

Space technology

CSIR pledges free earth observation data for Africa

As the newly elected chair of the Committee on Earth Observation Satellites, the CSIR Satellite Applications Centre has committed to delivering remote sensing data from the China-Brazil Earth Resources Satellite (CBERS) programme at no cost to all African countries 5° south of the equator.

This follows a decision announced at the GEO Summit in Cape Town by the CBERS programme to supply images free to its neighbouring countries. This decision follows adoption of policies within Brazil and China to distribute CBERS images free to all within respective countries.

Dubbed the 'special project' of the incoming CEOS chair, availability of CBERS images to African countries has been made possible through the willingness of partners China through CRESDA and Brazil through INPE to waive fees for the downlink system as well as the access fee.

This leaves the CSIR free to disseminate country coverage to all the African countries that fall within its footprint. These include Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The CSIR's Alex Fortescue, who is part of the CEOS secretariat, explains the philosophy that underlies this decision, "As the incoming chair of CEOS, the CSIR is committed to the concept of data democracy for developing countries. It is our view that only by broadening data access and capacity to end users in developing countries, will the full potential of earth observation data be exploited successfully worldwide."

As one of the ground stations identified for CBERS direct reception and onward distribution, the CSIR is keen to deliver on both its promise and the actual deliverable of usable backdrop imagery. Fortescue explains the practicalities of delivering images to these countries, "During the CEOS plenary held in Hawaii in November 2007, the CSIR negotiated to use spare capacity on Eumetsat's (the European Organisation for the Exploitation of Meteorological Satellites) GEONETCAST, which will allow easy downlink over Africa through geostationary communications satellites. This makes it possible for us to deliver images to anyone within our footprint.

"EUMETSAT delivers weather and climate-related satellite data, images and products - 24 hours a day, 365 days a year. This information is supplied to the National Meteorological Services of the organisation's 20 member and 10 cooperating states in Europe, as well as other users worldwide.



Alex Fortescue, Asanda Ntisanana and Wabile Motswasele all representing the CEOS Chair 2008, with Dr Barbara Ryan CEOS Chair 2007, Mary Kicza and Brent Smith both representing CEOS SIT Chair 2008, and Matlou Mabokano of the Department of Science and Technology

Fortescue continues, "Technical requirements for potential recipients are reasonably simple. All that is needed is an affordable PC card in a computer and a TV aerial."

In theory, anyone with these technical components can receive the images. This could, for example, be a school in Malawi or a government department in Angola. Use of the images ranges from capacity building to the monitoring of natural disasters and land cover changes as a result of drought, desertification and deforestation. Other possible applications include the use of such images in the mitigation of threats to agricultural production and to public health.

CBERS-2B, launched in September 2007, orbits sun-synchronously at an altitude of 778 km, with 14 revolutions a day to achieve complete coverage of the earth in 26 days. It consists of a charge-coupled device camera, an infrared multispectral scanner (IRMSS) camera, a wide-field imager camera and a transponder for the Brazilian environmental data collection system.

Enhancements to CBERS-2B are the replacement of the IRMSS camera with a high-resolution panchromatic camera, and the new on-board recording system and advanced positioning system, which includes a global positioning system and a star sensor.

The CBERS programme commenced in 1988 and is run the Chinese Academy of Space Technology and Brazil's National Institute for Space Research. The programme has launched three satellites to date, with two more in the pipeline.

For more information, please contact [Alex Fortescue](#).

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