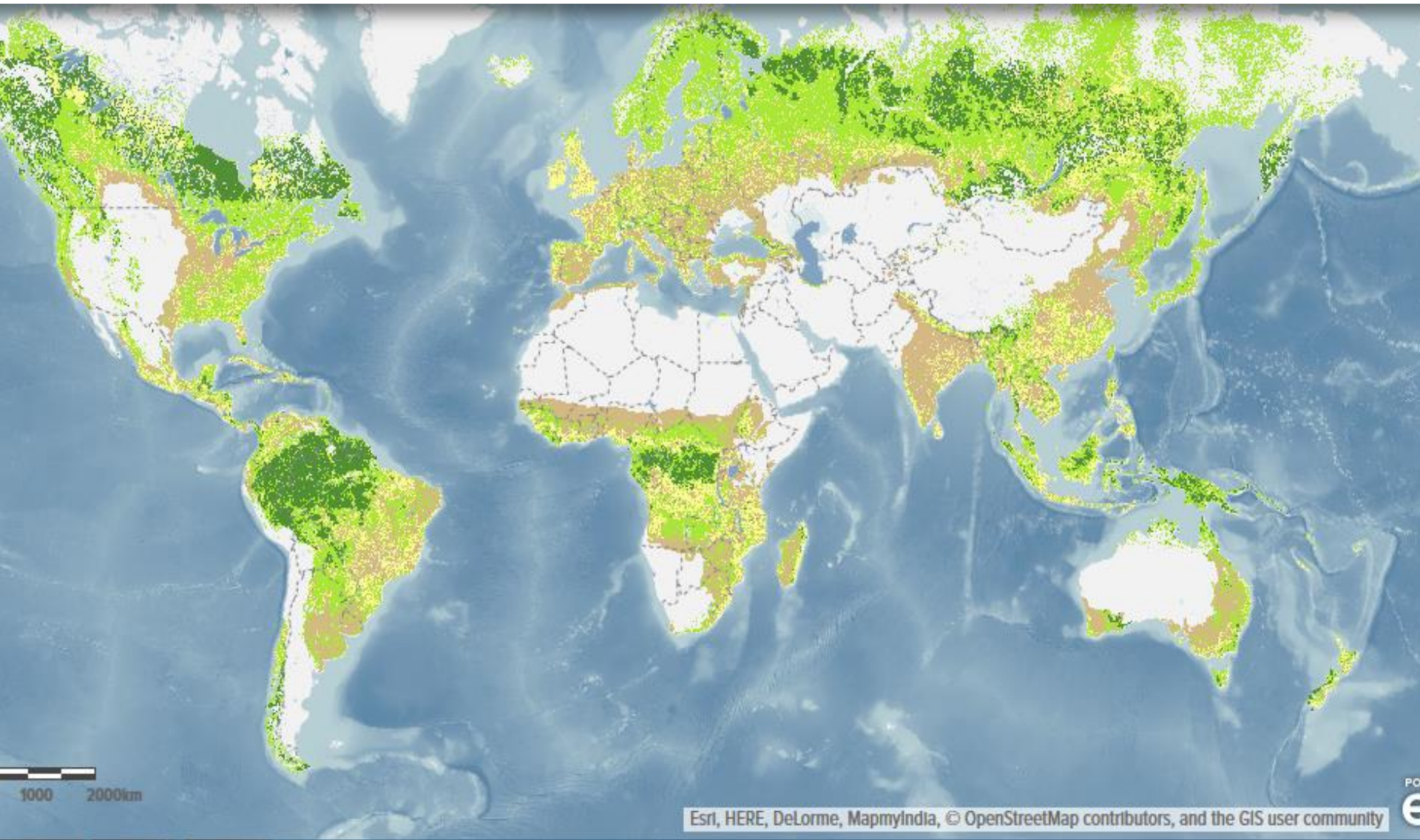
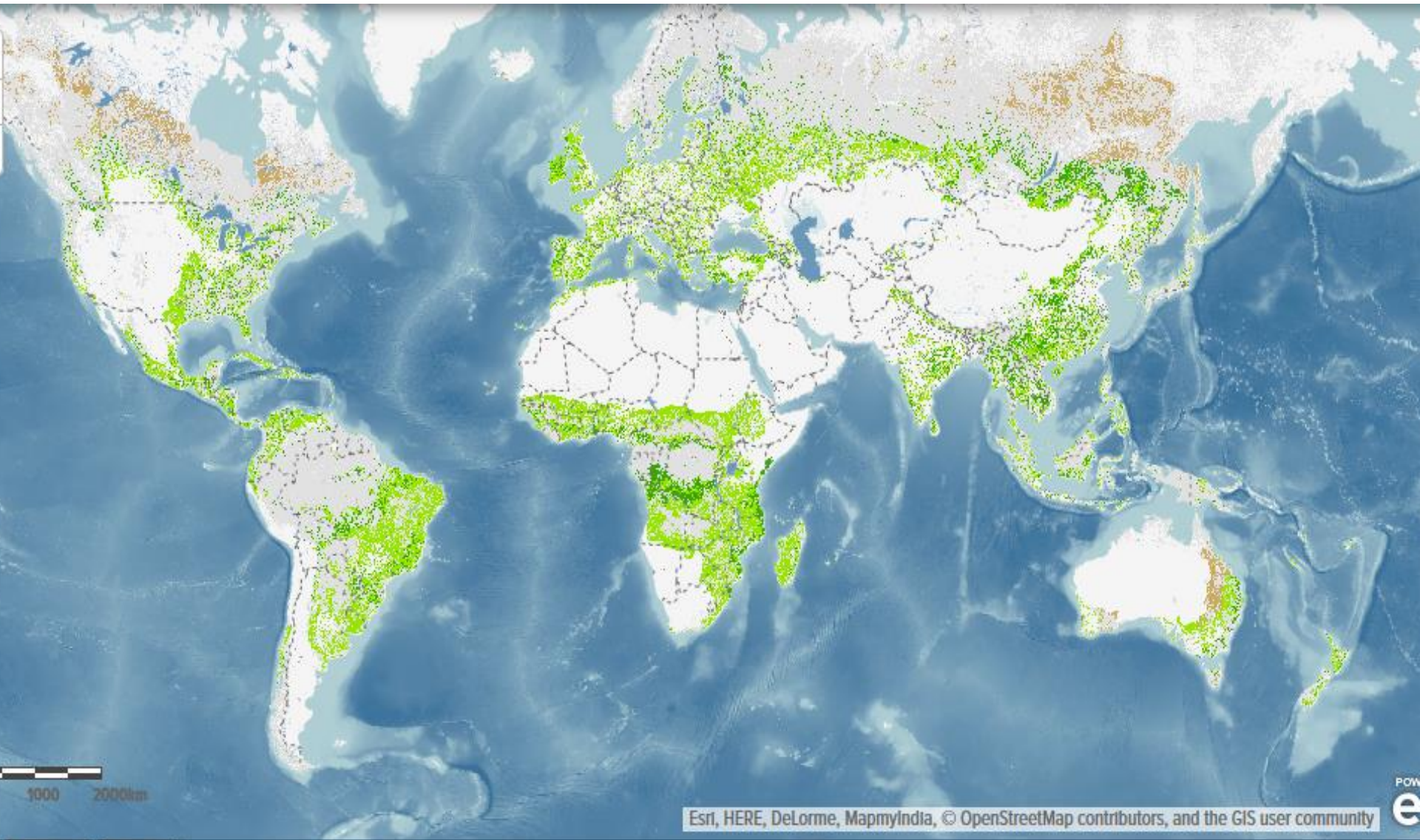


**Fatores locais e de paisagem sobre a  
regeneração natural em paisagens agrícolas**

**Ricardo Gomes César**





1000 2000km

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

POW  
e

## Perfil econômico

Estimativa dos custos médios (R\$/ha) nos cenários favorável e desfavorável, considerando atividades de manejo não mecanizado e insumos para as técnicas consideradas nos diferentes biomas.

