Towards a new scientific agenda for LBA

Mateus Batistella
mb@cnpm.embrapa.br

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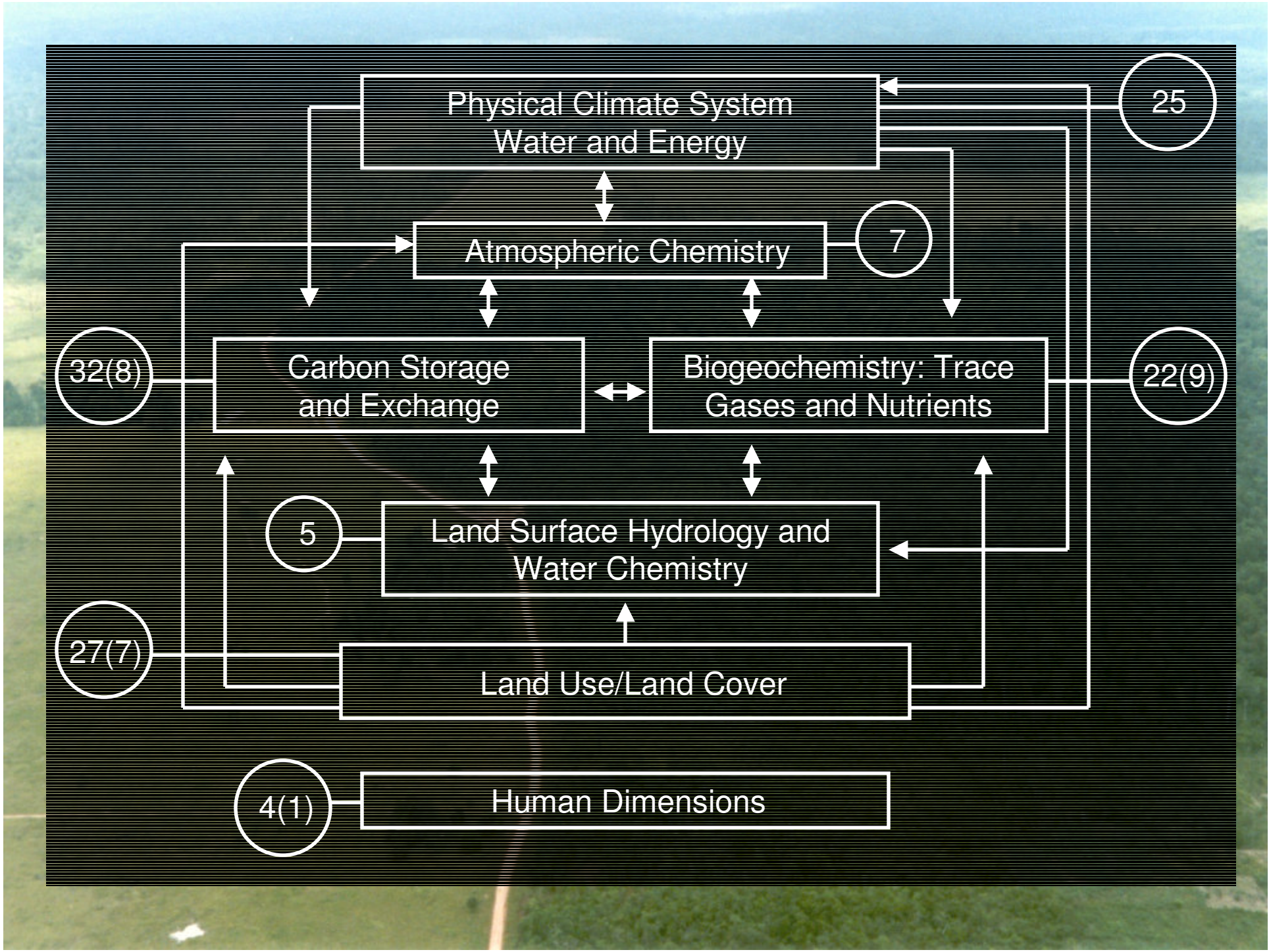
Original Questions of LBA

- How does the Amazon function as a regional entity?

- How do changes in land use and climate affect biological, chemical, and physical functions of Amazonia, including its regional sustainability and its influence on regional and global climate?


