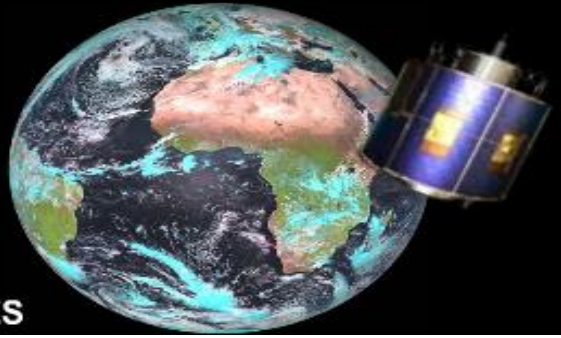
LAPIS

www.lapismet.com.br



LABORATÓRIO DE ANÁLISE E PROCESSAMENTO DE IMAGENS DE SATÉLITES

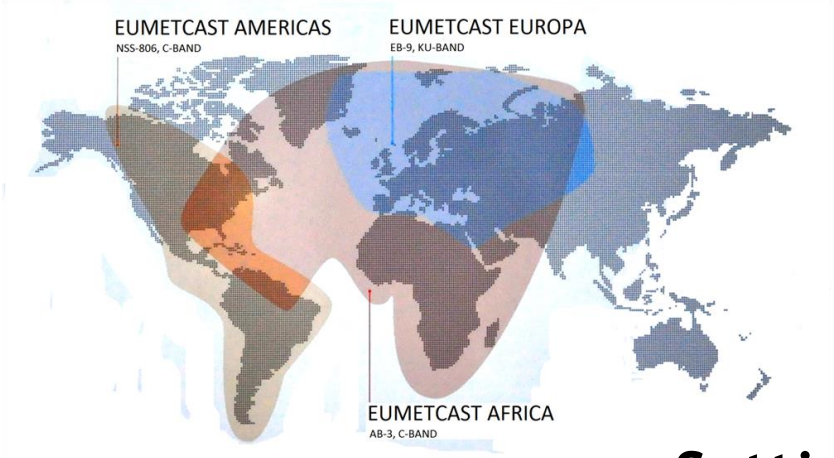
EUMETCast platform: Using open-access data to monitor flash droughts in Northeastern part of Brazil

Presented by Dr. Humberto A. Barbosa, Coordinator of Lápis

barbosa33@gmail.com

12-14 September 2023 Graz, Austria

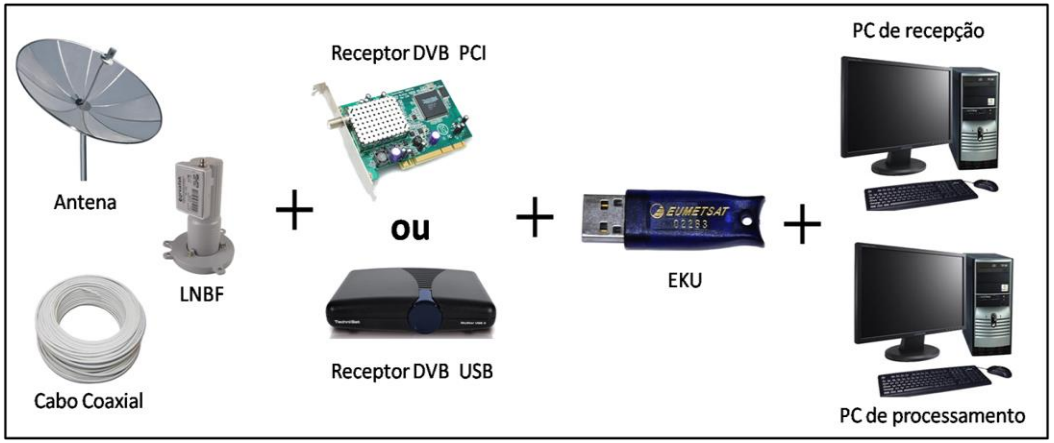
Database: Sharing EO data and products via EUMETCast

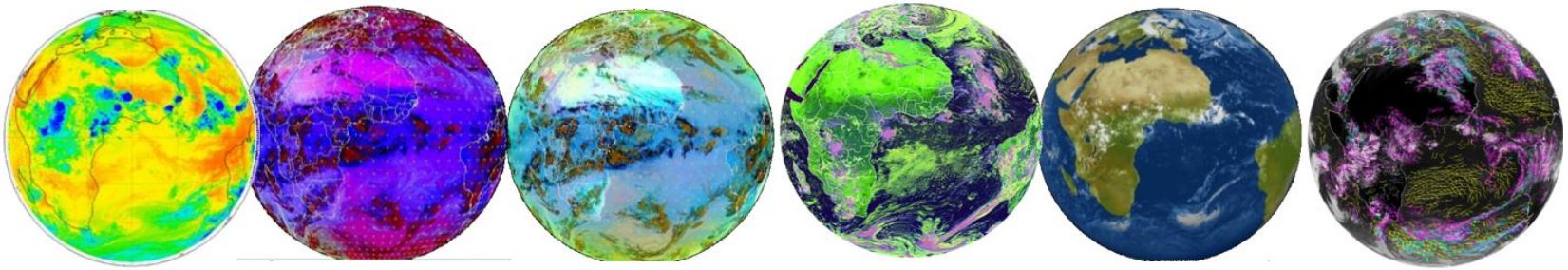


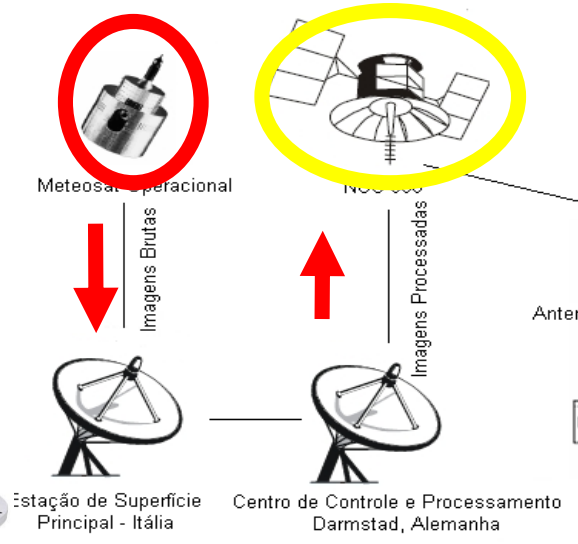
Online coupling to the drought observatory:
Update and live feed

