



**Brazilian Institute of Environment
and Renewable Natural Resources**

IBAMA

Remote Monitoring in Combating Deforestation in the Brazilian Amazon

June, 2024

Daniel Moraes de Freitas



MINISTÉRIO DO
MEIO AMBIENTE E
MUDANÇA DO CLIMA





2024

The **main executive institution** in the environmental area in Brazil, being responsible for implementing national **environmental policies** and monitoring their compliance.

Main federal agency responsible for the **preservation, conservation** and sustainable use of natural resources in Brazil.

1989

Founded in **1989**, IBAMA's mission is to protect the **environment and natural resources**





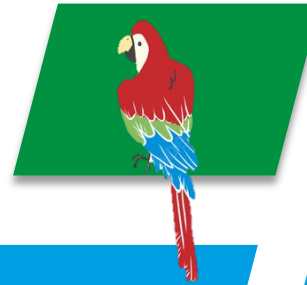
The **Amazon rainforest** represents one of the most biodiverse and ecologically important areas in the world. In addition to being home to a vast diversity of plant and animal species, many of which are found only in the region, the Amazon plays a fundamental role in regulating the global climate, maintaining the water cycle and absorbing carbon.



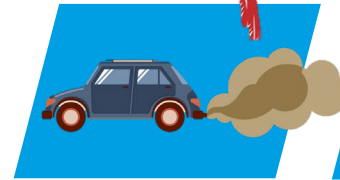
49% of brazilian territory



OUR WORK



**Biodiversity &
Forests**



**Environmental
Quality**



**Environmental
Licencing**



**Environmental
Protection**

Environmental Protection

Coordinate, control and execute actions related to environmental enforcement and emergencies and combating environmental illicit

Ibama Key Roles

- **Fighting illegal Deforestation;**
- Fighting Wilfire;
- Environmental Emergencies;
- Facing Illegal Mining;
- Blocking Illegal Forest Products

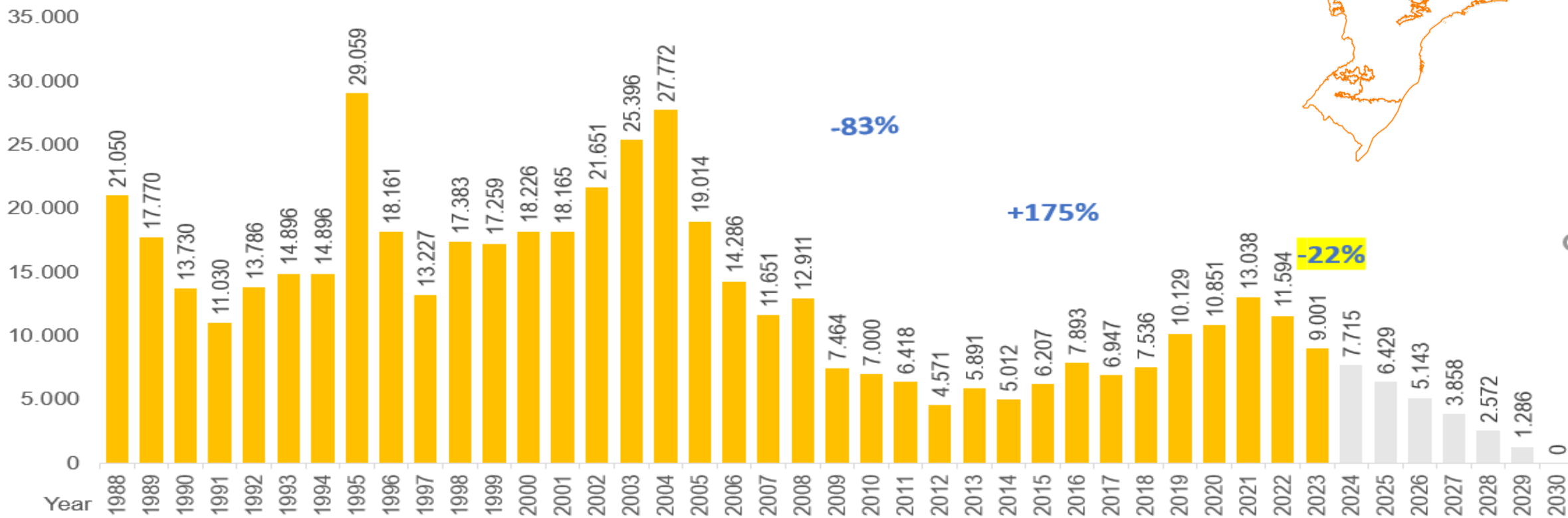
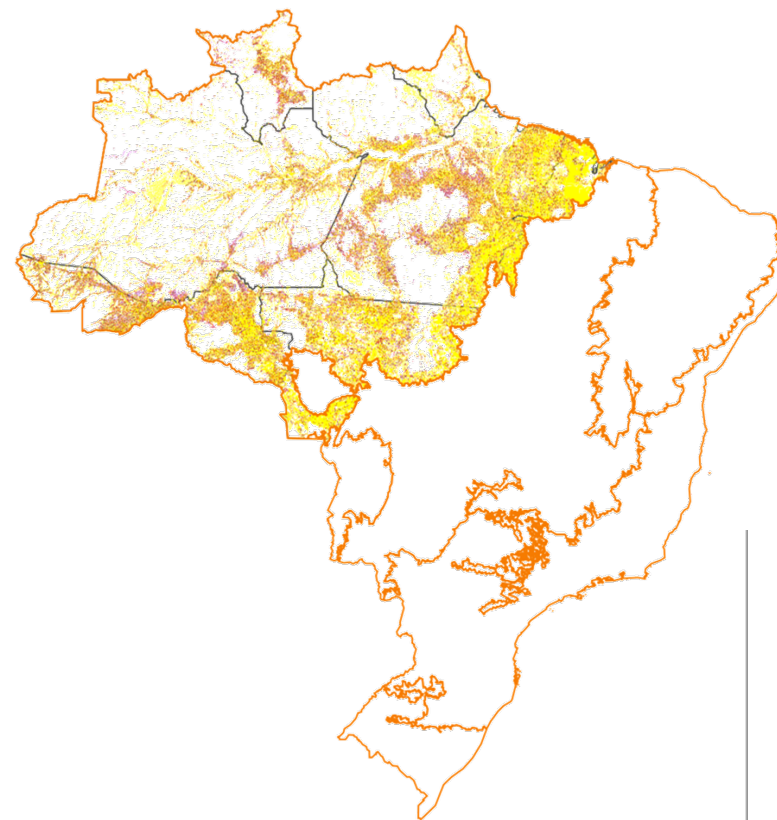


