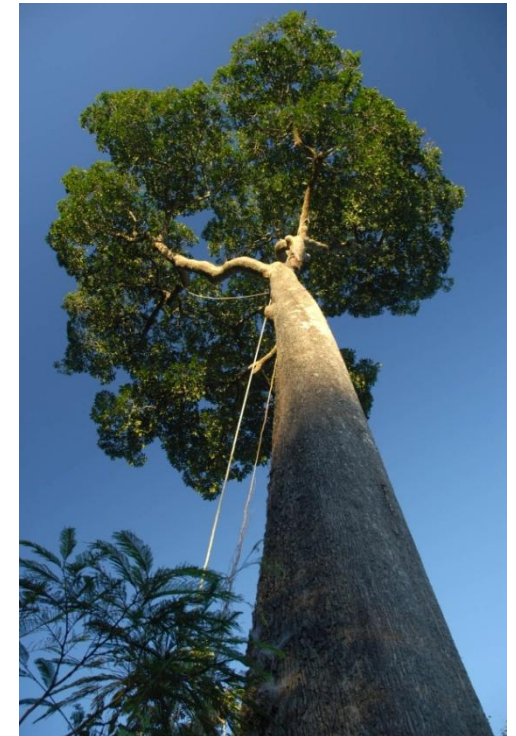
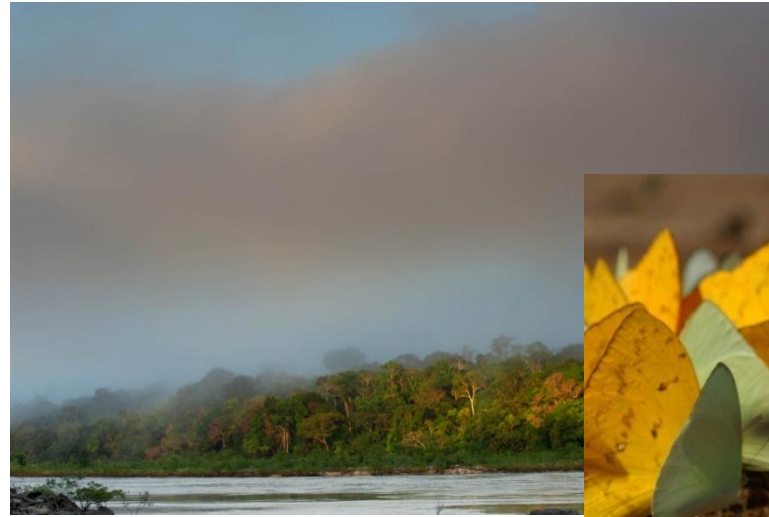


Are environmental services affected
by successional pathways in
secondary Amazonian rain forests?

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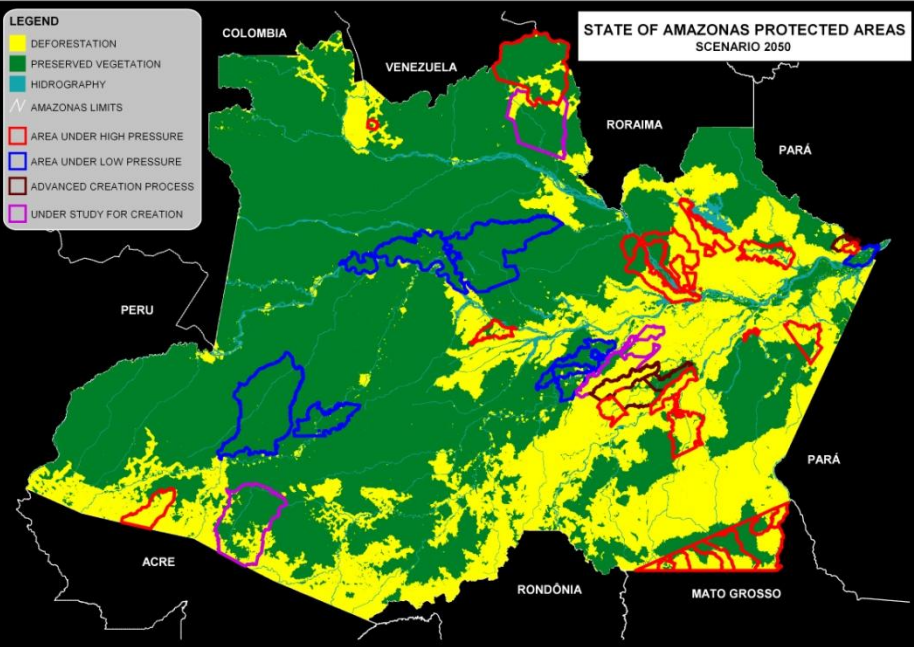
Rita Mesquita, Paulo Massoca, Tony
Vizcarra & Bruce Williamson

