添付資料４　最終成果報告ワークショプ資料（発表資料他）

Concept Note on the final Workshop of JICA-PNGFA Project

Final Workshop for completion of the Japanese Government Grant Aid and the JICA Technical Cooperation Project to the PNG Forest Authority

1. Purpose

(1) To disseminate Project achievements to workshop participants targeting wider stakeholders;

(2) To inform the workshop participants, in particular the practitioners in the forestry sector, on the technical knowledge made available by the project;

(3) To develop deeper understanding by PNG counter-part (C/P) officers of Project achievements through the process of the workshop.

(4) To briefly inform the workshop participants on the second JICA-PNGFA Project.

2. Date

5th to 6th March, 2014

3. Expected participants

(1) PNGFA: HQ, Area Office, Provincial Office, FRI

(2) Government Agency: OCCD, DEC, DAL, NARI, NMB (DLPP), DNPM, MRA, NRI, INA etc.

(3) University: UNITECH (Forestry, Surveying and Land Study), UPNG

(4) Development Partners: UN-REDD, UNDP, FAO, USAID (LEAF, MARSH), EU, Australia (AusAID), GIZ etc.

(5) NGO: WWF, FPCD, WCS, Eco Forestry Forum, TNC, Transparency International, Partners of Melanesians etc.

(6) Private Sector: Forestry Industry Association, Palm Oil Council etc.

(7) Media: Newspaper (Post Courier, National), TV (EMTV, Kundu2) etc.

(8) Japanese Government and Corporations: Japanese Embassy, JICA-PNG Office, Japanese companies

4. Venue

Ball room, Holiday Inn Hotel

5. Schedule

Day One – Wednesday 5th March

MC: Dambis Kaip

Time	Topics	Presenter
9:00-10:00	Registration and morning coffee/tea (Video play and poster display)	
10:00-10:05	Opening prayer	Goodwill Amos
10:05-10:15	Welcome and opening remarks	Managing Director – PNGFA
10:15-11:15	Congratulatory speech - Japanese Embassy - JICA PNG Office - Other PNG government organizations	
11:15-11:40	1. Outcome of Forest Monitoring Project supported by Japanese government (JICA Technical Cooperation (T/C) Project and Japanese Grant Aid) 2. Concept of next JICA T/C Project	Dr. Ruth Turia
11:40-13:30	Light Lunch (Video play and poster display)	
13:40-14:05	Major achievements of PNG forest base map by using remote sensing technology	Perry Malan
14:05-14:30	Major achievements of improvement of PNG forest resource database	Perry Malan
14:30-14:55	Applications of GIS and remote sensing for the forest resource monitoring system including carbon stock	Kiyoshi Suzuki
14:55-15:10	Coffee/Tea Break	
15:10-15:35	Major achievements of Japanese Grant Aid	Masamichi Haraguchi
15:35-15:55	Evaluation outline of the current and concept of next JICA T/C Project	Tatsuya Watanabe
15:55-16:30	Question and answer session	

Day Two – Thursday 6th March

MC: AM- Elizabeth Kaidong, PM- Margaret Tongo

Time	Topics	Presenter
9:30-11:00	Production process, achievements and applications of PNG forest base map	
	1. Forest definition and forest classification	Rabbie Lalo
	2. Applied data and technology to develop forest base map	Masamichi Haraguchi
	3. Ground Truth for remote sensing	Samuel Gibson
	4. Demarcation of agriculture land	Jehu Antiko/Oala Iuda
	5. Application of GIS & remote sensing for FCA boundary verification	Masamichi Haraguchi / Patrick La'a
	6. Achievements and issues to be addressed	Constin Bigol
11:00-11:15	Coffee/Tea Break	
11:15-12:15	Achievements and applications of improvement of PNG forest resource database	
	1. FIPS (Forest Inventory Processing System)	Ledino Saega
	2. FIMS (Forest Inventory Mapping System)	Perry Malan
	3. PNG-FRIMS (available data and its use)	Kunihiro Ishii
	4. Achievements and issues to be addressed	Constin Bigol
12:15-13:30	Lunch	
13:30-15:00	Applications of GIS and Remote Sensing for the monitoring system of forest resource including carbon stock	
	1. Latest outcome of UNFCCC-COP	Tatusya Watanabe / Rabbie Lalo
	2. Biomass survey and training	Kiyoshi Suzuki
	3. Estimation of PNG forest biomass including contribution to FRA2015	Rabbie Lalo / Kiyoshi Suzuki
	4. Technology of forest change detection	Masamichi Haraguchi
	5. Case study of forest change detection (Milne Bay, West Sepik)	Jehu Antiko / Oala Iuda
	6. Achievements and issues to be addressed	Tatsuya Watanabe
15:00-15:15	Coffee/Tea Break	
15:15-16:00	Others	
	1. Activities related to JICA T/C Project conducted by PNGFA	Goodwill Amos
	2. Collaboration with UN-REDD/FAO & JICA in PNG	Gewa Gamoga
	3. Detailed design of next JICA T/C Project	Tatsuya Watanabe
16:00-16:50	Question and answer session	
16:50-17:00	Closing remarks	Dr. Ruth Turia

Workshop for Project Completion
5th-6th March 2014
Holiday Inn Hotel, Port Moresby, PNG

(1) Outcome of Forest Monitoring Project supported by Japanese Government

- Japanese Grant Aid and JICA Technical Cooperation Projects –

(2) CONCEPT OF NEXT JICA T/C PROJECT

Dr. Ruth Turia
JICA Project Director
and
Director, Forest Policy and Planning
PNGFA

JICA-PNGFA PROJECT for Capacity Development on Forest Resource Monitoring for Addressing Climate Change

Contents

1. Issues and Challenges in PNG
2. Purpose and outputs of the projects
3. Components and Inputs from Japan
4. Outputs:
   1. Basemap, 2 Database, and 3 Monitoring
5. Outcomes of the projects:
   Achievements of capacity development
6. Timeframe of forestry cooperation projects in 2011-2019
7. Overall Concept of the new JICA Forestry Project

1. Issues and Challenges in PNG

Issues: As-Is (Current)

1. National level Forest Basemap is not developed since 1972
2. Forest GIS (FIMS: Forest Inventory and Mapping System) is not updated since 1996
3. Existing forest related data is not sufficient for carbon estimation

JICA/PNGFA Project

Challenges:

- **Vast forest area, but most are inaccessible to do forest survey for whole country**
- **Lack of funds to conduct full scale forest inventory**
- **97% of PNG land is customary land**
- **Physical structure of land – mountainous, etc.**

To-Be (Goals)

1. National level Forest Resource Basemap is developed and utilized
2. National level Forest Resource GIS/Database is developed and utilized
3. Forest Monitoring System including Carbon stock is designed/demonstrated

2. Purpose and outputs of the projects

1. Grant Aid (2011-2014)

Purpose:

Contribute to forest base map development and forest **state** monitoring for addressing sustainable forest management and climate change.

Expected Outputs:

1. Satellite images covering whole PNG, GIS-related equipment, Equipment for ground truthing, and others;

2. Training(s) for operating the GIS-related equipment, processing of Remote-Sensing data, and applying them in Forest Inventory.

2. Purpose and outputs of the projects (2)

2. Current JICA Technical Cooperation Project (2011-2014)

Purpose:

To address climate change, the capacity of relevant institutions in PNG is enhanced for the monitoring of nation-wide forest resource including carbon stock.

Expected Outputs:

1. Nation-wide forest base map is improved by using remote sensing technology;
2. National level forest resource database is improved; and
3. To address climate change, the monitoring system of forest resource including carbon stock is improved.

3. Components and Inputs from Japan

Forest Monitoring Project
March 2011 – March 2014

GOJ Grant Aid Programme

- Procurement and provision of equipments

Technical Assistance

- Consultancy
- Training in Japan & PNG

JICA Technical Cooperation Project

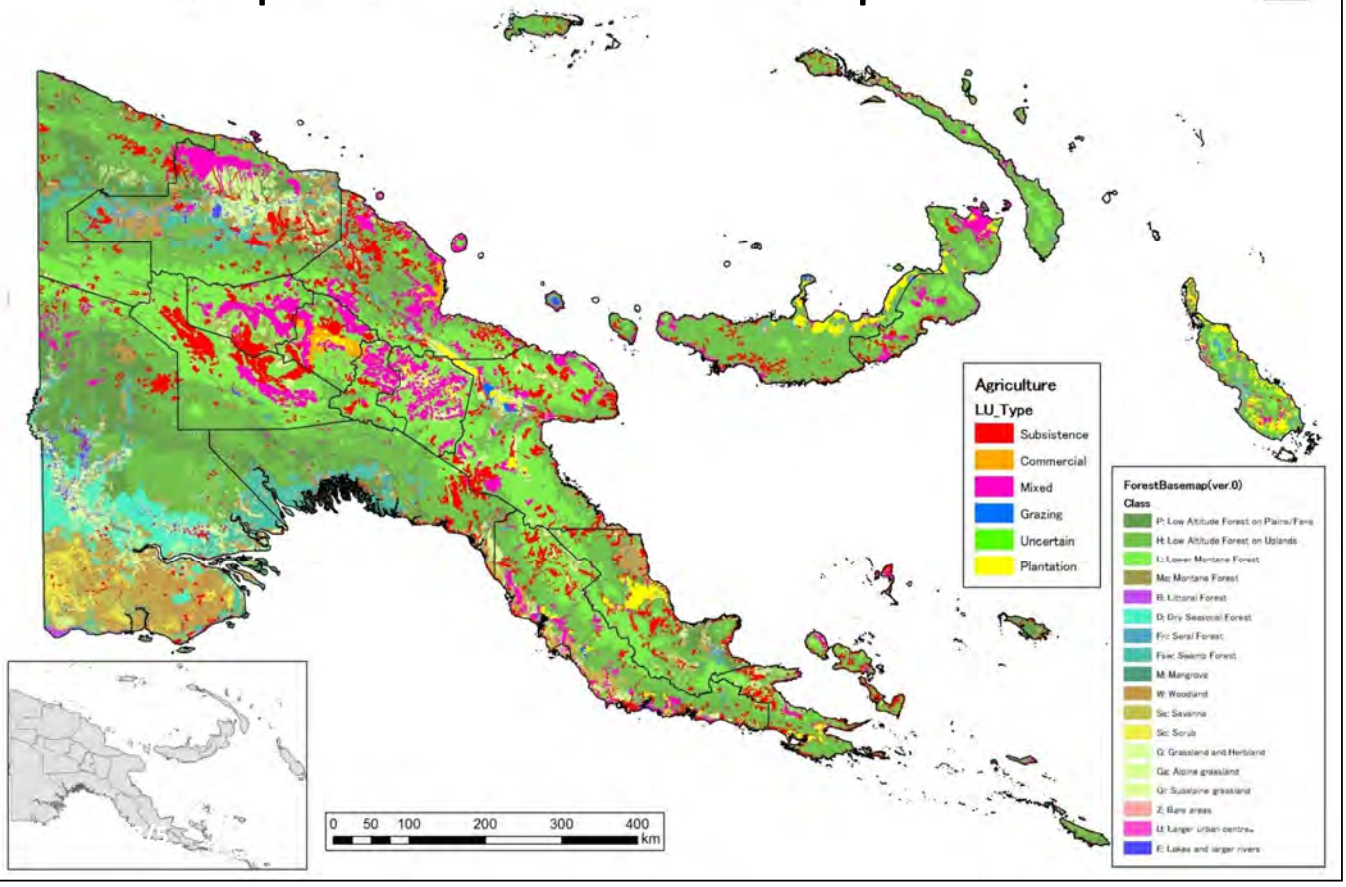
Long-term Experts
- Chief Advisor/ Forest Management
- Coordinator/ Forest Inventory

Short-term Experts
- Remote Sensing;
- Database;
- Biomass Survey

Training in Japan & PNG

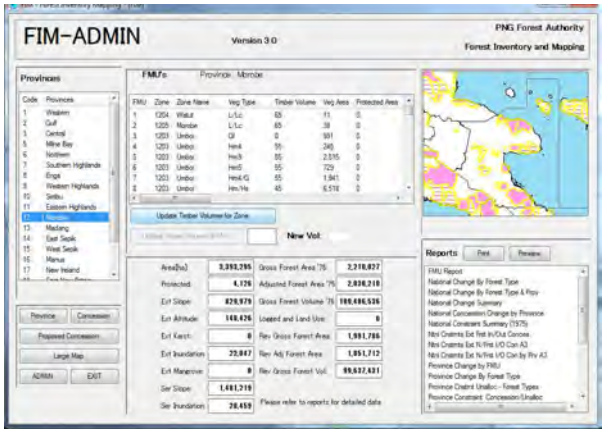
JICA Group Training Courses
Biomass Survey in Forest, Remote Sensing on Forest, Climate Change Mitigation etc.

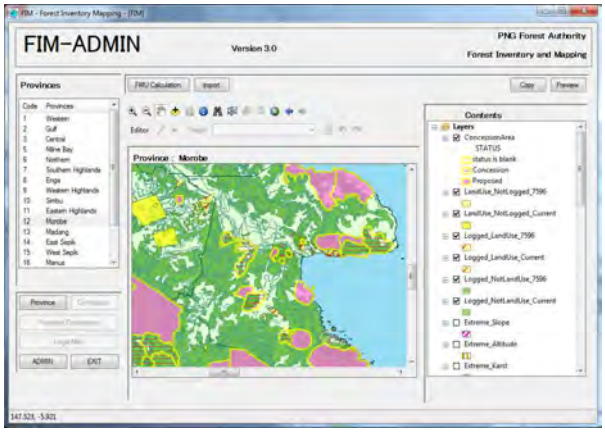
4. Output 1: Forest Base-map 2012 Ver. 1

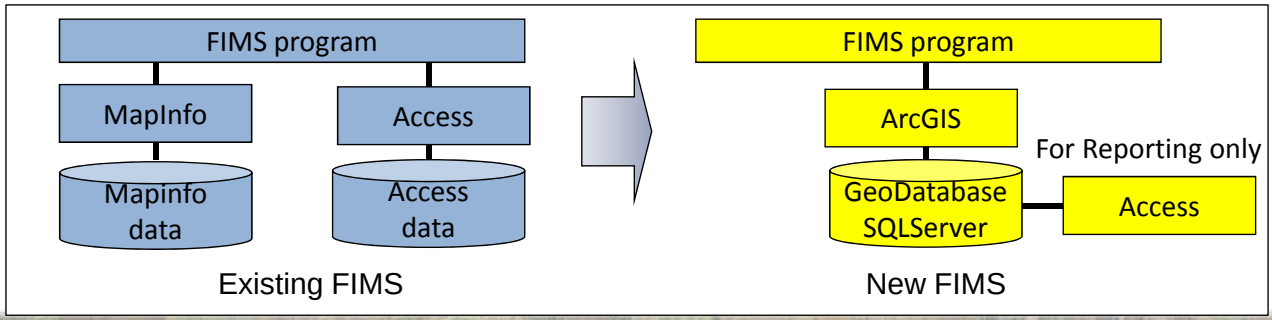


4. Output 2: PNG Forest Database

Improvement of base software and function of existing forest management system







4. Output 3: Forest Monitoring including Carbon Stock

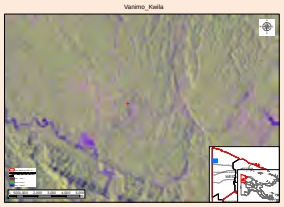
Concept of Forest Monitoring for REDD+

Forest Area change detection **x** Carbon content by 5 carbon pools **=** Carbon Emission / Removal from Forest

Activities of JICA-PNGFA Project

Training for field verification

Historical forest change analysis

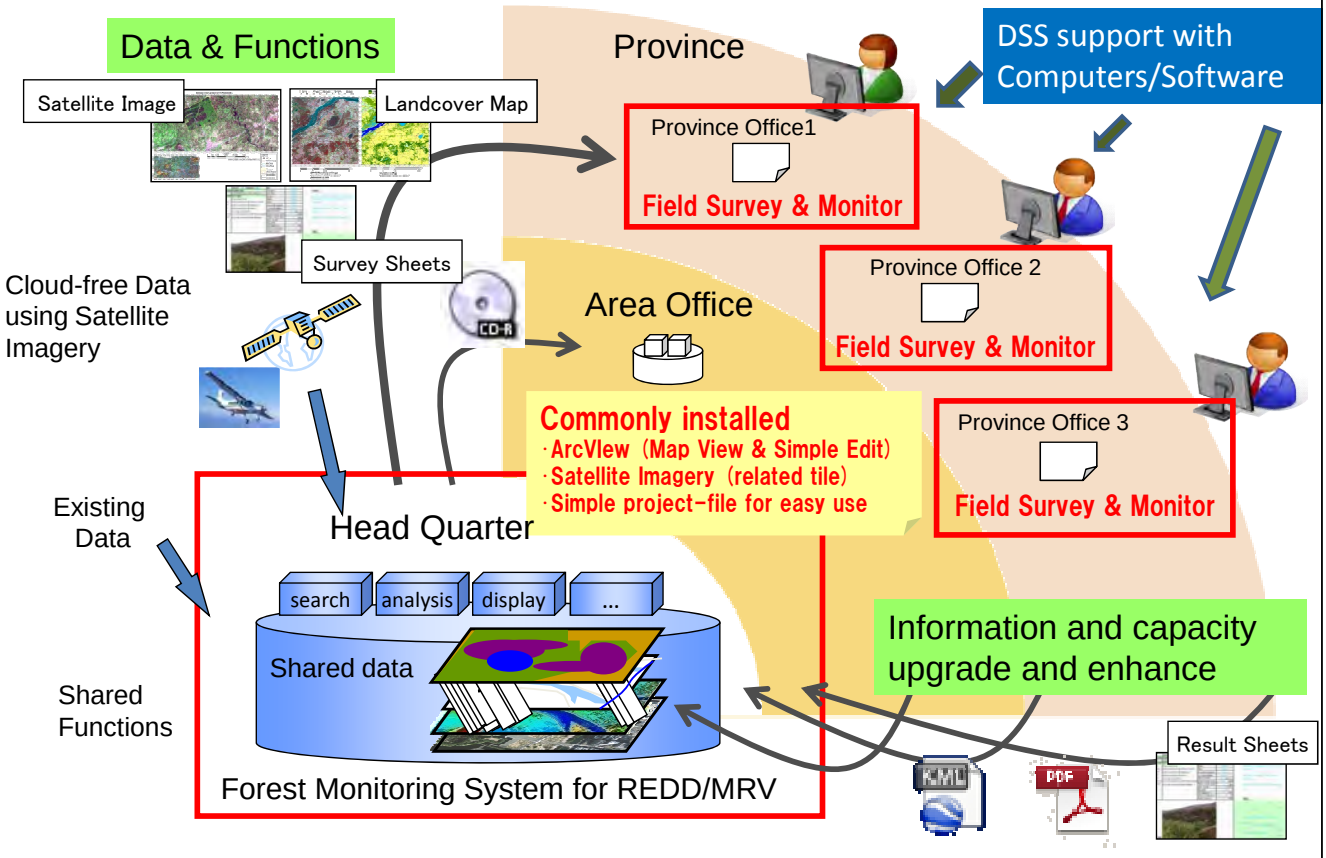


Training and trial of forest carbon survey

Carbon analysis using airborne data

4. Output 3: Forest Monitoring including Carbon Stock

Future Implementation: Communication with Local Area



5. Outcomes of the projects:
Achievements of capacity development

(1) PNGFA

> operating GIS-related equipment, processing of Remote-Sensing data, and applying them in Mapping and Forest Inventory;

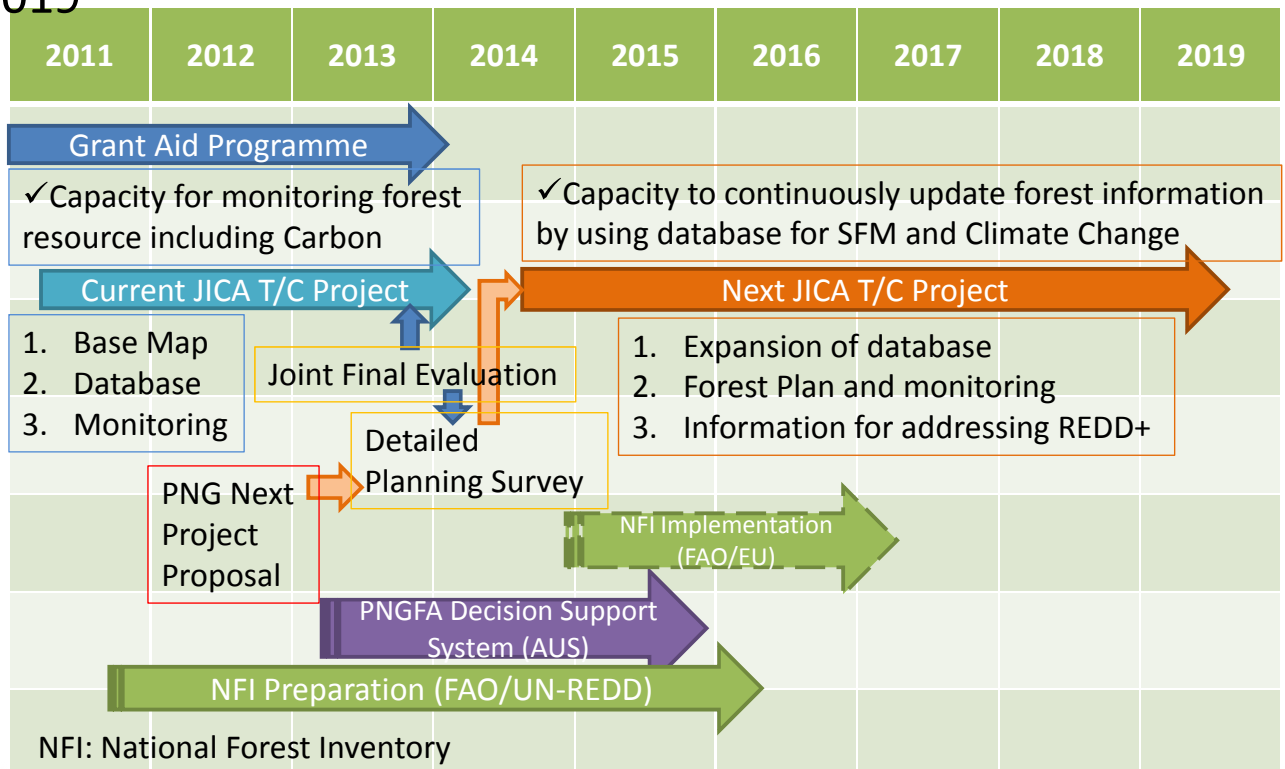
(2) Collaborative government institutions:

> OCCD, DAL, DEC, MRA, LANDS etc. additional skills/knowledge;

(3) Teaching Institutions:

> UPNG Remote Sensing Centre, Unitech Forestry Department and Unitech Surveying & Lands Studies.

