

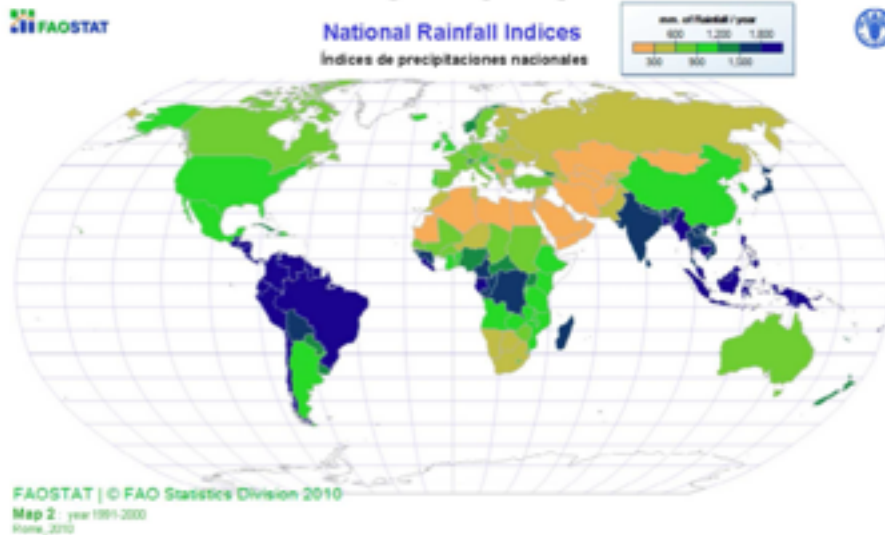
BRAZILIAN AMAZON

Challenges and Strategies to Continuous Decreasing Deforestation

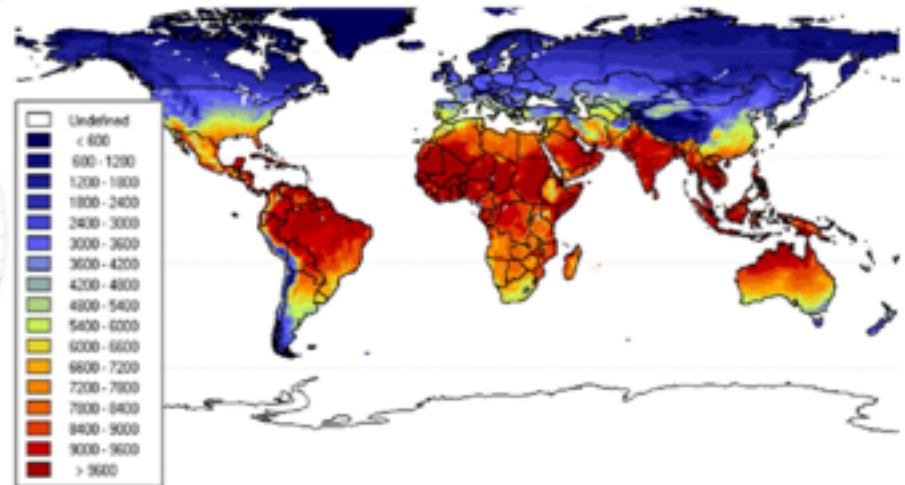
Arnaldo Carneiro Filho
Brazil
December, 2013



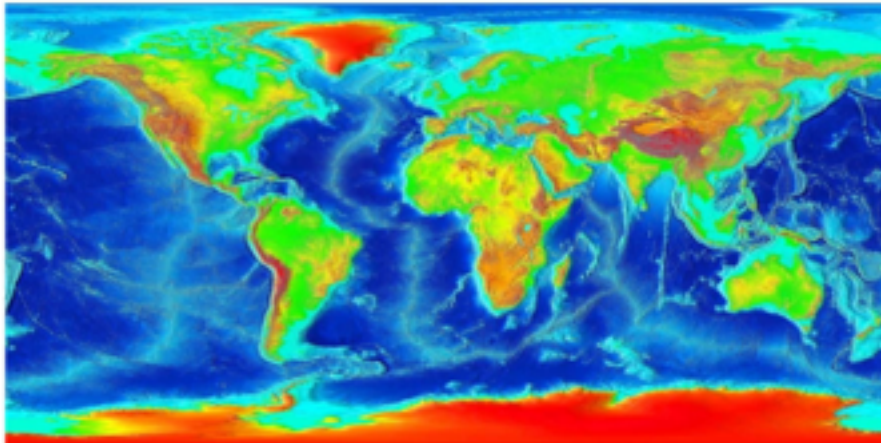
4.1 Índices de precipitação nacionais



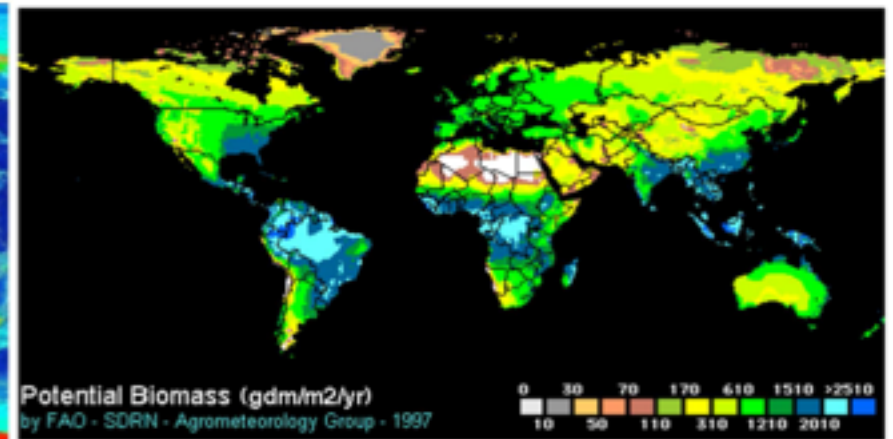
4.2 Temperaturas globais acumuladas (Tmédia > 0 C)



