Forest Change Detection in Fiji as Wall to Wall Mapping

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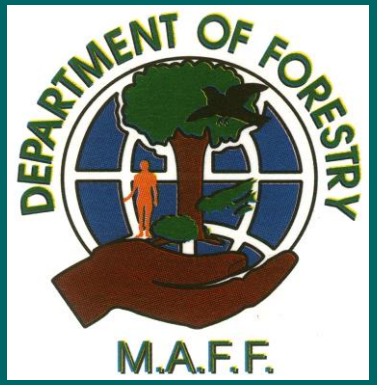
REDD+ Fiji
Fiji Forestry Department

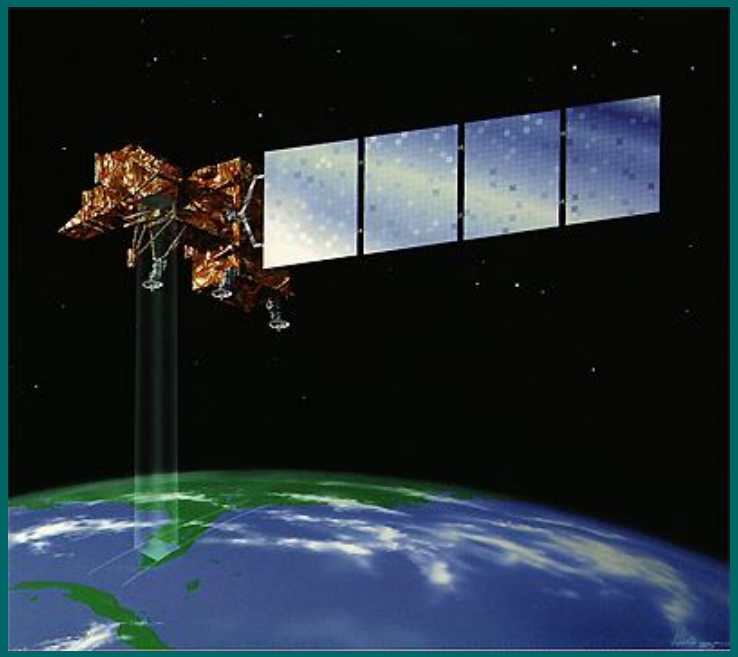


REDD+ Fiji

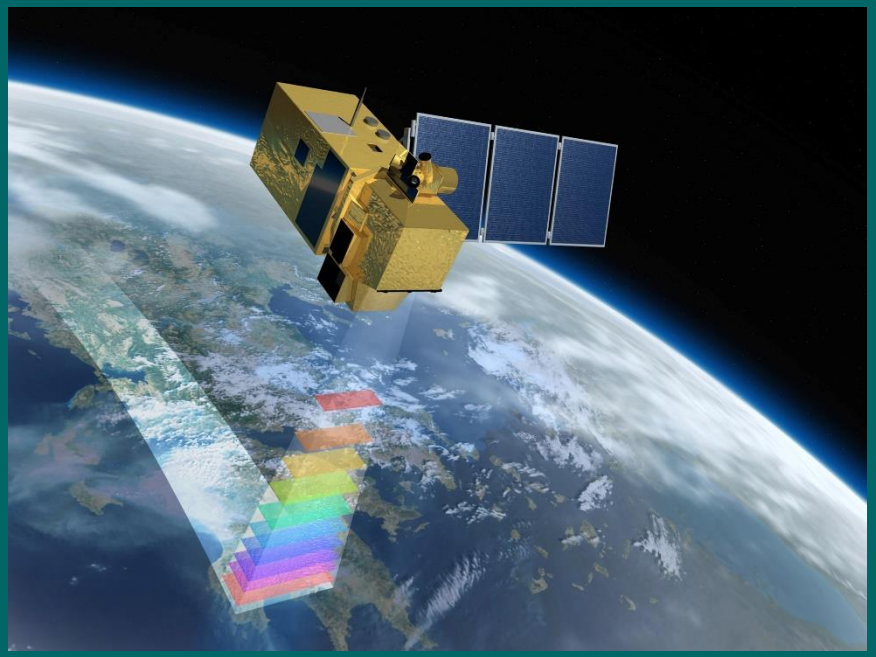
- Financed by World Bank
- Since ..
- University Hamburg subcontracted Geoinformatics Section of SPC:

→ Deforestation area 2006 - 2016

Free Image Data Sources

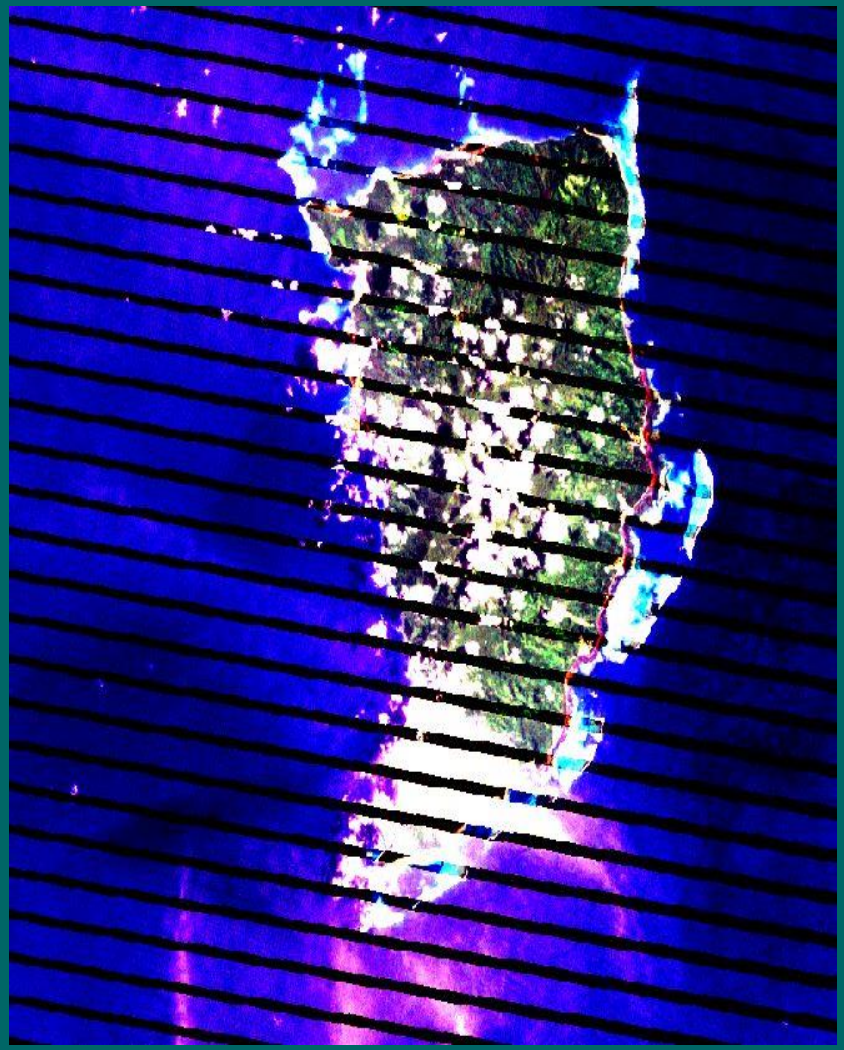


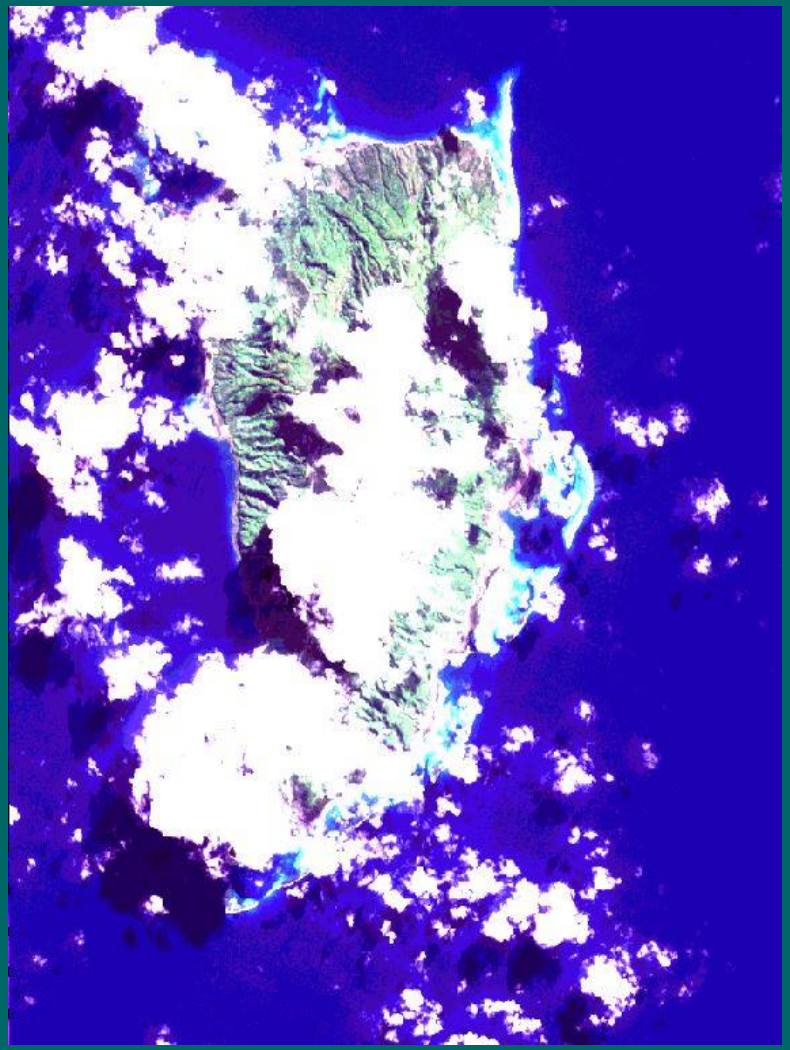
Landsat 7 and 8



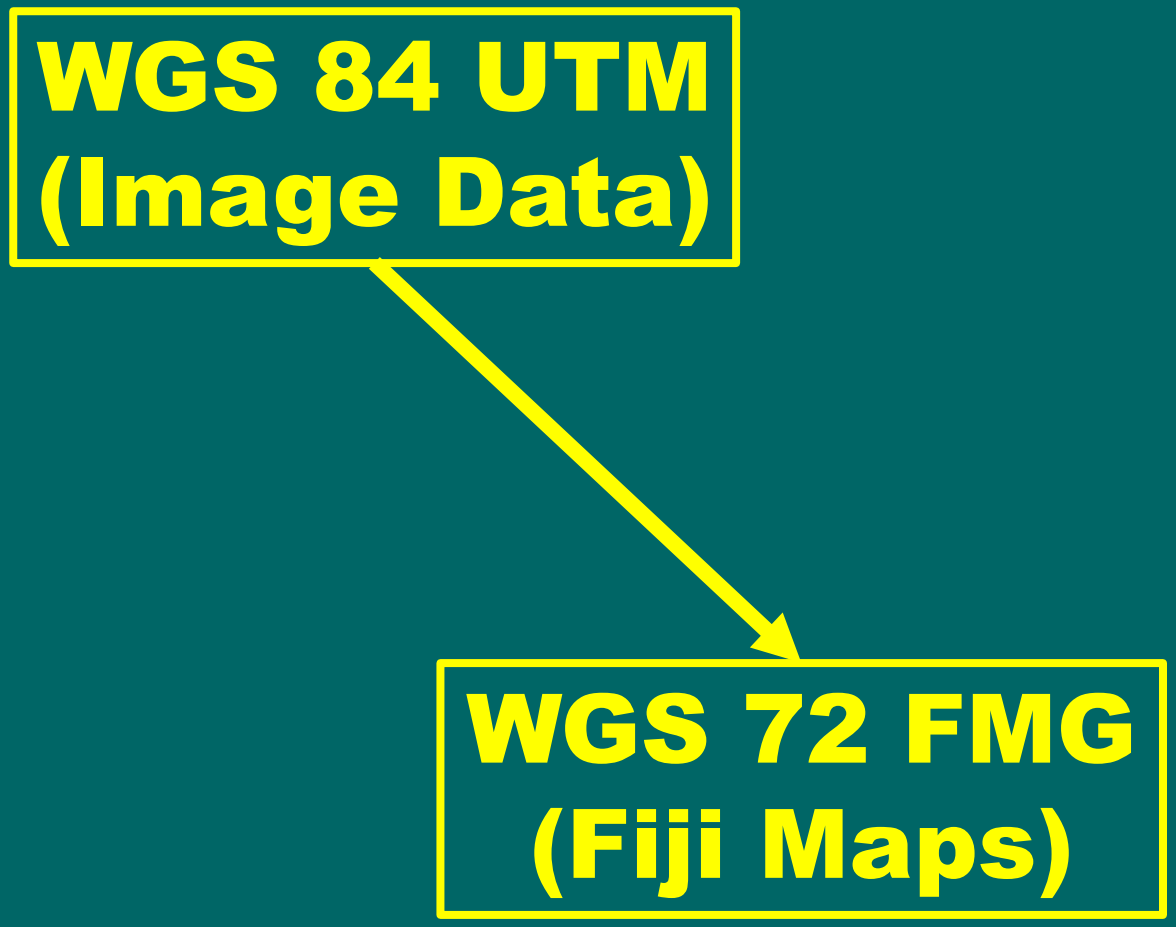
Sentinel 2

De-Striping Landsat 7

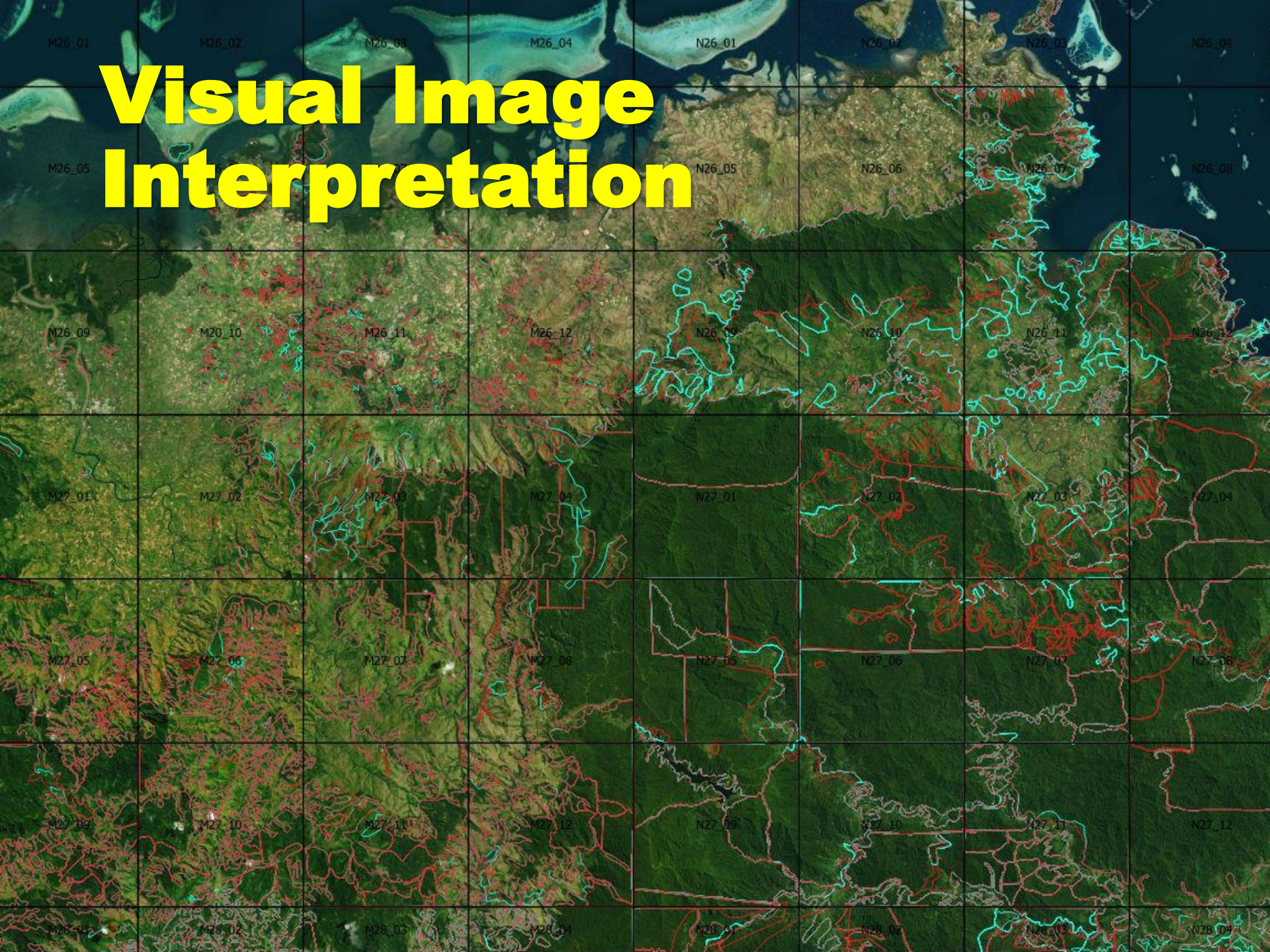




Geometric Correction

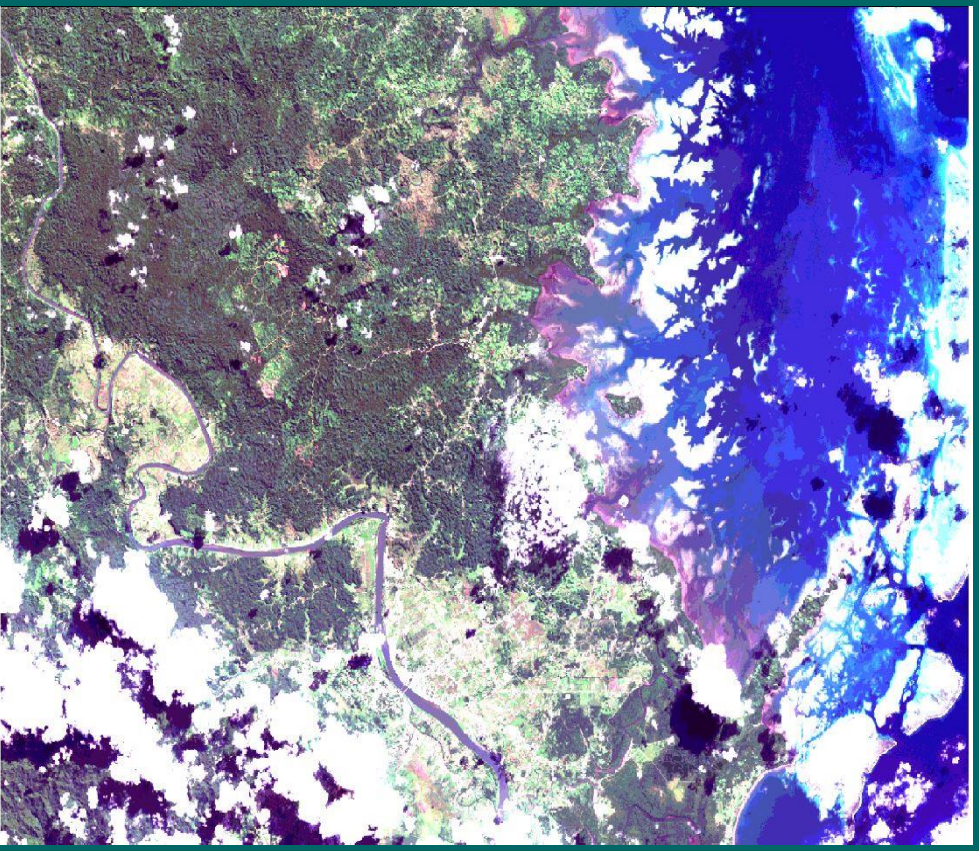