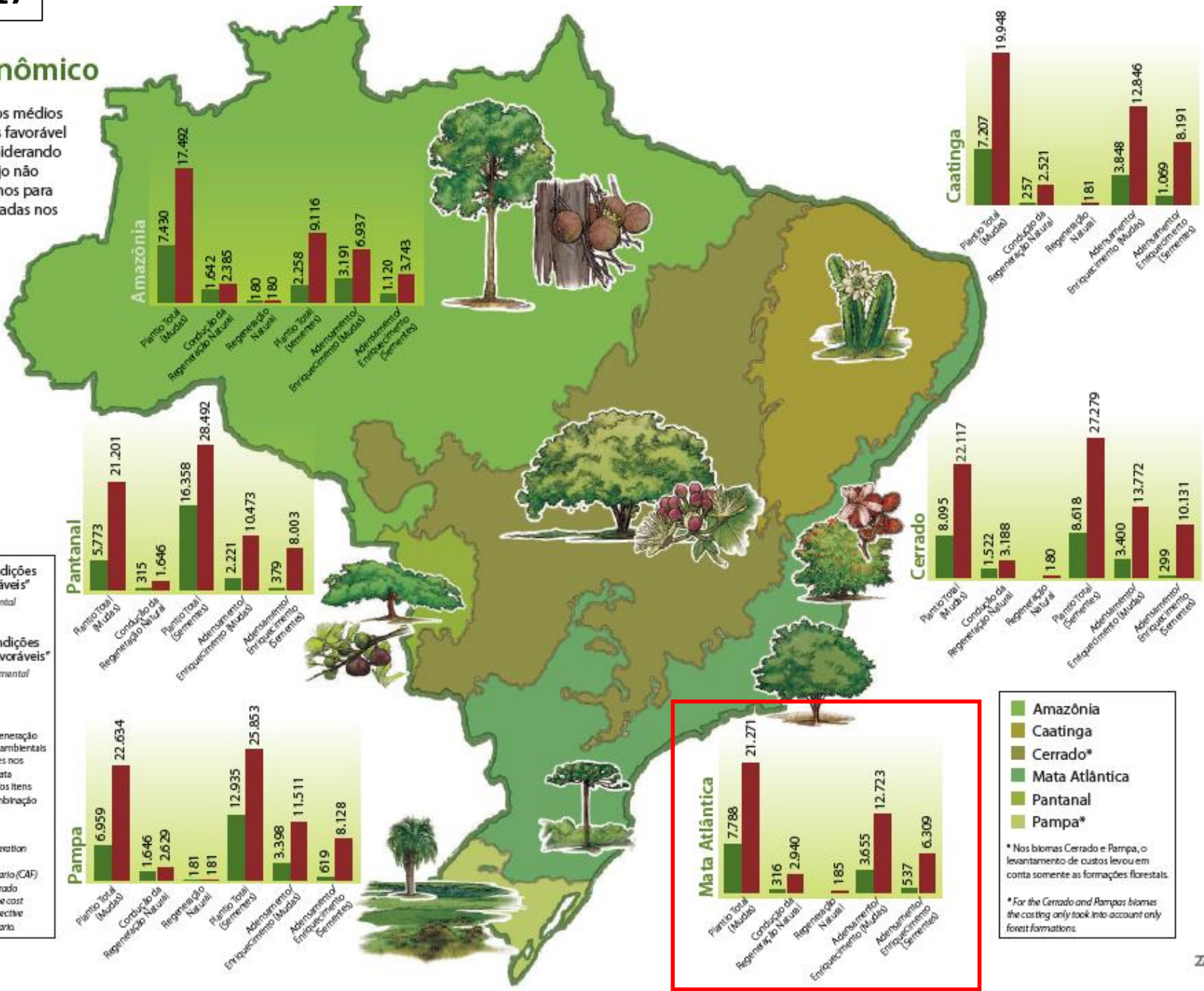
**Economic profile**  
Estimate of the average costs (R\$/ha) in favourable and unfavourable scenarios, taking into account non-mechanised management and supplies for the techniques considered in the different biomes.

**CAF: cenário "condições ambientais favoráveis"**  
CAF: "favourable environmental conditions" scenario

**CAD: cenário "condições ambientais desfavoráveis"**  
CAD: "unfavourable environmental conditions" scenario

Fonte: Dados de pesquisa  
Estimativas para a técnica Regeneração Natural no cenário "condições ambientais favoráveis" (CAF) estão ausentes nos biomas Caatinga, Cerrado e Mata Atlântica pois não foram listados itens de custo para a respectiva combinação técnica/cenário.

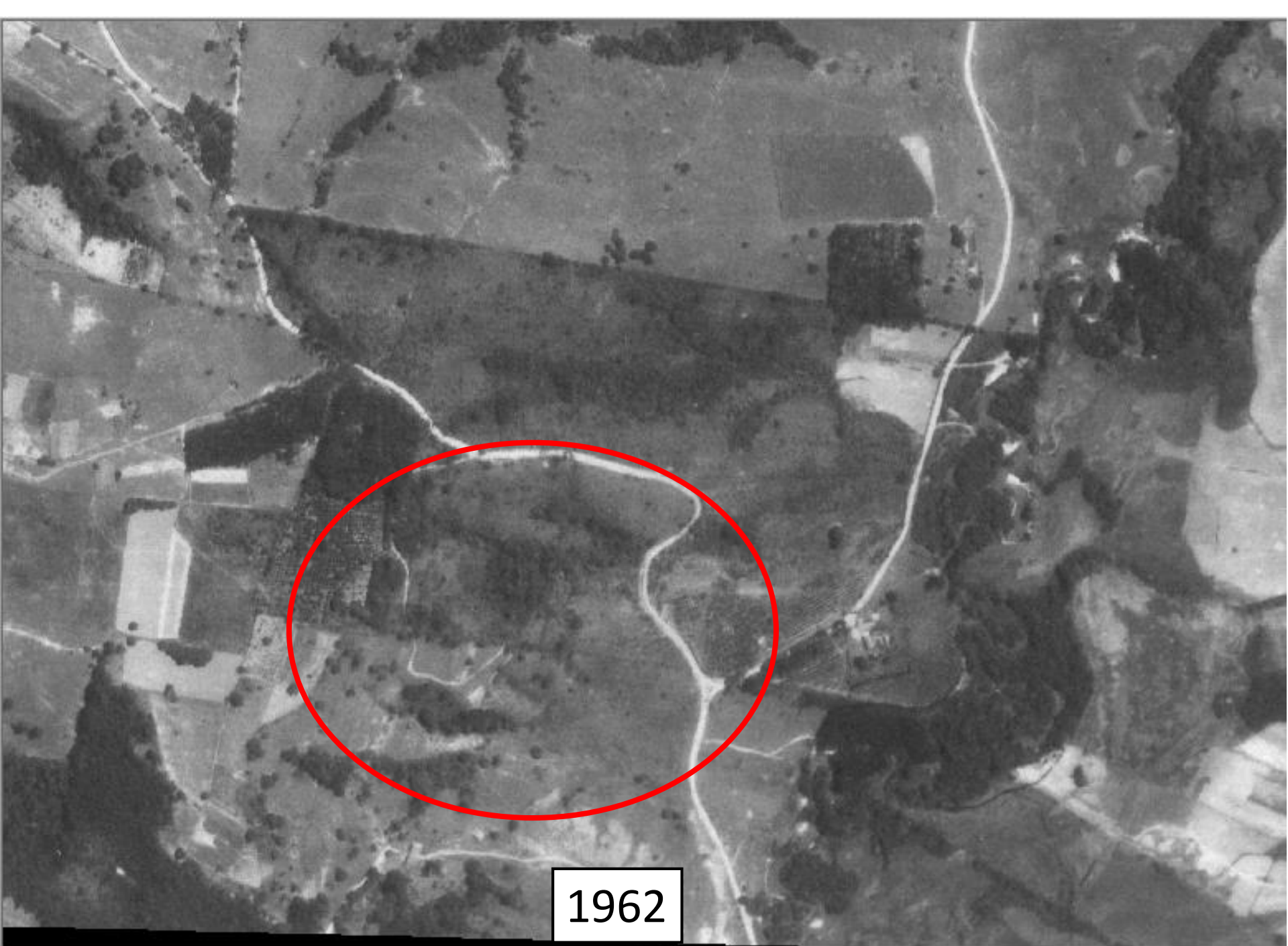
Source: Research data  
Estimates for the Natural Regeneration technique in the "favourable environmental conditions" scenario (CAF) are absent for the Caatinga, Cerrado and Atlantic Forest biomes as the cost items were not listed for the respective combination of technique/scenario



