

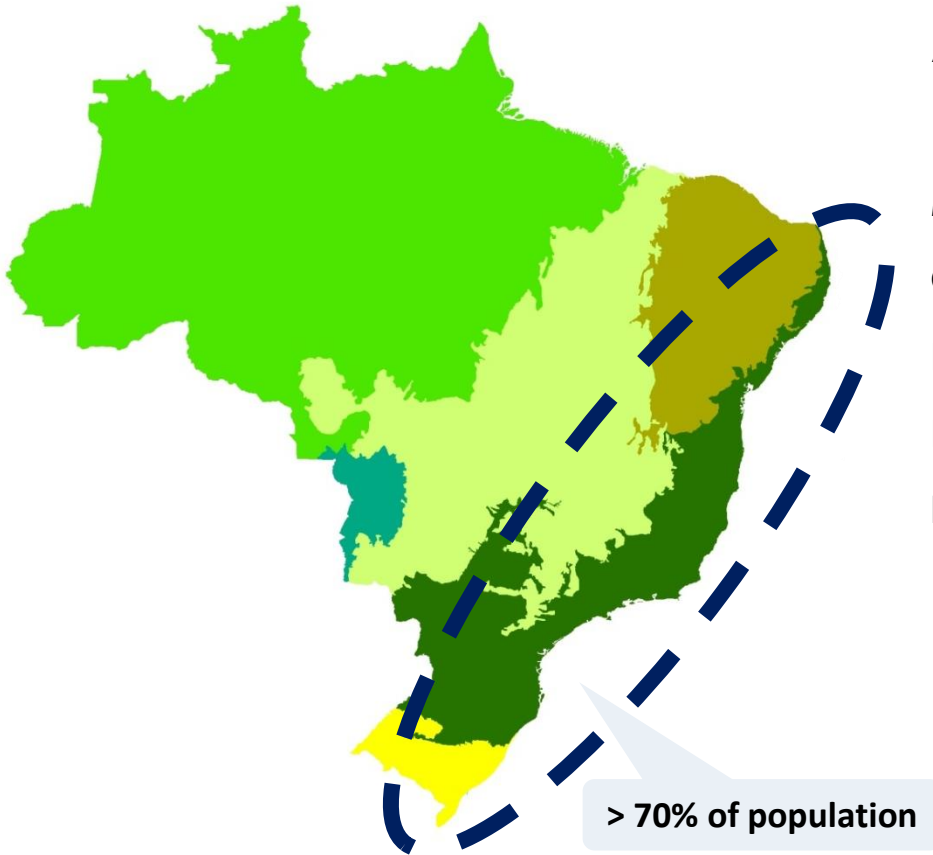
*Expert Group Meeting on Tools and Modeling
Approaches for Experimental Ecosystem Accounting*

Brazil

New York, EUA, November 18th, 2013



FACTS ABOUT BRAZIL



Political system: Presidential Federal Republic

Area: 851 million ha (5^o)

Population: 191 million (5^o)

Municipalities: 5,564

GDP: US\$ 2.5 trillion (6^o)

Forest area: ~ 460 million ha (2^o)

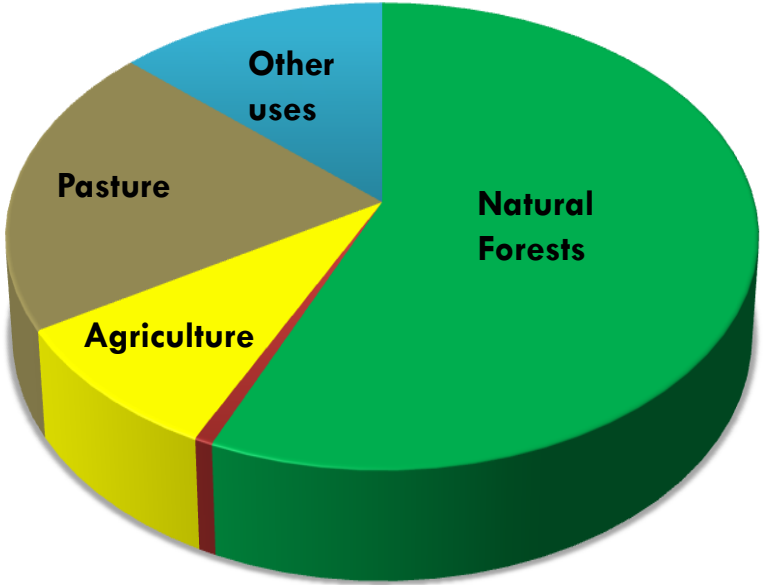
Forest area *per capita*: 2.4 ha

Indigenous people: 305 groups (900 k people)