4.3 Relevo



4.4 Produção Potencial de Biomassa no Mundo

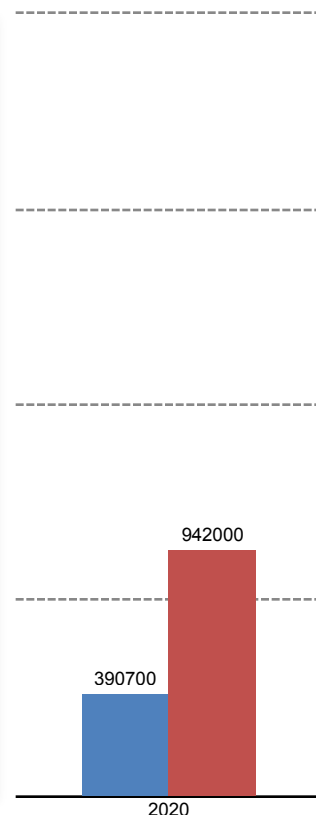
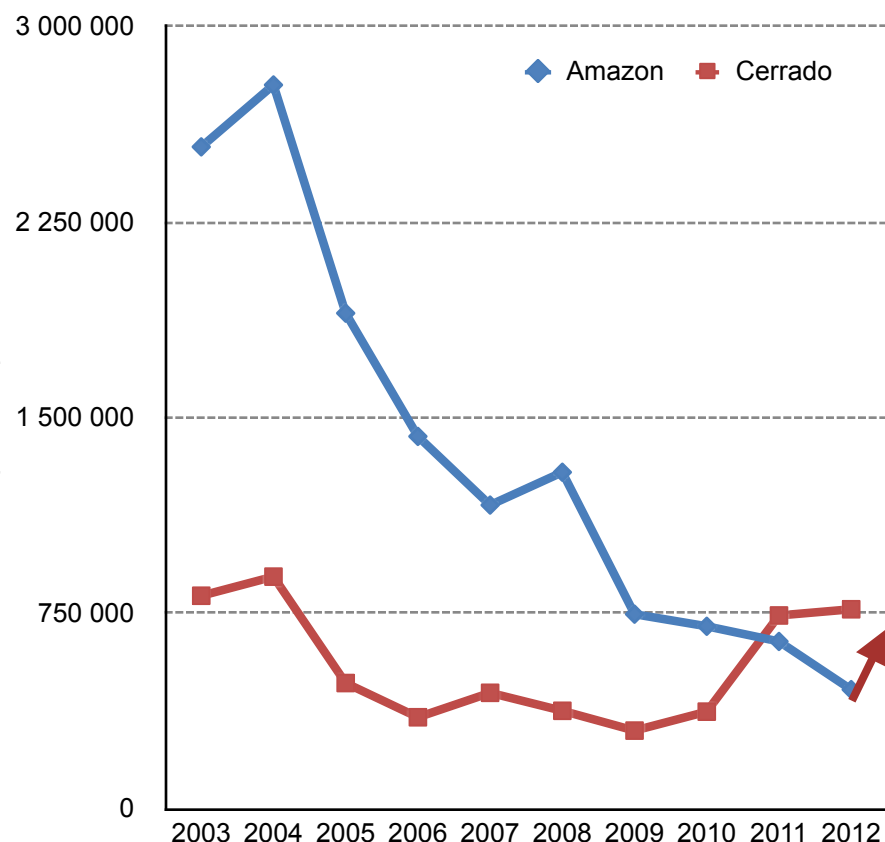


Brazil is considered the country with the largest growth potential.

Deforestation Rates in Brazilian Amazon and Cerrado: Observed and Targets for 2020

Deforestation Rates

NPCC Targets



Amazon

- The scenario of uncontrolled Amazon deforestation has **passed**
- Illegal deforestation has **strongly dropped** (although no numbers on legal and illegal deforestation are available)
- Deforestation continues falling but at lower decreasing rates
- Current deforestation rate is **close to the 2020 target**
- No soybean is occupying recently cleared areas (Soy Moratorium)
- Cleared land is mainly occupied with pastures

Cerrado

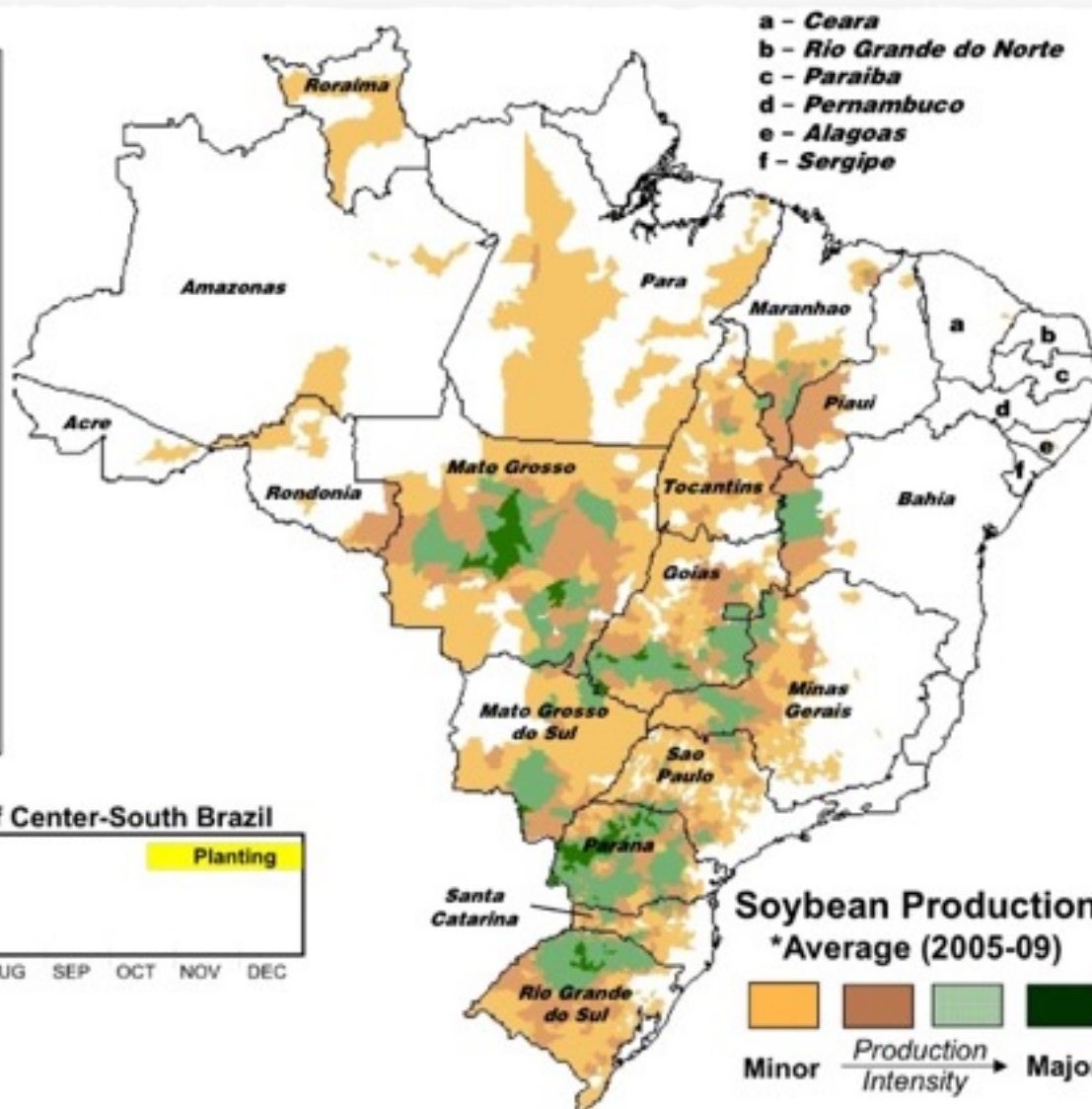
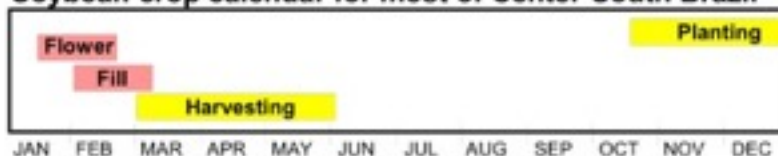
- Different dynamic than Amazon. Level of legality is **much higher**: land conversion supported by official licenses and permits
- Cerrado conversion rates are facing new increases, however no indication of deforestation peaks
- Current deforestation rate is already below the 2020 target