Environmental services in the Amazon include climate regulation, hydrological fluxes, ecological processes mediated by biodiversity (such as pollination, decomposition and nutrient cycling), and carbon sequestration and storage.



(Photos By Ziggy Kock)

Deforestation results in loss of environmental services



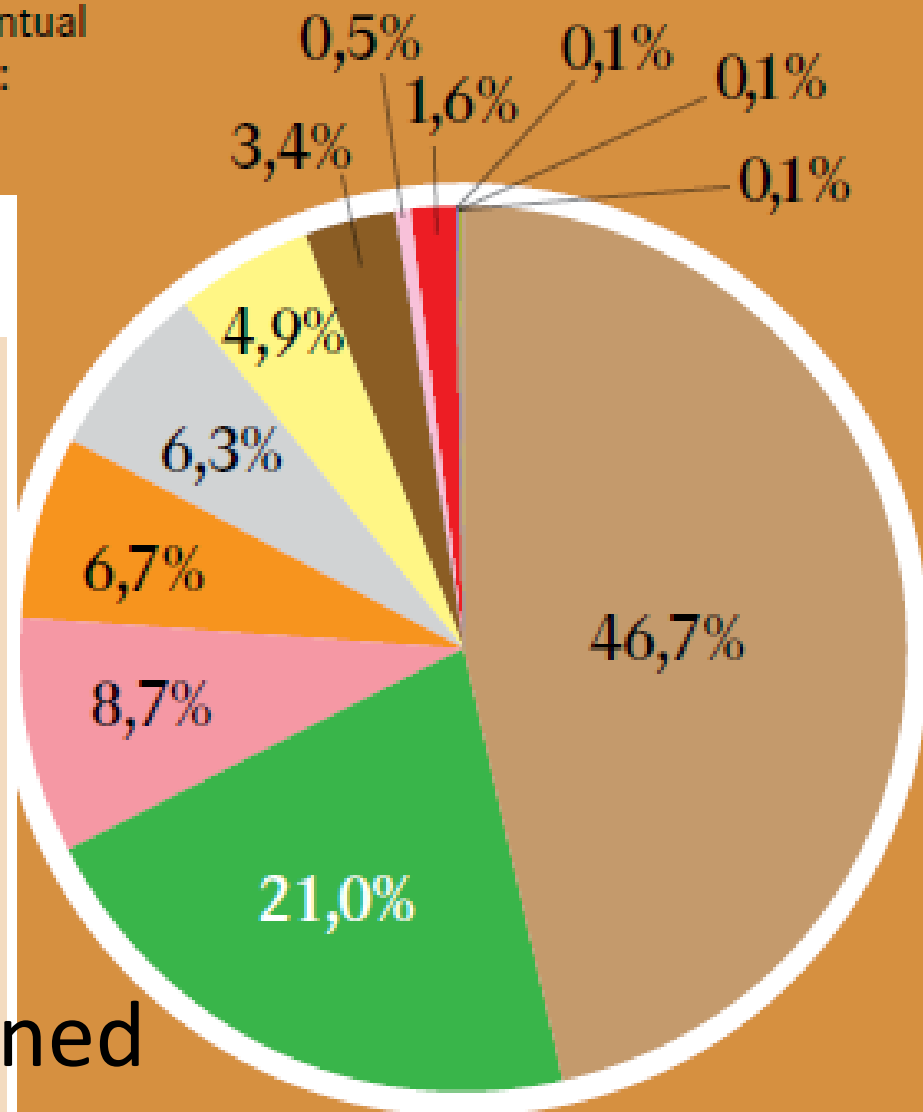
(Britaldo Soares et al)