Fighting Deforestation in the Amazon Forest

ASSUMPTIONS:

Action Plan for Prevention and Control of Deforestation in the Amazon (PPCDAm)

Zero deforestation by 2030



Strategy for Deforestation Enforcement



1. Seizure of products from environmental violations (Cattle)



2. Blocking illegal forest products



3. Destruction of infrastructure of offenders in Indigenous Lands



4. On-site operations in critical regions (operational bases)



5. Remote monitoring of deforested areas

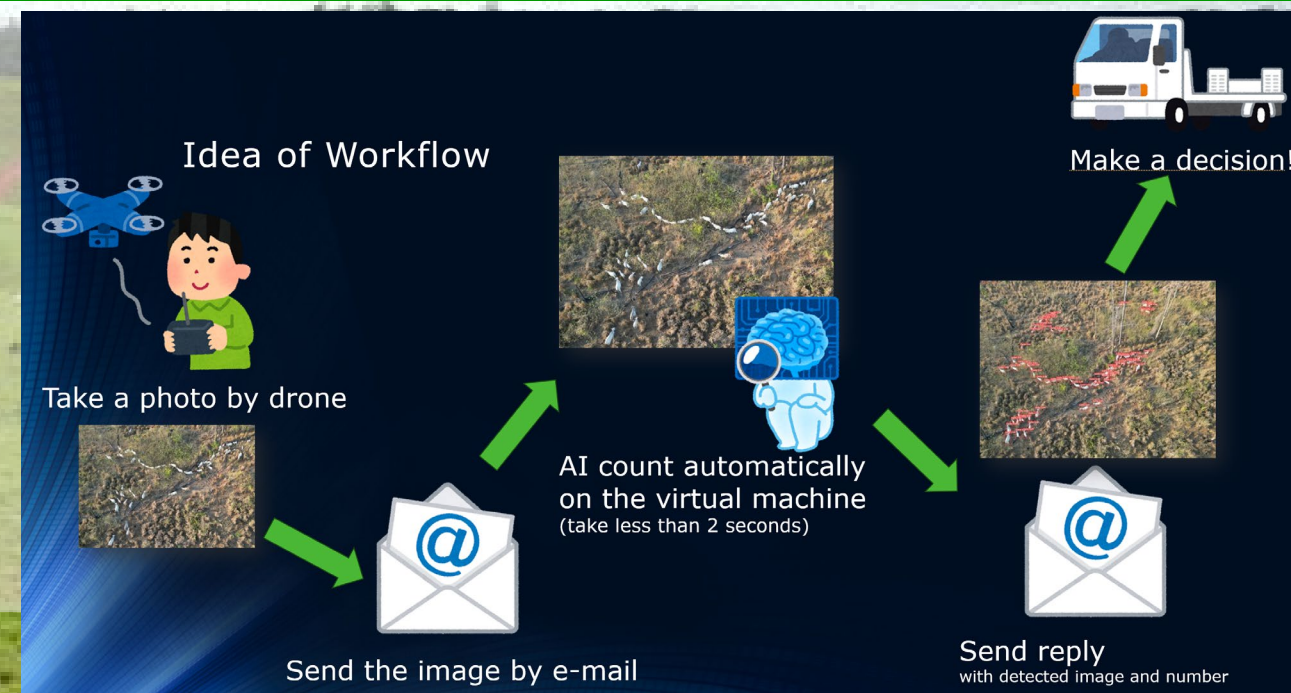


Strategy 1
Seizure of cattle in deforested areas

Cattle seizure in embargoed area

Operation "Recapture"

- Focus on critical deforestation areas
- More than 60% of deforestation is for livestock
- Immediate effect of decapitalization
- 4.5 k head of cattle seized
- Donation to social programs



Strategy for Deforestation Enforcement



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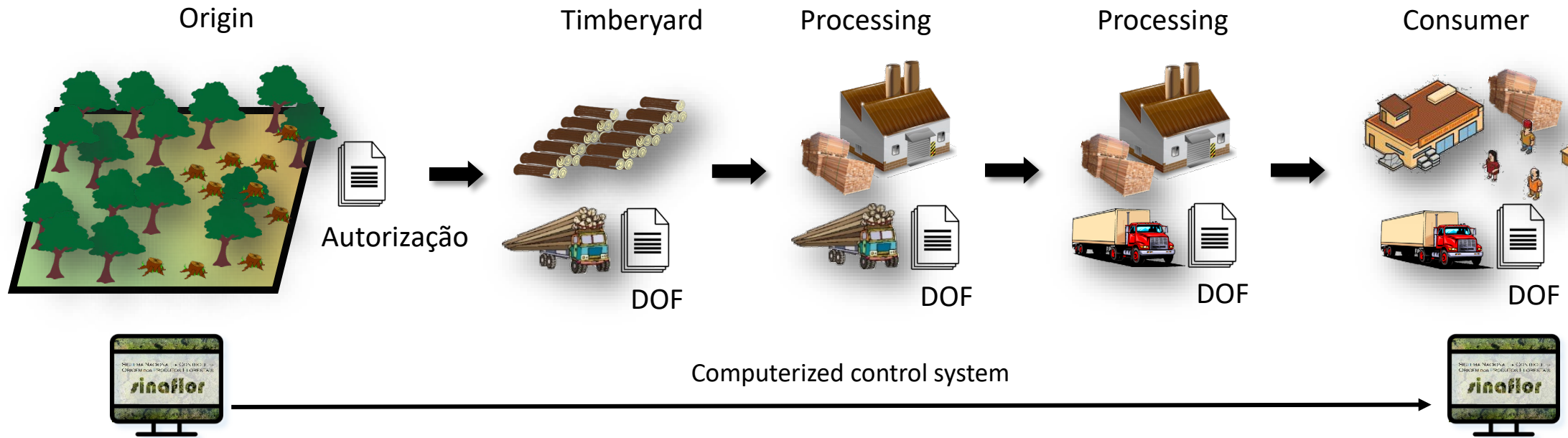