Atmospheric Correction

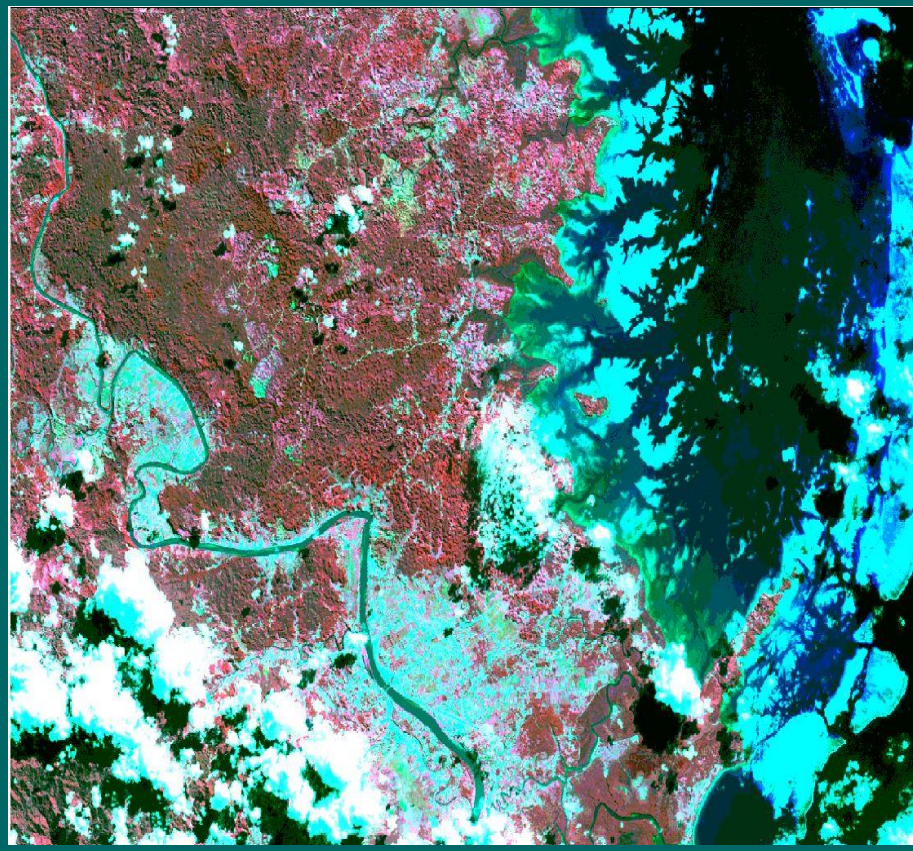

Visual Image Interpretation

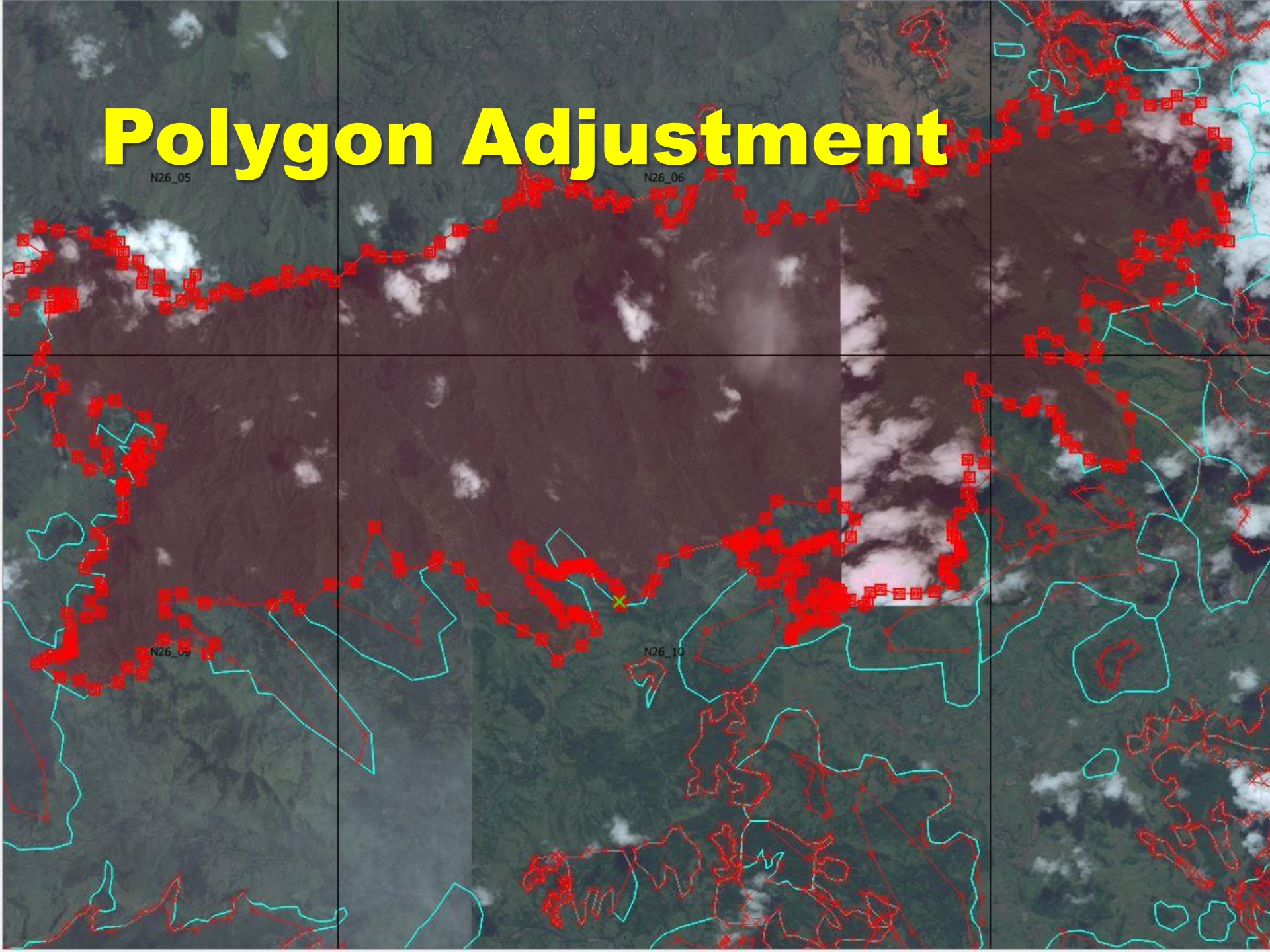
Toggle Between Display

Landsat Natural Colour 1, 2, 3

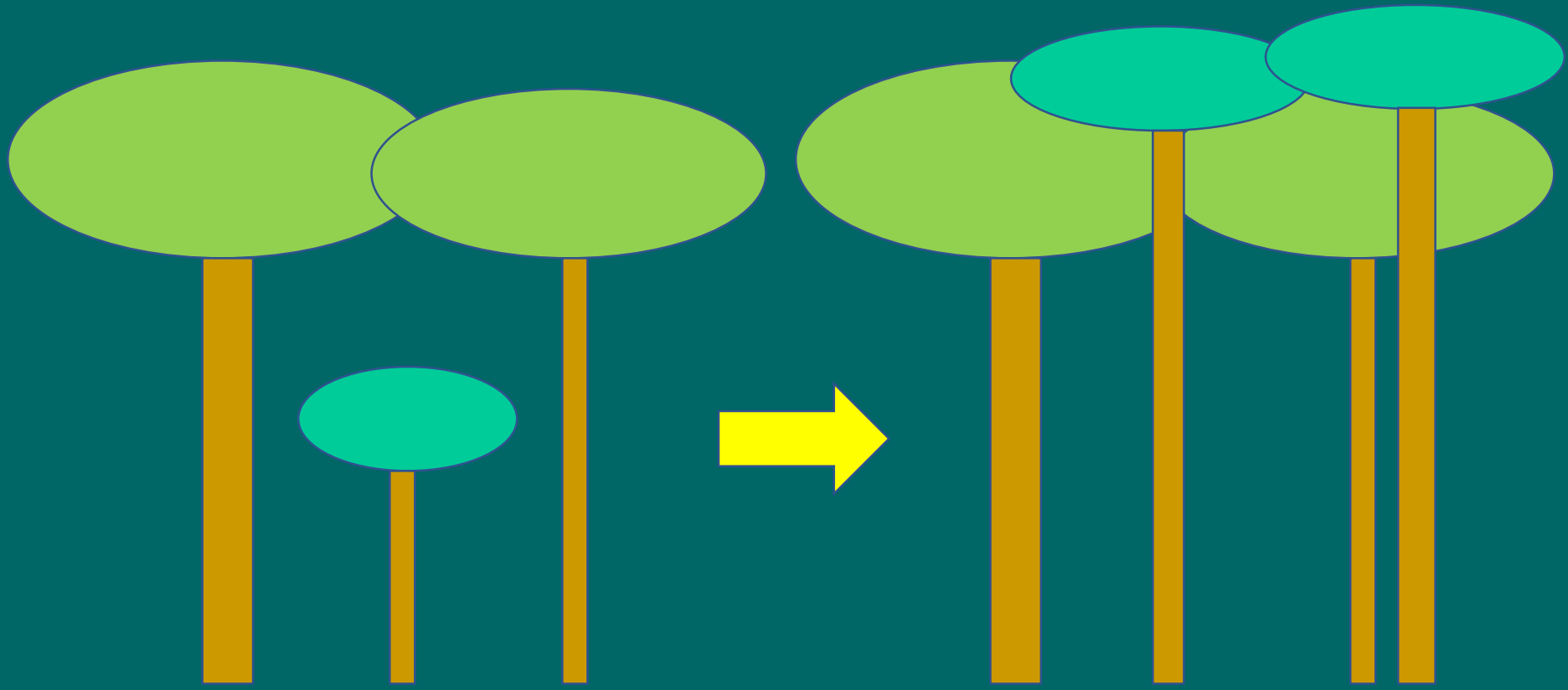


Landsat False Colour IR 2, 3, 4

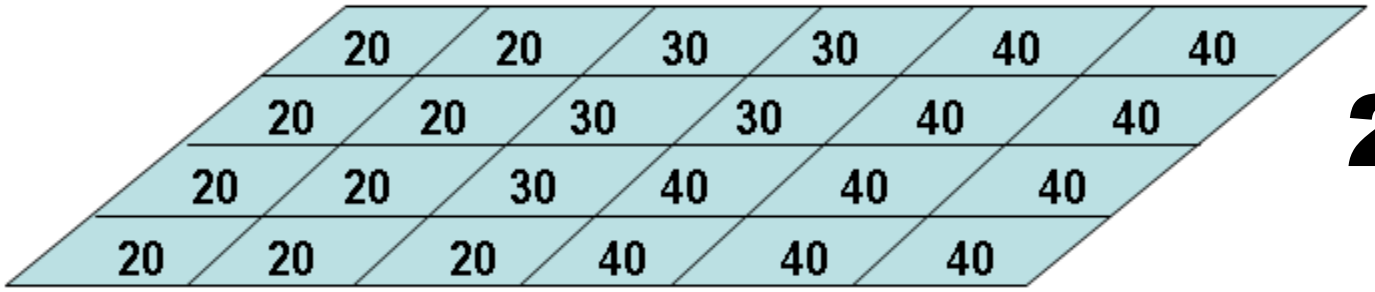



Polygon Adjustment
N26_05
