

MGD Module on the Use of Global Datasets

Jim Penman (UCL) / Carly Green (EAS)

Expert workshop on using global datasets for national REDD+ measuring and monitoring,

Wageningen University, 9-10. November 2015



UNFCCC COP – sets policy framework including:

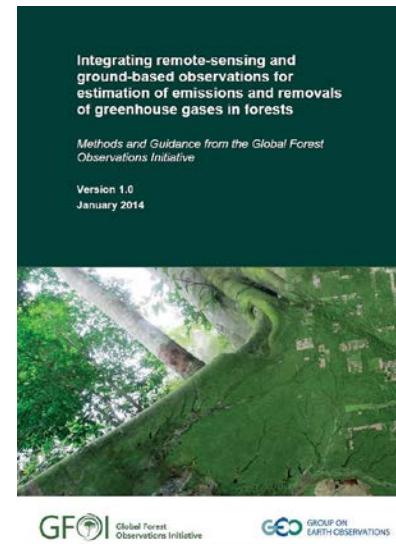
- REDD+ activities are (a) Reducing emissions from deforestation; (b) Reducing emissions from forest degradation; (c) Conservation of forest carbon stocks; (d) Sustainable management of forests; (e) Enhancement of forest carbon
- Countries to use IPCC guidance and guidelines for estimating associated emissions and removals

IPCC Guidance - methodological framework for quantification of land use emissions and removals

- *Neither over nor under estimates so far as can be judged and uncertainties reduced as far as practicable*
- Not specific to REDD+

Link between IPCC methods and REDD+ activities

- GFOI Methods and Guidance Document published in 2013 – 2nd edition and Portal in preparation
- Consistent with UNFCCC Warsaw Framework on REDD+
- Coordinated UN-REDD, World Bank, IPCC and GOFC-GOLD
- Updated by Modules



Modules to date

Title	Content
#1 Relationship between GOFC-GOLD and GFOI (June 2014; 2pp)	Complementarity between Sourcebook as annually updated science review and MGD as step-by-step operational advice linking IPCC guidance and REDD+ decisions
#2 Use of global data sets (March 2015; 7pp)	Use of global tree cover and change datasets in REDD+ Measuring, Reporting and Verifying (MRV)
#3 Reference levels (July 2015, 16pp)	Extended Methodological Advice on REDD+ Forest Reference Emission Levels and Forest Reference Levels (FRELs and FRLs)
Read them all at: http://www.gfoi.org/methods-guidance/	

Module 2: Use of global tree cover and change datasets in REDD+ Measuring, Reporting and Verifying (MRV)

Section	Content
1) Introduction	Availability of global data sets, especially UMD – use where national data don't already exist - will be issues and trade-offs, tree cover and forest definition
2) Reference observations	Statistically valid sample – use alone or jointly with maps for estimated bias correction. Reciprocity between reference data and mapping – good national maps may be better than global ones but both need reference data; additional reference data can compensate for potentially less accurate global mapping.
3) National forest definitions	Land use definitions of forest (consistent with IPCC guidance) require additional rules to tree cover detection => need for data supplementary to global data sets
4) Forest Stratification	Possible use of percentage crown cover as input to stratification, relevant to both gain-loss and stock change estimates. Degradation difficult in either global or national mapping
5) Site specific accuracy	Stakeholder interactions may require maximum site specific accuracy associated with national capacity
6) Summary and decision tree	

Module 2: Use of global tree cover and change datasets in REDD+ Measuring, Reporting and Verifying (MRV)

Section	Content
1) Introduction	Availability of global data sets, especially UMD – use where national data don't already exist - will be issues and trade-offs, tree cover and forest definition
2) Reference observations	Statistically valid sample – use alone or jointly with maps for estimated bias correction. Reciprocity between reference data and mapping – good national maps may be better than global ones but both need reference data; additional reference data can compensate for potentially less accurate global mapping.
3) National forest definitions	Land use definitions of forest (consistent with IPCC guidance) require additional rules to tree cover detection => need for data supplementary to global data sets
4) Forest Stratification	Possible use of percentage crown cover as input to stratification, relevant to both gain-loss and stock change estimates. Degradation difficult in either global or national mapping
5) Site specific accuracy	Stakeholder interactions may require maximum site specific accuracy associated with national capacity
6) Summary and decision tree	

Module 2: Use of global tree cover and change datasets in REDD+ Measuring, Reporting and Verifying (MRV)

