GROUP ON EARTH OBSERVATIONS

Arquitetura GEOSS
(Global Earth Observation System of Systems)

Tópicos em Observação da Terra

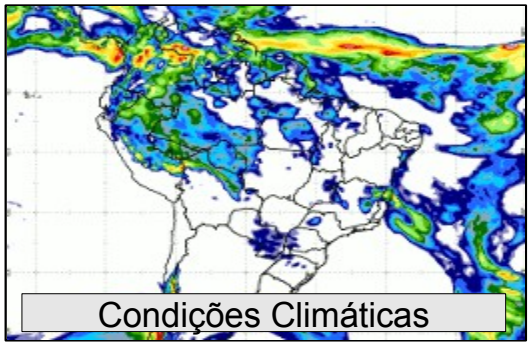
Marcio e Diego

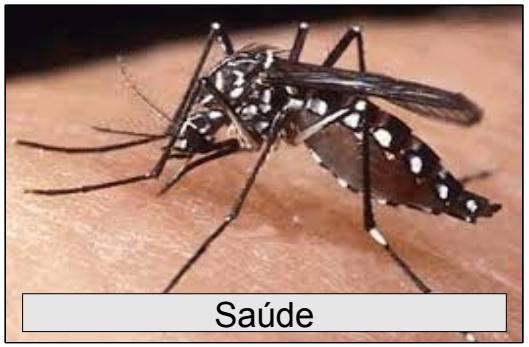
Sumário

- Considerações Iniciais;
- Group on Earth Observations e o Global Earth Observation System of Systems;
- Architecture Implementation Pilot;
- GEOSS Common Infrastructure (GCI);
- Centro de Dados de Sensoriamento Remoto e Diretório Brasileiro de Dados Geoespaciais;
- Considerações Finais.

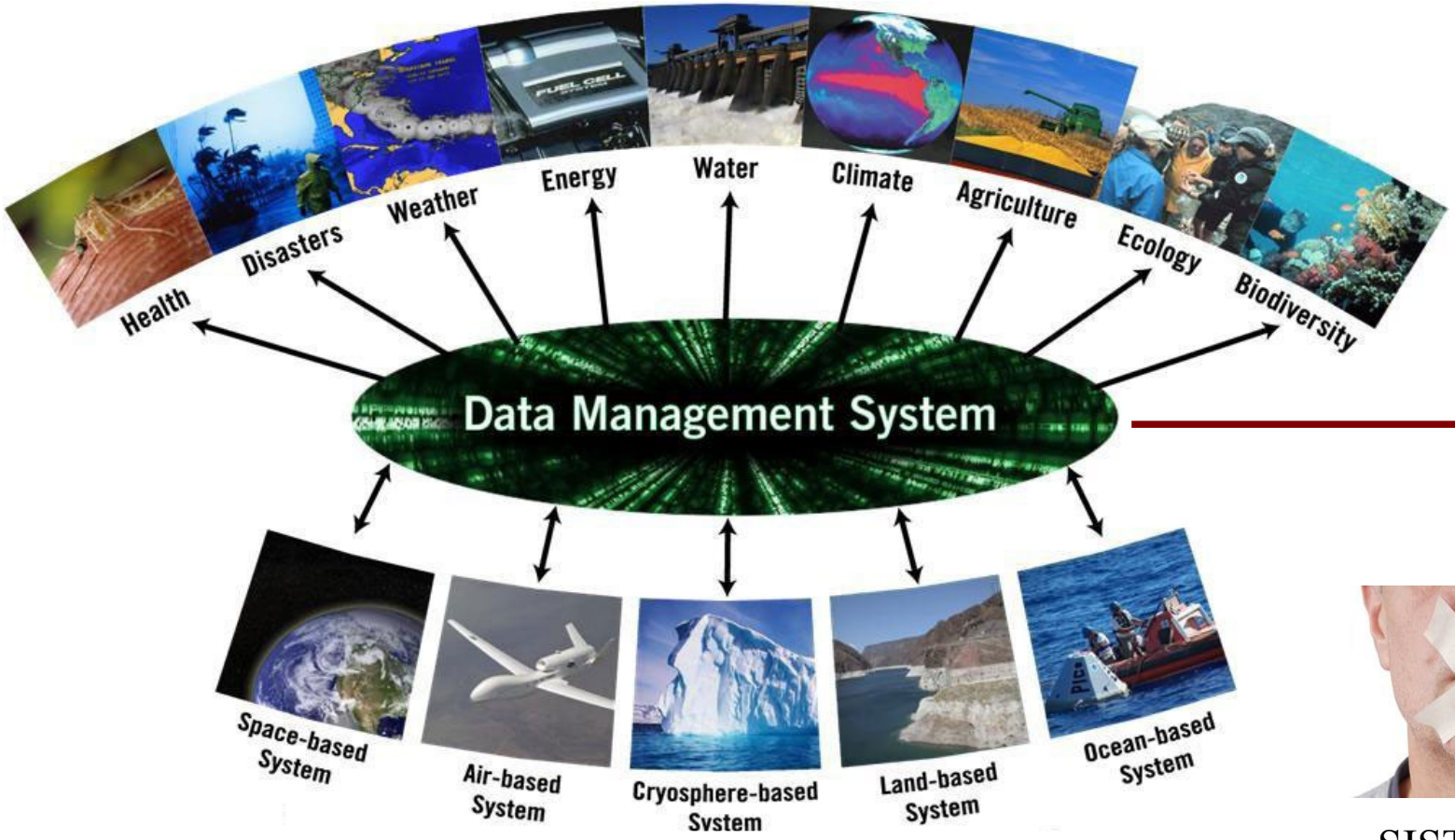
Considerações Iniciais

Observações Terrestres





Considerações Iniciais



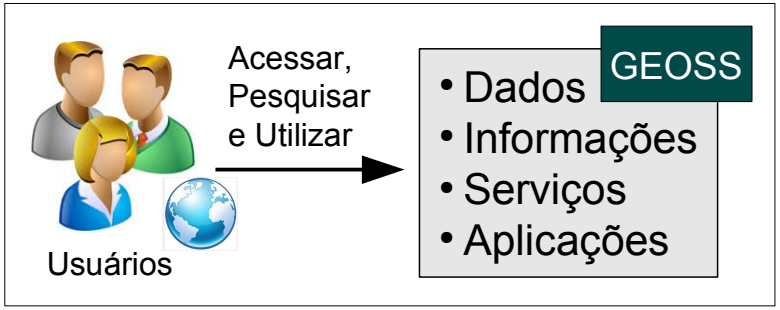
Fonte: NOAA (2014).