O gráfico a seguir apresenta a distribuição percentual das classes temáticas mapeadas pelo TerraClass:

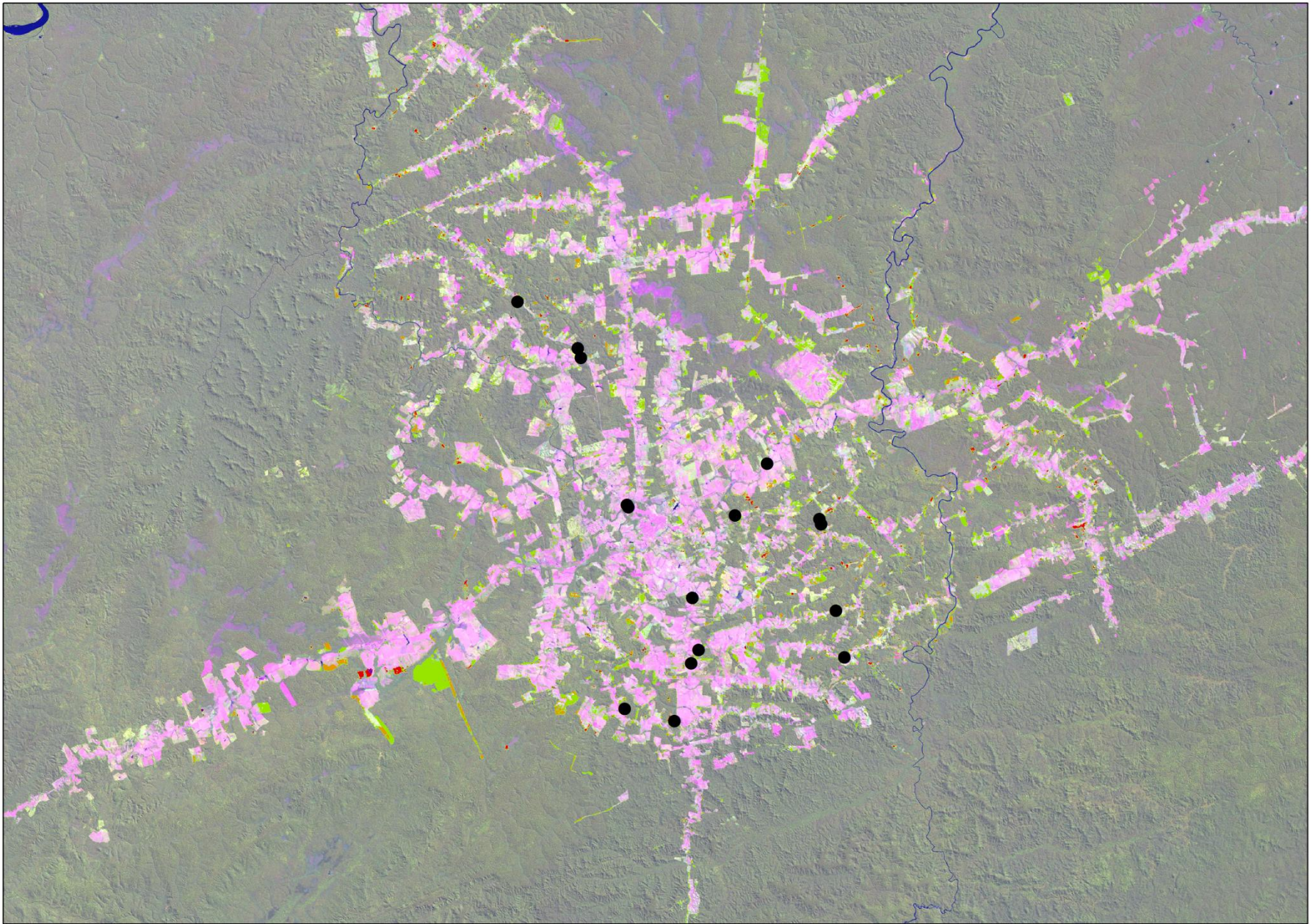
TERRACLASS 2008

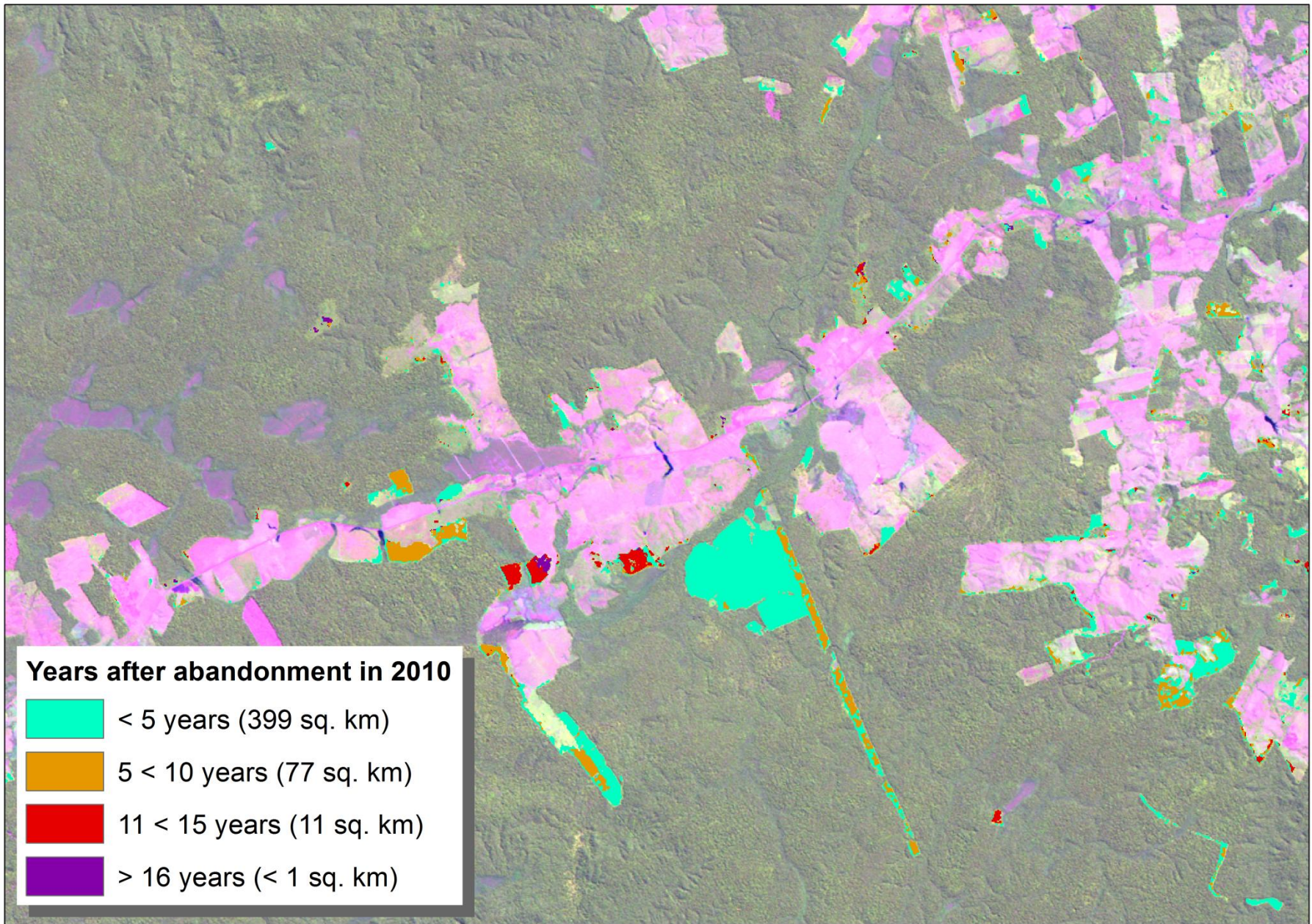
Classes de Uso e Cobertura da Terra nas áreas desflorestadas da Amazônia

- Pasto Limpo
- Vegetação Secundária
- Pasto Sujo
- Regeneração com Pasto
- Área Não Observada
- Agricultura Anual
- Mosaico de Ocupações
- Área Urbana
- Mineração
- Pasto com Solo Exposto
- Outros
- Desflorestamento 2008