Setting up receiving stations

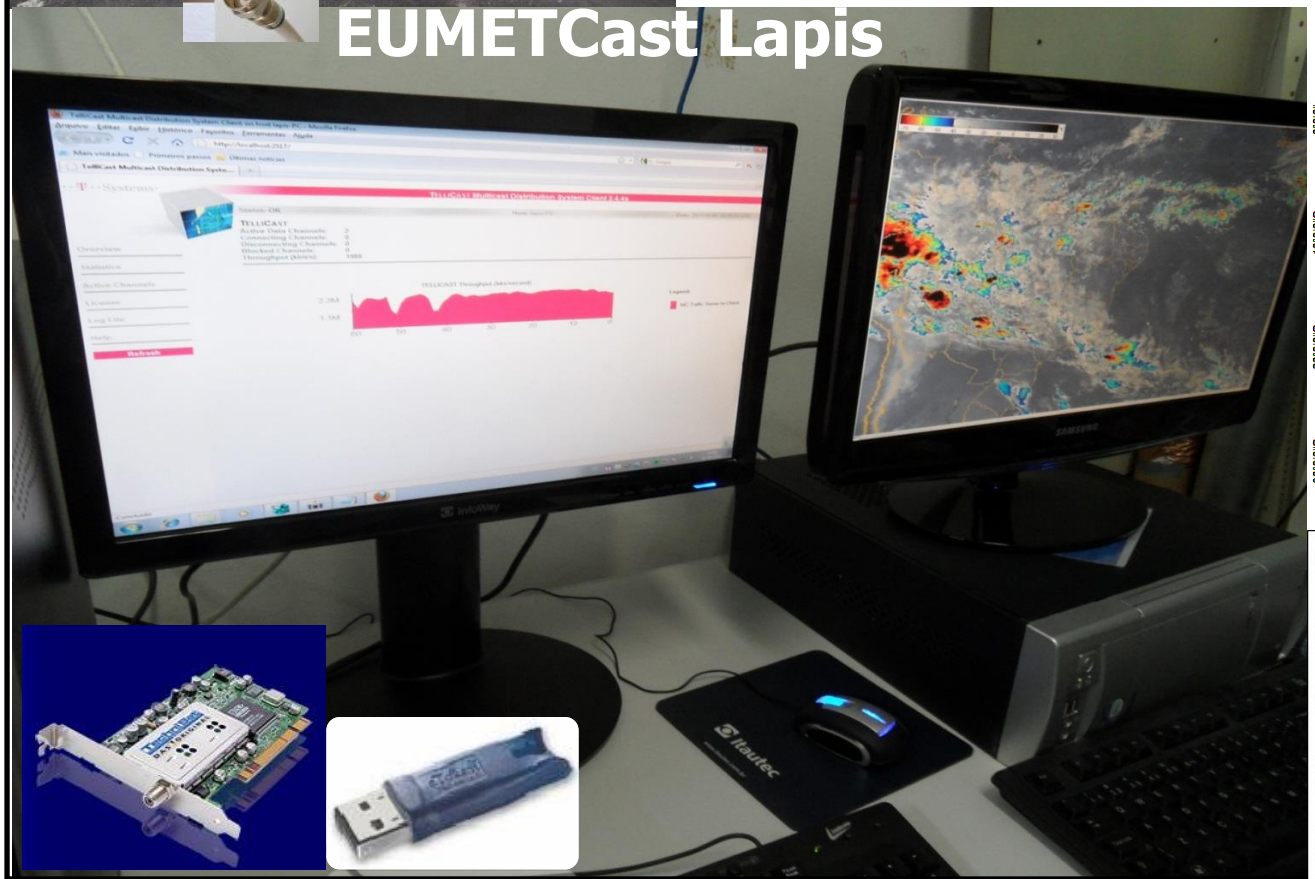
Urgent need for a database of actors related to drought