5. Remote monitoring of deforested areas

Strategy 2 Virtual blocking of illegal timber








Forest products control system



Blocking illegal forest products Operation "Metaverse"

- 220 companies inspected
- 284 infraction notices
- R\$128 million in fines
- 2 million m³ of forestry credits blocked
- 16.4 thousand m³ of wood seized
- 5 management plans suspended

Strategy for Deforestation Enforcement

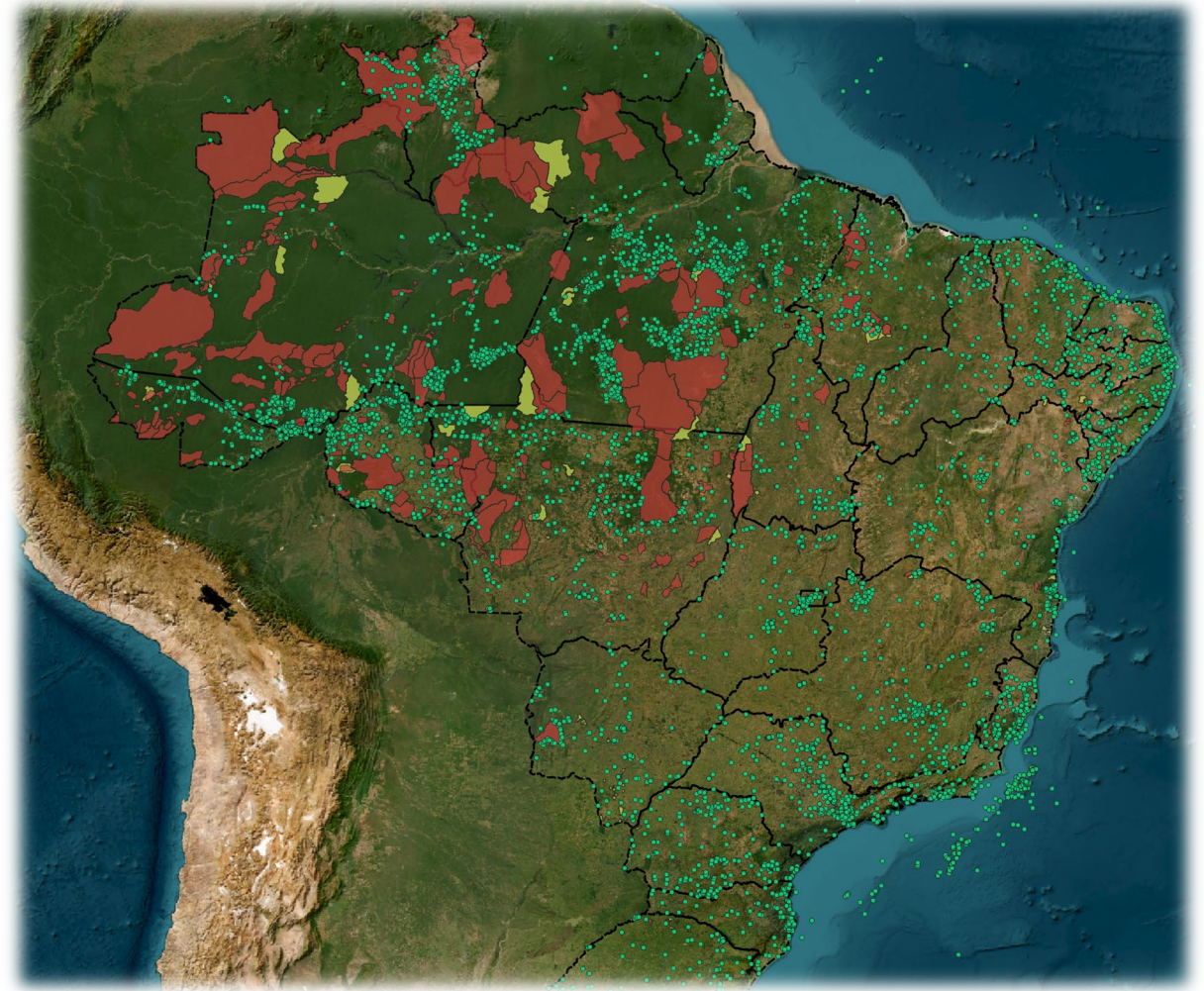
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Estrategy 3
Protection of indigenous lands

Enforcement in indigenous lands

- 85 indigenous lands inspected
- 592 inspection actions
- 283 tickets/ R\$ 89.8 million in fines
- 251 terms of seizure
- 154 terms of destruction





