Land Surface Imaging (LSI) Constellation Study Team

Collaboration with GEO FCT

Co-Leads: *U.S. Geological Survey (USGS), Indian Space Research Organization (ISRO), and the Instituto Nacional de Pesquisas Espaciais (INPE)*

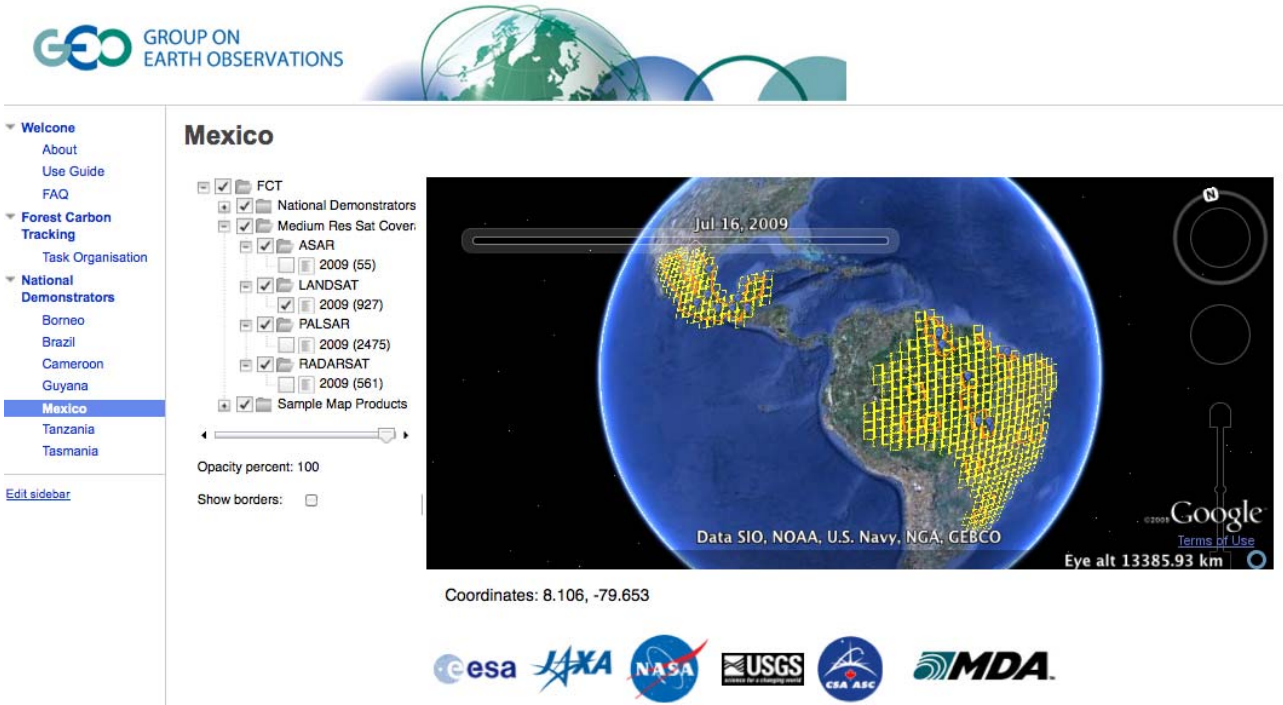
GEO Forest Carbon Tracking

GEO FCT Background

- The GEO Forest Carbon Tracking initiative seeks to develop a global framework for a system of national systems for forest carbon tracking in support of the inclusion of forests in a post-Kyoto climate agreement
- Satellite and in-situ data are an essential element of the Monitoring, Reporting and Verification (MRV) systems that will be employed in the regulatory framework for such an agreement