Abandoned
areas= 36.4%

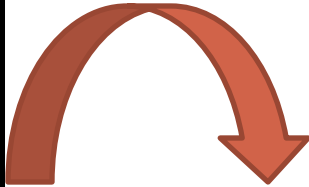








Poorly managed
pastures: 5-10 yr use
before abandonment

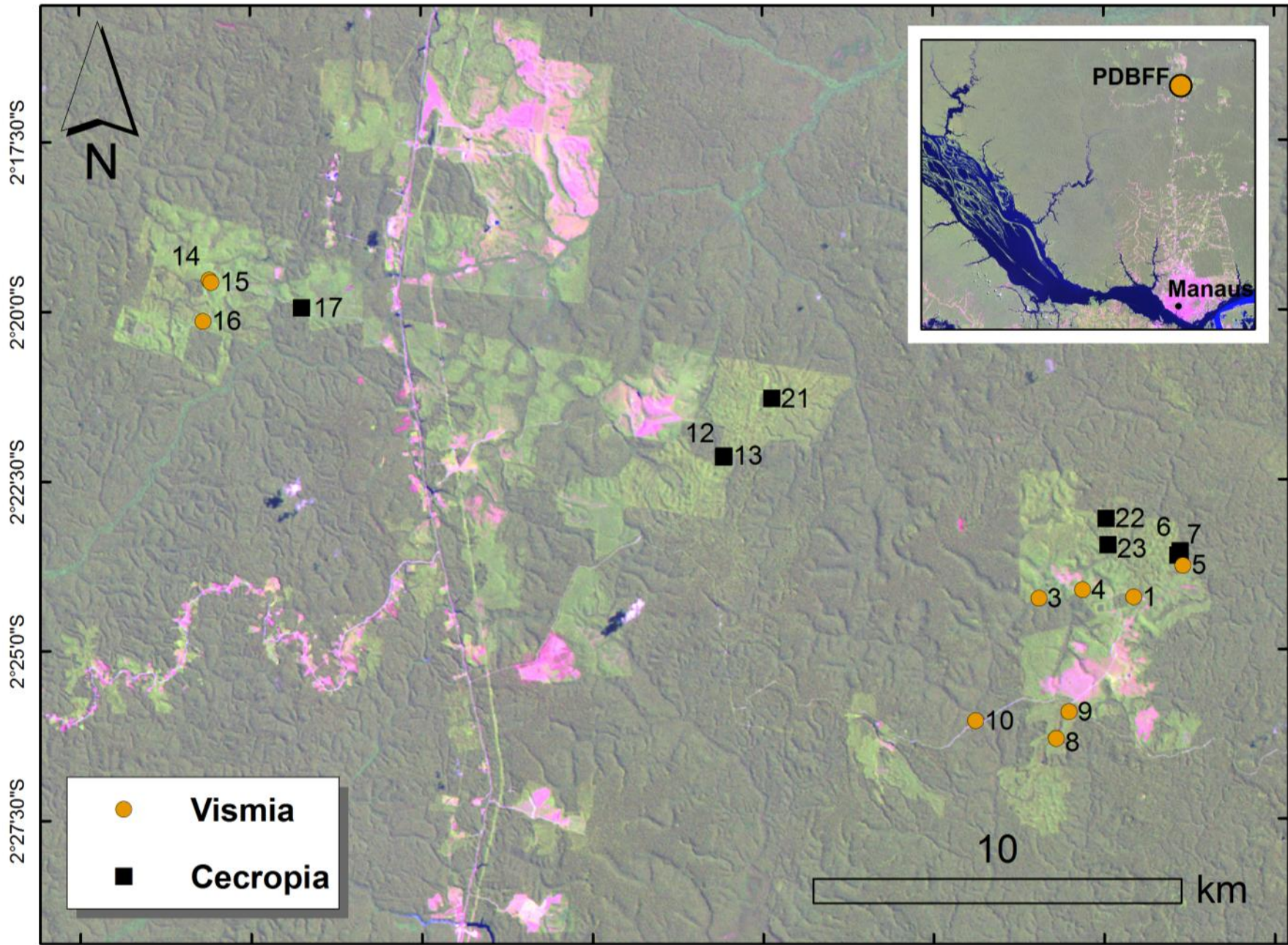


Secondary vegetation → Fallow
until more use

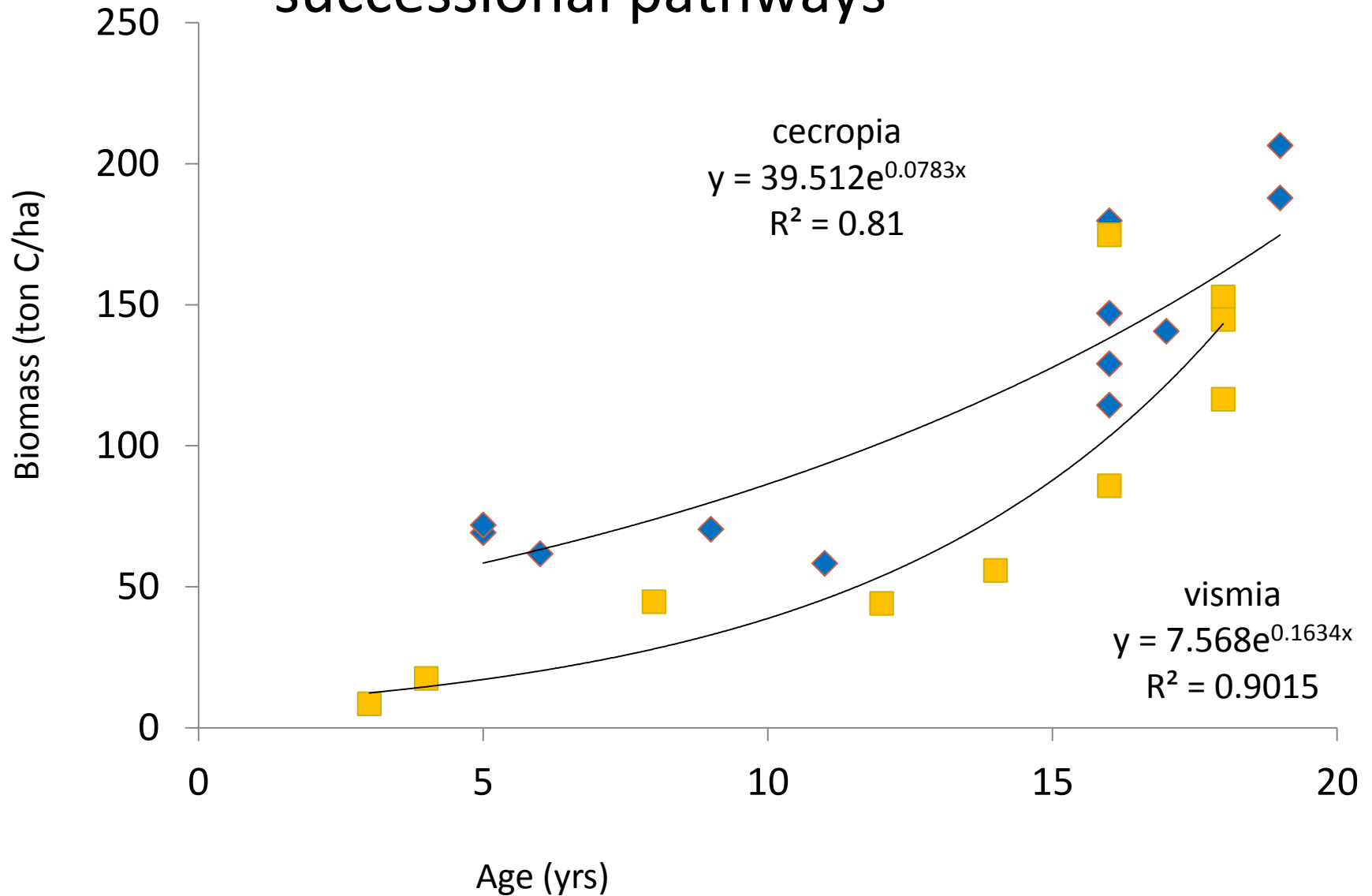


→ or new openings