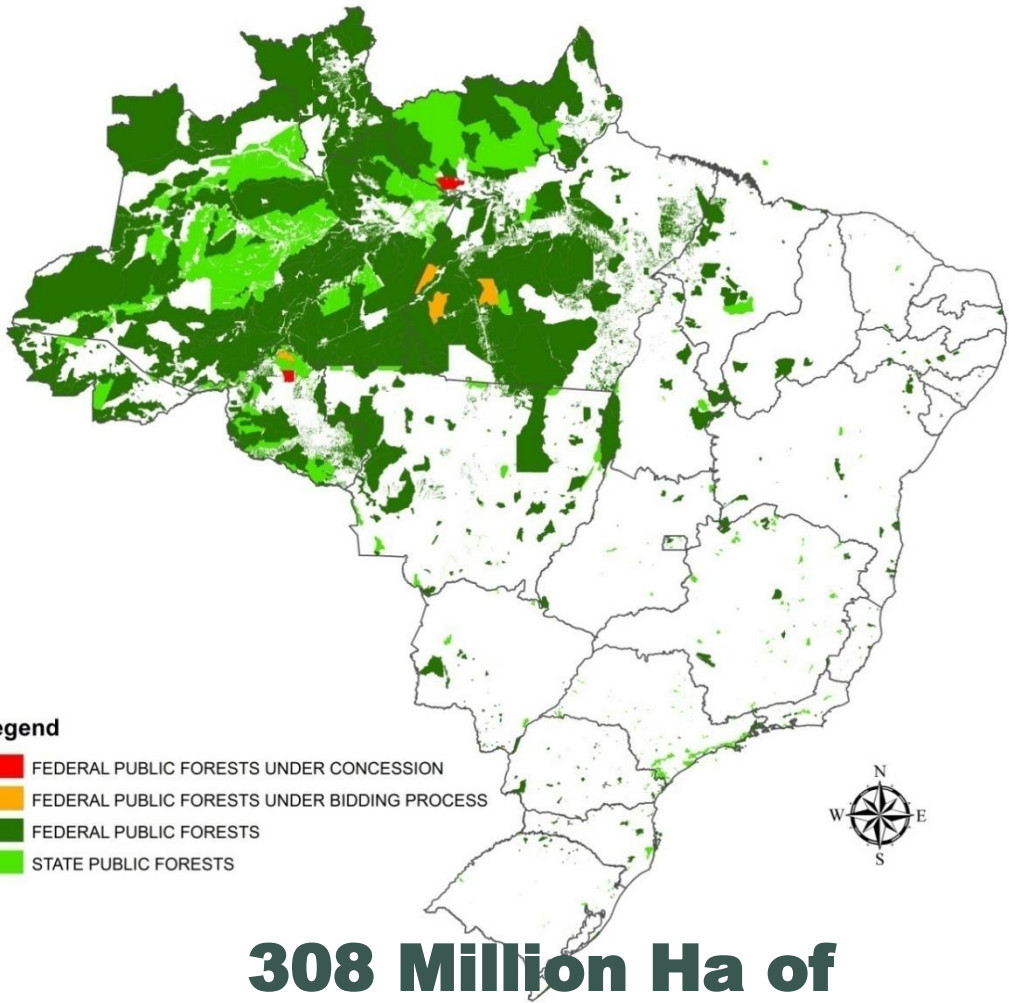


LAND USE IN BRAZIL

Forests occupy more than 54% of the total area of the country.



