

# GPS-supported, community-based forest crime prevention in the Brazilian Amazon

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# About me

- 1994: MA Human Geography (University of Amsterdam and Paris-Sorbonne (Paris IV))
- 1995- 2000 UvA: research on drug markets and drug control policies
- 2000: book on crack-cocaine
- 2001-2016: UU lecturer and researcher criminology
- 2004: PhD Criminology, Utrecht University
- Since 2001: focus on eco-crime: illegal logging and deforestation
- 2016: lead author Global Forest Expert Panel on Illegal Timber Trade
- Since November 2016: independent (forest) criminologist



# Criminology

- The academic science of crime
- A so-called 'domain science' rather than academic discipline
- Practitioners from a variety of disciplines: psychology, law and mainly social sciences.
- Criminologists consider crime as a social phenomenon.
- Definition by famous criminologist Edwin Sutherland (1883-1950): it includes the process of making law, of breaking laws, and the social reaction towards the breaking of laws.

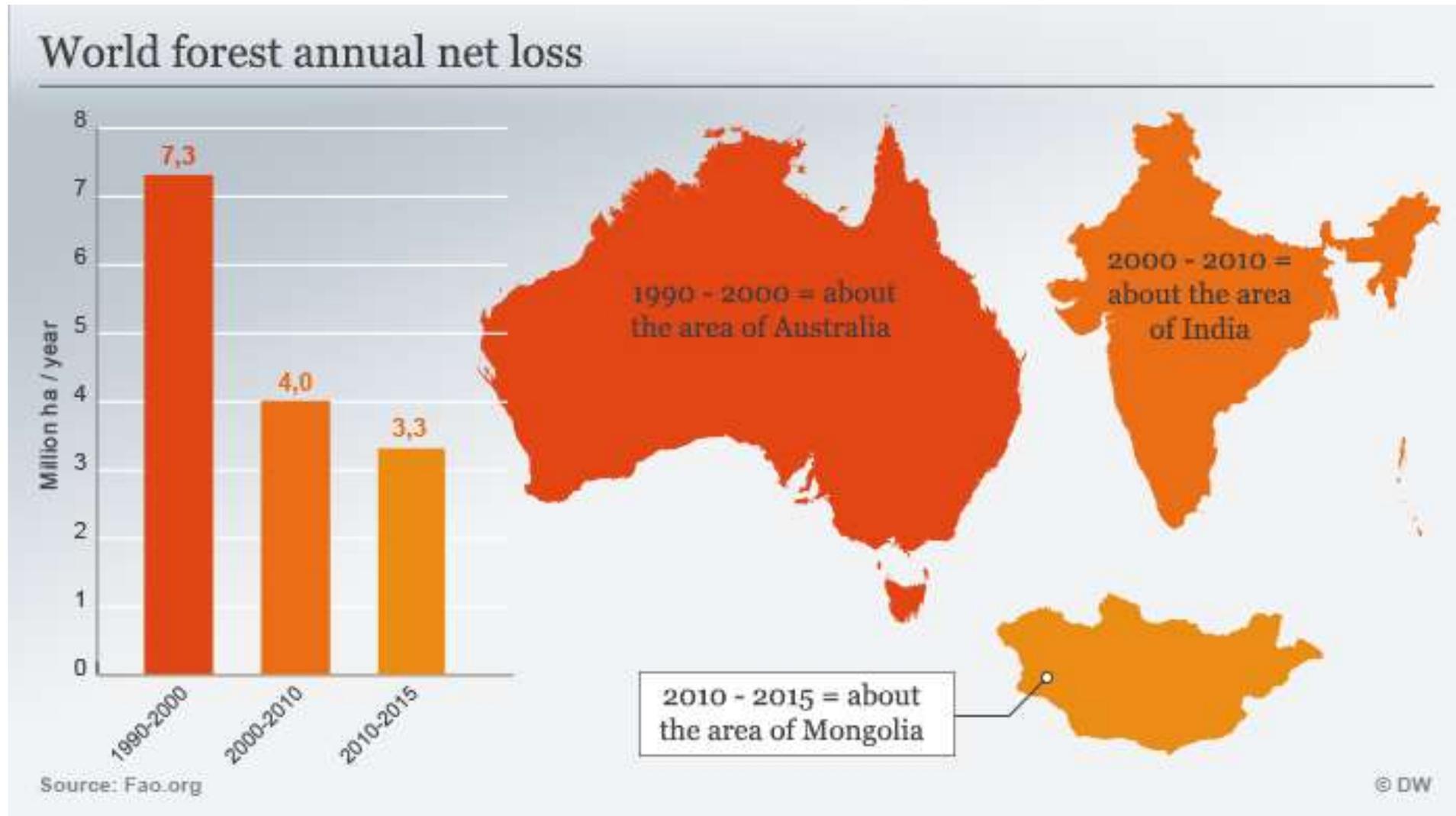
# My criminological studies on illegal logging/timber trade and deforestation

- Since 2001 criminology classes and lectures
- Since 2004 criminological publications on forest crime, first with focus on conflict diamonds (Sierra Leone) and conflicts timber (Liberia).
- Fieldwork and publications on Indonesia (2005/2008)
- Publications on West and Central Africa (2007-2008)
- Since 2009: research and publications on Brazilian Amazon: deforestation and related crimes and conflicts
- Coordinator of research project on conflicts and natural resources (CoCooN) in Brazil and Colombia