*** State-Level Production
(as % of total)**

Mato Grosso	30
Parana	19
Rio Grande do Sul	13
Goias	12
Mato Grosso do Sul	8
Minas Gerais	5
Bahia	4
Sao Paulo	3
Maranhao	2
Santa Catarina	2
Tocantins	2
Other	~2

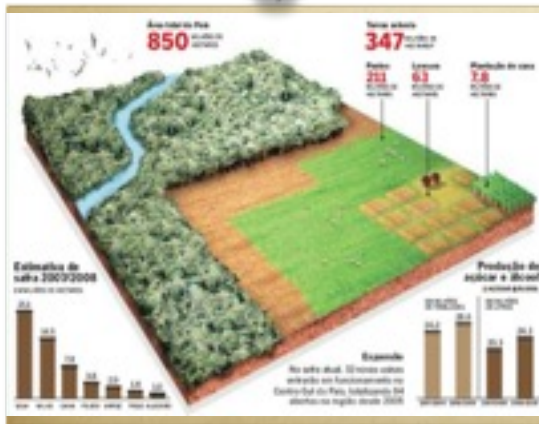
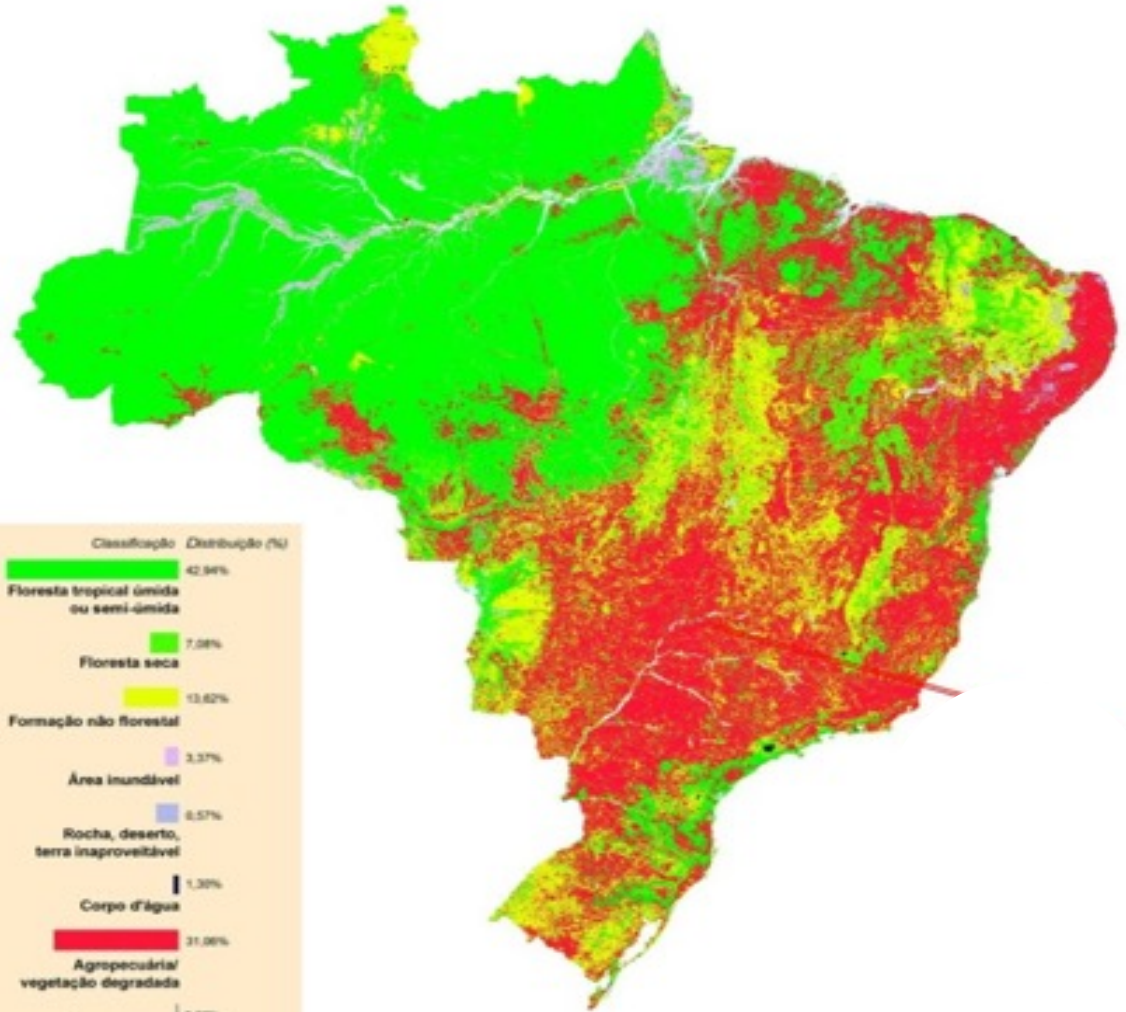
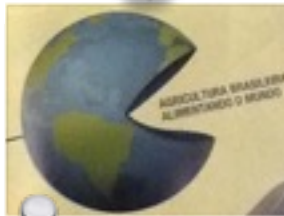
* 2005 to 2009 Average
Source: IBGE Brazil