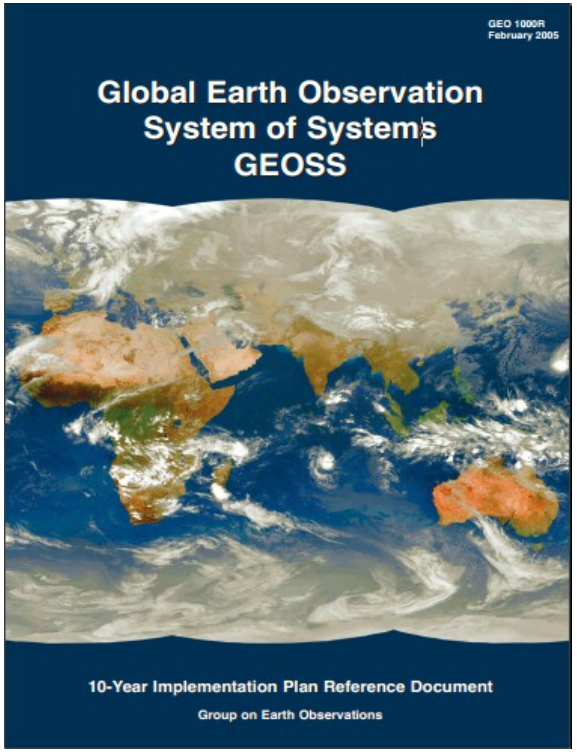
SISTEMAS
NÃO CONVERSAM
ENTRE SI!!

GEO e GEOSS

Group on Earth Observations

Global Earth Observation System of Systems





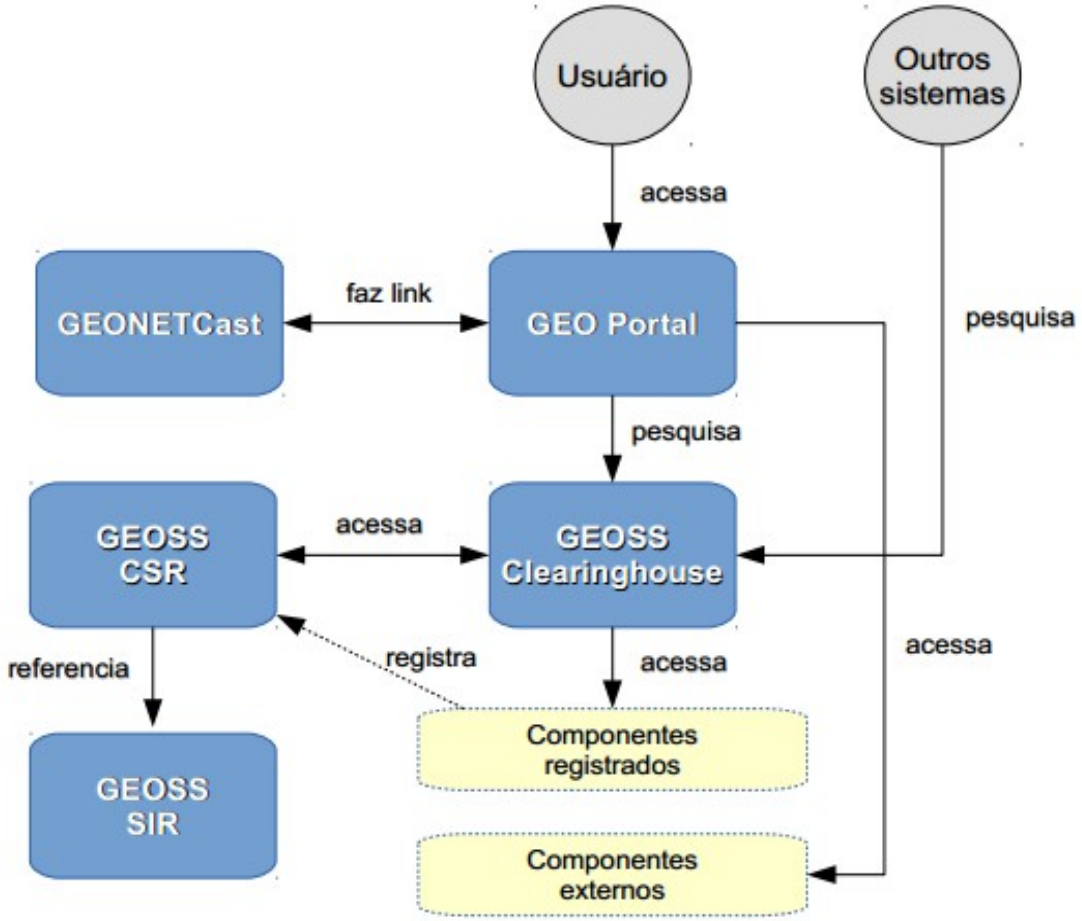
Escopo e Metas
2005 a 2015
Define as Áreas de Benefício Social

AIP

Architecture Implementation Pilot

- Define o arranjo e as responsabilidades dos componentes computacionais (GCI);
- Arquitetura distribuída e orientada a serviços.

GEOSS Common Infrastructure (GCI)



Fonte: Adaptado de Geo (2005).

