

**49th Session of the United Nations Committee on the Peaceful  
Uses of Outer Space  
(UN COPUOS)**

**Vienna, Austria, 7 – 16 June 2006**

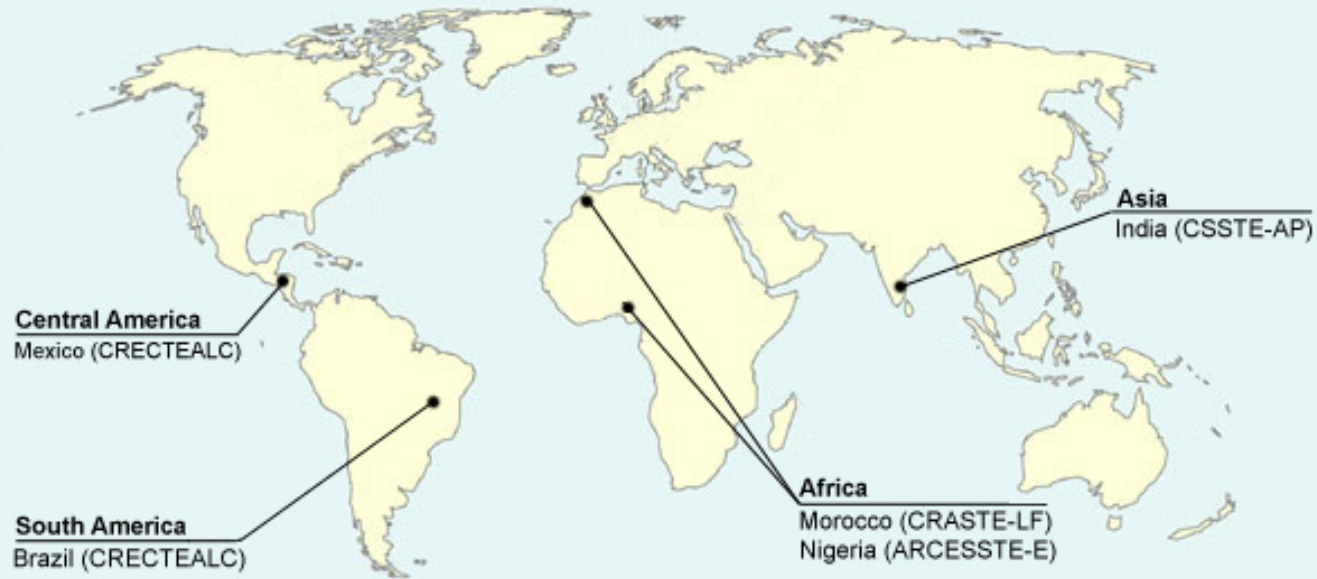
REGIONAL CENTRE FOR SPACE SCIENCE AND TECHNOLOGY  
EDUCATION FOR LATIN AMERICAN AND THE CARIBBEAN  
CRECTEALC

(Affiliated to the United Nations)

José Marques da Costa  
Secretary General (CRECTEALC)



## Regional Centres for Space Science and Technology Education (affiliated to the United Nations)



Map CENT-03-01 Rev.1  
June 2003

Office for Outer Space Affairs (UN-OOSA)  
United Nations



# REGIONAL CENTRE FOR SPACE SCIENCE AND TECHNOLOGY EDUCATION FOR LATIN AMERICAN AND THE CARIBBEAN CRECTEALC (Affiliated to the United Nations)



## MAIN OBJECTIVE

- ❖ Development of skills and knowledge of university educators and research and application scientists, in those aspects of space science and technology that can enhance social and economic development in countries of the region of Latin American and the Caribbean.





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**SPECIFIC OBJECTIVES**

Improvement of skills and knowledge of university educators, environmental research scientists and project personnel in the design, development and application of remote sensing, satellite meteorology and related technologies for subsequent use in national and regional development and environment management programmes including bio-diversity protection.