6 . Timeframe of forestry cooperation projects from 2011-2019



7. Overall Concept of the new JICA Forestry Project

Project Period: 5 years (from 2014 to 2019)

Overall Goal

Forests in PNG are conserved and managed in a sustainable manner, while at the same time, mitigation and adaptation measures against climate change are promoted.

Project Purpose

Capacity of the PNGFA to continuously update forest information and to fully operationalize and utilize PNG-FRIMS for promoting sustainable forest management and for addressing climate change is enhanced.

PNG Forest Resource Information Management System (PNG-FRIMS)

Output 1
PNG-FRIMS is expanded and enhanced

Output 2
The national forest plan, provincial forest plans, forest management plans and their monitoring system are improved through steady operation of PNG-FRIMS.

Output 3
Forest information for addressing REDD+ is prepared

7. Output 1: The PNG Forest Resource Information Management System (PNG-FRIMS) is expanded and enhanced

Data to be updated and added

- Improvement of forest base map
- Monitor and update forest cover changes by remote sensing data (e.g. ALOS II)
- Integration of timber concession information - DSS
- Integration of multi-purpose National Forest Inventory (NFI) data
- Integration of Re-growth model (PINFORM)

PNG-FRIMS

Geographic information
- Satellite imagery
- Airborne data
- DEM
- Forest base map Ver. 1

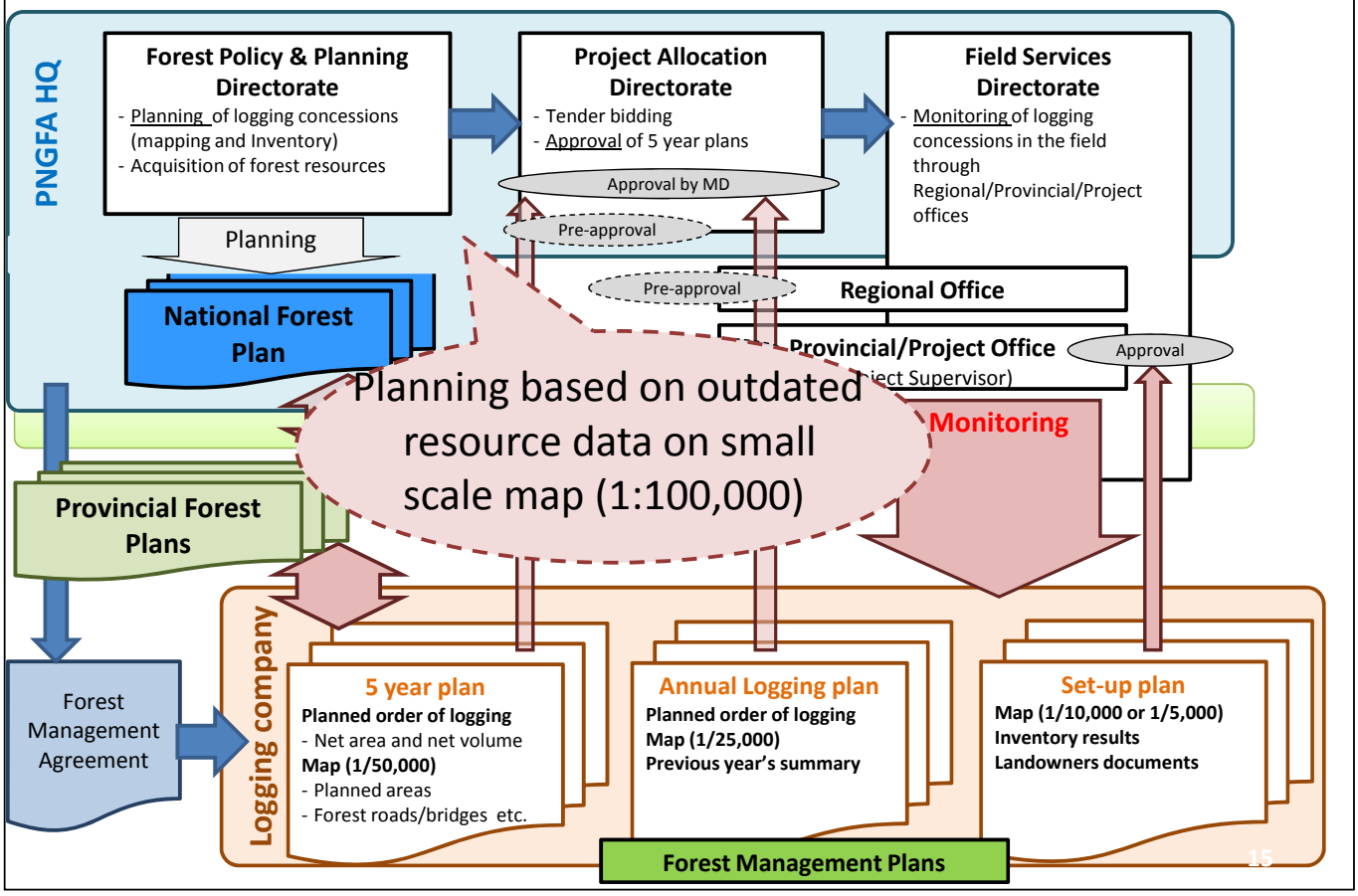
Review method for defining forest compartments

New FIMS

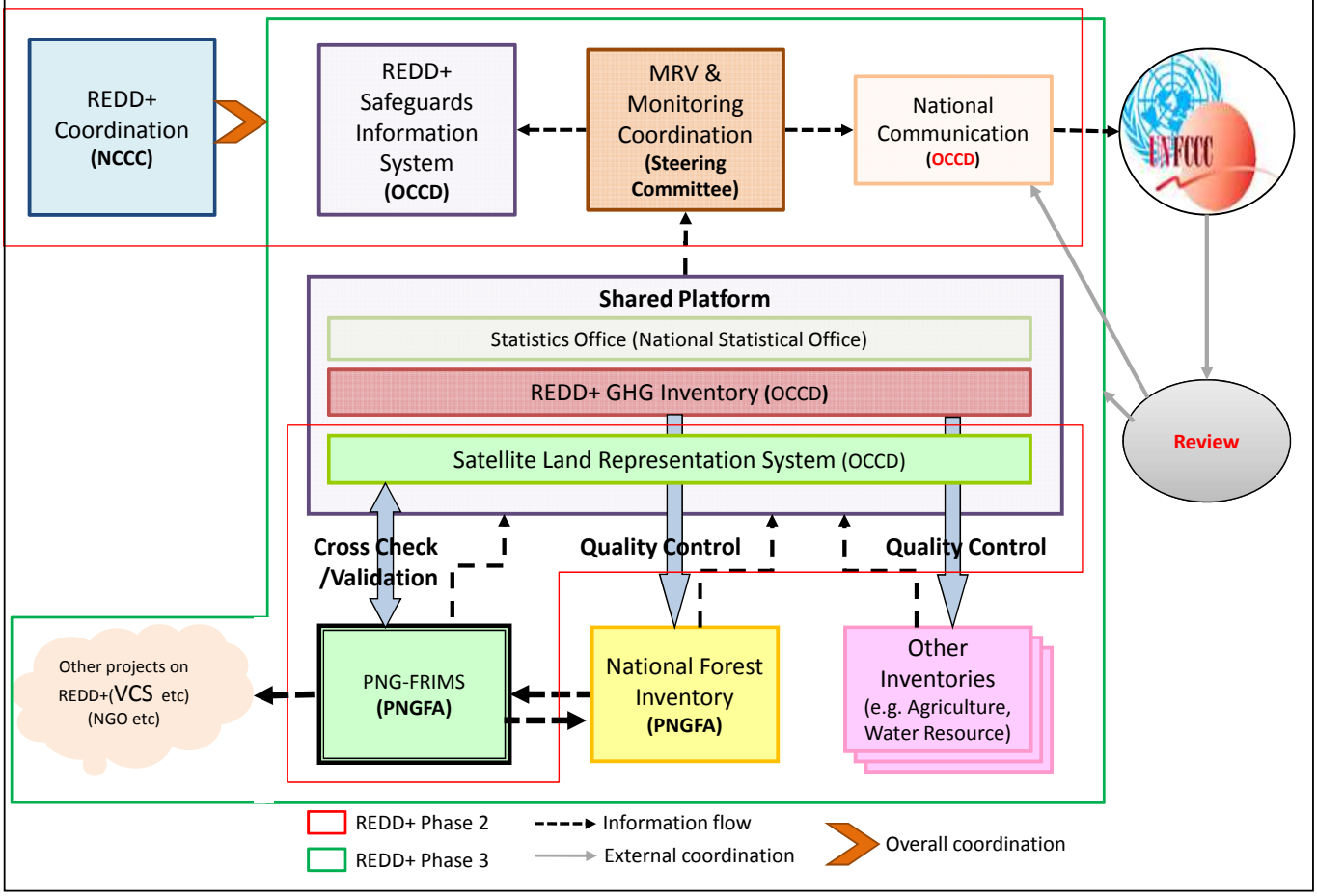
Update integrated forest resource information

Forest resource information
- FIPS
- Permanent Sample Plot (FRI)

7. Output 2: The national forest plan, provincial forest plans, forest management plans and their monitoring system are improved through steady operation of PNG-FRIMS.



7. Output 3: Forest information for addressing REDD+ is prepared



In summary:

- Coordinate all Activities –
  - > JICA Projects;
  - > National Forest Inventory supported by UN-REDD/FAO/EU, and
  - > Other donors

- To provide key source of fundamental information and practical skill for the realization of:
  - > Sustainable Forest Management;
  - > REDD+ implementation in PNG

JICA-PNGFA PROJECT for Capacity Development on Forest Resource Monitoring for Addressing Climate Change

Thank you

Tenk yu turu

Arigatou gozaimashita

Closing Ceremony and final Workshop for Project Completion
5th - 6th March 2014
Holiday Inn Hotel, Port Moresby, PNG

Major Achievements of PNG Forest Base Map using Remote Sensing Technology

05th March 2014

Perry Malan

GIS team for JICA Project
Inventory & Mapping/PNGFA

Contents

- Importance of Forest Base Map (Benchmark)
- Introducing/Comparing Satellite Imagery, Existing Vegetation Map and Forest Basemap
- Improvement of Forest Basemap (Agriculture Demarcation with Local Area Officers)
- Introducing Provincial-level Satellite Imagery and Forest Basemap
- Introducing National-level Satellite Imagery and Forest Basemap
- Summary of Forest Basemap (Area Information)

Target of Presentation: Forest Base Map

As-Is (Current)

1. National level Forest Basemap is not developed since 1972
2. Forest GIS (FIMS: Forest Inventory and Mapping System) is not updated since 1996
3. Existing forest related data is not sufficient for carbon estimation

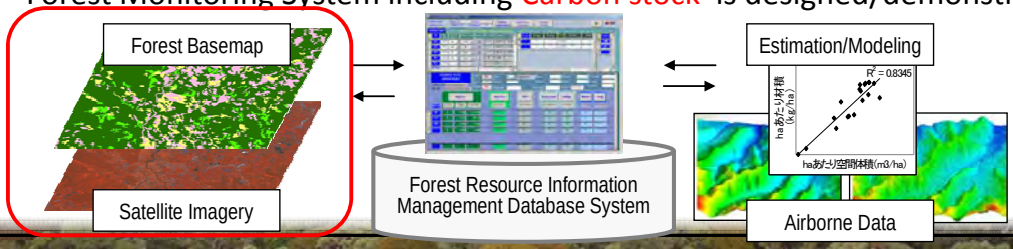
JICA/PNGFA Project

Problem

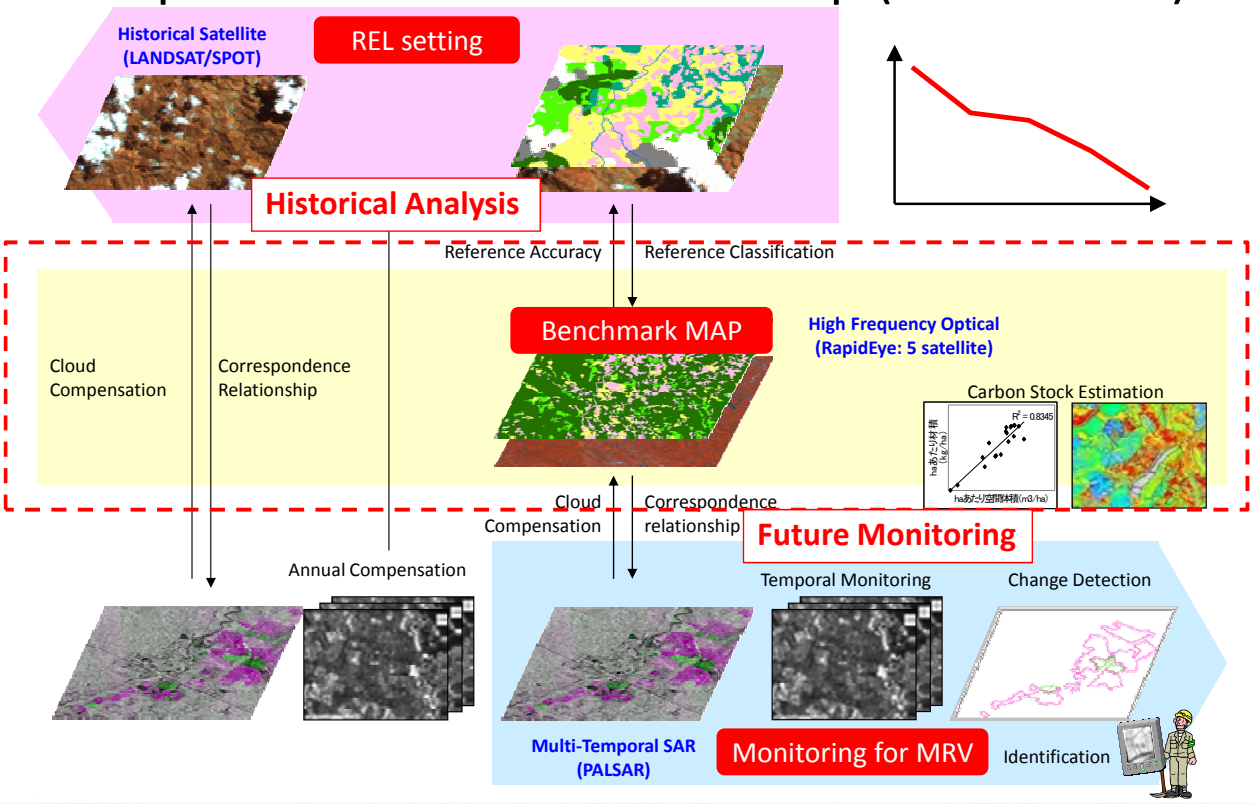
- **Vast forest area, but most are inaccessible to do forest survey for whole country**
- **97% of PNG land is customary land**

To-Be (Goals)

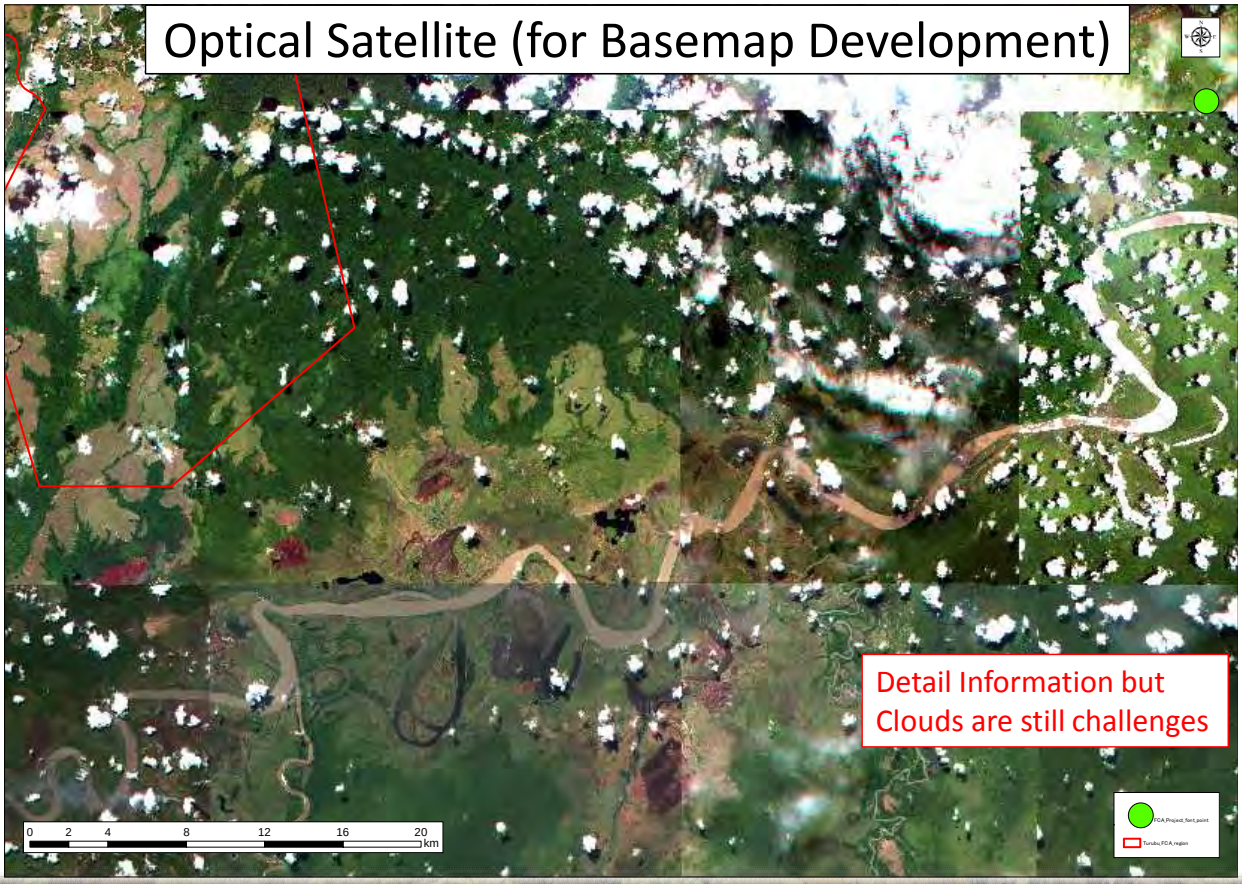
1. National level Forest Resource Basemap is developed and utilized
2. National level Forest Resource GIS/Database is developed and utilized
3. Forest Monitoring System including Carbon stock is designed/demonstrated