Equipment seized/destroyed

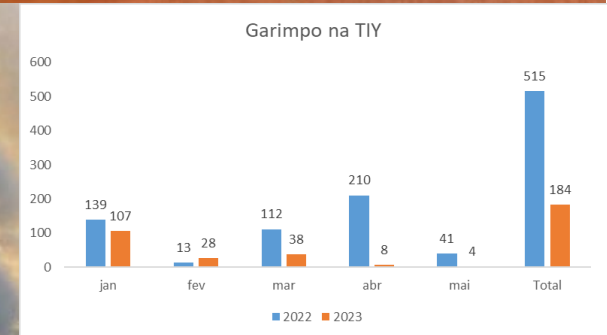
550 mining rafts

150 excavators






35 aircraft

339 mining camps

30 thousand liters of fuel



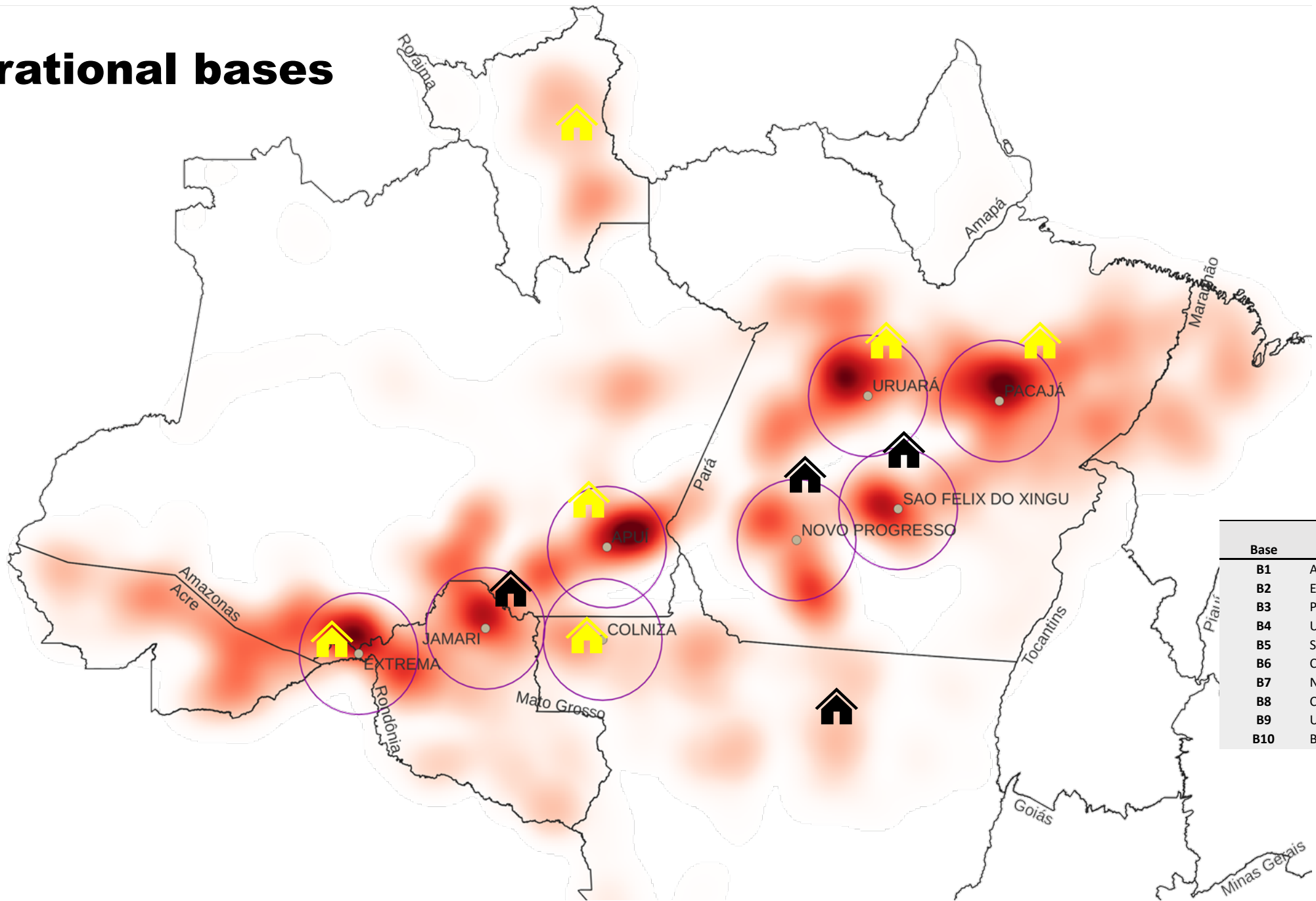
Strategy for Deforestation Enforcement

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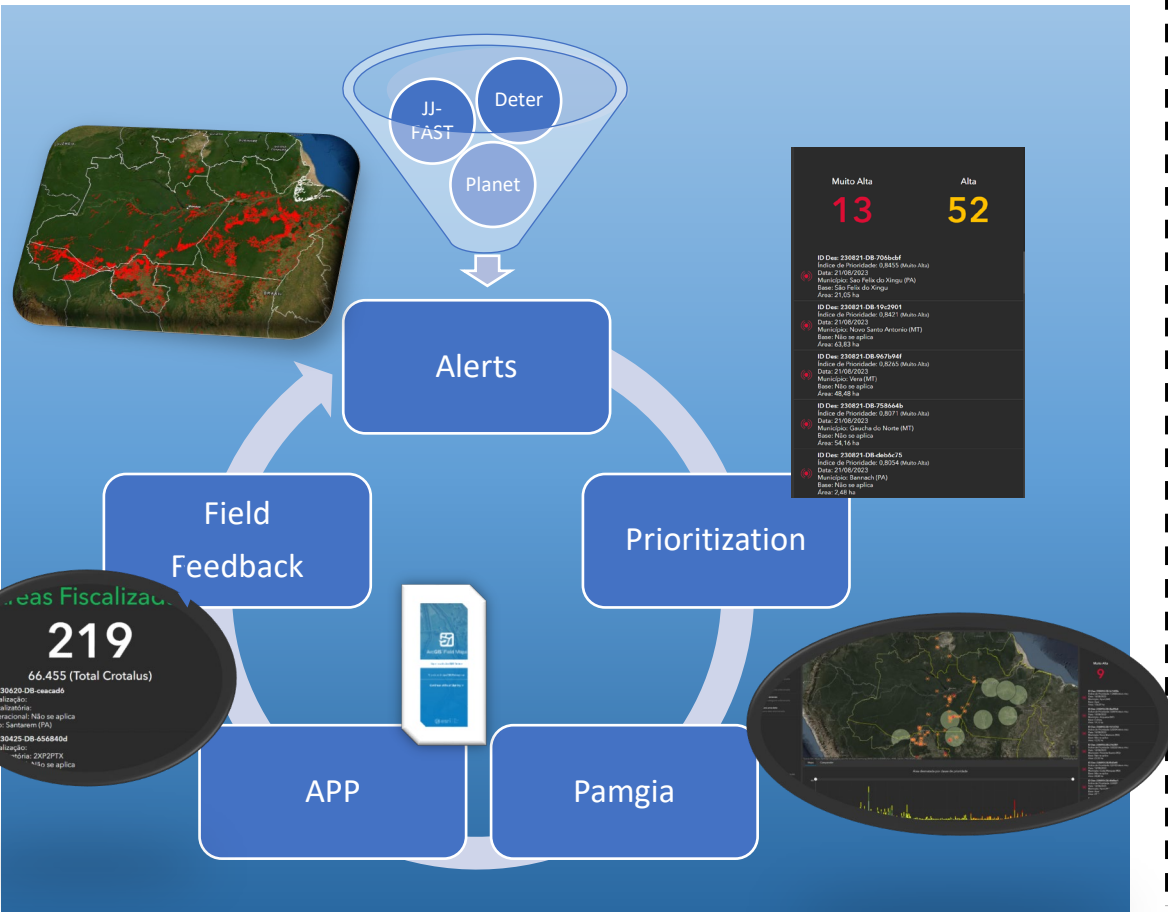