Soybean crop calendar for most of Center-South Brazil



*Source: IBGE

LANDUSE CHANGE AND LANDCOVER DYNAMICS



Best Agriculture Practices



Cana de açúcar – Expansão territorial



Soja – Expansão territorial



Gado bovino – Expansão territorial



Florestas plantadas – Expansão territorial



LIVESTOCK INTENSIFICATION >>>> FOREST OPPORTUNITIES

OTIMIZAGRO – Evolução do SimBrasil

Freeware Dinamica EGO
www.cse.ufmg.br/dinamica



Estudo de Baixo Carbono, Banco Mundial

Soares-Filho et al. 2012. IADB iadb.org/sustainability/soares

DEMONSTRAÇÃO

SOMABRASIL
SISTEMA DE OBSERVAÇÃO E MONITORAMENTO DA AGRICULTURA



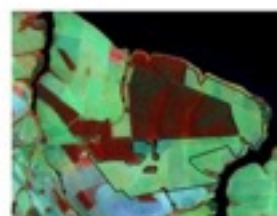
Monitoring LUCC Dynamics

Pasture

Soy

Sugarcane

Silviculture



6a) 12/09/06



7a) 21/04/06



8a) 04/03/06



9a) 21/04/06



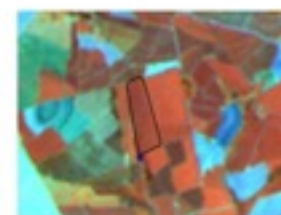
6b) 26/04/08



7b) 26/04/08

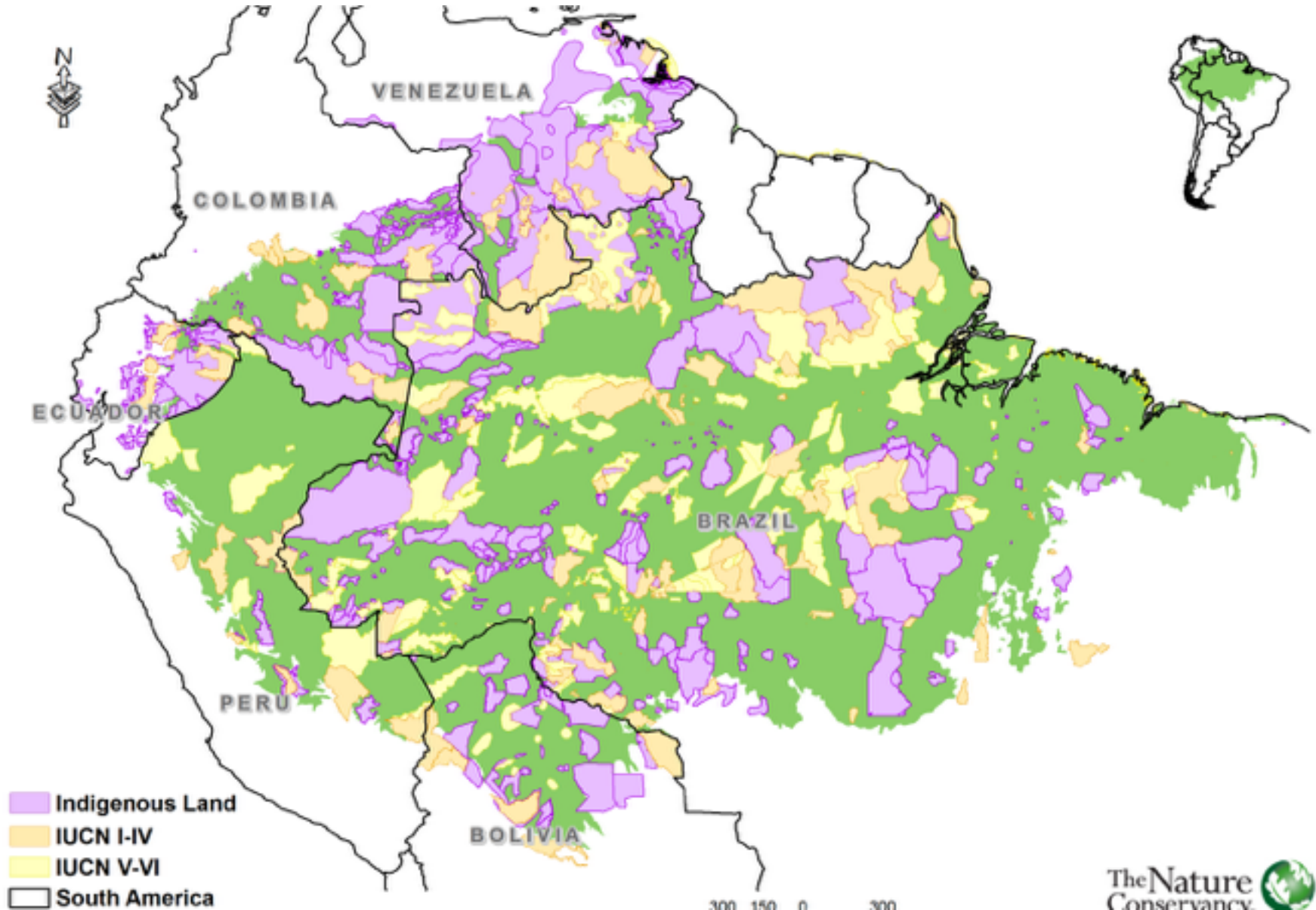


8b) 26/04/08



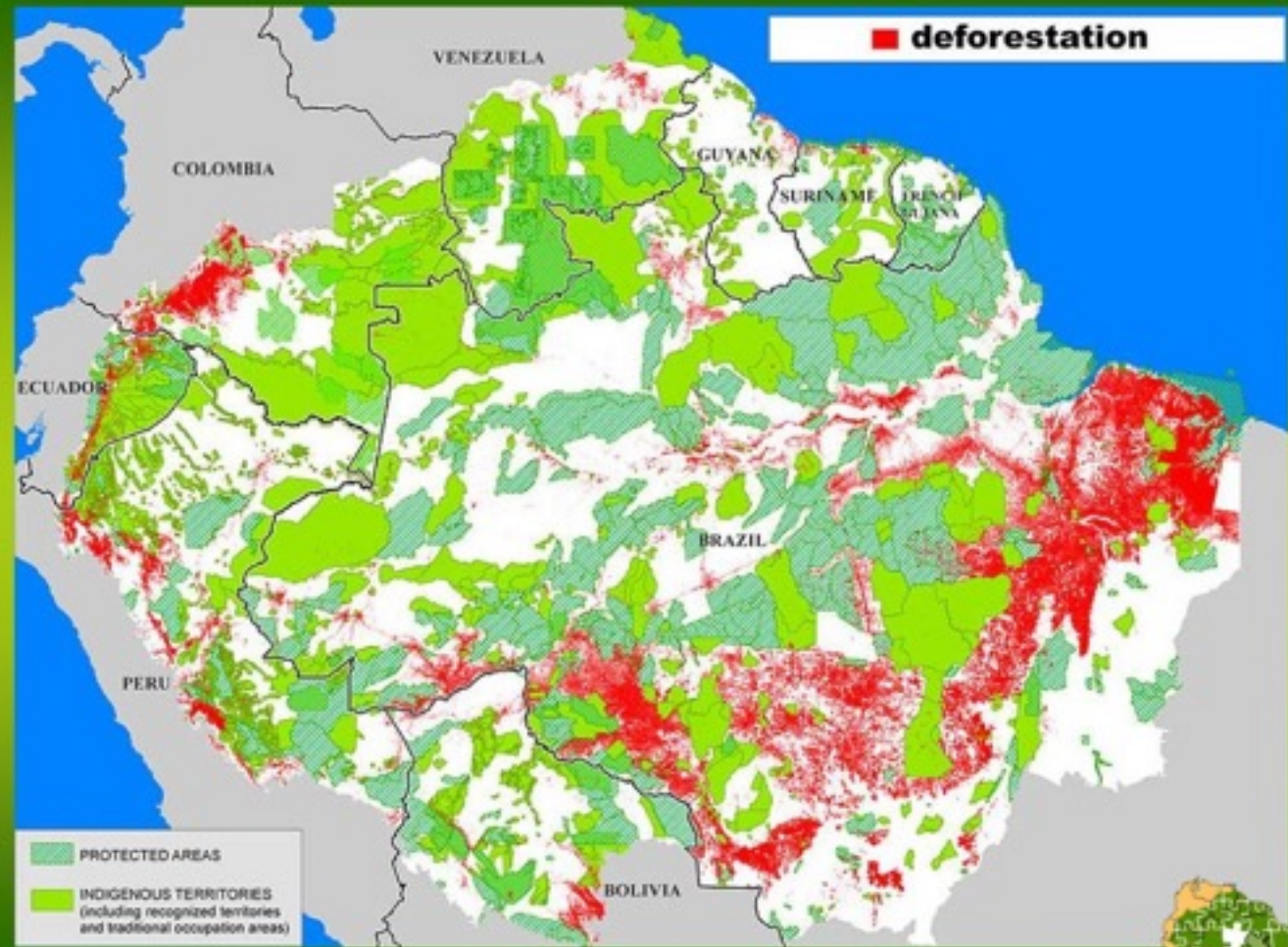
9b) 26/04/08

Private Lands in the Amazon: 32%)



Amazon Deforestation Dynamic

Conversion is not a slow uniform process and happens abruptly driven by economic development.