Section	Content
1) Introduction	Availability of global data sets, especially UMD – use where national data don't already exist - will be issues and trade-offs, tree cover and forest definition
2) Reference observations	Statistically valid sample – use alone or jointly with maps for estimated bias correction. Reciprocity between reference data and mapping – good national maps may be better than global ones but both need reference data; additional reference data can compensate for potentially less accurate global mapping.
3) National forest definitions	Land use definitions of forest (consistent with IPCC guidance) require additional rules to tree cover detection => need for data supplementary to global data sets
4) Forest Stratification	Possible use of percentage crown cover as input to stratification, relevant to both gain-loss and stock change estimates. Degradation difficult in either global or national mapping
5) Site specific accuracy	Stakeholder interactions may require maximum site specific accuracy associated with national capacity
6) Summary and decision tree	

Module 2: Use of global tree cover and change datasets in REDD+ Measuring, Reporting and Verifying (MRV)

Section	Content
1) Introduction	Availability of global data sets, especially UMD – use where national data don't already exist - will be issues and trade-offs, tree cover and forest definition
2) Reference observations	Statistically valid sample – use alone or jointly with maps for estimated bias correction. Reciprocity between reference data and mapping – good national maps may be better than global ones but both need reference data; additional reference data can compensate for potentially less accurate global mapping.
3) National forest definitions	Land use definitions of forest (consistent with IPCC guidance) require additional rules to tree cover detection => need for data supplementary to global data sets
4) Forest Stratification	Possible use of percentage crown cover as input to stratification, relevant to both gain-loss and stock change estimates. Degradation difficult in either global or national mapping
5) Site specific accuracy	Stakeholder interactions may require maximum site specific accuracy associated with national capacity
6) Summary and decision tree	

Module 2: Use of global tree cover and change datasets in REDD+ Measuring, Reporting and Verifying (MRV)

Section	Content
1) Introduction	Availability of global data sets, especially UMD – use where national data don't already exist - will be issues and trade-offs, tree cover and forest definition
2) Reference observations	Statistically valid sample – use alone or jointly with maps for estimated bias correction. Reciprocity between reference data and mapping – good national maps may be better than global ones but both need reference data; additional reference data can compensate for potentially less accurate global mapping.
3) National forest definitions	Land use definitions of forest (consistent with IPCC guidance) require additional rules to tree cover detection => need for data supplementary to global data sets
4) Forest Stratification	Possible use of percentage crown cover as input to stratification, relevant to both gain-loss and stock change estimates. Degradation difficult in either global or national mapping
5) Site specific accuracy	Stakeholder interactions may require maximum site specific accuracy associated with national capacity
6) Summary and decision tree	

