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COMMITTEE ON THE PEACEFUL USES OF  
OUTER SPACE

Forty-ninth session

Vienna, 7-16 June 2006

**Agenda item 8**

**Report of the Scientific and Technical Subcommittee on its forty-third session**

**REPORT OF THE REGIONAL CENTRE FOR SPACE SCIENCE AND  
TECHNOLOGY EDUCATION FOR LATIN AMERICA AND THE CARIBBEAN  
(CRECTEALC)**

**(Affiliated to the United Nations)**

In paragraph 19 of its resolution 60/99, the General Assembly agreed that the regional centres for space science and technology education, affiliated to the United Nations, should continue to report to the Committee on the Peaceful Uses of Outer Space on an annual basis.

The present document contains the report of the Regional Centre for Space Science and Technology Education for Latin America and the Caribbean (CRECTEALC), as submitted by the Centre to the Office for Outer Space Affairs.

V.06-54724 (E)



1. The Regional Centre for Space Science and Technology Education for Latin America and the Caribbean, affiliated to the United Nations (CRECTEALC) was established on 19 March 1997, based on the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82), by signing of an Agreement between the Governments of Brazil and Mexico. The two countries act as the main coordinators and alternate headquarters.

2. The Centre has as its mission the establishment of programmes on education, research and development of applications, with initial emphasis in the areas of remote sensing, satellite meteorology, satellite communications and space and atmospheric science to benefit the countries in the region of Latin America and the Caribbean.

3. The principal objective of the Centre is the development of skills and knowledge of university educators and research and application scientists, through rigorous theory, research, applications, field exercises, pilot projects and consultations in those aspects of space science and technology that can enhance social and economic development in countries of the region. Besides that, the Centre also gives high priority to the promotion of short courses and seminars, as well as educational programmes for high school students, on relevant topics of space science and technology.

4. The educational objectives of CRECTEALC include the conduction of 9-month post-graduate courses following the education curricula developed through the United Nations Office for Outer Space Affairs, as contained in document A/AC.105/649 of 1996 and in documents ST/SPACE/15, ST/SPACE/16, ST/SPACE/17, and ST/SPACE/18 of 2003.

5. The Centre has the following structure:

- (a) Governing Board;
- (b) Secretariat;
- (c) Advisory Committee; and
- (d) Campuses.

6. The present Chairman of the Governing Board is Counselor Ulisses Cancholla Gutiérrez, Director General of the United Nations System of the Secretariat for Foreign Relations of Mexico, and, acting as Co-Chairman, Minister Luiz Alberto Figueiredo Machado, Director of the Department of Environment and Special Themes of the Ministry of Foreign Relations of Brazil.

7. The Sixth Meeting of the Governing Board was held in Mexico City on 13 and 14 December 2005. Its principal decision reinforced what is already stated in Paragraph 4 of Article 9 of the "Agreement for the Establishment of CRECTEALC", in respect to the Adhesion of other States of Latin American and the Caribbean to the Agreement. Paragraph 4 of Article 9 states: "After the date of its validation, the present Agreement will be open for adhesion by the States of Latin America and the Caribbean. The instruments of adhesion should be deposited at the United Nations, which is designated as Trustee for the effects of the present Agreement".

8. During the Sixth Meeting the Governing Board also approved the following names to compose the Advisory Committee:

Dr. Gilberto Câmara, Director of the National Institute of Space Research (INPE) of Brazil  
 Dr. Carlos Afonso Nobre, Senior Researcher at INPE  
 Dr. Helio Waldman, Professor at the University of Campinas – UNICAMP  
 Dr. José Antonio de Freitas Pacheco, Professor at Cote d'Azur Astronomical Observatory, France  
 Dr. Paulo Roberto Roberto Meneses, Professor at University of Brasília  
 Mr. Carlos Slim, Presidente of Carso Group  
 Mr. Emilio Azcárraga Jean, Presidente of Televisa Group

Dr. Arnaldo Valenzuela, former President of the Argentinean Space Agency  
Mr. Eugenio Méndez Docurro

9. The Secretary-General, the principal administrator of the Centre, is Dr. José Marques da Costa since 29 April 2002. The Director of Campus Brazil, since 5 August 2002, is Dr. Tania Maria Sausen. The Director of Campus México is Dr. José Guichard Romero, since March 2005.