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**SPECIFIC OBJECTIVES**

Development of skills on satellite communications including those associated with rural development, long distance education, delivery of health services, disaster mitigation, air and maritime navigation, and network/linkage of the region's professionals and scientists, government establishments and industries in order to facilitate the exchange of new ideas, data and experiences.



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**INITIAL PROGRAMMES**

- ❖ Remote sensing and geographic information systems
- ❖ Meteorological satellite applications
- ❖ Satellite communications and global-positioning systems
- ❖ Space and atmospheric sciences



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**EDUCATIONAL CURRICULA**

Educational curricula, as suggested in the United Nations Office for Outer Space Affairs - UNOOSA document A/AC.105/649 of 1996 and in the United Nations Committee on the Peaceful Use of Outer Space - COPUOS documents A/AC.105/L.238 to 241.





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- ❖ **MARCH 1997:** Brazil and Mexico signed the “Agreement to establish the Centre for Space Science and Technology Education for Latin America and the Caribbean”.
- ❖ **SEPTEMBER 2000:** Agreement of Headquarters firmed by CRECTEALC with the Government of Brazil.
- ❖ **OCTOBER 2002:** Operational Agreement firmed by CRECTEALC with the Government of Mexico.
- ❖ **JUNE 2003:** Affiliation Agreement firmed by CRECTEALC with UN OOSA.





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**STRUCTURE**

GOVERNING BOARD  
ADVISORY COMMITTEE  
SECRETARIAT  
CAMPI



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**GOVERNING BOARD**

- ❖ Principal policy-making organ of the Centre.
- ❖ 01 representative of Brazil, 01 representative of Mexico and 01 representative of each country of the region, or from other interested country which have signed an Agreement of Cooperation with the Centre.
- ❖ Established in October 1999.



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**SECRETARIAT**

- ❖ Main executive organ of the Centre
- ❖ Coordinate the activities of the Campi
- ❖ Represent the Centre at national and international institutions
- ❖ Headed by the Secretary-General, who is the first administrative authority of the Centre.



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**ADVISORY COMMITTEE**

- ❖ Composed by prominent representatives of the national Governments, private industry and academic and research communities.





# REGIONAL CENTRE FOR SPACE SCIENCE AND TECHNOLOGY EDUCATION FOR LATIN AMERICAN AND THE CARIBBEAN CRECTEALC (Affiliated to the United Nations)



## CAMPI

- ◆ The Campi are responsible for the planning, the organization, the implementation and the administration of education programmes in the areas concerning the competence of the Centre.
  - ◆ Campus Brazil
  - ◆ Campus Mexico





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**HOST INSTITUTIONS**

National Space Research Institute - INPE  
São José dos Campos, São Paulo, Brazil

National Institute for Astrophysics, Optics and Electronics – INAOE  
Tonantzintla, Puebla, Mexico





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CAMPUS BRAZIL

Director: Dr. Tania Maria Sausen

Host: INPE

São José dos Campos, São Paulo, Brazil

[tania@ltid.inpe.br](mailto:tania@ltid.inpe.br)

Specialization courses (nine months long)

Graduate courses (pilot project developed in the student country)

Short and middle term courses

Seminars and Workshops



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CAMPUS MEXICO

Director: Dr. José Guichard Romero

Host: INAOE

Tonantzintla, Puebla, Mexico

Specialization courses (nine months long)

Graduate courses (pilot project developed in the student country)

Short and middle term courses

Seminars and Workshops





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**INTERNATIONAL COURSE ON REMOTE SENSING AND GIS  
Campus Brazil**