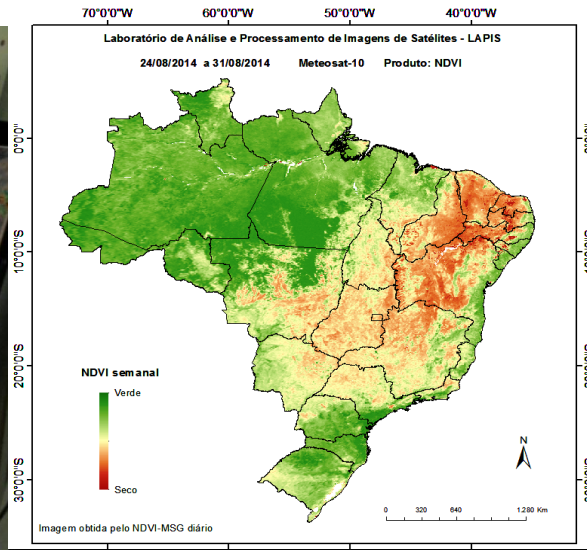


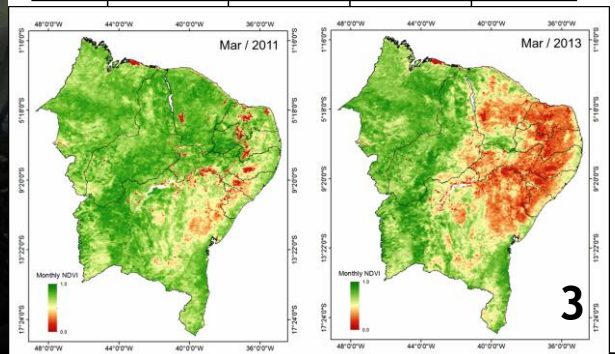




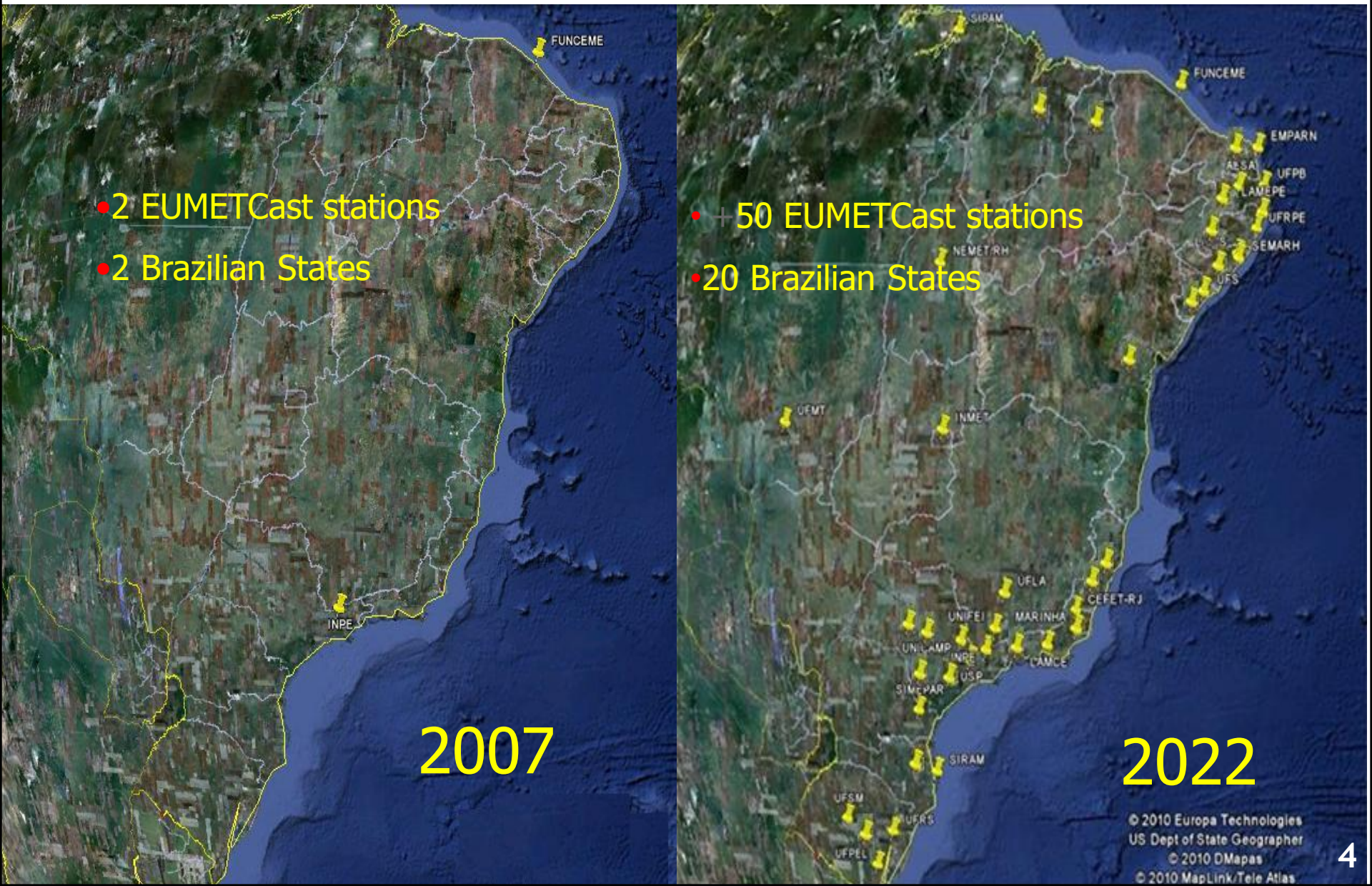
