



Assessing future impacts of land use policies in Brazil



**Global
Landscapes
Forum**

Paris



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

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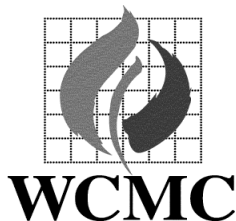
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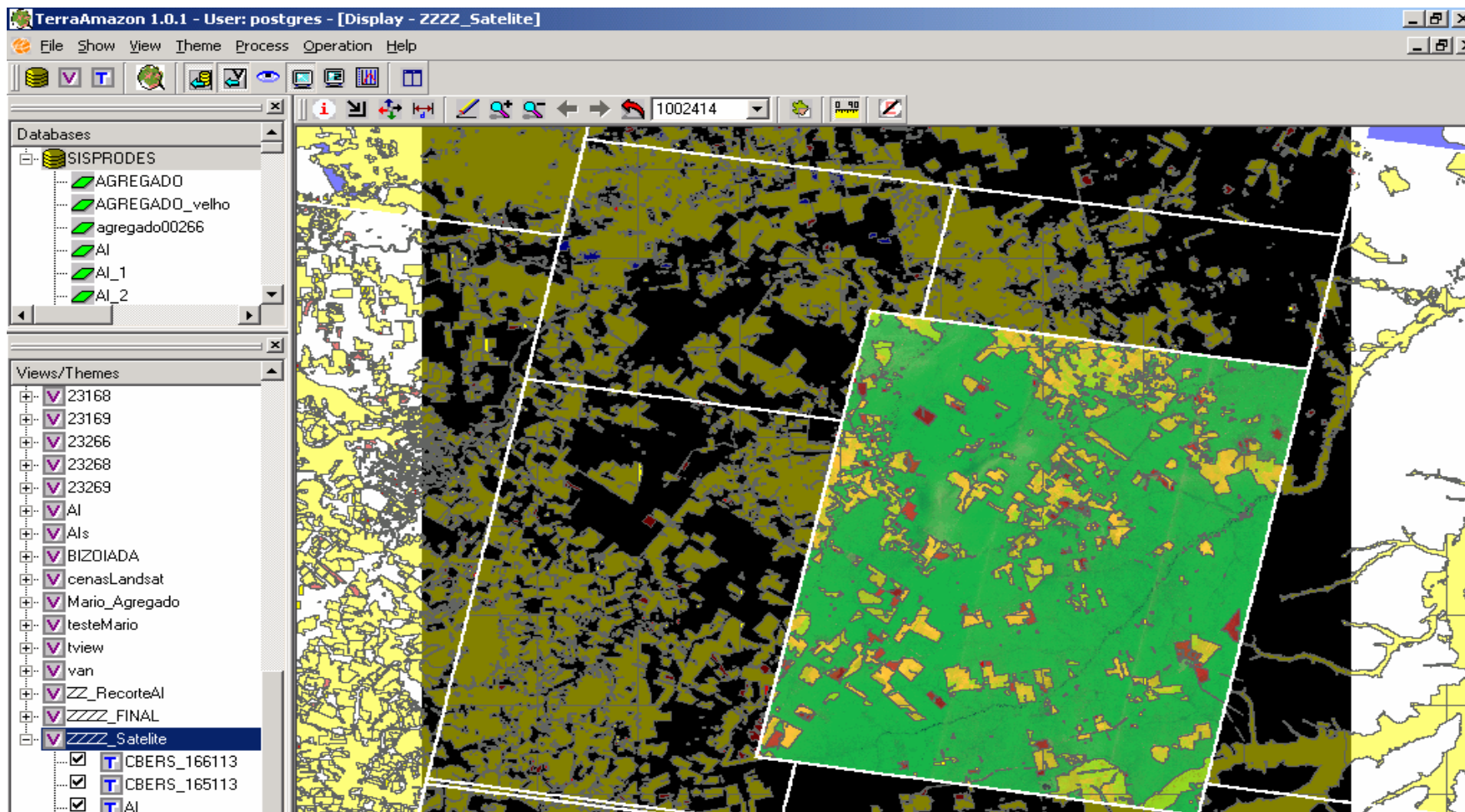
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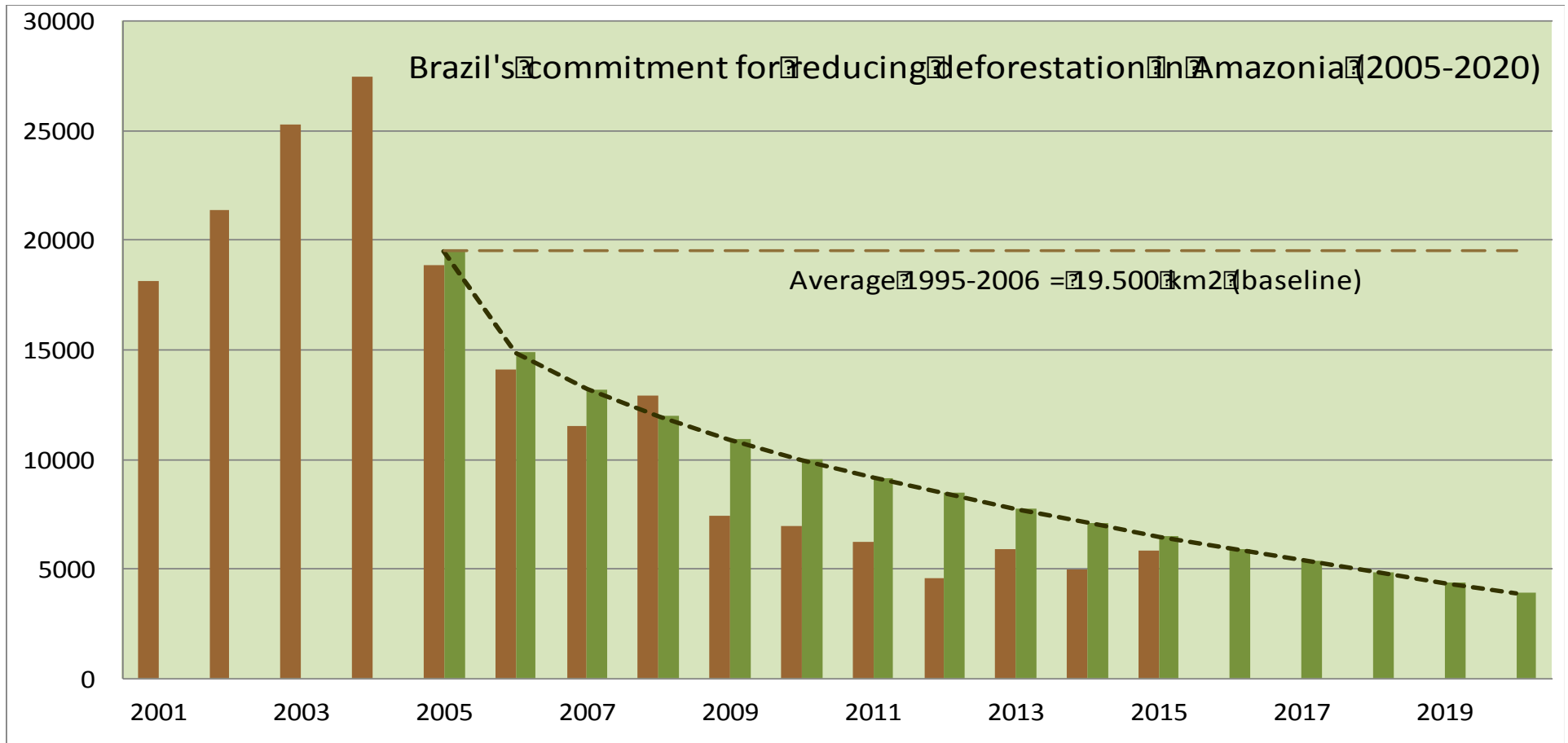


Transparency builds credibility and governance!



“Brazil’s monitoring system is the envy of the world..”
(Science, 2007)

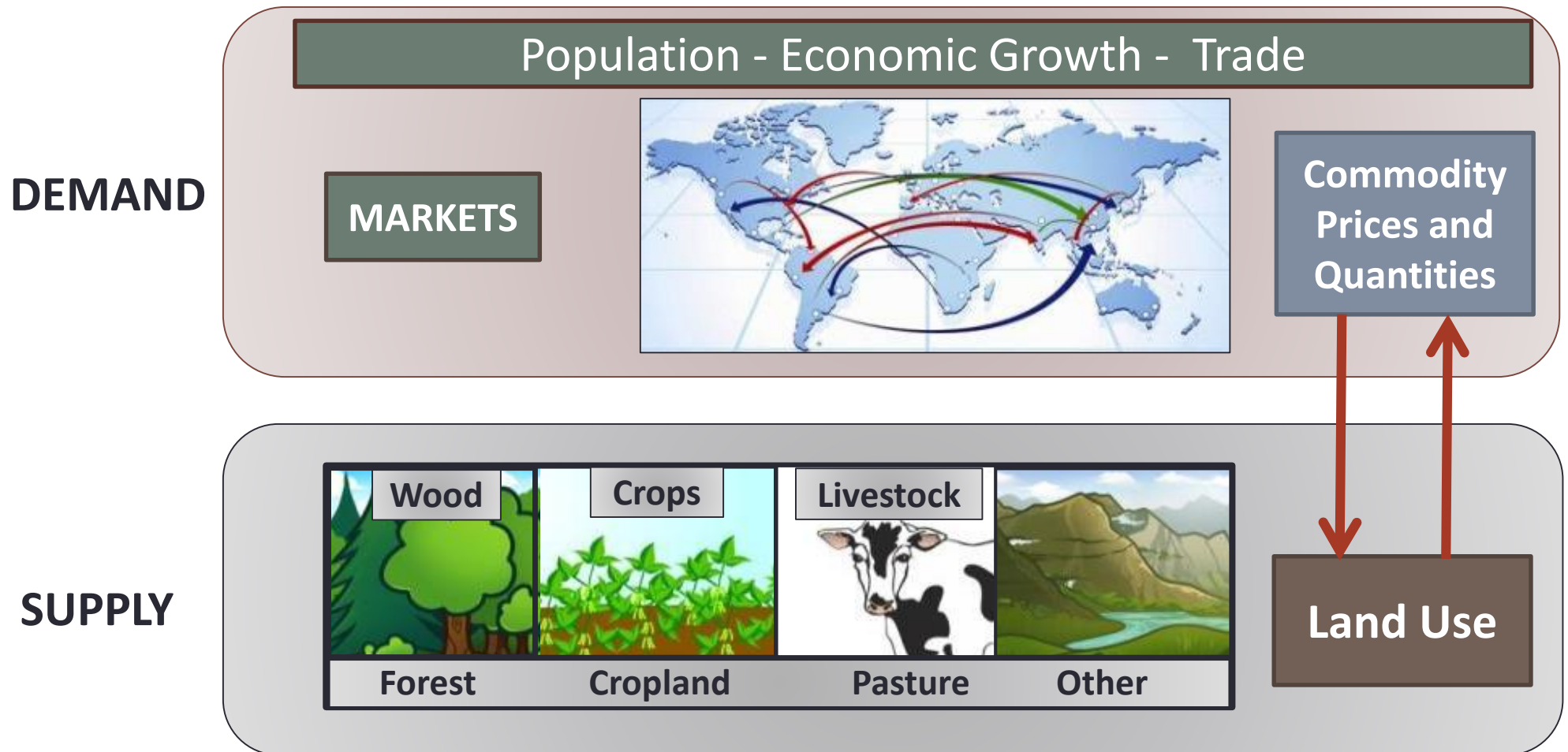
COP-15: Brazil pledges to reduce deforestation in Amazonia by 80%