CSR

GEOSS Common Infrastructure (GCI)

http://geossregistries.info

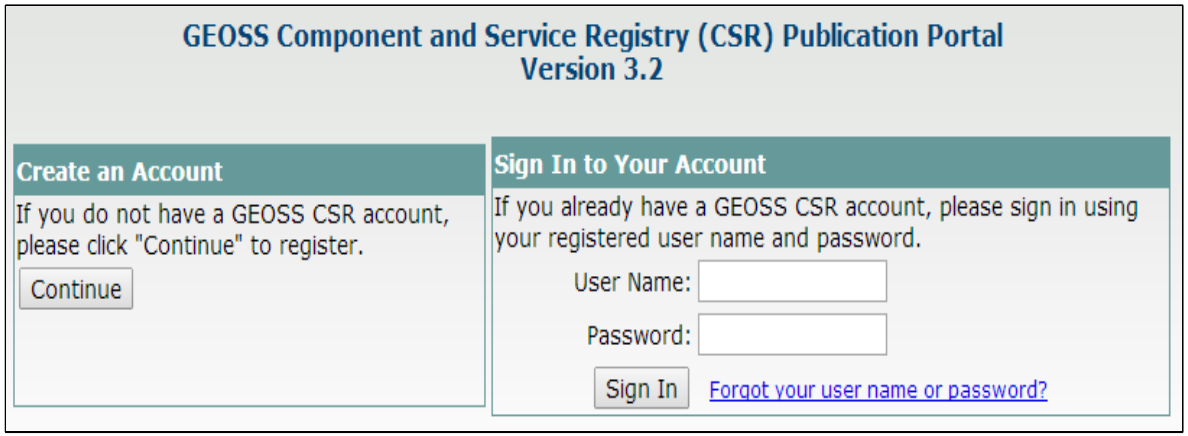
GEOSS Component and Service Registry (CSR)

---A platform to contribute your resource to GEOSS community

The Components and Services Registry (CSR) is similar to a library catalogue. Resource providers of governments and organisations could register their resources in CSR through providing essential details about the name, contents, Earth observation vocabulary, standards and special arrangements (if any) of their contribution. This assists the GEOSS Clearinghouse, and ultimately the user, to identify the GEOSS resources of interest.

Registering Resource to GEOSS CSR

Searching Resource from GEOSS CSR



CSR

GEOSS Common Infrastructure (GCI)

GEOSS Component and Service Registry (CSR)

---A platform to contrib

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Registering Resource to GE

Searching Resource from GE

Search GEOSS Resource

Free Text Search: INPE

Advanced Search (Define more query conditions: Resource Category, Societal Benefit Areas, GEO affiliation)

Resource Category:

- (•) Partial Match (Components that match at least one of the defined resource category conditions will be returned)
- ( ) Full Match (Only those components that match all the defined resource category conditions will be returned)

- [ ] Monitoring and Observation Systems
- [ ] Analysis and visualization
- [ ] Datasets
- [ ] Catalogues, Inventories and Metadata Collections
- [ ] Software and applications
- [ ] Computational Models
- [ ] Initiatives
- [ ] Alerts, RSS, and Information Feeds
- [ ] Websites and documents

Societal Benefit Areas:

- (•) Partial Match (Components that match at least one of the defined social benifit area conditions will be returned)
- ( ) Full Match (Only those components that match all the defined social benifit area conditions will be returned)

- [ ] Agriculture
- [ ] Biodiversity
- [ ] Climate
- [ ] Disasters
- [ ] Ecosystems
- [ ] Energy
- [ ] Health
- [ ] Water
- [ ] Weather

Search GEOSS Resource

Free Text Search: INPE

Advanced Search (Define more query conditions: Resource Category, Societal Benefit Areas, GEO affiliation)

Search (Leaving all search fields blank will return a list of all registered Resources)

7 Matched Resource (✓ indicates Approved)

First Page | Previous Page | Next Page | Last Page

1.	TerraView	Details	✓
2.	WMS DSA NDVI NOAA	Details	✓
3.	Brazilian National Institute for Space Research (INPE) Remote Sensing Image Catalog	Details	✓
4.	NDVI NOAA	Details	✓
5.	DSA INPE	Details	✓
6.	SPRING	Details	✓
7.	Hotspot fire detections	Details	✓

CSR

GEOSS Common Infrastructure (GCI)

GEOSS Resource Details

Resource Basic Information	
Resource Id:	urn:geoss:csr:resource:urn:uuid:7573f83f-2694-4bcb-83e9-b9f5365a6486
Name:	Brazilian National Institute for Space Research (INPE) Remote Sensing Image Catalog
Abbreviation:	INPE's Image Database
Description:	INPE's Image Database presently contains images cast by Landsat-1, Landsat-2, Landsat-3, Landsat-5, Landsat-7, RESOURCESAT-1, CBERS2 and CBERS-2B (China-Brazil Environment Resources Satellite) satellites. All images are fully cost free when requested (via Internet). These images are (by default) sent via HTTP to the users for downloading.
GEO Member or Participating Organisation :	Brazil
Responsible Organisation:	Brazilian National Institute for Space Research (INPE)
Resource Information URL:	http://www.dgi.inpe.br/CDSR/
Resource Interface URL:	

