



AMAZALERT:

*Raising the alert about critical feedbacks between
climate and long-term land-use change in the
Amazon*



Coordinator: Bart Kruijt

Co-coordinator: Carlo Nobre

Motivation

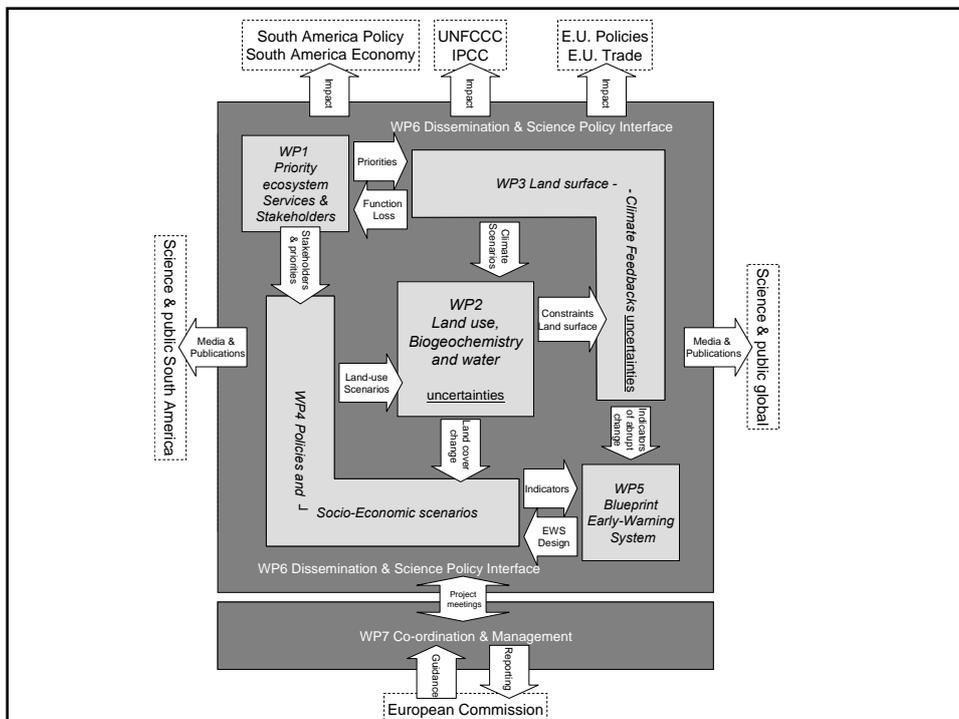
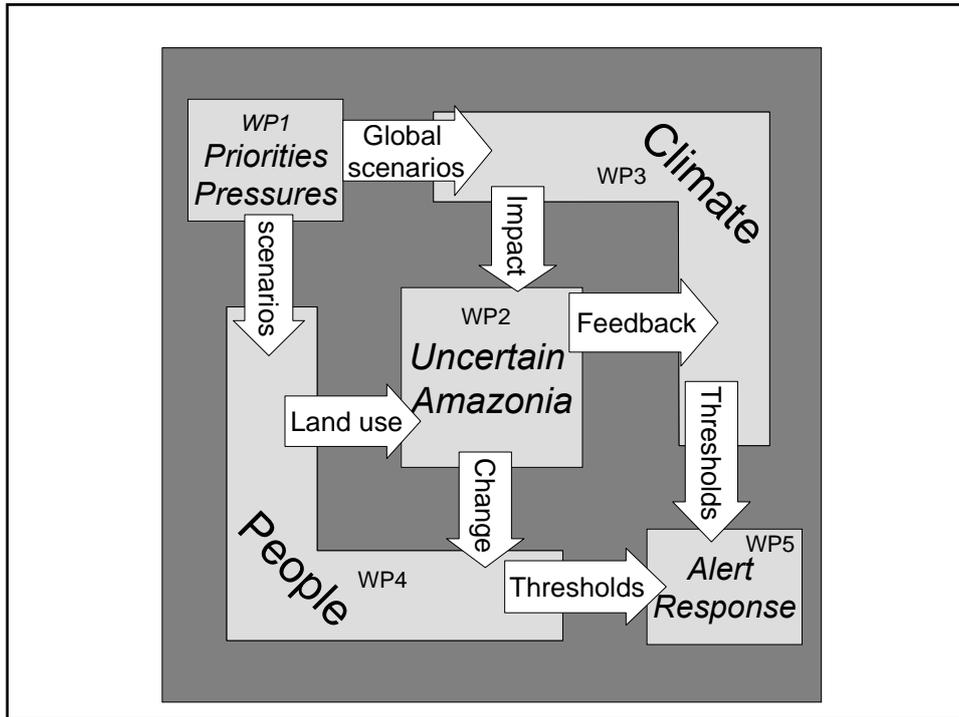
- **Amazonia consists not only of forests but also of its waters, society and economy, and these are embedded in, and respond to wider natural and socio-economic systems.**
- Respond to predictions of climate-change induced alterations in the Amazon Basin's vegetation, pointing to forest die-back and increased savannahs. *WE NEED TO TEST THESE IMPORTANT HYPOTHESES*
- Need for an early warning system to enable society to take action before critical ecosystem services are lost.
- Vegetation changes in the Amazon will be determined not only by changes in global temperature and precipitation but also through feedbacks from Amazon land-cover patterns. Policies, socio-economic forces and fires play vital roles in the evolution of these land cover patterns.