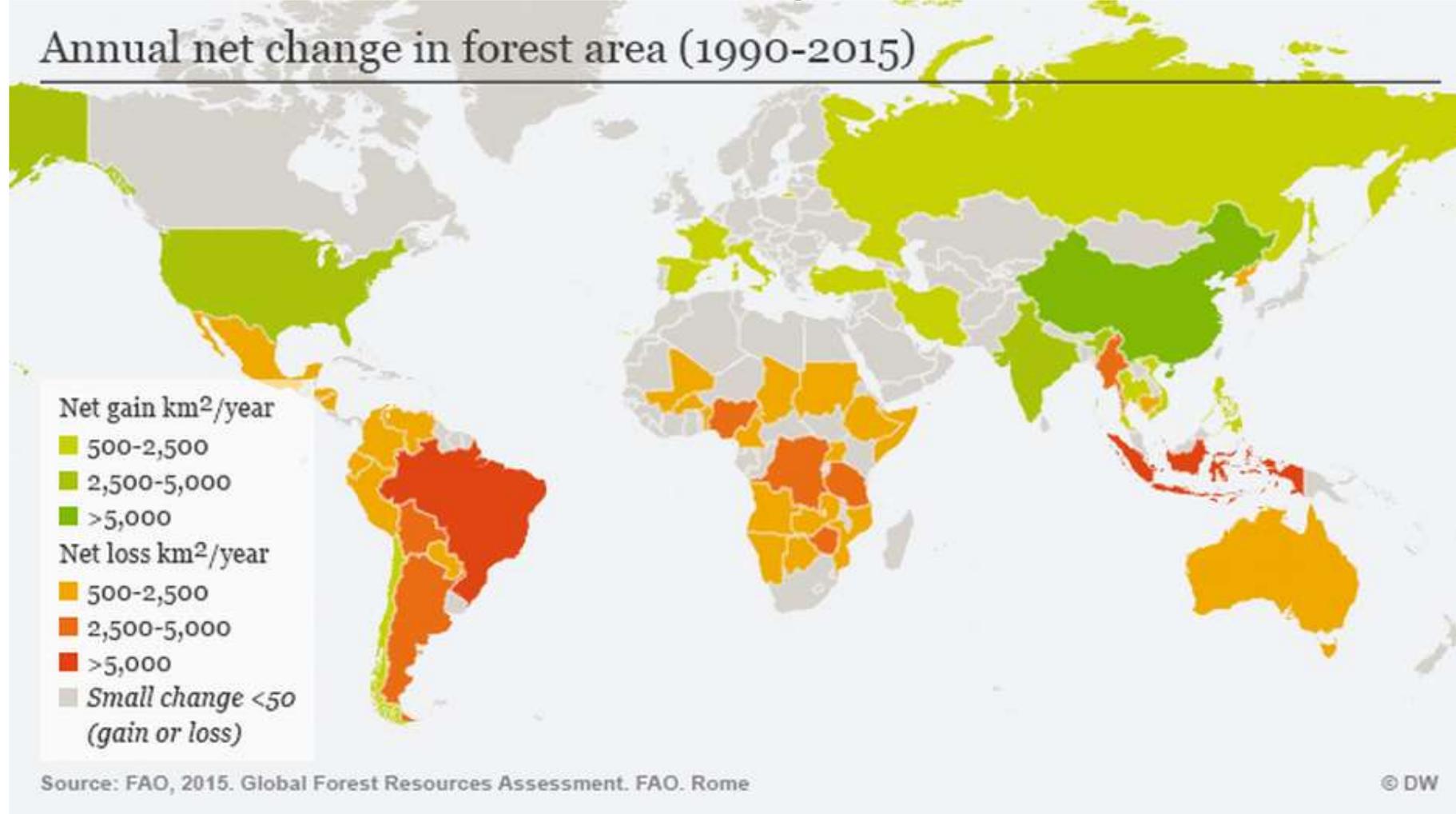
# Tropical deforestation – crimes and harms

- In many/most countries in the tropics most logging is illegal
- Brazilian Amazon: most of logging is illegal (60%-80%)
- Most deforestation for agriculture is also illegal: land grabbing. Para state: 3 times more land on paper than in reality
- Logging and deforestation meet resistance, mainly from traditional communities (not all are indigenous!)
- Risks/Violence is widely known in Brazilian Amazon. Since 2014 also known internationally with Global Witness data

# CONTEXT: Global Deforestation



# Most deforestation taking place in carbon rich and biodiverse areas: equatorial rainforests



# What's Driving Deforestation?

Production of **beef**, **soy**, **palm oil** and **wood products** account for the majority of tropical deforestation.



Source: Union of Concerned Scientists, 14 April 2016

# Forest and Wildlife Crime on UN agenda (1)

- Since 2014: Various resolutions and decisions on this topic have been passed at the highest levels of international diplomacy, and several UN bodies have been directed to assist in fighting environmental crime.
- 2014: The UN General Assembly (UNGA) emphasized that **“coordinated action is critical to eliminate corruption and disrupt the illicit networks that drive and enable trafficking in wildlife, timber and timber products, harvested in contravention of national laws”**.

# Forest and Wildlife crime on UN agenda (2)

- 2015: UN General Assembly passed the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals.
- 2030 agenda links environmental security and sustainable development → “combatting illegal logging and related timber trade is vital for the future of our planet, and requires the highest attention.”
- 2016: Collaborative Partnership on Forests (CPF) and IUFRO form Global Forest Expert Panel (GFEP) on Illegal Logging and Related Trade.
- Paris Climate summit → forests are explicitly mentioned (Article 5).