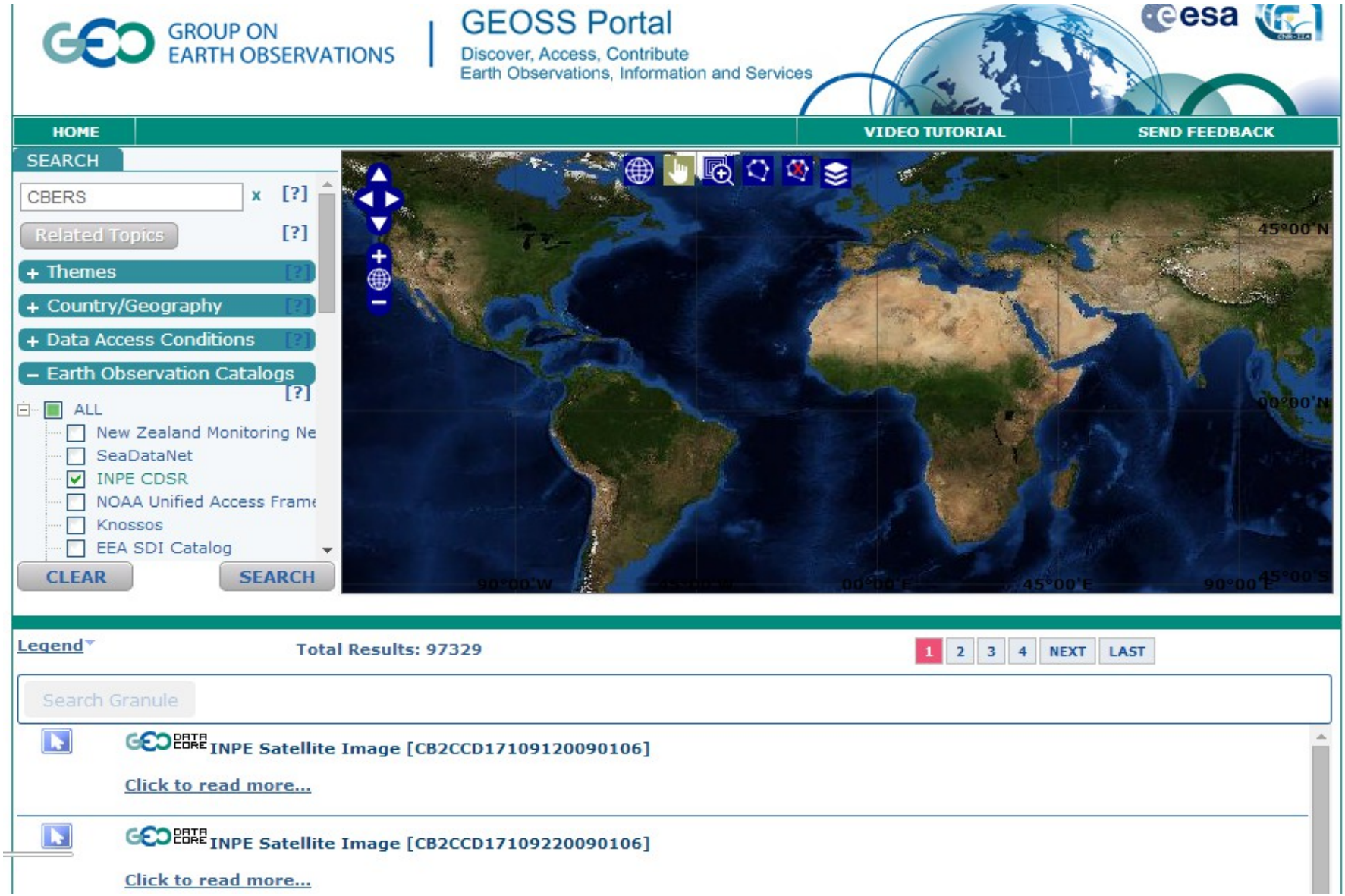
Resource Contact Information	
Contact Name:	Hilcea Ferreira
Contact Email:	hilcea@dpi.inpe.br

Resource Category
datasets

Societal Benefit Areas
Agriculture
Biodiversity
Climate
Disasters
Ecosystems
Energy
Health

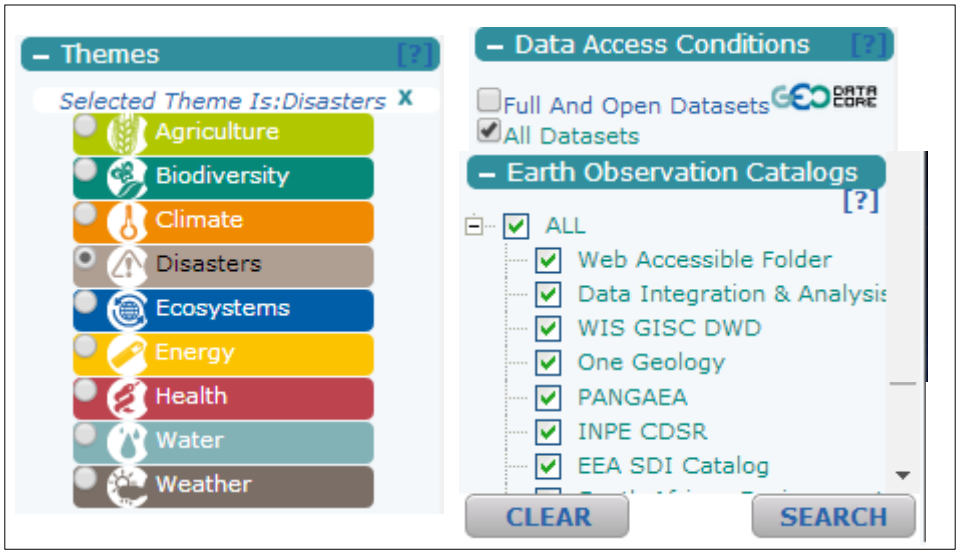
Portal GEOSS

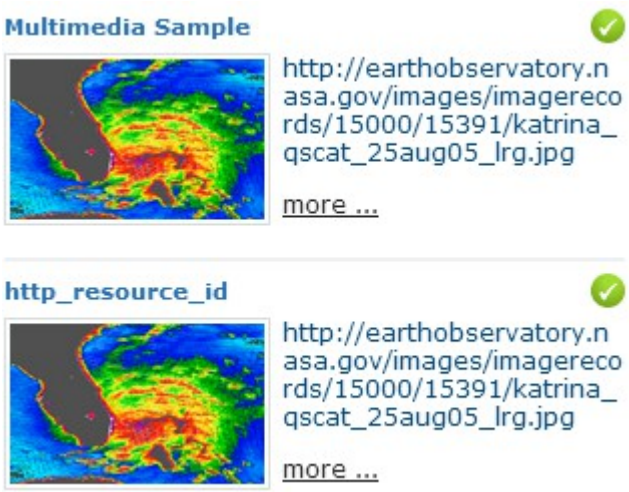
GEOSS Common Infrastructure (GCI)