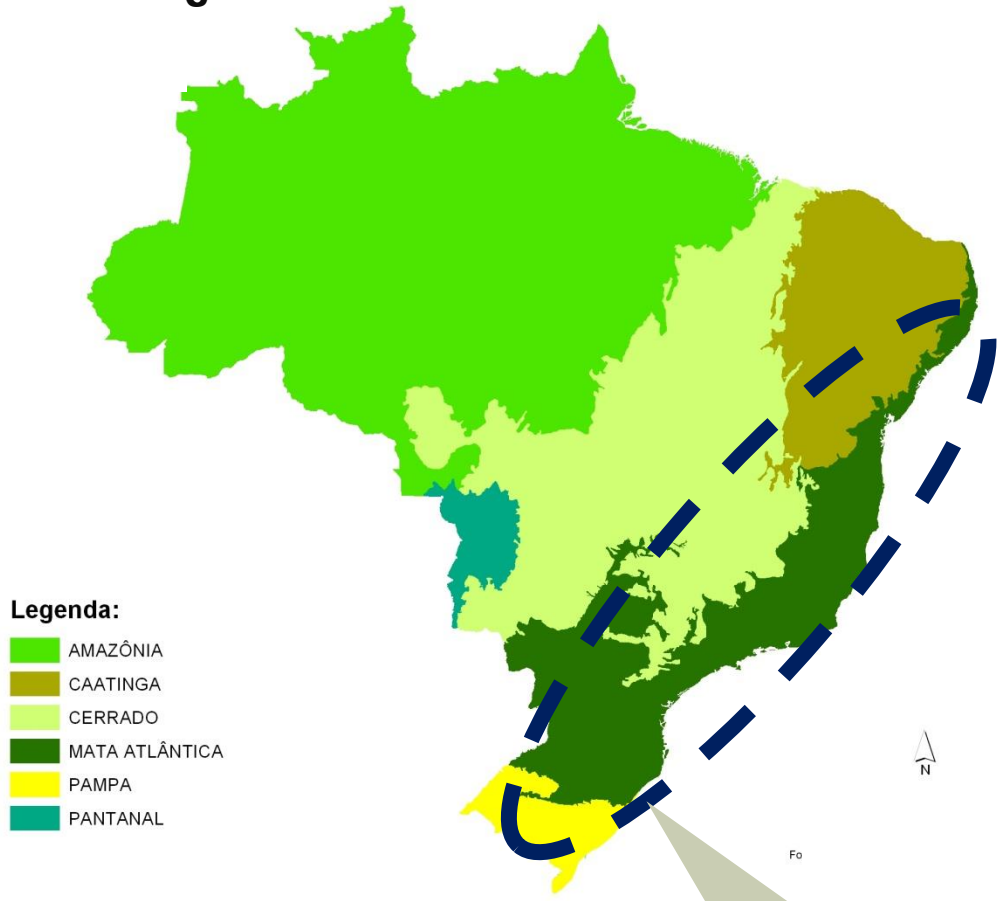
Plantation forests



308 Million Ha of Public Forests

Brazilian Forests

Brazilian Vegetation



- Legenda:**
- AMAZÔNIA
 - CAATINGA
 - CERRADO
 - MATA ATLÂNTICA
 - PAMPA
 - PANTANAL

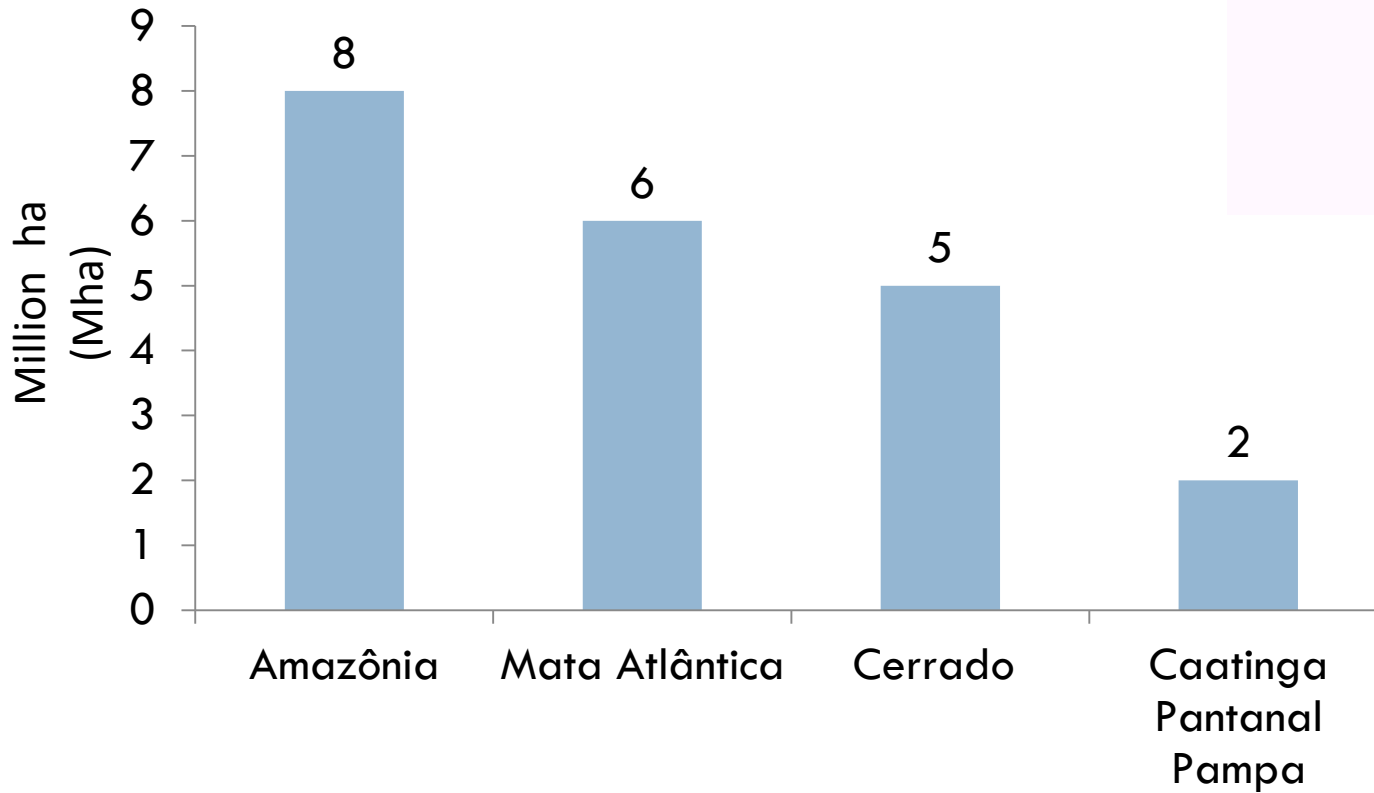
Biomes	% of the country	% of the biome conserved
Amazonia	49	85%
Cerrado	24	45%
Caatinga	10	30%
Atlantic Forest	13	7%
Pantanal	1,7	90%
Southern Fields	2	10%

> 70% of population

Restore demand in each biome (applying Forest Code 2012)



Map: IBGE, 2004



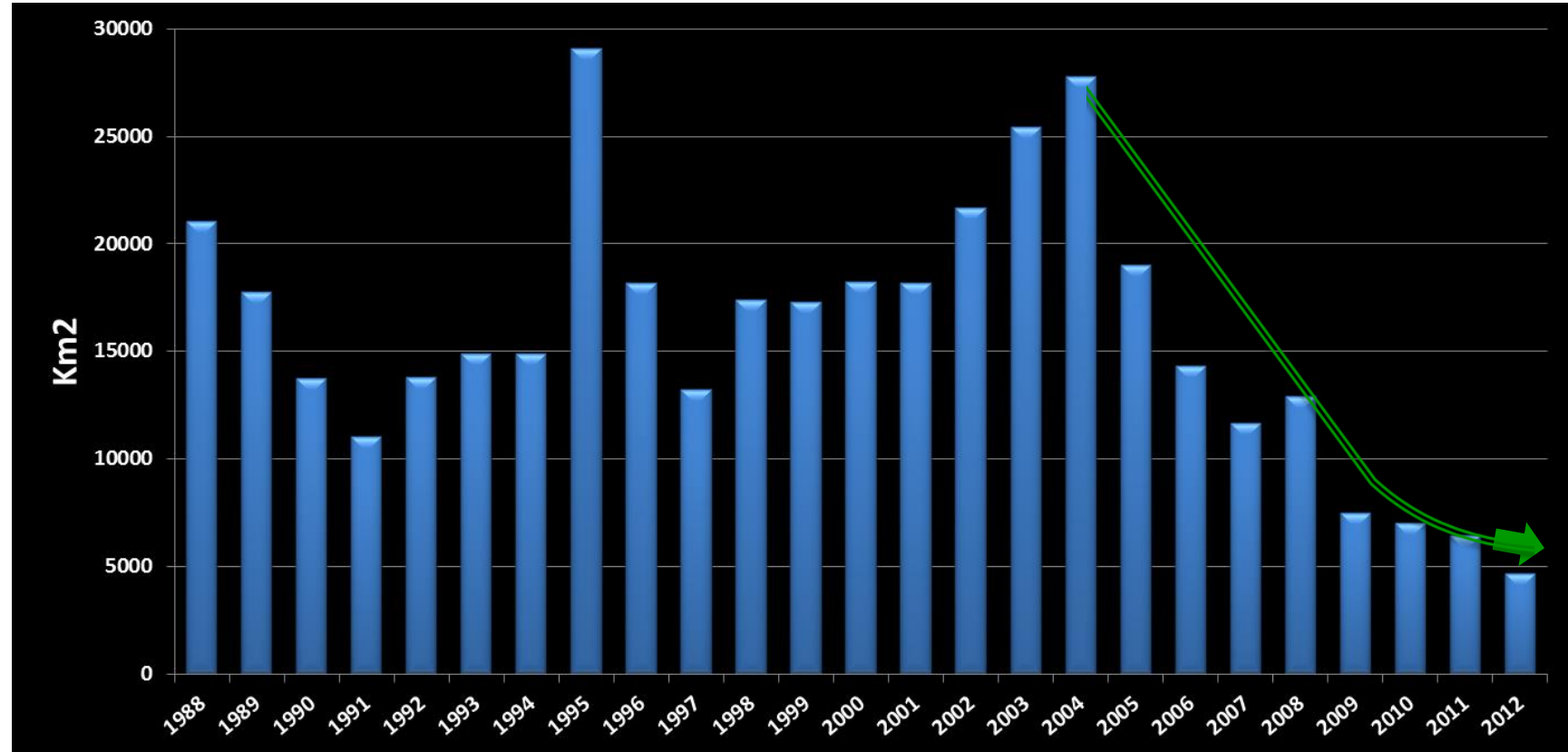
Total = 21 Mha

adaptado de Soares-Filho, B. S., 2013.

