

AMAZALERT Newsletter



A research project on impacts of climate change and land-use change in Amazonia

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Editorial

The last AMAZALERT project year has just started. Many individual results are being published, discussed with important stakeholder groups and joined together. Slowly but steadily the bigger picture emerges – an exciting period is about to begin!

The upcoming event: 2nd AMAZALERT Workshop for Building Participative Scenarios

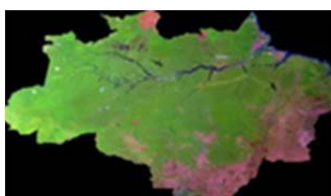
Claudio Bragantini

The 2nd AMAZALERT Workshop, to be held in Brasilia on 25 November, 2013, will continue the build-up of scenarios of land use in the Amazon region. In addition, the results obtained since the 1st Workshop will be presented using computational models for land use changes, including a synthesis of consensus and divergences about a desired future of the region. They will be presented to all representatives of governmental institutions attending the 2nd workshop with the aim of refining the pathways and necessary actions to reach the desired future, focusing on public policies. Currently, the AMAZALERT team is working on the perspective of having in Brasilia a diversified group of stakeholders representing the government and the society.



This issue's highlights:

- Editorial
- The upcoming event: 2nd AMAZALERT Workshop for Building Participative Scenarios
- International workshop on Environmental Modelling in Amazonia
- News from the field
- Historical DGVM runs for the Amazon basin
- Just published
- Preparing EU stakeholder workshop in Brussels



International workshop on ENVIRONMENTAL MODELLING IN AMAZONIA, Manaus 25-27 November 2013

Bart Krujit

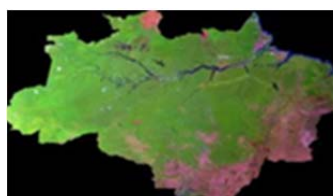
This interactive event will synthesise the scientific advances made to date in understanding the functioning of the Amazonian socio-ecological / environmental systems, evaluate progress, and provide a road map for the next phase of research, with an emphasis on modelling as an essential tool.

The event will result in an overview of research efforts that use modelling as a main tool in environmental research in Amazonia. A 'road-map' will be produced, based on the presentations and debates that will lay the foundations of research priorities for the coming years.

Workshops, outside the official programme of the event, aimed at post-graduate students, will be offered by renowned authorities.

The scientific organising committee of this event is formed by representatives of the Brazilian National Institutes for Amazonian Research (INPA) and for Space Research (INPE), **ALTERRA**, Wageningen, and by representatives of several research programmes of the Brazilian Ministry of Science, Technology and Innovation (MCTI).

[Read more](#)



News from the field

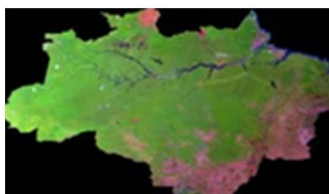
AMAZALERT Co-ordinator **Bart Kruijt** is spending most of October in Cachoeira Paulista, Brazil, at the offices of partner INPE. To be precise, the AMAZALERT work is carried out by the 'Centre for Earth system science' (CCST in Portuguese) of INPE, split between the offices in Sao Jose dos Campos and Cachoeira Paulista. Bart gained a grant under the Brazilian programme 'Science without borders' to spend a few months per year in Brazil.

Next to working on direct AMAZALERT objectives, Bart organizes workshops, assists and contributes new ideas to the Brazilian community in land surface model development. In particular he is interested in developing approaches to represent heterogeneity and nutrient relations in the INLAND model.



Patrick Meir

Embrapa, Edinburgh University and **ALTERRA** have their second major field measurement campaign in Oct/Nov 2013, at the long term drought experiment in Para, 'Esecaflor', in the Caxiuana National Forest Reserve. Measurements will address questions relating to the ecophysiology and ecology of leaf, tree and ecosystem-scale responses to soil moisture deficit. The team will focus on obtaining data that can be used to test and develop models of vegetation response to drought and climate warming.



Historical DGVM runs for the Amazon basin

Hannes De Deurwaerder

The report on **Deliverable 2.1** presents the accomplishment of the database with the historical baseline model runs, covering a period of 39 years (1970-2008). Pursuing a standardized protocol, runs were performed with the 4 Dynamic Global Vegetation Models (DGVMs) used in AMAZALERT WP2. For illustration, some maps of the model outputs are shown below.

[Read more](#)

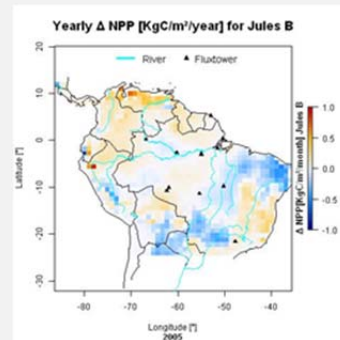


Fig.1. Anomalies in average monthly net primary production [kgC/m²/month] for the dry year 2005 for Jules B historical runs.

