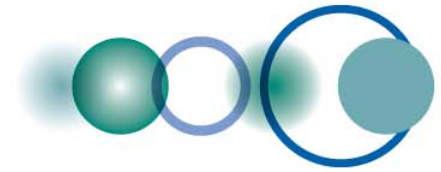


CB OAT Implementation

CB-09-05

**Infrastructure Development and Technology
Transfer for Information Access**

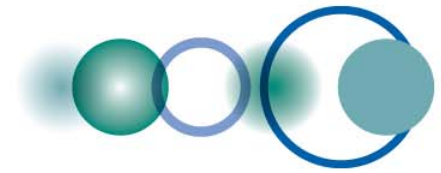


Overarching Task Definition

CB-09-05

Infrastructure Development and Technology Transfer for Information Access

Identify hardware, software and other technology required to access, use and develop Earth observation data, information and products for decision making. Promote technology transfer (in its very broadest sense), and advance infrastructure and information sharing.



Participants

POC: Brazil(INPE) - Hilcea Ferreira (hilcea@dpi.inpe.br)

Co-Lead: Brazil - (INPE) - Karine Ferreira (karine@dpi.inpe.br)

Co-Lead: B Brazil - INPE) - Julio Cesar L. d'Alge (julio@dpi.inpe.br)

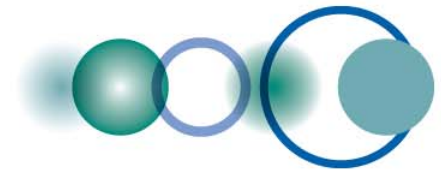
Co-Lead: USAUSAID - Carrie Stokes (cstokes@usaid.gov)

Co-Lead: France (BRGM) - Marc Urvois (m.urvois@brgm.fr)

Contributor: Germany - BGR - Michael Mente (Michael.mente@bgr.de)

Contributor: France: IRD - Laurent Drapeau (Laurent.drapeau@ird.fr)

Contributor: China: NSMC/CMA Xiaoxiang (Zhuzhuxx@cma.gov.cn)



Sub-tasks

Open Source Software (CB-09-05a)

Encourage the development of open-source solutions across and along the Earth observation value chain – by building upon existing efforts and drawing upon networks of Open Source Software (OSS) developers.

CBERS (CB-09-05b)

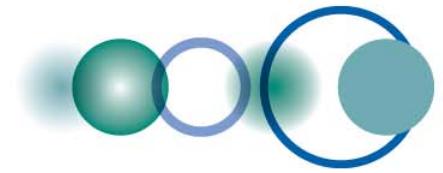
Establish and upgrade the capacity of ground stations with a footprint in Africa to receive, process, store and distribute CBERS (China-Brazil Earth Resources Satellite) imagery. Data will be distributed free of charge to all interested African countries within the footprint of the respective ground stations.

SERVIR Expansion (CB-09-05c)

Establish SERVIR regional hubs around the world. SERVIR is a web-based [Earth](#) observation, monitoring and visualization system that makes available previously inaccessible satellite imagery, geospatial data, decision-support tools for policy-making, scientists, and the public.

AEGOS - Georesources Services for Africa (CB-09-05d)

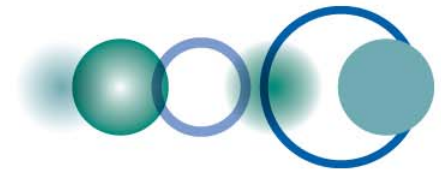
Design a pan-African infrastructure of interoperable data and user-oriented services to strengthen the sustainable use of georesources in Africa. Safeguard, share, and add value to the knowledge and data archived in African and European geological surveys.



Synergies

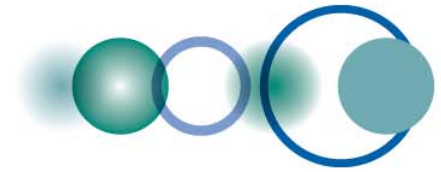
All sub-tasks are aimed at implementing standards, interoperability and data management.

CBERS, SERVIR and AEGOS also promote data acquisition and dissemination.



