	Attending?
Alessandro Baccini	WHRC	abaccini@whrc.org	Confirmed
Andres Espejo	FCPF	aespejo@worldbank.org	Confirmed
Carly Green	GFOI MGD	carly.green@enviroaccounts.com	Confirmed
Christophe Sannier	SIRS	christophe.sannier@sirs-fr.com	Confirmed
Craig Wayson	USAID/Silvacarbon/GFOI	cwayson.silvacarbon@gmail.com	Confirmed
Danaë Rozendaal	WUR	danae.rozendaal@wur.nl	Confirmed
Sylvia Wilson	USAID/Silvacarbon/GFOI	snwilson@usgs.gov	Confirmed
Erik Naeset	NMBU	erik.naeset@nmbu.no	Confirmed
Frank Martin Seifert	ESA	frank.martin.seifert@esa.int	Confirmed
Grant Domke	USFS	gmdomke@fs.fed.us	Confirmed
Haruni Krisnawati	Ministry of Environment and Forestry, Indonesia	h.krisnawati@yahoo.co.id; harunikrisnawati@gmail.com	Confirmed
Inge Jonckheere	FAO	Inge.Jonckheere@fao.org;	Confirmed
Jerome Chave	CNRS	jerome.chave@univ-tlse3.fr	Confirmed
Kay Kallweit	GiZ	kay.kallweit@giz.de	Confirmed
Luca Birigazzi	FAO	luca.birigazzi@fao.org	TBC
Maria Sanz Sanchez	GFOI MGD / BC3	mj.sanz@bc3research.org	Confirmed
Martin Herold	GFOI R&D / WUR	martin.herold@wur.nl	Confirmed
Naikoa Aguilar-Amuchastegui	WWF	Naikoa.Aguilar-Amuchastegui@wwfus.org	Confirmed
Oswaldo Carrillo	National Forestry Commission of Mexico	ocarrillo.ute@conafor.gob.mx	Confirmed
Pontus Olofsson	Boston University	olofsson@bu.edu	Confirmed
Ronald McRoberts	USFS	rmcroberts@fs.fed.us	Confirmed
Organization			
Sarah Carter	GFOI R&D / GOFC-GOLD / WUR	sarah.carter@wur.nl	Confirmed

Logistics and venue

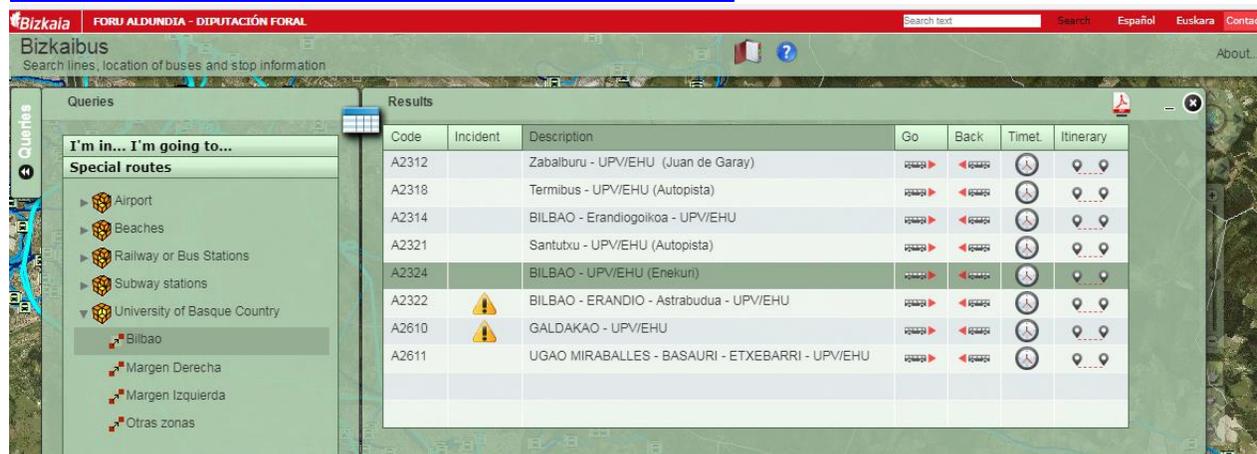
Meetings will be held at the Basque Centre for Climate Change (BC3). **Please register at the reception, where they will direct you to the meeting room.**

BC3 is at the Campus of Leioa of the University of the Basque Country UPV/EHU, which is 9 km from Bilbao city centre (you can access a map here: <https://www.ehu.eus/documents/2043357/2122730/plano-Leioa-Erandio.pdf/84ad172c-963a-4b9d-bdb3-147ab6010cc3>, and also on the next page).