# Various reports by UNEP and INTERPOL



Indeed, the value of the illegal wildlife trade is now dwarfed by the larger crimes against the environment.

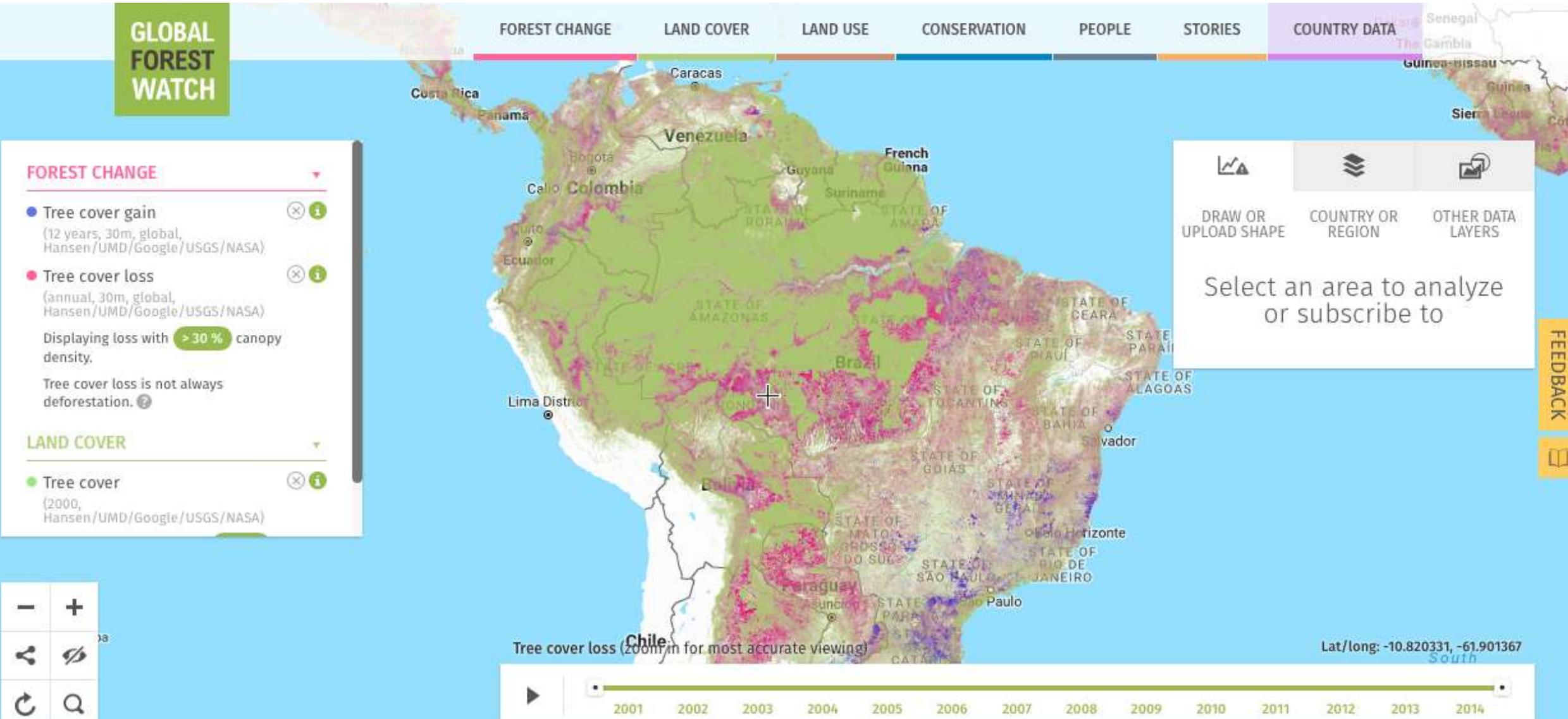
- The illegal wildlife trade is by some estimated at 7–23 billion USD per year
- Environmental crime is now estimated to be ca. 91–258 billion USD (2016) annually, a 26% increase from previous estimate in 2014.
- Environmental crimes is rising by 5-7% annually – 2–3 times the rate of the global economy
- Losses of government revenues through lost tax income due to criminal exploitation account for at least 9–26 billion USD annually.
- Forestry crimes including corporate crimes and illegal logging account for an estimated 51–152 billion USD;
- Illegal fisheries an estimated 11–24 billion USD,
- Illegal mining estimated at 12–48 billion USD;
- Waste at 10–12 billion USD.

## 2016: Global Forest Expert Panel (GFEP) on Illegal Logging and related Timber Trade

- Background: 10%-30% of global timber trade from illegal sources.
- Estimate of global illicit timber market: 30-100 billion USD/euro.
- Report for CPF, coordinated by IUFRO ([www.iufro.org](http://www.iufro.org))
- Report officially launched at UN Biodiversity Summit (Dec. 2016)
- 1 conclusion: various dimensions of illegal logging (including organized forest crime: corruption and violence)
- Advice Expert Panel: use criminology + timber forensics
- Advice: include agricultural drivers
- Law enforcement advice: bilateral and multilateral cooperation



# Deforestation Frontiers 2001-2014



Since 1970,  
almost 20% of  
Brazilian  
Amazon  
deforested.

Corresponds  
to 2 x Japan or  
2 x Germany.