Portal GEOSS

GEOSS Common Infrastructure (GCI)





QUIKSCAT Imagery of Hurricane Katrina

QUIKSCAT imagery of Hurricane Katrina is available from the NASA Jet Propulsion Laboratory. QUIKSCAT's scatterometer sends pulses of microwa

Hurricane Katrina Imagery from the NASA MODIS Rapid Response System

At the request of the U.S. Army and the Federal Emergency Management Agency, the NASA MODIS Rapid Response System is providing daily geo-recti

NASA Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Imagery of Hurricane Katrina

Seventeen days after Hurricane Katrina flooded New Orleans, much of the city is still under water. In this pair of ASTER images the affected

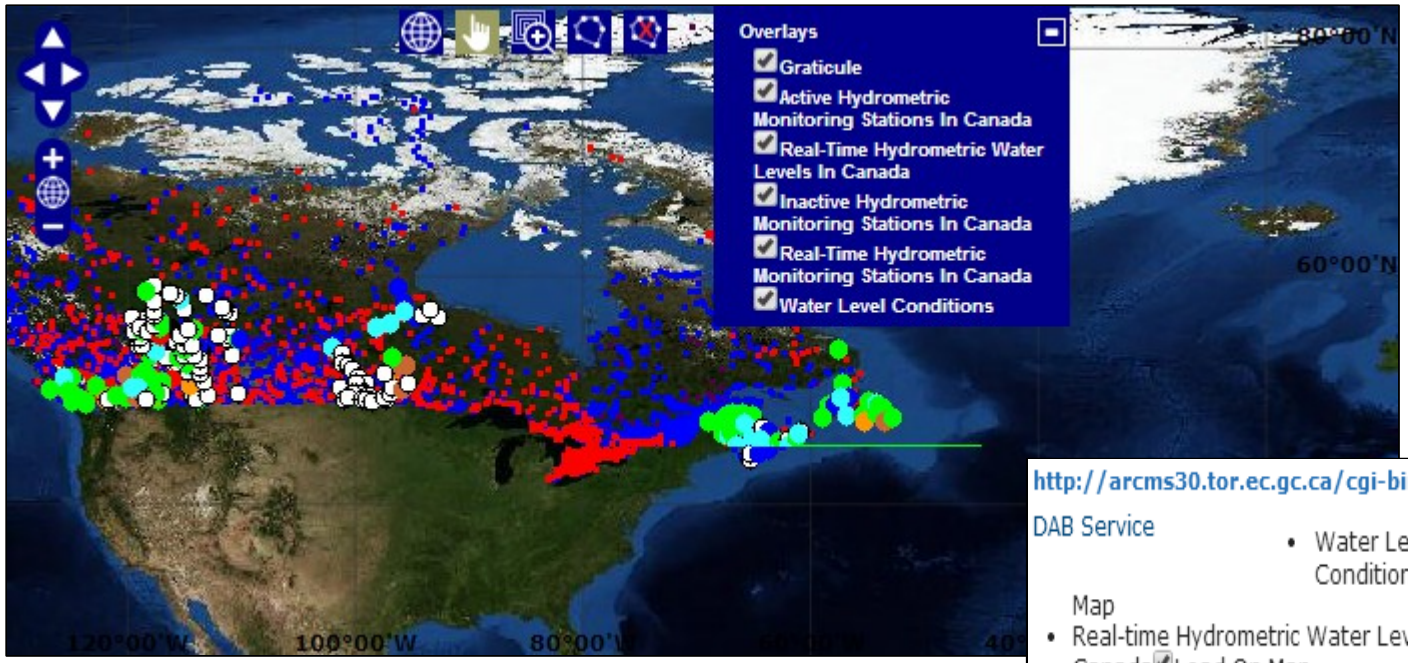
Portal GEOSS

GEOSS Common Infrastructure (GCI)

Water Survey of Canada WMS Service

An OGC Web Map Service interface to a map service hosted by Water Survey of Canada containing many layers.

MAP



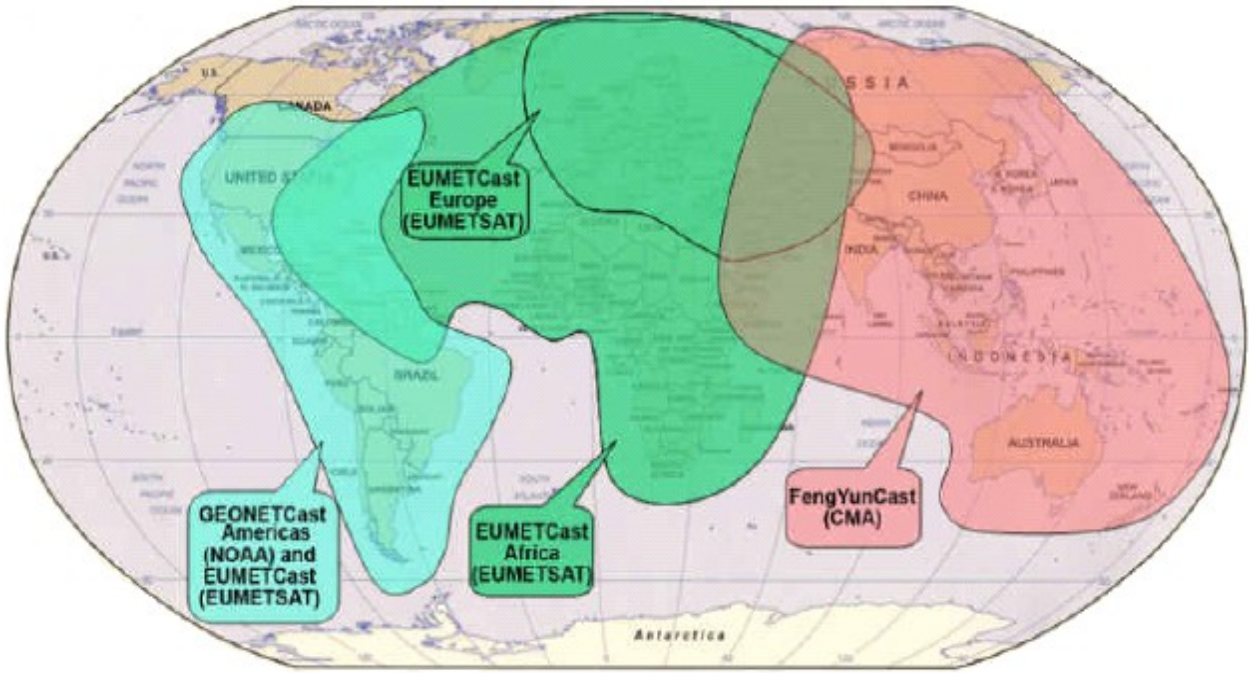
http://arcms30.tor.ec.gc.ca/cgi-bin/wem_en?