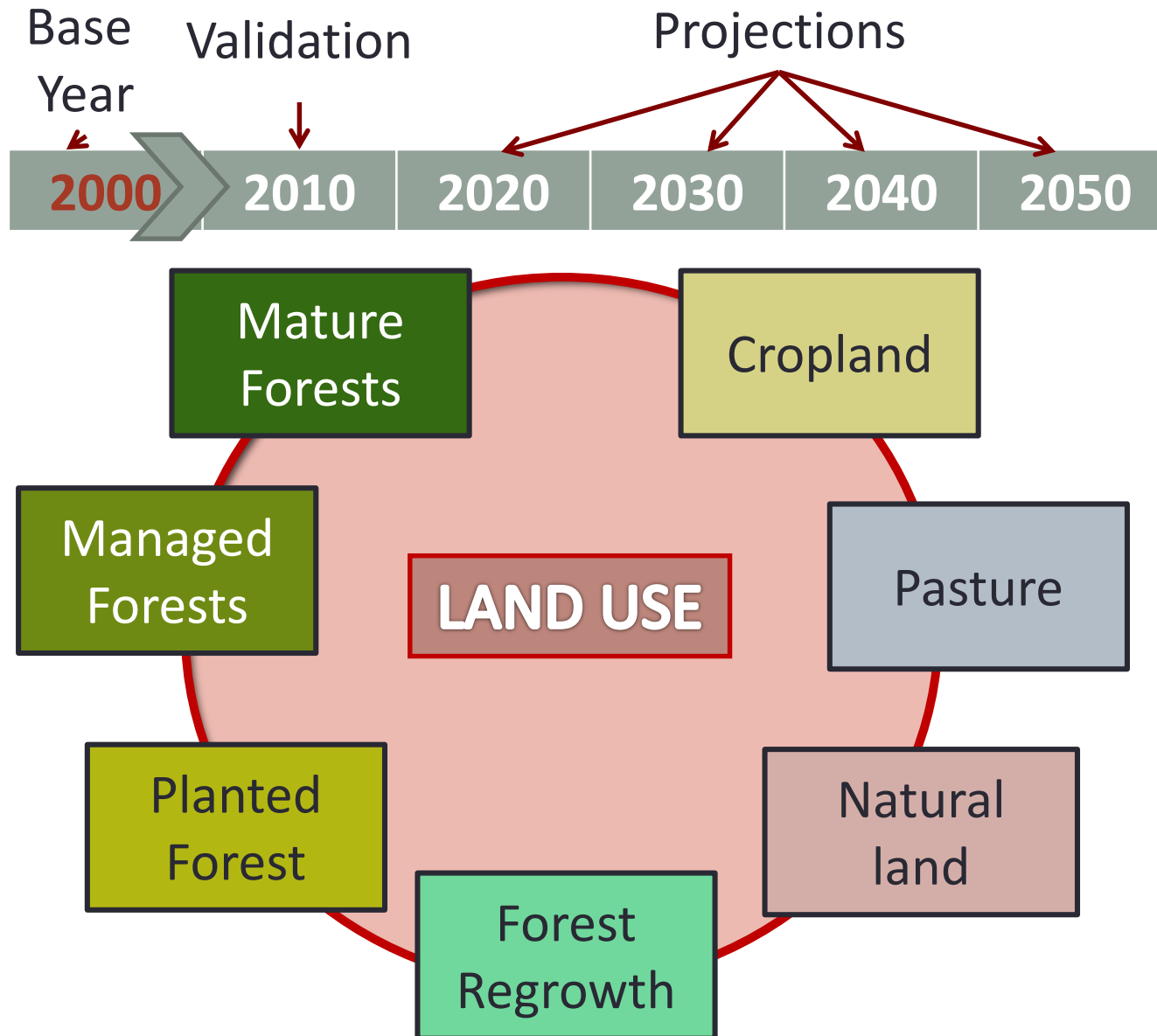
What happens after 2020? What about the rest of Brazil?

GLOBIOM: Global Biosphere Management Model

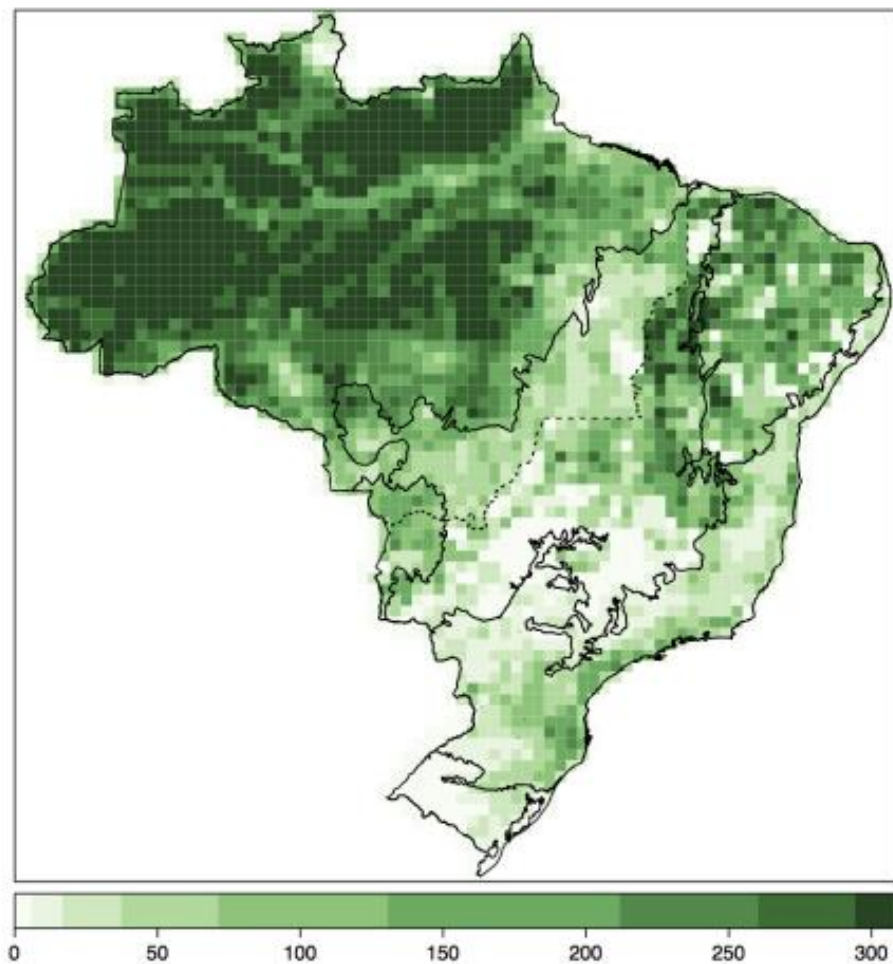
Partial equilibrium model: Agriculture, Forestry and Bioenergy sectors



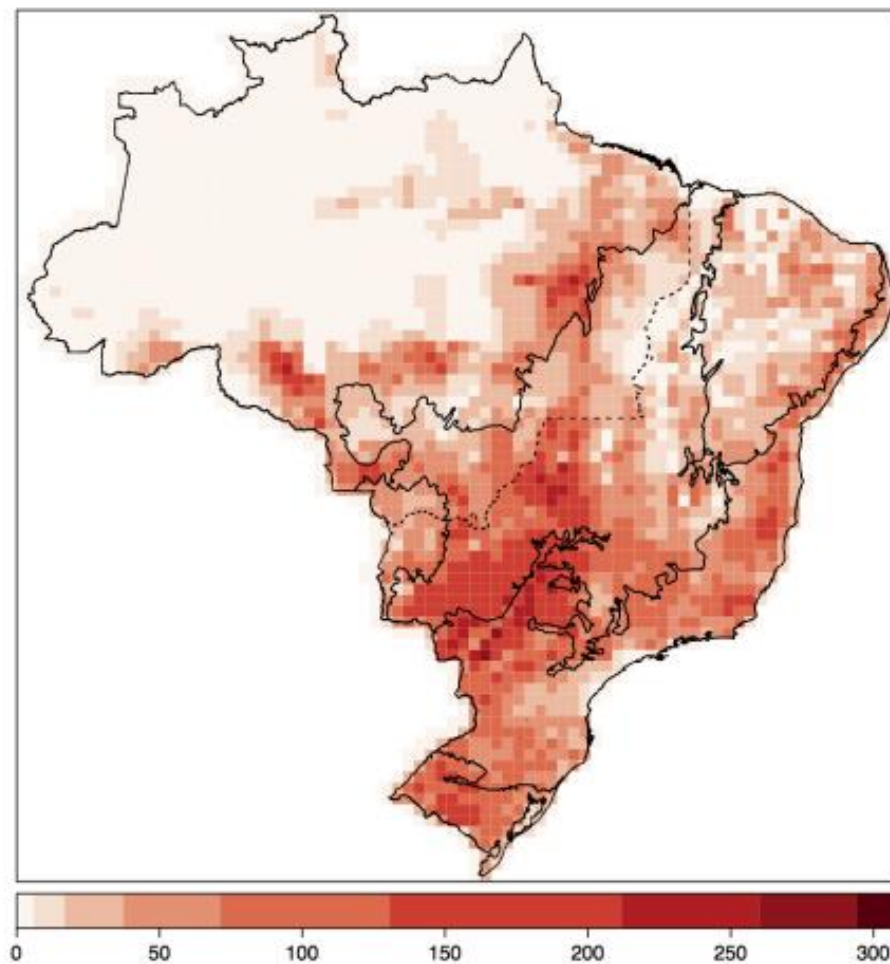
GLOBIOM-Brazil validation and projections