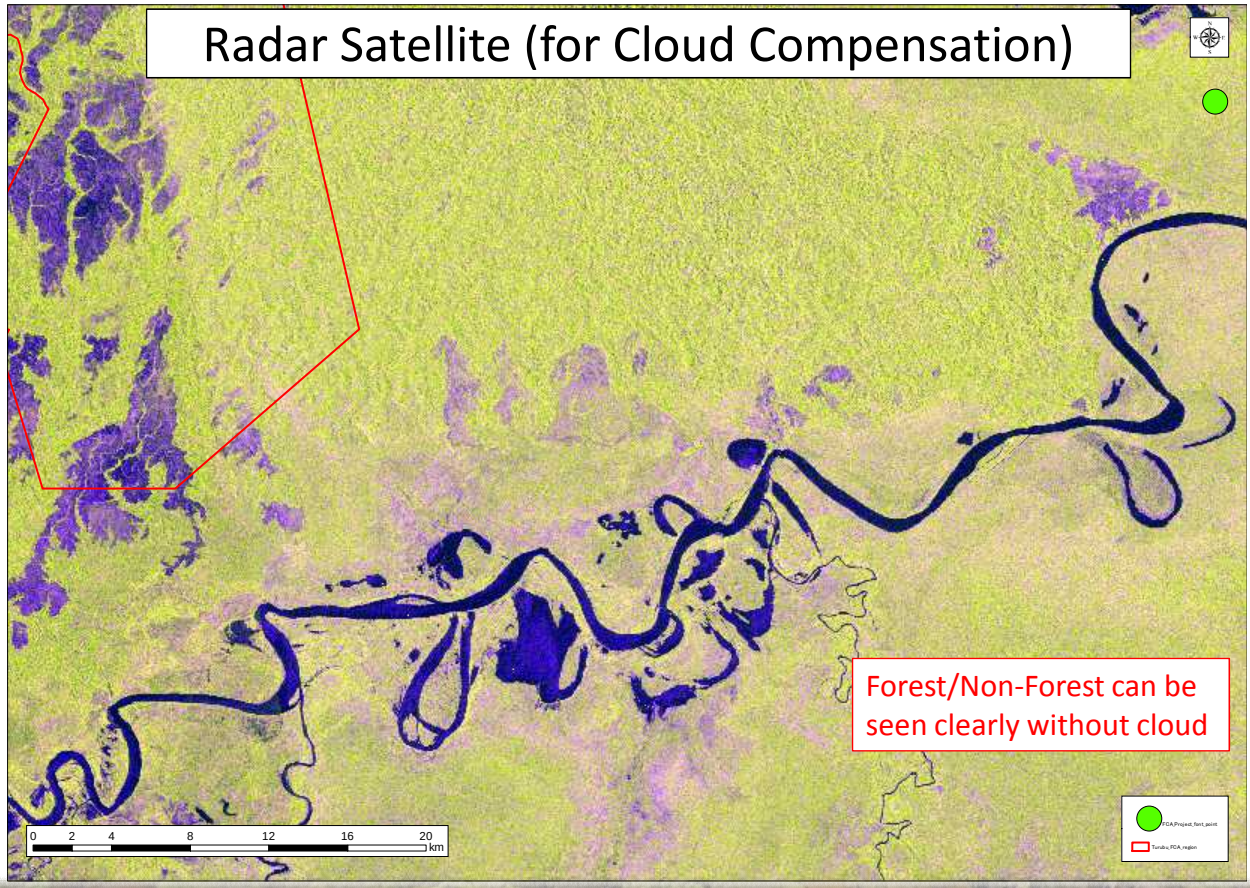
Importance of Forest Base Map (Benchmark)



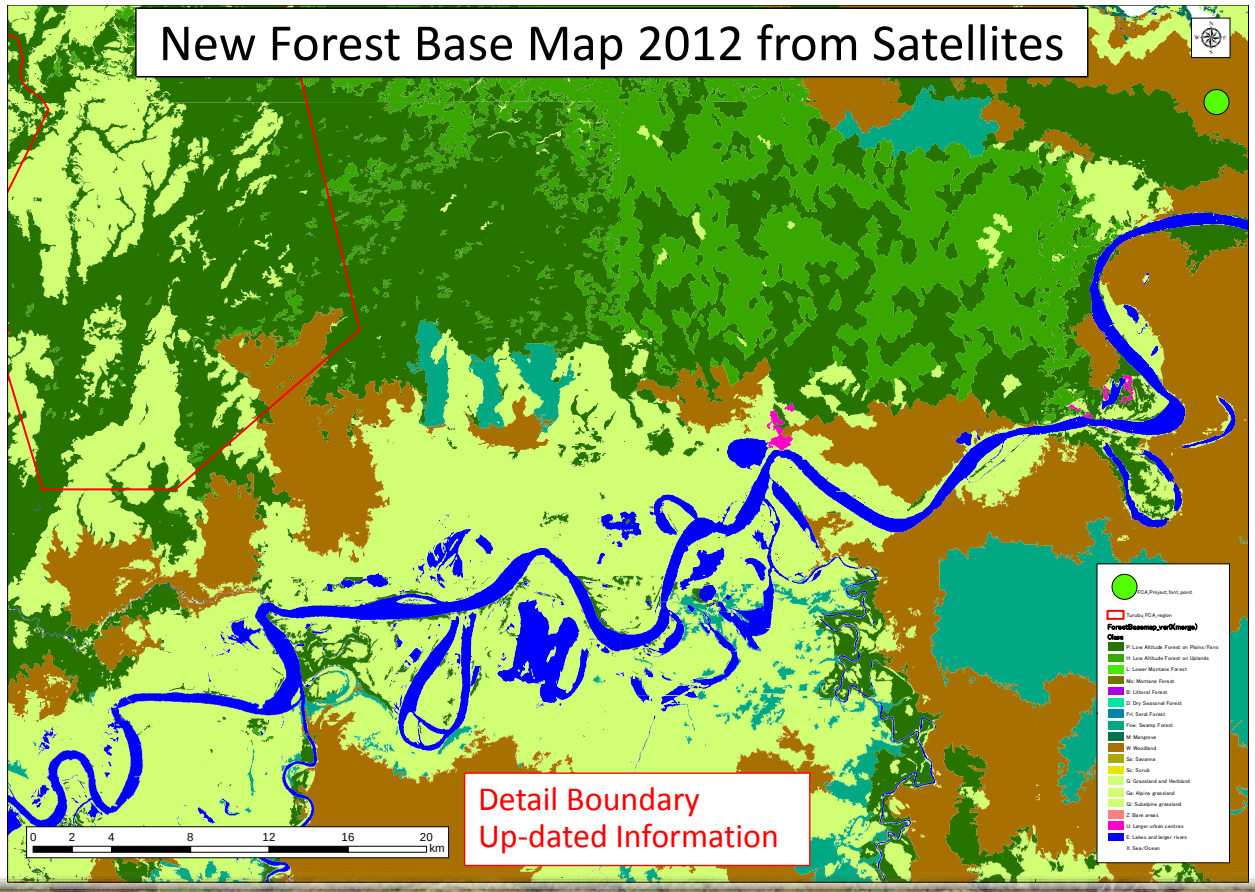
Optical Satellite (for Basemap Development)



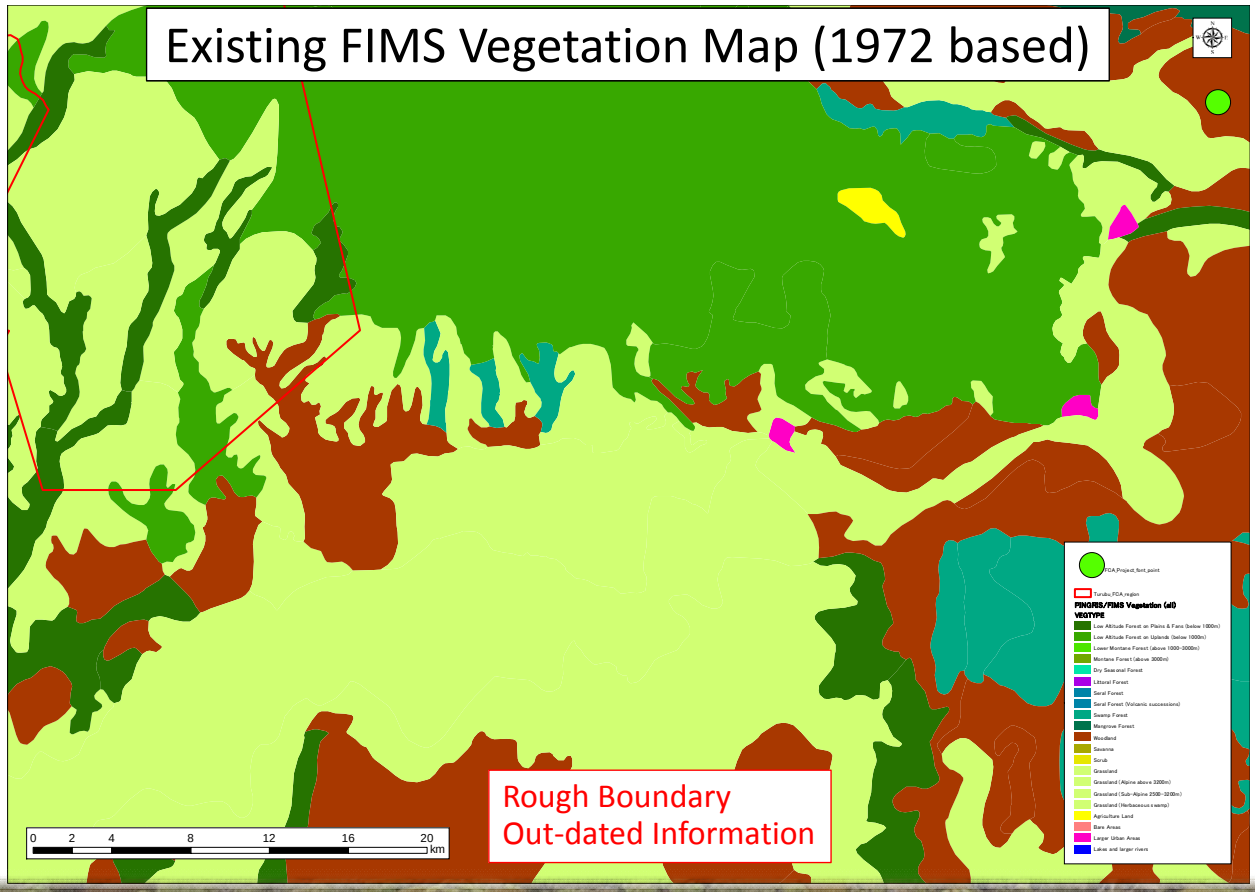
Radar Satellite (for Cloud Compensation)



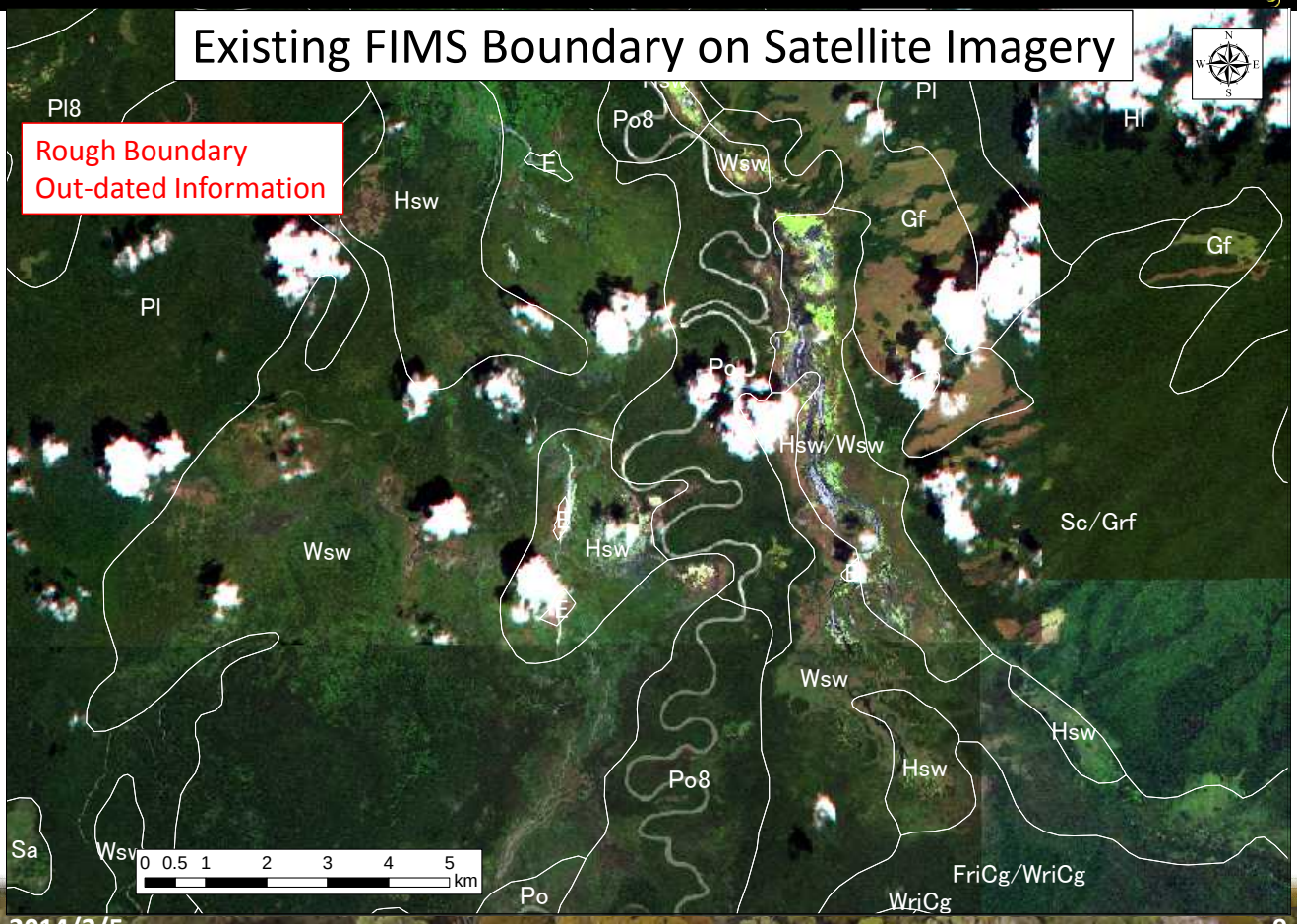
New Forest Base Map 2012 from Satellites



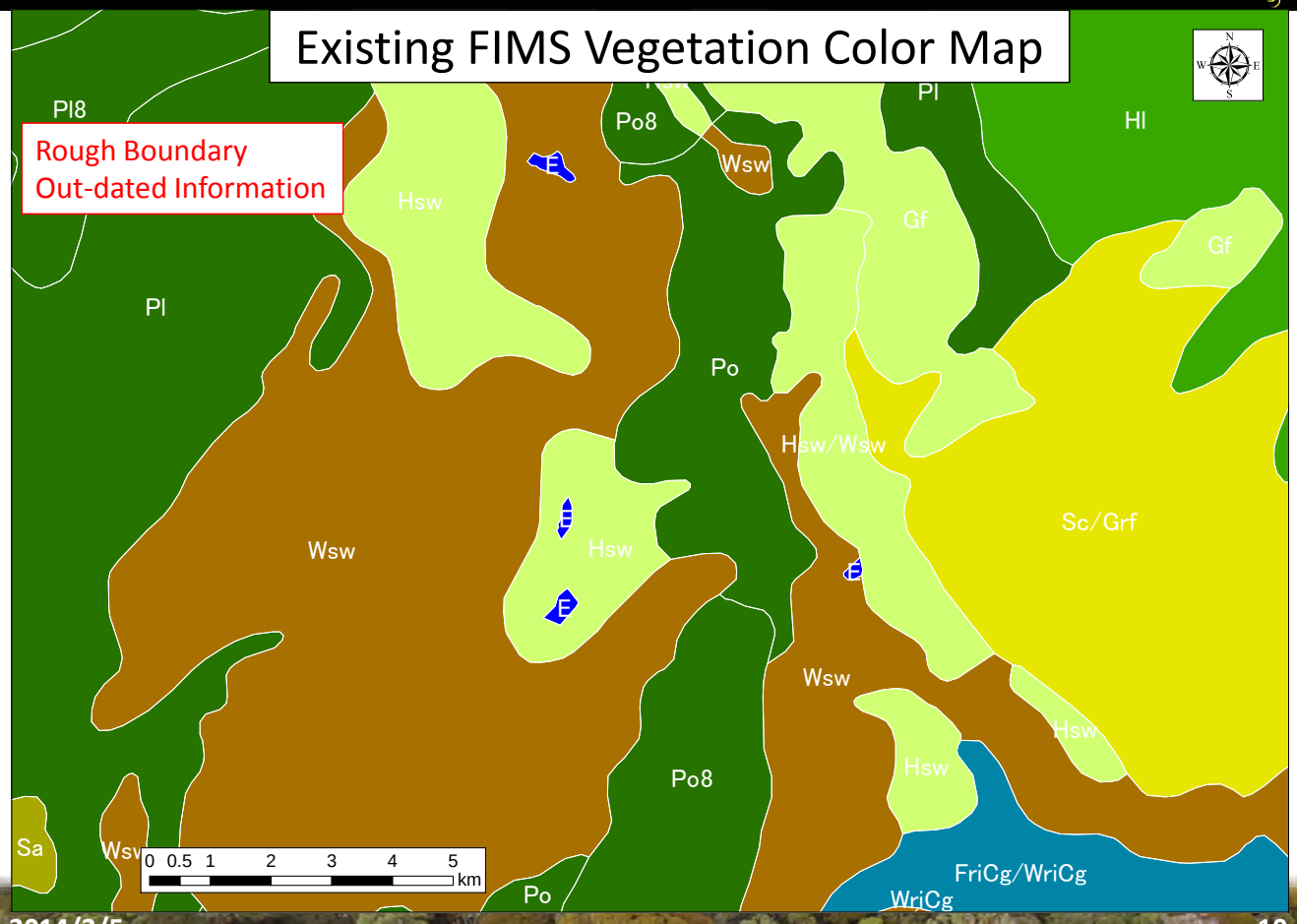
Existing FIMS Vegetation Map (1972 based)



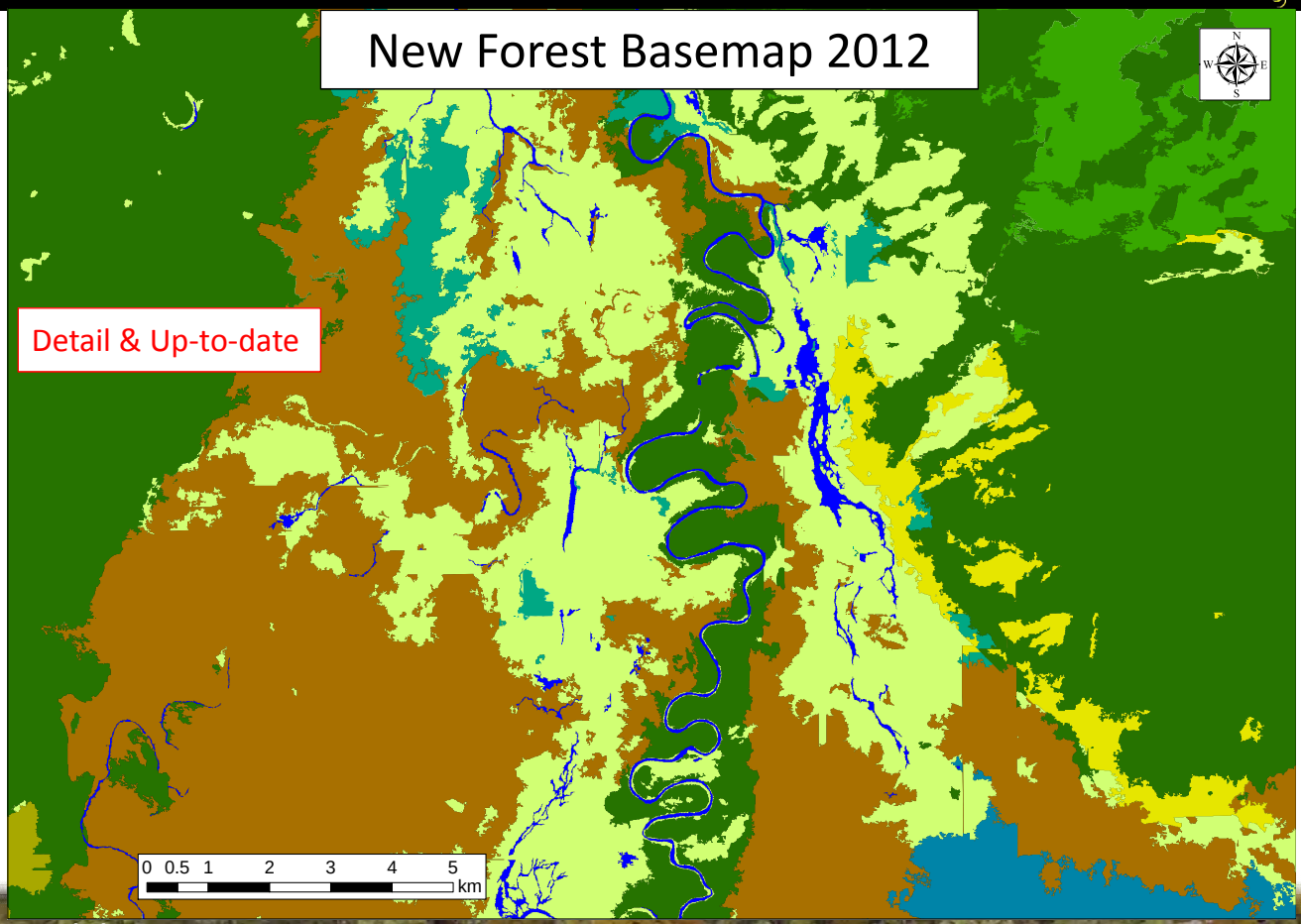
Existing FIMS Boundary on Satellite Imagery