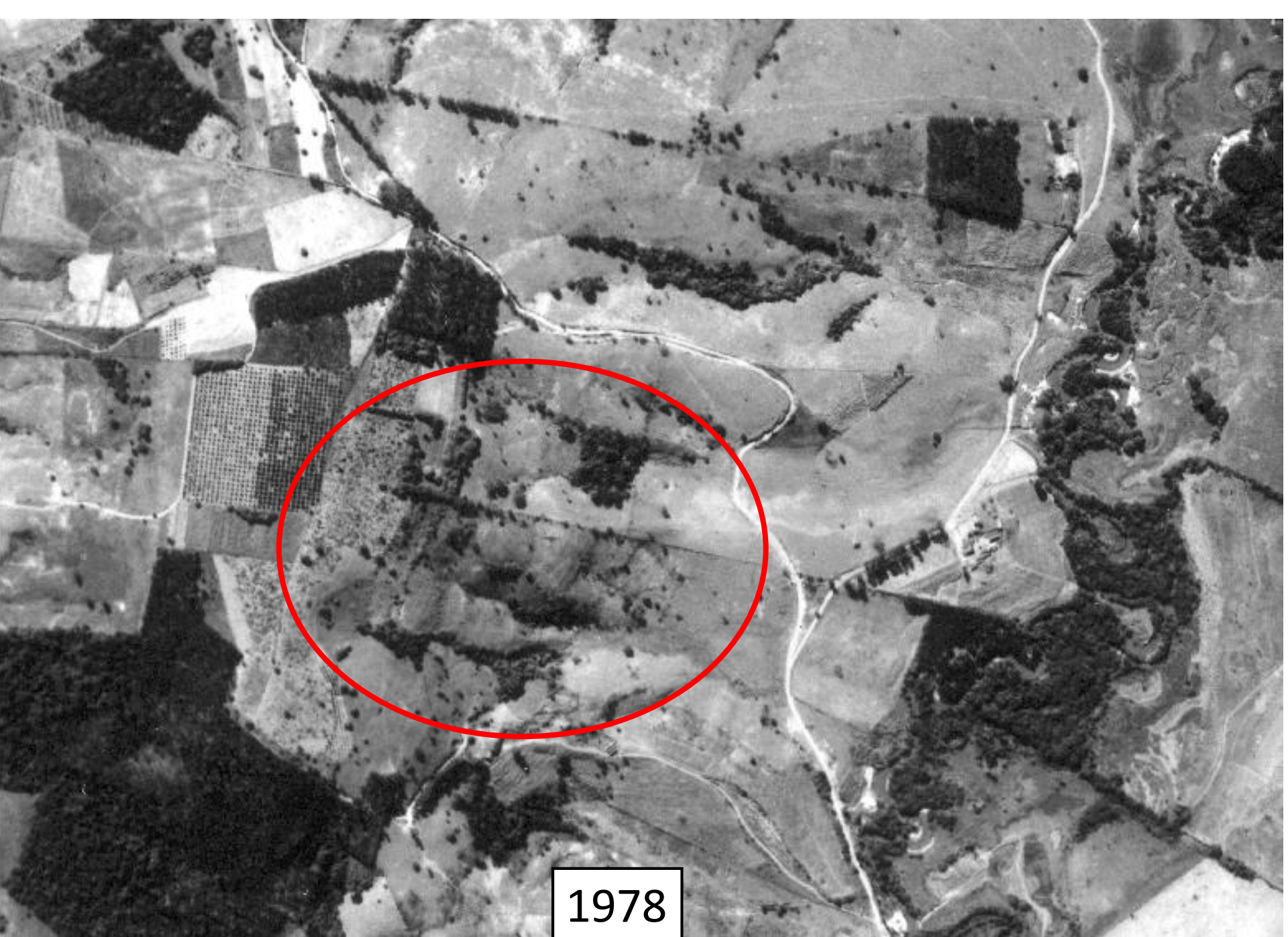
■ Amazônia  
■ Caatinga  
■ Cerrado\*  
■ Mata Atlântica  
■ Pantanal  
■ Pampa\*

\* Nos biomas Cerrado e Pampa, o levantamento de custos levou em conta somente as formações florestais.

\* For the Cerrado and Pampa biomes the costing only took into account only forest formations.