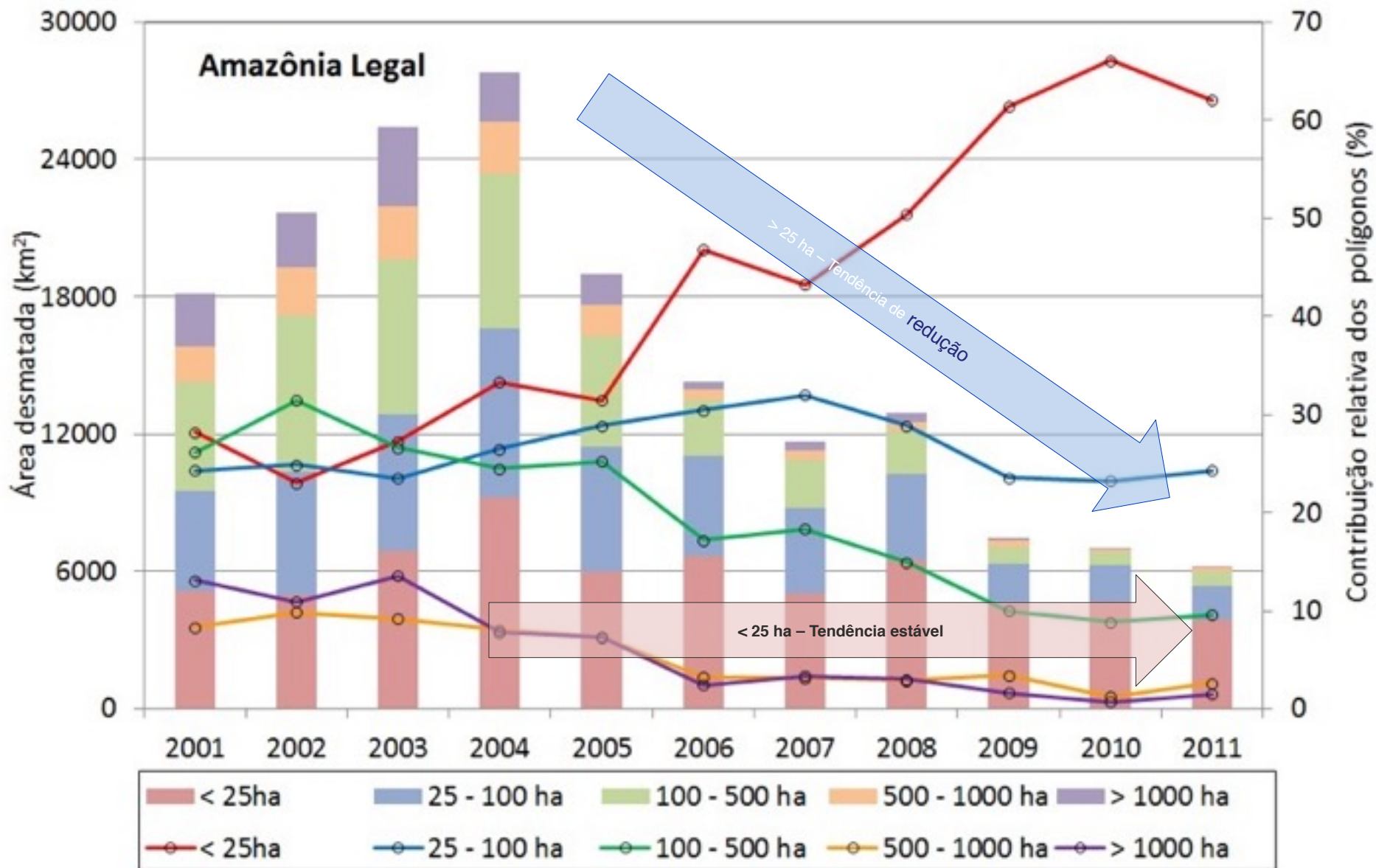
RAISG



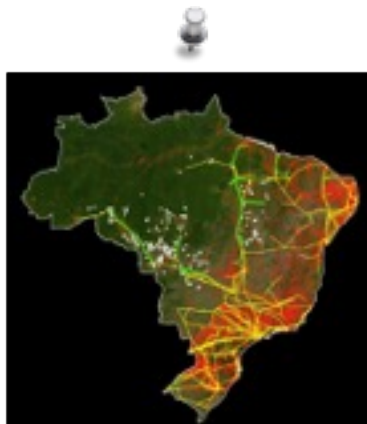
Drivers of deforestation



Contribuição das classes de área dos polígonos vs Área desmatada



EXPANSÃO DA INFRAESTRUTURA



Total Area: 850 MHa

534.4 Mha of natural vegetation

147 Mha of protected area called Conservation Units and APAs

105 Mha of indigenous reserves

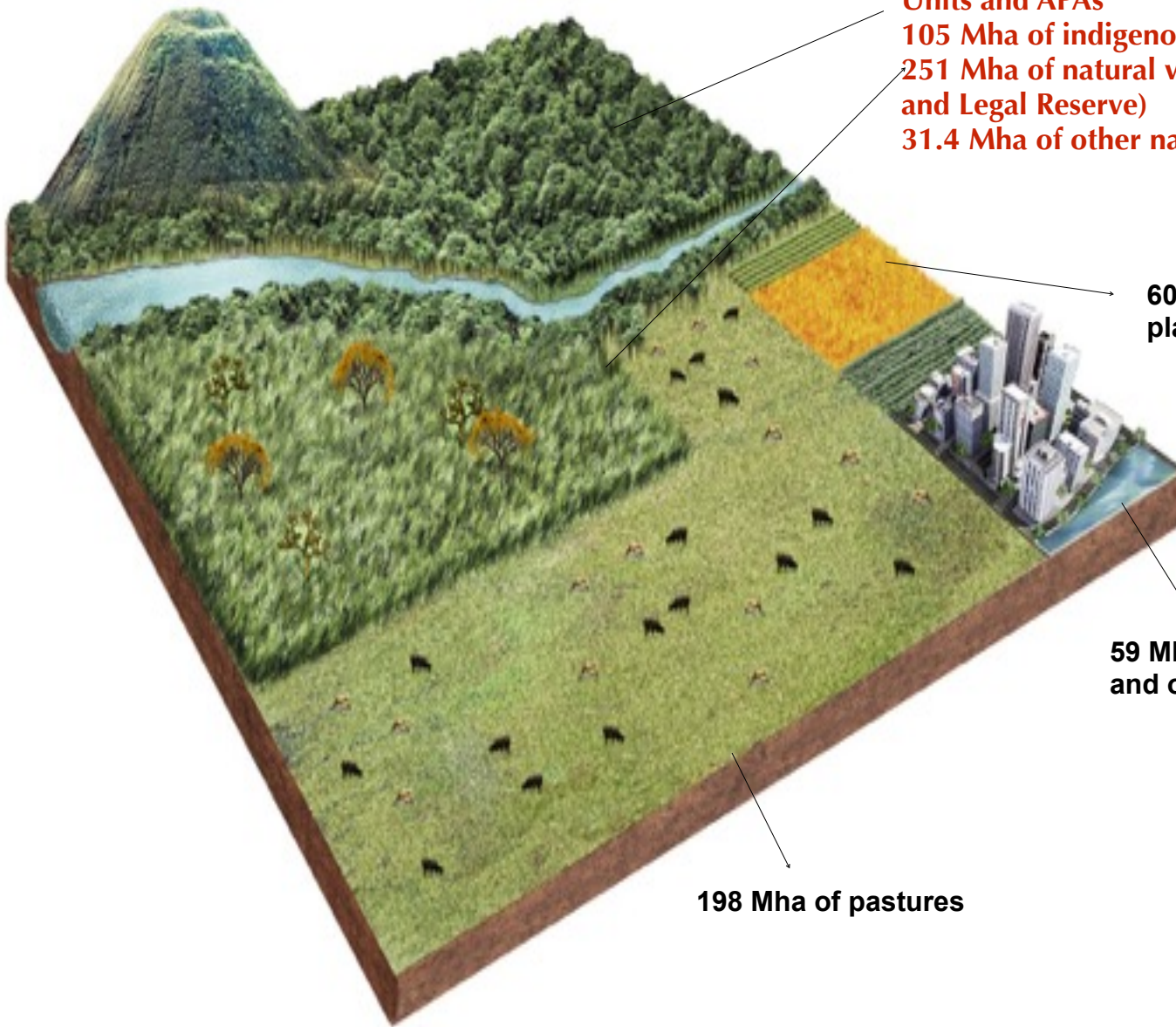
251 Mha of natural vegetation on farms (APPs and Legal Reserve)

