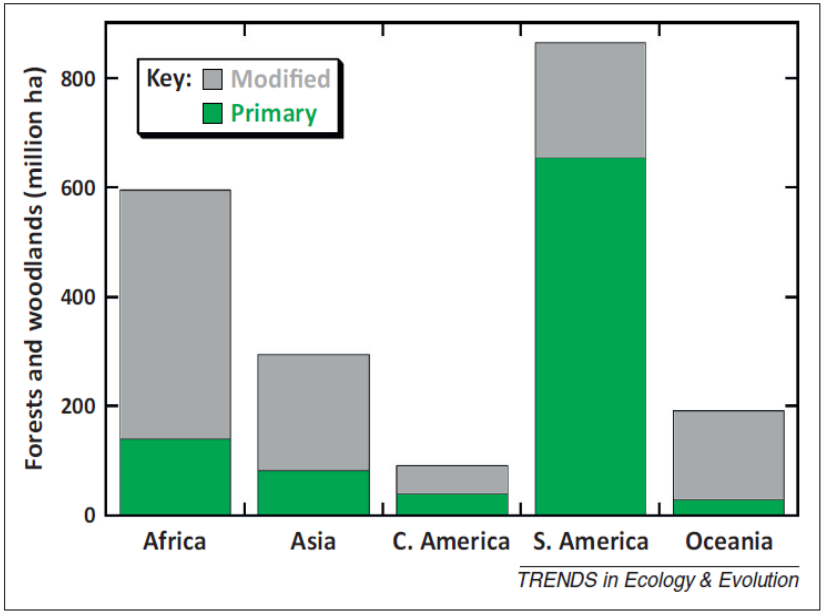
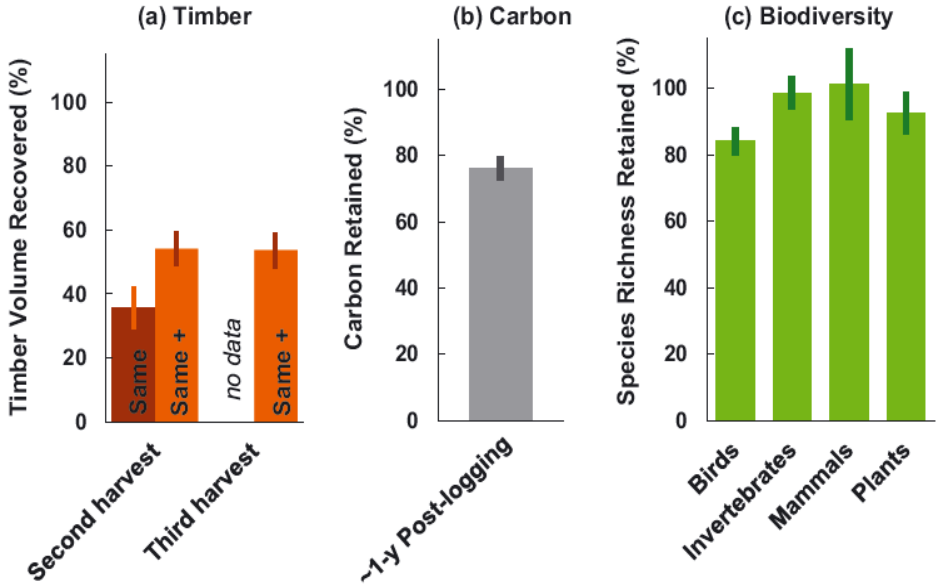
The Tropical managed Forest Observatory: A Research Tool to Address the Future of Logged Forests