on primary forest

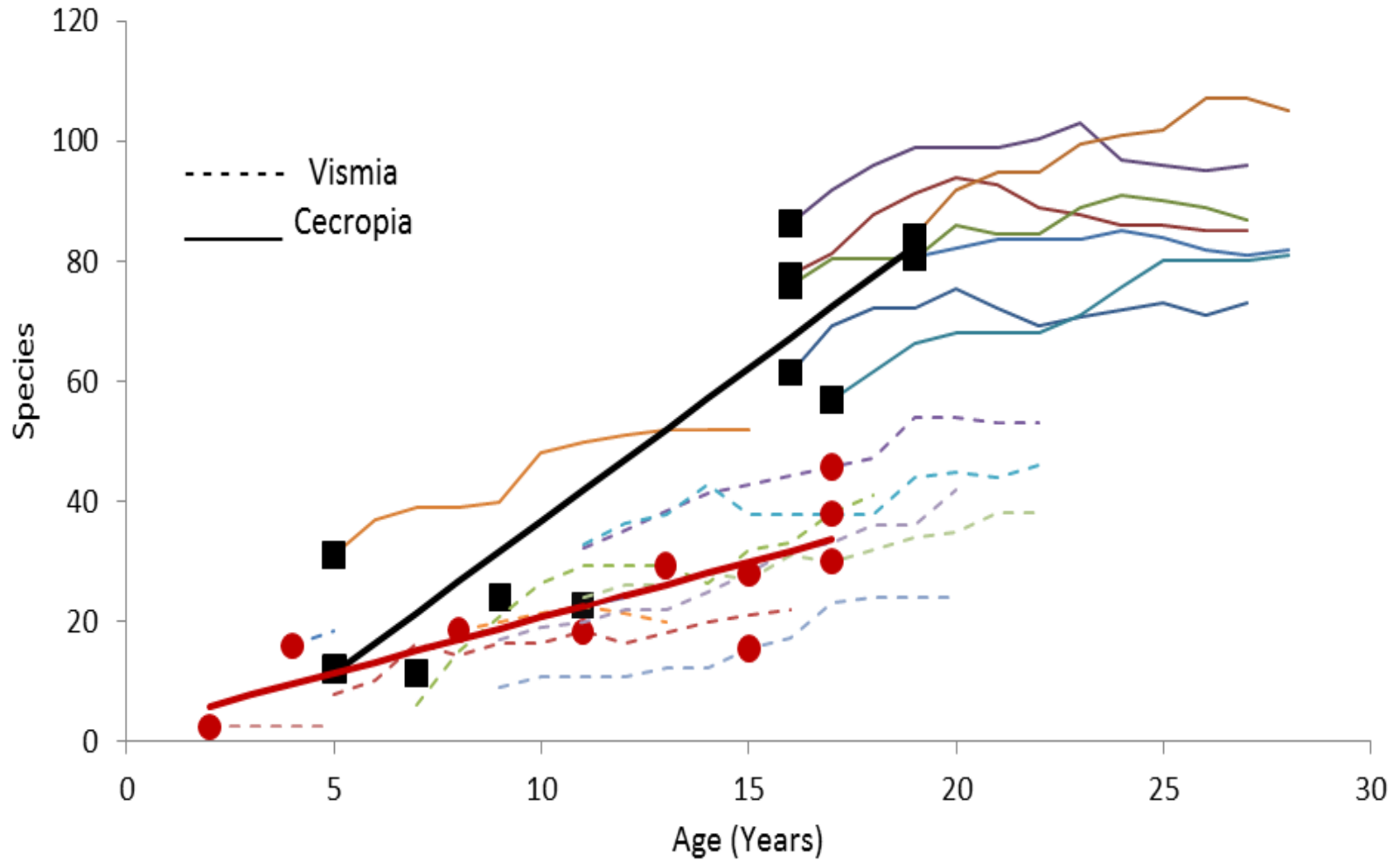
60°7'30"W 60°5'0"W 60°2'30"W 60°0'0"W 59°57'30"W 59°55'0"W 59°52'30"W 59°50'0"W



