

Climate Report

Research on the economics of climate change



REDUCING EMISSIONS FROM DEFORESTATION AND DEGRADATION: WHAT CONTRIBUTION FROM CARBON MARKETS?

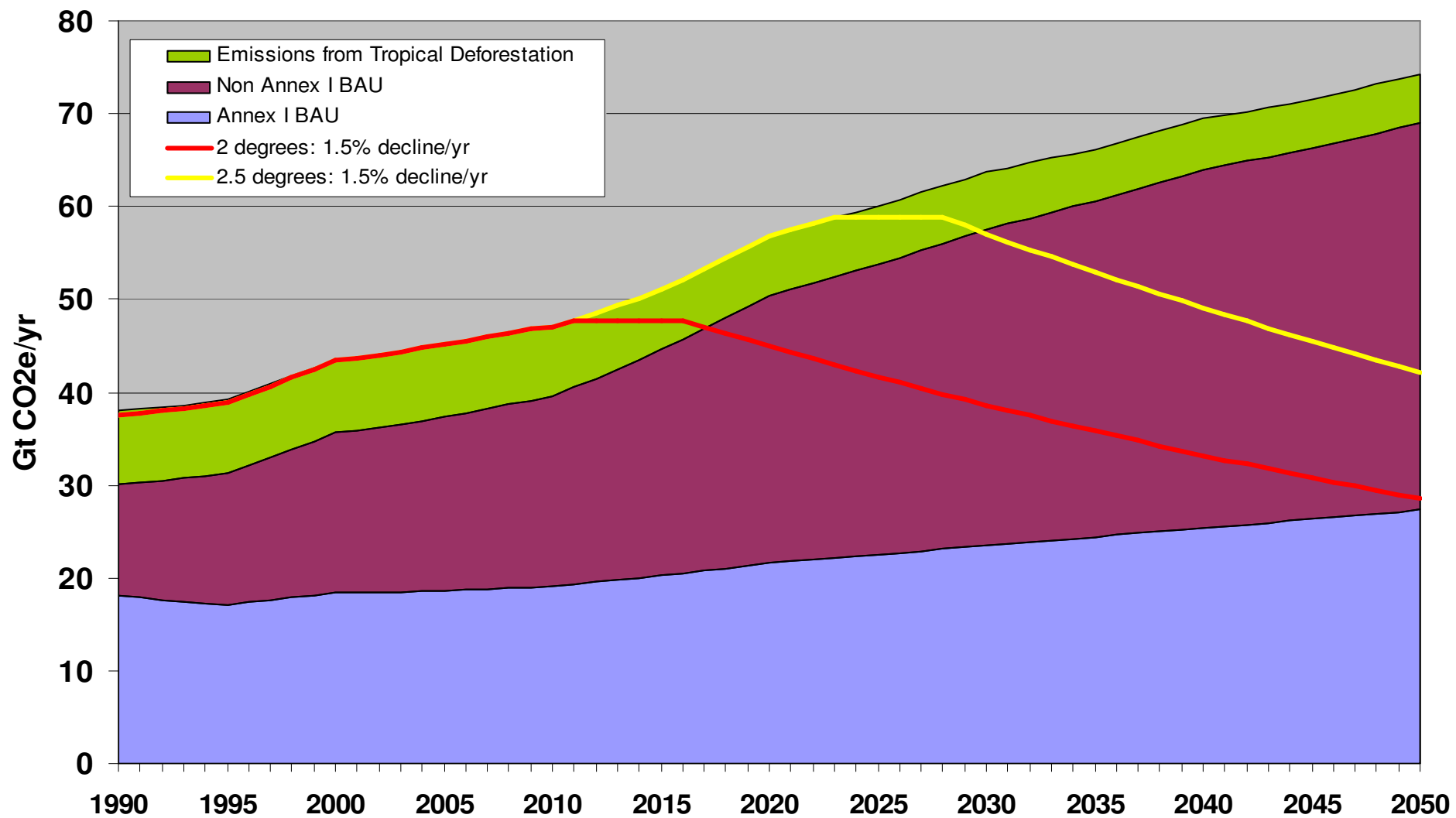
Valentin Bellassen^{*}, Renaud Crassous[†], Laura Dietzsch[†] and Stephan Schwartzman[§]

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ENVIRONMENTAL DEFENSE FUND
finding the ways that work