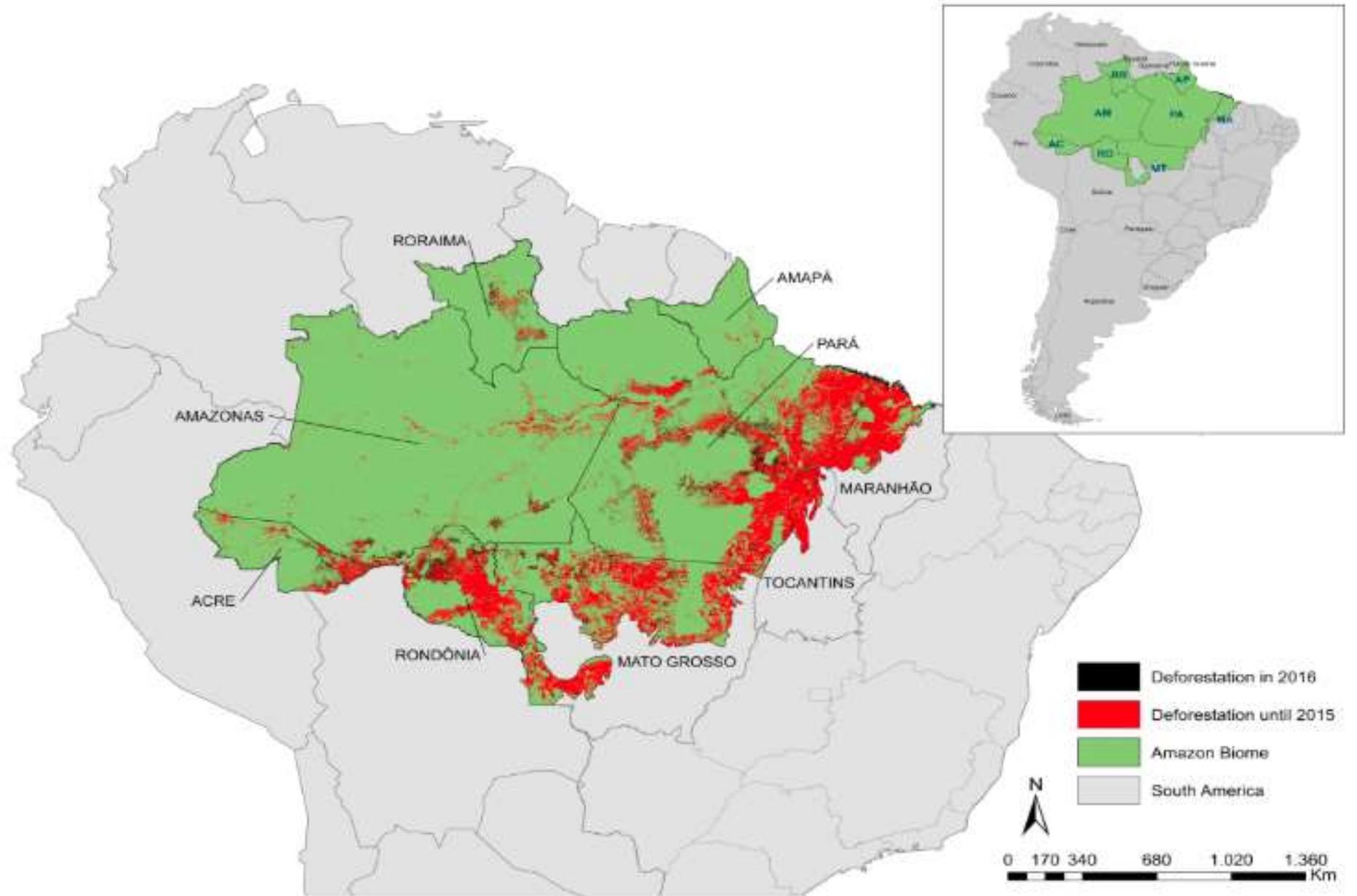


Figure 1: Amazon deforestation rates evolution from 2015-2016. (Source: PRODES 2016)

Brazilian Amazon: 70% of deforestation caused by creation of cattle ranches.  
More cows than people in Brazil, esp. in Amazon.



