CEOS
Committee on Earth Observation Satellites
http://www.ceos.org

NEWSLETTER
No. 15
Sept. '00

CONTENTS

Fifth Session of the Partners for an Integrated Global Observing Strategy (IGOS-P) - 7 June 2000

Mr. Robert C. Landis
Former Director, World Weather Watch Applications (WMO)
Outgoing Chairman IGOS-P

The Fifth session of the IGOS Partners meeting was held on 7 June 2000 at the WMO headquarters in Geneva, Switzerland. In his opening comments, Mr M. Jarraud, the Deputy Secretary-General of WMO, expressed the continued and full support by the WMO for the IGOS partnership.

One of the major items discussed in the Partners' session was the continuation and expansion of "Themes". The Partners were urged to accept the Ocean Theme Report as the strategy document for the implementation process and, as appropriate, to seek governing body approval at the earliest opportunity. The Ocean Theme is to be implemented under the leadership of GOOS. As to the important observation of the Carbon Cycle, it was agreed to develop an overarching Global Carbon Theme that would incorporate the output of the existing Terrestrial Carbon Cycle along with the Carbon component of the Ocean Theme. WCRP and CEOS were encouraged to further develop the Coordinated Enhanced Observation Period (CEOP) proposal to maintain the momentum already established as a precursor to a possible "Water Cycle" Theme. UNEP, with other interested parties, was encouraged to investigate development of an IGOS Coral Reef Activity as the initial phase of a broader possible Coastal Theme. WMO, with other interested parties, was encouraged to investigate development of a possible Atmospheric Chemistry Theme, taking into account the results of the CEOS/SIT Ozone and Upper Air Projects. Finally, the Partners discussed the need to develop themes with a focus on an end-to-end process with commitments, feedback mechanisms, and implementation resulting in maximum visibility.

The concept of Data and Information Systems and Services was discussed, and the Partners reviewed a tentative list of principles and guidelines which should be formally agreed upon at the next IGOS meeting. The session discussed options on the continued visibility of the Partners in promoting IGOS as a necessary tool within the UNFCC and IPCC frameworks. It was agreed that the Director of the GCOS Secretariat should continue to provide an active leadership role for the Partners in the COP and SBSTA sessions. In particular, it was decided to provide information on the themes at "side" events of COP-6 scheduled for The Hague in November 2000. It was also agreed that the Partners, particularly the G3OS sponsors, should actively participate in the preparatory process for the Ninth Session of the Commission on Sustainable Development (April, 2001), including the possibility to organize a side event on IGOS. The Partners stressed the need to continue to enhance the dialogue with the scientific and technical subsidiary bodies of the international environmental conventions.

In a discussion on the IGOS process, the Partners requested a select group to draft a revision that would provide comprehensive guidance on Themes, partnership selection procedures, and other IGOS issues. The Partners also commissioned a study to

(to be continued on page 4.)

The 2000 CEOS Brochure, entitled "Committee on Earth Observation Satellites," was issued in March, 2000 by STA/NASDA on behalf of CEOS.
The brochure presents the CEOS overview, purpose, membership, accomplishments, etc.
You will also find the activity of the CEOS Working Groups and CEOS Involvement in the IGOS.
The CEOS brochure is distributed with the 15th CEOS Newsletter and is available at the following CEOS website.

http://nasda.ceos.org/CEOS_Bro2000.pdf

7th SIT and 5th IGOS-P Meetings: A Constructive Synergy

Dr. Jean-Louis FELLOUS
CNES (France)
Chair, Strategic Implementation Team

The 7th Strategic Implementation Team (SIT) meeting was held in Geneva, thanks to WMO hospitality, and was attended by 24 participants representing 10 Agencies.
The objective of this meeting was to prepare the recommendations to the 5th IGOS-Partnership meeting (scheduled on 7 June 2000), with regard to the Ocean Theme Team final report, to the Carbon Cycle Theme Team status report, to new potential Themes as well as to issues related to the infrastructure of the IGOS Partnership, so as to ensure a more effective conduct of business, and with regard to the status of SIT vis-à-vis CEOS.

The Ocean Theme Team Report was accepted by CEOS/SIT as a satisfactory strategy for the implementation process on oceans. Space agencies have already made significant commitments and the report provides an excellent basis to analyze and remedy to the deficiencies, such as gaps and unnecessary overlaps. The Partners are now requested to accept the report, to provide their contributions, in terms of in situ data collection, and to establish data, products and services requirements.

Acknowledging the status report on Carbon Cycle Theme, SIT members outlined several areas of satisfaction. The rapid development of the "Terrestrial Carbon Theme Team" offers a satisfactory representation and a reasonable planning for draft report presentation at IGOS-P6 (incl. early presentation at SIT-8 in Rio). However SIT identified some areas of concern and insisted on the need for immediate attention of the Ocean Carbon element and its combination with the Terrestrial Carbon component within an overarching Carbon Cycle Theme.

CEOS/SIT was given a presentation of the CEOP (Coordinated Enhanced Observation Period) project of WCRP which was considered as a precursor for an IGOS Water Cycle Theme to be developed in due course. In its conclusions, SIT encouraged CEOS Agencies to respond to formulated requirements in terms of satellite data to fully support intensive observation of dedicated sites.