The best way to arrive to the Campus is the bus (Bizkaibus) Lines: A2312 – A2314 – A2318 – A2321– A2324. All those lines stop in front of the Faculty of Science and Technology Bus stop 1 & 2.

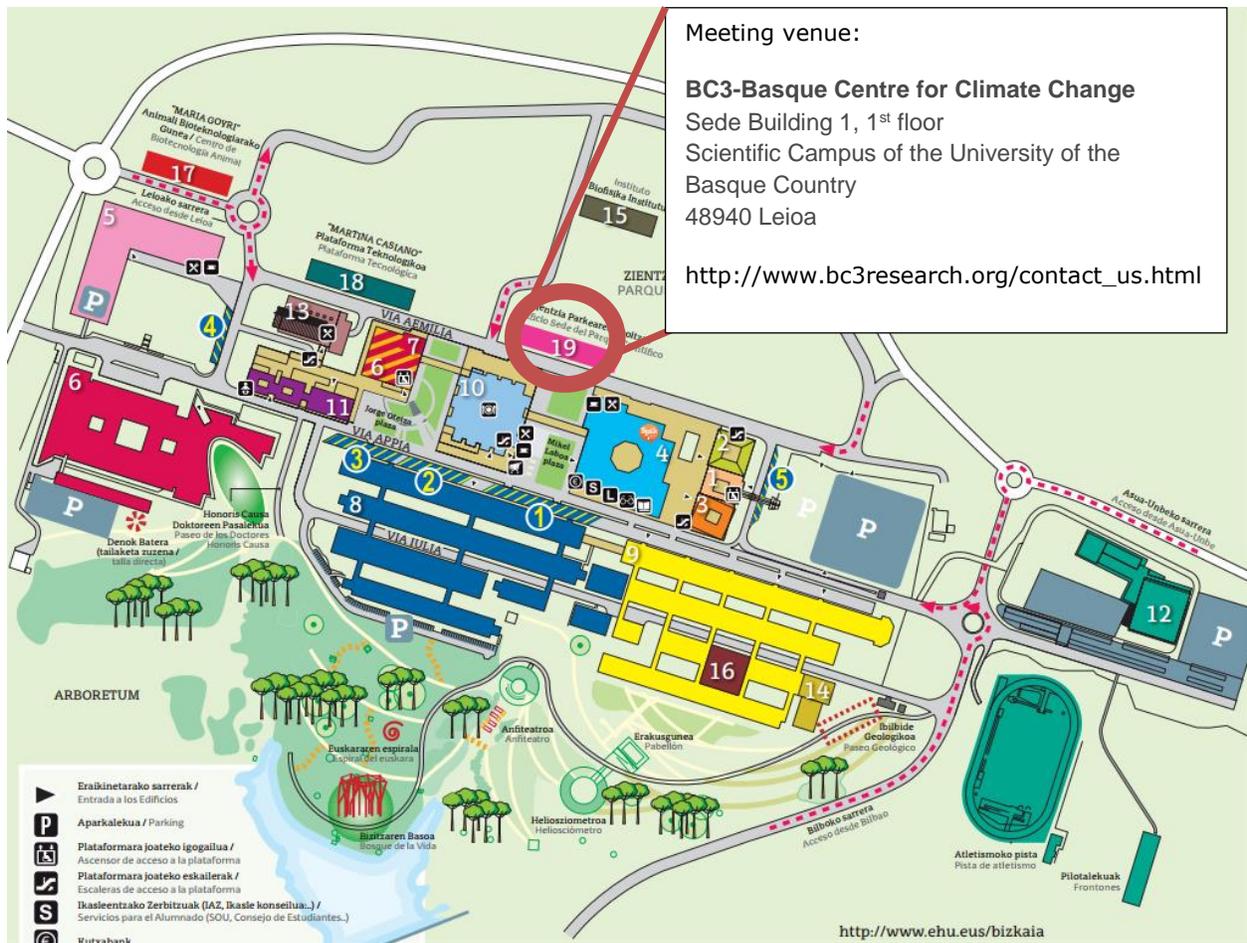
The timetables for buses going to the University campus can be found here:

<http://apli.bizkaia.net/apps/danok/tg/index.html?Idioma=ES>



The screenshot shows the Bizkaibus website interface. The header includes the Bizkaia logo and the text 'FORU ALDUNDIA - DIPUTACIÓN FORAL'. Below the header, there is a search bar and navigation links for 'Español' and 'Euskara'. The main content area is divided into 'Queries' and 'Results' sections. The 'Queries' section has a dropdown menu for 'I'm in... I'm going to...' with 'Special routes' selected. The 'Results' section displays a table of bus routes with columns for Code, Incident, Description, Go, Back, Timet, and Itinerary. The table lists several routes, including A2312 (Zabalburu - UPV/EHU), A2318 (Termibus - UPV/EHU), A2314 (BILBAO - Erandiogoikoa - UPV/EHU), A2321 (Santutxu - UPV/EHU), A2324 (BILBAO - UPV/EHU (Enekurt)), A2322 (BILBAO - ERANDIO - Astrabudua - UPV/EHU), A2610 (GALDAKAO - UPV/EHU), and A2611 (UGAO MIRABALLES - BASAURI - ETXEBARRI - UPV/EHU). The 'Go' and 'Back' columns contain icons for bus direction, and the 'Timet' column contains clock icons. The 'Itinerary' column contains location pin icons.

Code	Incident	Description	Go	Back	Timet	Itinerary
A2312		Zabalburu - UPV/EHU (Juan de Garay)				
A2318		Termibus - UPV/EHU (Autopista)				
A2314		BILBAO - Erandiogoikoa - UPV/EHU				
A2321		Santutxu - UPV/EHU (Autopista)				
A2324		BILBAO - UPV/EHU (Enekurt)				
A2322		BILBAO - ERANDIO - Astrabudua - UPV/EHU				
A2610		GALDAKAO - UPV/EHU				
A2611		UGAO MIRABALLES - BASAURI - ETXEBARRI - UPV/EHU				



Arriving in Bilbao

By plane: Bilbao International Airport is 12 km away from the capital in the municipality of Loiu.

How to get to Bilbao city centre from the airport:

- The bus Bizkaibus line 3247 links the city with the airport every 30 minutes and has several stops in Bilbao city centre: (Alda. Recalde, Plaza Moyua, Gran Vía and Termibus). The journey to the last stop (Termibus) is about 20 minutes.
- On the arrivals floor there is a customer services desk and ticket office. A single ticket costs around 2 €.
- Taxi to Bilbao: Approximate fare 25-30 €.
- You can also rent a car at the airport. Car rental.

By bus: All buses arrive in Bilbao's bus terminal on Garellano street, 1.Termibus.

By train: Medium and long distance trains arrive at the city centre's Abando Indalecio Prieto Station, Plaza Circular, 2.

Accommodation

There are a number of hotels in the centre of Bilbao.

The team from Wageningen will be staying at the Ibis. The Silken is relatively close if you prefer it:

- Ibis Centro Bilbao: <http://www.ibis.com/gb/hotel-6141-ibis-bilbao-centro/index.shtml>
- Silken Indautxu**** <https://www.hoteles-silken.com/es/hotel-indautxu-bilbao/>

Here are some other options:

- Occidental Bilbao**** <https://www.barcelo.com/es/hoteles/espana/bilbao/occidental-bilbao/>
- Bilbao Nervión**** <https://www.barcelo.com/es/hoteles/espana/bilbao/barcelo-bilbao-nervion/>
- Abando**** <http://hotelabando.com/>
- Carlton***** <http://hotelcarlton.es/>
- HOTEL ILUNION *** <https://www.ilunionbilbao.com/>
- NH DEUSTO*** https://www.nh-hotels.com/hotel/nh-bilbao-deusto?_ga=1.9450993.519815115.1486655941
- POSHTEL. Premium hostel <https://www.poshtelbilbao.com/>
- BILBAO CITY ROOMS <http://bilbaocityrooms.com/>
- PIL PIL HOSTEL <http://pilpilhostel.com/en/bilbao-2/>

More accommodation options can be found in the website: BILBAO TURISMO:
<http://www.bilbaoturismo.net/BilbaoTurismo/en/tourists>