Bonn, FTA Management Meeting, December 18th, 2017

Tropical pristine forests are no more dominant in the landscapes



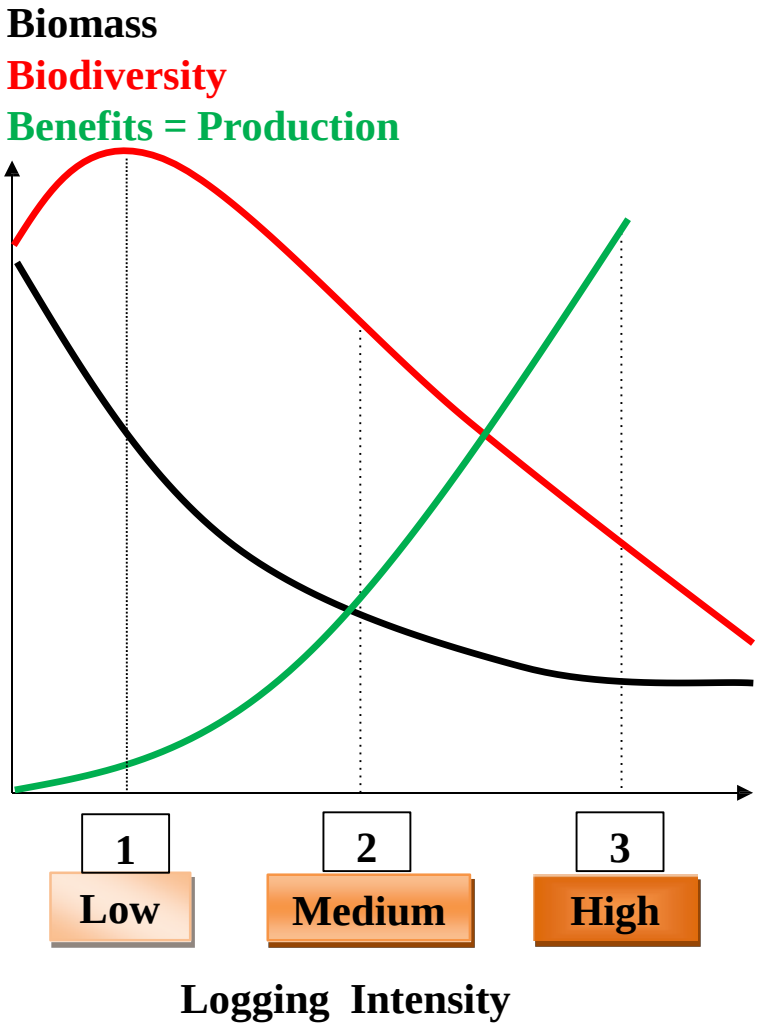
Laurance et al. 2014



Putz et al. 2012

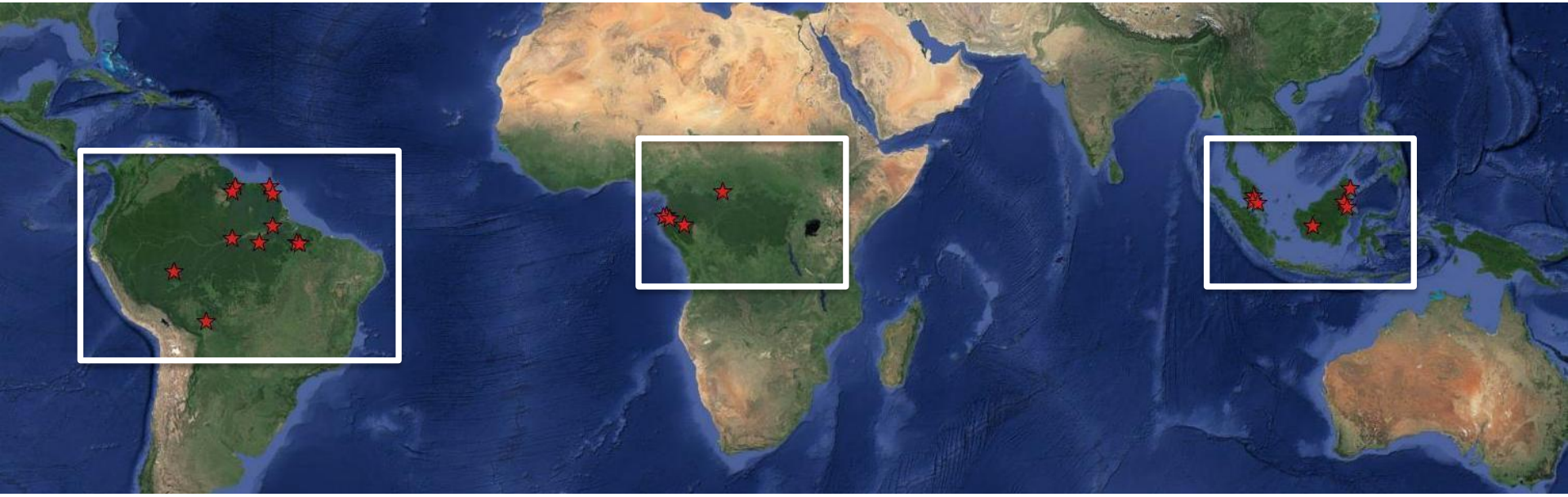
- 75% of tropical forests are disturbed (Laurance et al. 2014)
- 400 millions ha of tropical production forests to be managed for commercial harvesting by 2050 (Blaser et al. 2011)
- Managed and disturbed tropical forests are the forests of the present and of the future