Physical Climate System
Water and Energy
25
Atmospheric Chemistry
7
32(8)
Carbon Storage
and Exchange
Biogeochemistry: Trace
Gases and Nutrients
22(9)
5
Land Surface Hydrology and
Water Chemistry
27(7)
Land Use/Land Cover
4(1)
Human Dimensions

LBA in Numbers
Cooperation

. LBA RESEARCH PROJECTS (July, 2007)

Projects (cumulative)	
100% Brazilian	26
Cooperation Brazil X Amazonian Countries	2
Cooperation Brazil - USA	107
Cooperation Brazil X USA X Europe	2
Cooperation Brazil X Europe	19
Total	156

. PARTNERS INSTITUTIONS (July, 2007)

Institutions Partners	
Brazilian	70
Other Amazonian Countries	42
Foreign	169
Total	281

. LBA PARTICIPANTS (cumulative)

Researchers	
Brazilian	1474
Foreign	926
Total	2400

LBA in Numbers
Publications

. LBA PUBLICATIONS (July, 2007)

LBA Publications	
Articles in peer-reviewed journals	1147
Book sections	166
Published books	13
Other publications	41
Total	*1367*

. SPECIAL ISSUES IN SCIENTIFIC JOURNALS (9)

Scientific Journals	*Articles*
Journal of Geographical Research, 2002	60
Remote Sensing of Environment, 2003	13
Ecological Applications, 2004	24
Global Change Biology, 2004	26
Theoretical and Applied Climatology, 2004	12
Acta Amazonica, 2005	13
Earth Interactions, 2005	16
Hydrological Process, 2006	10
Revista Brasileira de Meteorologia, 2006	38
Total	*212*

LBA in Numbers
Training and Education: The LBA 'School'

. DOCTORAL DEGREE PROGRAM CREATED by LBA

Course	*Institution*
Clima e Ambiente	INPA, UEA

. MASTERS DEGREE PROGRAMS CREATED by LBA

Course	*Institution*
Física do Meio Ambiente	UFMT
Ciências Ambientais	EMBRAPA, MPEG, UFPA
Desenvolvimento Regional e Meio Ambiente	UNIR Porto Velho
Clima e Ambiente	INPA, UEA

. UNDERGRADUATE PROGRAMS CREATED by LBA

Course	*Institution*
Física Ambiental	UFPA - Santarém
Engenharia Ambiental	UNIR - Ji-Paraná
Meteorologia	UEA

. LBA STUDENTS (cumulative 1998- jul. 2007)

Students	*Total*
Undergraduate	380
Masters	278
PhDs	212
Without information	14
Total	*884*

. THESES AND DISSERTATIONS: (July, 2007)

Works	*Total*
MSc	278
PhD	212
Total	*490*

LBA in Numbers
Structure and Infrastructure

. COMMITTEES (July, 2007)

Committees	*Brazilian Members*	*Foreign Members*	*Total*
Scientific Steering Committee (SSC)	23*	15*	38*
Training and Education Committee (T&E)	17	--	17
LBA-DIS Committee	2	6	8
* In transition			

. OFFICES AND STAFF (July, 2007)

Offices		*Staff*
Central (INPA)	1	37
Support (INPE)	1	6
Regional	8	38
Total	*10*	*81*

Building LBA-2

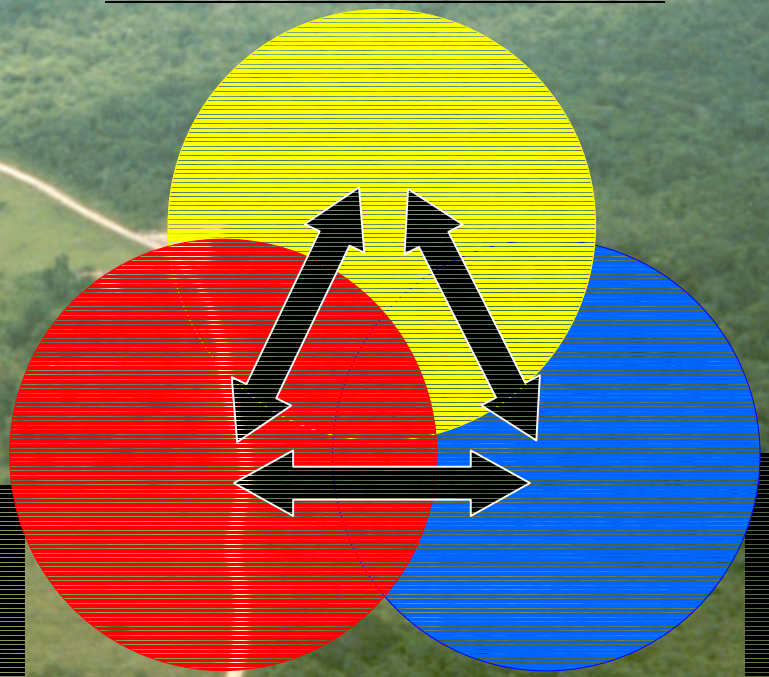
- 5 Meetings
  - Brasilia, May 2006 with Brazilian Government Officials
  - Brasilia, May 2006, SSC
  - Manaus, October 2006 with Amazon region universities and research institutions
  - Florianópolis, May 2007, SSC
  - Manaus, August 2007, writing group