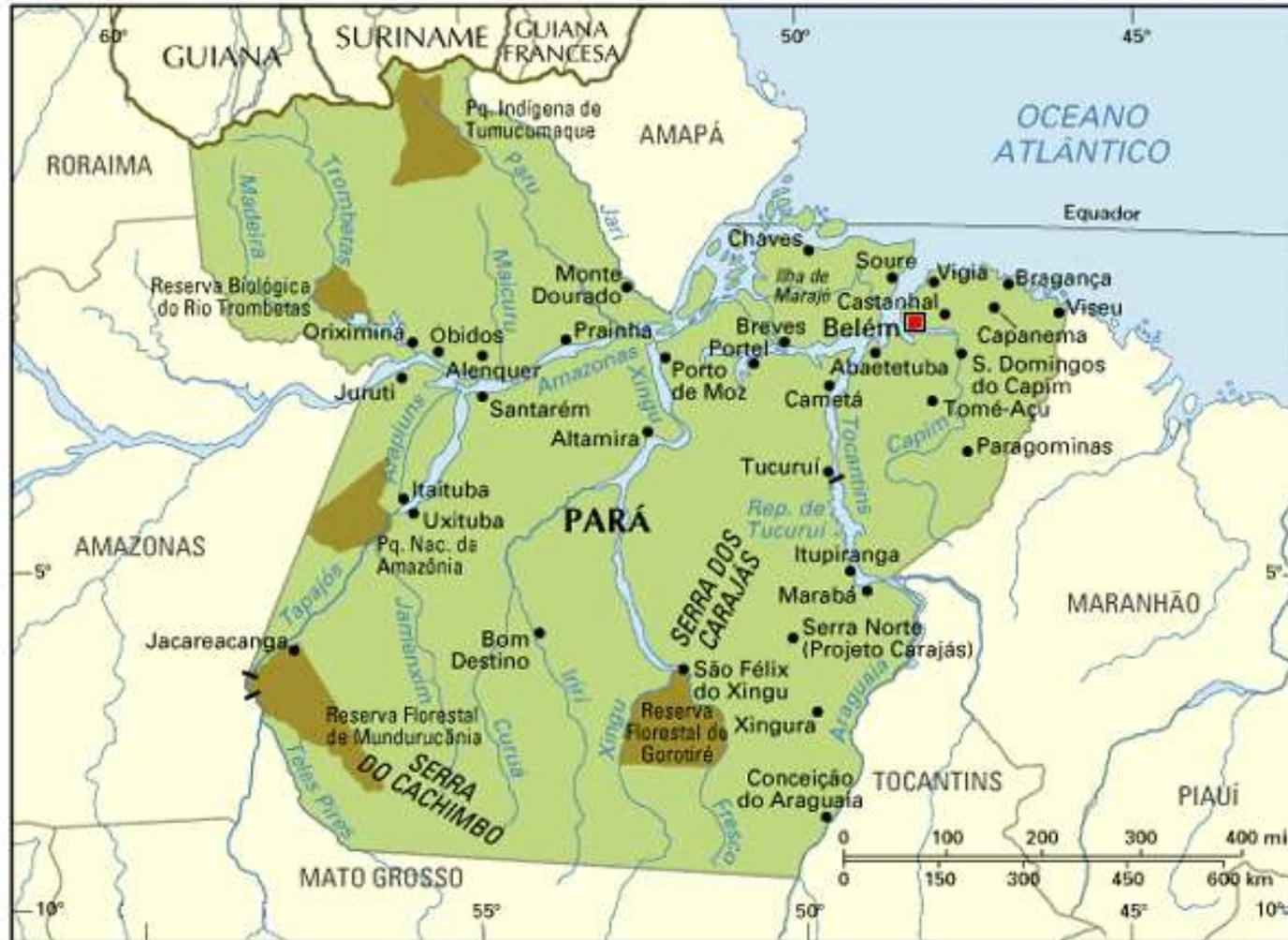
The second and more recent cause of deforestation:  
soy bean farming (mainly animal feed for China and Europe)



Deforestation for beef and soy goes hand in hand are with (mostly) illegal logging



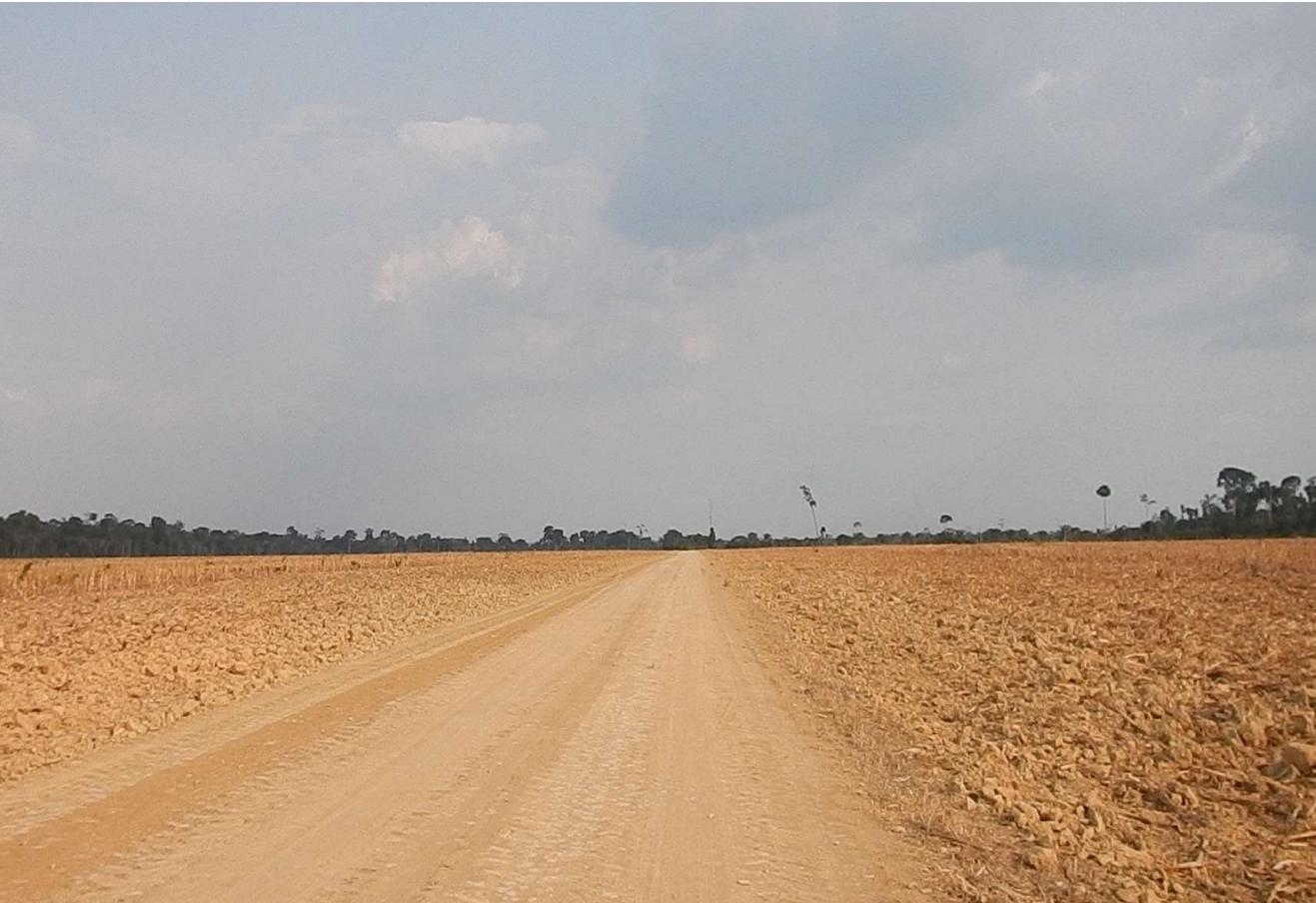
Para, leading deforestation and conflict state  
(size of Egypt or 2 x France).