31.4 Mha of other natural vegetation areas

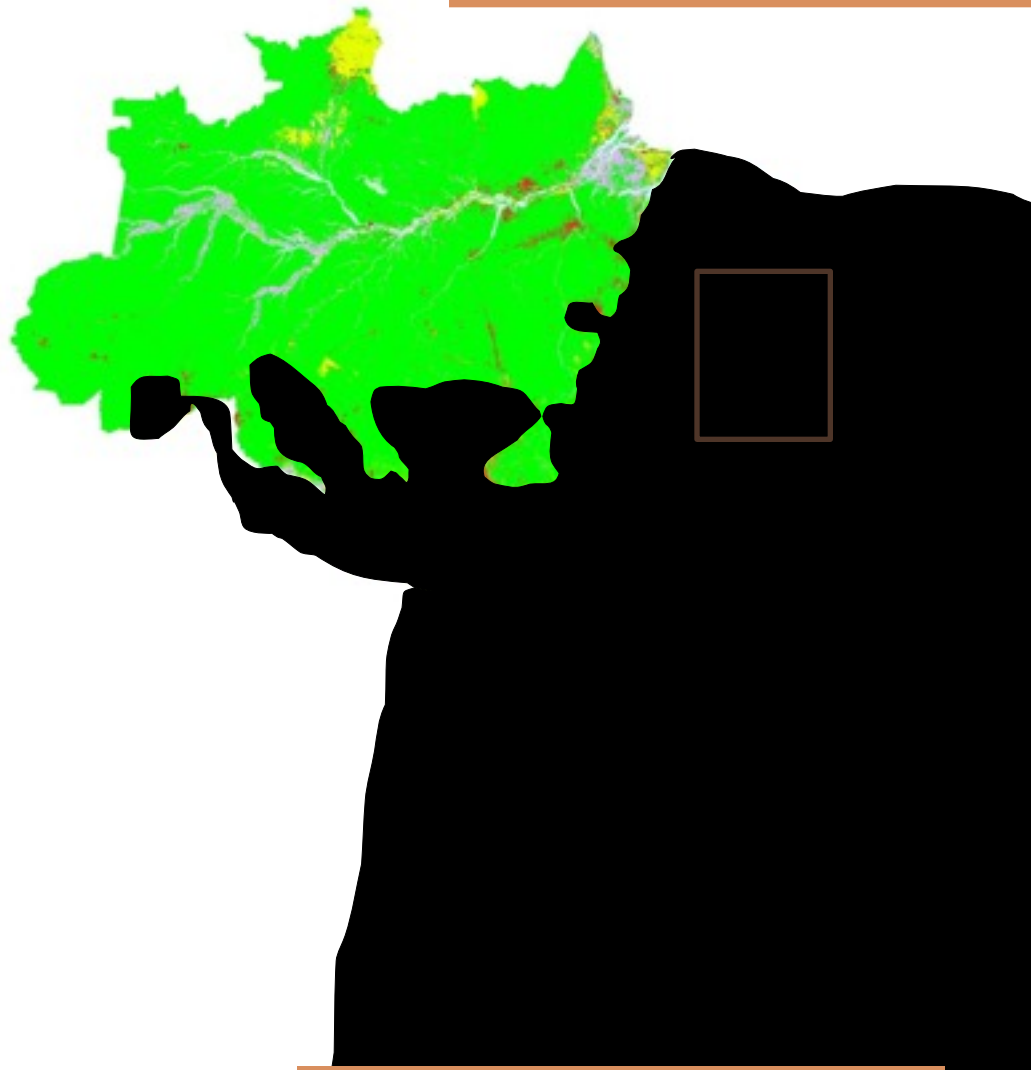
60 Mha of agriculture and planted forests