Partners

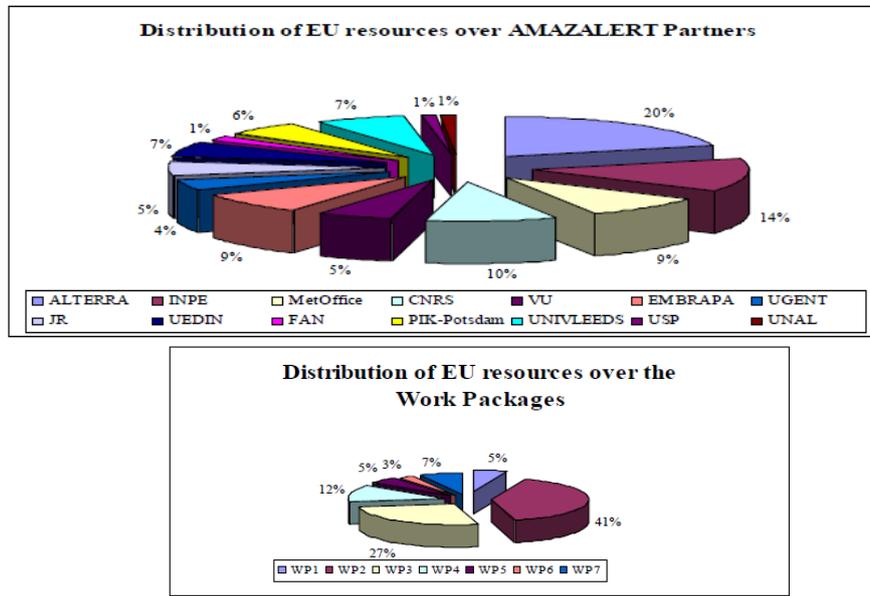
1. ALTERRA (Coordinator)	Netherlands
2. INPE	Brazil
3. MetOffice	United Kingdom
4. CNRS/IPSL	France
5. VU	Netherlands
6. EMBRAPA	Brazil
7. UGENT	Belgium
8. JR	Austria
9. UEDIN	United Kingdom
10. FAN	Bolivia
11. PIK	Germany
12. UNIVLEEDS	United Kingdom
13. USP	Brazil
14. UNAL	Colombia

Objectives

- *Identify the ecosystem services most important to stakeholders in the Amazon Basin and beyond.*
- *Significantly improve modelling and understanding of the complex, dynamics of natural and anthropogenic contributors to potential loss of ecosystem services, including climate, land-use change and their feedbacks.*
- *Integrate policy and socio-economic factors into land use models and use the results to inform decision making.*
- *Respond to the urgent need, expressed by the international community, to develop a tool to warn for imminent, irreversible loss of ecosystem services.*



Budget distribution: total 4.7 Meuro (3.5 from EU)



Field work

- Ecological:
 - Focused ecophysiological responses (T, moisture nutrients..)
 - Caxiuna Esecflor, possibly Cuieras K34-B34 and Humaitá
- Socio-economical
 - stakeholders: mainly institutional, government, science
 - Field interviews? Probably only few.
- LBA infratructure:
 - Esecflor
 - Transport to esecflor, other filed sites
 - Existing tower and plot data; running met. and flux data

S. American roles

- INPE
 - Early warning system
 - INLAND – MBSCG coupling (fire, LUC, physiology..)
 - Develop LUC models
 - Regional scale
 - Hydrology: impacts on dams and hidrovias
- EMBRAPA
 - CNPM Campinas: policy analysis, stakeholders
 - Oriental Belem: ecophysiology experiments and modelling, in collaboration with MPEG
- USP
 - Coordinate data mining and model-data interface
- FAN
 - Bolivian policies and stakeholders; regional model
- UNAL
 - Basin-wide hydrological response

timing

- 3 year project
- Start 1 September 2011
- 3-5 October kick-off (INPE)
- First half:
 - Identify priorities; policy analysis
 - analyse AR5 model runs
 - benchmark and develop models
 - New data collection
- Second half:
 - Implement new coupled runs
 - Feedbacks from climate and society
 - Design early warning system

Please join in!

- Embedding in LBA effort is natural
 - LBA/SSC advice
 - Related projects (e.g. EU FP7-ROBIN)
 - Concentrate efforts (field sites, models)
 - Help out/advise (economists..)
 - Stakeholders
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- Please have a look at leaflet and feed back!