The Issues to be Addressed for the future of Tropical Production Forests



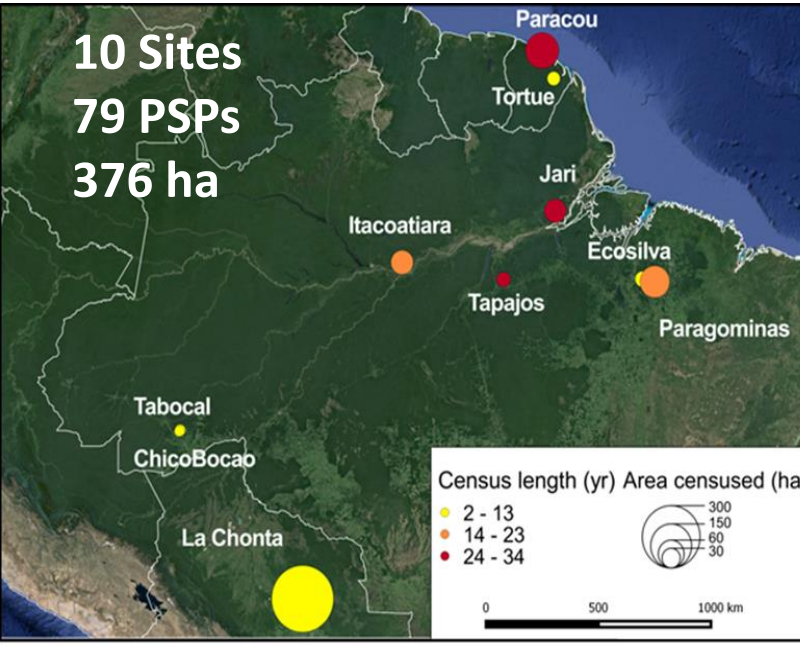
- What are the general responses of tropical forests to logging ?
- How do those responses vary across regions and continents ?
- **What are the trade-off between timber production and environmental services?**
- Most of most of our knowledge on tropical forests is from studies carried out in primary forests
- No continental, nor regional network dedicated to managed forests like for primary forests (Rainfor, CTFS)