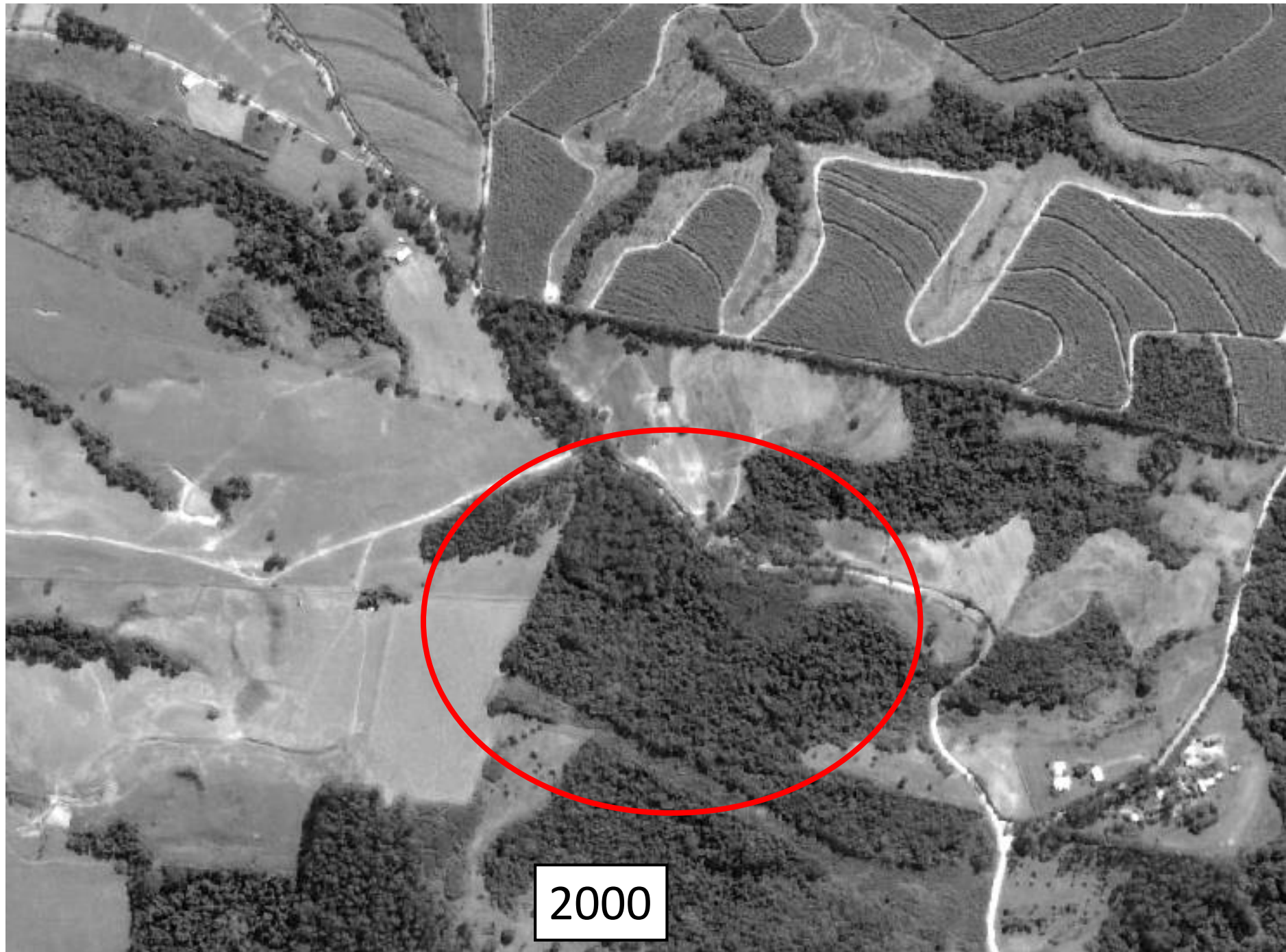
1962



1978

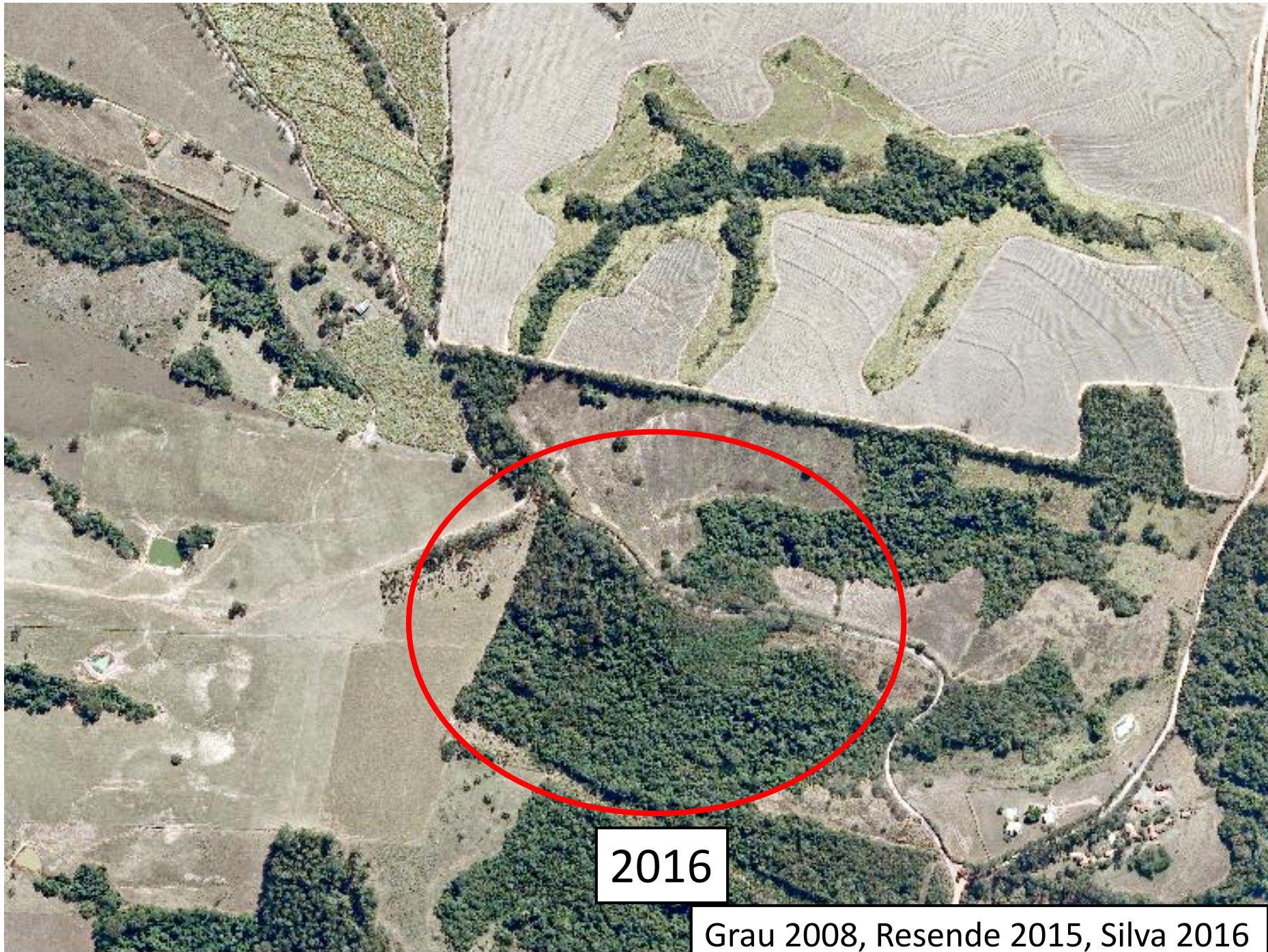


1995



2000





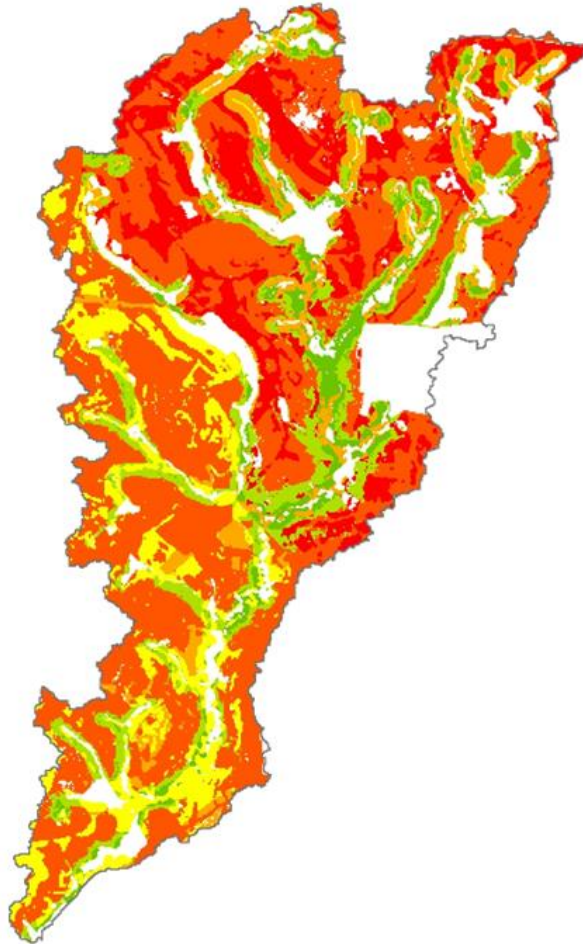
2016

Grau 2008, Resende 2015, Silva 2016

# Chance de regeneração natural

- **Abandono das atividades agrícolas**
- Declividade (Asner 2009, Molin 2017)
- Distância de remanescentes (Molin 2017, Sloan 2015)
- Fertilidade do solo (Rezende 2015)
- Uso anterior (Zermeno-Hernandez 2015)