N26_06
N26_09
N26_10

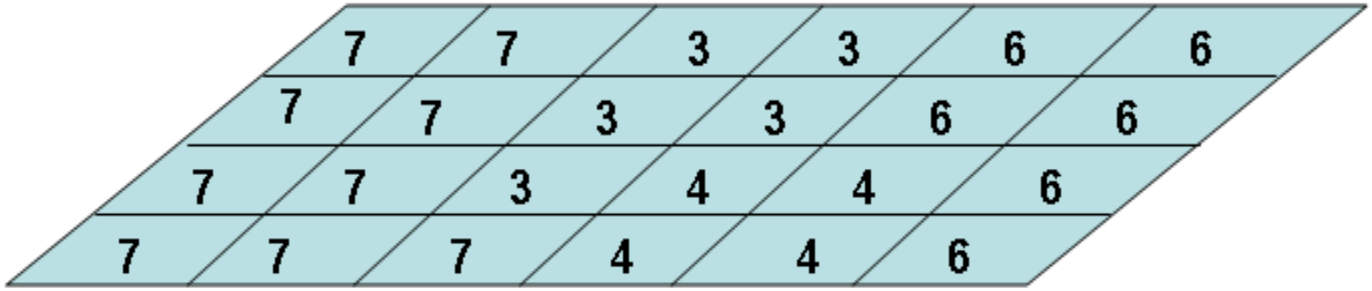
Mahogany Plantations



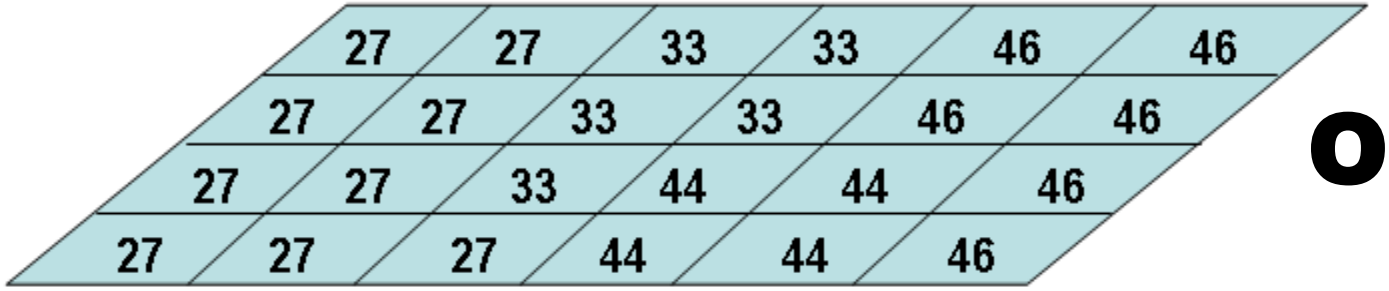
Overlay Analysis



2006

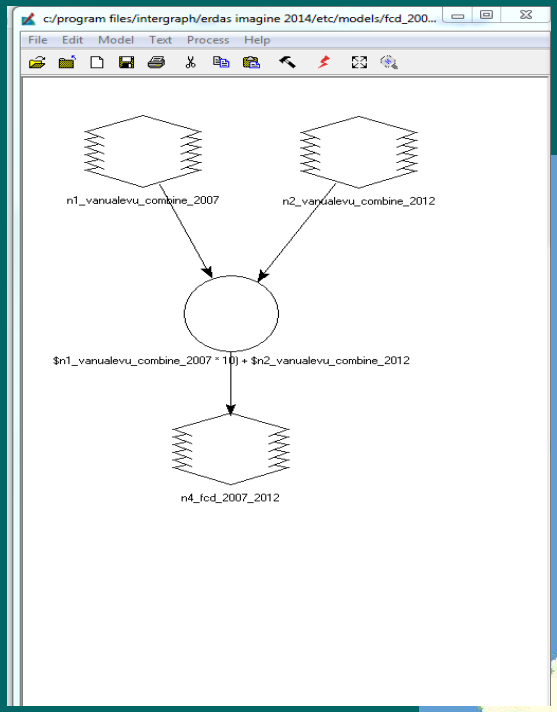


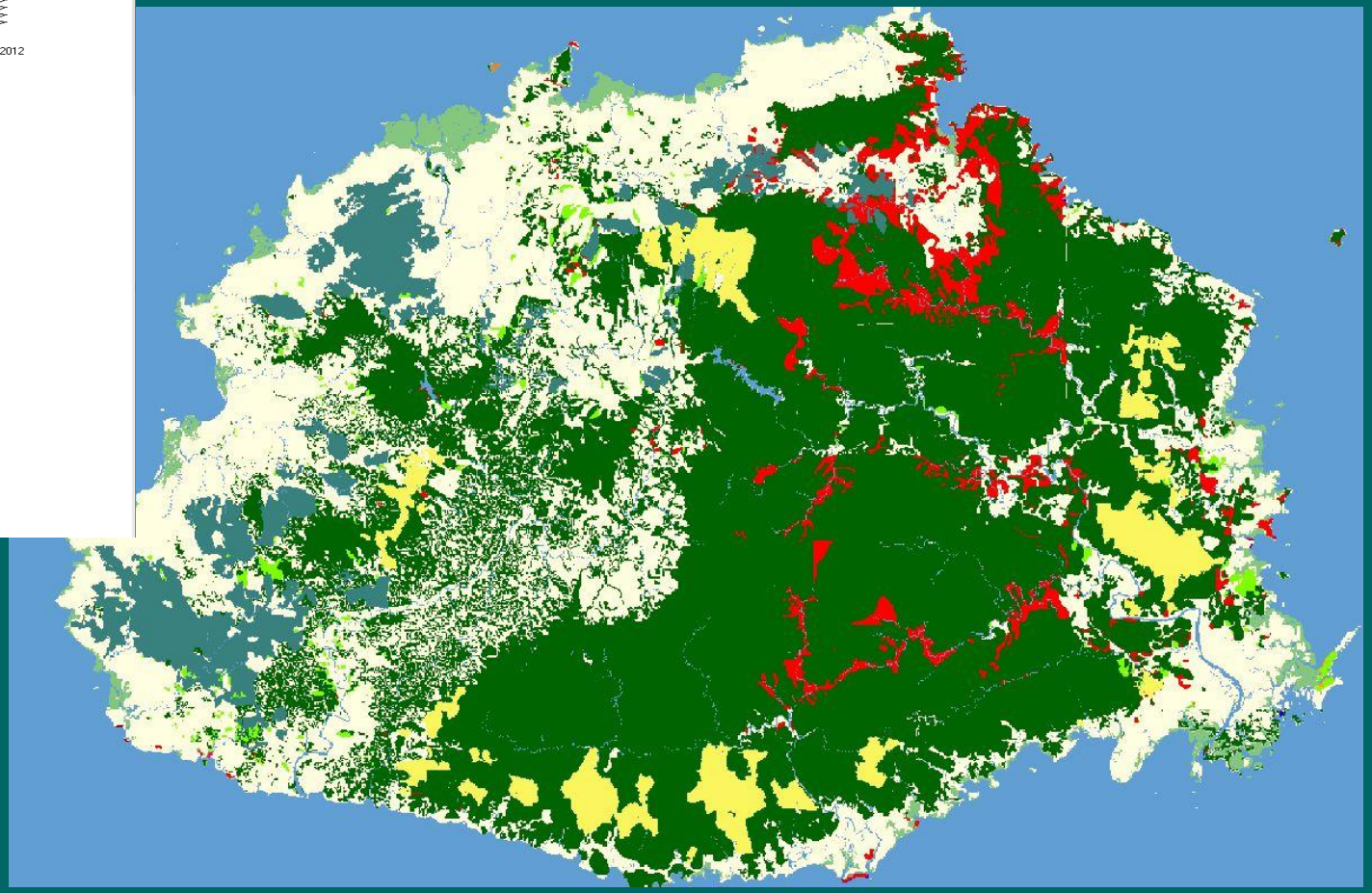
2016



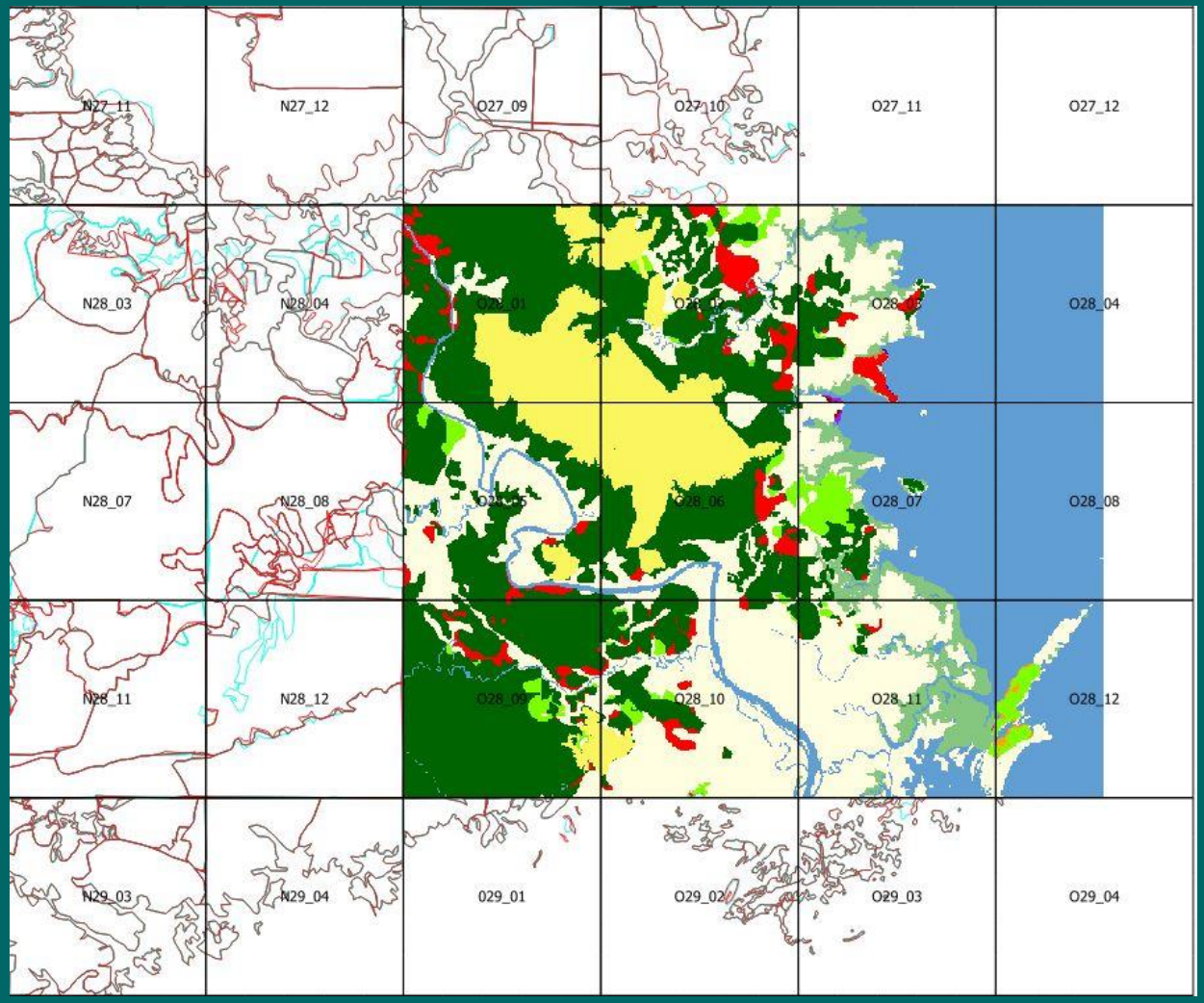
Output

Overlay Analysis in ERDAS Spatial Modeler