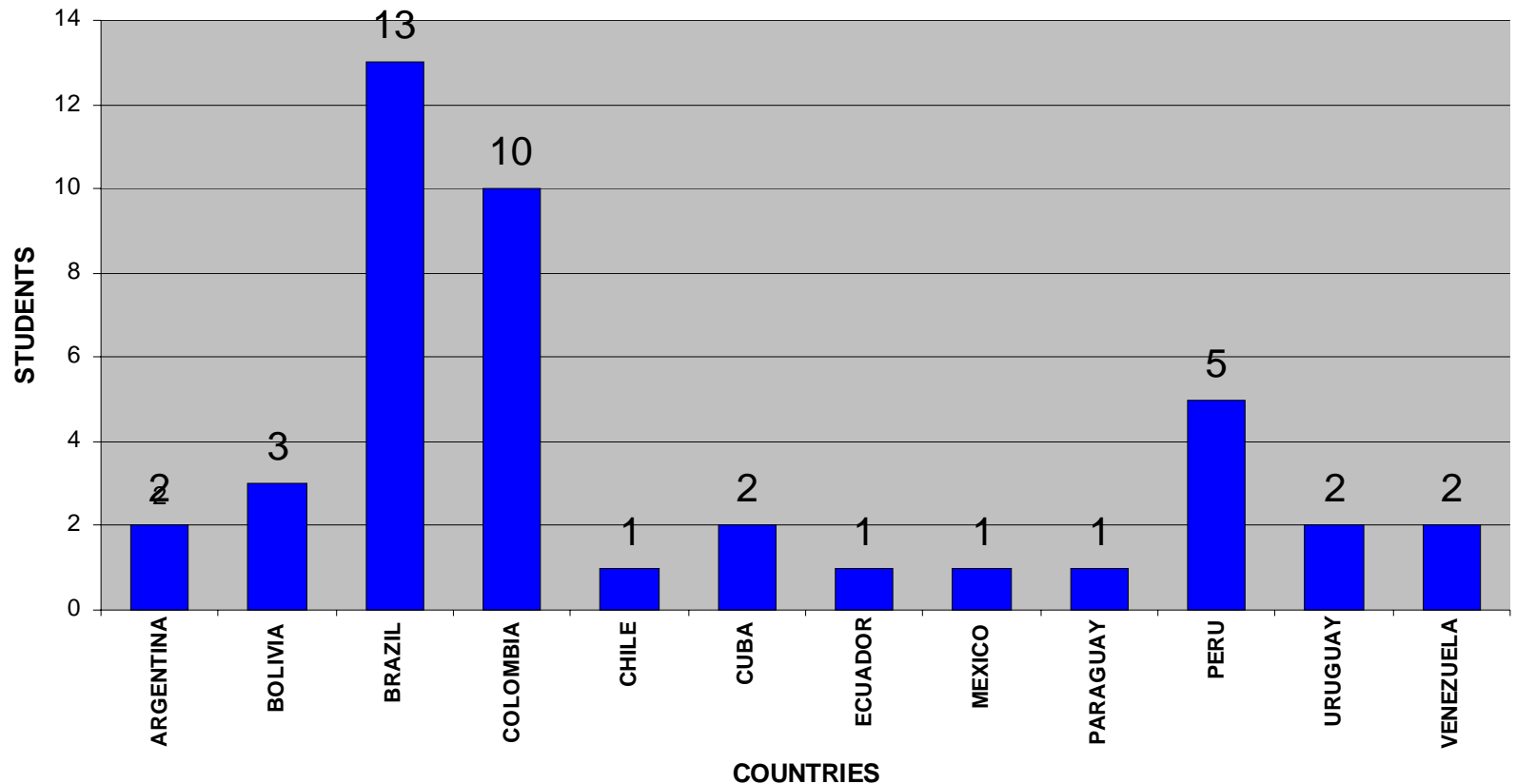
- Fundamental on Remote Sensing and GIS 400 hours
  - Remote Sensing and GIS Applications 260
  - Complementary Activities 260
  - Pilot Project and Monograph 400
- Total: 1320 hours