EUMETCast Lapis



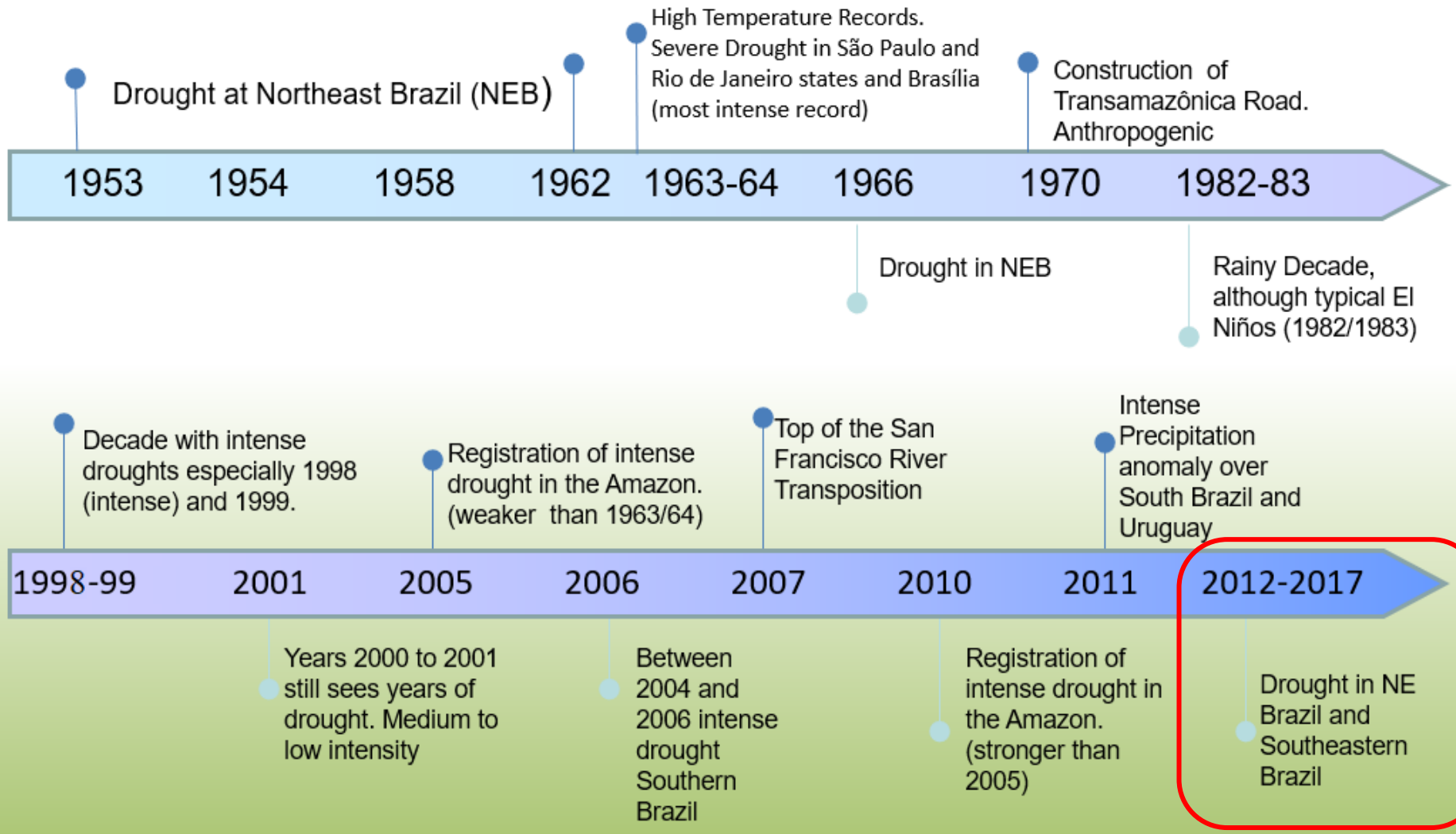




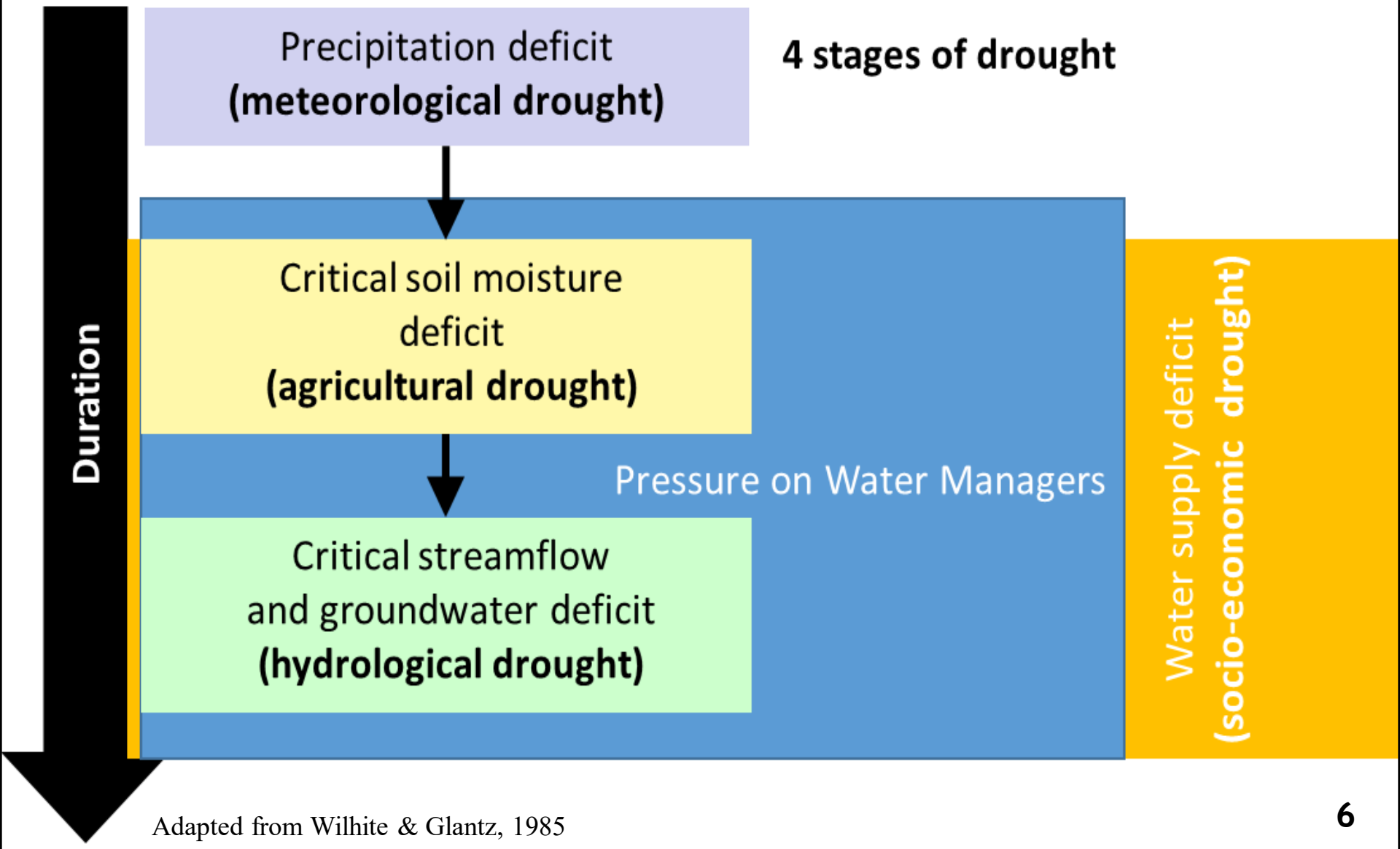
Drought expert network



Historic Drought at Brazil