Updates – Open Source Software (CB-09-05a)

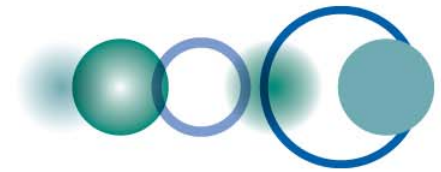
- SPRING – Image Processing Software (Freeware) → end users
 - Release 5.1.2
 - More than 120.000 downloads; about 18000 new users per year
 - On the web, French Version: Système de Traitement d'informations géoréférencées
 - <http://www.dpi.inpe.br/spring/francais/index.html>
 - Documentation in French
 - <http://www.dpi.inpe.br/spring/francais/manuals.html>
- TerraLib – Open source GIS library - to develop geographical applications (programmers)
 - TerraLib 3.3.1 is available
- TerraView – GIS that allows the construction, visualization and analysis of TerraLib databases (Built on TerraLib)
 - English homepage, manuals and documentation



Updates - CBERS (CB-09-05b)

Report by Julio Cesar Lima d'Alge - INPE

- Hartebeeshoek – receiving raw data, not processing yet. INPE will receive a tape of raw data for processing and testing in Brasil. If it works, processed data will be disseminate through INPE's catalog.
- Aswan – Software is ready to be shipped.
- Maspalomas – Engineering team is there at the moment. Update and tests.
- June, 2009: Brazilian delegation visits Libreville (Gabon) – besides the antenna, Gabon also demonstrates interest in creating a center for research and capacity building in remote sensing.



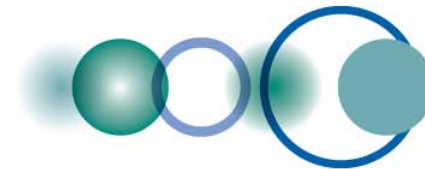
Updates - CBERS (CB-09-05b)

Information on recent CBERS-2B satellite imaging disturbance

On May 11th, 2009 the CBERS-2B satellite Attitude and Orbit Control System had problems with its gyros and one solar sensor. The cameras were turned off so that the situation could be analyzed. On June 18th, 2009, when the redundant attitude control systems were activated, the CBERS-2B was in an orbit 10 km below the nominal one, and the three cameras were turned on again. Users will observe in the imagery available in the Data Catalog from that date on that the scenes do not follow the WRS system of the mission, which defines the path and row grid over the surface. Systematic ground coverage was also affected, as the revisiting capability of the satellite is now different from 26 days.

The problem in the attitude control impaired the capability of CBERS-2B to perform accurate cross track swing movements. This has introduced unwanted relative displacements of the three strips of 9 km swath that compose each HRC scene. Users may notice an eventual gap between the second and the third strips. Additionally, a minor degradation in the spatial resolution of the HRC camera can also be noticed.

On July 2nd, 2009, a new problem was detected: the CCD camera overheated due to a failure in the automatic camera turn off function. The CCD camera has been kept turned off since then, in order to allow the technical evaluation. The WFI camera is operating normally and the HRC also operates with the above mentioned restrictions. All the CBERS-2B data processed at the Data Center will be distributed to the users through this data catalog in spite of the problems above.



Updates - CBERS (CB-09-05b)

CBERS Catalog – translated to French!!

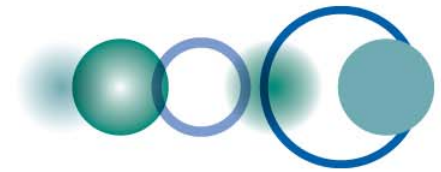
<http://www.dgi.inpe.br/CDSR/>

The screenshot shows the 'Catalogue d'Images' website from INPE. The interface is in French and includes several search and navigation sections:

- Paramètres Basiques:** Includes fields for Satellite, Instrument, Intervalle de Temps (Saisonnier), Date (De: 29/05/1973, A: 14/09/2009), and maximum cloud cover (Q1-Q4, all set to 50%).
- Mosaïque du Passage:** Fields for Date and Obite.
- Pays, Municipalité, Etat:** Dropdown menus for location selection.
- Obite, Point:** Fields for De, A, and De, A coordinates.
- Par région:** Fields for Nord, Ouest, Sud, and Est coordinates.
- Interface Graphique:** Fields for Lat and Lon coordinates.

On the right side of the page, there are two logos: the 'CHINA-BRAZIL EARTH RESOURCES SATELLITE CBERS' logo and the 'FINEP' logo. Below the logos, the text reads: 'Cher Utilisateur, Read [information on CBERS-2B satellite imagery disturbances](#). Regardez dans le lien "Fichiers et Documents", ci-dessous, [donnant des informations sur la caméra HRC de haute résolution \(2,5 m\) à bord du satellite CBERS-2, déjà en fonctionnement](#). See below (item 6) how to proceed for downloading MARLIN - a tool oriented for displaying and handling digital images.