10. The Secretary-General visited the Organization of the American States (OAS) in Washington, DC, at two occasions. From 16 to 18 May 2005, when he met the then Director of the Office for Education, Science and Technology, Dr. Alice Abreu and the then Secretary-General, Ambassador Luigi R. Einaudi, and also from 15 to 16 November 2005, when he signed a “Cooperation Agreement between the CRECTEALC and the Secretariat of the OAS” with the new Secretary-General, Dr. José Miguel Insulza.

11. The Secretary-General also has spoken on activities of the Centre at the following international meetings:

- (a) Inter American Initiative on Earth Observation – Seminar for Users of Satellite Data, Buenos Aires, 1 to 5 June 2005, promoted by the Argentinean National Space Commission (CONAE);
- (b) 22nd Meeting of the Scientific Advisory Committee of the Inter American Institute for Global Change Research (IAI), 27 July 2005, São José dos Campos, São Paulo, Brazil;
- (c) Round Table on “The Fundamental Role of Science, Technology, Engineering, Innovation and Science Education in Framework of the Discussion for the Fourth Summit of the Americas”, and the Forum “Civil Society Regional Forum: Creating Jobs to Fight Poverty and Strength Democratic Governance”, Buenos Aires, 5 to 7 September 2005, promoted by OAS;
- (d) Seminar on Capacity Building for the Use of Water Resources in Latin America, 26 and 27 October 2005, Buenos Aires, promoted by CONAE;
- (e) GEO Capacity Building Workshop, 29 to 31 May 2006, São José dos Campos, São Paulo, Brazil, promoted by INPE.

12. The Secretary-General also participated in the Fourth Space Conference of the Americas – International GNSS Workshop for the Americas, Bogota, 26 to 29 September 2005.

13. The host institution of the Campus Mexico of CRECTEALC is the National Institute of Astrophysics, Optics and Electronics (INAOE), which is located at Tonantzintla, Puebla, Mexico.

14. For 2006, the Campus Mexico is promoting the following activities:

- (a) First Course on Geographic Information Systems (GIS), 30 January to 12 May 2006, for three students from Mexico and one student from Colombia;
- (b) First Course on Application Projects on Remote Sensing and GIS, 15 May to 31 August 2006, for three students from Mexico;
- (c) Third Course on Remote Sensing, 18 September to 15 December 2006;
- (d) First Course on Satellite Communications (Module 1), 18 September to 15 December 2006.

15. Besides INAOE, Campus Mexico has collaborated in its activities with the National Research Council for Science and Technology (CONACYT), the Secretariat of Foreign Relations of the Government of Mexico (SRE) and the Autonomous University of Mexico (UNAM).

16. The host institution of the Centre in Brazil is INPE of the Ministry of Science and Technology (MCT). Both the Secretariat and the Campus Brazil of CRECTEALC are located at INPE in São José dos Campos, São Paulo, Brazil.

17. The Campus Brazil of CRECTEALC is presently promoting, from March to December 2006, the Fourth International Course on Remote Sensing and GIS, in São José dos Campos, São Paulo, Brazil, for seven participants from Argentina, Brazil, Colombia, Cuba, Peru and Venezuela. It is a 9-month course, oriented to training the use of systems and techniques of satellite image interpretation for management of natural resources and environmental control.

18. The Fourth International Course on Remote Sensing and GIS of Campus Brazil has been organized with support from INPE and the National Council for Scientific and Technological Development (CNPq), both from MCT of Brazil, and also with support from the Office for Outer Space Affairs of the United Nations and the United Nations University (UNU). This course also has benefited from very fruitful collaborations with the Brazilian Space Agency (AEB), CONAE, the Fourth Space Conference of the Americas, the Centre for Studies of Natural Resources using Remote Sensing (CLIRSEN) of Ecuador, IAI and the Brazilian Association on Aeronautics and Space Law (ASBDA).