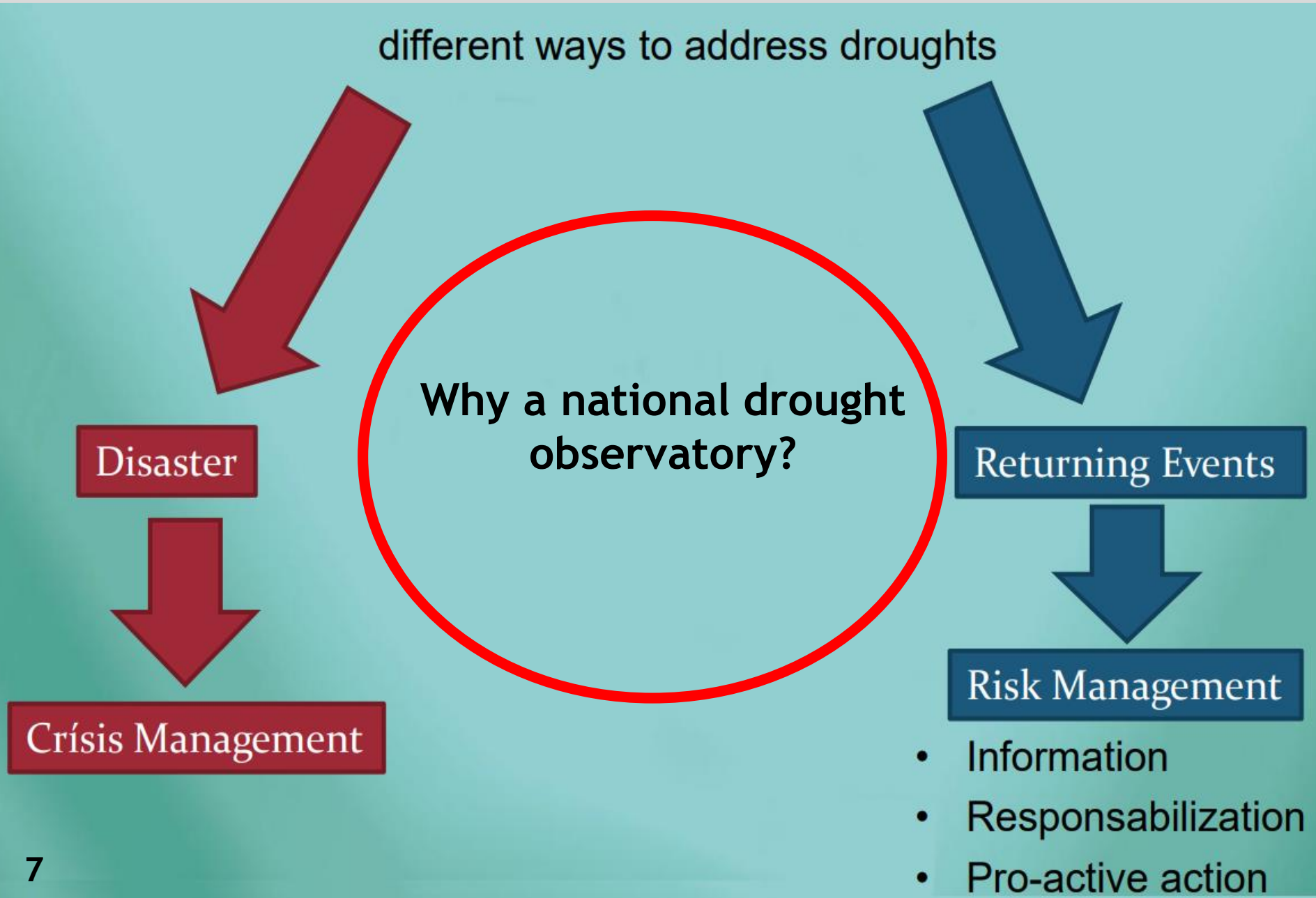


Droughts



Adapted from Wilhite & Glantz, 1985

How do we approach drought risks?