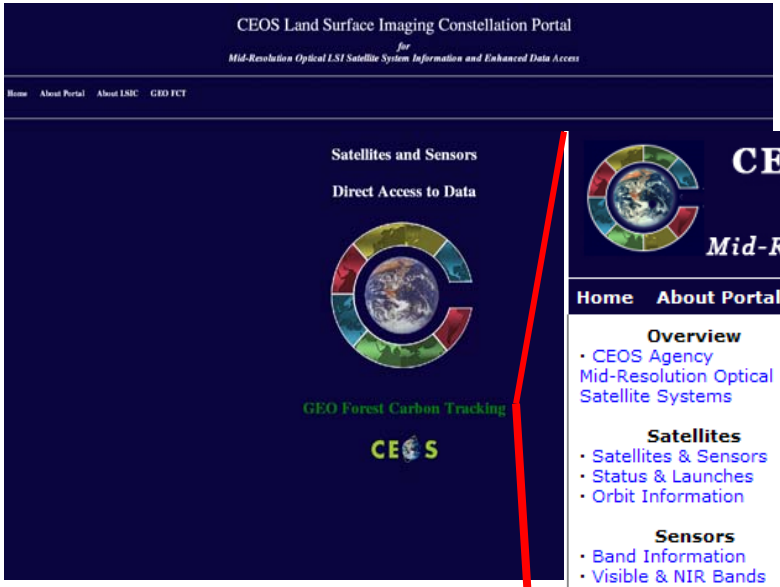
CEOS role

- CEOS is demonstrating that the technical capacity and institutional frameworks are in place to **ensure continuity of the required satellite observations** in support of post-Kyoto regulatory frameworks
- 7 National Demonstrator countries have been the subject of a coordinated satellite data acquisition effort by CEOS agencies in 2009 – with complete coverage achieved for both radar and optical data
- A demonstrator portal showing available data and forest carbon datasets has been developed: portal.geo-fct.org



GEO Forest Carbon Tracking Task
National Demonstrator Sites - 2009

GEO Forest Carbon Tracking Task



CEOS Land Surface Imaging Constellation Portal

for

Mid-Resolution Optical LSI Satellite System Information and Enhanced Data Access

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- CEOS Agency Mid-Resolution Optical Satellite Systems

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GEO Forest Carbon Tracking Initiative

CEOS Role

- CEOS, with the support of the LSI Constellation, is demonstrating the technical capacity and institutional frameworks to support continuity of the required satellite observations in support of post-Kyoto regulatory frameworks.

- 7 National Demonstrator countries have been the subject of a coordinated satellite data acquisition effort by CEOS agencies in 2009 - with complete coverage achieved for both radar and optical data (LSI contributions).

- A demonstrator portal showing available data and forest carbon datasets has been developed:

Link to GEO Forest Carbon Tracking Portal: portal.geo-fct.org

GEO GROUP ON EARTH OBSERVATIONS

- In addition, the Landsat contributions for the 7 National Demonstrator countries are searchable through the USGS:

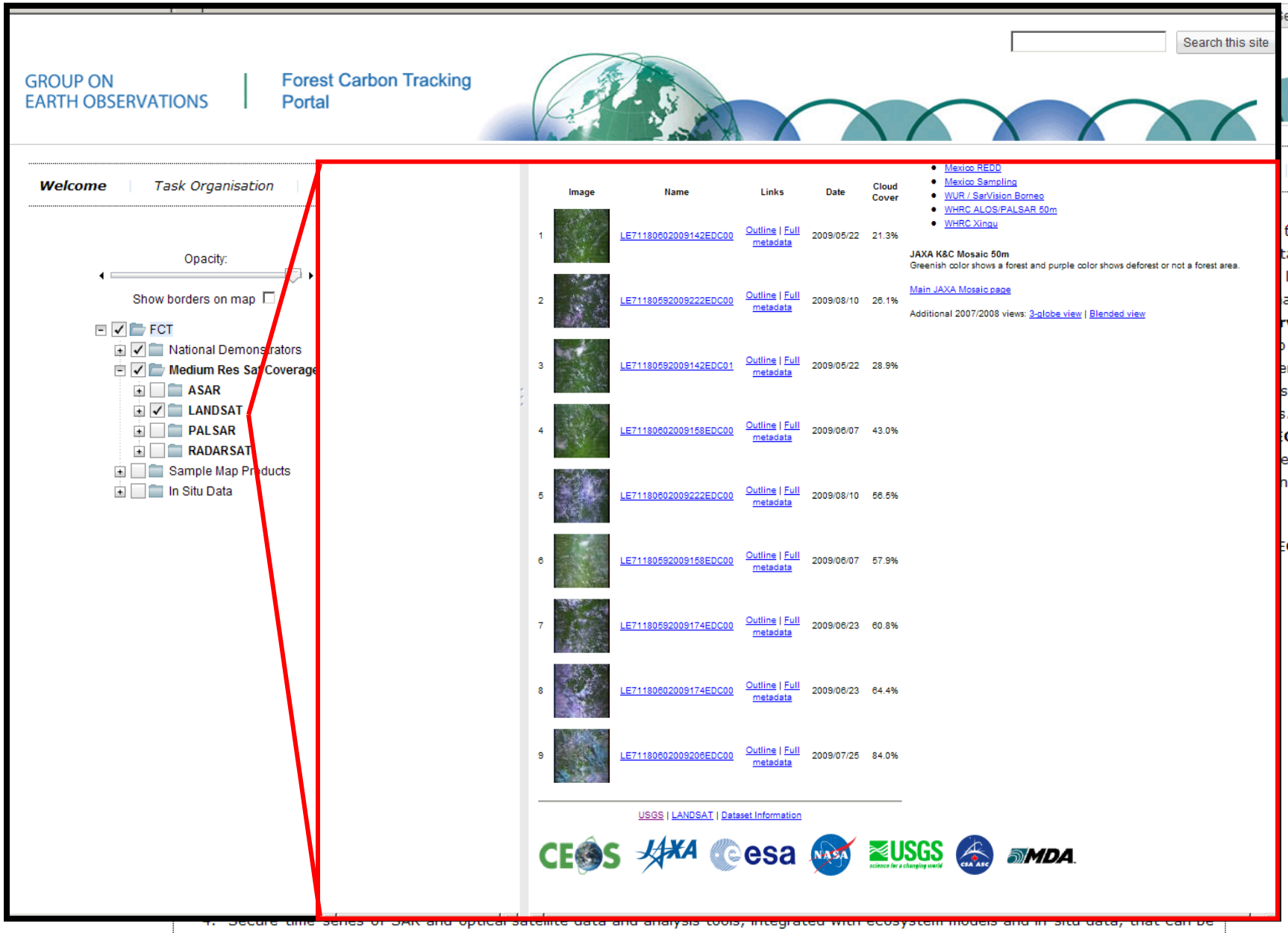
Link to Earth Explorer - Forest Carbon Sites: earthexplorer.usgs.gov