# Chance de regeneração



Chance de regeneração



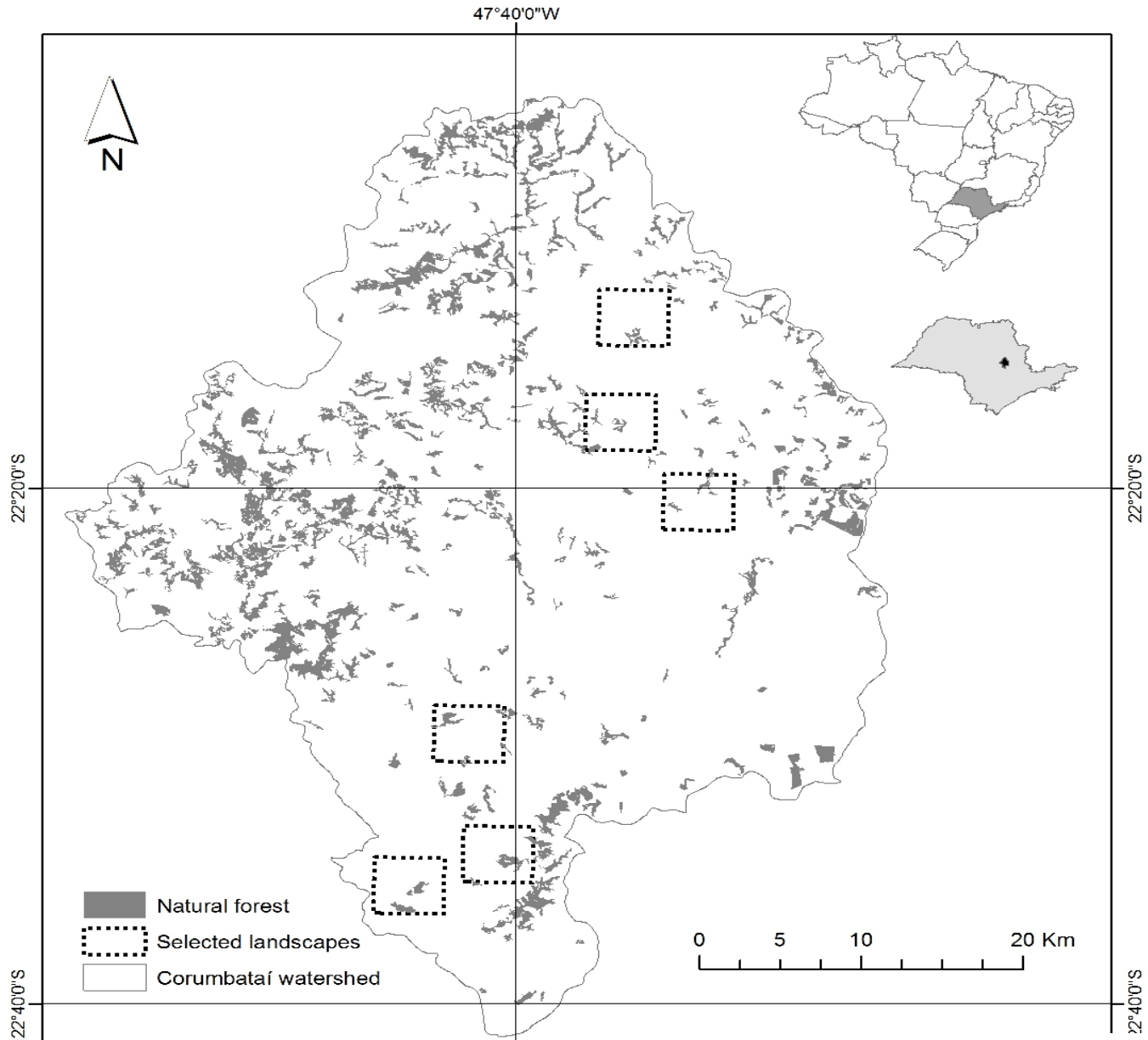


Chazdon 2008, Barlow et al. 2016

# Pergunta

Quais fatores locais e de paisagem alteram atributos das florestas estabelecidas sem intervenção humana?

# Bacia do Corumbataí



Ferraz et al. (2014)

1962

1978

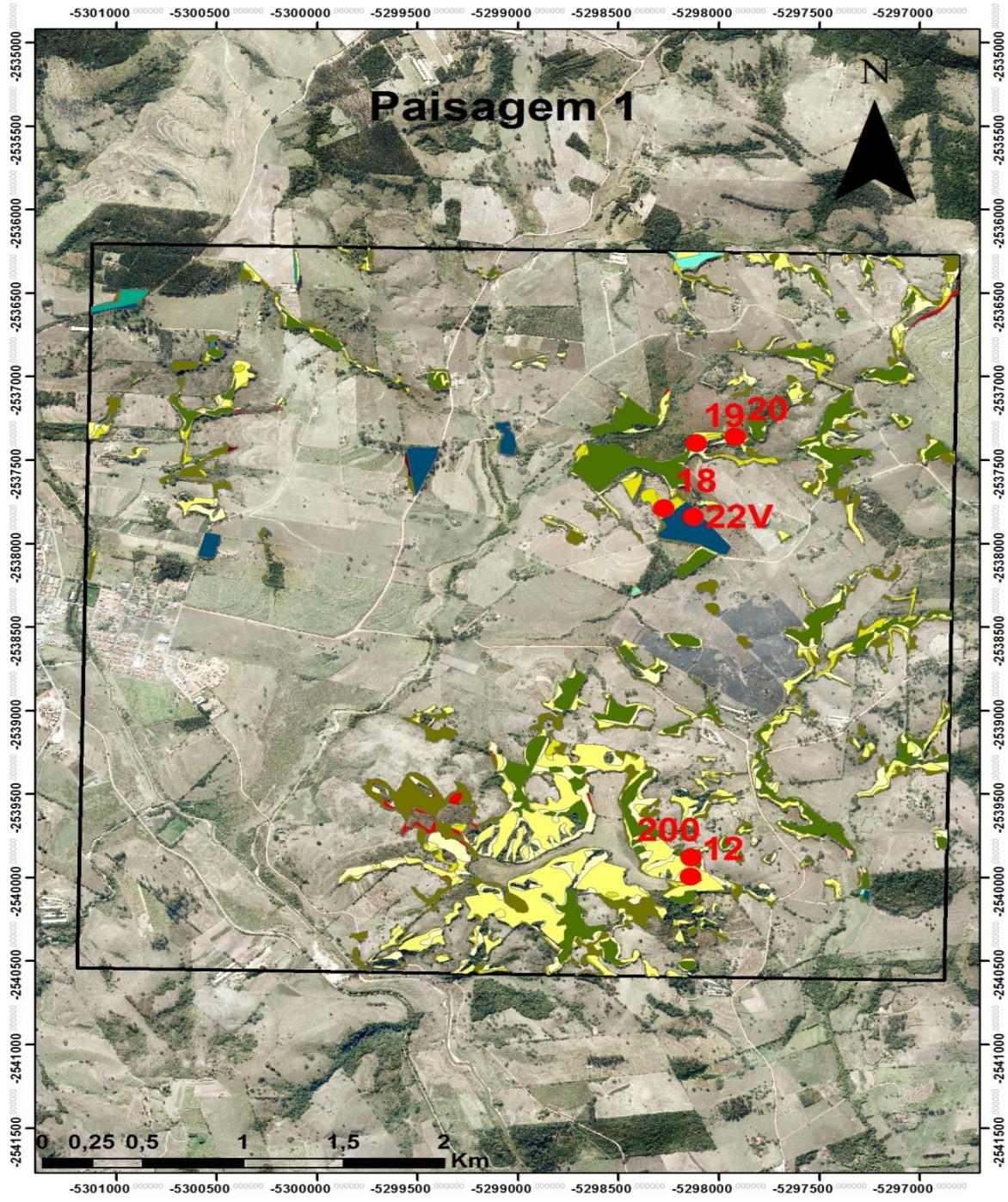
1995

2000

2008



A)





# Variáveis explanatórias

- Variáveis locais

- Idade 

- Uso anterior 

- Soma de bases 

- Declividade 

# Variáveis explanatórias

- Variáveis de paisagem

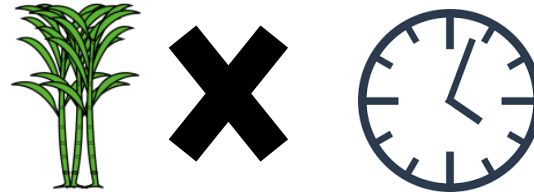
- Uso próximo 

- Tamanho remanescente 

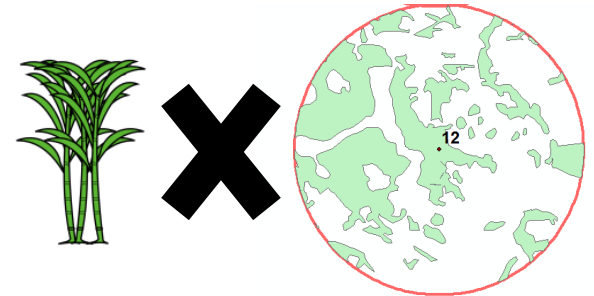
- Cobertura florestal 

# Interações

- Uso próximo X Idade



- Uso próximo X Cobertura florestal



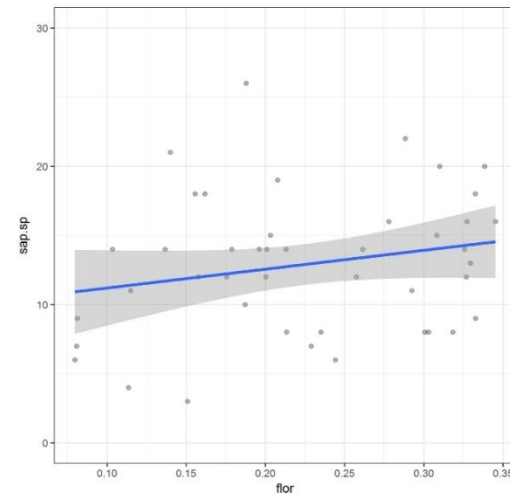
# Atributos das Florestas

- Estoque de carbono
- Potencial de Conservação
- Dispersão Filogenética

# Análise de dados

## Seleção de modelos

- Modelos mistos lineares generalizados
- Importância e coeficiente das variáveis do modelo médio gerado pelos modelos  $\Delta AIC < 4$