19. Recently, the Campus Brazil of CRECTEALC also promoted the following scientific events:

- (a) “First Seminar on GNSS in Latin America and the Caribbean: Global Satellite Navigation Systems - Present and Future Perspectives”, São Leopoldo, Rio Grande do Sul, Brazil, 20 -22 June 2005 for 40 participants, in collaboration with UNISINOS University, the Office for Outer Space Affairs, the European Space Agency (ESA) and INPE; and
- (b) “First Course on the Application of Remote Sensing on Coastal Ecosystems Studies”, Belém, Pará, Brazil, 26-28 April 2006 for 65 participants, in collaboration with the Federal University of Pará (UFPA), INPE and Piatam Mar Project (Potential Environment Impacts in the Amazon Coast from Petroleum Transport) funded by the Brazilian Petroleum Company (PETROBRAS).

20. For the near future, CRECTEALC intends to intensify in both its campuses: Campus Brazil and Campus Mexico, capacity building on space science and technology education, through the promotion of courses, seminars, workshops and research networks, as well as hybrid learning activities with some parts online taking advantage of the rapid development of internet-based technologies and international collaborations. Examples of these activities are:

- **2-Day to 9-Month Presence or Hybrid Learning Courses**

- Course on the Use of Satellite Images to Monitor and Forecast Natural Disasters (40 hours), June 2007, Santa Maria, Rio Grande do Sul, Brazil, in collaboration with INPE and the Federal University of Santa Maria – UFSM;
- International Course on Remote Sensing and GIS – hybrid course (some parts on line and one part with presence) starting in March 2007, in collaboration with INPE;
- Course on Meteorological Satellite Data Handling and Interpretation (120 hours), Santa Maria, Rio Grande do Sul, Brazil, in collaboration with INPE and the Federal University of Santa Maria (UFSM);
- Course on Satellite Communications and Global Positioning Systems, São José dos Campos, São Paulo, Brazil, in collaboration with INPE, Aeronautic Technological Institute (ITA) and Galileo Information Center for Latin America (GIC);

- Course on Space and Atmospheric Sciences Data Handling and Interpretation, Porto Alegre, Rio Grande do Sul, Brazil, in collaboration with INPE and the Federal University of Rio Grande do Sul (UFRGS);
- Course on GIS, 22 January to 11 May 2007, Tonantzintla, Puebla, Mexico;
- Course on Satellite Communications, 22 January to 11 May 2007, Tonantzintla, Puebla, Mexico; and
- Course on Space and Atmospheric Sciences, in Campus Brazil and Campus Mexico, in 2007.

- **18-Month Courses Leading to Professional Master's Degree**

This activity is still under development and may be submitted for approval during the next meeting of experts organized by the Office for Outer Space Affairs. It could consist of a 9-month hybrid course followed by a 9-month research period on a subject previously agreed upon with the candidate's employer, and undertaken in the candidate's home country. The Master's degree could be granted to the candidate by CRECTEALC in association with INPE, INAOE or any other prestigious institution or university, if the results of his or her research work are approved by an examination board.

21. In order to guarantee funds for courses related to satellite communications, the Centre joined the Latino Consortium, which won an international bid for the Galileo Joint Undertaking of the European Commission (EC) and ESA. This Consortium is formed by PILDO from Spain, SIS GNSS from Colombia, INPE, ITA and MundoGeo from Brazil and CRECTEALC.

22. The Centre is currently seeking to establish new cooperation agreements with international and national organizations in order to further accomplish its mission and objectives. Besides the activities listed above CRECTEALC has maintained discussions related to the promotion of joint collaborative capacity building activities with prominent scientists and leading professionals from the United Nations Educational, Scientific and Cultural Organizations (UNESCO), IAI, Regional Visualization and Monitoring System for Mesoamerica (SERVIR), Secretariat of the African, Caribbean and Pacific Group States (ACP) GroupEC, National Meteorological Institute of Spain (INM) and International Institute for Geo-Information Science and Earth Observation (ITC).