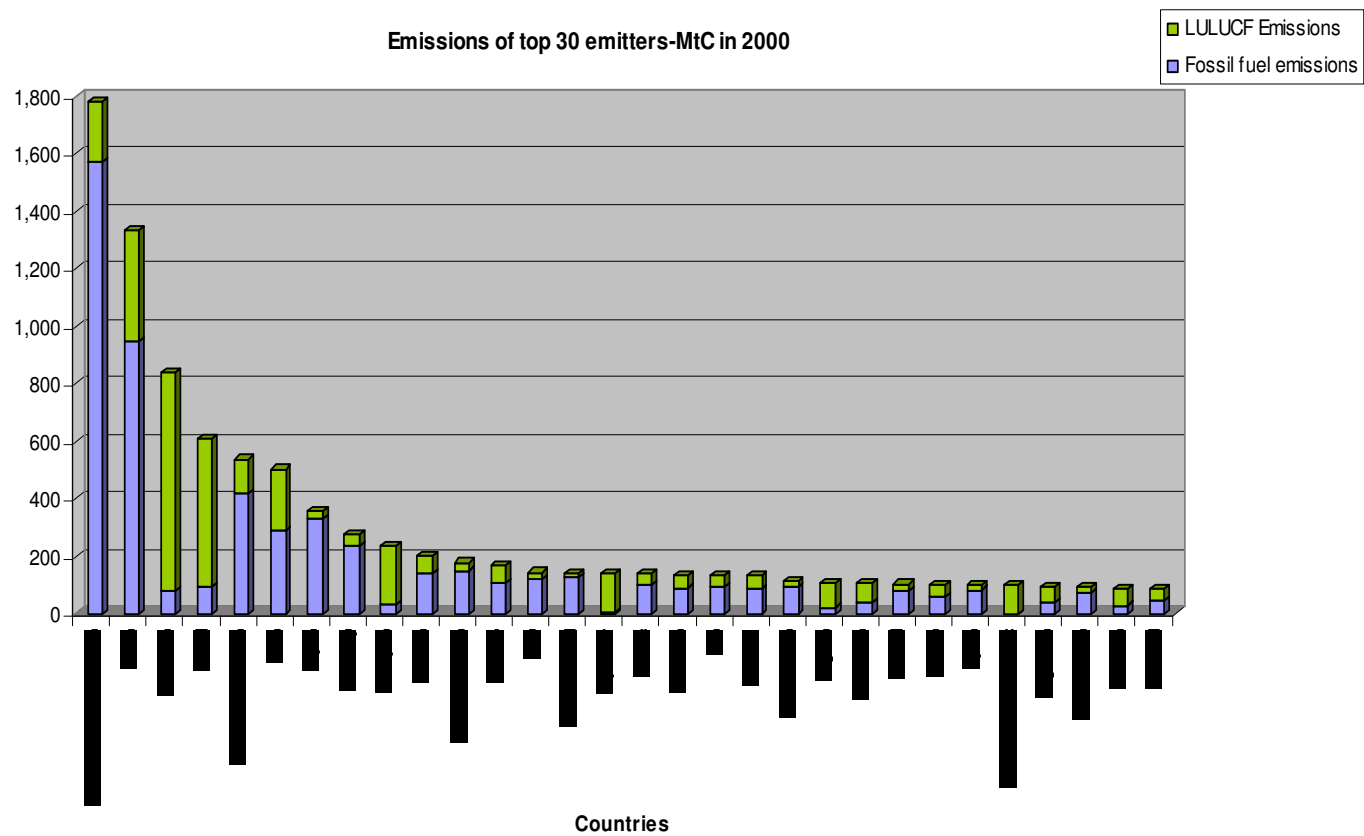
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Global Emissions at Business as Usual Scenario (1990-2050)