Strategy 4
Presence in critical areas

Operational bases



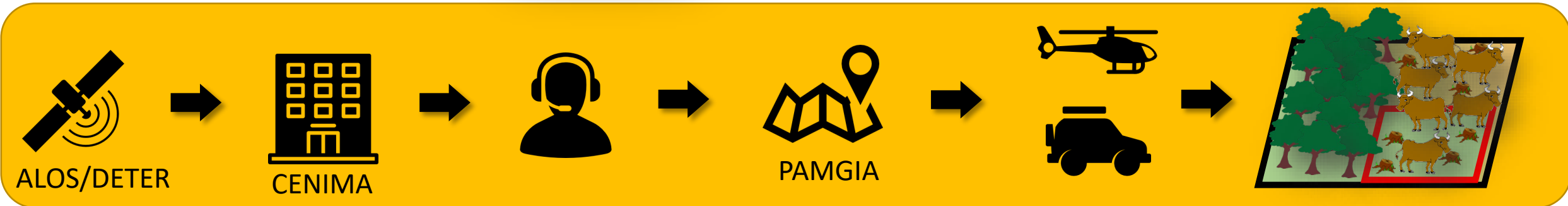
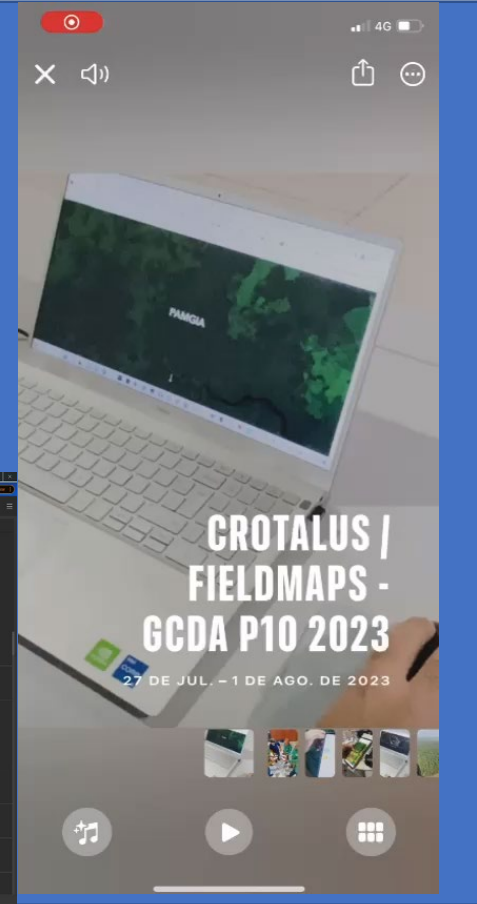
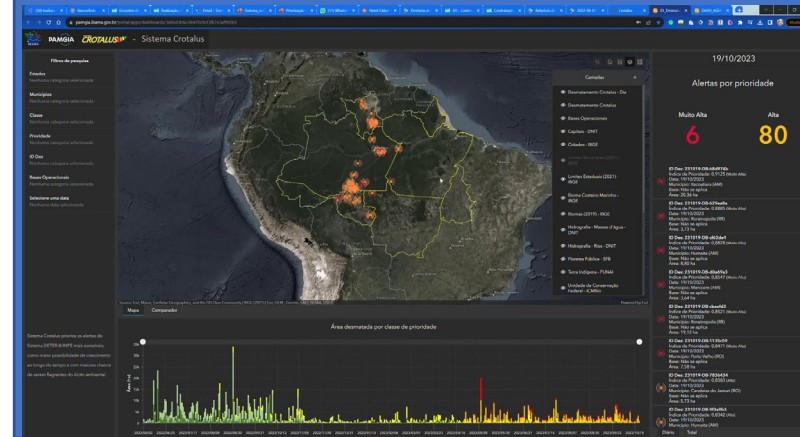
Base	Dias Local
B1	Apuí
B2	Extrema
B3	Pacajá
B4	Uruará
B5	São Felix do Xingu
B6	Cujubim
B7	Novo Progresso
B8	Colniza
B9	União do Sul
B10	Boa Vista (TI Yanomami)








Field Work

The Crotalus system transforms the raw material of alert data into ready-made information, an input for efficient evidence-based public policy.

The accuracy of actions against deforestation has increased, with a 45% drop in the number of alerts in the first half of 2023 compared to 2022.



Strategy for Deforestation Enforcement

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-  **5.** Remote monitoring of deforested areas



Strategy 5

Remote Enforcement of deforestation



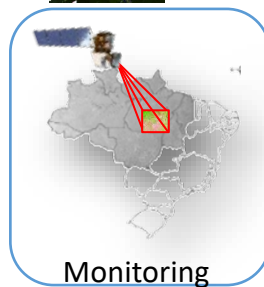
Objective

1. Reduce the perception of impunity and monitor all illegal deforestation activities in the Amazon.
2. Expand IBAMA's operational capacity for deforestation monitoring through the use of geotechnologies.
3. Increase the enforcement of administrative measures and sanctions related to illegal deforestation in the Amazon

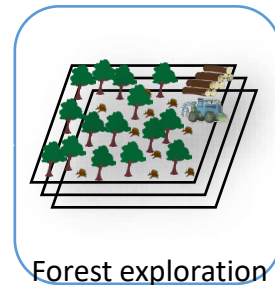
The two main administrative sanctions at the disposal of IBAMA in the fight against deforestation are:

1. Application of fines
2. Embargoes on rural properties

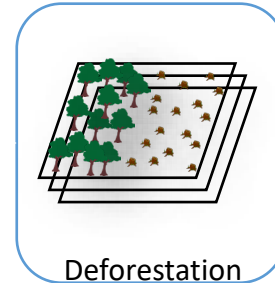
Sentinel 2A



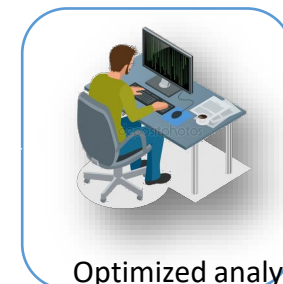
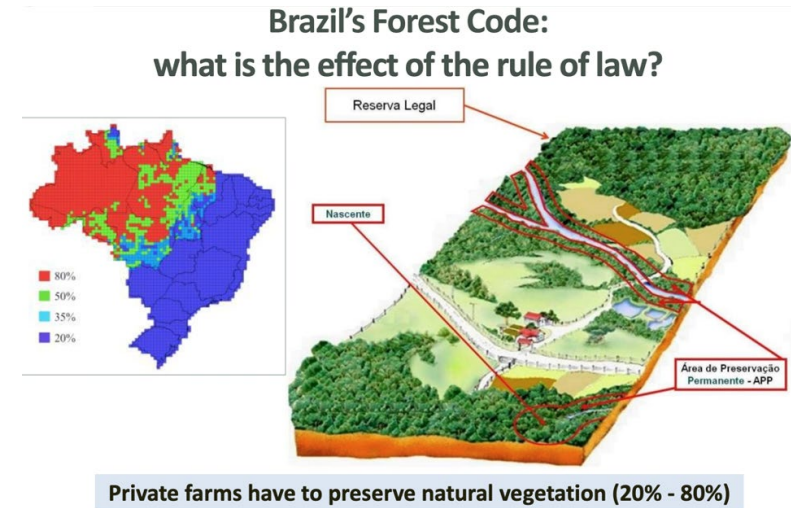
Monitoring



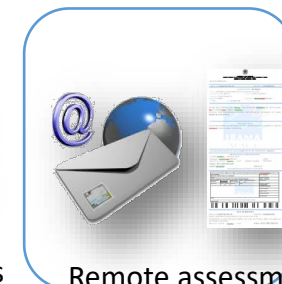
Forest exploration



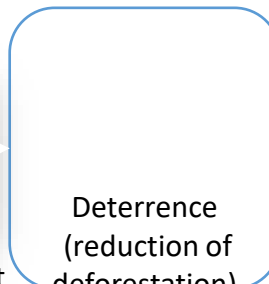
Deforestation



Optimized analysis

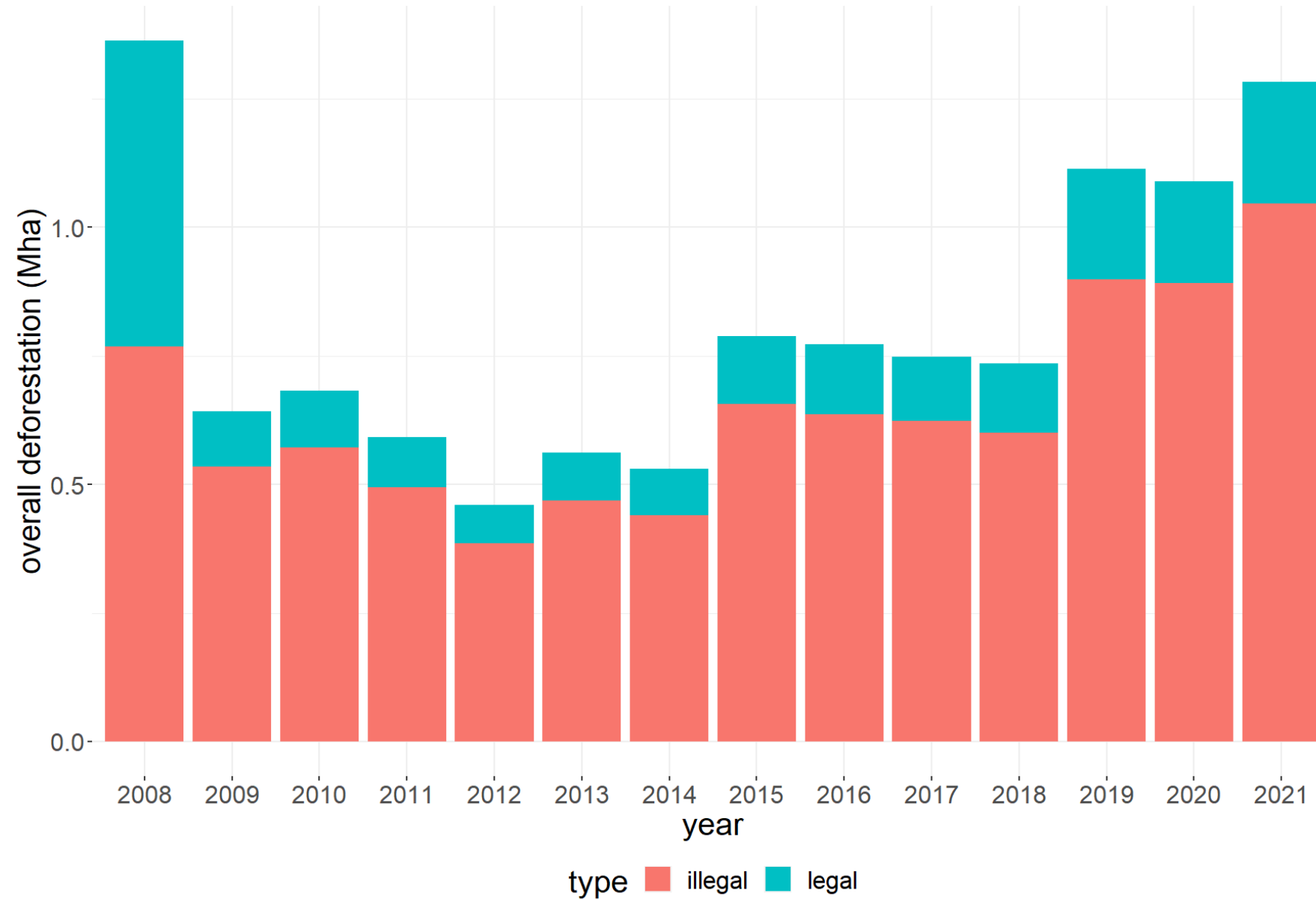


Remote assessment



Deterrence
(reduction of
deforestation)