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## INTERNATIONAL COURSE ON REMOTE SENSING AND GIS 2003-2006

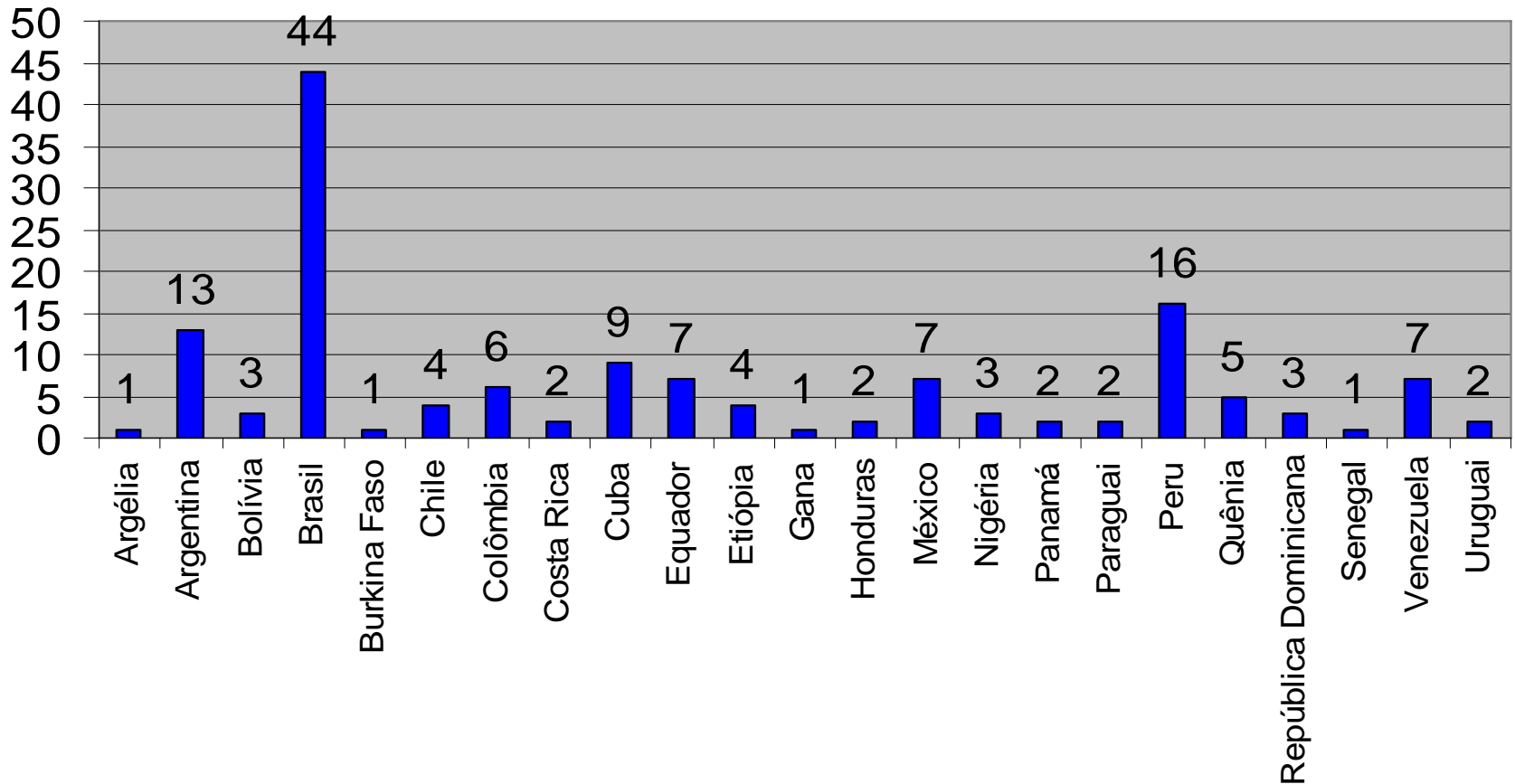




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INTERNATIONAL COURSE ON REMOTE SENSING AND GIS  
1985-2002





# REGIONAL CENTRE FOR SPACE SCIENCE AND TECHNOLOGY EDUCATION FOR LATIN AMERICAN AND THE CARIBBEAN CRECTEALC (Affiliated to the United Nations)



## International Course on Remote Sensing and GIS

From 1985 to 2002 the Course had 7-month duration and was promoted under the responsibility of the National Institute for Space Research - INPE of the Ministry of Science and Technology-MCT of Brazil.