The bottom of the page contains a welcome message in French: 'Bienvenu sur la page de la Banque d'Images de la Division de Génération d'Images de l'Institut National de Recherche Spatial brésilien (DGI/INPE). Dans cette base de données, vous avez accès à des images des satellites [Landsat-1](#), [Landsat-2](#), [Landsat-3](#), [Landsat-5](#), [Landsat-7](#), [CBERS-2](#) et [CBERS-2B](#) (Satellites Sino-brésiliens de Ressources Terrestres). Les images de ces satellites sont distribuées gratuitement. Le mode d'envoi normal de ces images passe par un transfert de fichiers effectués par FTP au travers d'Internet. Si l'utilisateur le souhaite, il peut demander l'envoi par la Poste des scènes choisies qui seront alors gravées sur des CD-ROM. L'envoi d'images sur CD-ROM nécessite auparavant que l'utilisateur soit cadastré comme acheteur étant donné que cette modalité comporte des frais additionnels (Envoi et prix de gravure sur CD-ROM) qui seront facturés à l'utilisateur. Les demandes d'images sur CD-ROM seront accompagnées de la mise à disposition en parallèle des scènes sur un site FTP. Tout utilisateur cadastré comme acheteur pourra demander tout produit du catalogue. Les utilisateurs non cadastrés comme acheteurs pourront solliciter uniquement les produits gratuits. Le symbole \$ apparaîtra dans barre supérieure à tout produit facturé du catalogue. L'INPE espère que vous pourrez bénéficier au mieux des produits offerts à partir de ce catalogue. Nous vous prions de bien vouloir nous envoyer, dans la mesure du possible, les résultats de vos travaux obtenus avec des images CBERS.'



Updates – SERVIR Expansion (CB-09-05c)

Report by Carry Stokes

- Invitation from the International Center for Integrated Mountain Development (ICIMOD) which serves 8 countries (Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Pakistan) and is based in Kathmandu, Nepal
- Carrie Stokes (USAID) with Dan Irwin (NASA) just completed an assessment of their capabilities and needs for establishing a third SERVIR node
- Agreed to work together to establish SERVIR-Himalaya in 2010:

Upon invitation from the International Center for Integrated Mountain Development (ICIMOD) which serves 8 countries (Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Pakistan) and is based in Kathmandu, Nepal, Carrie Stokes (USAID) just completed an assessment with Dan Irwin (NASA) of their capabilities and needs for establishing a third SERVIR node in Nepal at ICIMOD. The trip was successful as all agreed to work together to establish SERVIR-Himalaya in 2010.

Areas of focus will be on development of decision support tools for monitoring snow and glacier melt, georeferencing of biodiversity information, improved search and download capability for geospatial data sets covering the Himalayan region, validation of national scale land-cover products, and more.



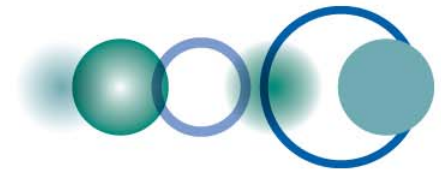
Updates - AEGOS - Georesources Services for Africa (CB-09-05d)

- **Report by Marc Urvois - AEGOS Project Coordinator**

The AEGOS team is presently preparing its participation to the 3rd GEO European Project Workshop (Istanbul, early October).

Just completed a project workshop in Zambia re. "Innovative projects based on AEGOS infrastructure" organised by the School of Mines and with the support of the Ministry of Mines.

The next workshop (November) will be held in Hannover, Germany, and focus on the "capacity building and training programmes related to AEGOS".



Outputs

- Make TerraView, TerraLib and SPRING training material, courses, tutorials, homepages and documentation for both programmers and end-users (Portuguese, English and French).
- Work on a plain new version of the TerraLib (version 5.0): interoperability (fully OGC - Open Geospatial Consortium - compliant) and efficiency.
- Study the possibility of an open source version of SPRING.
- Hartebeeshoek ground station should be fully operational in 2009.
- Launch of SERVIR-Africa in 2008.
- Building of a pan-African information system for georesources in Africa.
- Designing the components of the AEGOS infrastructure: standards, technical support, data models, data themes and data sets, curricula and training practices, education centres, user-oriented products and services, spin-off innovative projects, test beds, links and contributions to other international programmes such as GEOSS, INSPIRE, GMES, etc.

Coordination with the GEO Portal