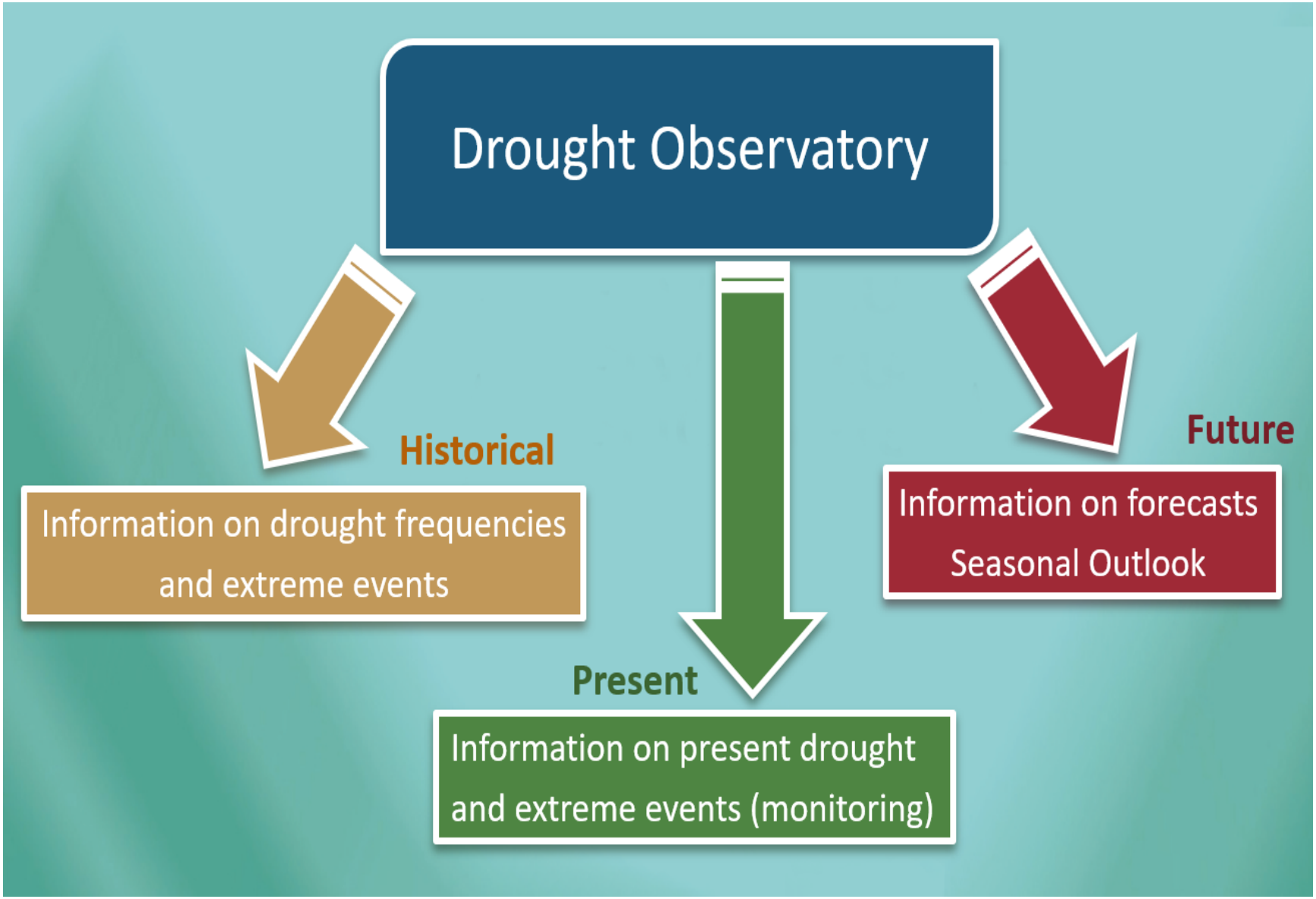


Objectives of the Brazilian Drought Observatory (BDO)

Requirements:

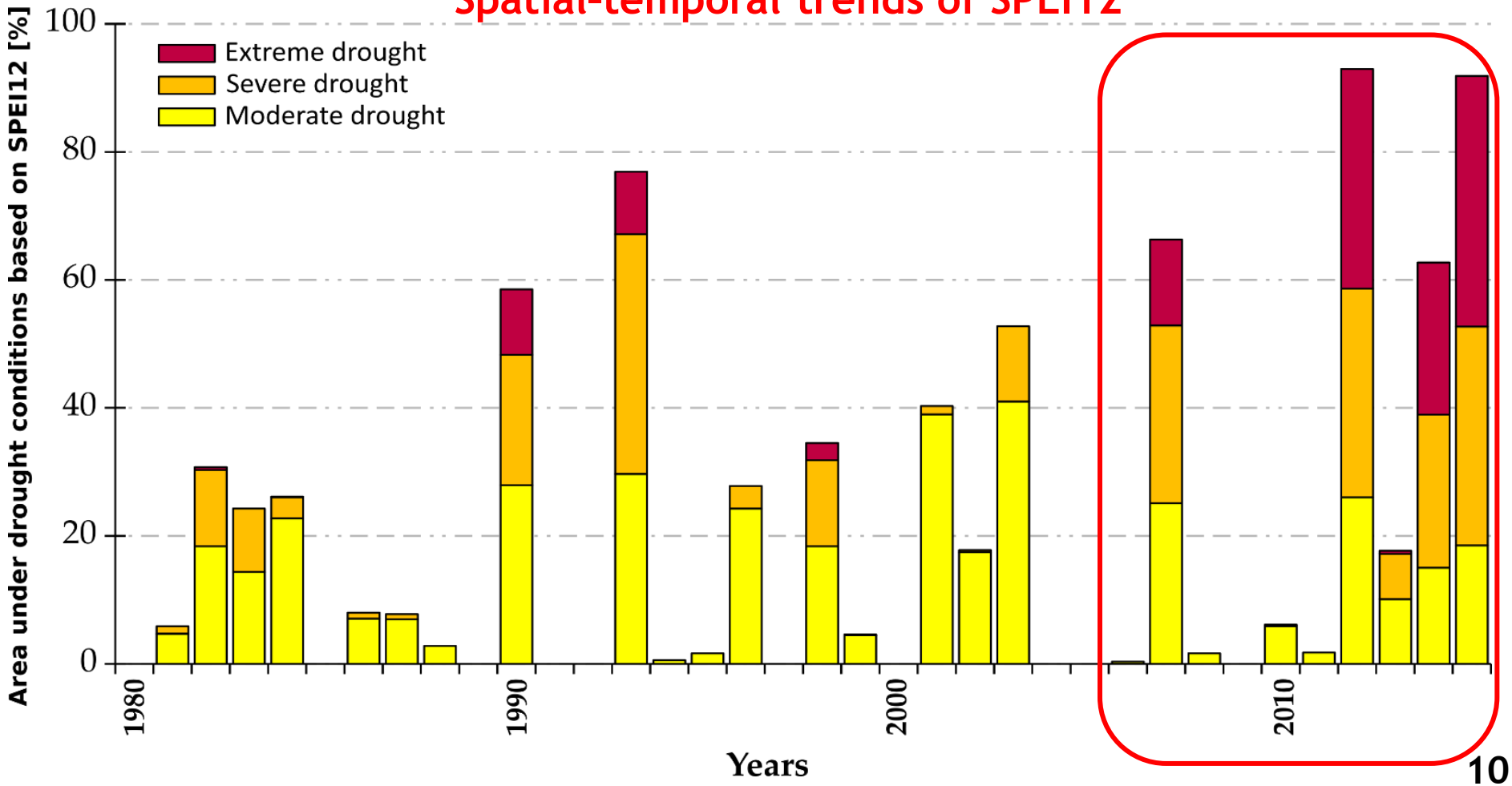
1. Count with all relevant agroclimatic information that:
   - are easy accessible
   - are up-to-date
   - consider different components of drought (meteorological, hydrological, agricultural and flash drought)
2. Be based upon already available local information and complement with additional **international data sources**
3. Allow identifying areas most affected by droughts to allow prioritizing actions
4. Count with a seasonal outlook, on the evolution of drought conditions
5. Count with an environment that allows developping new applications

Architecture of the Brazilian Drought Observatory (BDO)



Northeastern Brazil (pilot region): Information on present drought and extreme events (monitoring)