# Biomass

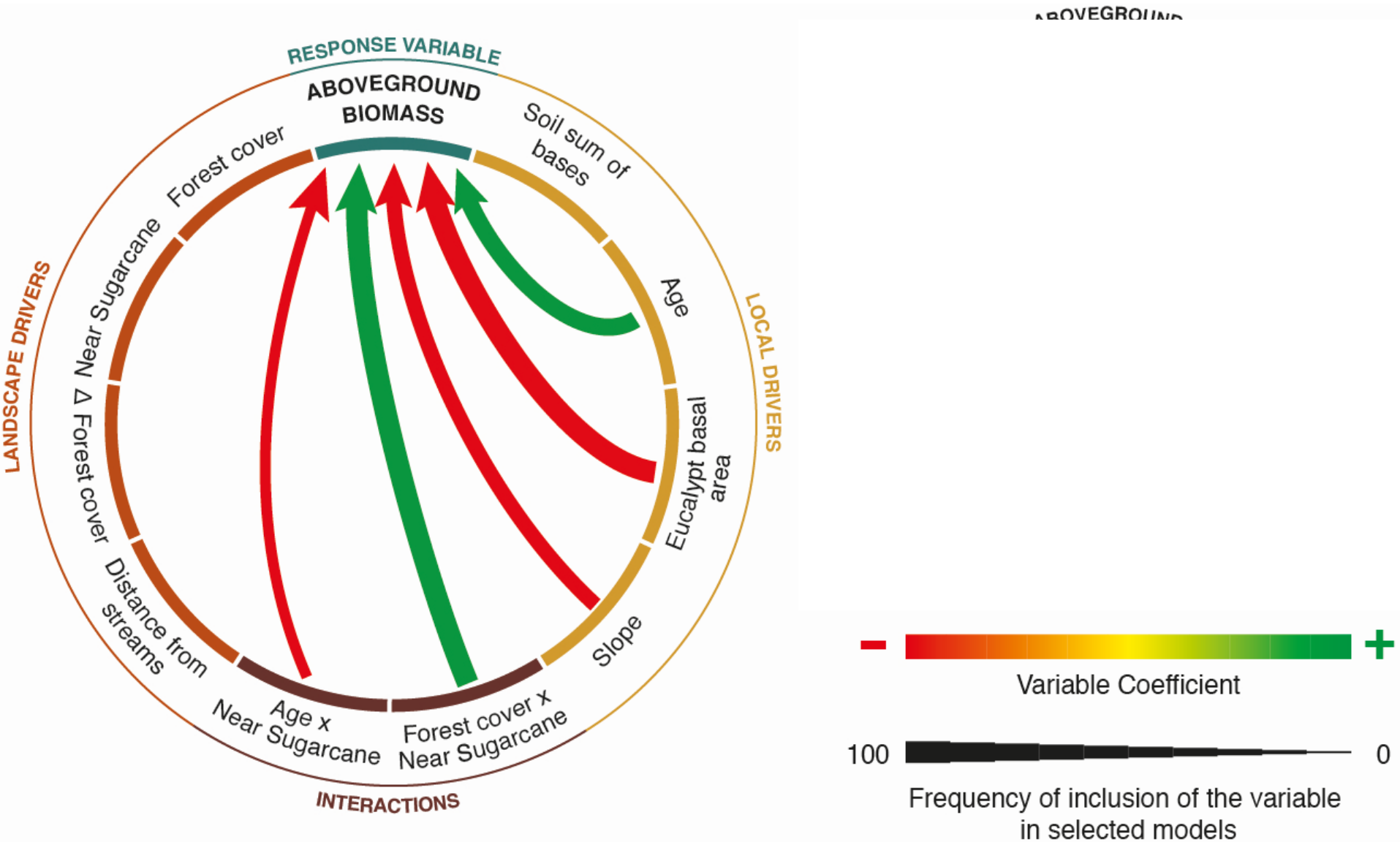


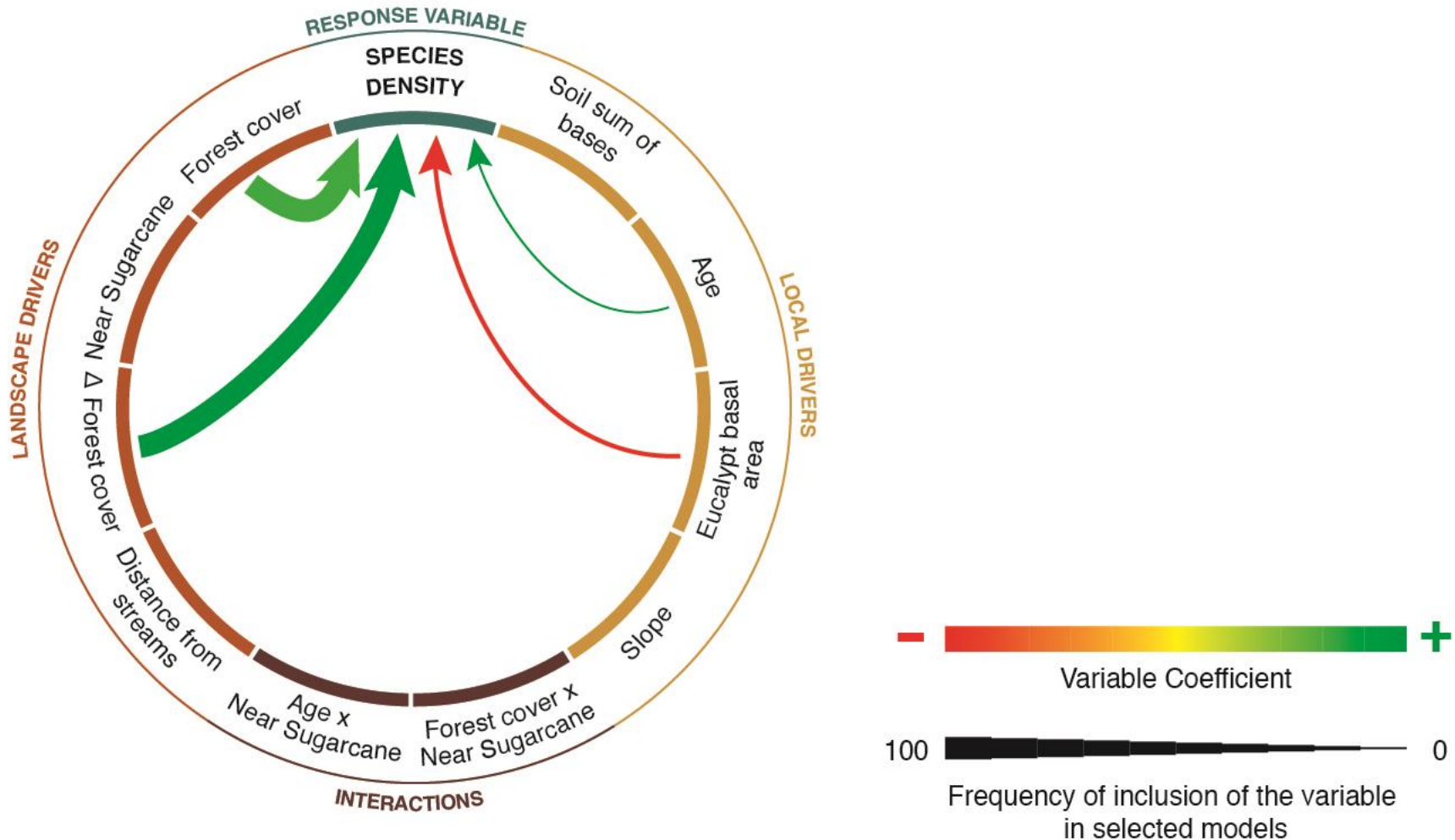


Foto: Eduardo Alexandrino

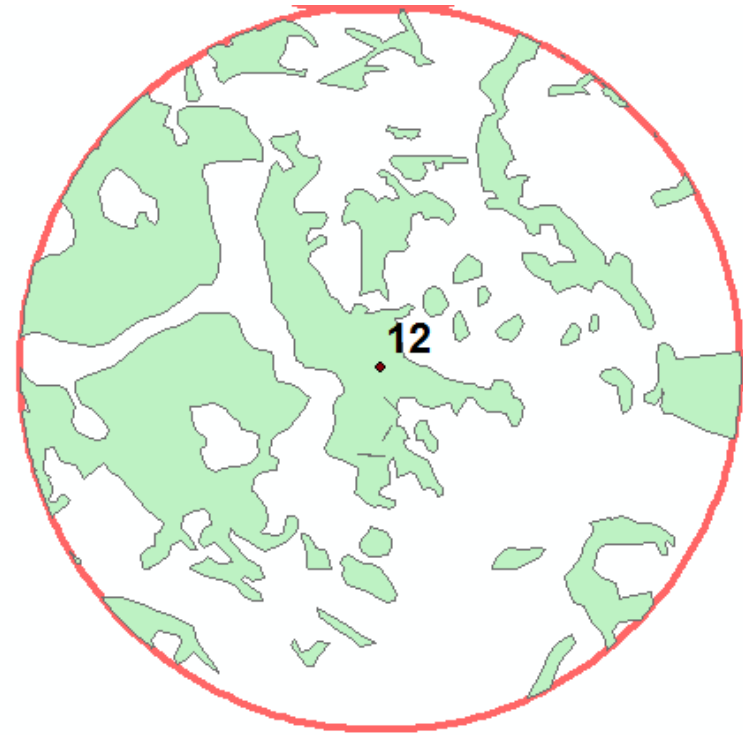