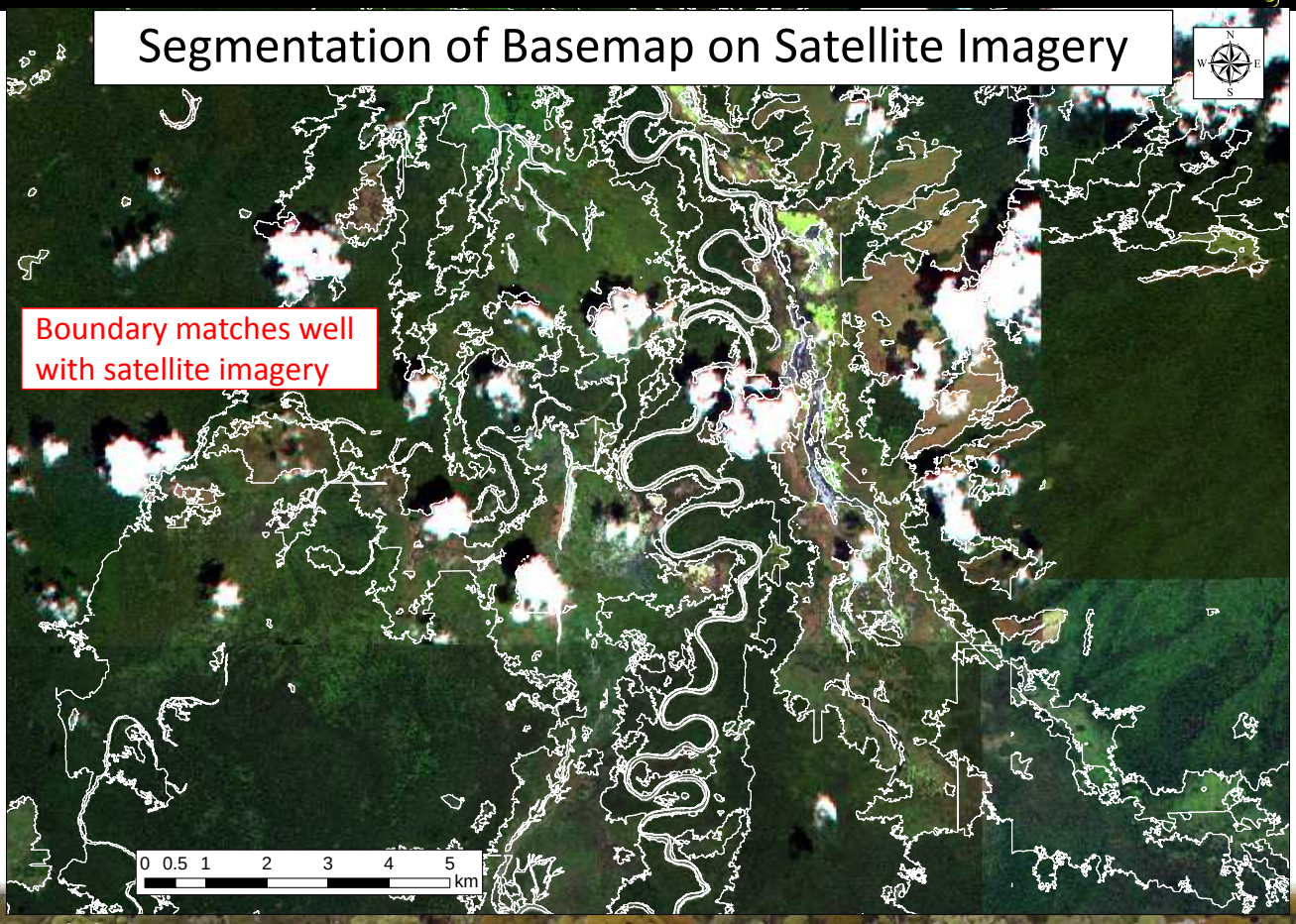
Existing FIMS Vegetation Color Map



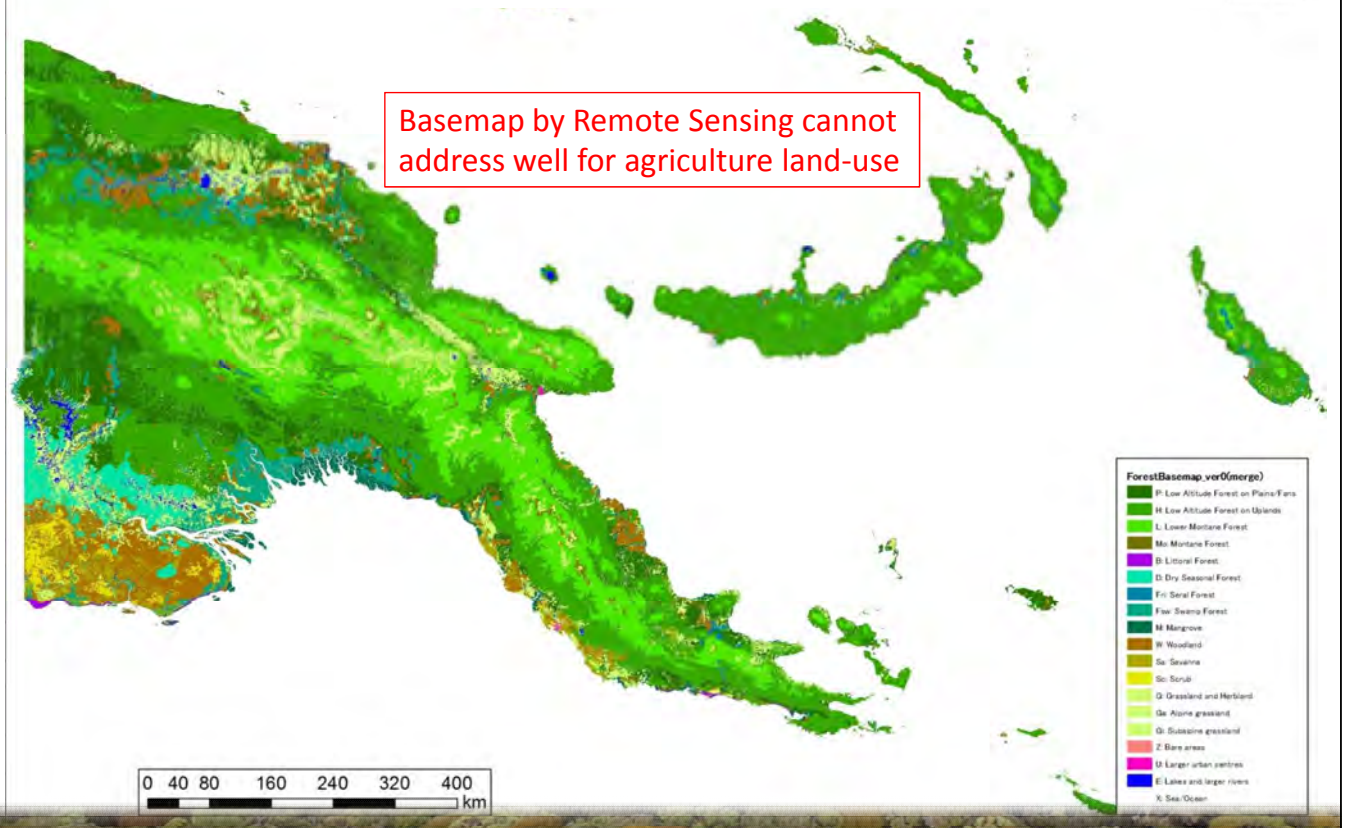
New Forest Basemap 2012



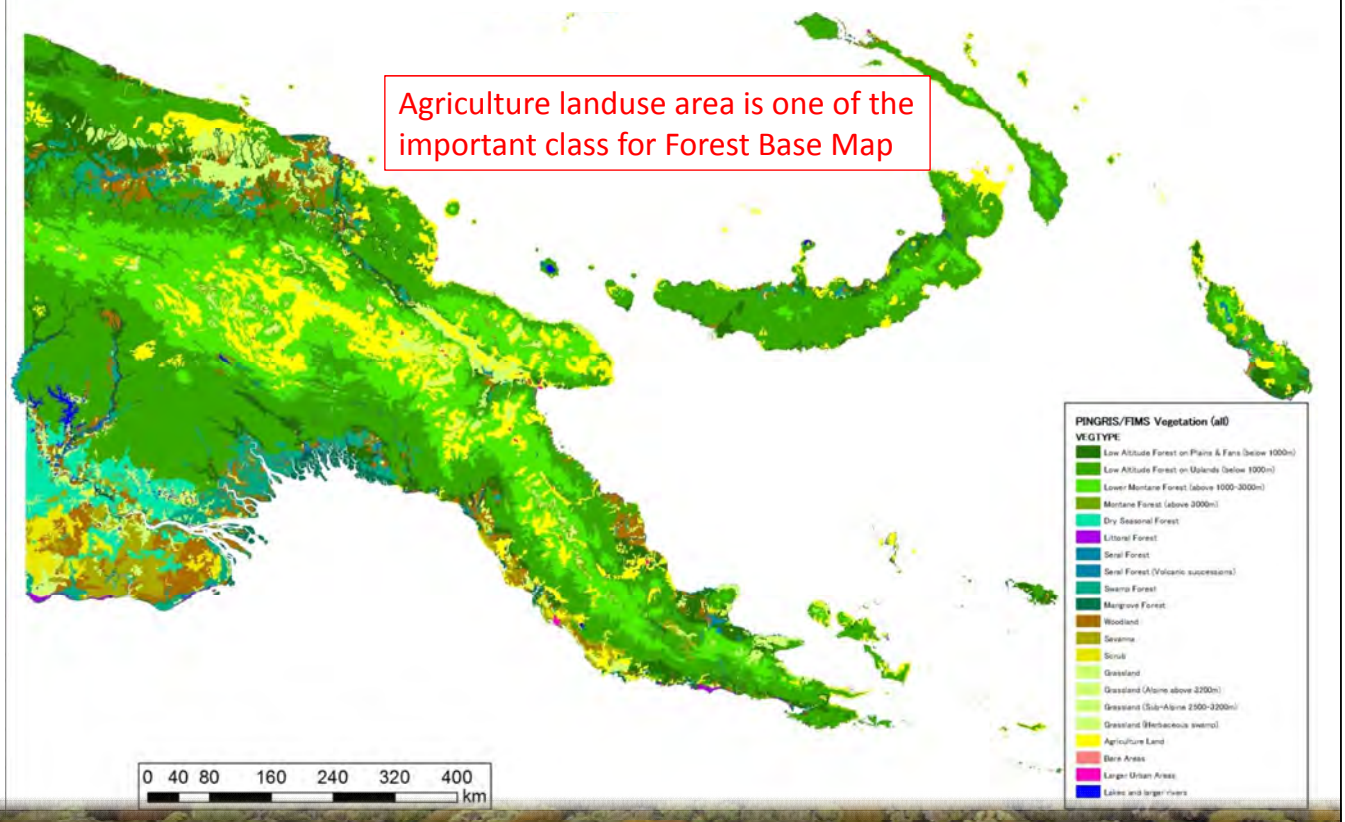
Segmentation of Basemap on Satellite Imagery



Forest Basemap (ver.0): Forest Land-cover

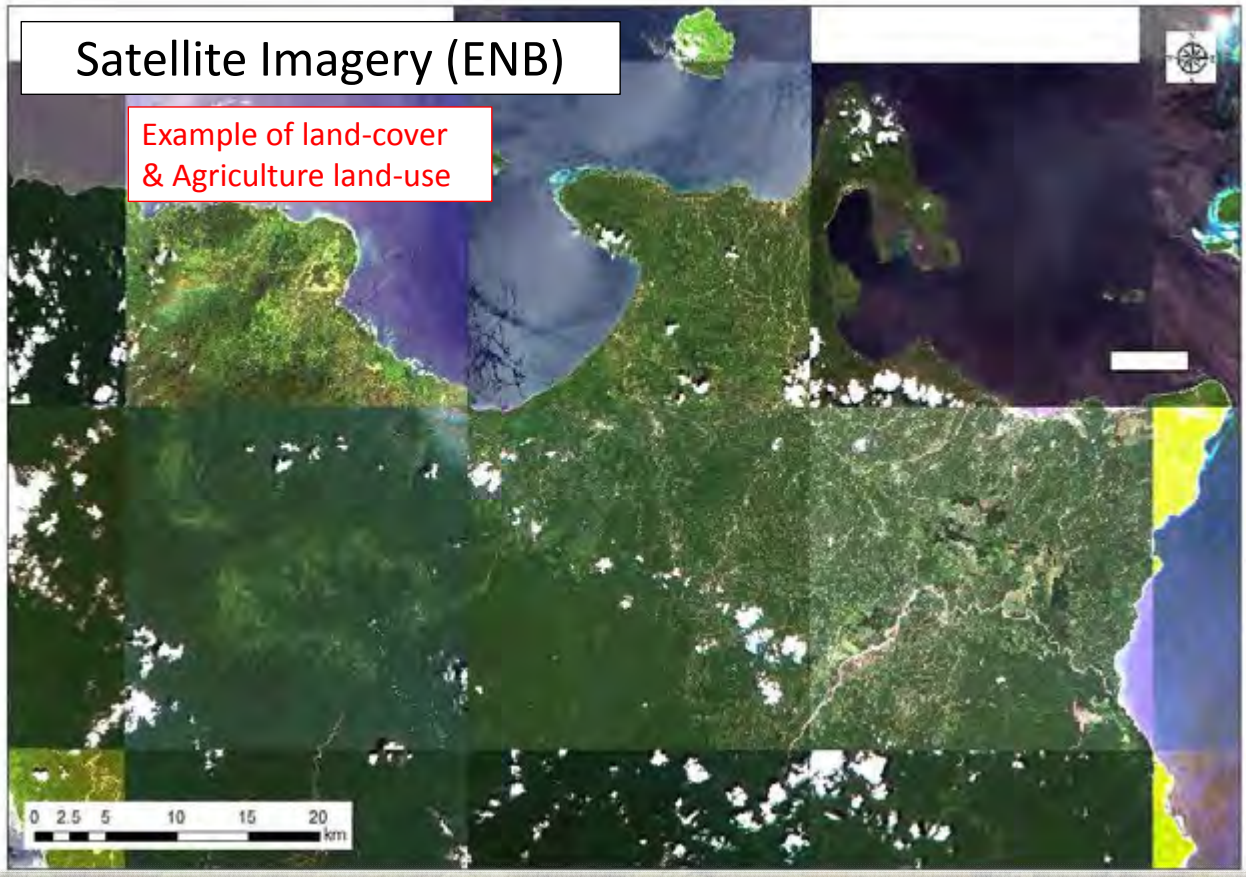


Forest Basemap (ver.0) with FIMS Agriculture



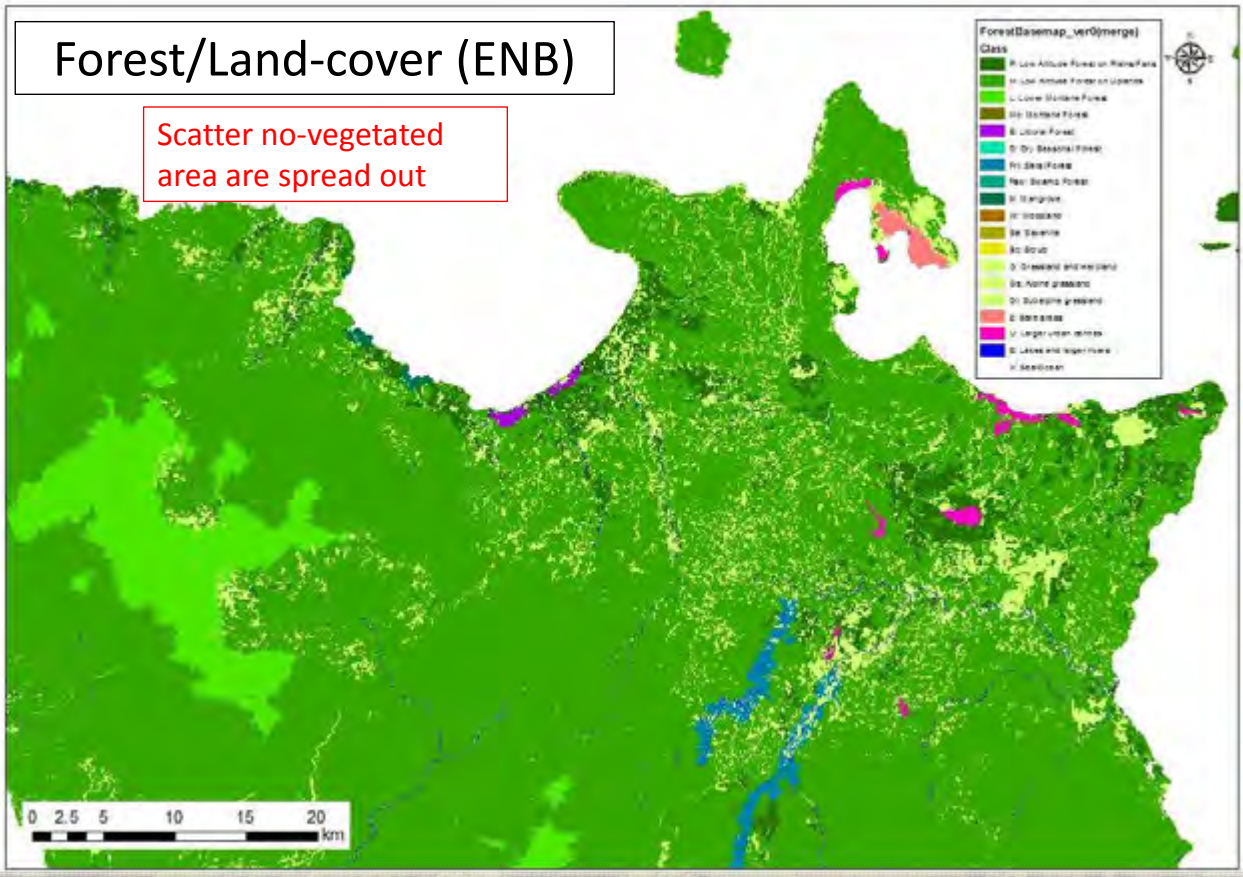
Satellite Imagery (ENB)

Example of land-cover
& Agriculture land-use



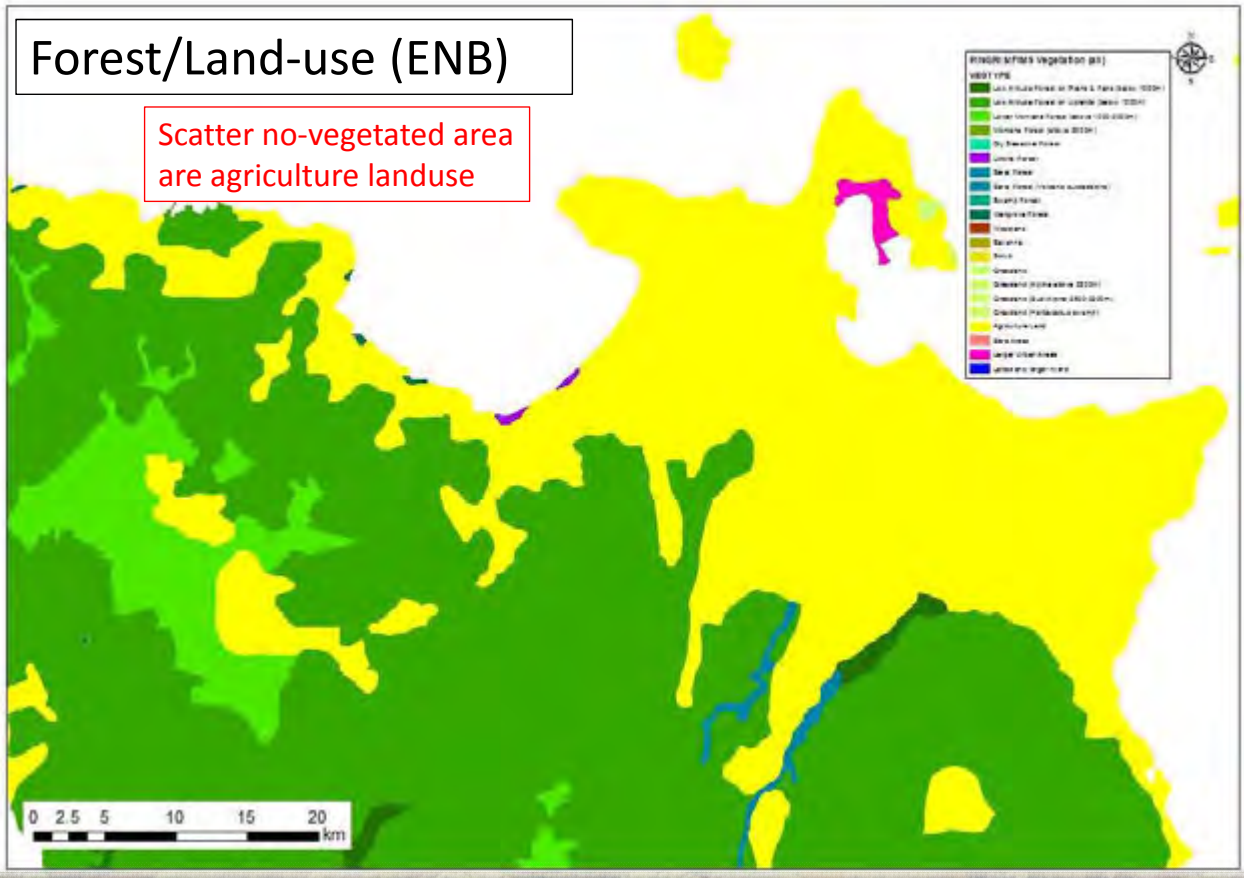
Forest/Land-cover (ENB)