From 2003 to 2005, 36 students have already been graduated on this course under the coordination of the CRECTEALC/Campus Brazil. This year 7 students should be graduated and the total will reach 43 students.

Up to December 2006 the Course will form 189 specialists from Algeria, Argentine, Bolivia, Brazil, Burkina Faso, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Kenya, Mexico, Panama, Paraguay, Peru, Nigeria, Senegal, Uruguay and Venezuela.



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First Seminar for Information and Dissemination of CRECTEALC  
Mexico City, Mexico, from 16 to 17 December 2003

Representatives from Belize, Bolivia, Brazil, Chile, Colombia,  
Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala,  
Honduras, Mexico, Nicaragua, Panama and Venezuela.

Seventh Latin American Conference on Space Geophysics - 7<sup>th</sup>  
COLAGE

Atibaia, São Paulo, Brazil, March 28 to April 2, 2004

165 participants from Argentina, Bolivia, Chile, Costa Rica, Cuba,  
England, France, Germany, Greece, Israel, Italy, Mexico, Peru,  
Switzerland, United States, Uruguay and Taiwan.



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First Seminar on Education and Environment in Latin America: emphasis on the use of remote sensing to study global and regional climate changes, Cordoba, Argentina, 26-29 October 2004.

29 participants from Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Spain, Guatemala, Mexico, Panama, Dominican Republic, Uruguay and Venezuela.

First Seminar on Meteorological Satellite Applications and Global Climate in Latin America, Cachoeira Paulista, São Paulo, Brazil, 14-16 December 2004.

25 participants from Argentina, Brazil, Colombia, Costa Rica, Cuba, Panama, Dominican Republic, Venezuela and Uruguay.



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Seminar on GNSS in Latin America: present and future perspectives, São Leopoldo, RS, Brazil, 20-22 July, 2005.

First Seminar on the Application of Remote Sensing for Coastal Ecosystems Studies, Belém, Pará, Brazil, April 26-28, 2006.



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**FUTURE**

Increase of number of Members.

VII Governing Boarding Meeting.

First meeting of the Advisory Committee.

Promotion of capacity building on space science and technology education through training courses, seminars, workshops and research networks.

Promotion of distance learning activities taking the advantage of the rapid development of internet-based technologies.

Promotion of educational programs for high school students on relevant topics of space science and technology.





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COOPERATION

Memorandum of Understanding - MOU  
IAI x CRECTEALC  
April, 2003

Priority Areas for Collaboration

- Education, research, and development of applications of remote sensing, satellite meteorology and space atmospheric sciences related to global change.

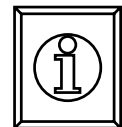


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COOPERATION  
DISTANCE EDUCATION

- ❖ Latin American Institute of Educational Communication - ILCE
- ❖ Latin American Cooperation of Advanced Networks - CLARA
- ❖ Organization of the American States - OAS





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## SUPPORT

- ❖ Foreign Relations Ministry of Brazil – MRE
- ❖ Foreign Relations Secretary of Mexico – SRE
- ❖ Brazilian Space Agency - AEB
- ❖ National Institute for Space Research – INPE/MCT
- ❖ National Institute of Astrophysics, Optics and Electronics – INAOE
- ❖ National Council for Science and Technology - CONACYT
- ❖ National Council for Scientific and Technological Development – CNPq/MCT
- ❖ University of the United Nations – UNU
- ❖ Office of Outer Space Affairs of the United Nations – UN OOSA
- ❖ Organization of the American States – OAS