Research Gaps and Motivations for LBA-2

- Stock and fluxes of Carbon on forest biomass and Amazonian ecosystems
- Energy fluxes, trace gases, aerosols and water vapor in Amazonia
- Interactions between deforestation and precipitation
- Biogeochemical cycles and rates of dry and humid deposition of nutrients in Amazonia
- Integration among local, regional and mesoregional scales
- Environmental changes and their role in the global climate
- Identification and evaluation of environmental services of Amazonian ecosystems
- Definition and evaluation of sustainability indicators
- Social and economic aspects related to land-use and land-cover change

A New Conceptual Framework for Disciplinary Domains

Multiscale biosphere-atmosphere interactions in Amazonia



Social dimensions of environmental changes and land-use/-cover dynamics in Amazonia

Physical-chemical-biological processes in aquatic and terrestrial systems and their interactions

Three Research Foci

- **Processes:** The changing Amazonian environment
- **Consequences:** Sustainability of environmental services and of terrestrial and aquatic production systems
- **Responses:** Climatic and hydrological variability and their dynamics: feedbacks, mitigation, and adaptation

Examples of Integrative Questions

- **Focus I:** What are the impacts of global and regional climatic changes in physical and biogeochemical processes and their interactions in aquatic and terrestrial systems of Amazonia?
- **Focus II:** Is the Amazonian vegetation resilient under management and fire? Is there a mosaic configuration for forest remnants to mantain the integrity of the regional ecological function?
- **Focus III:** How do climatic and hydrological variability and changes affect the spatial distribution of economic activities, population mobility, and disease propagation?

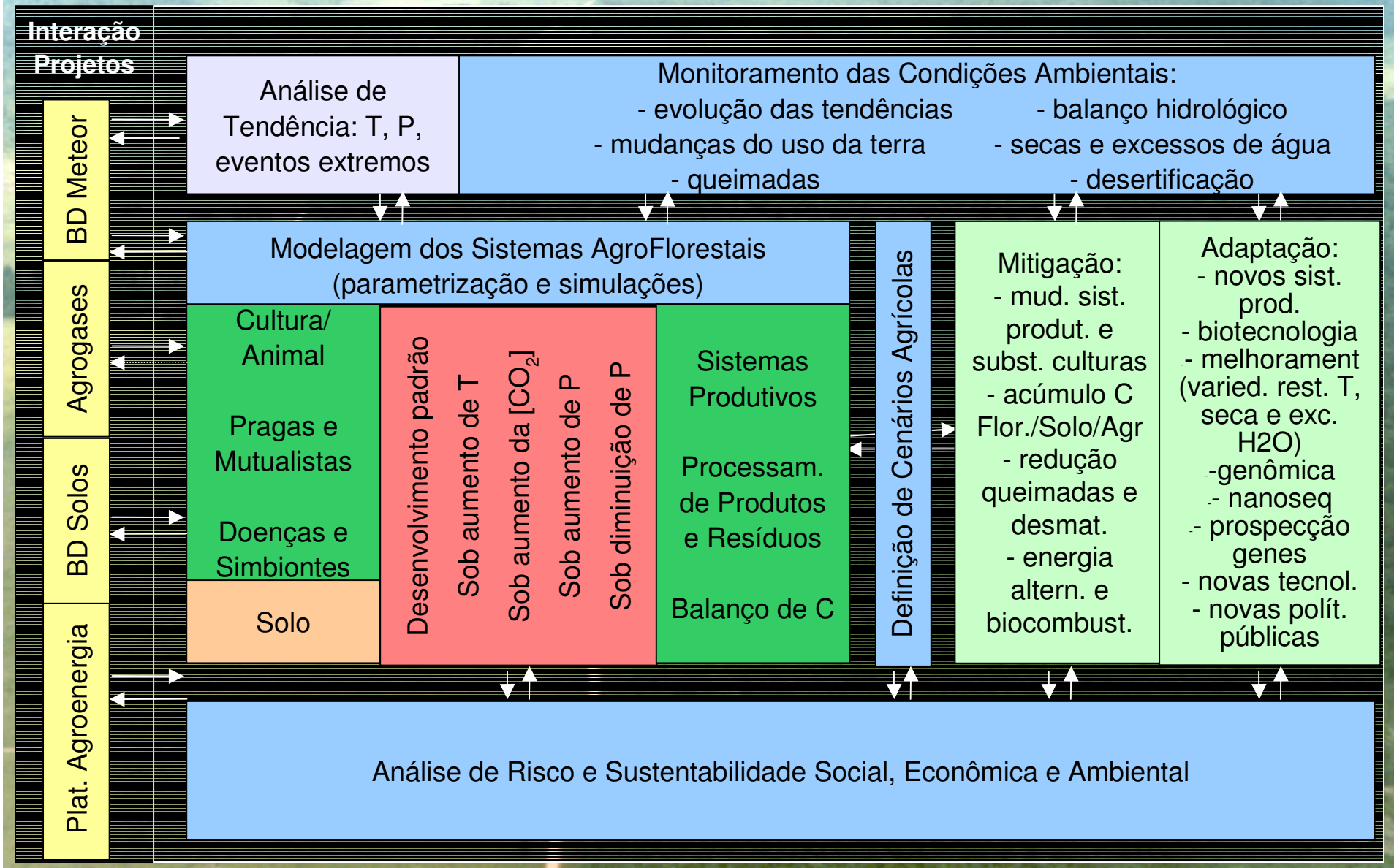
Implementation Strategies (Collective Action)