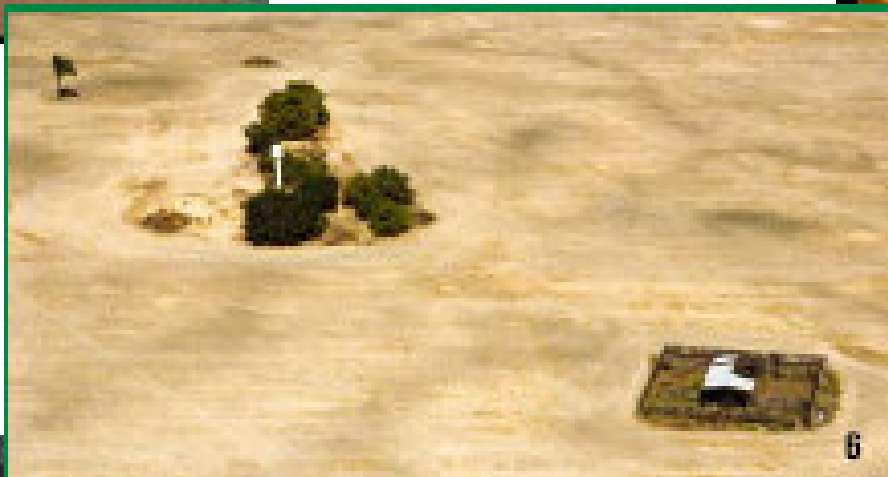


The future of the tropical forests of the world under business as usual

**~15 - 25% of annual global
greenhouse gas emissions**

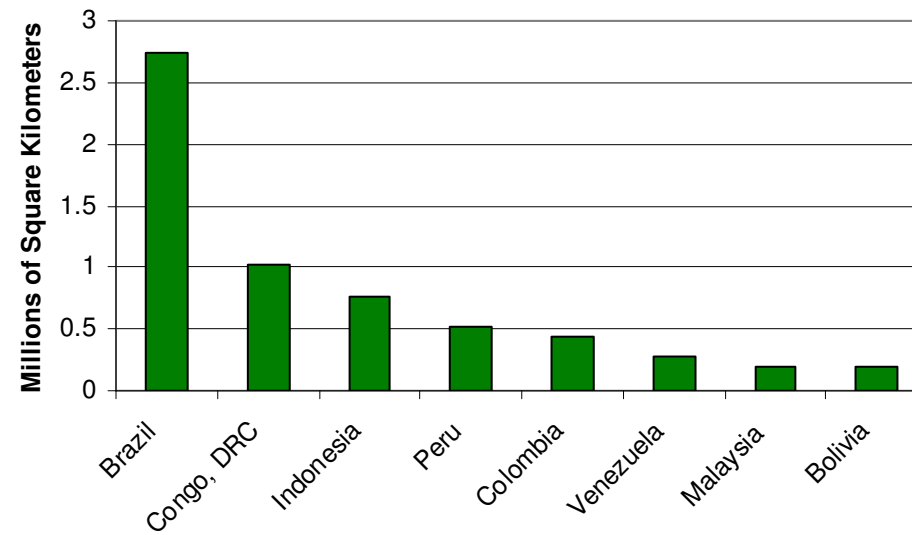


Drivers of Deforestation – anything is worth more money today than living forest

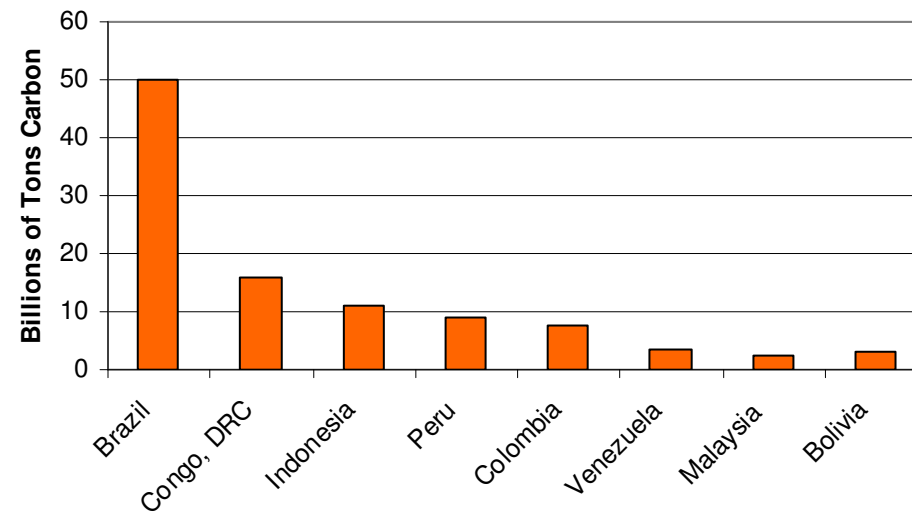


**18% of Brazilian
Amazon
~2X California**

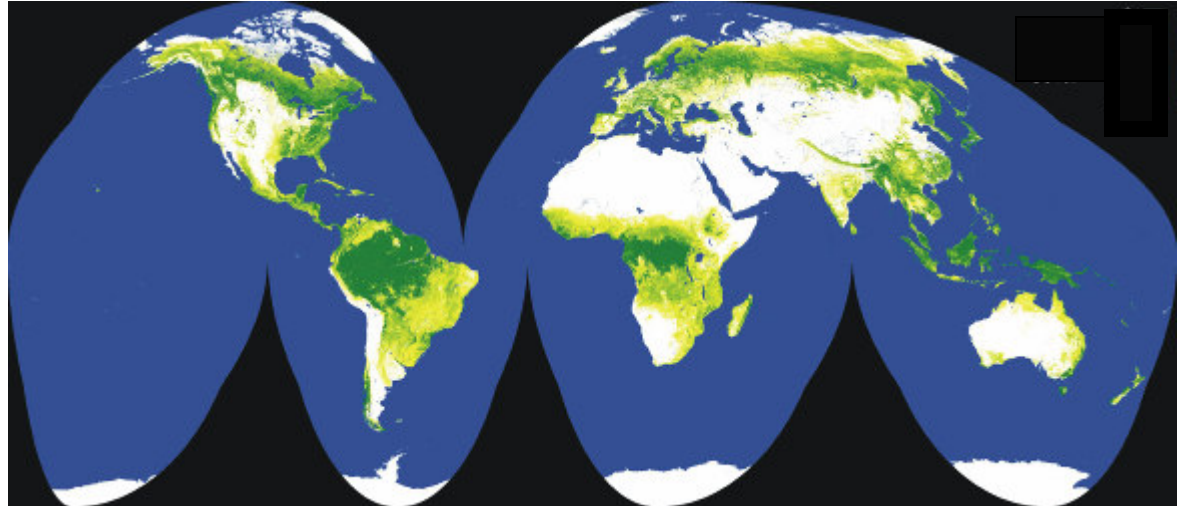
Forest Area with High Potential for Soy, Palm Oil, or Sugar Cane



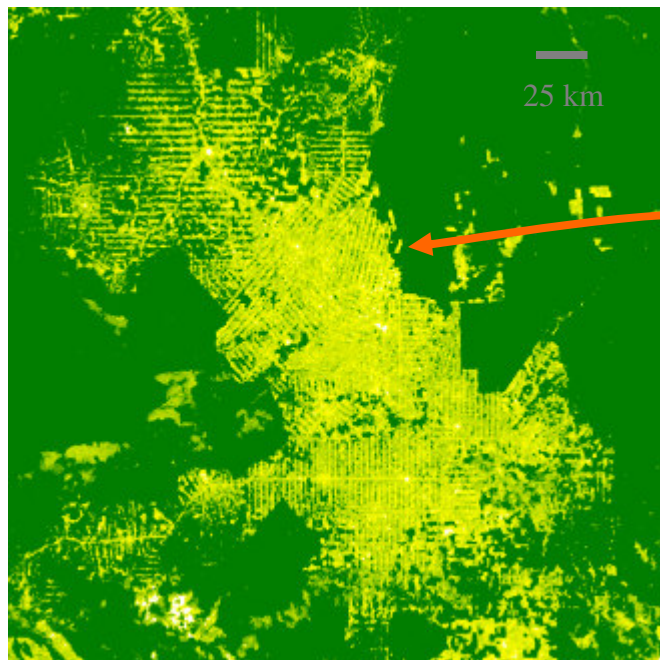
Forest Carbon on Lands with High Potential for Soy, Palm Oil, or Sugar Cane



Satellite Map of Forest Cover (500 m resolution)