LAND USE X FORESTS



Annual deforestation rate of the Amazon



National Forest Inventory - NFI



Being implemented to provide relevant information concerning national forest resources and to support public policies aiming forest sustainable use and conservation.

Data/information on:

- Forest area
- Tree species composition
- Forest structure and stock
- Forest dynamics
- Biomass and carbon stock
- Forest management
- Forest products
- Forest and people
-

Five-year cycle:

Monitoring, trend analysis and scenarios

Planning, decision making, country reports,

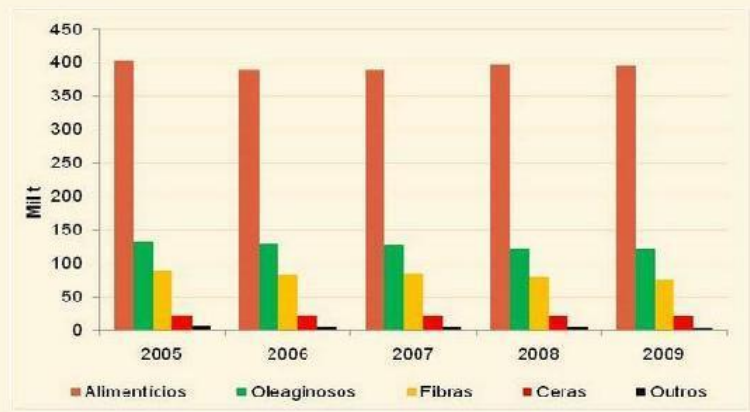
NATIONAL FOREST INFORMATION SYSTEM (SNIF)

- ENTENDA O SNIF
- RECURSOS FLORESTAIS
- GESTÃO FLORESTAL
- PRODUÇÃO FLORESTAL**
 - > Cadeia Produtiva
 - > Consumo
 - > **Produção**
 - > Comércio
 - > Emprego
 - > Crédito Florestal
 - > Serviços
 - > Certificação Florestal
 - > Organizações e Entidades
- ENSINO E PESQUISA FLORESTAL
- POSIÇÃO FLORESTAL

[Página inicial](#) > [Produção Florestal](#) > [Produção](#)

PRODUÇÃO FLORESTAL

Quantidade de produtos não madeireiros extraídos das florestas naturais

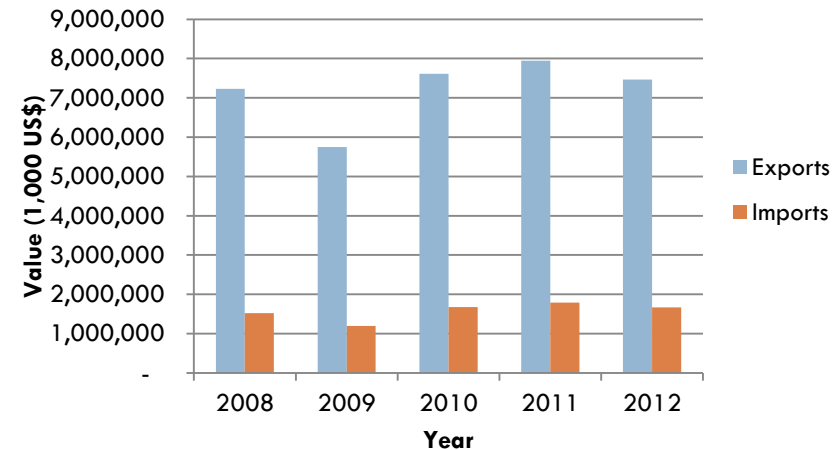


Fonte: IBGE (2010).

Forest economy

- 3.5% of GNP
- 8.4% of exports
- 0.67 million (formal jobs)
- Forest production round wood (2011): 273.12 M m³
 - Planted forests: 77%
 - Natural forests: 13% (Amazon region: 12.9 M m³)
- 85% of round wood are consumed internally (Amazon)
- First importer market: Europe (60% of total export volume)