# Densidade de Espécies

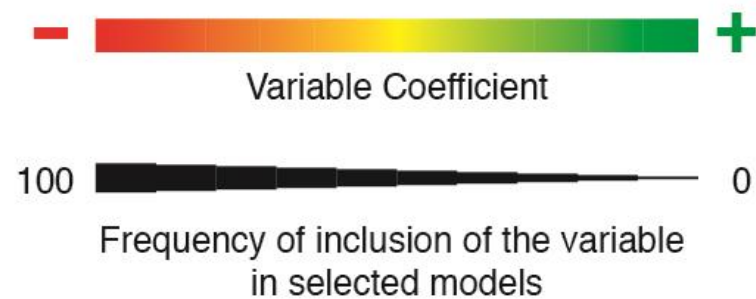
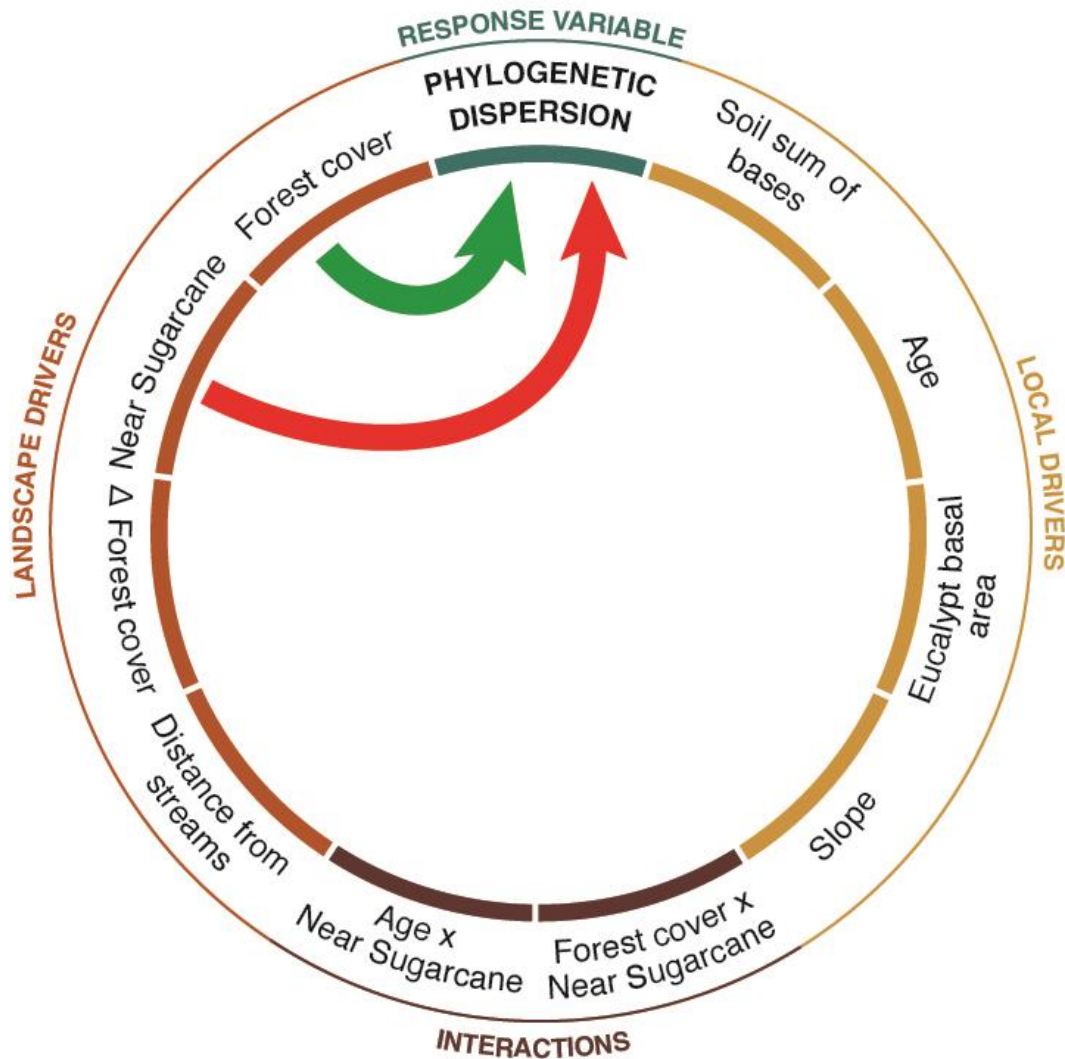


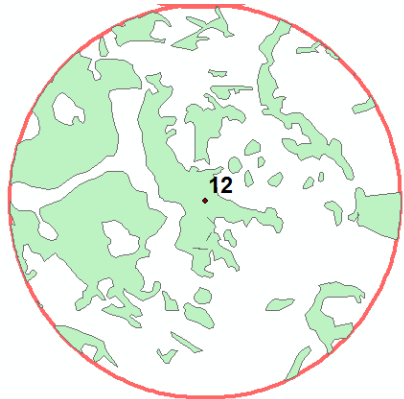
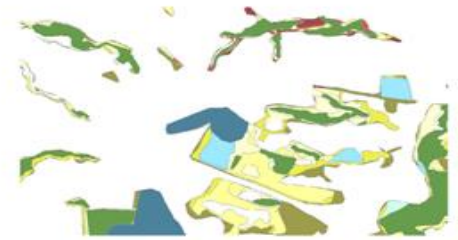
# Cobertura Florestal