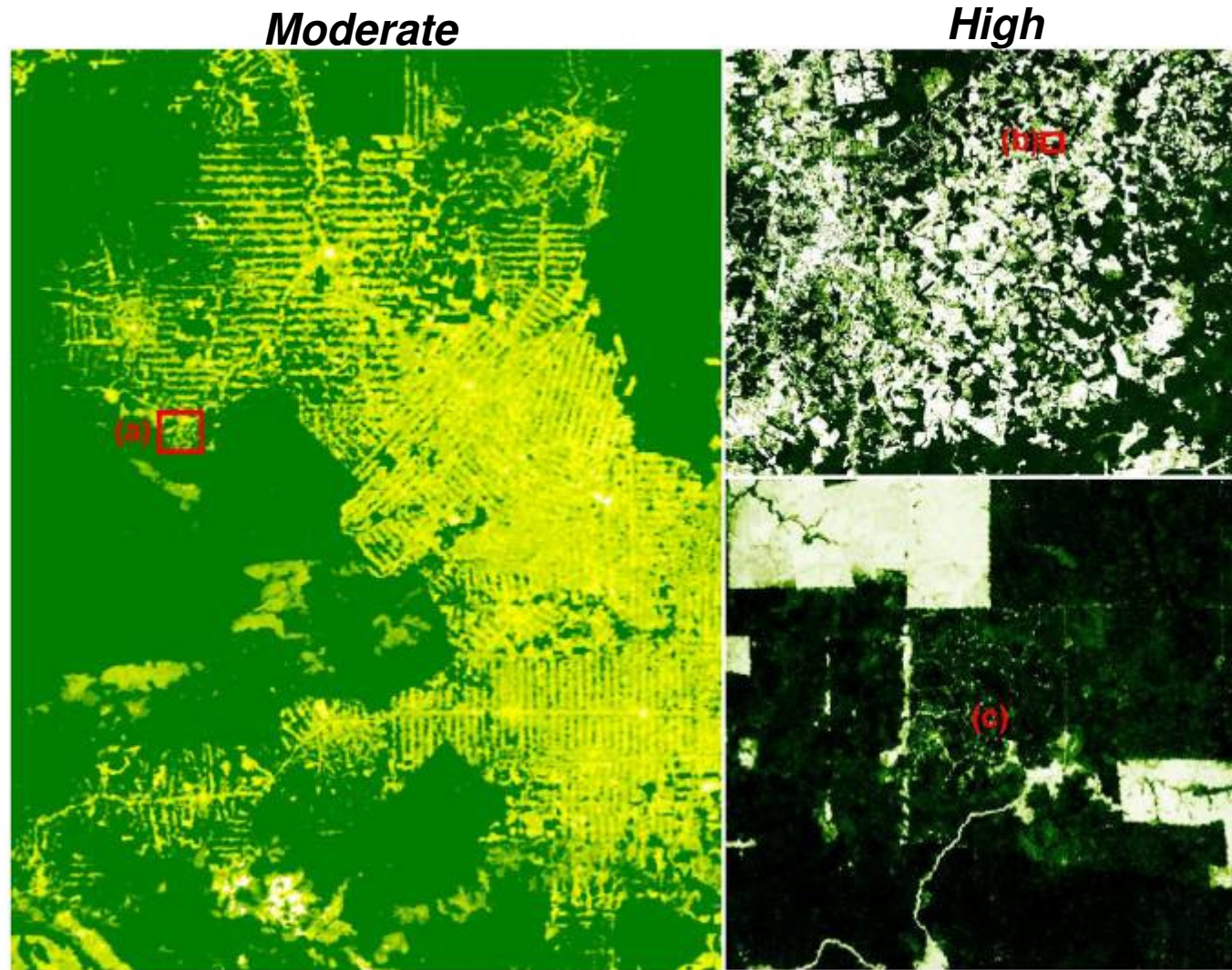


(Hansen et al. 2004)



Tree cover
0%
100%

Combining Moderate and High Resolution Satellite Data for Monitoring of Clear-cutting and Other Forest Losses



50 km

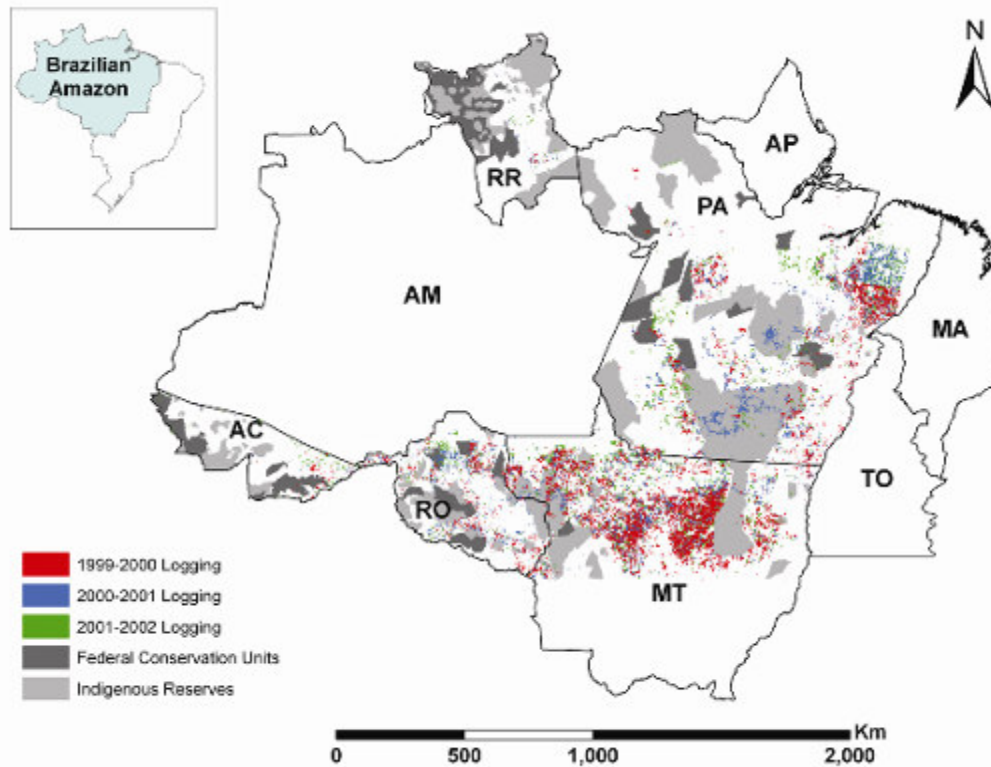


Table 1. Selective-logging rates from 1999–2002 in five major timber-producing states of the Brazilian Amazon, with comparison to the deforestation rates reported by the INPE (78).