USGS science for a changing world

Forest Carbon Tracking Goals:

Demonstrate that coordinated Earth observations, validated by in situ measurements and properly linked to forest models, can provide reliable information of suitable consistency, accuracy and continuity to support forest carbon Monitoring, Reporting and Verification leading to eventual establishment of a network of **national** forest and carbon monitoring systems.

Define a set of standards and interoperability requirements and methodologies to provide the most accurate results relying on the full potential of existing observational and processing capabilities.



used interoperably and in complementary ways to support the information needs of MRV systems for FCT.

5. Appropriate international institutional frameworks, and supporting data policies allowing open access and application of the supporting satellite datasets will be essential to secure the sustained supply of information in support of MRV requirements.

Forest Carbon Tracking: Status of LSI Optical Support - 2009

Source \ ND Sites	Brazil	Guyana	Mexico	Cameroon	Tanzania	Borneo	Tasmania
Landsat 5/7 USGS	Acquired	Acquired	Acquired	Acquired	Acquired	Acquired L1T gen.	Acquired L1T gen.
Landsat 5/7 IC's	Acquired INPE	Acquired INPE	Acquired CONABIO Grnd Station	Not feasible No IGS	Feasible CSIR SAC & ASI (Kenya)	Feasible GISTDA	Acquired CSIRO
IRS: AWIFS	2010 INPE	2010 INPE	Feasible ISRO	Feasible ISRO	Feasible ISRO	Feasible ISRO	Feasible ISRO
IRS: LISS-III	2010 INPE	2010 INPE	Feasible ISRO	Feasible ISRO	Feasible ISRO	Feasible ISRO	Feasible ISRO
CBERS2B: CCD	Acquired INPE	Acquired INPE	Not feasible in 2009	Not feasible in 2009	Not feasible in 2009	Not feasible in 2009	Not feasible in 2009
AVNIR-2	Investigated ESA	Investigated ESA	Investigated ESA	Investigated ESA	Investigated ESA	Investigated ESA	Investigated ESA
SPOT 4	Feasible ESA 940 scenes	Feasible ESA 940 scenes	Feasible ESA 940 scenes	Feasible ESA 940 scenes	Feasible ESA 940 scenes	Feasible ESA 940 scenes	Feasible ESA 940 scenes
SPOT 5	Not feasible 2009 Congo - 2010	Not feasible 2009 Congo - 2010	Not feasible 2009 Congo - 2010	Not feasible 2009 Congo - 2010	Not feasible 2009 Congo - 2010	Not feasible 2009 Congo - 2010	Not feasible 2009 Congo - 2010
Kompsat-2	Not feasible in 2009	Not feasible in 2009	Not feasible in 2009	Not feasible in 2009	Not feasible in 2009	Not feasible in 2009	Not feasible in 2009

Status of LSI Optical Support - 2010

Area	Brazil (parts)	Guyana	Mexico	Cameroon	Tanzania	Borneo	Tasmania
Landsat	2443	173	1732	230	253	320	129
SPOT	TPM by ESA, but restrictions related to repatriation			Congo Basin 2010		TPM by ESA, but restrictions related to repatriation	
CBERS	full coverage	full coverage					
IRS	acquired at INPE	acquired at INPE					

o.k.	some restrictions
not feasible	under discussion