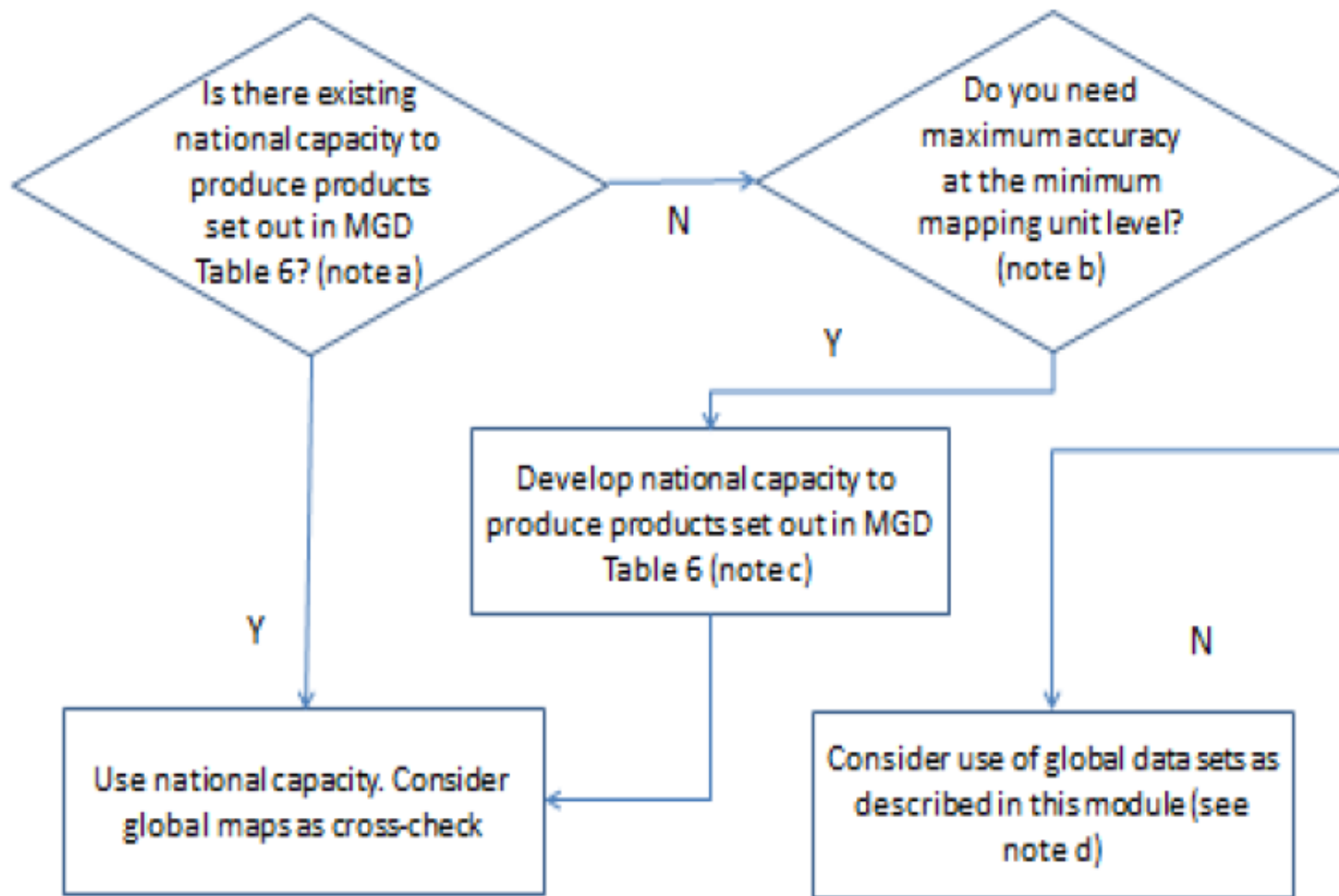
Module 2: Use of global tree cover and change datasets in REDD+ Measuring, Reporting and Verifying (MRV)

Section	Content
1) Introduction	Availability of global data sets, especially UMD – use where national data don't already exist - will be issues and trade-offs, tree cover and forest definition
2) Reference observations	Statistically valid sample – use alone or jointly with maps for estimated bias correction. Reciprocity between reference data and mapping – good national maps may be better than global ones but both need reference data; additional reference data can compensate for potentially less accurate global mapping.
3) National forest definitions	Land use definitions of forest (consistent with IPCC guidance) require additional rules to tree cover detection => need for data supplementary to global data sets
4) Forest Stratification	Possible use of percentage crown cover as input to stratification, relevant to both gain-loss and stock change estimates. Degradation difficult in either global or national mapping
5) Site specific accuracy	Stakeholder interactions may require maximum site specific accuracy associated with national capacity
6) Summary and decision tree	

Summary

Decisions on possible use of available global datasets to generate national level estimates of forest area and change are related to:

- Whether national mapping capacity already exists
- Accuracy achieved by global datasets
- Cost relativities (e.g. the cost of collecting more reference observations versus establishing a national mapping capability, and costs of establishing the relationship between global maps and national forest definitions)
- Specific national needs for a land cover map (e.g. related to forest definition and land cover classifications, for integration with domestic planning)
- Preferences for national ownership of the process, to respond to technical developments
- Possible use as an interim step..



Developments

- Uncertainties achieved in practice, and...
- Quantification of the reciprocity between additional reference data and developing national mapping capacity in terms of achievable uncertainty
- incorporation in MGDv2 of actual case studies (? Gabon, Tanzania, Brazil, others?)
- Cost implications
- Extension of advice to biomass datasets.

Acknowledgements

The Global Forest Observations Initiative (GFOI) is being developed by GEO, led by: Australia, Norway, the USA, The Food and Agriculture Organization of the United Nations (FAO), and the Committee on Earth Observation Satellites (CEOS). Experts from the United Nations Framework Convention on Climate Change (UNFCCC), the greenhouse gas inventory programme of the Intergovernmental Panel on Climate Change (IPCC), the World Bank Forest Carbon Partnership Facility, Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD) and institutions in GEO member countries are represented on the Advisory Committee. The UK (Defra and NERC) supports participation of the Chair of the Advisory Group for the Methods and Guidance Documentation. MGD and module authors and reviewers are listed in the documents.