State	1999–2000 rates (km ² year ⁻¹)		2000–2001 rates (km ² year ⁻¹)		2001–2002 rates (km ² year ⁻¹)	
	Logged	Deforested	Logged	Deforested	Logged	Deforested
Acre	64	547	53	419	111	727
Mato Grosso*	13,015	6,176	7,878	7,504	7,207	6,880
Pará	5,939	6,671	5,343	5,237	3,791	8,697
Rondonia	773	2,465	923	2,673	946	3,605
Roraima	32	253	55	345	20	54
Total	19,823	16,112	14,252	16,178	12,075	19,963

*Only the northern 58% of Mato Grosso containing forested lands was included in the analysis.

Monitoring and estimating tropical forest carbon stocks: making REDD a reality

Holly K Gibbs¹, Sandra Brown², John O Niles³ and Jonathan A Foley¹

8. Conclusions

The future of REDD and related climate policies need not be constrained by the technical challenges of estimating tropical forest carbon stocks. A range of options exists to estimate forest carbon stocks in developing countries and will continue to improve in response to the policy needs and signals.

Here we have provided IPCC Tier 1 estimates of national-level forest carbon stocks that can be used immediately by countries and policy-makers. Each country will need to use expert judgment based on financial, time and capacity constraints in deciding whether to use higher Tier methods.

United Nations Conference Framework Convention on Climate Change (UNFCCC) 13th Conference of the Parties; Kyoto Protocol 3rd Meeting of the Parties, December 3 – 14, 2007, Bali



Bali Action Plan: agreement to negotiate a post-2012 international emissions control regime

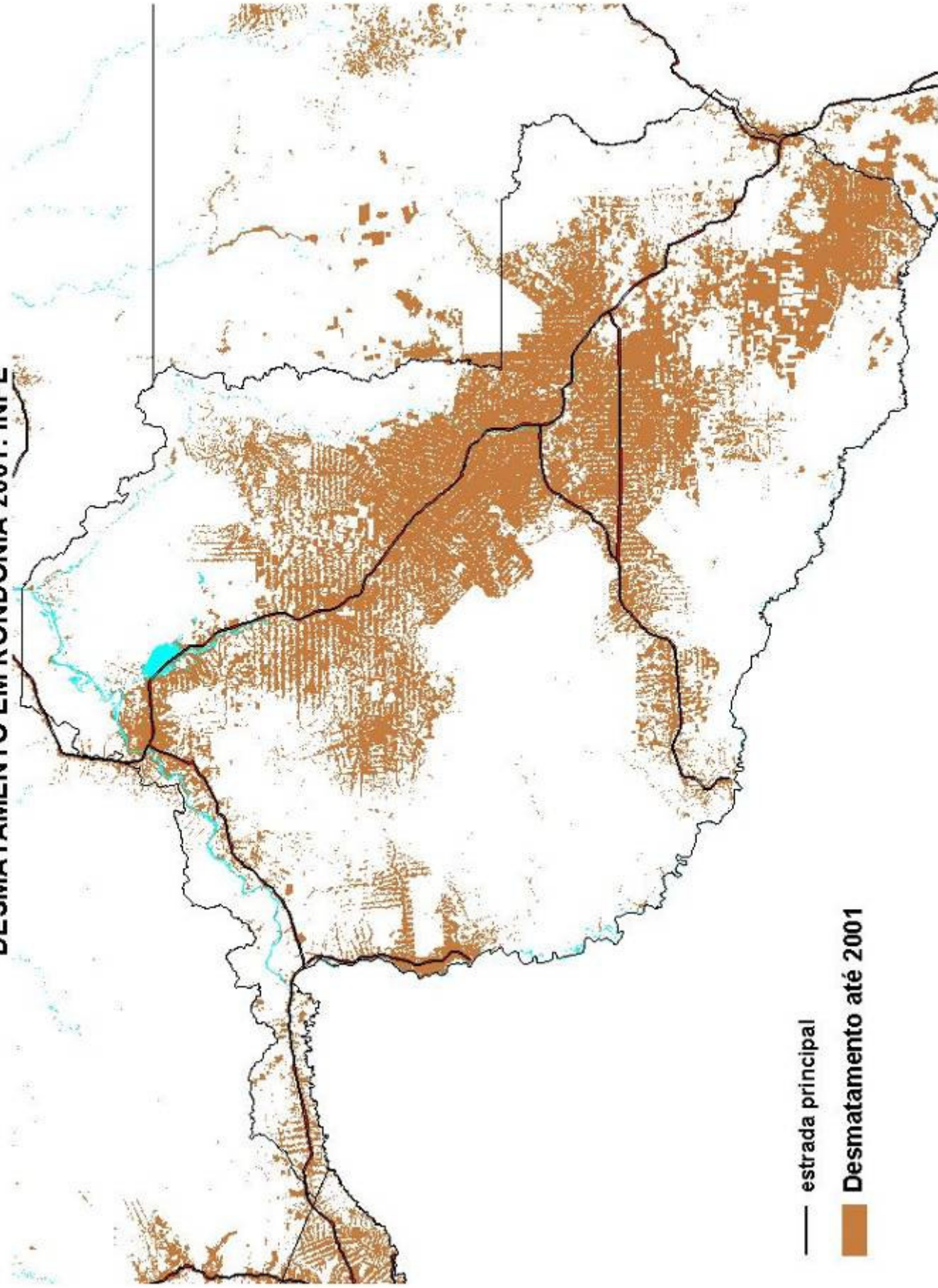
Reducing Emissions from Deforestation and Forest Degradation (REDD)

A photograph showing a large fire burning in a tropical forest. Thick orange and yellow flames are visible at the base of the trees, with a massive plume of white and grey smoke rising into the sky. Several palm trees are silhouetted against the smoke. The overall scene is one of destruction and environmental impact.