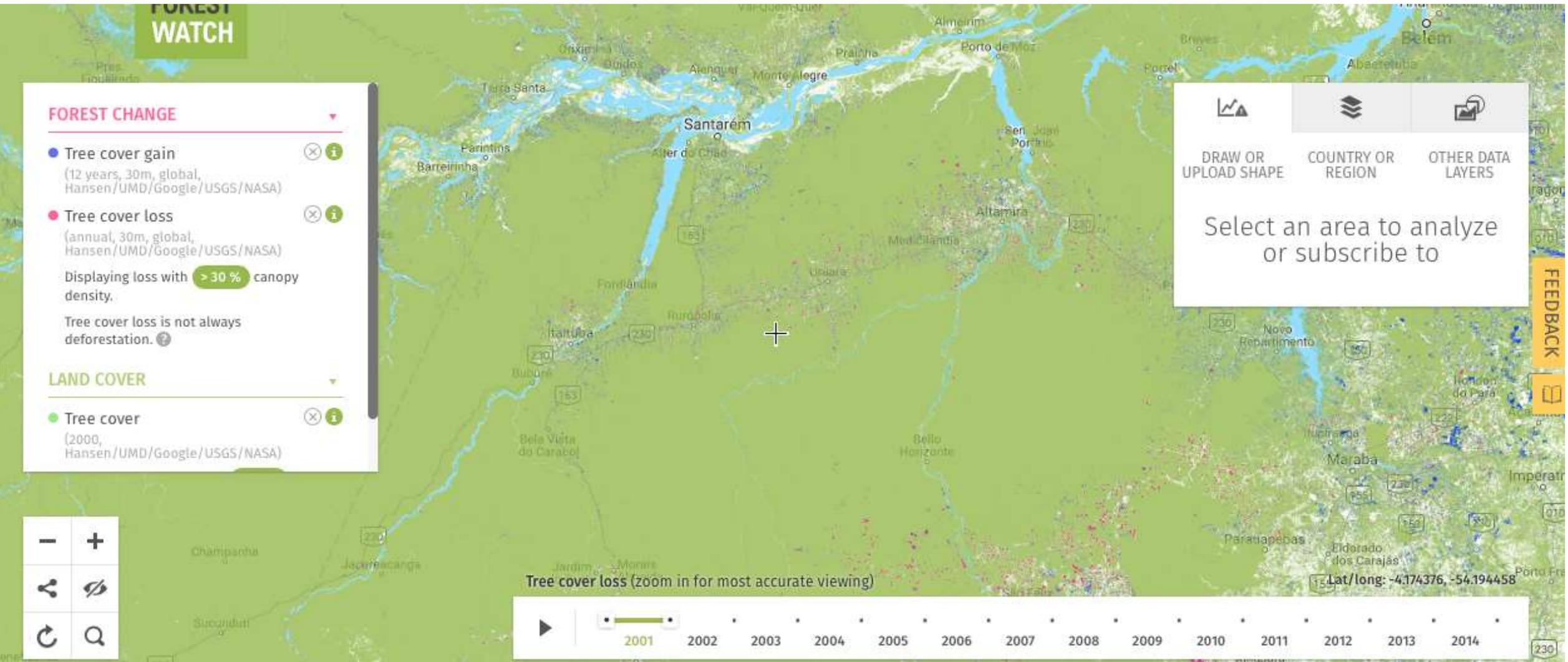
# Many conflicts over illegal logging and deforestation