Spatial-temporal trends of SPEI12



Products Developed

Scientific papers

Contents lists available at ScienceDirect

ISPRS Journal of Photogrammetry and Remote Sensing

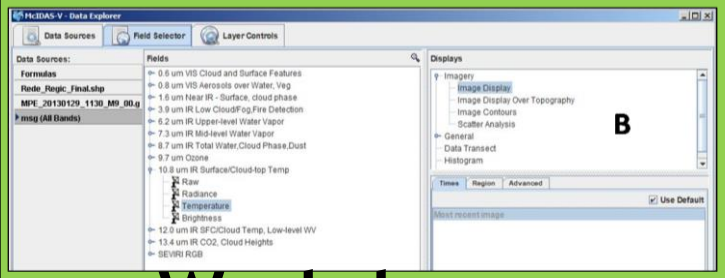
journal homepage: www.elsevier.com/locate/isprsjprs

Assessment of Caatinga response to drought using Meteosat-SEVIRI Normalized Difference Vegetation Index (2008–2016)

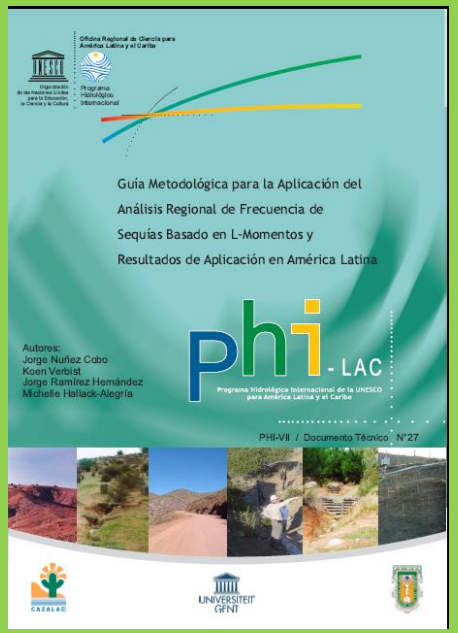
Humberto Alves Barbosa[a,*], T.V. Lakshmi Kumar[b], Franklin Paredes[c], Simon Elliott[d], J.G. Ayuga[e]

[a] Laboratory for Analyzing and Processing Satellite Images, Federal University of Alagoas, Av. Lourival Melo Mota, s/n, Tabuleiro do Martins, Maceió, AL 57072-90 Brazil
[b] Atmospheric Science Research Laboratory, SRM Institute of Science and Technology, Dept of Physics, Kattankulathur, 603 203, India
[c] University of the Plains Ezequiel Zamora, San Carlos, Venezuela
[d] EUMETSAT, EUMETSAT Allee 1, 64295 Darmstadt, Germany
[e] Instituto Nacional de Técnica Aeroespacial, INTA, Universidad Politécnica de Madrid, UPM, Spain

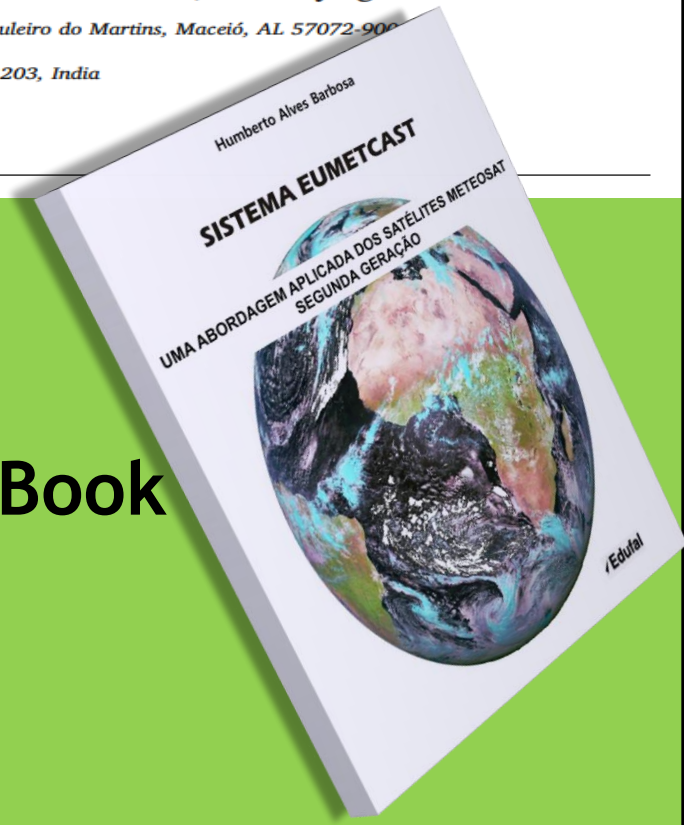
Software



Manuals



Book



Workshop

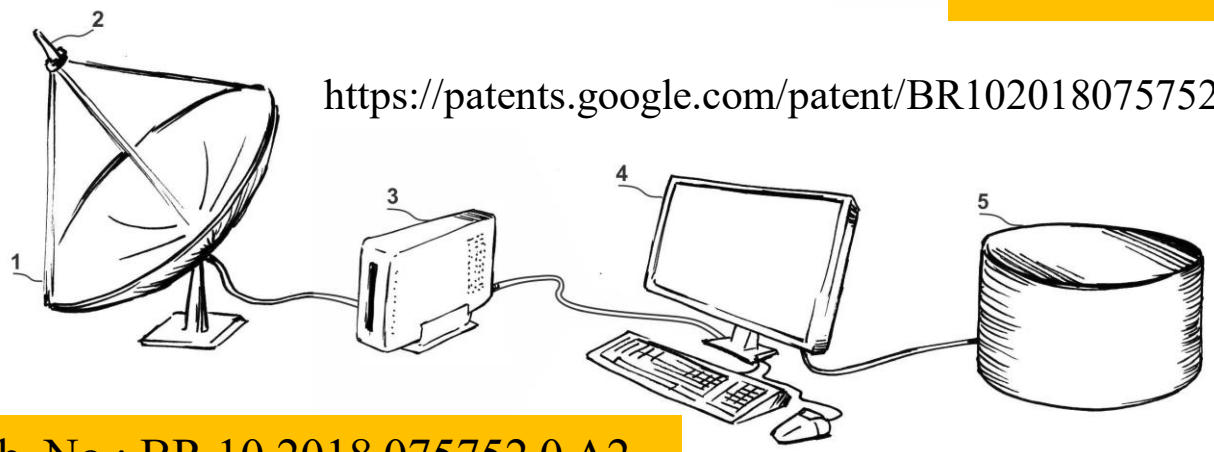
Products developed: Patent Application (Lápis)