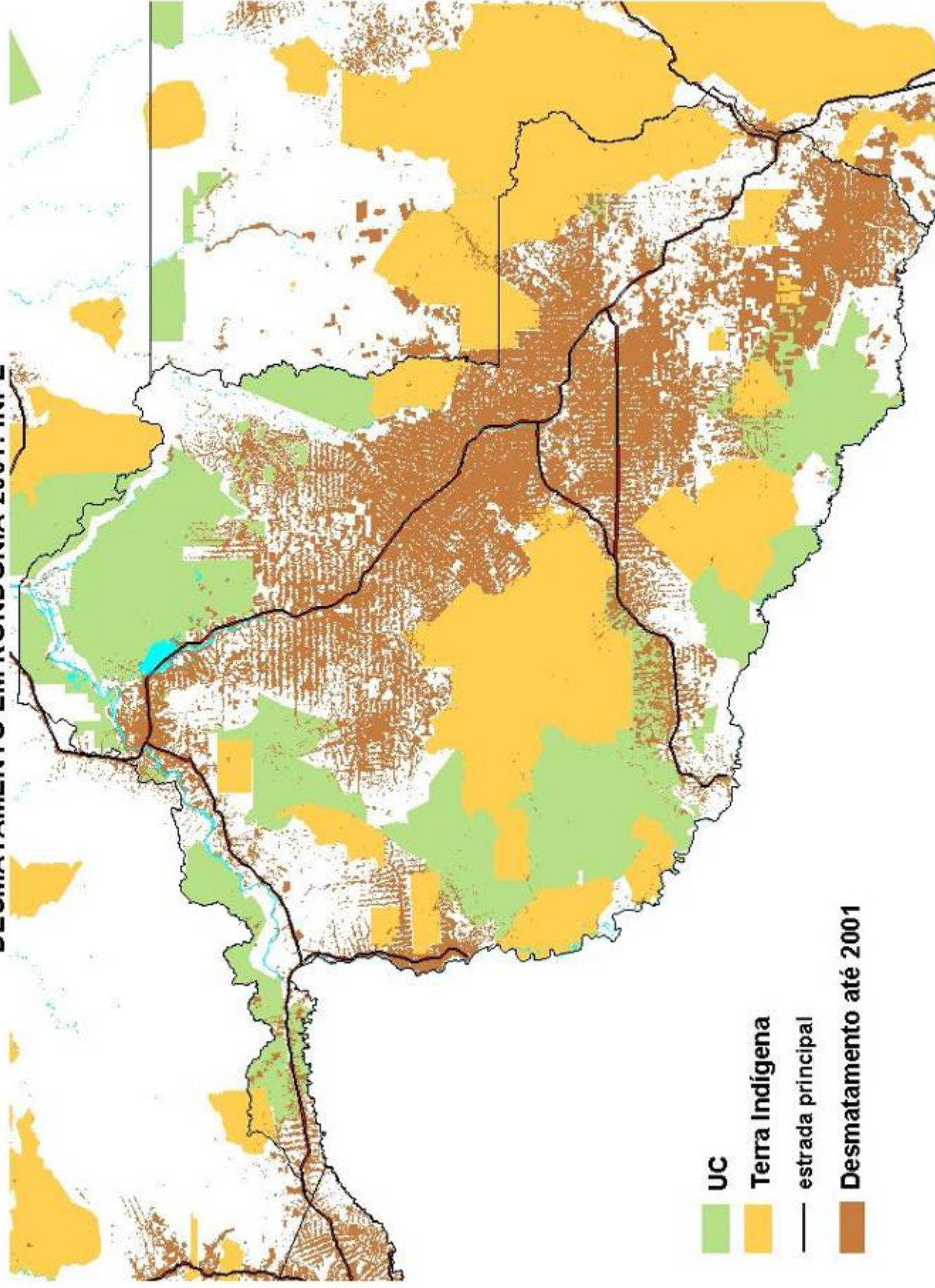
What is REDD?