Scatter no-vegetated
area are spread out



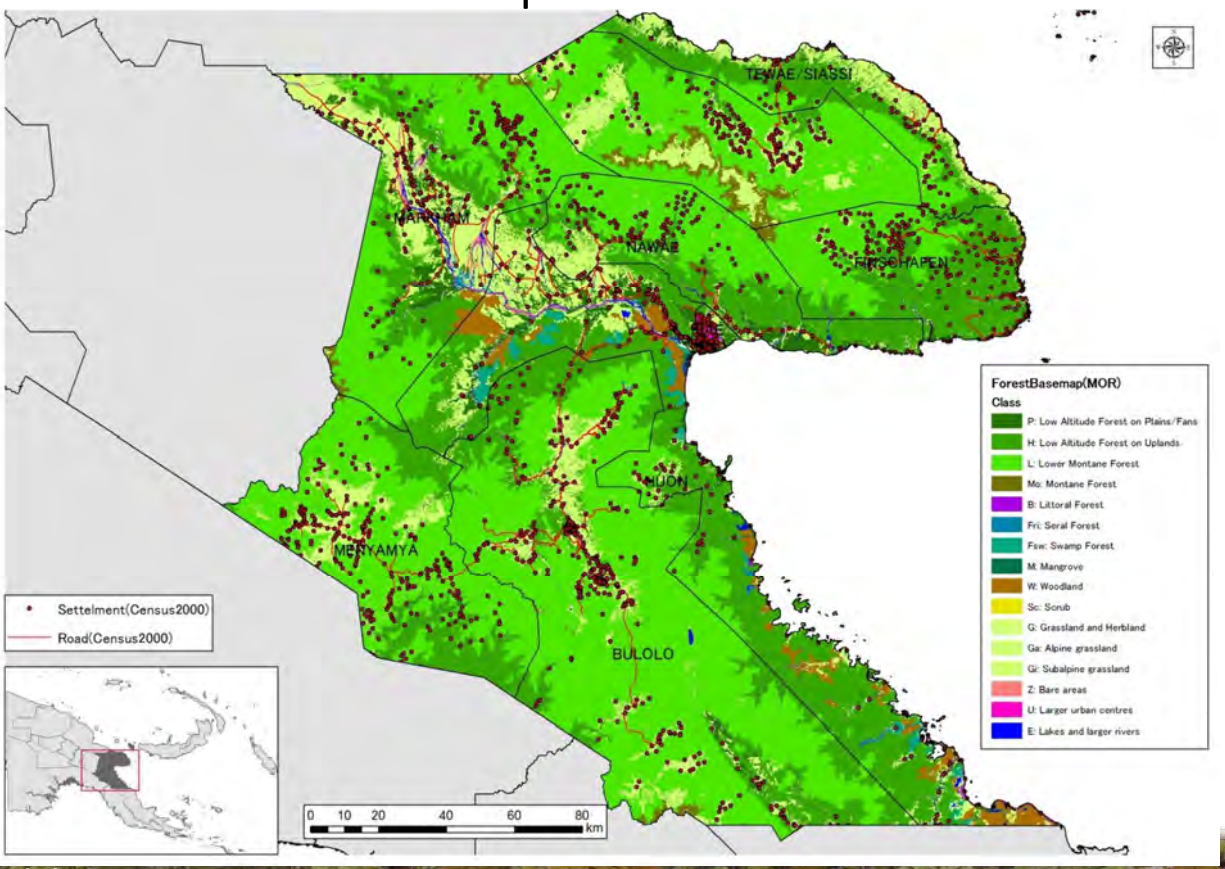
Forest/Land-use (ENB)

Scatter no-vegetated area are agriculture landuse

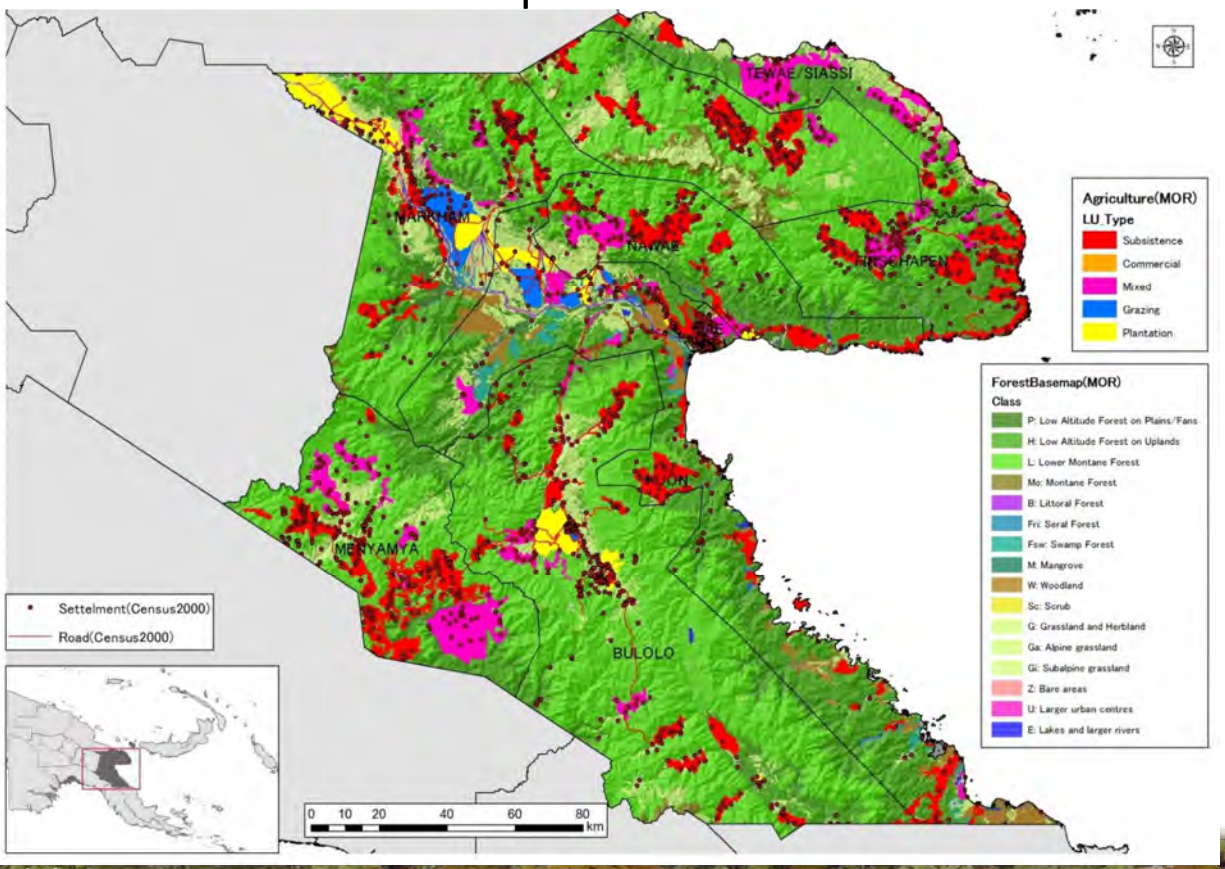


Agriculture Demarcation Workshop (Oct.-Dec.2013)

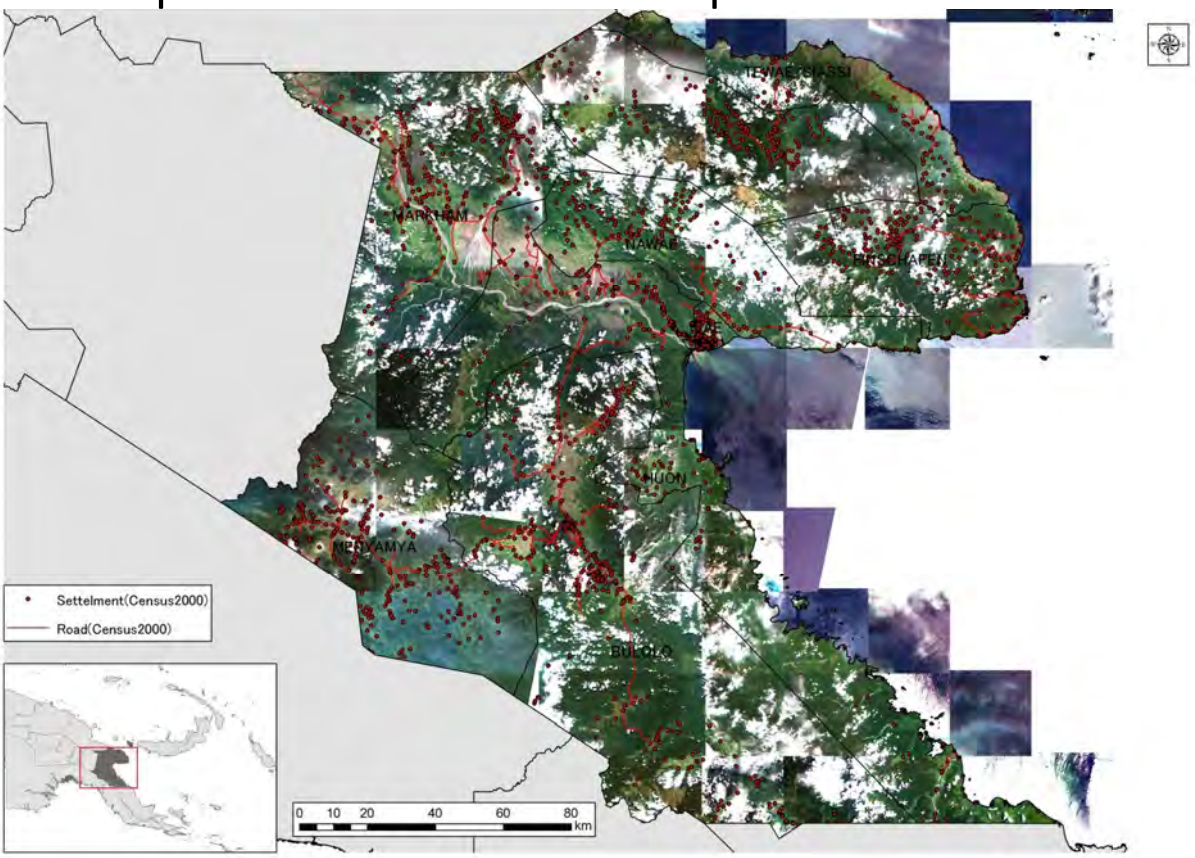
Forest Basemap ver0: Morobe Province



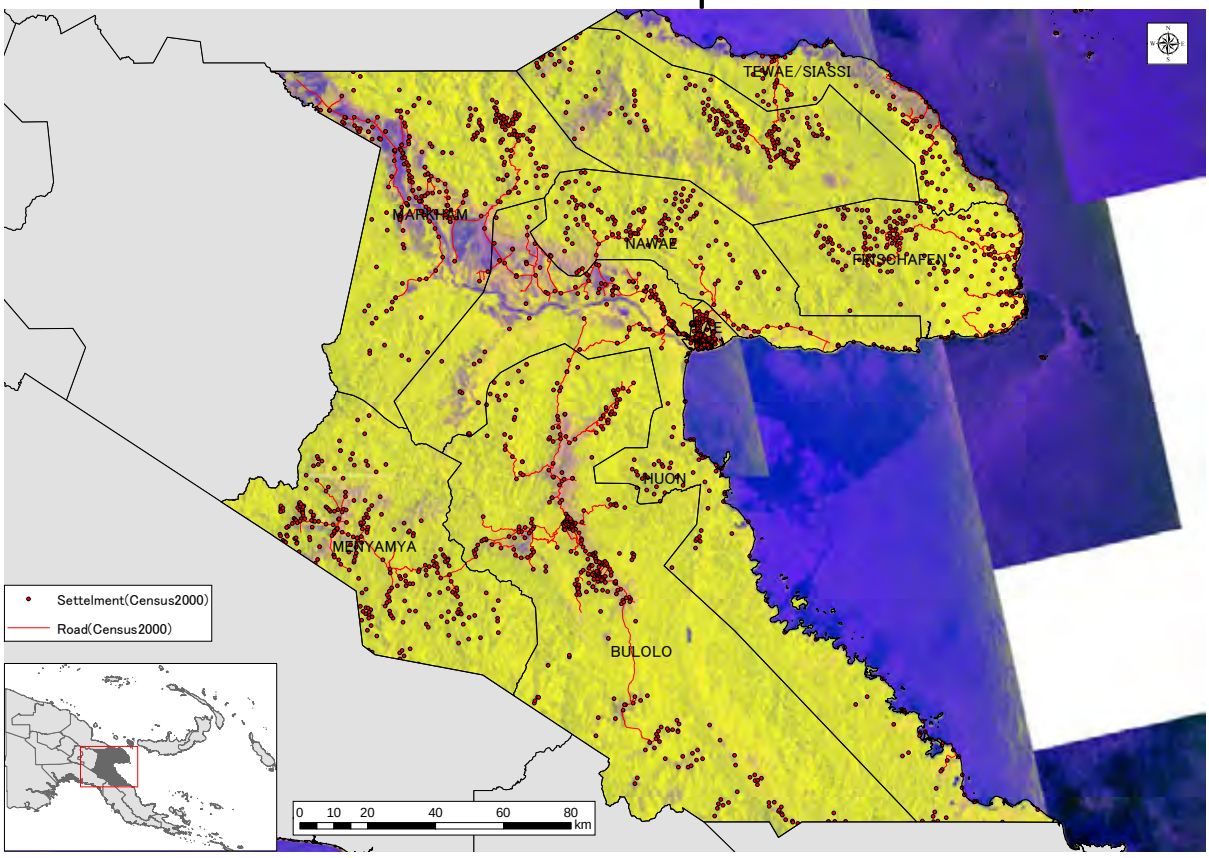
Forest Basemap ver0: Morobe Province



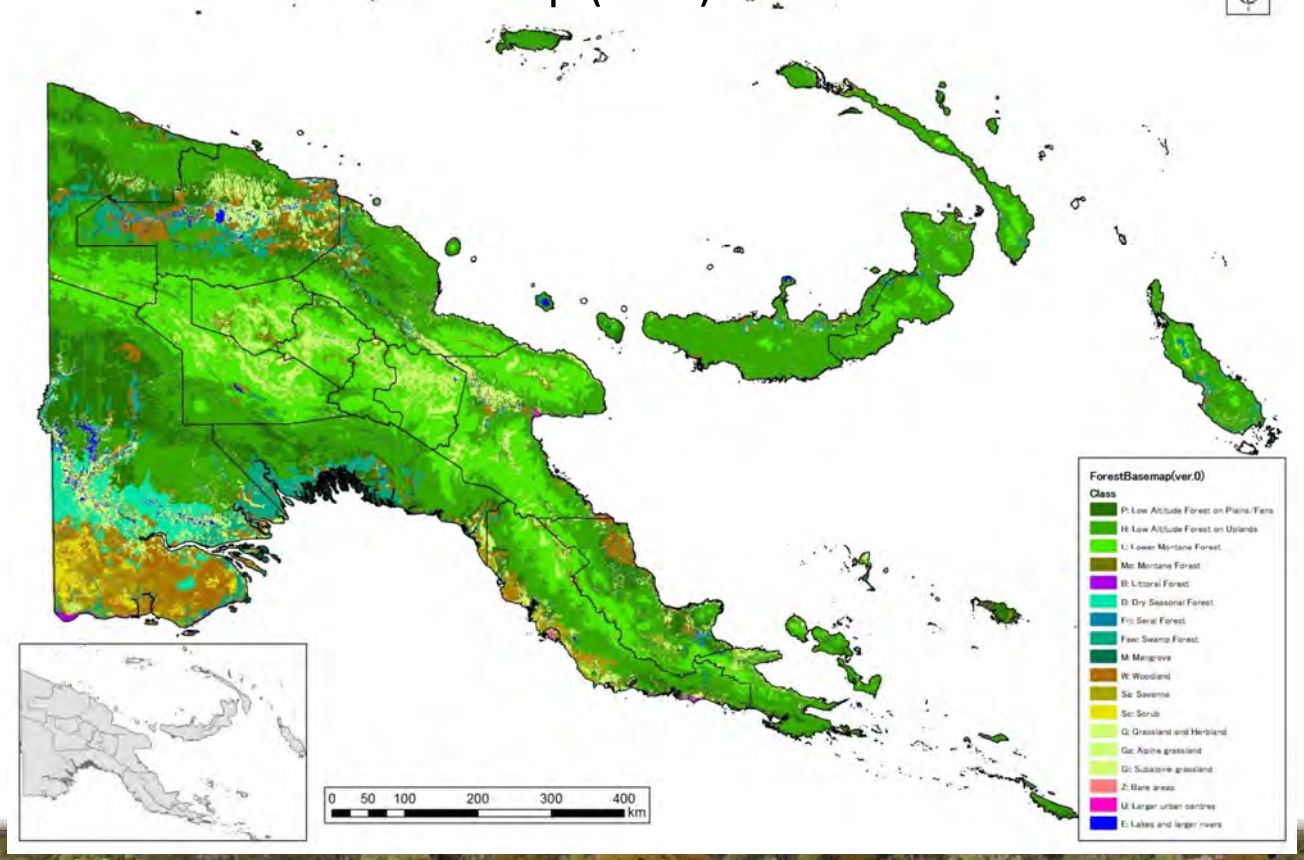
Optical Satellite for Basemap: Morobe Province



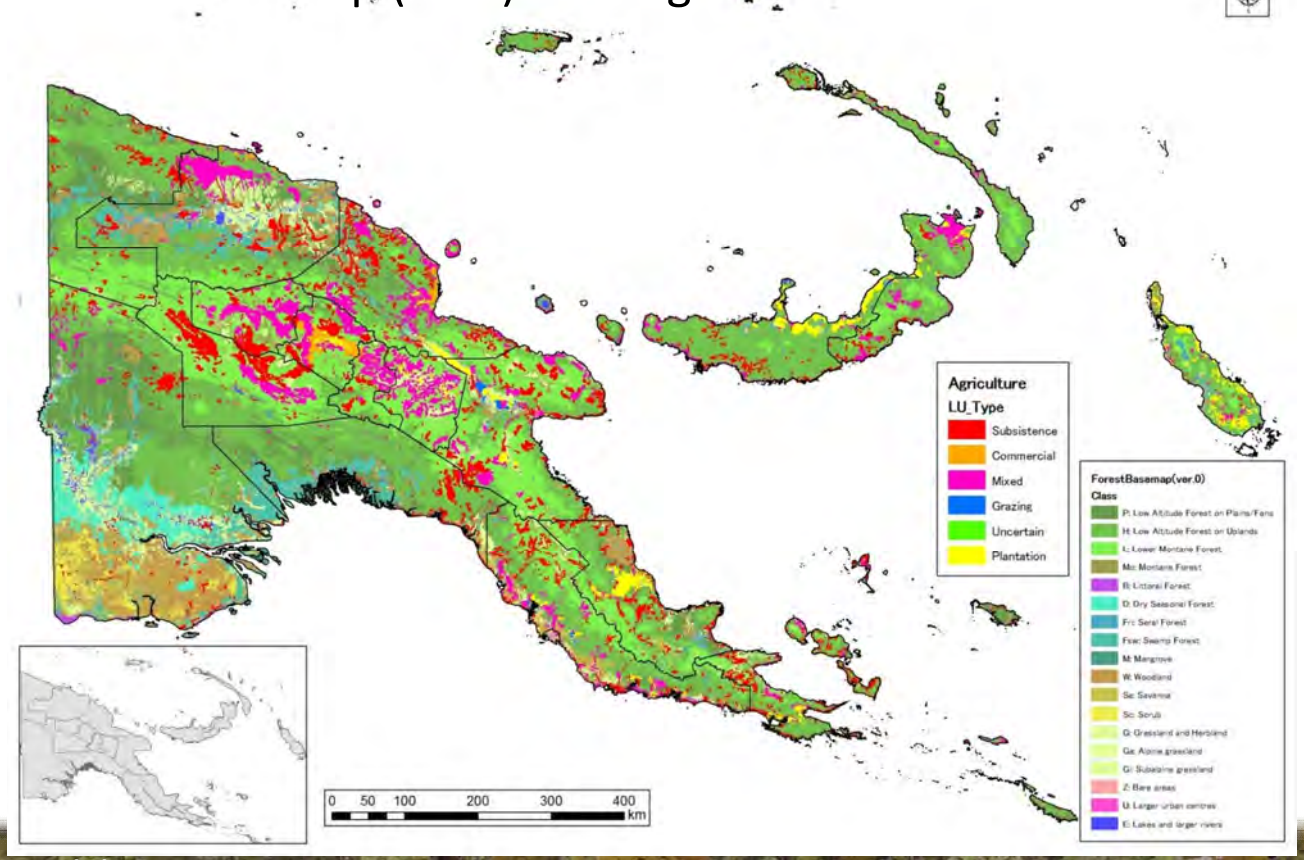
Radar Satellite for Basemap: Morobe Province