Base maps for GLOBIOM-Brazil



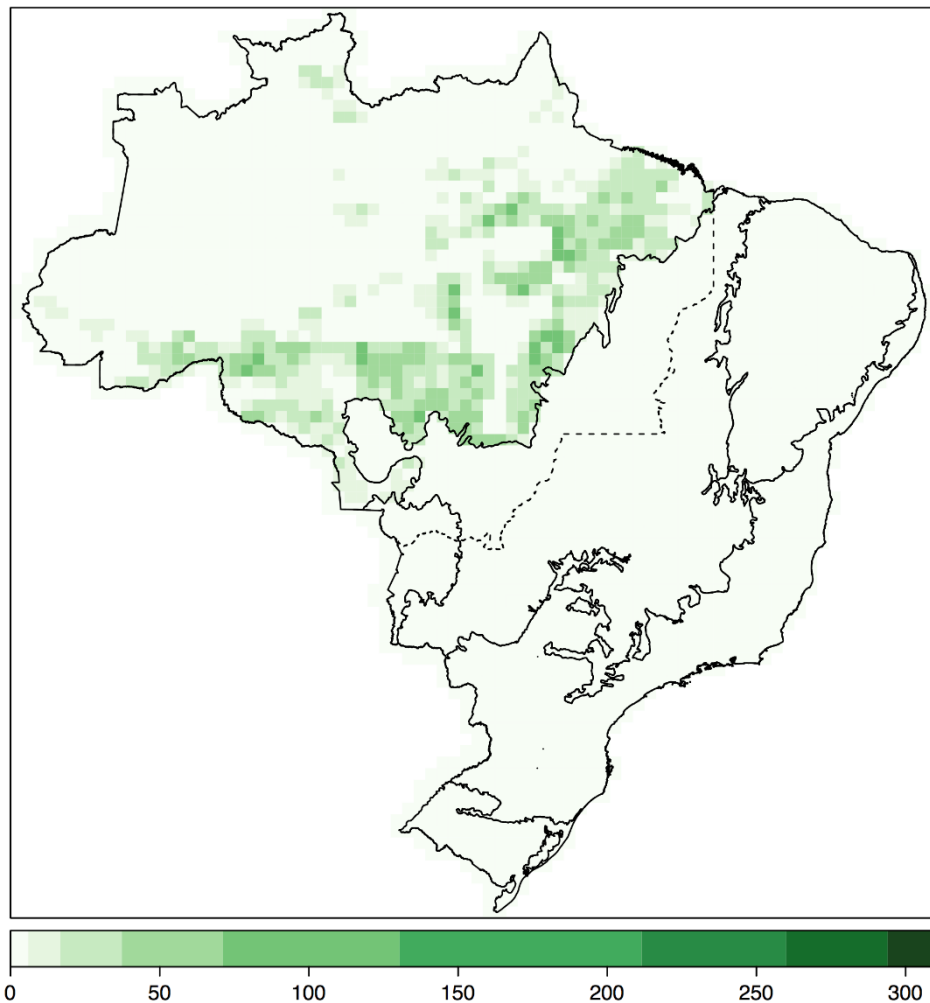
Forest 2000



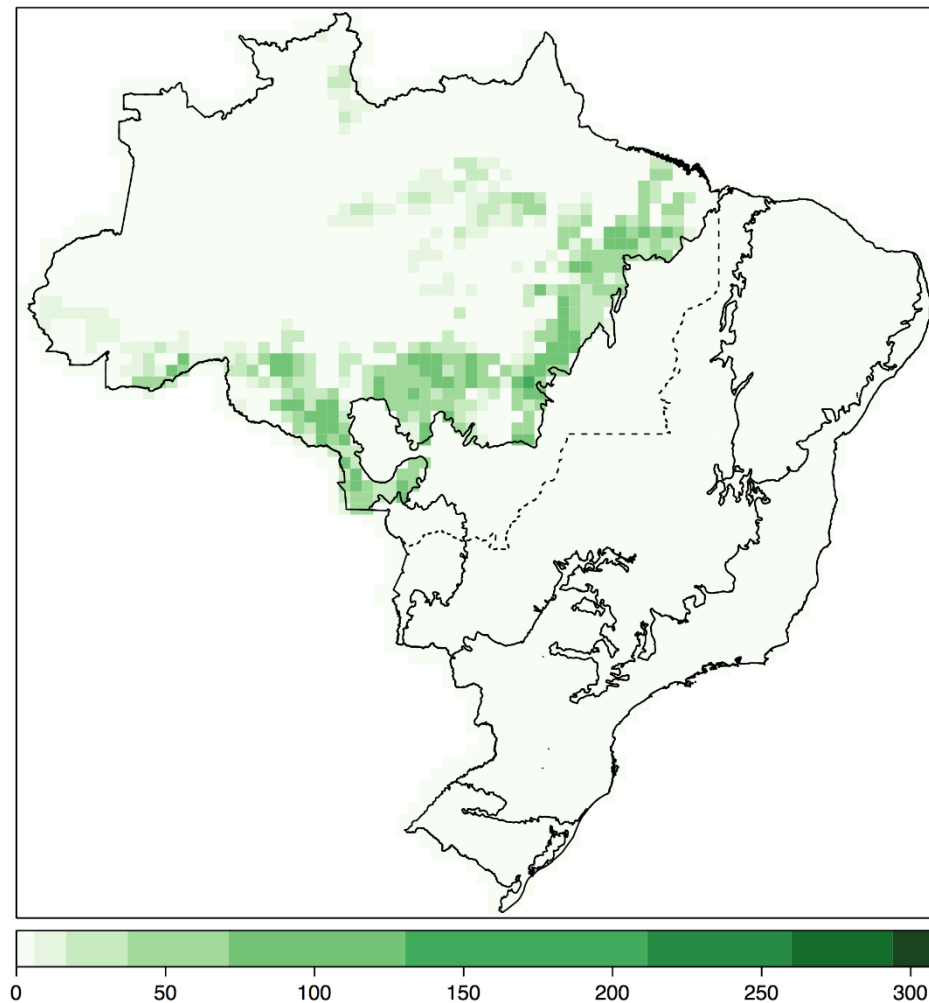
Livestock 2000

Validation: Accumulated Deforestation 2001-2010

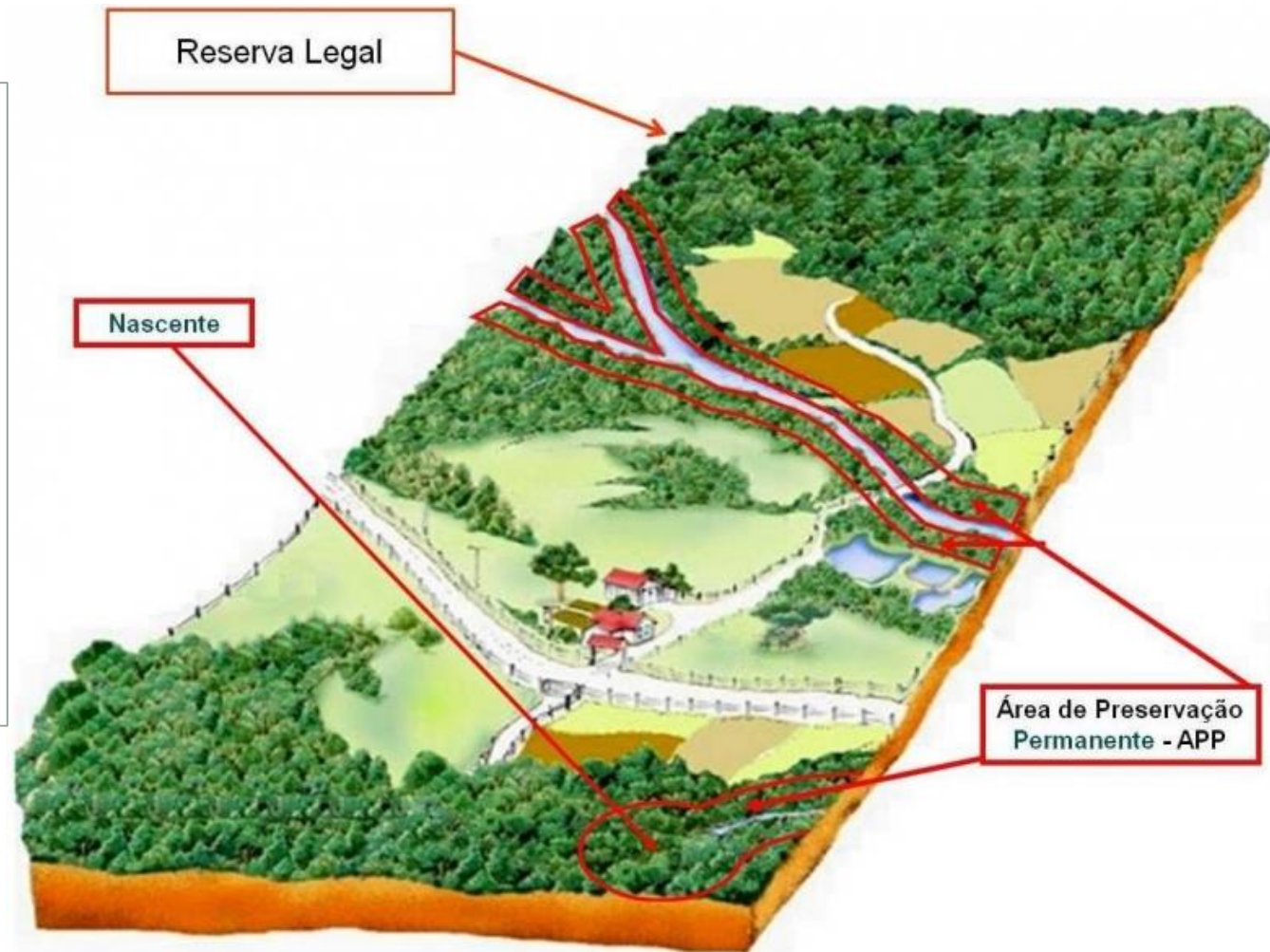
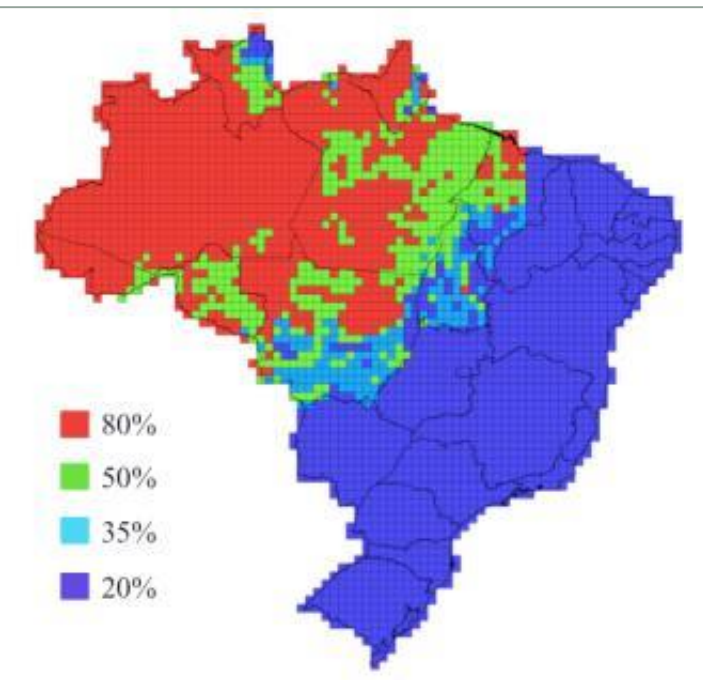
PRODES/INPE (16.5 Mha)



GLOBIOM-Brazil (16.9 Mha)