59 Mha of urbanization and other uses

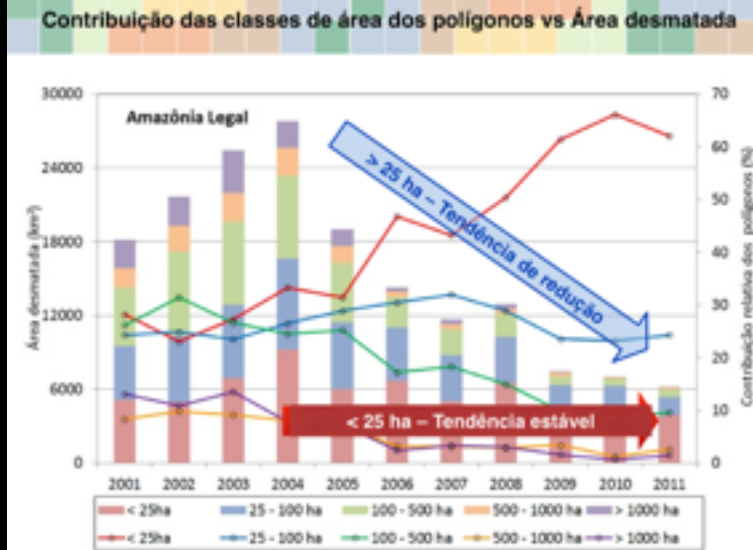
198 Mha of pastures



AMAZON DEFORESTATION



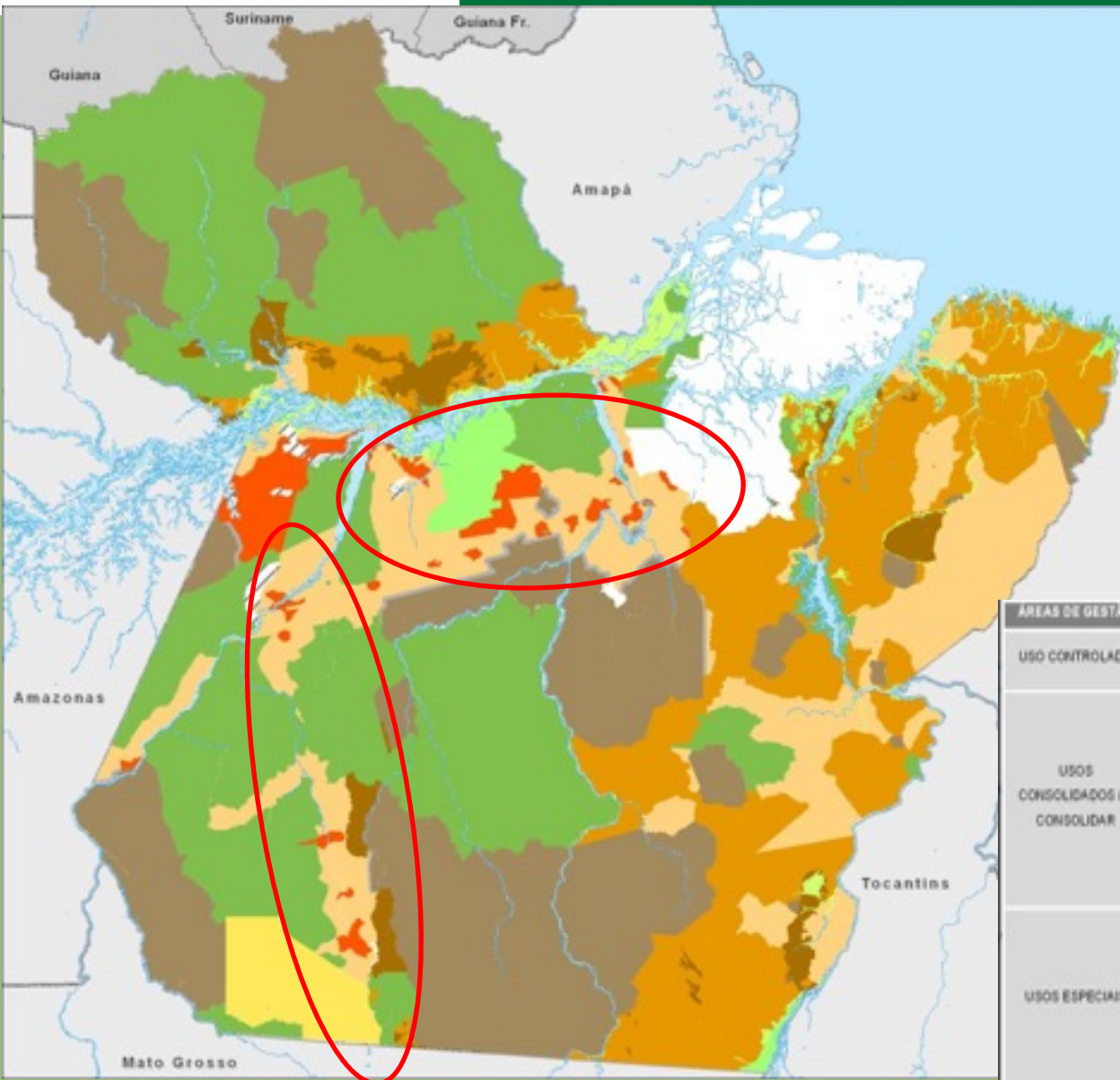
CERRADO DEFORESTATION



Desmatamento Anual
~1,2 milhões hectares



Potential Agriculture Expansion in Para



ÁREAS DE GESTÃO	ZONAS DE GESTÃO	CORES	TIPOS DE GESTÃO
USO CONTROLADO	ÁREAS AMBIENTALMENTE SENSÍVEIS		AP – Agricultura Familiar; AF – Agricultura Familiar; AG – Agroindústria / Comércio / Movelaria; AM – Agricultura mecanizada; AQ – Aquicultura
	CONSOLIDAÇÃO I		AS – Agroflorestal; BD – Biodiesel; BI – Biodiversidade; CO – Comércio / Hortifrutigranjeiros /
	CONSOLIDAÇÃO II		Atividades urbanas; EX – Extrativismo vegetal não madeireiro; FM – Agroflorestal / Extrativista; GA – Garimpo (Garimpagem); MI – Mineração; PC –
USOS CONSOLIDADOS / A CONSOLIDAR	CONSOLIDAÇÃO III		Peixaria; PE – Pesca artesanal tradicional; RF – Reflorestamento; SX – Agroextrativista e TR – Turismo / Ecoturismo / Pesca esportiva.
	UNIDADES DE CONSERVAÇÃO PROPOSTAS		PLANO DE MANEJO
	UNIDADES DE CONSERVAÇÃO INSTITUCIONALIZADAS		
USOS ESPECIAIS	TERRAS INDÍGENAS		LEGISLAÇÃO ESPECÍFICA