Forest Products: Exports x Imports



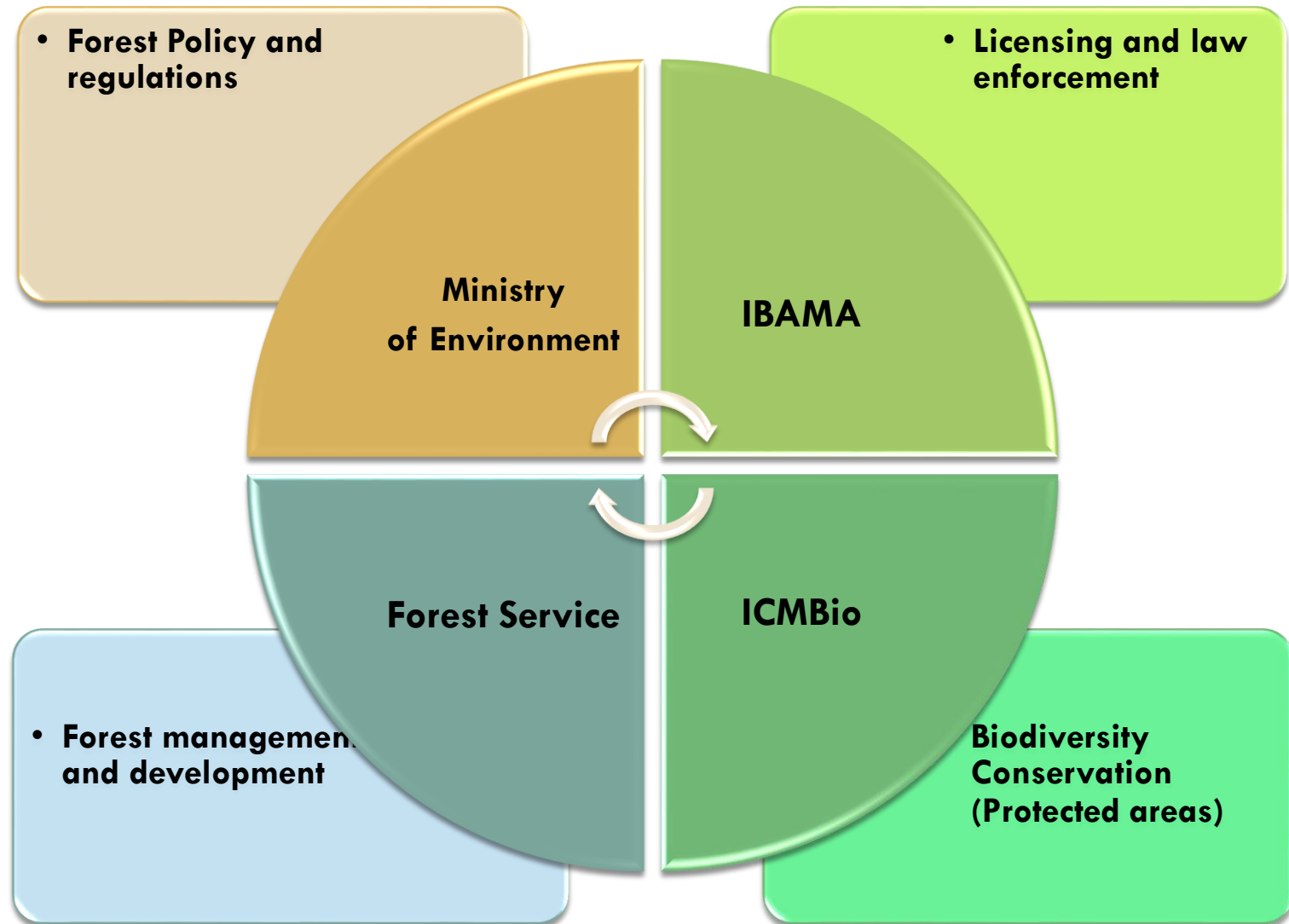
Forest Products Export Destinations

	Country	Million US\$
1	United States	1,788
2	China	1,363
3	Holland	1,050
4	Italy	524
5	Argentina	456
6	United Kingdom	405
7	Belgic	383
8	France	314
9	Japan	241
10	Germany	175

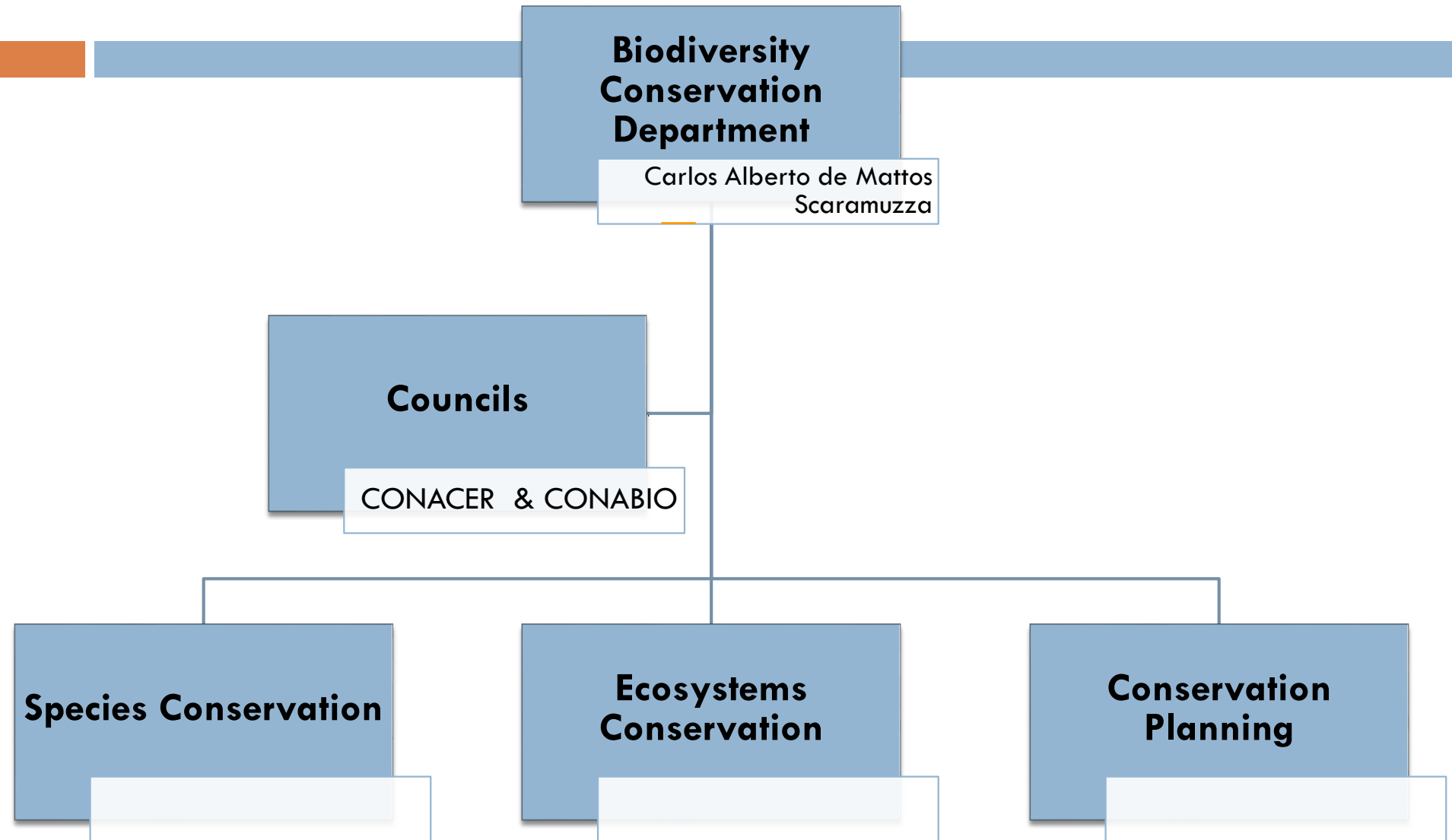
International Cooperation Projects on Biodiversity Conservation (Ministry of Environment)