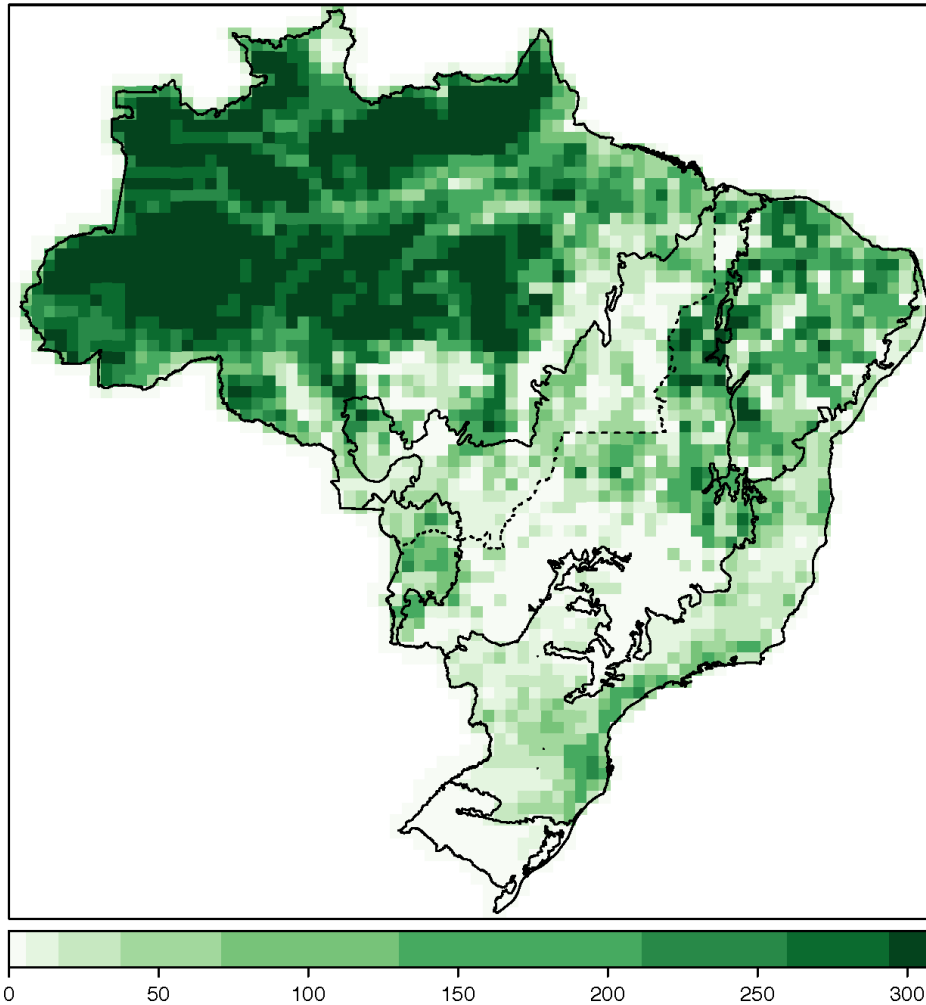
Brazil's Forest Code: what is the effect of the rule of law?



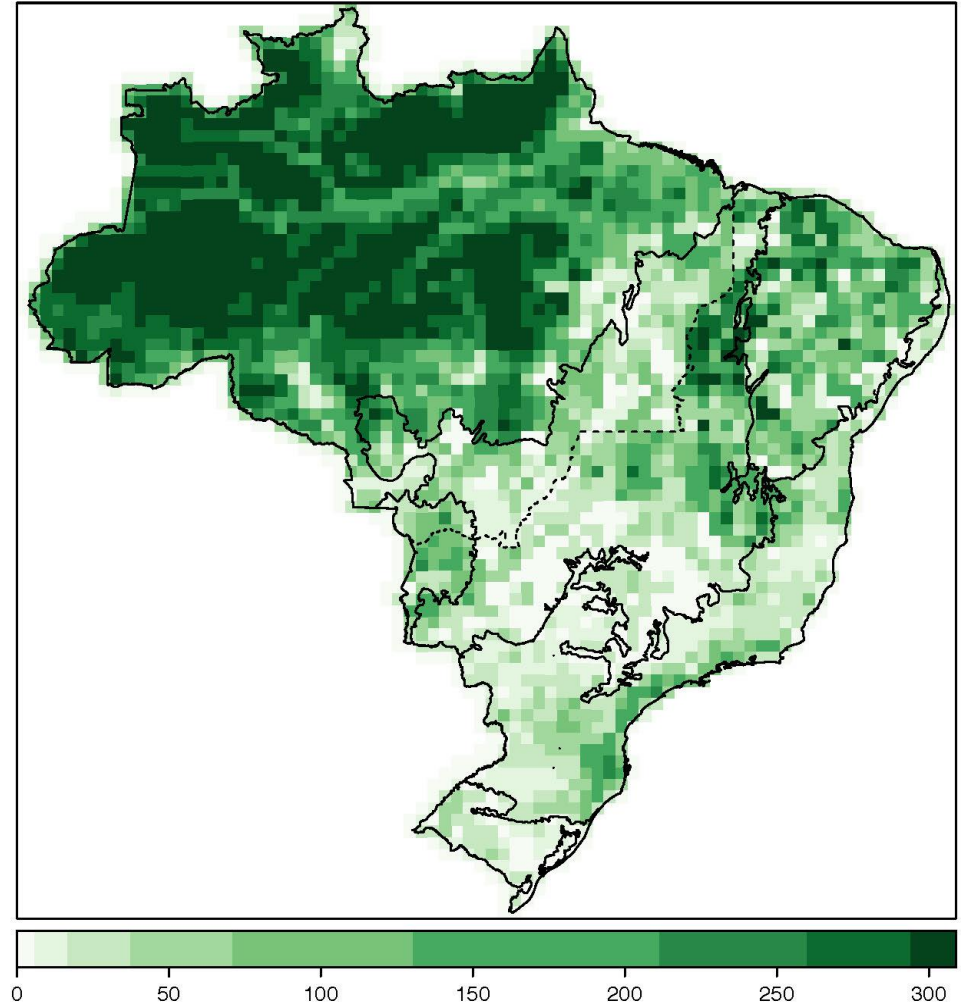
Private farms have to preserve natural vegetation (20% - 80%)

Projections: Forests 2030

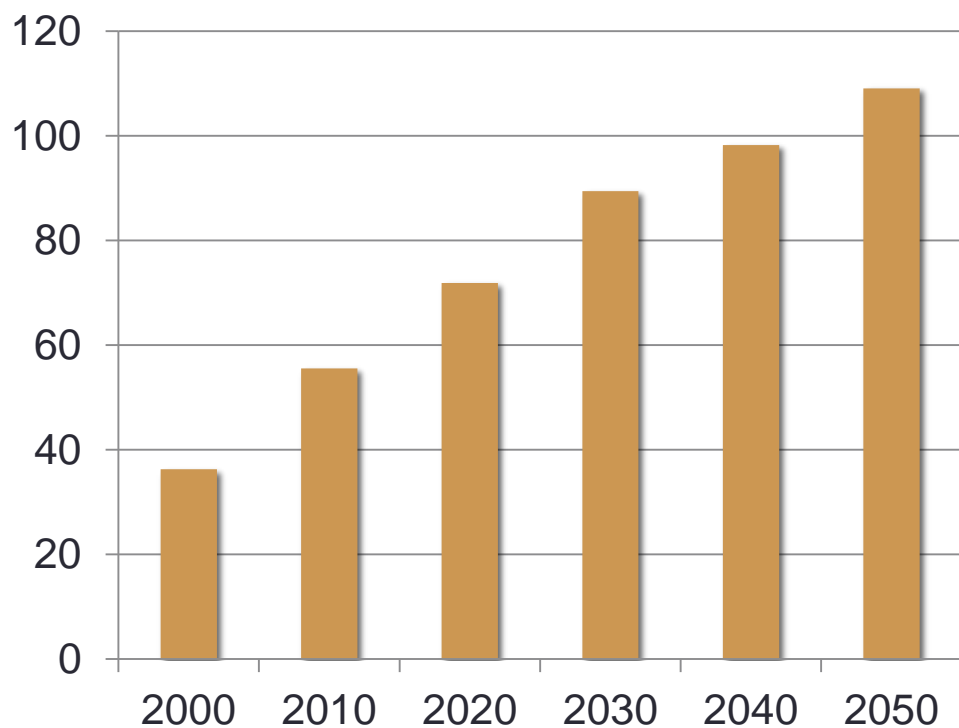
Business as usual (400 Mha)



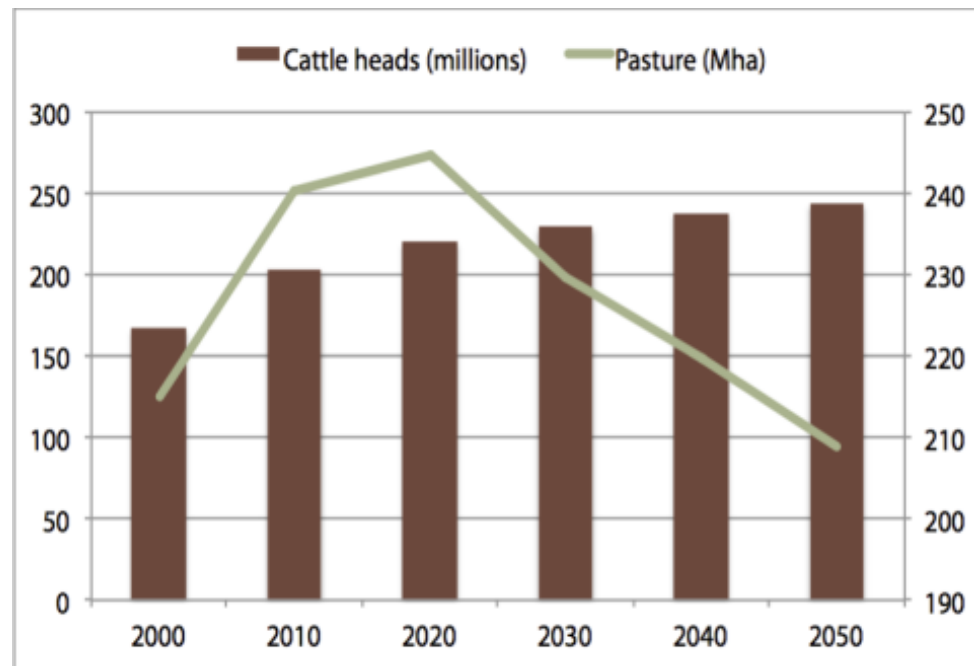
Forest Code (430 Mha)