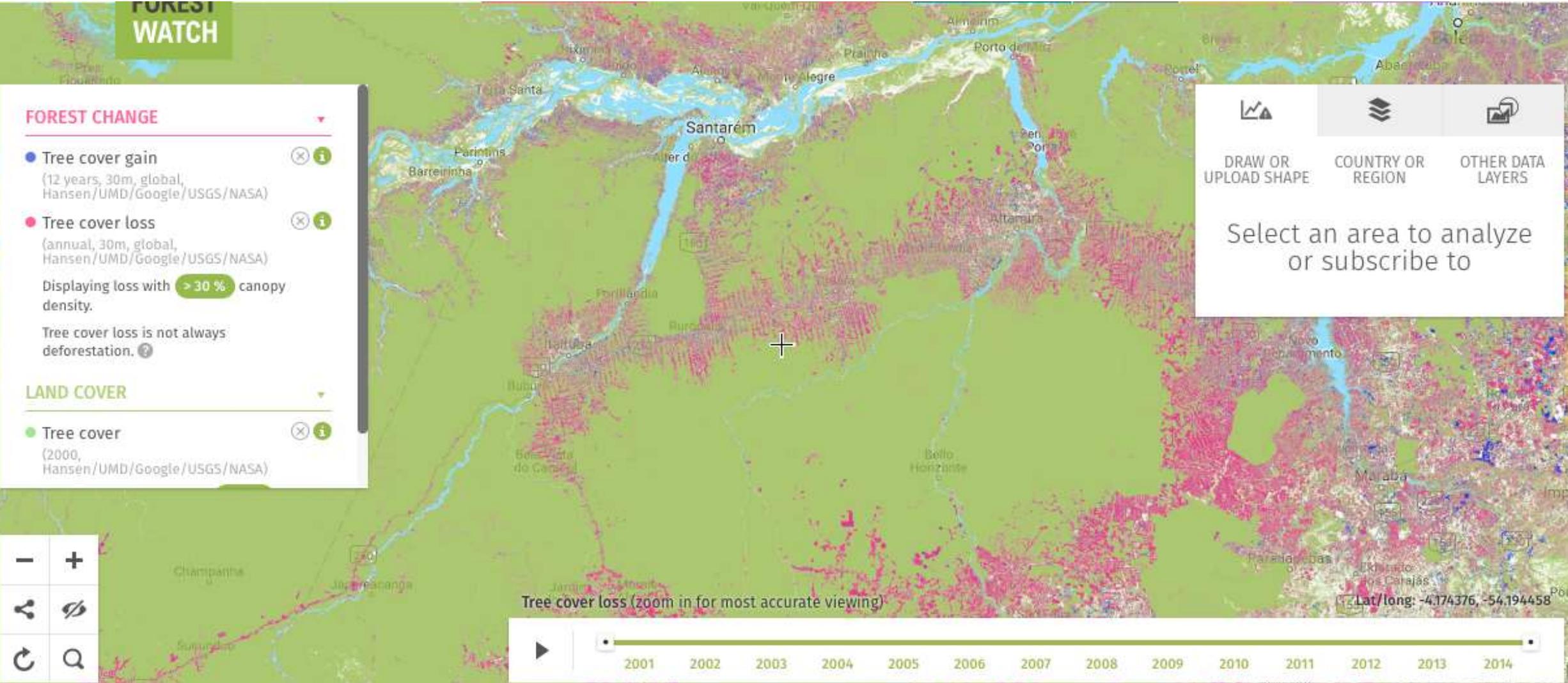
And conflicts over deforestation (land conversion)  
for cattle and soy



# West Para: new deforestation frontier (2002)



# Deforestation in West Para (2014)



Result: deforestation for soy  
Soy exported to China and Europe (mainly NL)