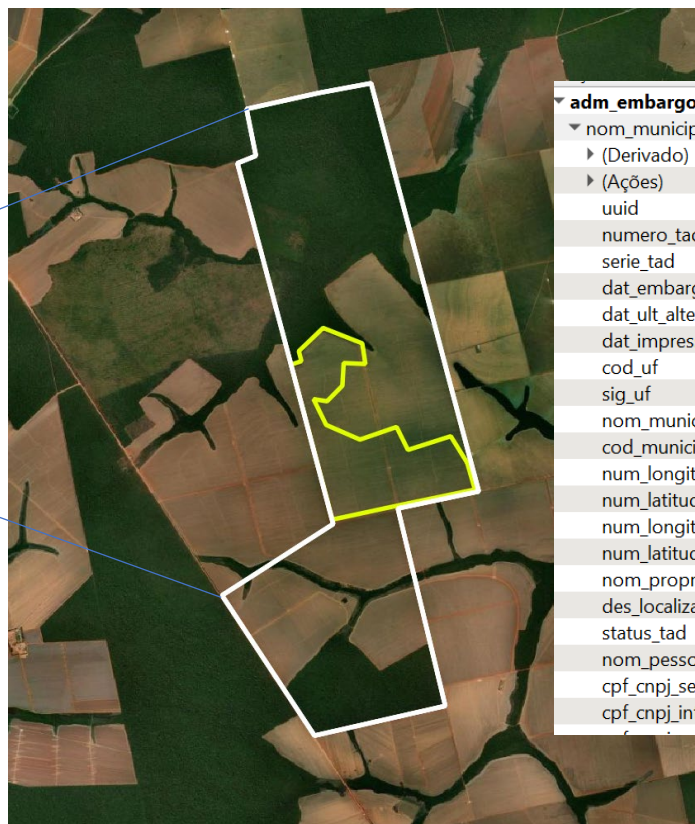
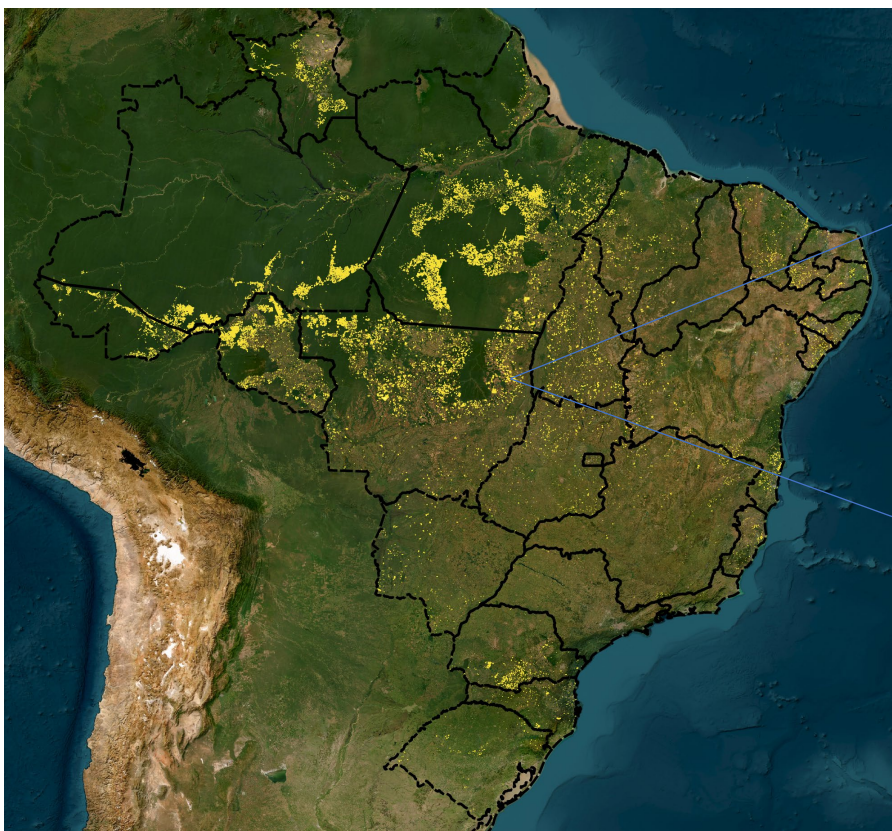
Deforestation - CAR: legal and illegal



Embargoes Area

Importance of Embargoes

- Public list of embargoed areas limits trade of products and restricts bank credit for violators.
- Preventive measure to avoid further infractions and ensure environmental recovery.



adm_embargo_ibama_a	
nom_municipio	São Félix do Araguaia
▶ (Derivado)	
▶ (Ações)	
uuid	e261adff-b8d1-4e92-bd1a-8e9ddc40d4fe
numero_tad	707010
serie_tad	E
dat_embargo	2016-09-19 15:38:00
dat_ult_alteracao	2023-12-15 00:53:31
dat_impressao	2016-09-19 15:44:26
cod_uf	51
sig_uf	MT
nom_municipio	São Félix do Araguaia
cod_municipio_tad	5107859
num_longitude_tad	-52,078056
num_latitude_tad	-11,5175
num_longitude	52° 04' 41.002" W
num_latitude	11° 31' 03.000" S
nom_propriedade	NULL
des_localizacao	zona rural de São Felix do Araguaia.
status_tad	AL
nom_pessoa	ALDAIR NUNES [REDACTED]
cpf_cnpj_sem_formatacao	34355723100 [REDACTED]
cpf_cnpj_infrator	343.557.231-00
.....