- ▶ PROBIO II - US\$ 22 million (GEF)
- ▶ Sustainable Cerrado Initiative - US\$ 13 million (GEF)
- ▶ Atlantic Forest Protection II - EU\$ 9,5mi (KfW + GTZ)
- ▶ Biodiversity and Climate / Atlantic Forest III - EU\$ 14,3 million
- ▶ Tropical Forest Conservation Act – TFCA

INSTITUTIONAL FRAMEWORK



Biodiversity conservation focal point on Ministry of Environment



SEEA-EEA in Brazil

- ❑ Brazil hasn't started to implement SEEA-EEA yet;
- ❑ There are several initiatives concerning forest stock inventory (NFI) and biodiversity conservation;
- ❑ Policy priorities: Amazon, Atlantic Forest, Cerrado/Savana; Caatinga/Semiarid region,...
- ❑ Focal points that can be contacted concerning pilot project areas to test the tools and models for ecosystem conditions and related services:
 - ❑ Marcus V. Alves, Director of the Brazilian Forest Service (marcus.alves@florestal.gov.br)
 - ❑ Carlos Alberto Scaramuzza, Director of Biodiversity Conservation Department (carlos.scaramuzza@mma.gov.br)



LAND COVER / LAND USE CHANGES AND THE ECOSYSTEM SERVICES



**Experimental Ecosystem Accounting
November, 2013**

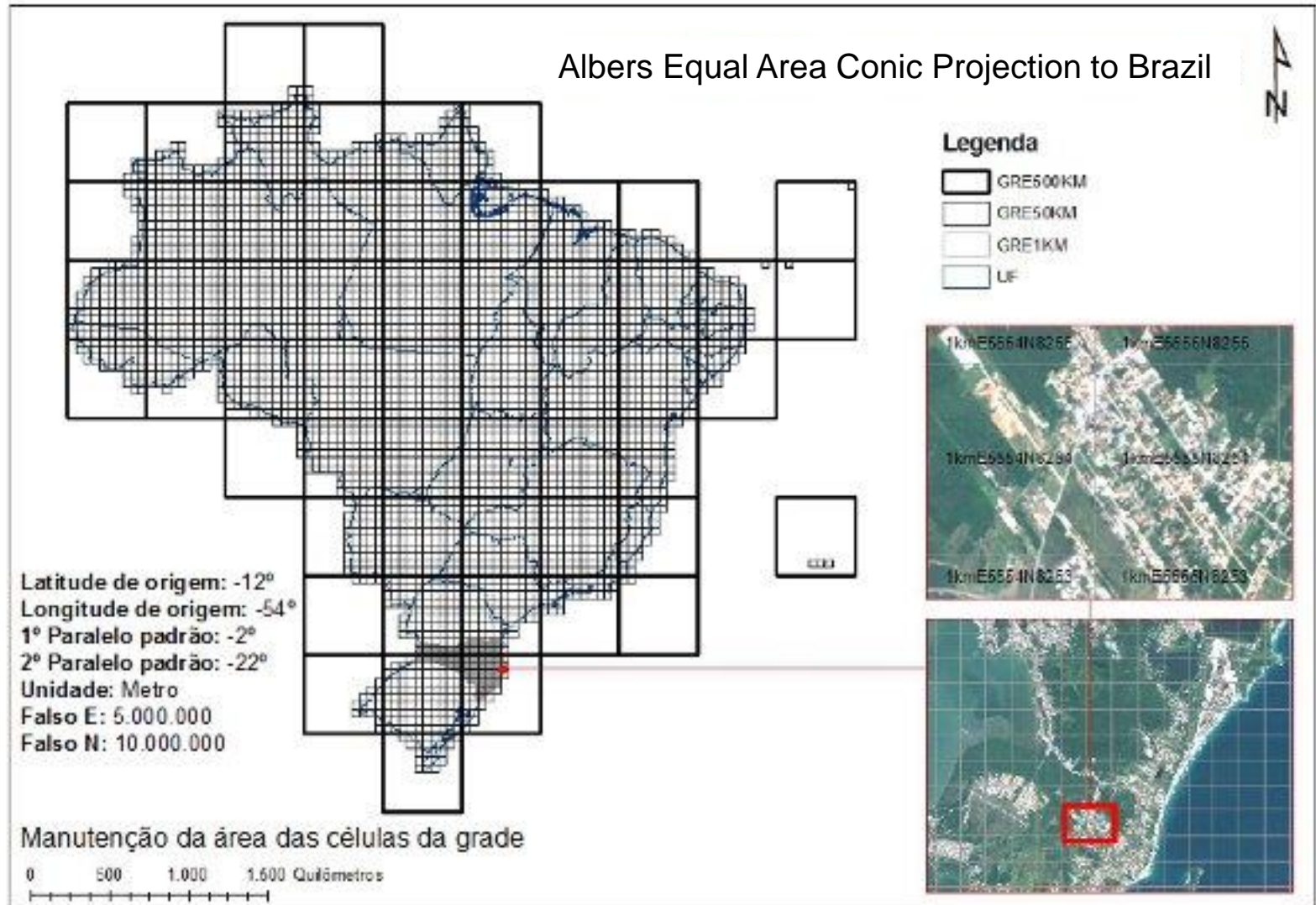
GENERAL GOAL

Monitoring landcover and landuse changing all over the national territory, at regular periods, by means of the sistematic mapping and a proposed Territorial Grid for Statistical Purposes, in which statistical and spatial data will be associated.