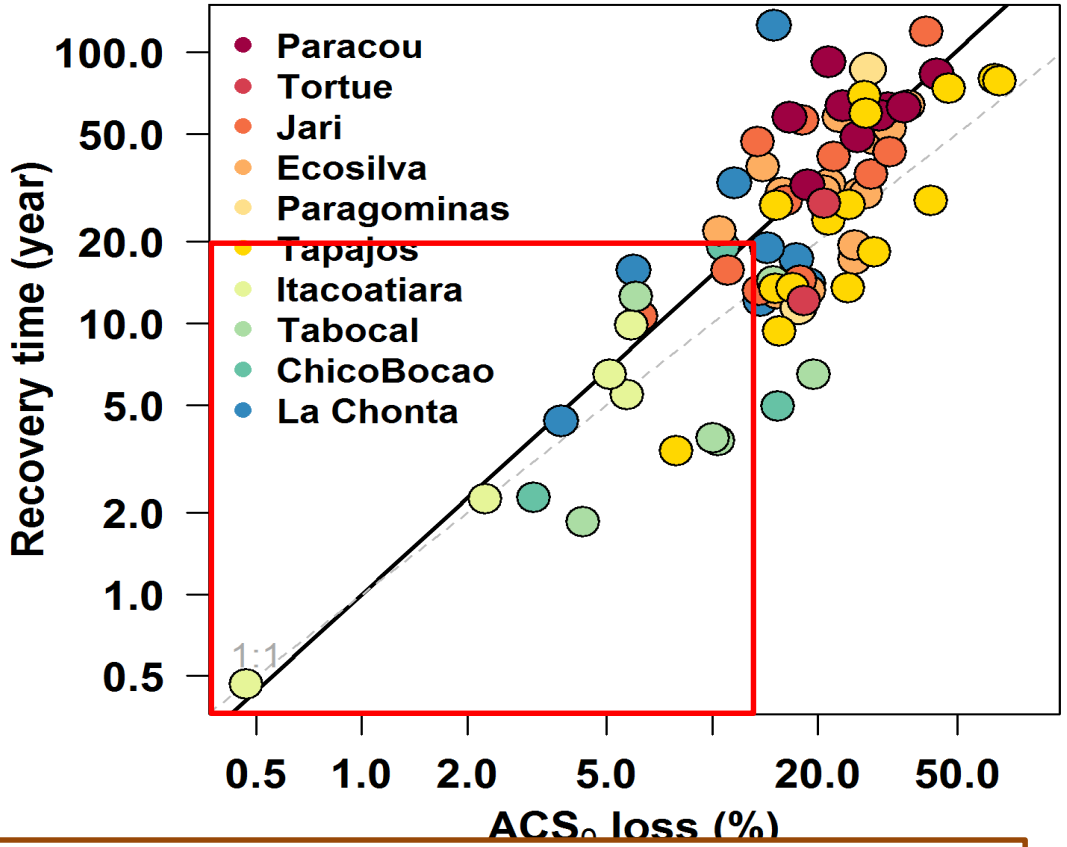
A Pan Tropical Network



- Started in Mid 2012
- 3 continents, 9 countries, 18 Research Institutions, 40 researchers
- 24 experimental sites, 539 Plots (1274 ha)

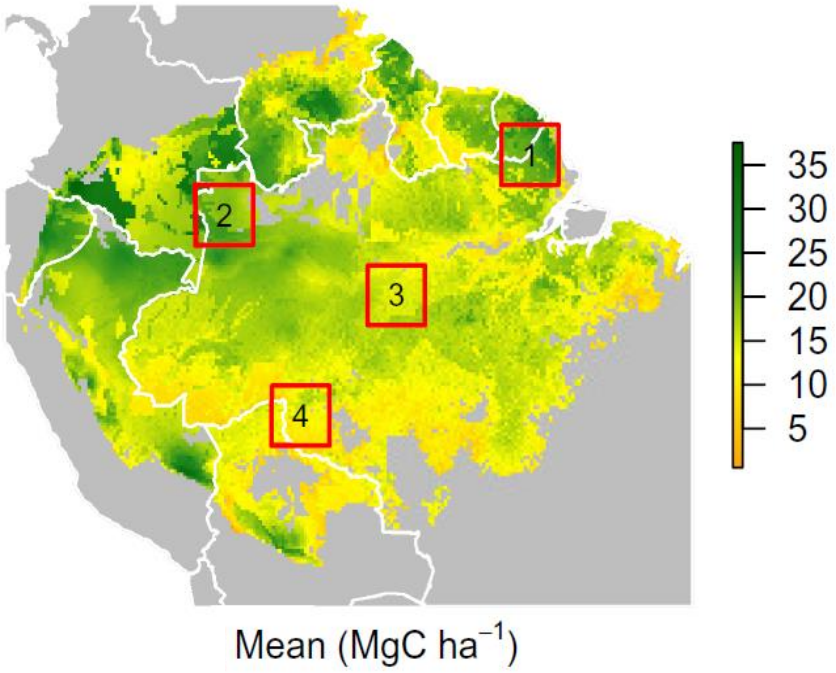
Above Carbon Stock Recovery in the Amazon Basin