DAB Service

- Water Level Conditions Load On Map
- Real-time Hydrometric Water Levels in Canada Load On Map
- Active Hydrometric Monitoring Stations in Canada Load On Map
- Inactive Hydrometric Monitoring Stations in Canada Load On Map
- Real-time Hydrometric Monitoring Stations in Canada Load On Map

GEONETCast

GEOSS Common Infrastructure (GCI)



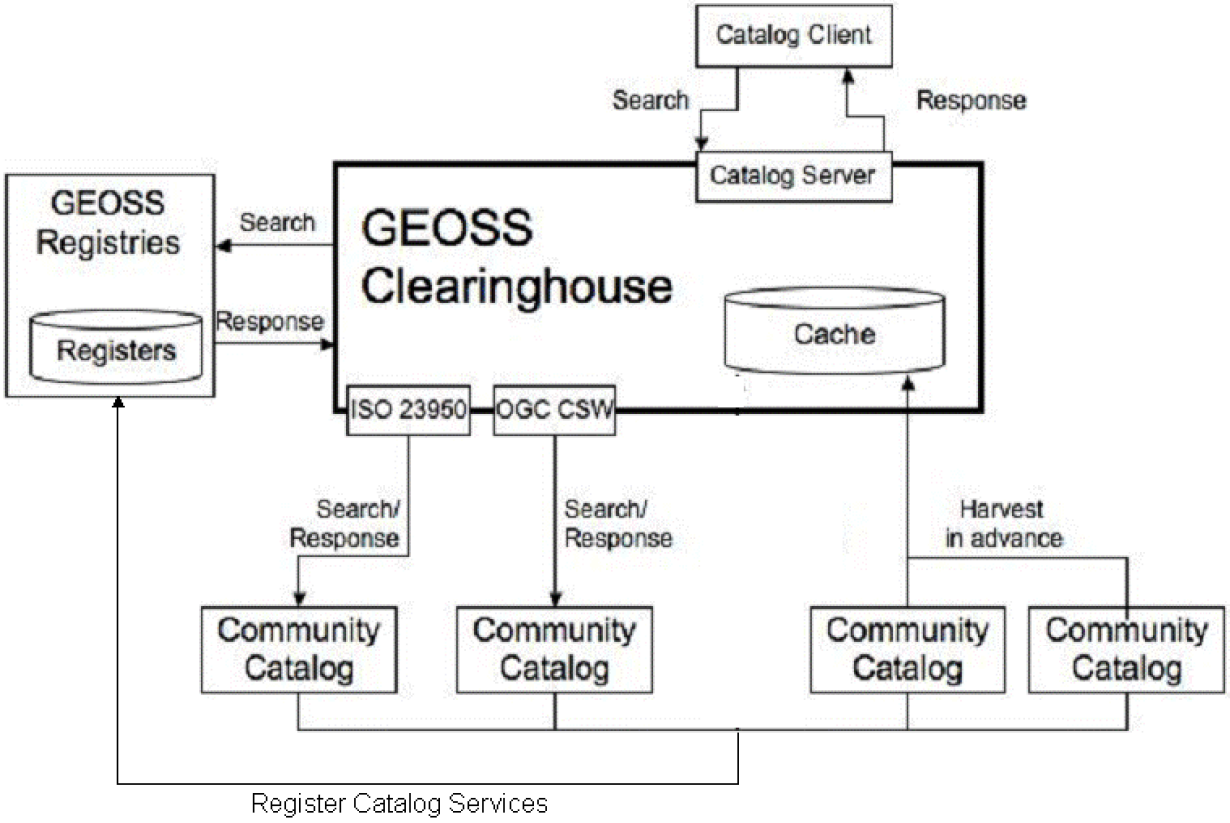
Colaboradores

Fonte: GEONETCast (2014).