photo: Adrian Cowell

DESMATAMENTO EM RONDÔNIA 2001: INPE

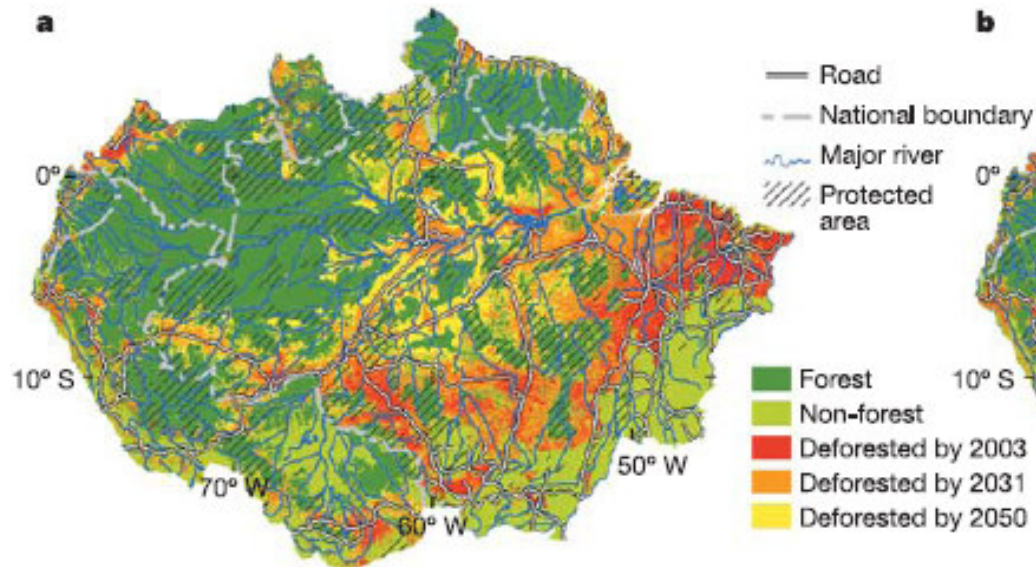


DESMATAMENTO EM RONDÔNIA 2001: INPE

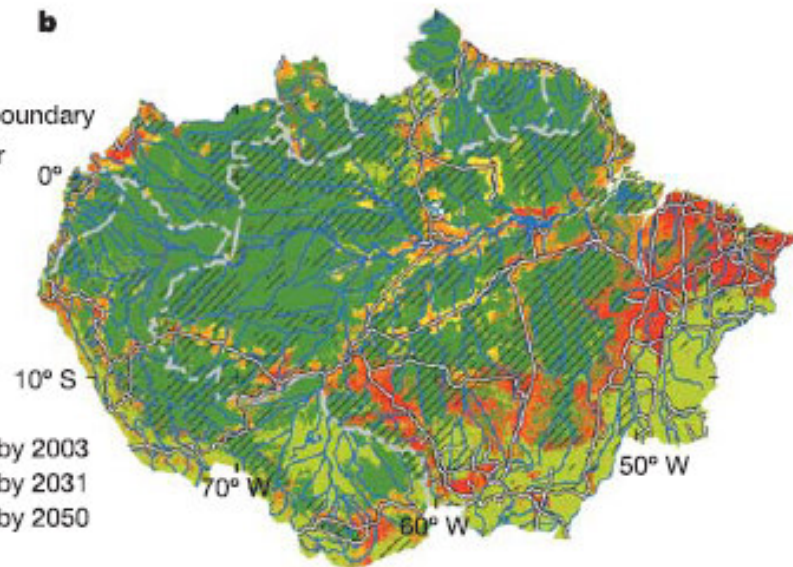


Amazon deforestation scenarios for 2050

Business as Usual - 3.2 million km², or about ½ of original forest remains.



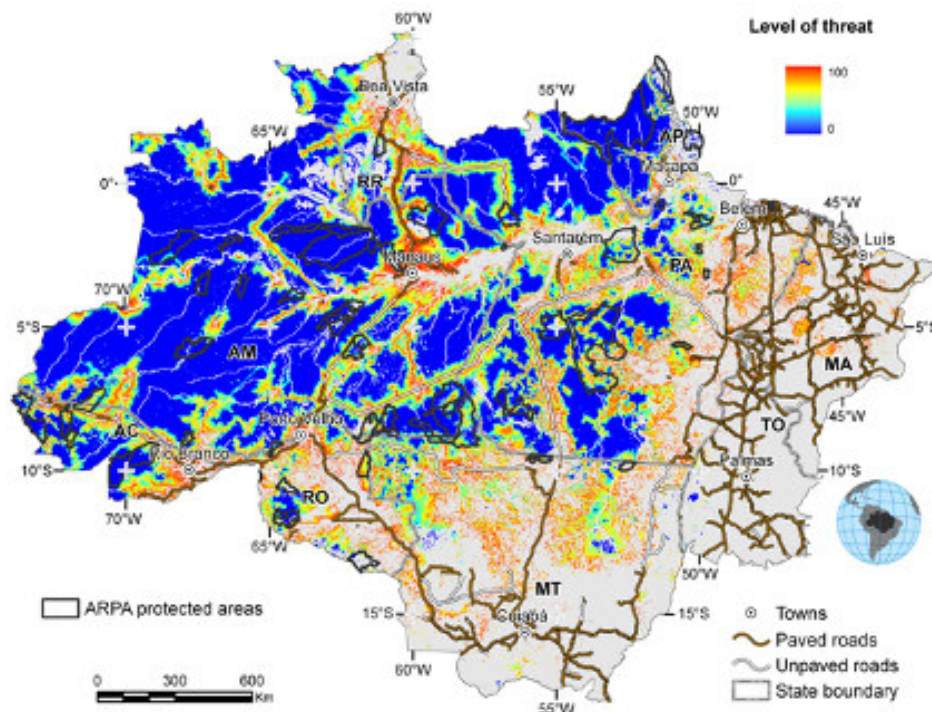
Governance (expanded protected areas network, better law enforcement) - 4.5 million km², or nearly ¾ of forest remains.