Crop production grows, grassland decreases

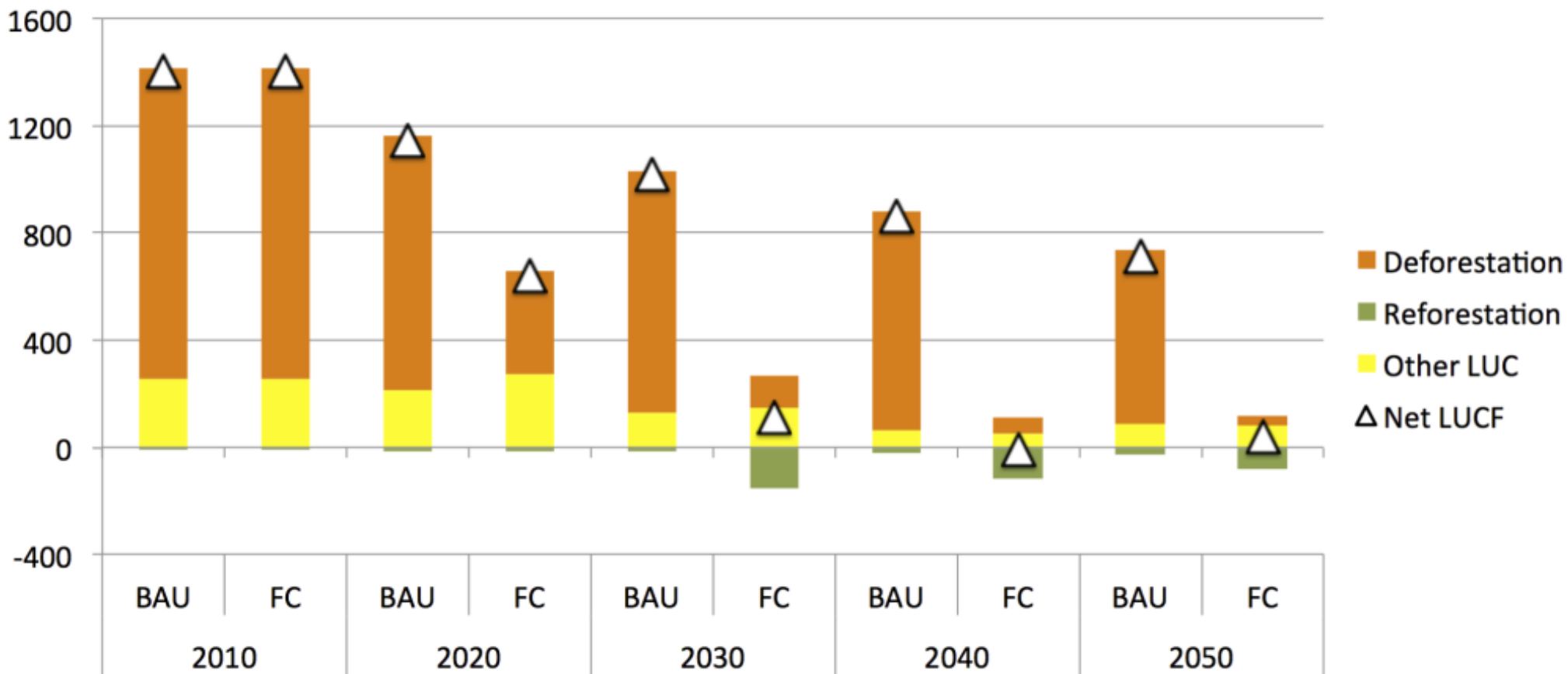


Croplands (Mha)



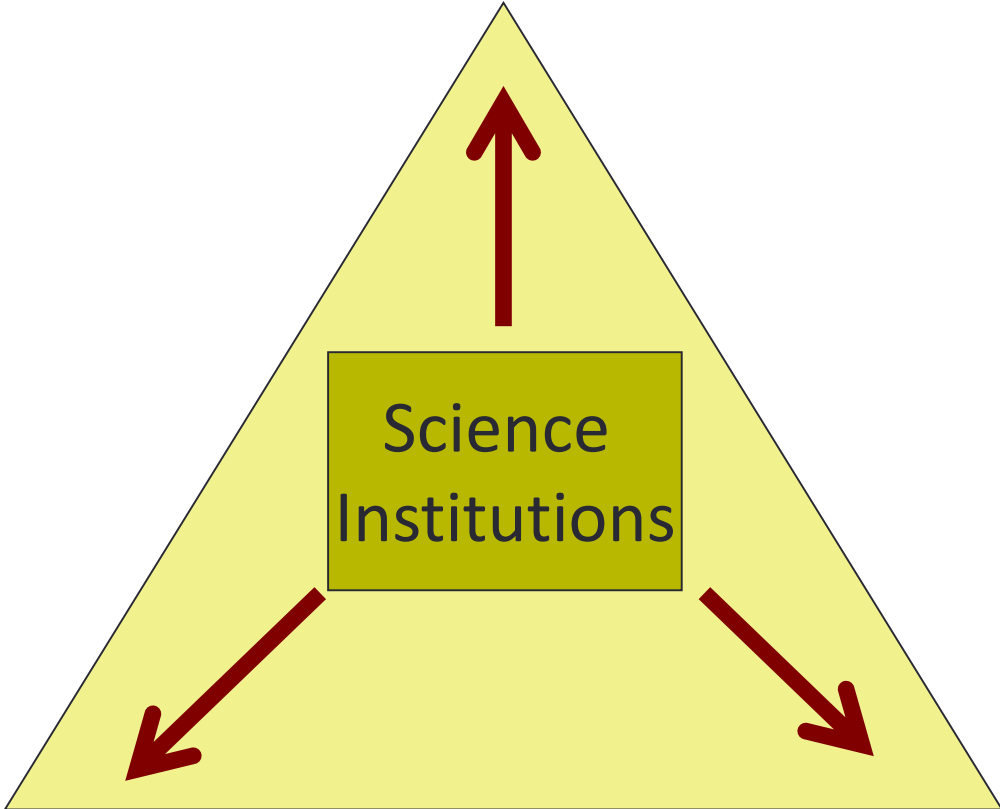
Cattle and pasture (heads and Mha)

Brazil's new Forest Code: zero net emissions from deforestation after 2030



Foundations of modern democracies

State (*power by technical staff*)

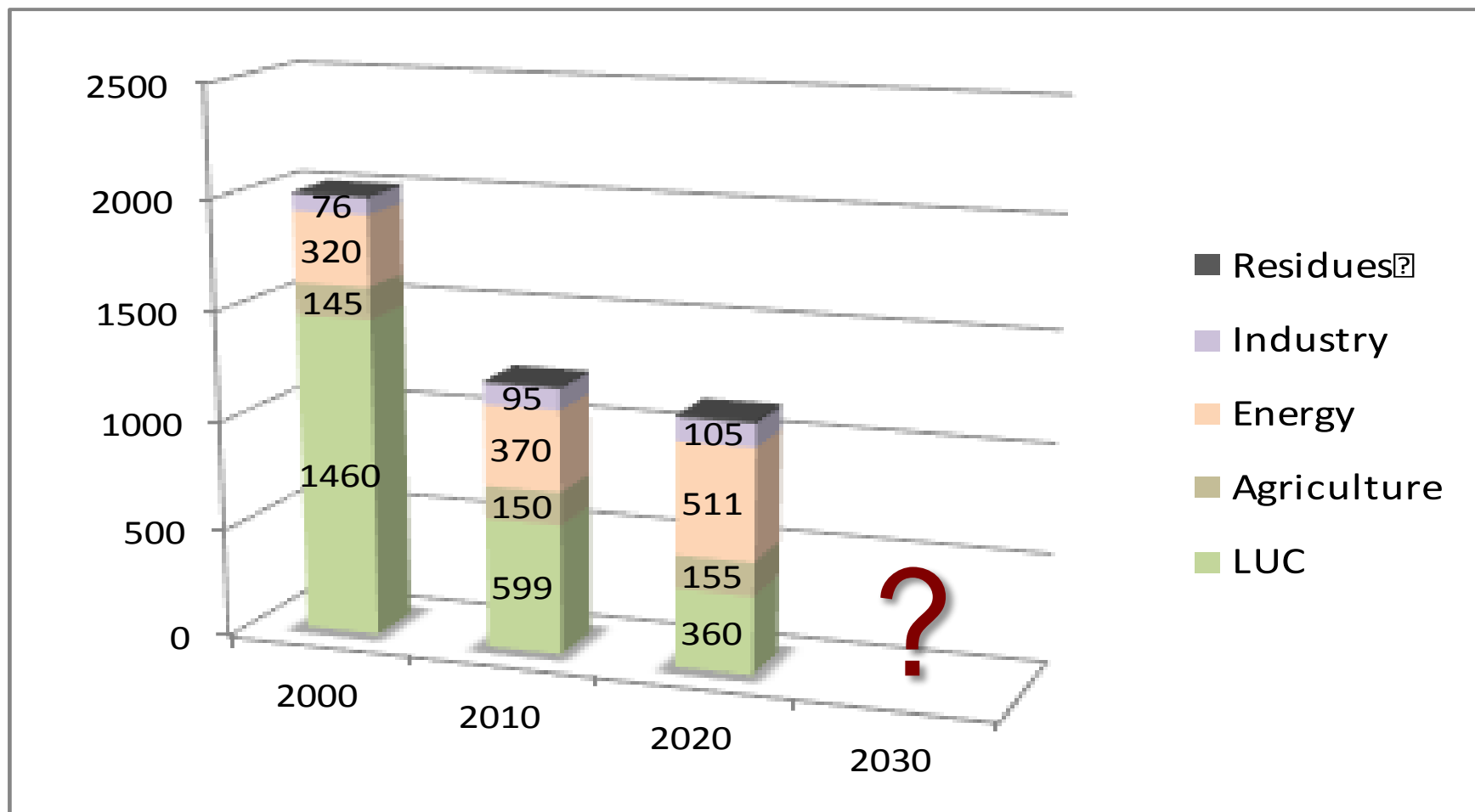


Rule of law
(*limits power*)