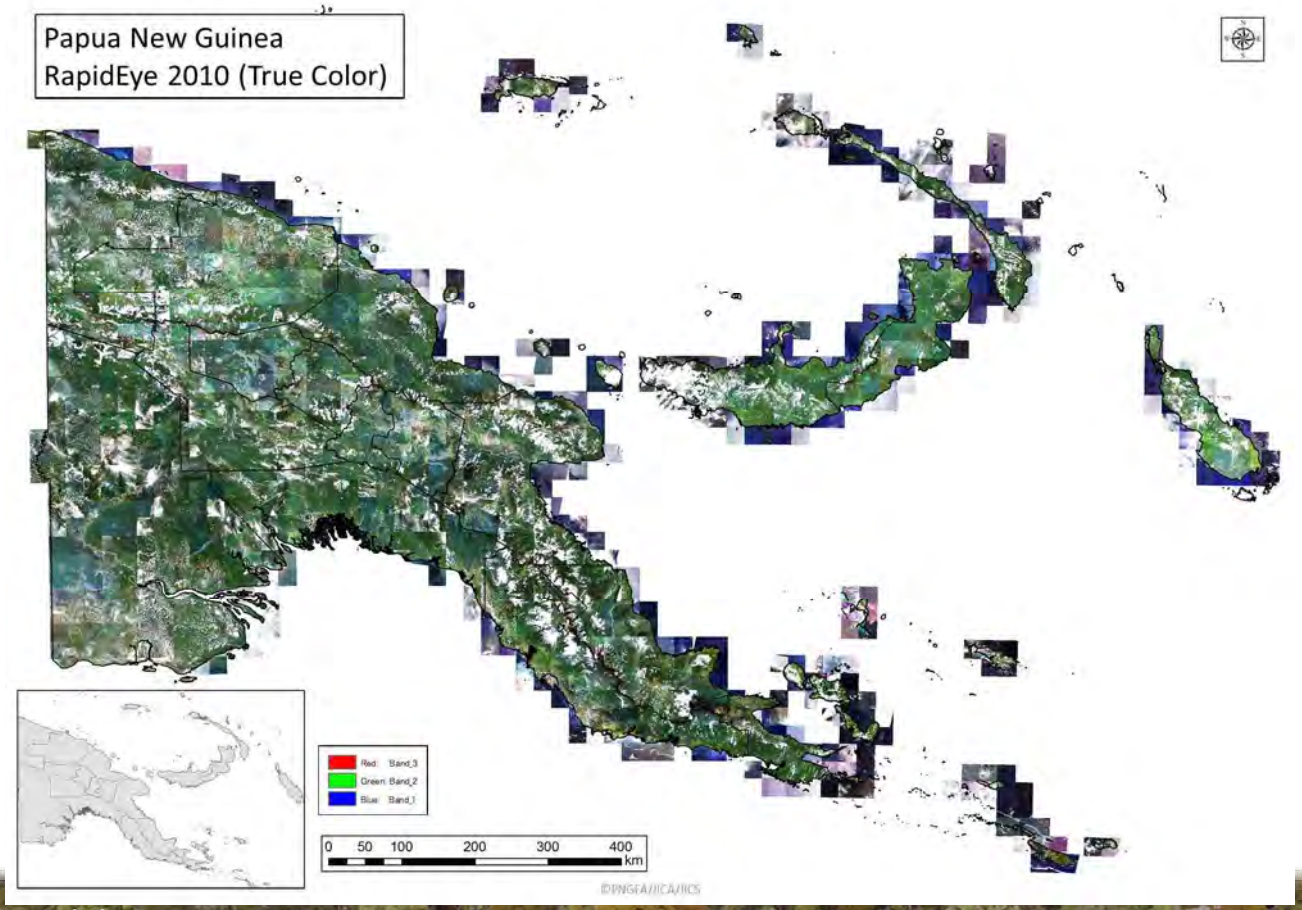


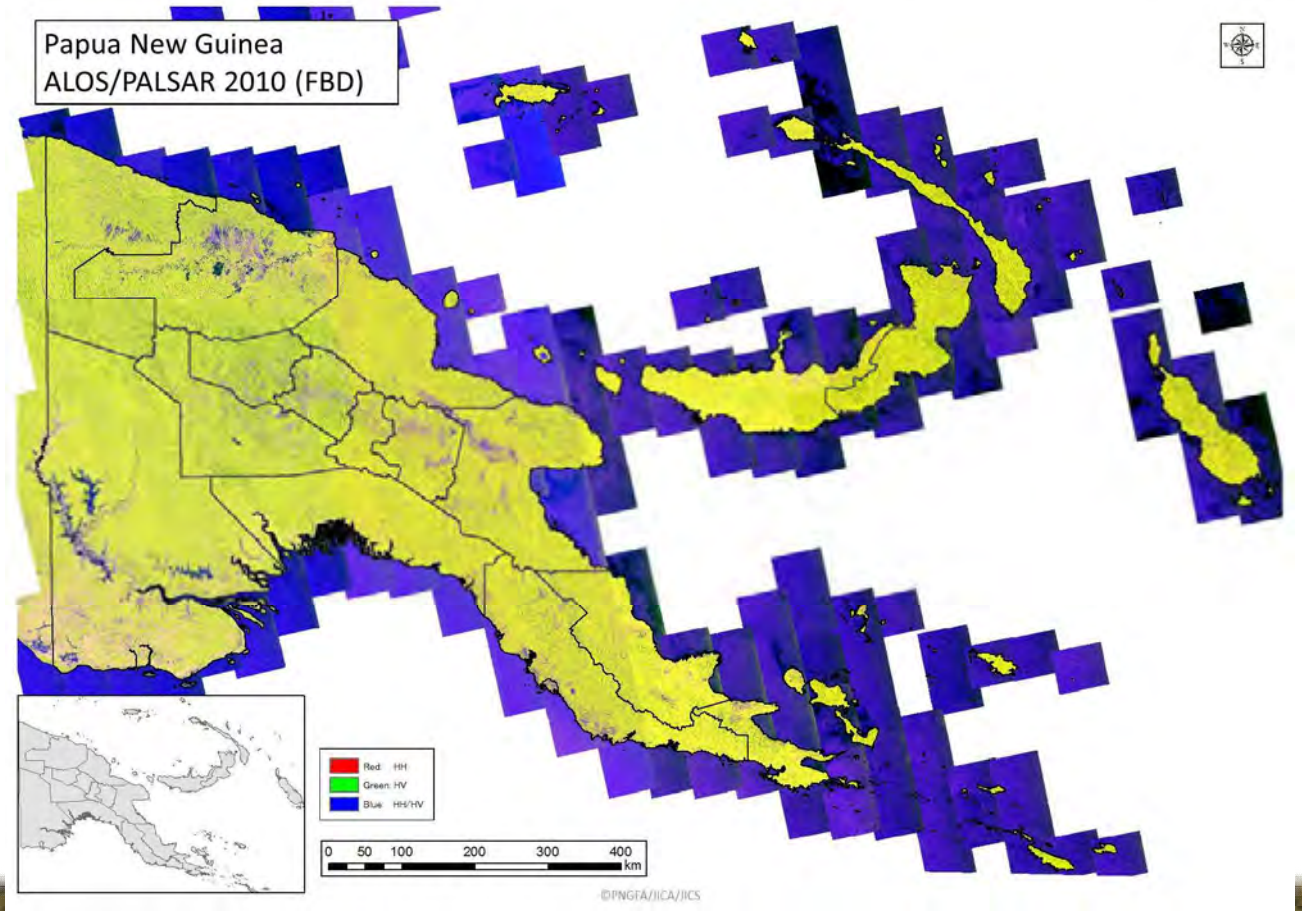
Forest Basemap (ver0): National Level



Forest Basemap (ver0) with Agriculture: National Level




Papua New Guinea
RapidEye 2010 (True Color)
Red: Band_3
Green: Band_2
Blue: Band_1
0 50 100 200 300 400
km
©PNGFA/JICA/IICS


Papua New Guinea
ALOS/PALSAR 2010 (FBD)
Red: HH
Green: HV
Blue: HH/HV
0 50 100 200 300 400
km
©PNGFA/JICA/IICS

Code	VEG	VEGNAME	SUM	CEN	SIM	ENB	ESK	EHY	ENG	GUL	MAD	MAN	MIL
15	E	Lake & Larger Rivers	558,310										4,455
17	U	Larger Urban Centres	23,385										543
21	Z	Bare areas	28,611										
23	G	Grassland and Herbland	3,219,892										126,246
25	W	Woodland	2,952,213										11,851
26	Sa	Savanna	655,446										36
27	Sc	Scrub	394,500										1,325
31	M	Mangrove Forest	649,604										44,923
32	Fsw	Swamp Forest	2,199,899										1,132
33	D	Dry Seasonal Forest	960,685										
34	Fri	Seral Forest	155,027										1,166
35	B	Littoral Forest	86,343										4,294
36	P	Low Altitude Forest on Plains & Fans	5,044,831										187,039
37	H	Low Altitude Forest on Uplands	15,060,791										635,103
38	Ga	Grassland (Alpine)	105,070										2,167
39	Gi	Grassland (Subalpine)	386,020										429
40	L	Lower Montane Forest	8,443,151										129,593
41	Mo	Montane Forest	811,434										647
0	O	Cropland/Agriculture land	4,893,447										262,424
		SUM	46,628,661										1,413,372

Code	VEG	VEGNAME	SUM	WHY
15	E	Lake & Larger Rivers	558,310	1,966
17	U	Larger Urban Centres	23,385	15
21	Z	Bare areas	28,611	523
23	G	Grassland and Herbland	3,219,892	22,798
25	W	Woodland	2,952,213	
26	Sa	Savanna	655,446	
27	Sc	Scrub	394,500	
31	M	Mangrove Forest	649,604	
32	Fsw	Swamp Forest	2,199,899	156
33	D	Dry Seasonal Forest	960,685	
34	Fri	Seral Forest	155,027	
35	B	Littoral Forest	86,343	
36	P	Low Altitude Forest on Plains & Fans	5,044,831	16,870
37	H	Low Altitude Forest on Uplands	15,060,791	94,126
38	Ga	Grassland (Alpine)	105,070	1,932
39	Gi	Grassland (Subalpine)	386,020	12,446
40	L	Lower Montane Forest	8,443,151	332,900
41	Mo	Montane Forest	811,434	33,798
0	O	Cropland/Agriculture land	4,893,447	394,628
		SUM	46,628,661	912,157

Forest	33,411,765
Forest&Woodland	36,363,978
Forest&Woodland&Scrub&Savanna	37,413,925

Forest Base Map 2012 (PNGFA/JICA)

	Forest type	Area (ha)
P	Low Altitude Forest on Plains & Fans	5,044,831
H	Low Altitude Forest on Uplands	15,060,791
L	Lower Montane Forest	8,443,151
Mo	Montane Forest	811,434
D	Dry Seasonal Forest	960,685
B	Littoral Forest	86,343
Fri	Seral Forest	155,027
Fsw	Swamp Forest	2,199,899
M	Mangrove Forest	649,604
W	Woodland	2,952,213
Sa	Savanna	655,446
Sc	Scrub	394,500
	Total in Forest Base Map	**37,413,925**

Summary

- Forest Basemap (ver.0) was developed by combination use of RapidEye (Optical) & ALOS/PALSAR (Radar)
- Forest Basemap (ver.0) was significantly improved and updated detail boundary and recent demarcation
- Forest Basemap (ver.0) is being updated with agriculture landuse with input from local area officers
- Forest Basemap can provide the area of vegetation type info for national & province, any area of interest
- Forest Basemap (ver.1) will be completed soon and this will be the most up-to-date benchmark map
- Forest Basemap was utilized to calculating biomass and carbon stock and contributing to PNG FRA2015

Closing Ceremony and final Workshop for Project Completion
5th - 6th March 2014
Holiday Inn Hotel, Port Moresby, PNG

Major Achievements of Improvement of PNG Forest Resource Database

05th March 2014

Perry Malan

GIS team for JICA Project
Inventory & Mapping Branch/PNGFA

Contents

- PNGFA New DB: Integration of Existing DBs
- Overview of Forest Resource Database
- Integration of Attribute DB & Spatial DB
- Upgrading Legacy DB to Up-to-date DB
- Demonstration of Forest Resource Database
- Management of Forest Resource Data
- Map Publishing over PNGFA Intranet
- Database Layers and Future Incorporations

Target of Presentation: Forest Resource Database

As-Is (Current)

1. National level Forest Basemap is not developed since 1972
2. Forest GIS (FIMS: Forest Inventory and Mapping System) is not updated since 1996
3. Existing forest related data is not sufficient for carbon estimation

JICA/PNGFA Project

Problem

- **Vast forest area, but most are inaccessible to do forest survey for whole country**
- **97% of PNG land is customary land**

To-Be (Goals)

1. National level Forest Resource Basemap is developed and utilized
2. National level Forest Resource GIS/Database is developed and utilized
3. Forest Monitoring System including Carbon stock is designed/demonstrated

Overview of Forest Resource Database

[Server]

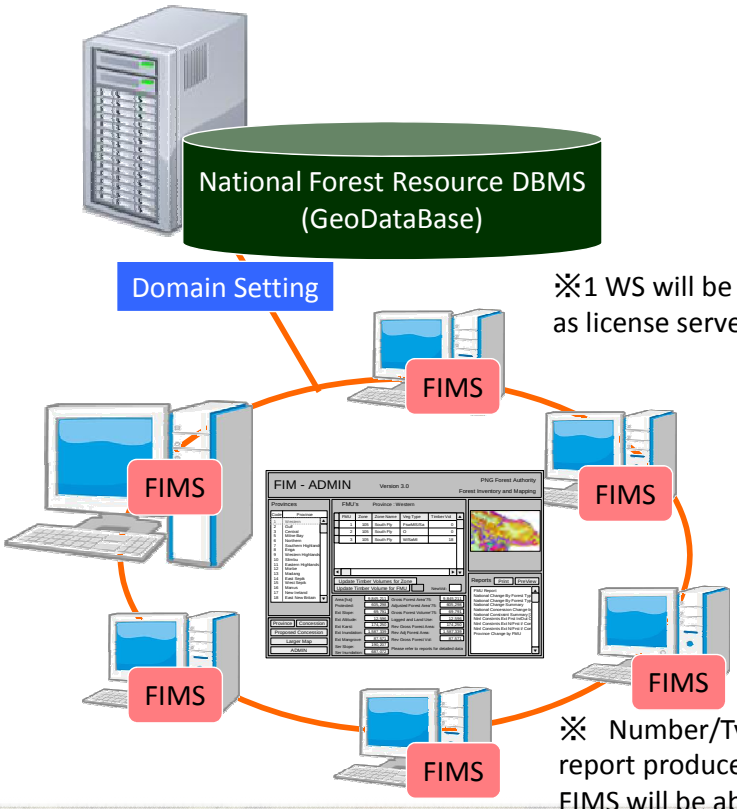
Centralized Management Sharing Data System

- ArcGISServer10.0 Standard/Enterprise
- SQL Server 2008 Standard Edition(English)

[Client WS]

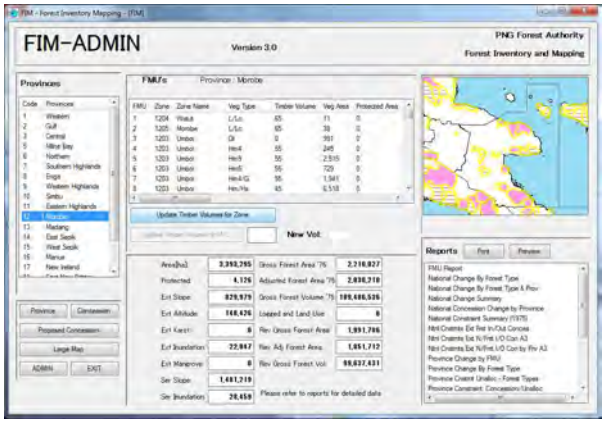
Viewing and Reporting from GIS WS in PNGFA

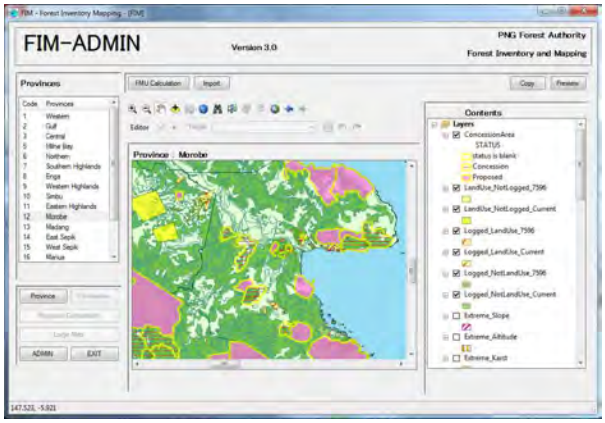
- ArcGIS Desktop10.0 ArcInfo 2 ArcEditor 2 ArcView 2
- Microsoft Office 2010 Professional(English)