Opção Alternativa

GEOSS Clearinhouse

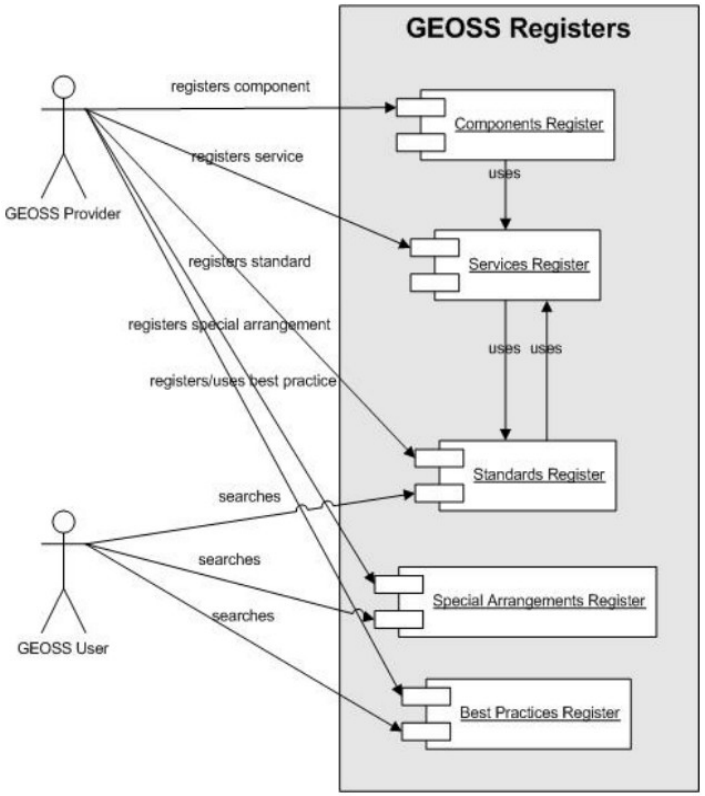
GEOSS Common Infrastructure (GCI)



Fonte: OGC Network (2014).

Standards and Interoperability Registry

O GEOSS depende de que os provedores de recursos implementem especificações técnicas para a aquisição, processamento, armazenamento e disseminação de seus dados, metadados e produtos.



Title: SKOS Simple Knowledge Organization System; **Publisher:** W3C; **Entry Type:** Standard; **Status:** PENDING; **Date Submitted:** Nov 13th, 2009

Title: SPARQL Protocol for RDF; **Publisher:** W3C; **Entry Type:** Standard; **Status:** PENDING; **Date Submitted:** Nov 13th, 2009

Title: SPARQL Query Results XML Format; **Publisher:** W3C; **Entry Type:** Standard; **Status:** PENDING; **Date Submitted:** Nov 13th, 2009

Title: GEMET webservice API; **Publisher:** OTHER; **Entry Type:** Standard; **Status:** PENDING; **Date Submitted:** Nov 13th, 2009

Title: Uncertainty Markup Language (UncertML); **Publisher:** OGC; **Entry Type:** Standard; **Status:** PENDING; **Date Submitted:** Nov 13th, 2009

Title: WS-Notification Version 1.3; **Publisher:** OTHER; **Entry Type:** Standard; **Status:** PENDING; **Date Submitted:** May 28th, 2008

Title: Open GIS Web Map Service 1.1; **Publisher:** OGC; **Entry Type:** Standard; **Status:** PENDING; **Date Submitted:** Nov 19th, 2007

IEEE Standards Association

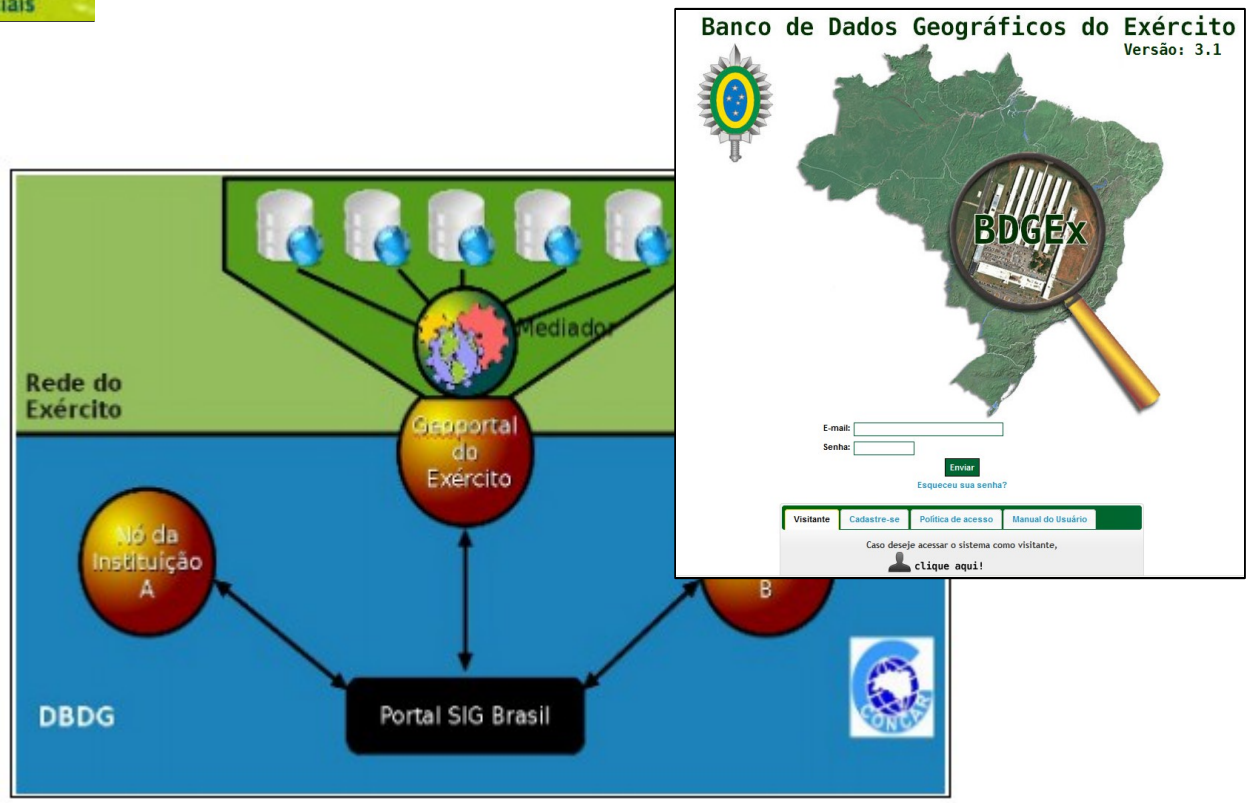
Fonte: GEO (2013).