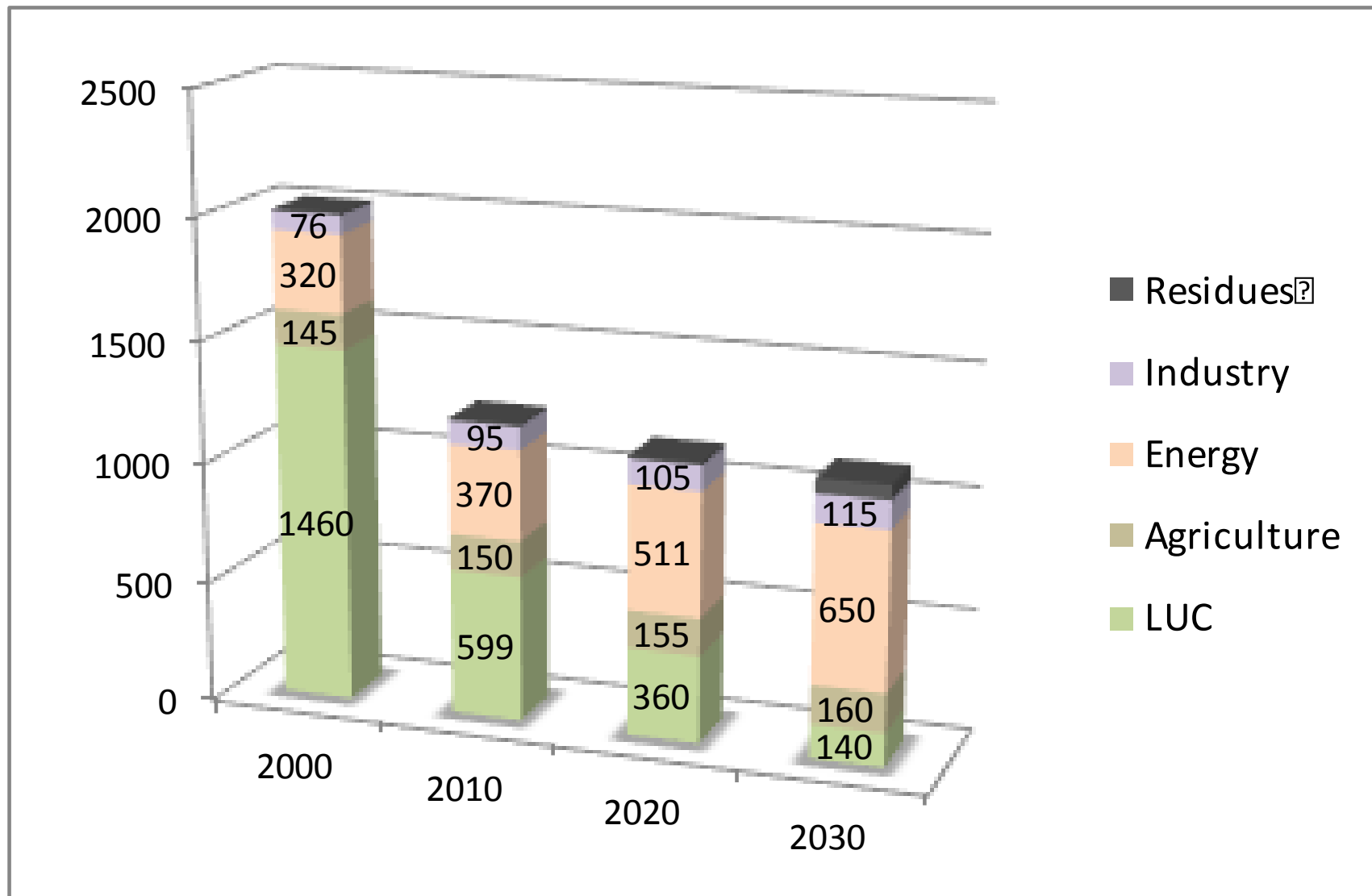
Society
(*public accountability*)

Additional slides for debate

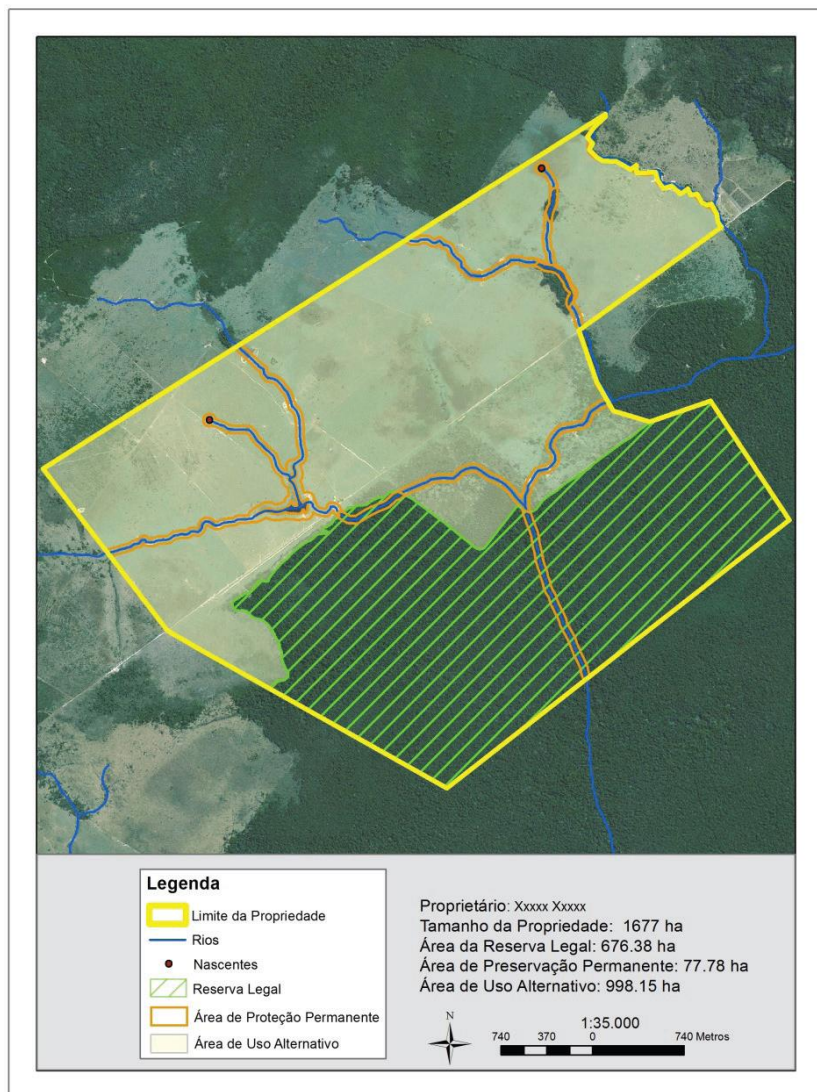
Possible trajectories of Brazilian GHG emissions?



Brazil's emissions profile is fast changing!