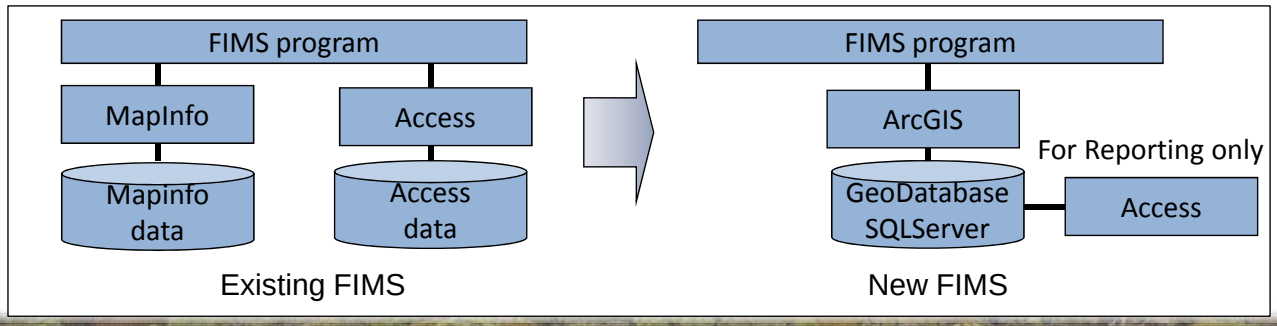


Integration of Attribute DB & Spatial/Map DB

GUI and the functions of the existing FIMS have been incorporated

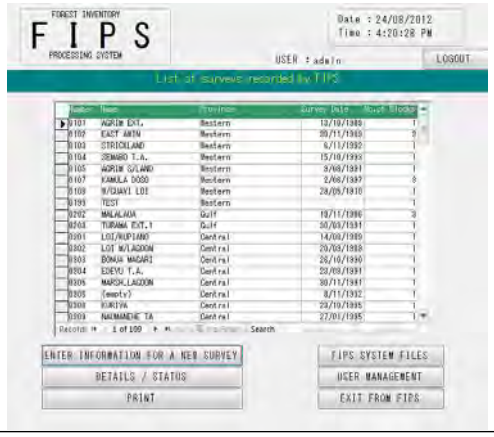


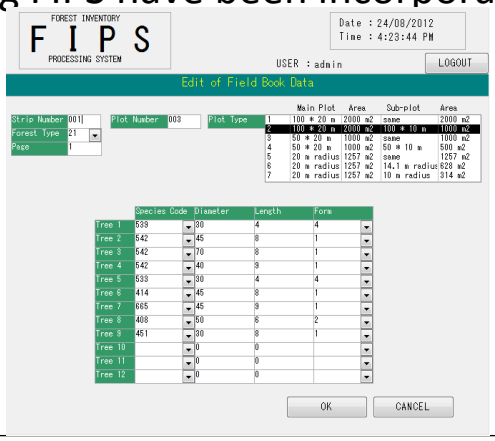


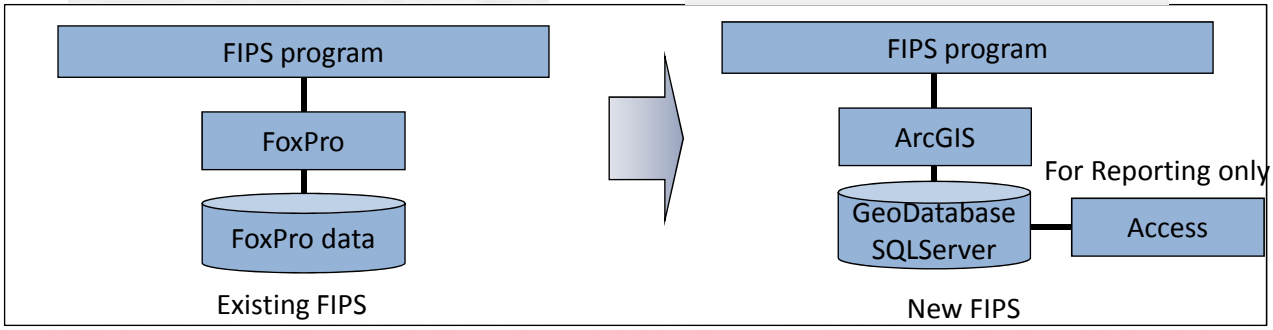


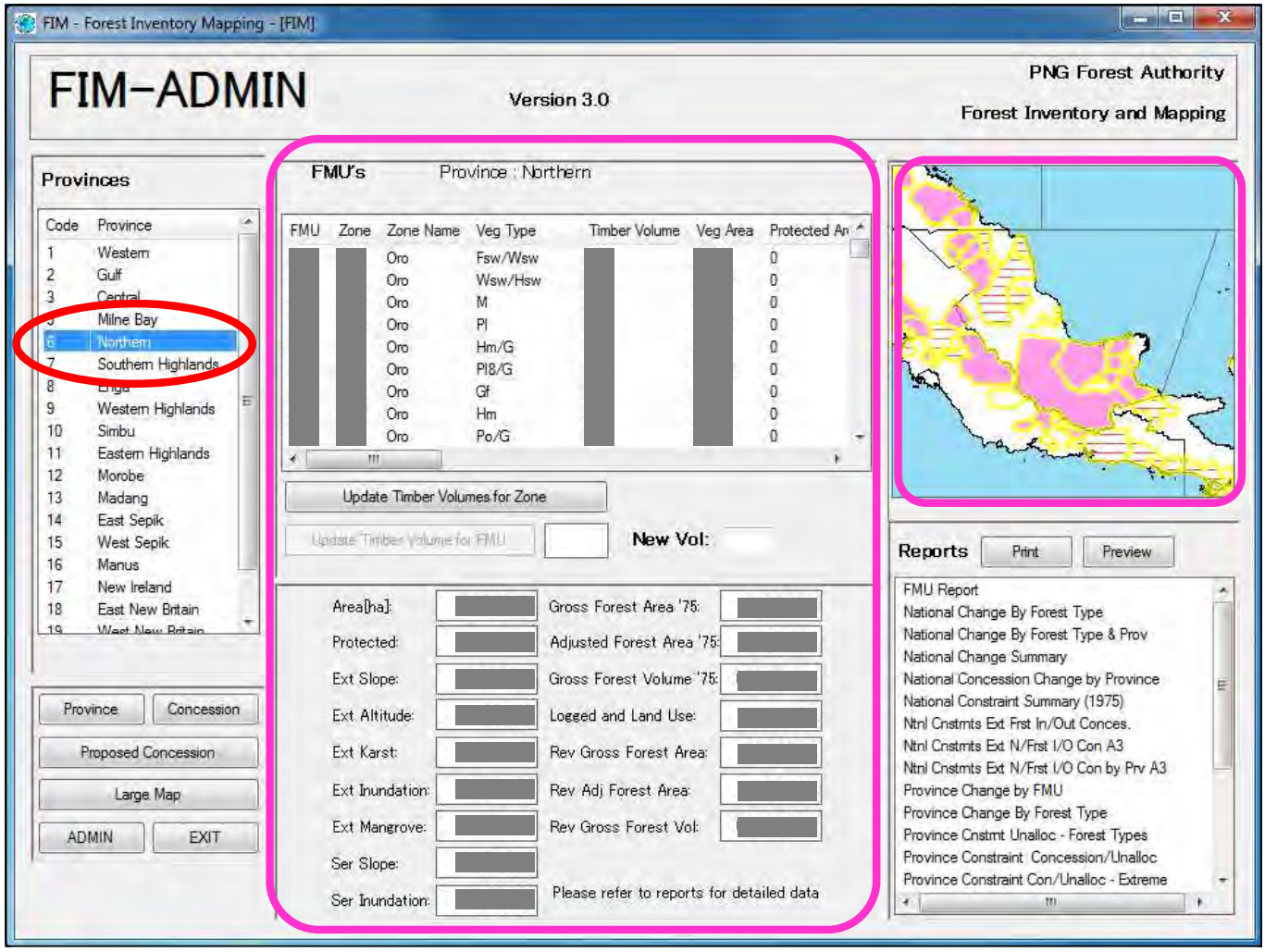
Upgrading Legacy DB to Up-to-date DB

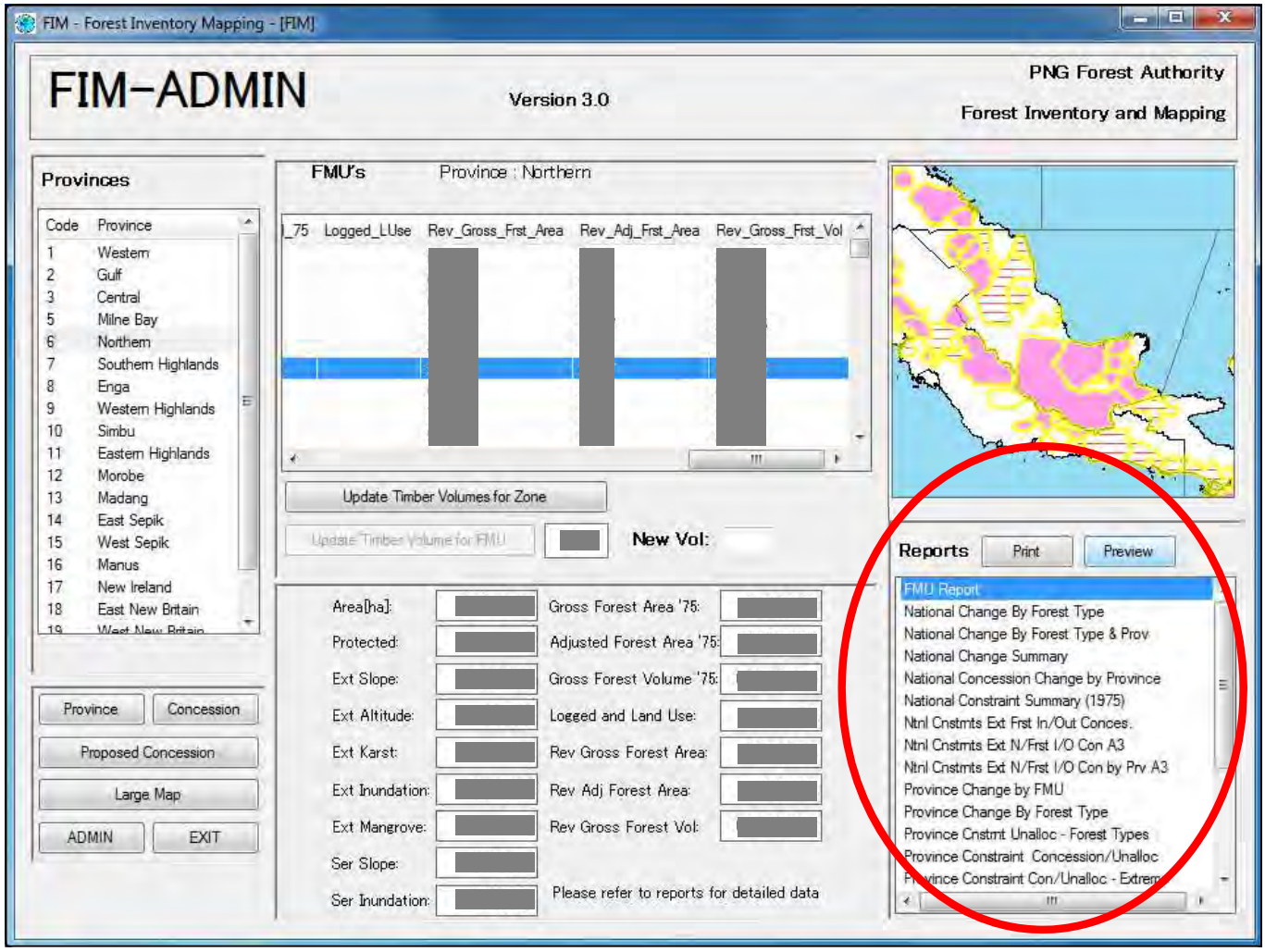
- GUI and the functions of the existing FIPS have been incorporated








FIM - Forest Inventory Mapping - [FIM]
FIM-ADMIN
Version 3.0
PNG Forest Authority
Forest Inventory and Mapping
Provinces
Code Province
1 Western
2 Gulf
3 Central
5 Milne Bay
6 Northern
7 Southern Highlands
8 Enga
9 Western Highlands
10 Simbu
11 Eastern Highlands
12 Morobe
13 Madang
14 East Sepik
15 West Sepik
16 Manus
17 New Ireland
18 East New Britain
Province
Concession
Proposed Concession
Large Map
ADMIN
EXIT
FMU's
Province : Northern
FMU Zone Zone Name Veg Type Timber Volume Veg Area Protected An
Oro Fsw/Wsw 0
Oro Wsw/Hsw 0
Oro M 0
Oro Pl 0
Oro Hm/G 0
Oro Pl8/G 0
Oro Gf 0
Oro Hm 0
Oro Po/G 0
Update Timber Volumes for Zone
Update Timber Volume for FMU
New Vol:
Area[ha]:
Protected:
Ext Slope:
Ext Altitude:
Ext Karst:
Ext Inundation:
Ext Mangrove:
Ser Slope:
Ser Inundation:
Gross Forest Area '75:
Adjusted Forest Area '75:
Gross Forest Volume '75:
Logged and Land Use:
Rev Gross Forest Area:
Rev Adj Forest Area:
Rev Gross Forest Vol:
Please refer to reports for detailed data
Reports
Print
Preview
FMU Report
National Change By Forest Type
National Change By Forest Type & Prov
National Change Summary
National Concession Change by Province
National Constraint Summary (1975)
Ntnl Cnstmts Ext Frst In/Out Conces.
Ntnl Cnstmts Ext N/Frst I/O Con A3
Ntnl Cnstmts Ext N/Frst I/O Con by Prv A3
Province Change by FMU
Province Change By Forest Type
Province Cnstmt Unalloc - Forest Types
Province Constraint Concession/Unalloc
Province Constraint Con/Unalloc - Extreme


FIM - Forest Inventory Mapping - [FIM]
FIM-ADMIN
Version 3.0
PNG Forest Authority
Forest Inventory and Mapping
Provinces
Code Province
1 Western
2 Gulf
3 Central
5 Milne Bay
6 Northern
7 Southern Highlands
8 Enga
9 Western Highlands
10 Simbu
11 Eastern Highlands
12 Morobe
13 Madang
14 East Sepik
15 West Sepik
16 Manus
17 New Ireland
18 East New Britain
Province
Concession
Proposed Concession
Large Map
ADMIN
EXIT
FMU's
Province : Northern
_75 Logged_LUse Rev_Gross_Frst_Area Rev_Adj_Frst_Area Rev_Gross_Frst_Vol
Update Timber Volumes for Zone
Update Timber Volume for FMU
New Vol:
Area[ha]:
Protected:
Ext Slope:
Ext Altitude:
Ext Karst:
Ext Inundation:
Ext Mangrove:
Ser Slope:
Ser Inundation:
Gross Forest Area '75:
Adjusted Forest Area '75:
Gross Forest Volume '75:
Logged and Land Use:
Rev Gross Forest Area:
Rev Adj Forest Area:
Rev Gross Forest Vol:
Please refer to reports for detailed data
Reports
Print
Preview
FMU Report
National Change By Forest Type
National Change By Forest Type & Prov
National Change Summary
National Concession Change by Province
National Constraint Summary (1975)
Ntnl Cnstmts Ext Frst In/Out Conces.
Ntnl Cnstmts Ext N/Frst I/O Con A3
Ntnl Cnstmts Ext N/Frst I/O Con by Prv A3
Province Change by FMU
Province Change By Forest Type
Province Cnstmt Unalloc - Forest Types
Province Constraint Concession/Unalloc

rpt_FMU

FIM - Forest Inventory and Mapping

FMU Report

02-Mar-2013

Province : Northern FMU : 6

Vegetation Type : PI8/G Complex - Large to medium crowned forest/Grassland

Zone : 602 Oro

		Total	Protected	Extreme Constraints					Serious Constraints		No Constraints
				>30°Slope	>2400m Altitude	Tower Karst	>60% Inundated	Mangroves	20-30°Slope &VH/High Relief	>50% Inundated	
Gross Area (ha)											
Protected Area Within Constraints (ha)											
Timber Volume (cu m/ha)											
1975	Gross Forest Area (ha)										
	Adjusted Forest Area (ha)										
	Gross Volume (cu m)										
Change 1975 - Current	Logged Over Area (ha)										
	Converted to Land Use :										
	Logged (ha)										
	Cleared (ha)										
Current	Gross Forest Area (ha)										
	Adjusted Forest Area (ha)										
	Gross Volume (cu m)										

1/1 Page

Page: 1 No Filter

FIM - Forest Inventory Mapping - [FIM]

FIM-ADMIN

Version 3.0

PNG Forest Authority

Forest Inventory and Mapping

Provinces

Code	Province
1	Western
2	Gulf
3	Central
5	Milne Bay
6	Northern
7	Southern Highlands
8	Enga
9	Western Highlands
10	Simbu
11	Eastern Highlands
12	Morobe
13	Madang
14	East Sepik
15	West Sepik
16	Manus
17	New Ireland
18	East New Britain
19	West New Britain

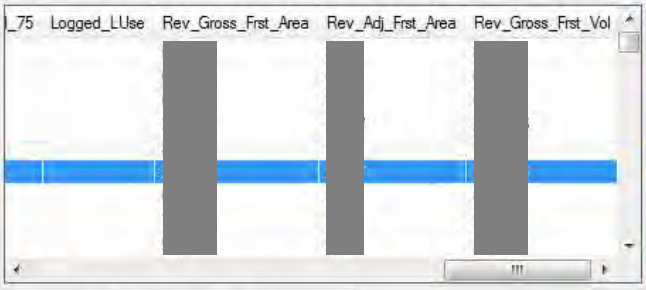
Province | Concession

Proposed Concession

Large Map

ADMIN | EXIT

FMU's Province : Northern



Update Timber Volumes for Zone

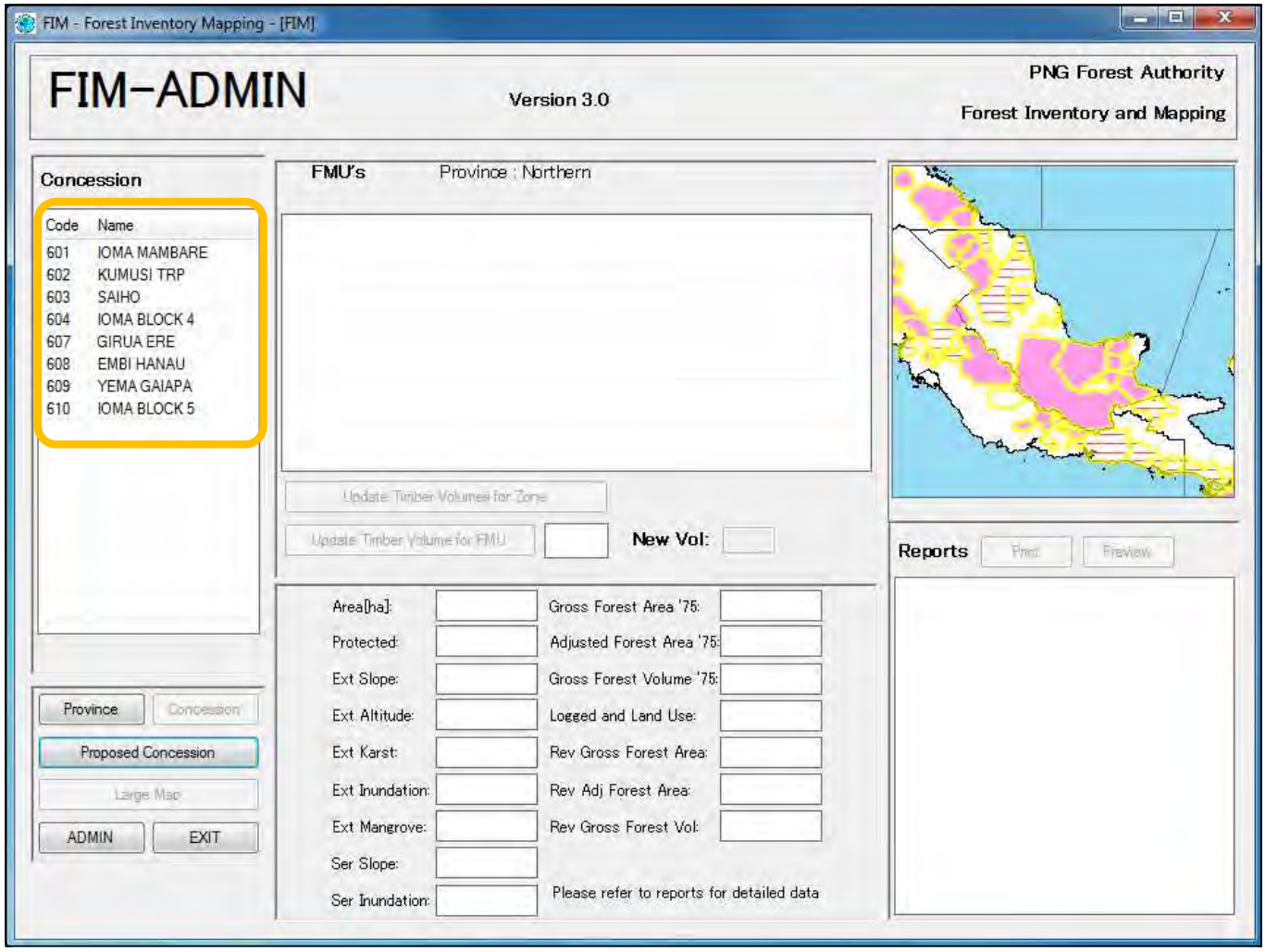
Update Timber Volume for FMU

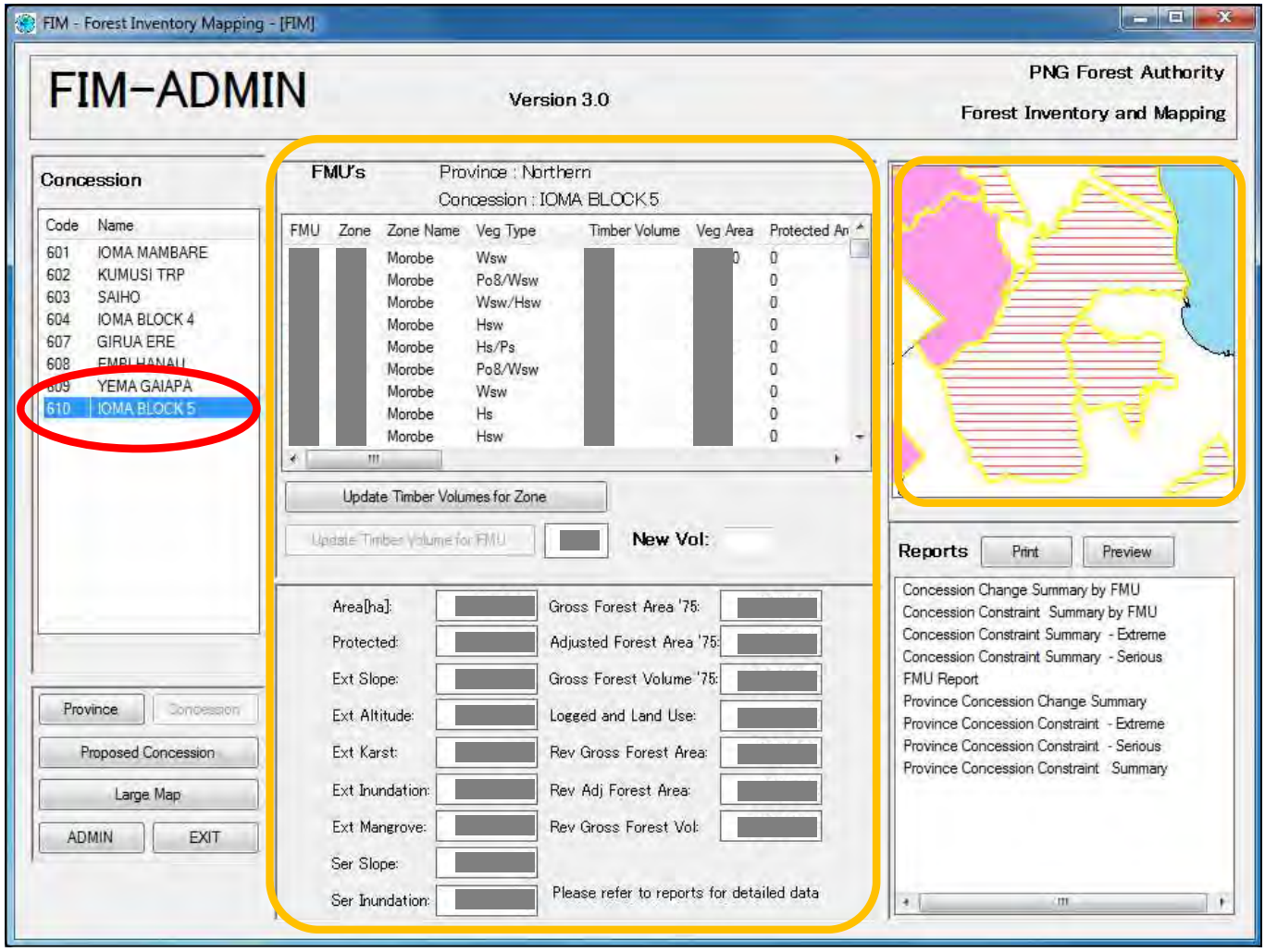
New Vol:

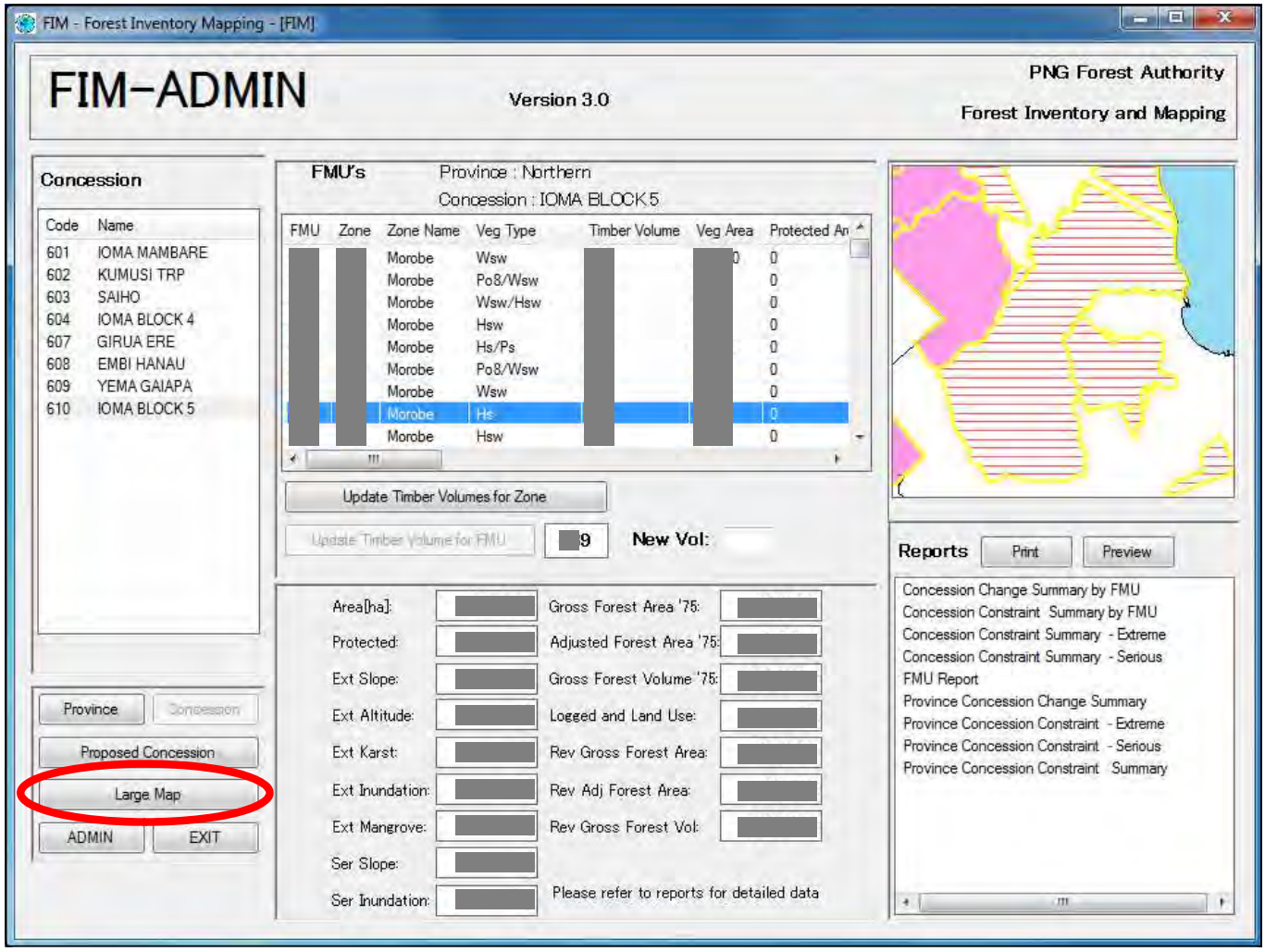
Area[ha]:		Gross Forest Area '75:	
Protected:		Adjusted Forest Area '75:	
Ext Slope:		Gross Forest Volume '75:	
Ext Altitude:		Logged and Land Use:	
Ext Karst:		Rev Gross Forest Area:	
Ext Inundation:		Rev Adj Forest Area:	
Ext Mangrove:		Rev Gross Forest Vol:	
Ser Slope:			
Ser Inundation:		Please refer to reports for detailed data	

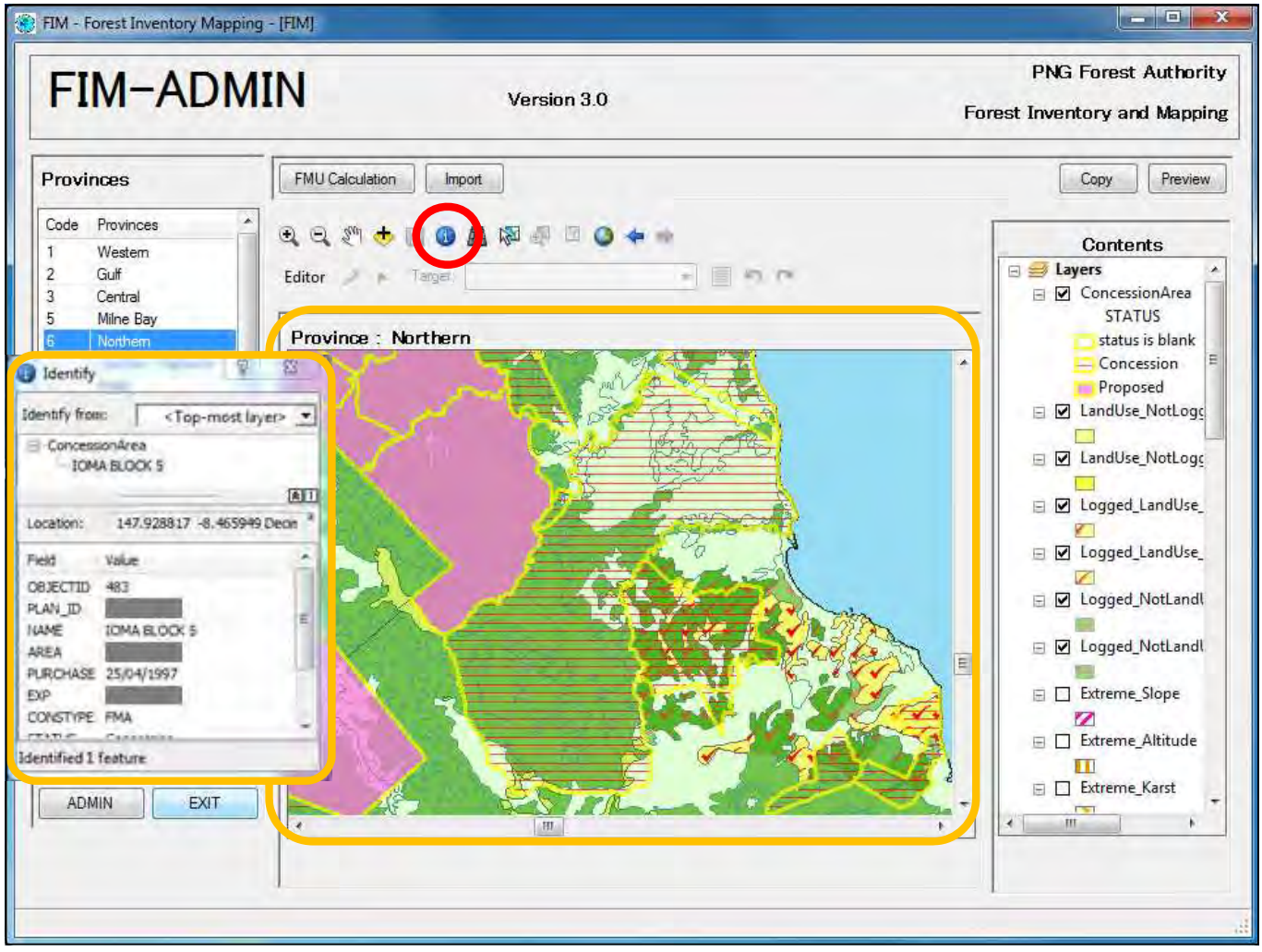
Reports Print | Preview

- FMU Report
- National Change By Forest Type
- National Change By Forest Type & Prov
- National Change Summary
- National Concession Change by Province
- National Constraint Summary (1975)
- Ntnl Cnstmts Ext Frst In/Out Conces.
- Ntnl Cnstmts Ext N/Frst I/O Con A3
- Ntnl Cnstmts Ext N/Frst I/O Con by Prv A3
- Province Change by FMU
- Province Change By Forest Type
- Province Cnstmt Unalloc - Forest Types
- Province Constraint Concession/Unalloc
- Province Constraint Con/Unalloc - Extreme

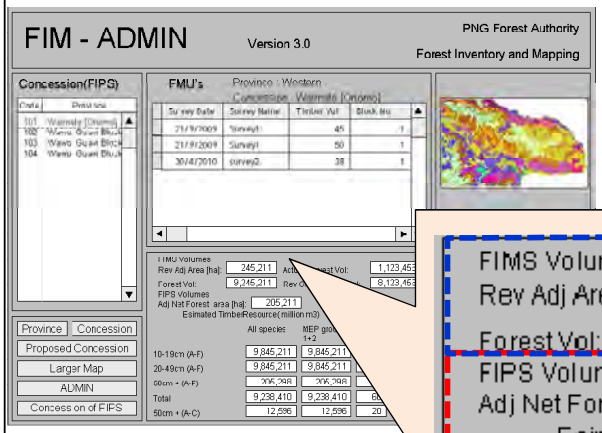

FIM - Forest Inventory Mapping - [FIM]
FIM-ADMIN
Version 3.0
PNG Forest Authority
Forest Inventory and Mapping
Concession
Code Name
601 IOMA MAMBARE
602 KUMUSI TRP
603 SAIHO
604 IOMA BLOCK 4
607 GIRUA ERE
608 EMBI HANAU
609 YEMA GAIAPA
610 IOMA BLOCK 5
FMU's
Province : Northern
Update Timber Volumes for Zone
Update Timber Volume for FMU
New Vol:
Area[ha]:
Protected:
Ext Slope:
Ext Altitude:
Ext Karst:
Ext Inundation:
Ext Mangrove:
Ser Slope:
Ser Inundation:
Gross Forest Area '75:
Adjusted Forest Area '75:
Gross Forest Volume '75:
Logged and Land Use:
Rev Gross Forest Area:
Rev Adj Forest Area:
Rev Gross Forest Vol:
Please refer to reports for detailed data
Reports
Print
Preview
Province
Concession
Proposed Concession
Large Map
ADMIN
EXIT


FIM - Forest Inventory Mapping - [FIM]
FIM-ADMIN
Version 3.0
PNG Forest Authority
Forest Inventory and Mapping
Concession
Code Name
601 IOMA MAMBARE
602 KUMUSI TRP
603 SAIHO
604 IOMA BLOCK 4
607 GIRUA ERE
609 YEMA GAIAPA
610 IOMA BLOCK 5
FMU's
Province : Northern
Concession : IOMA BLOCK 5
FMU Zone Zone Name Veg Type Timber Volume Veg Area Protected Ar
Morobe Wsw 0
Morobe Po8/Wsw 0
Morobe Wsw/Hsw 0
Morobe Hsw 0
Morobe Hs/Ps 0
Morobe Po8/Wsw 0
Morobe Wsw 0
Morobe Hs 0
Morobe Hsw 0
Update Timber Volumes for Zone
Update Timber Volume for FMU
New Vol:
Area[ha]:
Protected:
Ext Slope:
Ext Altitude:
Ext Karst:
Ext Inundation:
Ext Mangrove:
Ser Slope:
Ser Inundation:
Gross Forest Area '75:
Adjusted Forest Area '75:
Gross Forest Volume '75:
Logged and Land Use:
Rev Gross Forest Area:
Rev Adj Forest Area:
Rev Gross Forest Vol:
Please refer to reports for detailed data
Reports
Print
Preview
Concession Change Summary by FMU
Concession Constraint Summary by FMU
Concession Constraint Summary - Extreme
Concession Constraint Summary - Serious
FMU Report
Province Concession Change Summary
Province Concession Constraint - Extreme
Province Concession Constraint - Serious
Province Concession Constraint Summary
Province
Concession
Proposed Concession
Large Map
ADMIN
EXIT


FIM - Forest Inventory Mapping - [FIM]
FIM-ADMIN
Version 3.0
PNG Forest Authority
Forest Inventory and Mapping
Concession
Code Name
601 IOMA MAMBARE
602 KUMUSI TRP
603 SAIHO
604 IOMA BLOCK 4
607 GIRUA ERE
608 EMBI HANAU
609 YEMA GAIAPA
610 IOMA BLOCK 5
FMU's
Province : Northern
Concession : IOMA BLOCK 5
FMU Zone Zone Name Veg Type Timber Volume Veg Area Protected An
Morobe Wsw 0
Morobe Po8/Wsw 0
Morobe Wsw/Hsw 0
Morobe Hsw 0
Morobe Hs/Ps 0
Morobe Po8/Wsw 0
Morobe Wsw 0
Morobe Hs 0
Morobe Hsw 0
Update Timber Volumes for Zone
Update Timber Volume for FMU
9
New Vol:
Area[ha]:
Protected:
Ext Slope:
Ext Altitude:
Ext Karst:
Ext Inundation:
Ext Mangrove:
Ser Slope:
Ser Inundation:
Gross Forest Area '75:
Adjusted Forest Area '75:
Gross Forest Volume '75:
Logged and Land Use:
Rev Gross Forest Area:
Rev Adj Forest Area:
Rev Gross Forest Vol:
Please refer to reports for detailed data
Province
Concession
Proposed Concession
Large Map
ADMIN
EXIT
Reports
Print
Preview
Concession Change Summary by FMU
Concession Constraint Summary by FMU
Concession Constraint Summary - Extreme
Concession Constraint Summary - Serious
FMU Report
Province Concession Change Summary
Province Concession Constraint - Extreme
Province Concession Constraint - Serious
Province Concession Constraint Summary


FIM - Forest Inventory Mapping - [FIM]
FIM-ADMIN
Version 3.0
PNG Forest Authority
Forest Inventory and Mapping
Provinces
Code Provinces
1 Western
2 Gulf
3 Central
5 Milne Bay
6 Northern
FMU Calculation
Import
Copy
Preview
Editor
Target:
Province : Northern
Contents
Layers
ConcessionArea
STATUS
status is blank
Concession
Proposed
LandUse_NotLogg
LandUse_NotLogg
Logged_LandUse_
Logged_LandUse_
Logged_NotLandU
Logged_NotLandU
Extreme_Slope
Extreme_Altitude
Extreme_Karst
Identify
Identify from:
<Top-most layer>
ConcessionArea
IOMA BLOCK 5
Location:
147.928817 -8.465949 Decin
Field Value
OBJECTID 483
PLAN_ID
NAME IOMA BLOCK 5
AREA
PURCHASE 25/04/1997
EXP
CONSTYPE FMA
Identified 1 feature
ADMIN
EXIT

Management of Forest Resource Data



From FIMS

From Logging Company

From FIPS

FIMS Volumes			
Rev Adj Area [ha]:	245,211	Actual harvest Vol:	1,123,456
Forest Vol:	9,245,211	Rev Gross Forest Vol:	8,123,456

FIPS Volumes

Adj Net Forest area [ha]: 205,211

Esimated TimberResource (million m3)

	All species	MEP group 1+2	Gross Volume (m3/ha) All spe	MEP grp 1+2
10-19cm (A-F)	9,845,211	9,845,211	45	45
20-49cm (A-F)	9,845,211	9,845,211	30	30
50cm + (A-F)	205,298	205,298	30	30
Total	9,238,410	9,238,410	60	60
50cm + (A-C)	12,596	12,596	20	20

Management of Forest Resource Data

Folder construction rule

File type	Folder name	Description
Satellite & airborne imagery (original /pre-analysis data)	01_Satellite	Satellite imagery
	02_Airbone	Airborne data
	03_DEM	Satellite imagery (DEM)
	04_TopoMAP	Topographic Survey map
Field survey data	11_FieldSurvey	Field survey data
Analysis data	21_TopoAnalyst	Topological analysis data
	22_SatelliteAnalyst	Satellite imagery analysis data
Thematic data	31_ForestMap	National forest basemaps
	32_CarbonStock	Carbon stock data
Other thematic and its parts data	41_Thematic	Other thematic data
	42_Boundary	Boundary data
	43_Planning	Planning data
Other spatial data	51_Others	Other spatial data
Map layout & output data	71_MapLayout	Map layout (Map document file)
	72_Output	Report file/Exported map
Exsisting system & data sets	81_FIMS	FIMS
	82_FIPS	FIPS
	83_PNGRIS	PNGRIS
	84_Geobooks	Geobook data produced by UPNG
	85_MRA	Spatial data produced by MRA
	86_NWS	Spatial data produced by NWS
	87_FreeData	Other free data
Other documents	91_Documents	Other documents

File naming rule

Map Publishing over PNGFA Intranet

To Share FIMS map within PNGFA HQ

- You can see the map stored in the new FIMS through a Web Browser without ArcGIS.
- No access to the map through Internet from outside. (Access from only inside PNGFA HQ)
- This map shows Rapid Eye Image (Satellite Image), Concession Area, and FMU
- Currently, MD, Directors and JICA Project member can access to the map.

http://192.168.1.167/flexviewers/ConcessionAreaMap/

Map Publishing over PNGFA Intranet

Open the map

You can zoom in / out the map using mouse scroll wheel.

You can pan the map using the left mouse button.

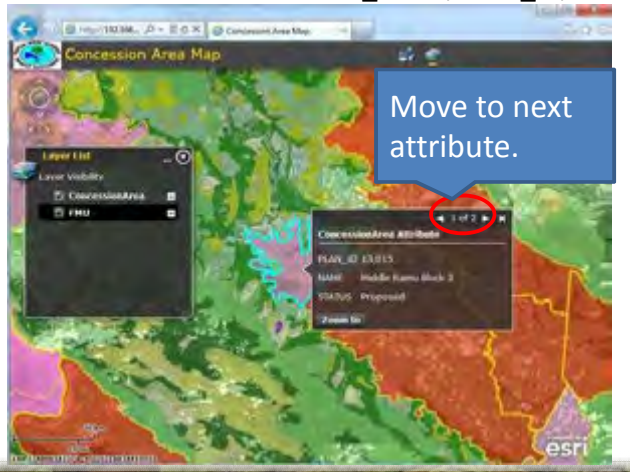
See the attribute of layer

You click on the map, then attribute window will open.

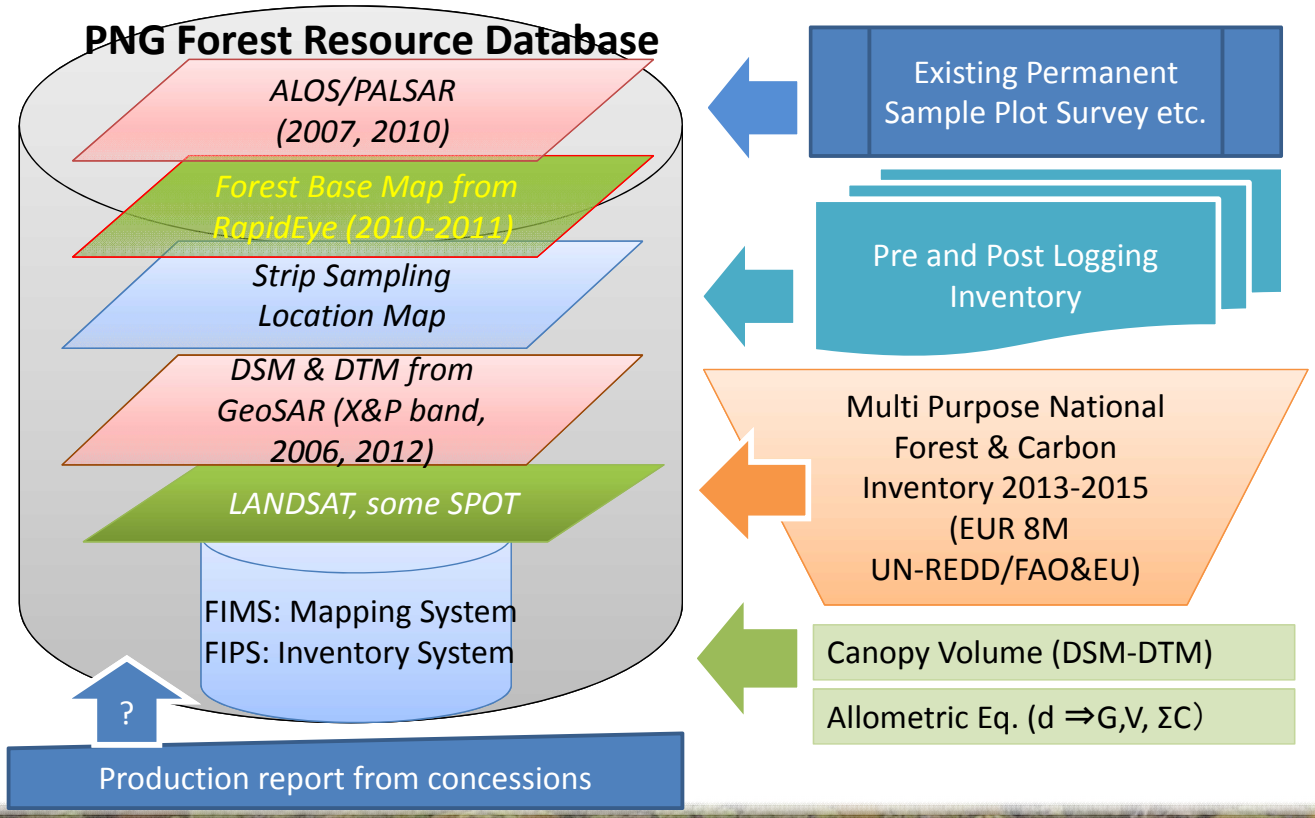
You can see following attributes

Concession Area : PlanID, Name, Status (concession or proposed)

FMU : PROVINCE_CODE, FMU_ID, ZONE_CODE, Vegetation_Type, TimberVolume (vol/ha)



Database Layers and Future Incorporations



Summary

- Forest Resource Database was developed and operated by Integration of existing FIMS & FIPS
- New FIMS (full Integration of Attribute DB & Spatial DB) was developed and operated
- New FIPS (upgrading from FoxPro to MS SQL Server base) was developed and operated
- Management System (Structure & Rule) of Forest Resource Data was developed and operated
- Map Publishing over PNGFA Intranet was developed and operated
- Database Layers are stored and Future Incorporations were identified and planned