SPECIFIC GOALS

- ➔ **To map Brazil's land cover and land use, on periodical basis, by means of satellite imagery interpretation, complemented by available related information;**
- ➔ **To incorporate data to the 1KmX1Km-cells of the Territorial Grid for Statistical Purposes, indentifying the dominant use in each of them;**
- ➔ **To identify the transformations in each cell of the Grid, at convenient time intervals;**
- ➔ **To validate the results according to data of arisen from statistical IBGE's surveys (Agro Census, PAM and LSPA) and from external information sources;**
- ➔ **Landcover Physical accounting;**

Incorporation to the Territorial Grid for Statistical Purposes



Definition and Hierarchization of Classes of Land cover/Land use

HIERARQUIZATION	LAND COVER/LAND USE CHANGE CLASSES
Antropic no agricultural areas	Articial area
Antropic agricultural areas	Agriculture area
	Pasture planted area
	Silvicultural area
Forest vegetation areas	Forest vegetation
	Forest vegetation mosaics and agriculture
Grassland vegetation areas	Grassland vegetation
	Grassland vegetation with natural pastures
	Grassland vegetation and agriculture mosaics
	Wet grassland vegetation
Water	Continental water bodies
	Costal water bodies
Open Land with few vegetatio	Open Lands

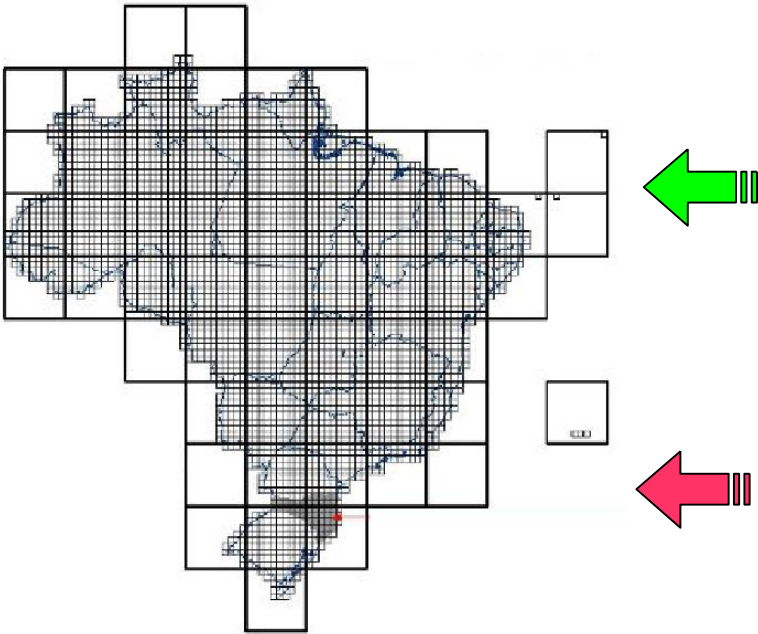


Possibilities to Ecosystem Services