Sustainable Harvest in the Amazon

1. **Promoting** environmental legislation compliance – Forest Code
2. **Enabling** conditions for zoning and rural sustainable development policies
3. **Shaping** Functional Productive Landscapes – Farms
4. **Supporting** Responsible Sourcing Policies
5. **Guarantee** Effective Biodiversity conservation in Private Lands

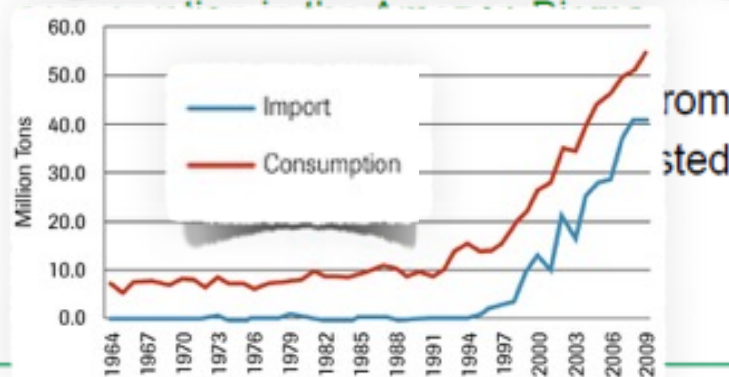
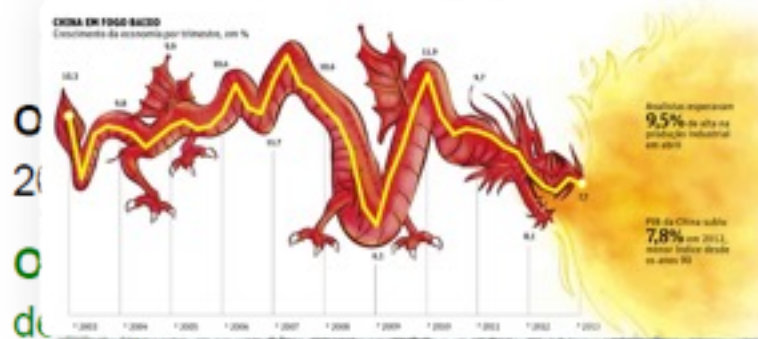


Responsible Sourcing - Soybean Moratorium



Soy Moratorium

The Initiative



Brazilian Vegetable Oil Industries Association

Soya Moratorium transiction

1. Rural Farms environmental registry – CAR
Legal Reserves (LR) and Areas of Permanent Protection (APP)
2. Land-tenure analysis (risks analysis)
Avoid Potential conflict s and Land grabbing
3. Strategic Landscapes Planning – farm scale
Ecological corridors connecting LR & APP to forest remnants
4. Environmental Regularization – LAR
Degraded Areas Restoration Projects and LR regularization
5. Deforestation monitoring & Responsible Sourcing

THANKS

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The Nature
Conservancy



Protecting nature. Preserving life.™