- *Interaction among research programs and institutes of MCT (and S & T in Amazonia)*
- *Training and Education*
- Optimization of the research infrastructure
- *LBA-DIS*
- *Enhancement of national and international networks*

The Road Ahead

- From basic to applied science
- From multidisciplinary to interdisciplinary and transdisciplinary science
- Transboundary Amazonia (geopolitical and knowledge)
- Emphasis on mesoscale integration
- Subsidies for public policies
- Investment on research and human resources

Interaction with Other Initiatives (Example: Embrapa)



Challenge: the need of continued resources

Plano Científico LBA-2

Autores principais:
Mateus Batistella, Diógenes Alves, Paulo Artaxo, Mercedes Bustamante, Michael Keller, Flávio Luizão, José A. Marengo, Luiz Martinelli, Carlos A. Nobre

Brasil
Agosto, 2007

PROGRAMA DE PESQUISAS SOBRE INTERAÇÕES BIOSFERA-ATMOSFERA NA AMAZÔNIA – LBA 2

Documento Básico

Manaus

Setembro
2007

Veja Também

- O poder verde da floresta
- Lula critica regras de estrangeiros para Amazônia
- A Amazônia é nossa
- Inpa realiza a 2ª Reunião do GEEA
- Desmatamento aquece Amazônia em até 4°C, diz Inpe

Enviar para um amigo

LBA - *17/09/2007 - 09:59*

Aprovada a segunda etapa do programa LBA

Foi realizada na quinta-feira (13), no Ministério da Ciência e Tecnologia (MCT), a 4ª Reunião do Conselho Diretor do Experimento de Grande Escala da Biosfera-Atmosfera na Amazônia (LBA), na qual foi aprovada a segunda etapa do Programa de Pesquisas sobre Interações Biosfera-Atmosfera na Amazônia (LBA 2).

O LBA é um dos projetos de pesquisa do MCT que tem uma das maiores experiências científicas do mundo na área ambiental, com cerca de 150 propostas de pesquisa e cerca de 1400 artigos publicados, além da formação de mais de 270 mestres e 200 doutores.

Entre os principais objetivos propostos para a segunda fase estão desenvolver pesquisas interdisciplinares para entender o funcionamento dos ecossistemas amazônicos, sua interação com o sistema climático e os impactos das mudanças do uso e cobertura de terra no clima regional e global; capacitar e fortalecer as instituições regionais para ampliar as pesquisas em mudanças ambientais na Amazônia; capacitar recursos humanos para o fortalecimento das instituições regionais e difundir o conhecimento científico gerado para diferentes públicos.

A nova estrutura compreende quatro componentes – pesquisa, capacitação, divulgação e comunicação, acompanhamento e avaliação - que deverão atuar em sinergia para garantir um alto desempenho no cumprimento das metas propostas.

As atividades do LBA 2 deverão ser parte importante das novas redes brasileiras de pesquisa e monitoramento de mudanças climáticas e contribuirão para a formação de outras redes. Temas transversais e integrados terão prioridade no financiamento por meio de editais competitivos e ações do MCT.

Assessoria de Imprensa do MCT

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