- LAND COVER/LAND USE CHANGE**
- FOREST**
- BIODIVERSITY**

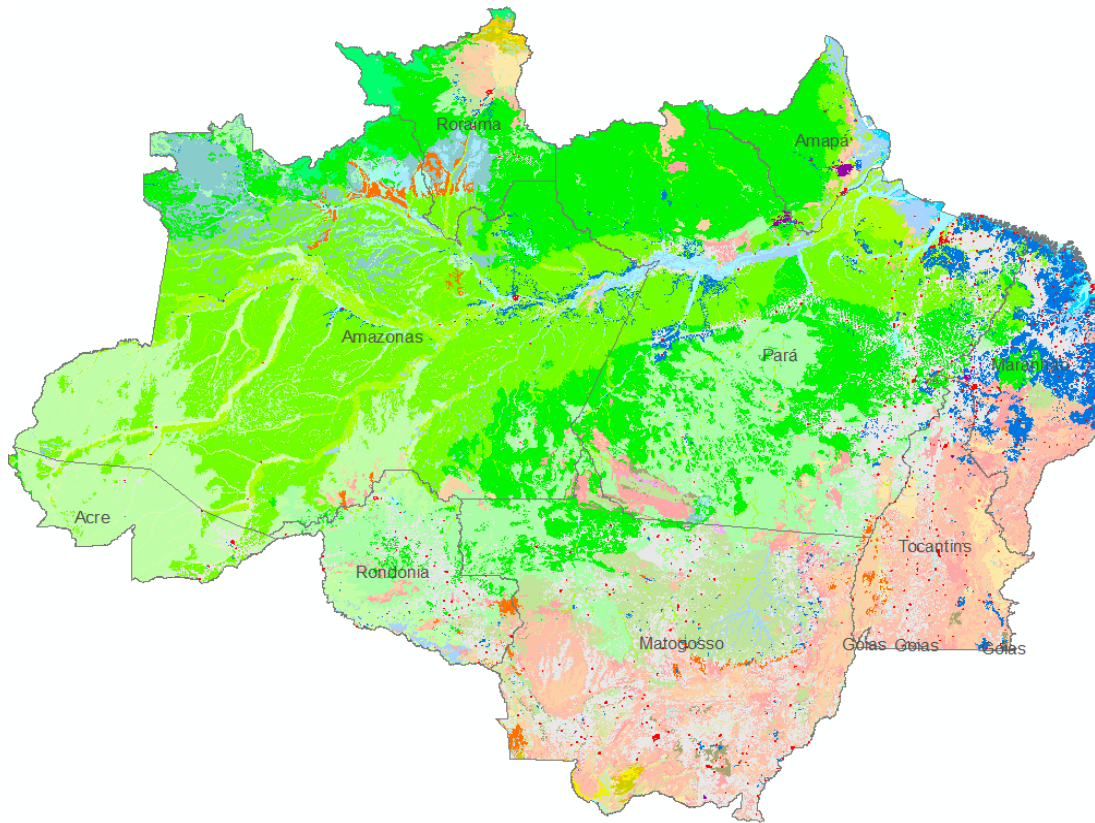
LAND COVER/LAND USE CHANGE

FOREST



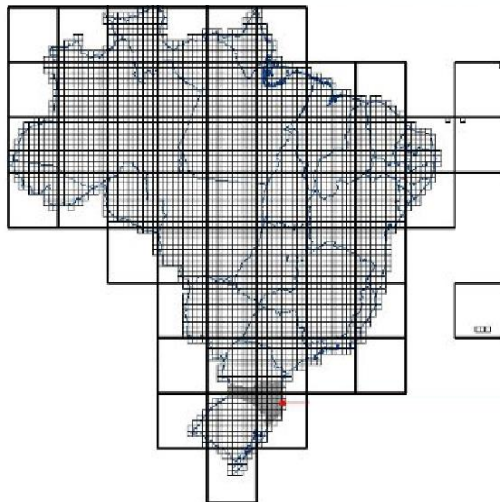
**PROCESS OF CHANGING ON
LAND COVE/LAND USE TABLES**






Amazônia Legal - Vegetação

- Áreas Urbanas
- Rodovias Pavimentadas
- Limites Estaduais
- Capitais Estaduais
- Ferrovias
- Pontos de Inventário
 - Florística
 - ▲ Inventário
- Vegetação Natural Dominante em Tensão Ecológica
- Áreas Antrópicas Dominantes em Tensão Ecológica
- Vegetação Natural Dominante
- Áreas Antrópicas Dominantes
 - Vs - Vegetação Secundária
 - Vss - Vegetação Secundária sem Palmeiras
 - Vsp - Vegetação Secundária com Palmeiras
 - Ag - Agropecuária
 - Ac - Agricultura
 - Acp - Culturas Permanentes
 - Acc - Culturas Cíclicas
 - Ap - Pecuária (pastagens)
 - Re - Reflorestamento Eucalípto
 - Rp - Reflorestamento Pinheiro
 - Ra - Reflorestamento Acácia
 - Rs - Reflorestamento Seringueira
 - Iu - Influência Urbana
- Massa D'água



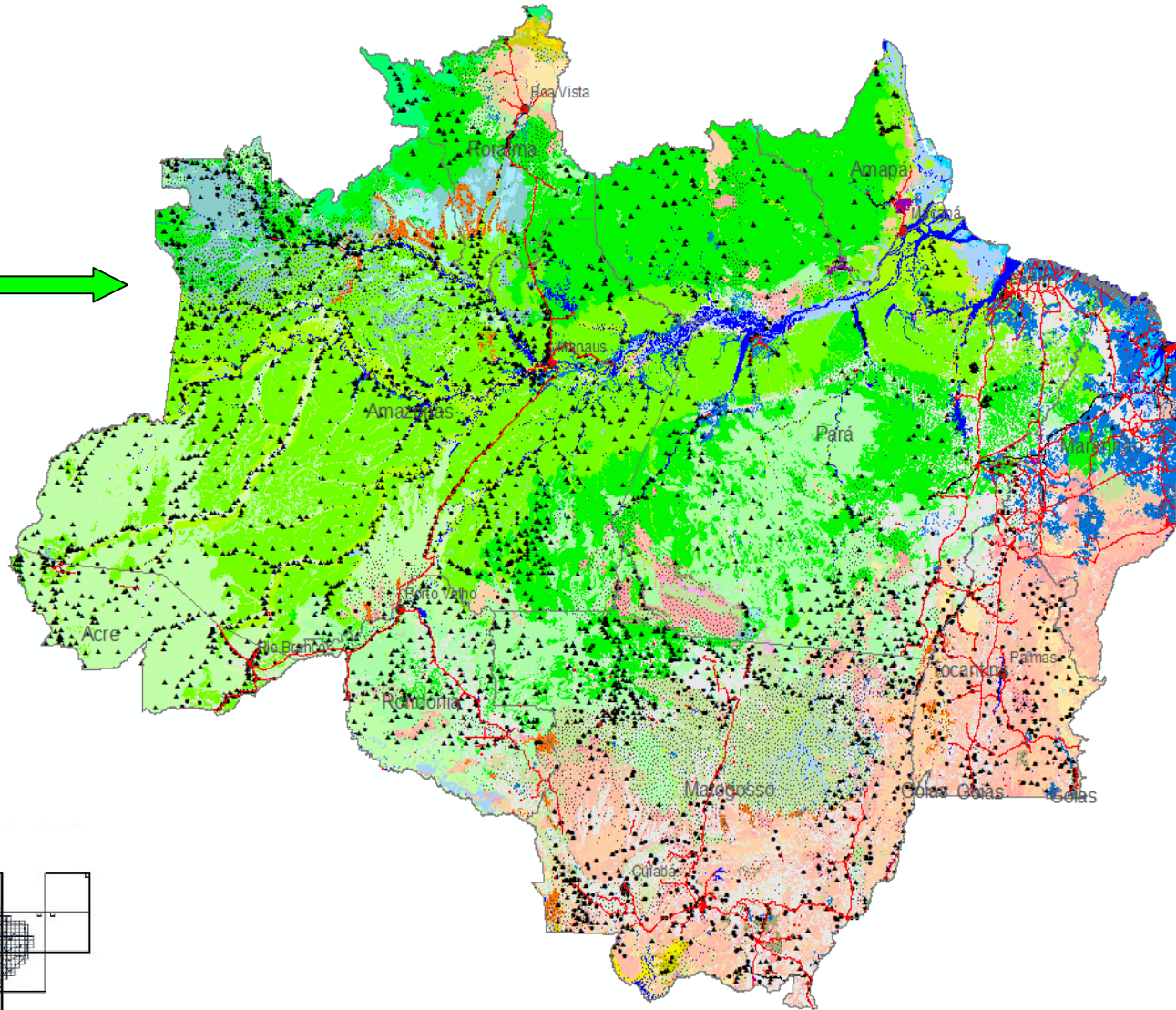
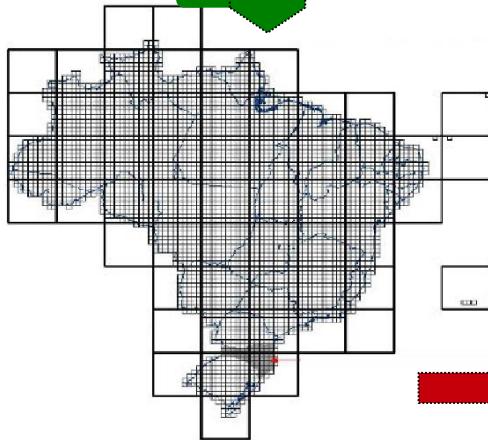
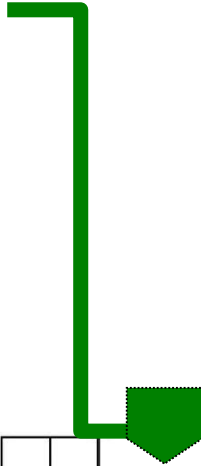
CHANGES ON THE TYPES OF VEGETATION TABLES

CHANGE ON BIODIVERSITY

 Amazônia Legal - Vegetação

Pontos de Inventário

- Florística
- ▲ Inventário



BIODIVERSITY TABLES



Thank you!

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