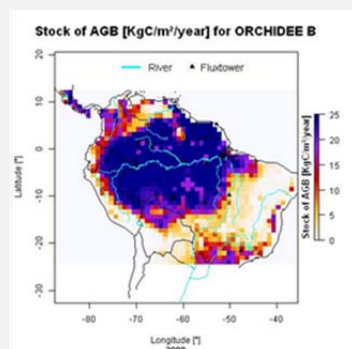


Fig. 2. The stock of above ground biomass [kgC/m²/year] at the end of 2008 for Orchidee B historical runs.

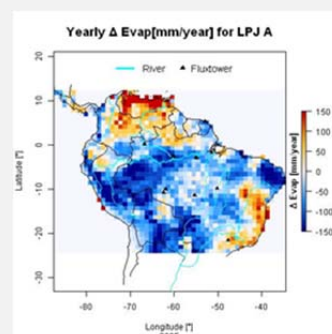
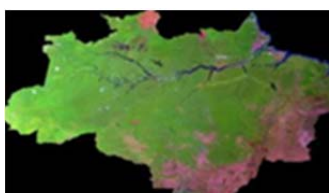


Fig. 3. Anomalies in evapotranspiration [mm/y⁻¹] for the dry year 2005 for LPJ A historical runs.

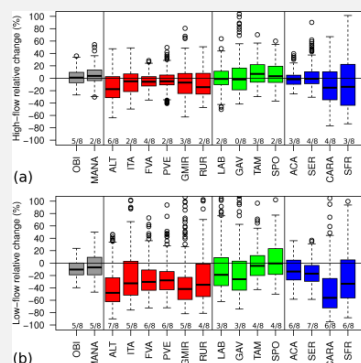


Just published ...

Future changes in precipitation and impacts on extreme streamflow over Amazonian sub-basins

With a multi-model approach for future climate, **Matthieu Guimberteau** (IPSL) and colleagues investigate the change in annual extreme flows in several Amazonian sub-basins in response to projected precipitation variation.

[Read more](#)



Germán Poveda gave two oral presentations showing results of AMAZALERT research at the Joint Meeting of the World Climate Research Programme (WCRP) Global Energy and Water Exchanges (GEWEX) Project Hydroclimatology (GHP), held at Universidade Federal do Rio de Janeiro, Brazil, September 2nd-6th, 2013. Presentation titles were:

Poveda, Germán, Liliana Jaramillo, & Luisa Fernanda Vallejo (2013), Precipitation Patterns Along Pathways of South American Low-Level Jets and Aerial Rivers.

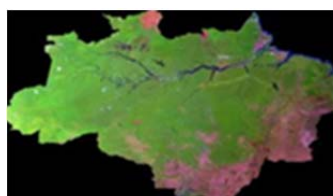
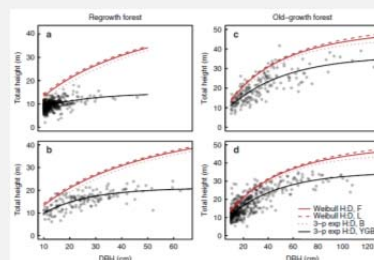
Poveda, G., J.F. Salazar, and D. López (2013), Scaling of Maximum Annual River Flows in the Amazon Basin.

In the meantime in the Congo Basin

Hans Verbeek

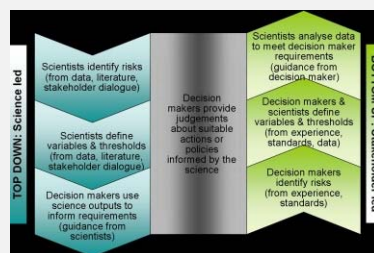
Compared to the Amazon basin the Congo basin is less well studied. Measurement networks are less developed and model validation is therefore very difficult in this region. Nevertheless, more and more researcher start working in the Congo basin and several AMAZALERT partners (UGent, ULeeds) are involved in this work. This is illustrated by two papers that have appeared recently on above ground biomass (Lewis *et al.* 2013) and on the importance of tree height for biomass estimates (Kearsley *et al.* 2013).

[Read more](#)



Penny Boorman (Met Office) published her work through a talk at INTECOL conference, London, August 2013 entitled "Identifying thresholds in Amazon climate and forest health using global climate models and observations".

She also presented a poster on "Broadening the use of hazard early warning approaches to inform planning on climate change timescales: case study on developing early warning systems for Amazon forest health" at European Meteorological Society conference, Reading, September 2013.



Preparing an EU stakeholder workshop in Brussels

ALTERRA and **JOANNEUM RESEARCH** are busy with preparation work for the AMAZALERT EU stakeholder workshop to take place in Brussels on 11 December 2013. Building upon outcomes of the Brazilian workshops, we are inviting people from EC, NGOs, certifiers, international institutions and businesses to attend. European stakeholder interests and influence on the Amazon will be discussed and information on AMAZALERT results disseminated.

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Next Newsletter

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