- ✓ Above Ground Carbon recovery time mainly depends on logging intensity
- ✓ **Mean recovery time 32 yrs**
- ✓ Within the logging intensities occurring in the Amazon (10-30 m^3/ha), biomass will recover in 7 to 21 years

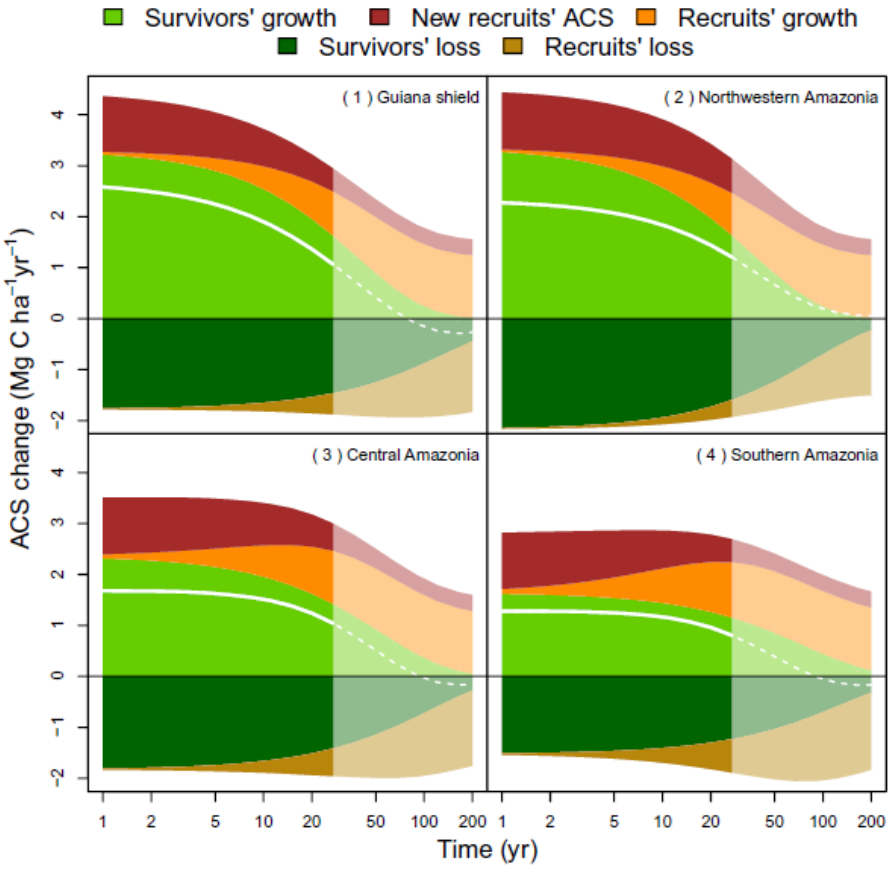
Different ACS recovery rates in the Amazon basin



Predicted net ACS recovery over the first 10 year after losing 40%

Mean recovery rate 1.7 TC ha^{-1}/yr^{-1}

Piponiot et al. 2016



Predicted contribution of annual ACS changes in ACS recovery

Important Steps Forward

- **Institutional**
  - ✓ MoU signed this year with the 18 institutions involved
  - ✓ Representative field basis for ESA Biomass Project
- **Fundings**
  - ✓ Remafor 100,000€, 2 years
  - ✓ APFNet (CN approved, full proposal submitted 500,000 USD 2 years)
  - ✓ ESA 50,000 € 3 years
  - ✓ Proposal from Wageningen Ducth Science Fundation (1 m€)
- **Science**
  - ✓ Publications on TmFO network, Biomass recovery time and recovery rates +++ (5 papers)
  - ✓ Timber recovery rate (submitted)
  - ✓ Impact of logging on Biodiversity

Important Limitations

- No long term significant fundings
- No funding support from FTA since 2015
- Human resources capacity limited while huge data bases are available
- Small part of the so-called « degraded » forests

cirad

CGIAR RESEARCH PROGRAM ON Forests, Trees and Agroforestry