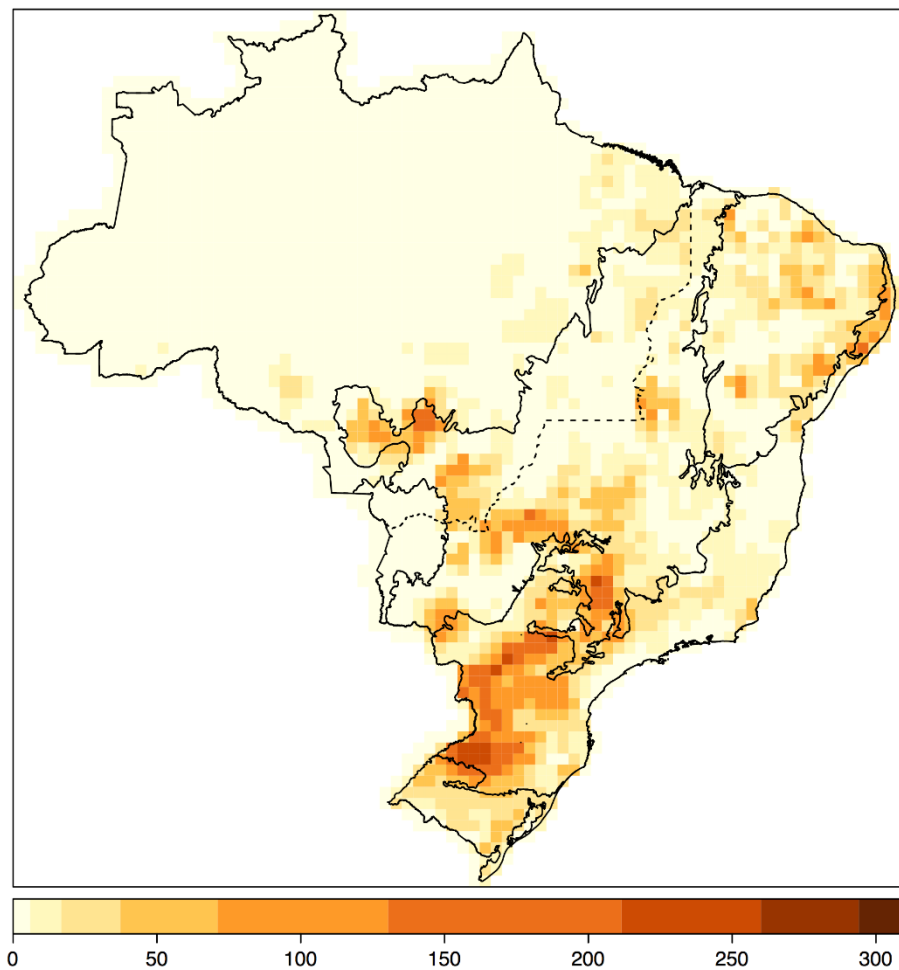


The importance of Brazil's Forest Code

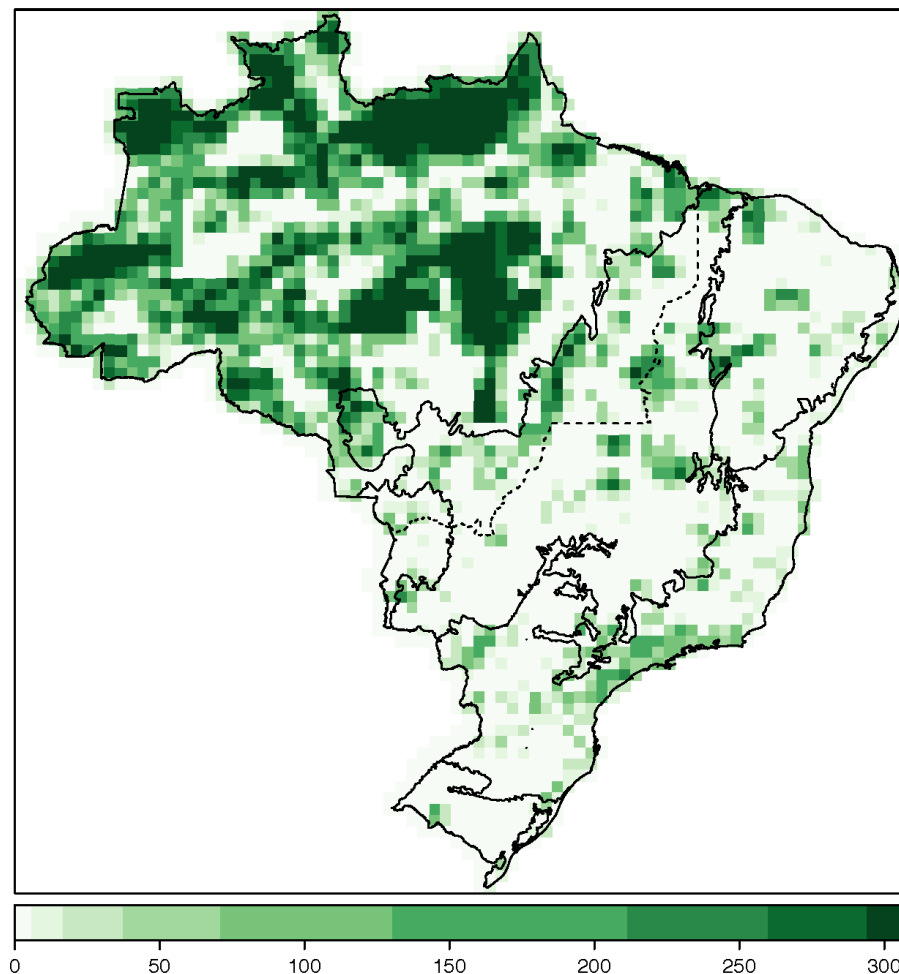


**Monitoring + control +
 land tenure +
 transparency + verification +
 market chain + incentives =**

Base maps for GLOBIOM-Brazil



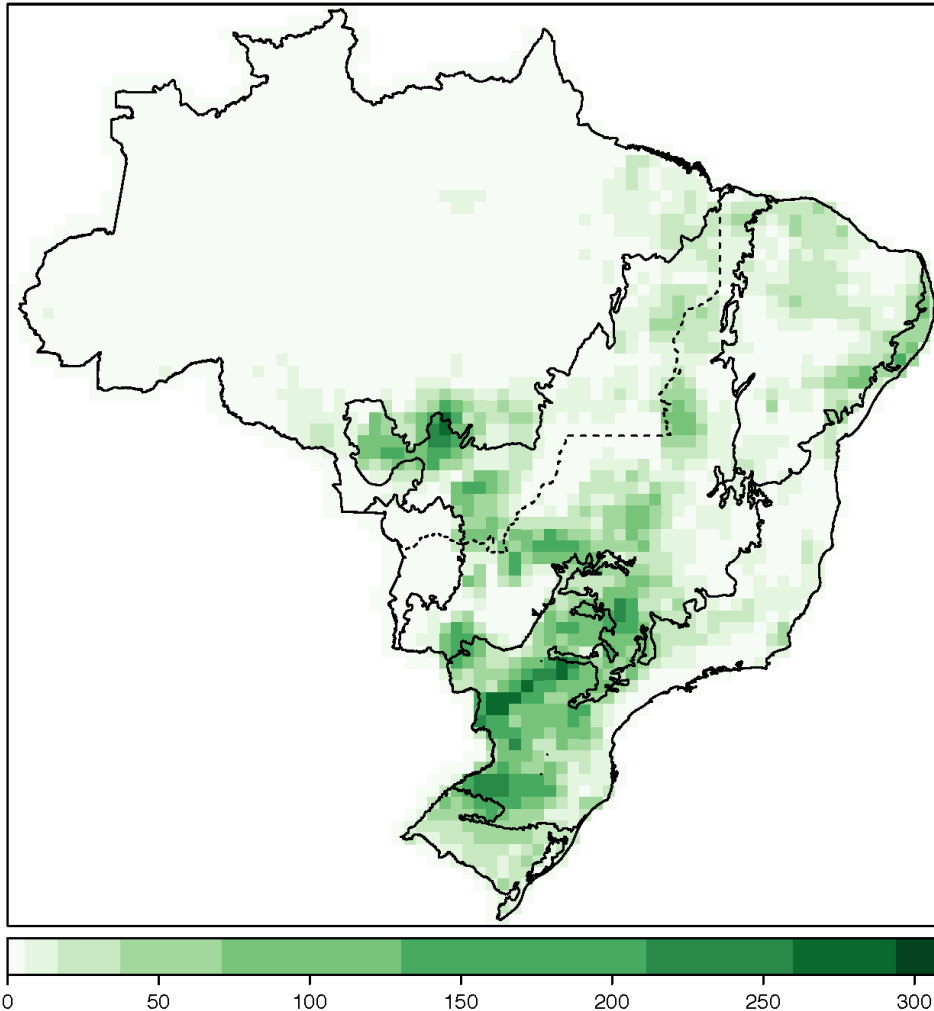
Croplands 2000



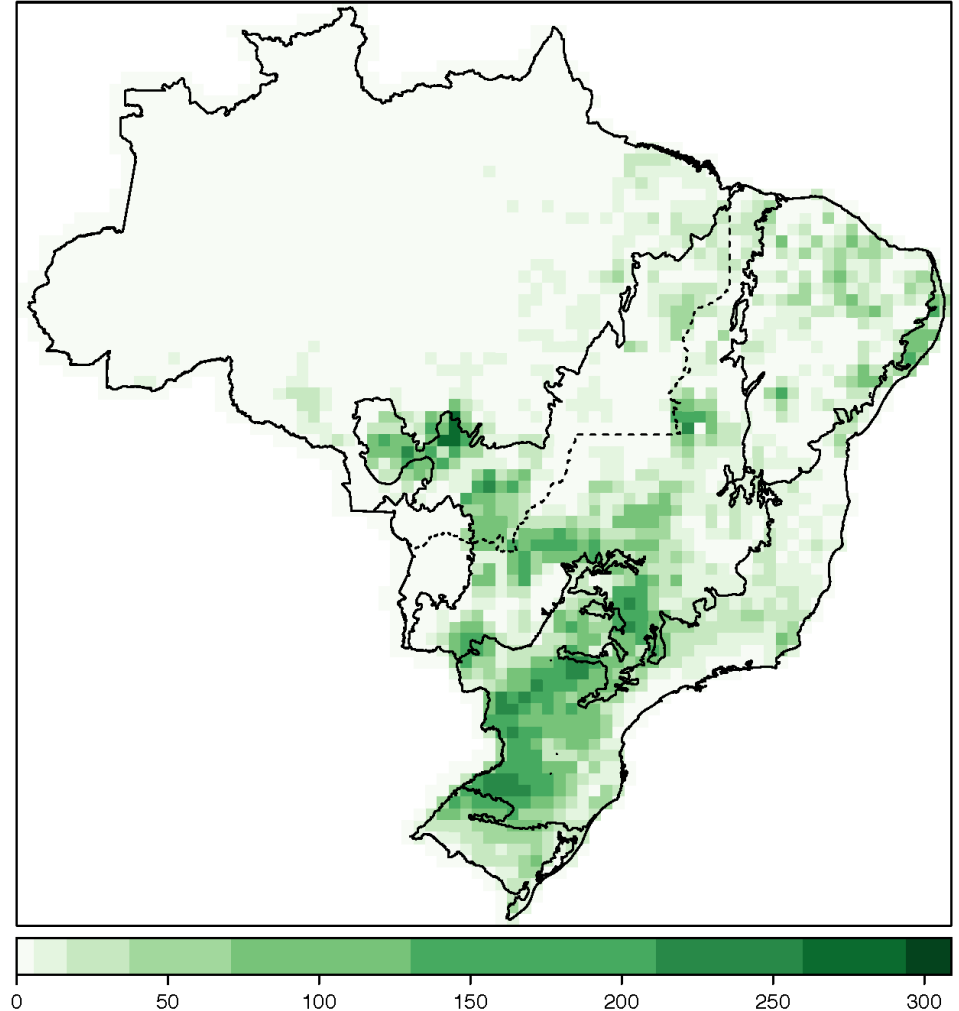
Protected areas 2000

Validation: Croplands 2010

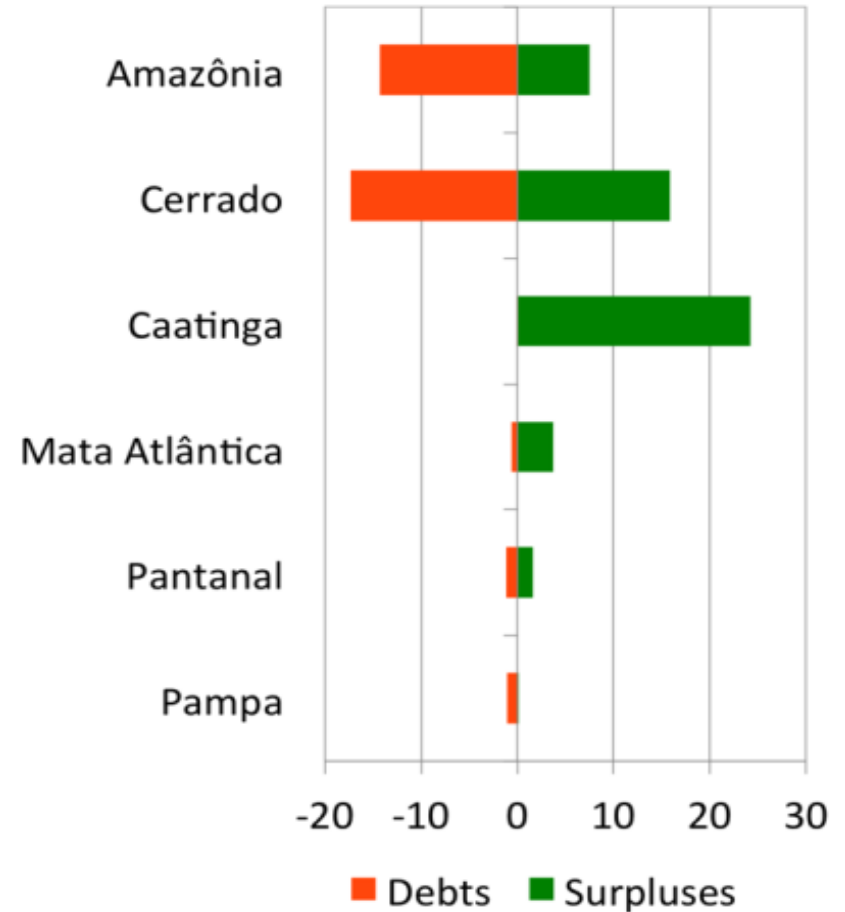
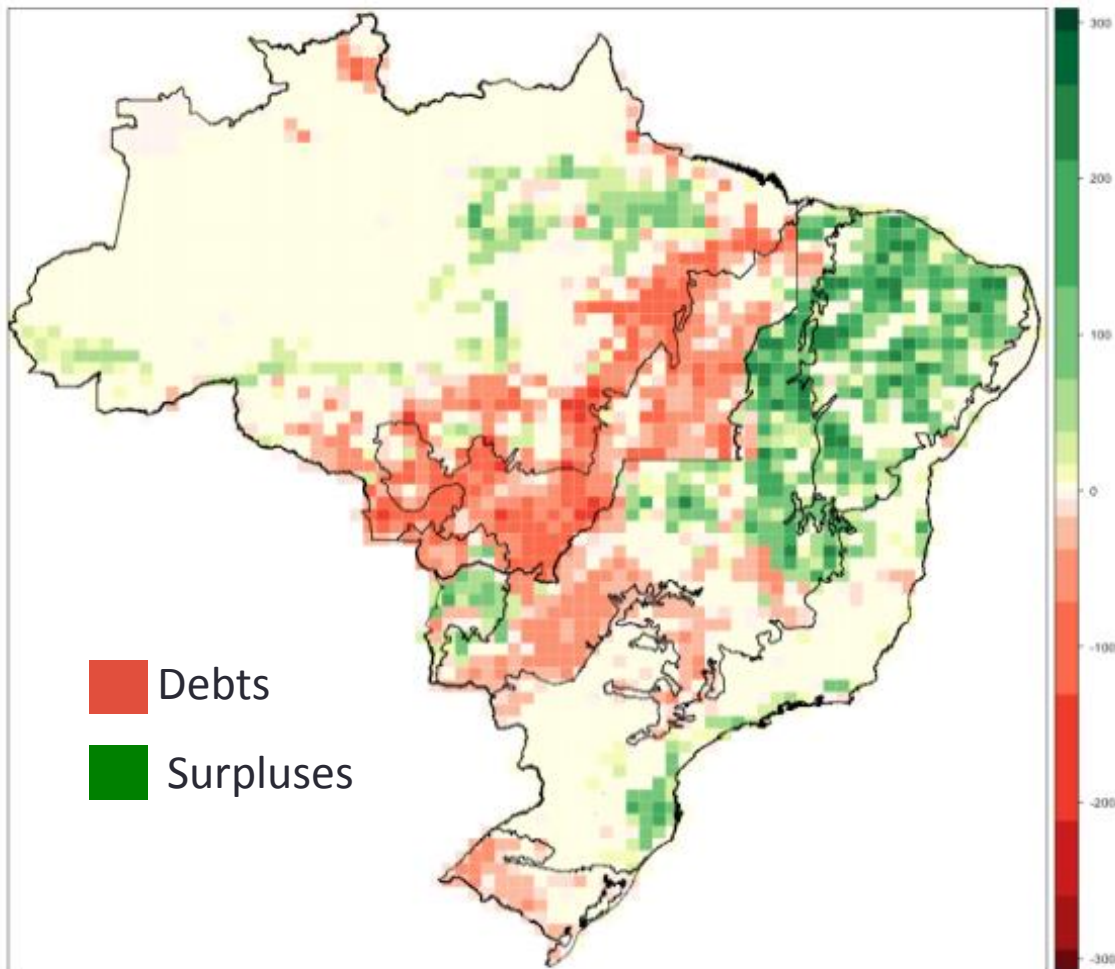
Census Bureau (57 Mha)