1. Apparatus for portable rainwater harvesting system

Pub. No.: BR 10 2020 003352 2 A2

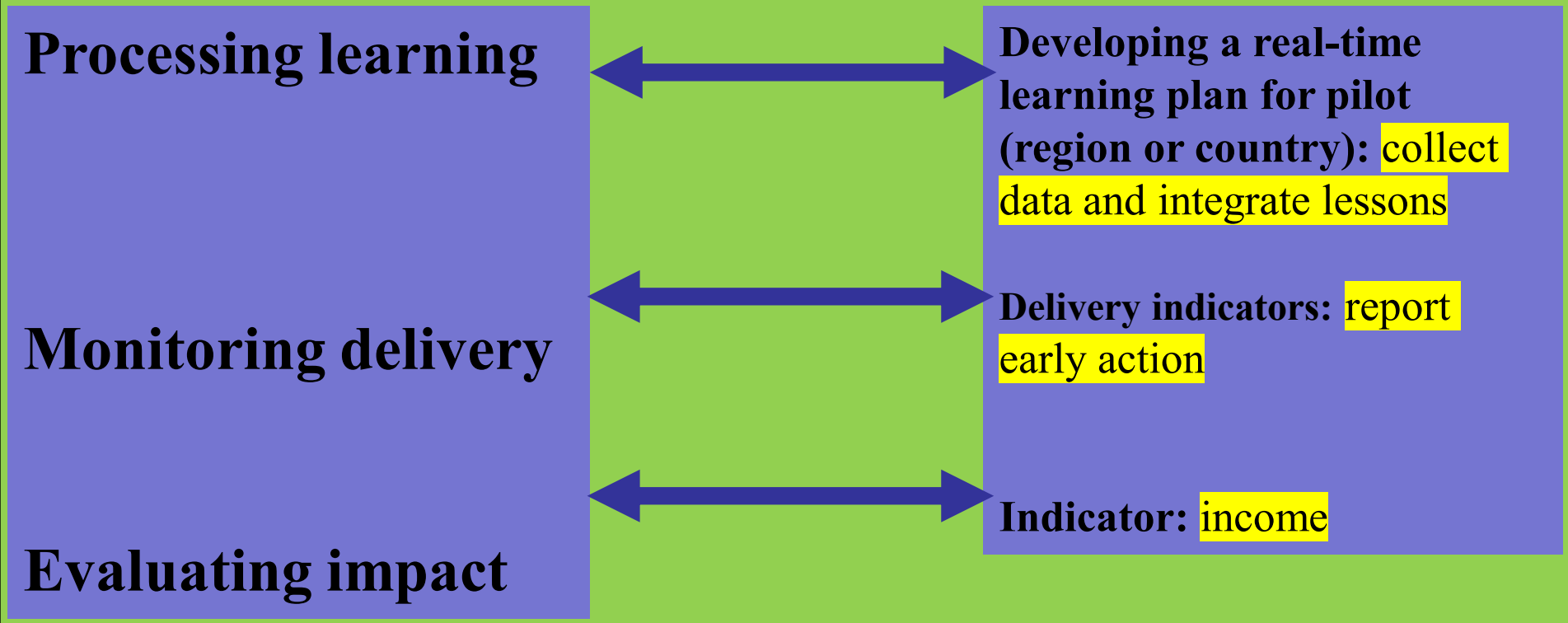
2. Devices for predicting weather conditions

https://patents.google.com/patent/BR102018075752A2



Pub. No.: BR 10 2018 075752 0 A2

Draft plan for drought



Better information, accessible by everyone, will help accelerate the transition toward a net-zero economy

Questions funding

Q1) What types of drought tools or research has your institution funded, and how has that helped achieve your priorities?

Q2) What do you think are the great gaps in your priorities that drought "science and tools" could help close?

Q3) What strategies are there to enhance the drought science - governance linkages?

LAPIS

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LABORATÓRIO DE ANÁLISE E PROCESSAMENTO DE IMAGENS DE SATÉLITES

Objetivos Projetos Contatos

- **Thank you for listening!**
- **Questions & Discussion**

Menu Principal

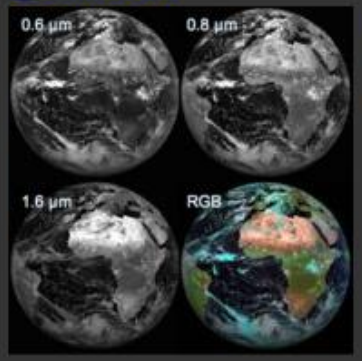
- Home
- Equipe
- Pesquisas
- Publicações
- Softwares
- Contatos

Produtos

- Estação de Recepção

Links

EUMETSAT

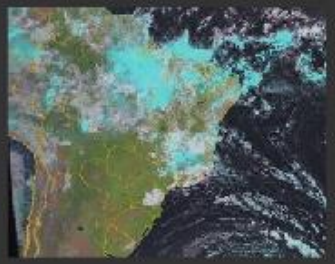


Lapis

O Laboratório de Análise e Processamento de Imagens de Satélites (LAPIS) da Universidade Federal de Alagoas (UFAL) realiza atividades de pesquisa, assistência tecnológica e treinamento de recursos humanos para a recepção, processamento, interpretação e integração de imagens dos satélites da série METEOSAT. Para atender a essa demanda, em 2007 a UFAL instalou e operacionalizou a terceira estação de recepção de imagens do satélite METEOSAT Segunda Geração (MSG) do Brasil. Como atividades de pesquisa e transferência de conhecimento, a equipe do LAPIS elabora aplicativos para tratamento de imagens, disponibiliza produtos meteorológicos e ambientais derivados do MSG para setores operacionais e oferece treinamento na área. Desenvolvidas inteiramente com ferramentas open-source e freeware.

Eventos

- 2006
- 2007
- 2008
- 2009



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