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**I Seminário sobre GNSS na América Latina e Caribe**

"Sistema Global de Navegação por Satélite-GNSS: Atualidades e Perspectivas Futuras"  
20 a 22 de Junho de 2005

Centro Regional de Educação em Ciência e Tecnologia Espaciais para América Latina e Caribe  
CRECTEALC - Campus Brasil

Organizado juntamente com:  
Instituto Nacional de Pesquisas Espaciais - INPE  
Universidade do Vale do Rio dos Sinos - UNISINOS  
European Space Agency - ESA







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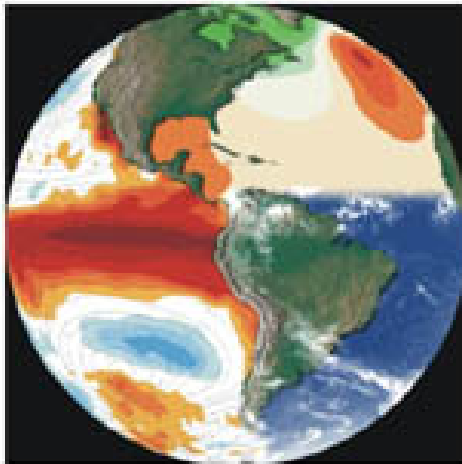


I SEMINÁRIO SOBRE METEOROLOGIA POR SATÉLITE E CLIMA MUNDIAL

*"ENSO e Variabilidade Climática na América Latina"*  
14 A 16 DE DEZEMBRO DE 2004

CENTRO REGIONAL DE EDUCAÇÃO EM CIÊNCIA E TECNOLOGIA  
ESPACIAIS - CRECTEALC  
CAMPUS BRASIL

Organizado juntamente com  
INSTITUTO NACIONAL DE PESQUISAS ESPACIAIS - INPE  
CENTRO DE PREVISÃO DE TEMPO E ESTUDOS CLIMÁTICOS - CPTEC  
ORGANIZAÇÃO DOS ESTUDOS AMERICANOS - OEA  
DIVISÃO DE ESPAÇO EXTERIOR DA ONU





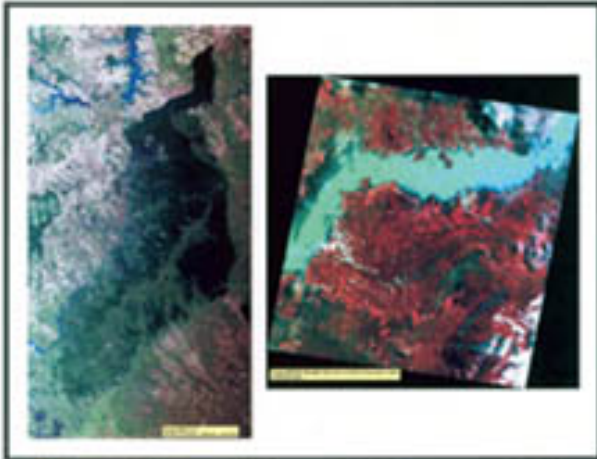
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CENTRO REGIONAL DE EDUCACIÓN EN CIENCIAS E TECNOLOGÍA ESPACIALES  
PARA LA AMÉRICA LATINA Y EL CARIBE – CAMPUS BRASIL (AFILIADO A ONU)

**I Seminario sobre Educación e Meio Ambiente na América Latina**  
*"Uso de sensoramento remoto para estudos de mudanças climáticas"*  
26 e 29 de Outubro de 2004

Universidade Nacional de Córdoba  
Departamento de Informática, Estadística Operativa  
Facultad de Ciencias Exactas  
Instituto de Matemáticas Espaciales "Marta Sábido"  
1071, Pabellón del Campus  
Provincia de Córdoba, Argentina





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**Thank you**

**<http://www.crectealc.org/>**

**<http://www.inpe.br/unidades/cep/atividadescep/crectealc/>**