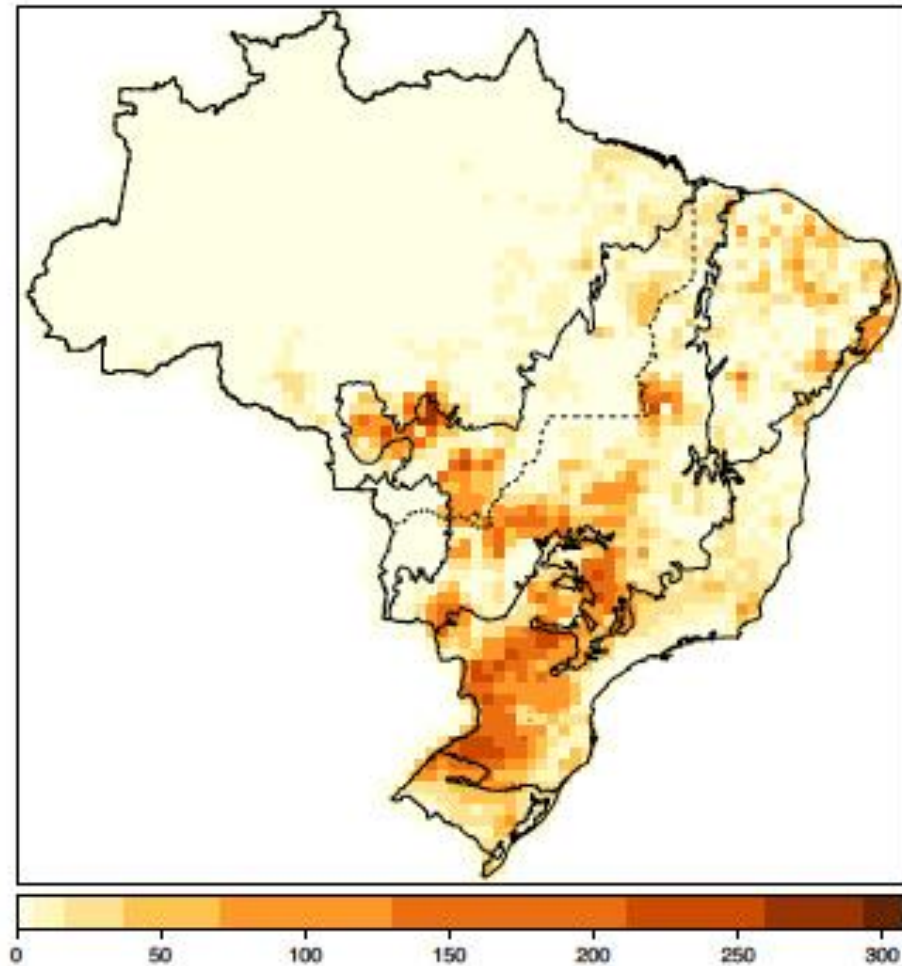
GLOBIOM-Brazil (61 Mha)



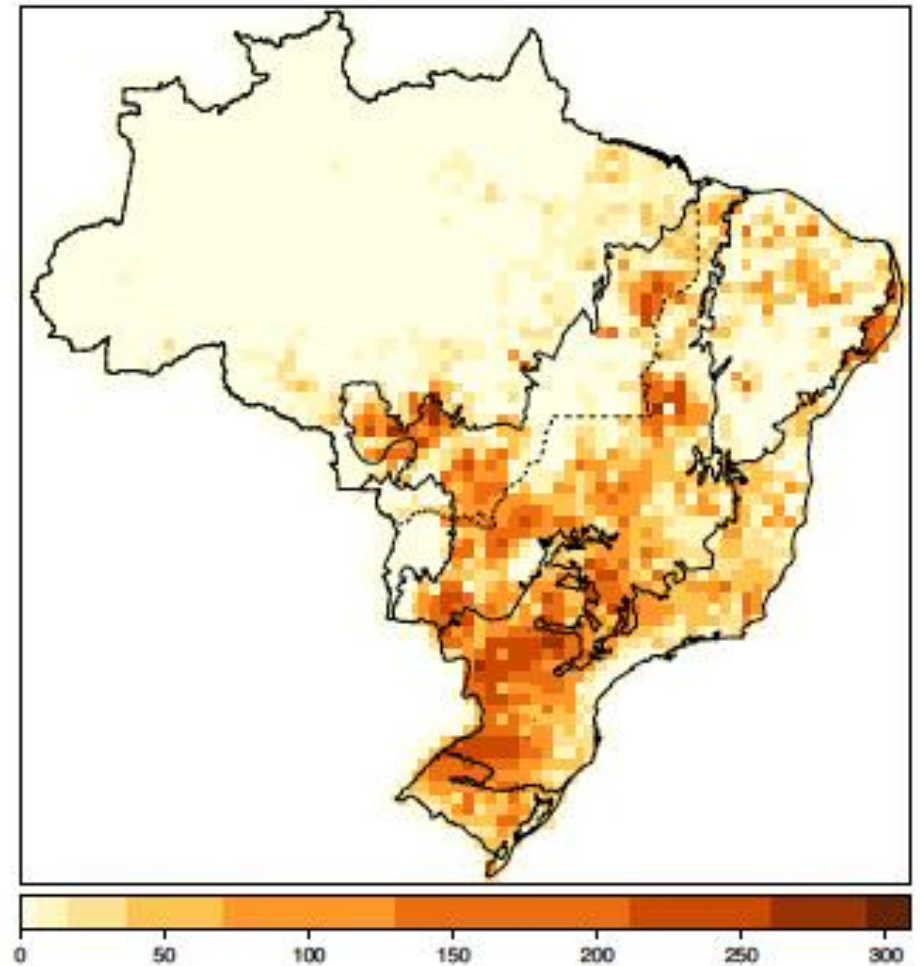
Environmental Debts and Surpluses (2010)



Cropland expansion: 2010 - 2030

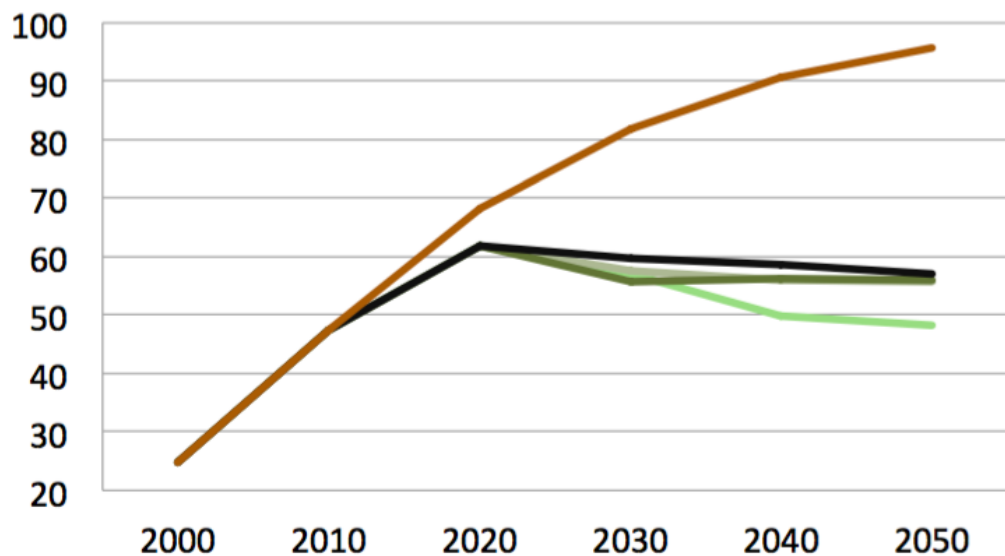


(a) 2010

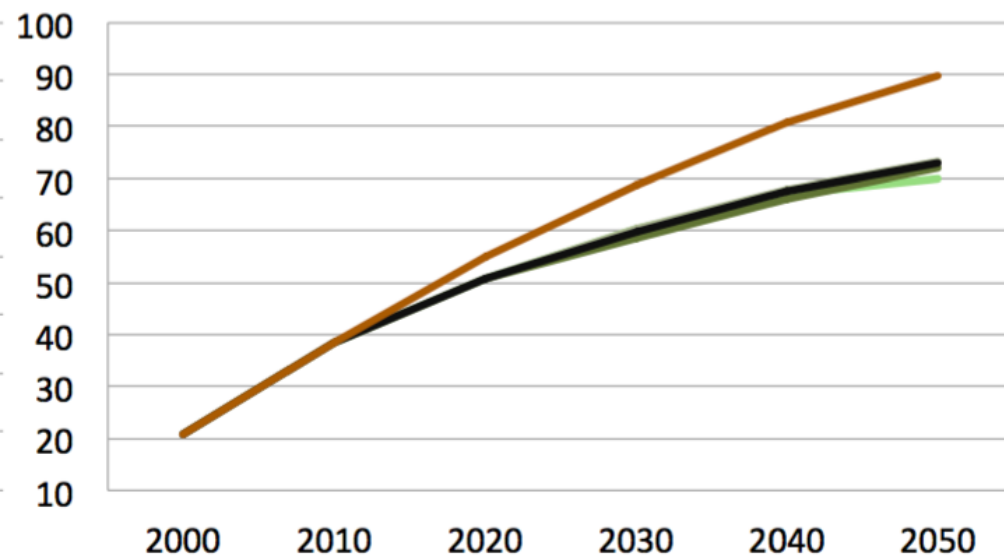


(b) 2030

Amazonia: the land of the cattle?



Pasture in Amazonia (Mha)



Cattle in Amazonia (Mtlus)

The importance of Brazil's Forest Code

A high quality rural environmental cadaster

A monitoring system for the whole country

Avoiding illicit break-up of large farms.

Avoid leakages and enhance forest conservation.

Strong action to avoid illegal deforestation in
Amazonis

Right incentives for efficient production must be in
place

Brazil: a natural knowledge economy

Deforestation cut by 80% (2005-15)



Best technology in biofuels



World leader in tropical agriculture



46% of energy is renewable