DBDG

Diretório Brasileiro de Dados Geoespaciais

INDE
Infraestrutura Nacional de Dados Espaciais

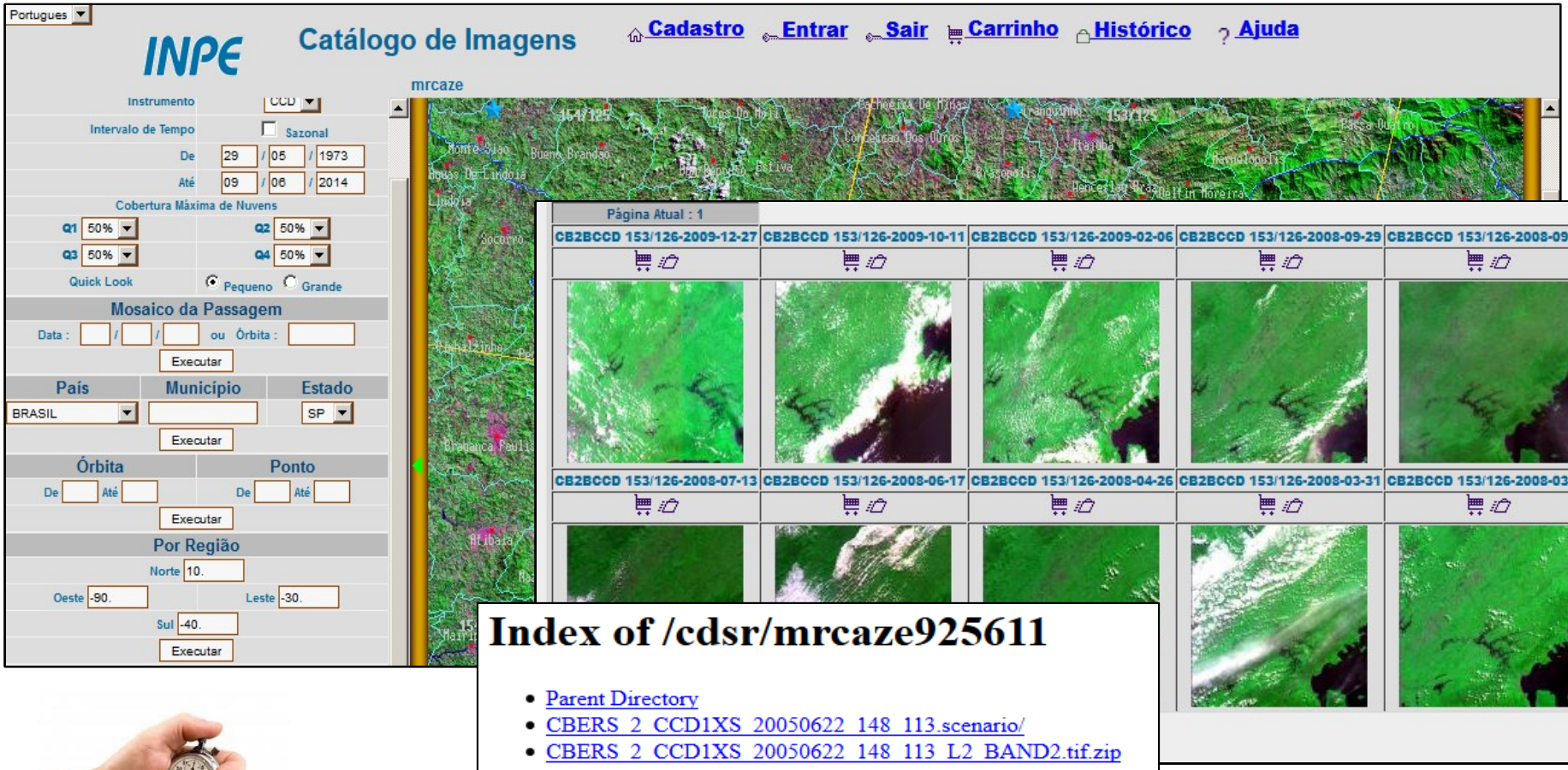
Decreto Nº 6.666 de 27/11/2008



Fonte: NETO (2013).

CDSR INPE

Centro de Dados de Sensoriamento Remoto



3min

Index of /cdsr/mrcaze925611

- Parent Directory
- CBERS_2_CCD1XS_20050622_148_113.scenario/
- CBERS_2_CCD1XS_20050622_148_113_L2_BAND2.tif.zip
- CBERS_2_CCD1XS_20050622_148_113_L2_BAND3.tif.zip
- CBERS_2_CCD1XS_20050622_148_113_L2_BAND4.tif.zip
- CBERS_2_CCD1XS_20060404_148_113.scenario/
- CBERS_2_CCD1XS_20060404_148_113_L2_BAND2.tif.zip
- CBERS_2_CCD1XS_20060404_148_113_L2_BAND3.tif.zip
- CBERS_2_CCD1XS_20060404_148_113_L2_BAND4.tif.zip

Considerações Finais

- a documentação do sistema está fragmentada em diferentes locais na *internet*, o que dificulta o completo entendimento das partes componentes do GEOSS;
- existem sistemas semelhantes ao Portal GEOSS que permitem aos usuários utilizar as informações geoespaciais sem o redirecionamento para outros *sites;*
- algumas funcionalidades do Portal GEOSS podem ser mais intuitivas e melhor detalhadas para o usuário;
- existem diversos *links* "quebrados" nos resultados das pesquisas no Portal. Isso afeta a credibilidade do sistema;
- o GEOSS apresenta-se como uma solução válida para a integração dos diferentes sistemas de observação ao redor do mundo, com grande potencial de aperfeiçoamento.

Referências

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Design, Simulation, and Demonstration. Disponível em: <http://www.esrl.noaa.gov>. Acesso em: 10 jun. 2014.

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