Biomass stocks on different successional pathways



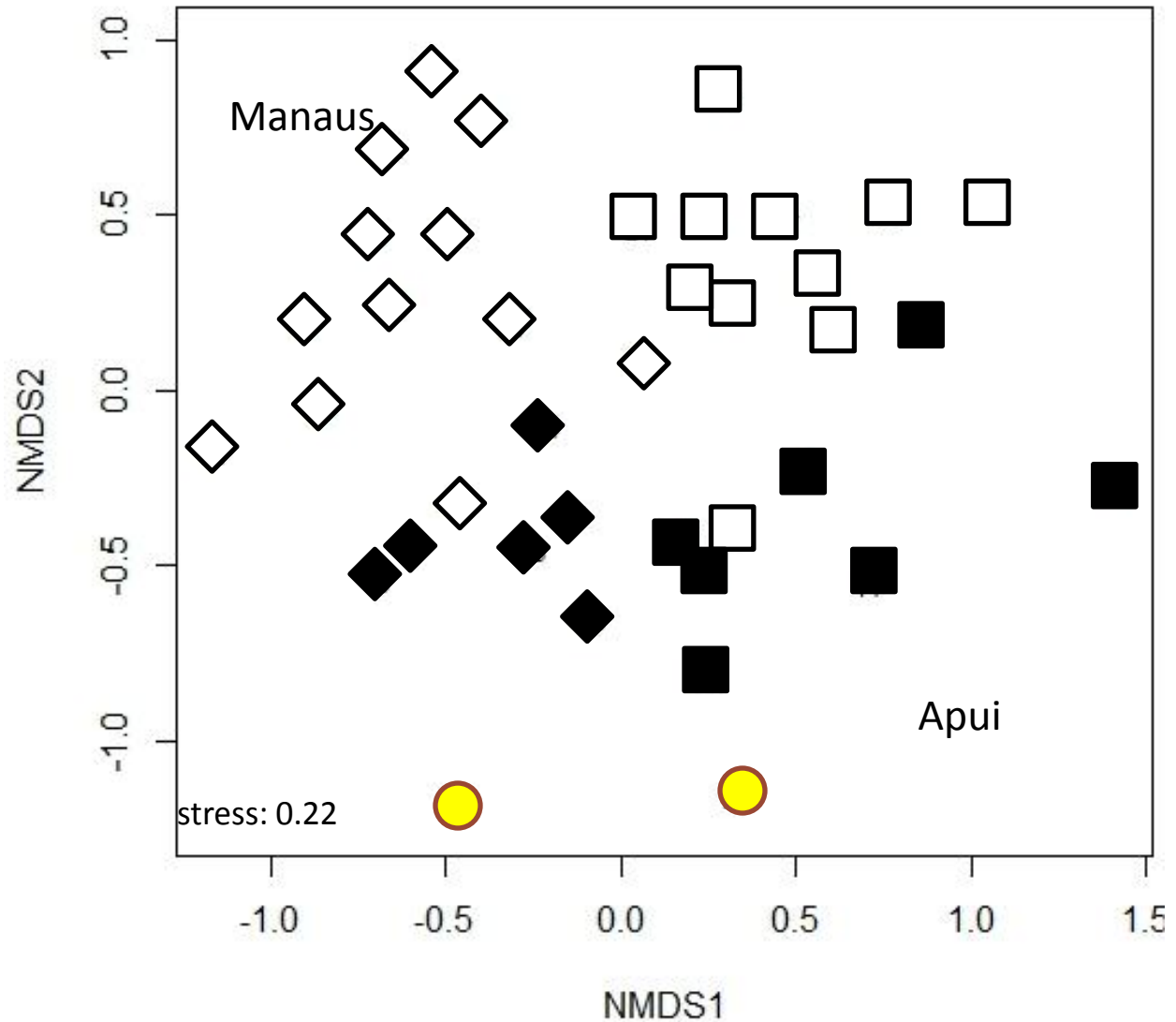
Changes in species density through time for *Vismia* transects (thin dashed lines) and *Cecropia* transects (thin solid lines).



Floristic composition

Chao-Jaccard estimator abundance-based index

- ◆ Cecropia
- Vismia
- Mixed



Conclusion

- *Cecropia*-dominated second growth has higher carbon stocks, and a larger number of plant species
- Succession advances more rapidly in areas with low-intensity use histories;
- areas abandoned after intensive use have their regeneration potential compromised.
- The environmental services of secondary forests in the Amazon are variable and depend on previous use history.

Contatos

Rita Mesquita:

rita@buriti.com.br

<http://projetopioneiras.blogspot.com>