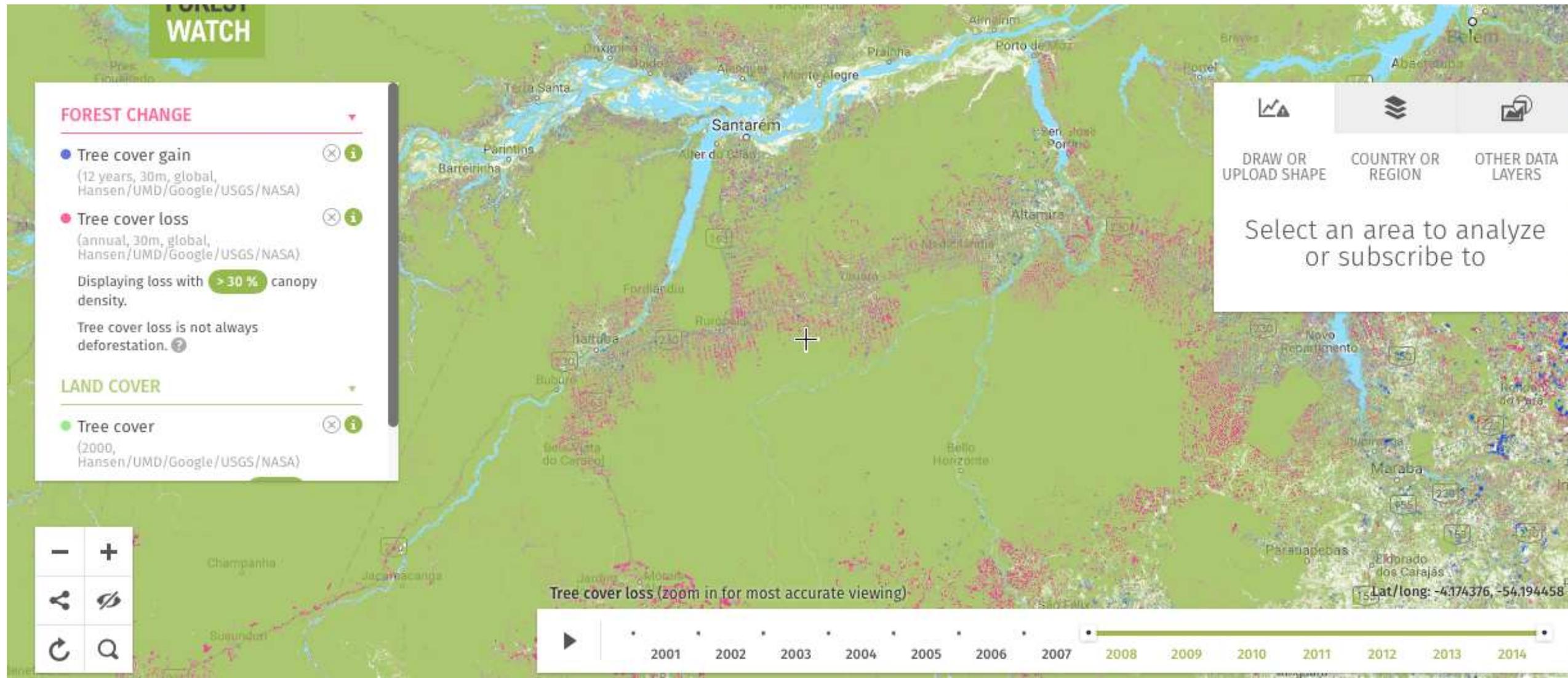


Soy farmers from Central and South Brazil  
Why? Presence of Cargill soy harbour, 800 km from sea

Early 21th century constructed without EIA.  
A cause of conflict and ten years of court  
cases. In 2012 Cargill got permit.



# Continued deforestation, despite soy moratorium of 2007. Map showing deforestation 2007-2014



Indigenous and other communities increasingly surrounded by soy fields



2010-2016: Green Criminology research project on Conflict and Cooperation over Natural Resources (CoCooN), funded by Dutch Organisation of Scientific Research (NWO)

- With universities and NGOs in Colombia and Brazil
- Goal: access to justice and improving rule of law
- By connecting communities to (trustworthy) state actors
- In West Para: working with public prosecutors Brazil
- One of the outcomes: insufficient (local) monitoring
- Answer: strategy of local GPS monitoring on deforestation frontline

Our strategy: improving access to Justice.  
On picture indigenous chief (cacique) Jozenildo speaking  
at conference with public prosecutors



# Idea – Community Forest Watch with GPS

- Would it be possible to set up a project of situational crime prevention in the Amazon Rainforest?
- Funding first from Utrecht University – now [www.forestforces.org](http://www.forestforces.org)
- Inspired by global forest watch – launch in NL (Spring 2014)
- Testing functioning of GPS cameras in (Summer 2014)
- Selecting communities: 2014 - 2015
- Analyse and discuss potential risks/failures/obstacles
- Discuss with NGO Pastoral Land Commission (gate keeper)
- Discuss with community leaders
- Discuss with public prosecutors

# We need more crime prevention, which does not equal law enforcement

- Important insight to share: forest and wildlife are best protected at source.
- Hence → Forest and wildlife crime PREVENTION, on the ground, in the forest.
- Law enforcement (repression) is needed of course.
- Criminological research (in general) shows that the biggest gains in crime reduction can be achieved through crime prevention rather than law enforcement.
- Moreover, preserving forest and wildlife is more important than putting forest and wildlife criminals in prison.

# How to prevent forest crime?

- One can only develop a good crime prevention strategy when one knows the modus operandi of the perpetrators, corporate-criminal logging gangs.
- For example: they operate at night or during the rainy season, so that they cannot be spotted by satellites.
- We can only develop good strategies, if they are adapted to the sophisticated methods of professional criminal networks.
- Insight: the local perspective/reality should be connected to the law enforcement system

# Hotspots of illegal logging and deforestation

- Identify hotspots in the region of West Para
- 2 areas with illegal logging (violent and criminal logging networks)
- One area with continued deforestation for soy and related conflicts
- Intermediary outcome: soy moratorium only look at primary forest
- Identify responsible leadership and/or community organisation
- Solid cameras: water proof and shock proof (long term effect)
- Not everywhere as effective: depends local leadership, organisation and level of threat and defence/organisation

# GPS-project inspired by

- CoCooN: (1) information; (2) contact/trust; (3) access to justice
- Desire to concretely contribute to forest preservation
- Fieldwork experience: working with communities (capacity building)
- Improving functioning of state institutions (*Why Nations Fail?*)
- Criminology: Crime drop and situational crime prevention
- Launch of Global Forest Watch in 2014
- “Success” of Brazil’s efforts to reduce deforestation (Chatham House)
- Much trust in satellite monitoring, but lack of monitoring on the ground. Idea: using eyes and ears of people who live in forests

GPS monitoring on the ground. Deforestation for soy seems to continue, despite “successful” moratorium.



Continued  
deforestation for soy



Dada and Paulo, opposing illegal logging. Both survived attacks. Both now have GPS cameras.



Left: Cacique Dada gives TV interview in Santarem court house (at 2 days boat travel)

Right: Dada with fisherman and police body guard



# Chief Dadá with daughter, charging GPS camera and power bank



# GPS camera and small solar charger





# TERRA INDÍGE NA MARÓ

PROIBIDA A ENTRADA DE PESSOAS ESTRANHAS PARA CAÇAR, PESCAR E EXTRAIR MADEIRA SEM AUTORIZAÇÃO DA COIAB.

# Chief Dadá receives human rights award in Rio (2017)



# Results of field experiment in Brazilian Amazon

- Even in areas without phones and electricity possible to set up situational crime prevention
- Involving local communities has large potential
- Especially when they have some technological (GPS) tools
- Low costs and low maintenance (no external experts required)
- Access to justice (and trust) essential
- Most success in protected and GPS-demarcated areas
- Field experiment can easily be duplicated
- Plans to scale up (more communities) with use of other technology



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