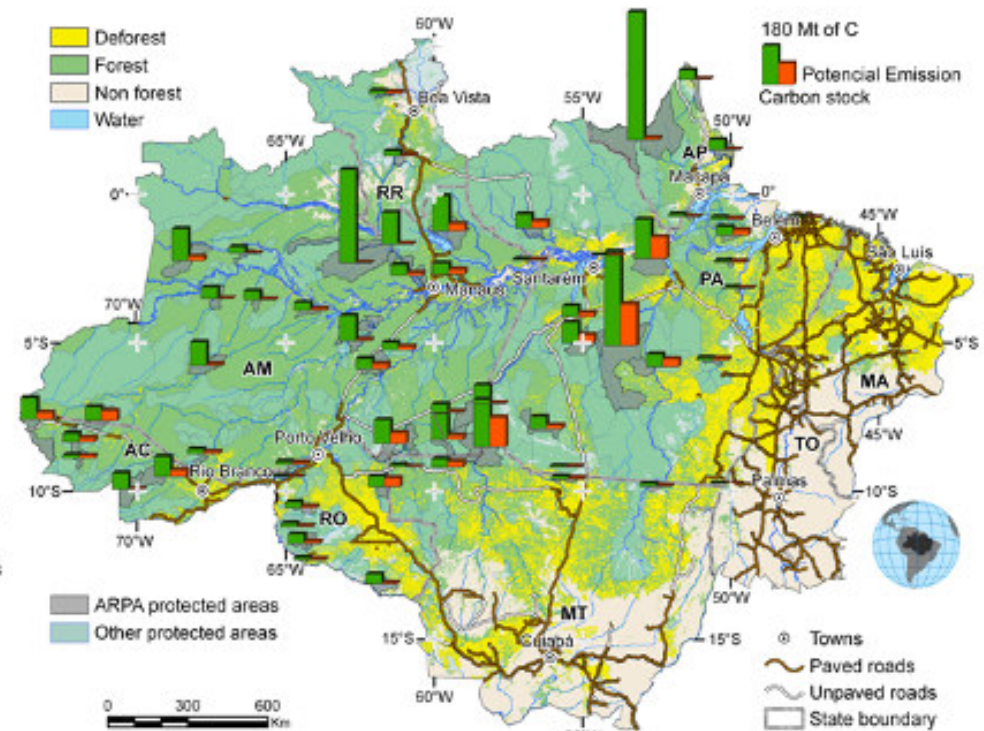
Incentives to protect indigenous reserves and parks, and keep forest standing will make the difference

From: Soares Filho *et al.* (2006) Modeling conservation in the Amazon basin, *Nature* 23:520-523.

Level of threat of deforestation by 2050 for lands not already deforested by 2008



Carbon Emissions Avoided by Protected Areas, 2008 - 2050



2003 – 2008: 148 new protected areas in the Amazon, 62.2 million ha.

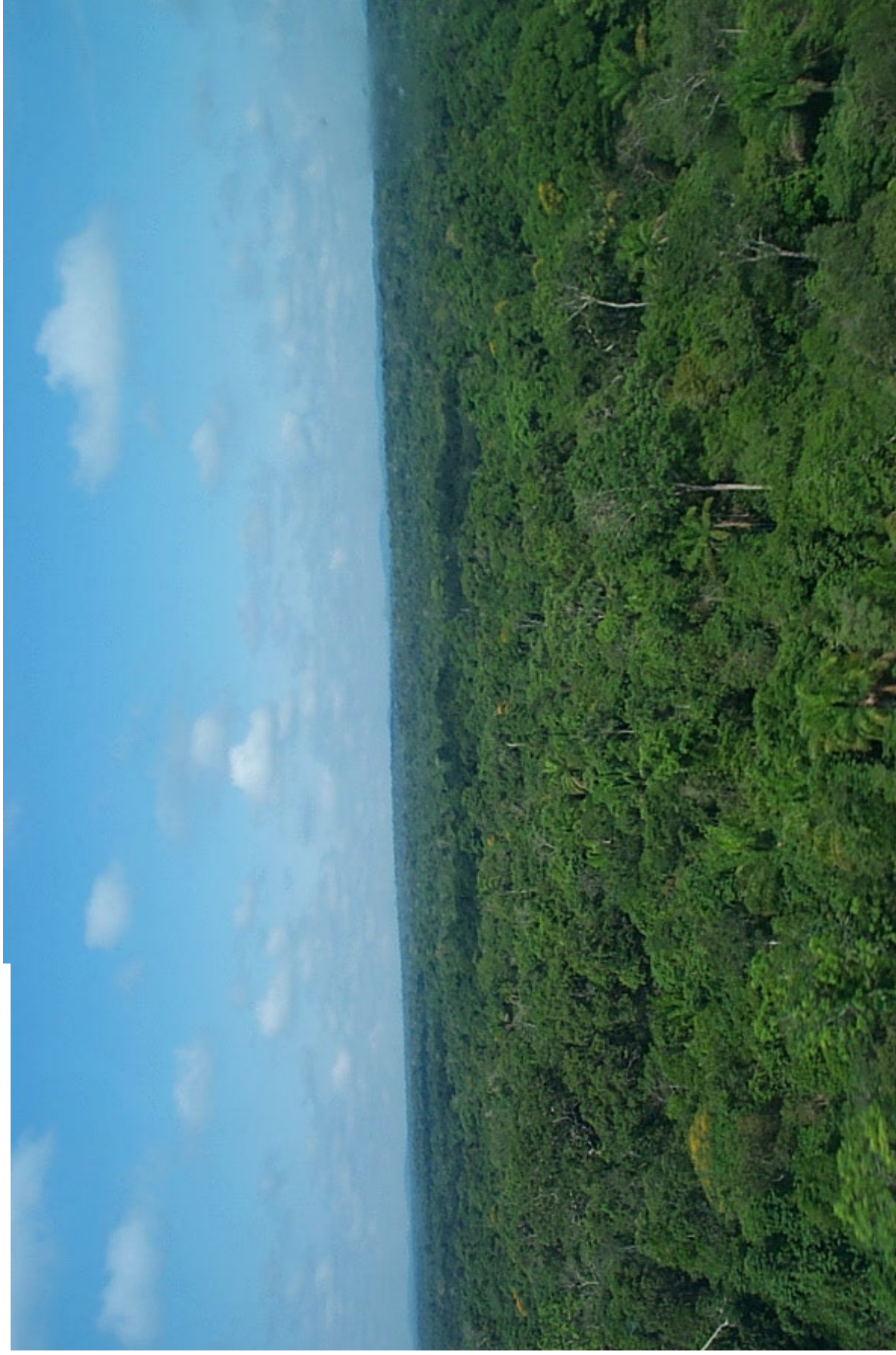
Source: Soares Filho *et al.*, 2008. Reduction of carbon emissions associated with deforestation in Brazil.



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finding the ways that work





Thank you.