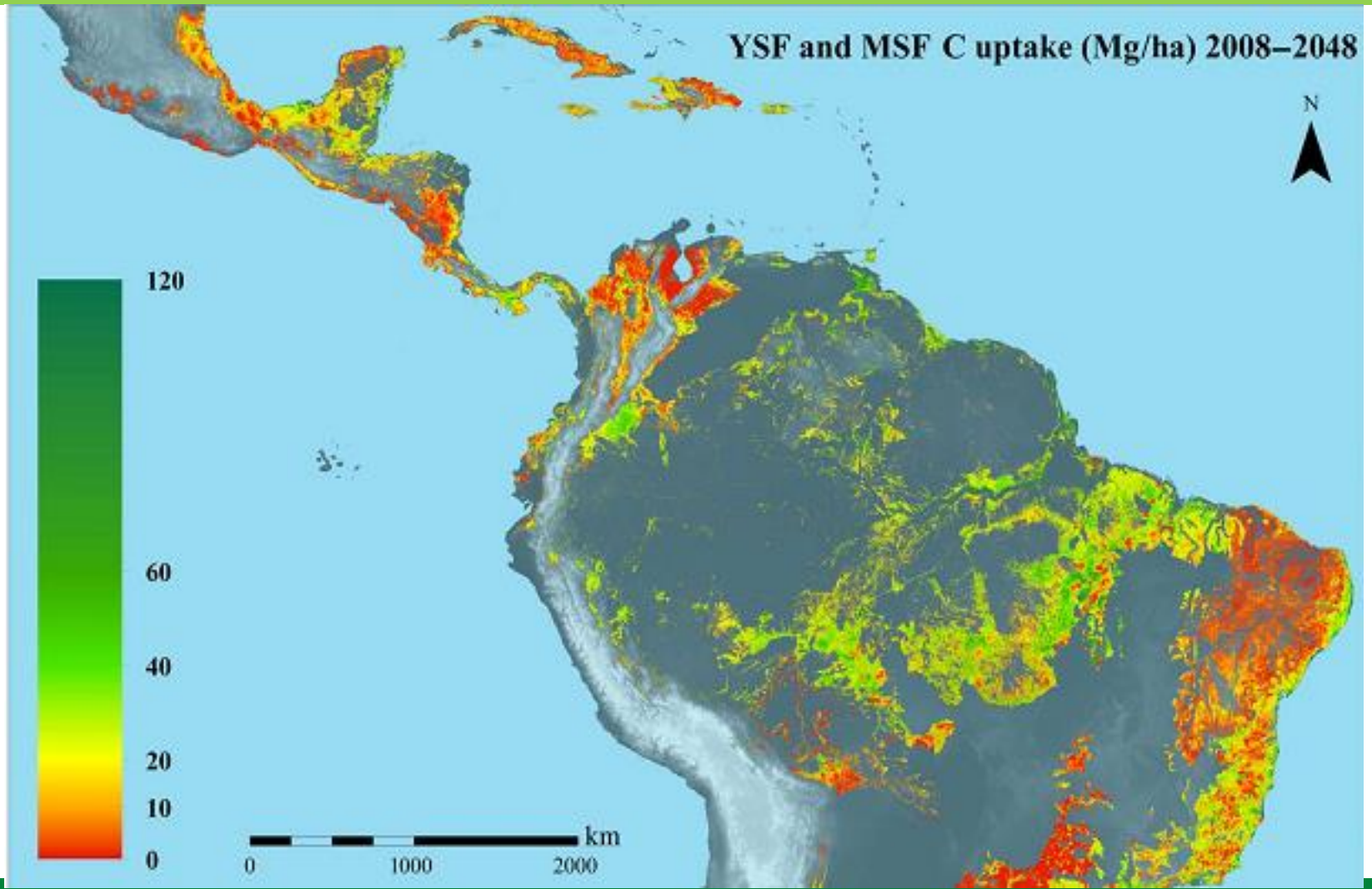
Crouzeilles et al. (2016); Jakovac et al. (2015);  
Martínez-Ramos et al. (2016)

# Densidade de Espécies





# Uso antrópico



# Uso antrópico

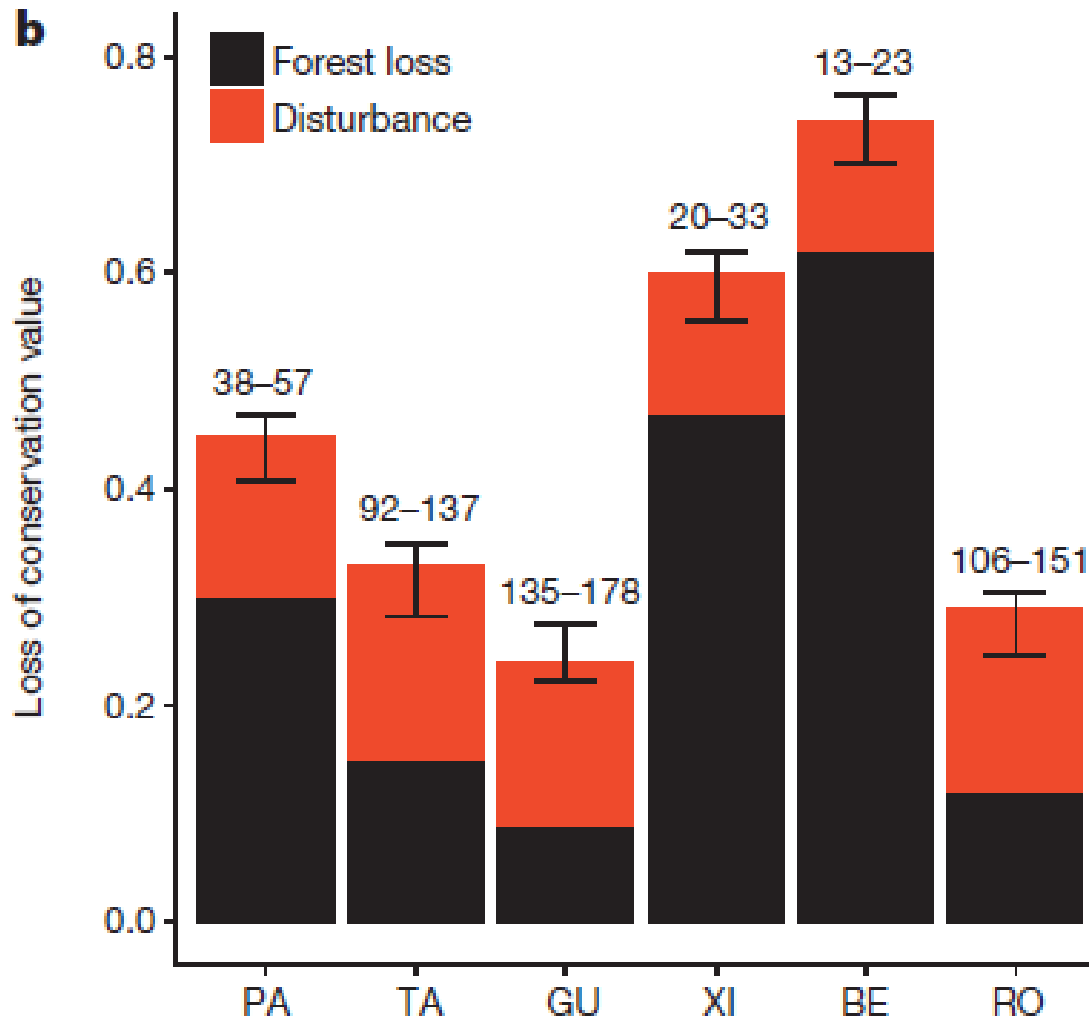




Foto: Eduardo Alexandrino

# Considerações Finais

- Florestas secundárias e plantios são abordagens de restauração válidas para a provisão de serviços ecossistêmicos e conservação da biodiversidade.
- Da mesma forma que a escolha dessas abordagens depende do contexto da área, os resultados dessas abordagens também são influenciadas pela paisagem e atividades antrópicas.



# Perguntas

- Chance de regeneração = qualidade da regeneração?
- Quanto erramos ao desconsiderar o uso antrópico dos modelos sucessionais?
- Respostas espécie-específicas

# Outras abordagens

- Atributos funcionais
  - Vanessa S. Moreno



- Diversidade filogenética
  - Daniella Schweizer



- Sucessão de solos
  - Aline Fransozi



- Comunidade de epífitas
  - Alex F. Mendes



# Outras abordagens

- Estrutura florestal

- Danilo Almeida



- Aspectos sociais

- Mónica Borda Niño



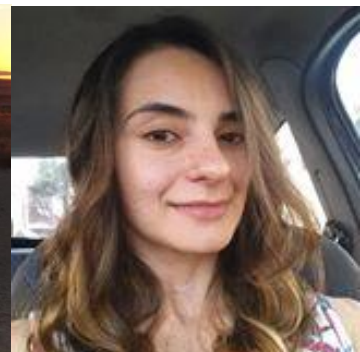
- Diversidade de regenerantes

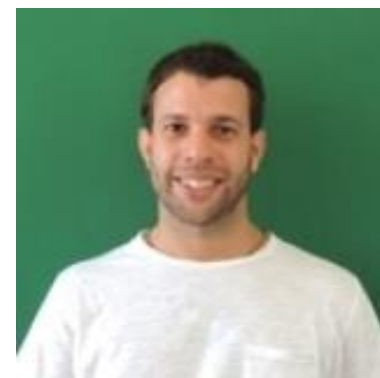
- Adriano Ito



- Comunidade de aves

- Eduardo R. Alexandrino
- Vanessa Oliveira





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