Cutting map sheets files



Classes:

Available as Output	Used
1. Natural Forest	1. Forest
2. Mangrove	
3. Hardwood Plantation	2. Plantation
4. Pine Plantation	
5. (Coconut Plantation)	3. None Forest
6. None Forest	
7. Water	4. Water

Area Analysis

CHDE_Vanualevu_2007_2012

ID	ClassName	NoPixels	Hectares	Click to Add
11	Forest 2007 and Forest 2012	5597382	349836	
12	Forest 2007 and Mangrove 2012	11628	727	
15	Forest 2007 and Coconut 2012	22708	1419	
17	Forest 2007 and Non-Forest 2012	287680	17980	
21	Mangrove 2007 and Forest 2012	1436	90	
22	Mangrove 2007 and Mangrove 2012	420949	26309	
25	Mangrove 2007 and Coconut 2012	42	3	
27	Mangrove 2007 and Non-Forest 2012	880	55	
33	Pine 2007 and Pine 2012	356428	22277	
44	Mahogany 2007 and Mahogany 2012	215025	13439	
51	Coconut 2007 and Forest 2012	6470	404	
52	Coconut 2007 and Mangrove 2012	1216	76	
55	Coconut 2007 and Coconut 2012	153802	9613	
66	Water Body 2007 and Water Body 2012	78422	4901	
71	Non forest and Forest 2012	139683	8730	
72	Non forest 2007 and Mangrove 2012	4220	264	
77	Non-Forest 2007 and Non-Forest 2012	23575773	1473486	
*			0	

Accuracy Assessment

- Interpretation of same area by different interpreter
- Data check with random check points
- Follow comments after web display
- Field verification of critical areas
- Accuracy assessment through different consultant company

Thanks