- Remote monitoring
- Operation "Remot"

280.1

15 de dezembro de 2023 Institucional | Atuação Socioambiental

BNDES aprova nova regra e amplia veto a clientes com embargo por desmatamento ilegal

Vedação se aplicará quando houver embargo ambiental vigente, mesmo que em imóveis não diretamente associados ao financiamento

Medida abrange operações indiretas automáticas, que são contratadas via rede de agentes credenciados do BNDES

Iniciativa, alinhada a meta de zerar desmatamento nas cadeias produtivas intensivas em uso da terra e reduzir emissão de CO2, supera regras do BC

O Banco Nacional de Desenvolvimento Econômico e Social concede crédito rural a clientes com embargo ambiental diretamente associados ao financiamento. A regra se sobrepõe a uma medida anterior do Banco para restringir o financiamento a proprietários de áreas com embargo ambiental.

DEFESA DO MEIO AMBIENTE

AGU mantém na Justiça multa de R\$ 47 milhões a banco que financiou milho produzido em área embargada

Plantio do grão ocupava mais de 570 hectares em área degradada, localizada no bioma amazônico

Publicado em 05/12/2023 19h19

MEIO AMBIENTE

BNDES bloqueia R\$ 326 milhões em empréstimos em áreas desmatadas ilegalmente

"Aquele minoria que insiste com práticas ilegais de predação do meio ambiente não terá acesso ao crédito do BNDES", disse o presidente do banco, Aloizio Mercadante

01 de janeiro de 2024, 08:15 h Atualizado em 01 de janeiro de 2024, 09:09 h

168 Partilhas



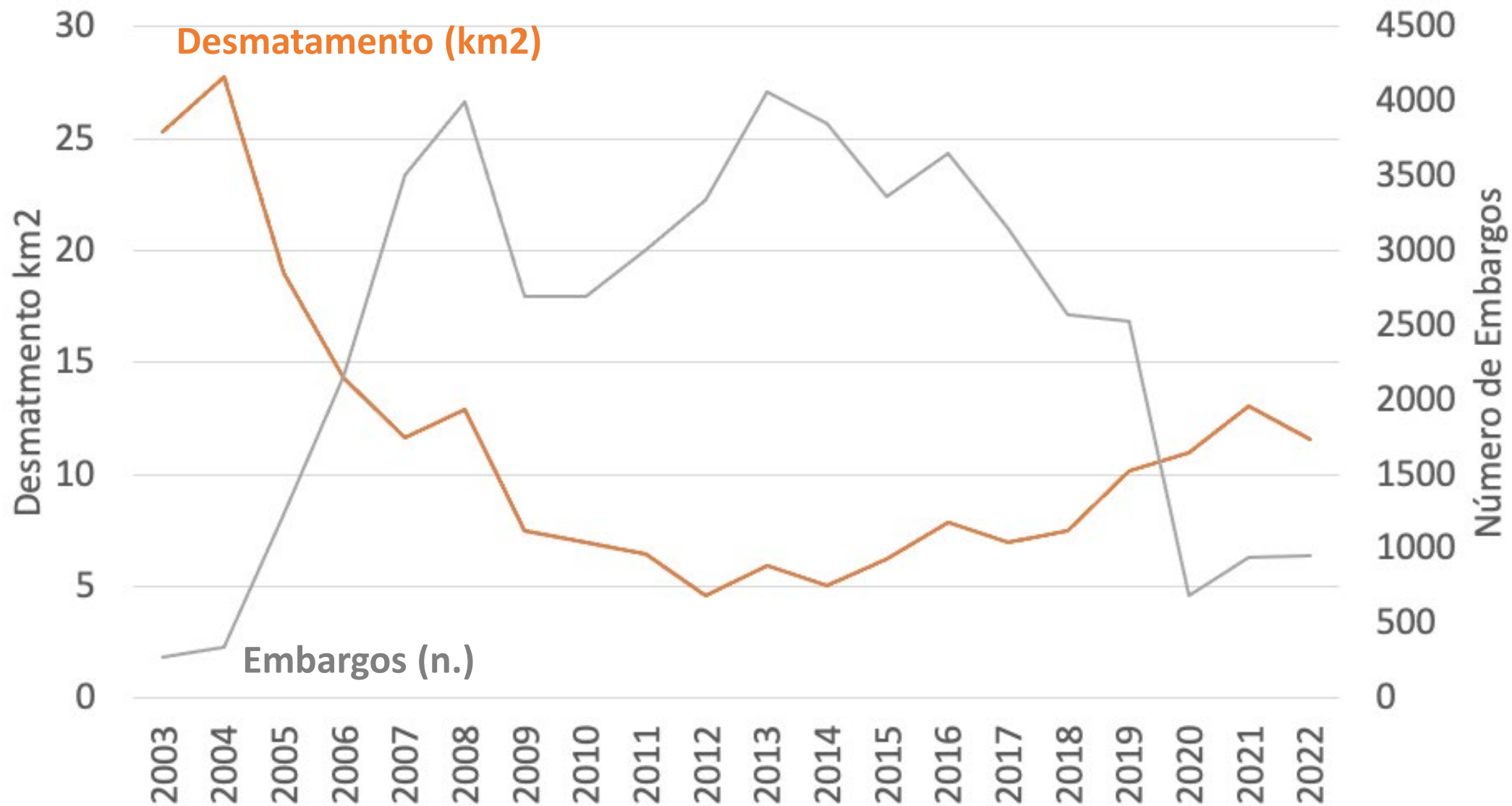
Banco Central proíbe empréstimos para fazendas com embargo no Cerrado

Nova resolução, publicada no final de junho, amplia para demais biomas restrição ao crédito que só era aplicada para propriedades na Amazônia

POR GIL ALESSI

03/07/2023

Embargos x Desmatamento na Amazônia



Main results 2024

- Total Fines: **\$154 million**
 - Forestry Credits Blocked: **2.25 million m³**
-

Main results

- **Reduction of 49,8%** in deforestation compared to 2022
- Avoided emissions of 130 million tons of CO² in 2023, compared to 2022

THANK YOU!



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June, 2024

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gov.br/ibama



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