SIT conclusions and recommendations in these matters were reported to IGOS-P5, which acknowledged their value and adopted related action items. (See lead article on IGOS-P activities on page 1.)

Concerning the infrastructures related to CEOS/SIT and to IGOS-P, three items were put to participants' consideration:

- the revision of the IGOS Process paper
- the establishment of an IGOS-P Secretariat,
- the opportunity for SIT to become a CEOS permanent body.

The related propositions for implementation of these three action items will be matured and proposed at the occasion of the next SIT and IGOS-P meetings scheduled next November in Brazil, prior to the 14th CEOS Plenary.

Terrestrial Carbon Observation Initiative (TCO): Progress Report

Drs. Josef Cihlar, Scott Denning, and Jeff Tschirley
Respectively affiliated with: the Global Terrestrial Observing System, the Canadian Space Agency, Colorado State University, and the Food & Agriculture Organization of the UN

This report is a follow-up to an article in the last newsletter (February, 2000) in which the proposed TCO initiative was initially described. Several important events have taken place since that time.

Synthesis of requirements. A workshop was convened by GTOS in cooperation with IGBP to take place in Ottawa, Canada on 6-8 February, 2000.The main objectives of the workshop were to synthesise the existing information on terrestrial carbon observation requirements, evaluate its consistency and completeness, and prepare a 'strawman' framework report for the Terrestrial Carbon Meeting in May. The workshop made a substantial progress in consolidating observation requirements and in defining a dual observation framework, top-down (atmospheric inversions) and bottom up (ecosystem modeling based on satellite observations, ecological models and in limited situ observations). The workshop emphasised the observation of all C fluxes between the ecosystems and the atmosphere; therefore, the observations implied by the Kyoto Protocol were implicitly included, although these were not considered specifically because the negotiation process regarding the needed observations is still ongoing. The workshop also defined observation requirements, both satellite and in situ; reviewed the current status of observations, identified gaps and proposed solutions; and proposed a way forward in evolving a terrestrial carbon observing system over the next 1- 10 years. The report*[1] is available at: **http://www.ccrs.nrcan.gc.ca/ccrs/eduref/edurefe.html.**

[1] Cihlar, J., Denning, A.S., and Gosz, J. (Eds). 2000. Global terrestrial carbon observation: requirements, present status, and next steps. Report of a Synthesis Workshop, 8-11 February 2000, Ottawa, Canada. 101p.

IGOS Ocean Theme Report to be Published

Dr. John Marra
NASA (USA)
Ocean Theme Team Leader

The captain of a merchant vessel, in preparation for a voyage, checks a web-site for the latest ocean conditions to plan his most economic route. A researcher looks at the same data product, and uses the distribution of currents and eddies to help his understanding of the ocean's behaviour in terms of driving forces.

The availability of regular, global observations of the ocean for commercial purposes, and for those who study its myriad phenomena, represents the next large step in international oceanographic research: the creation of a global ocean observing system. In early 1999, the IGOS Partnership requested guidance in strategic planning for a global observing system. The 'Ocean Theme' was defined as an initial effort, and a Team established to bring a strategy to fruition, and also to guide others in creating strategies for other elements of the Earth system.

Over the past year or so, drafts of the Ocean Theme Report have been created, presented and circulated for comment. The Ocean Theme Team presented its first Report to the CEOS Plenary and IGOS Partnership meetings in Stockholm in November, 1999. The IGOS Partners provided additional guidance at that time. This year, presentations were made at the CEOS SIT6 meeting in Cape Town, and a near-final version of the Ocean Theme Report was presented to the CEOS SIT7and the IGOS Partnership meetings in early June, in Geneva, where it received preliminary endorsement. By the end of this year, the Ocean Theme Report will be essentially complete.

The overall goal, as applied to the IGOS, is to create an observing system for the oceans that serves both the research and operational oceanographic communities. Researchers will always need continuous and long-term observations to develop and test hypotheses about how the ocean works. Operational oceanographers require the same observations to create forecasts. The Ocean Theme Report brings together these complementary efforts. The Report outlines the needs for satellite and in situ observations, and focuses on some of the immediate decisions required by satellite agencies needed to proceed to a fully operational Ocean Observing System.

But that is just the beginning. The next steps are to establish a data system, assure data quality, assimilate the observational data, and create data products to serve the needs of forecasting. I remember reading in an early oceanography textbook, a comparison with meteorology. If meteorologists acted like oceanographers, the book said, they would drive around the countryside in vintage automobiles and throw up a kite every once in a while. The Ocean Theme Report testifies to the incredible progress we've made over the last decade observing the ocean, and to the readiness for 'operational oceanography.' In the coming years we will have an Ocean Observing System providing high-quality global data in real time, while research thrives in a data-rich environment.

Establishment of a theme team. The IGOS process calls for a theme team, consisting of scientists representing various IGOS partners who participate in the preparation of the theme team report. Such a team was established in May, co-chaired by Josef Cihlar (josef.cihlar@ccrs.nrcan.gc.ca) and Scott Denning (denning@atmos.colostate.edu).

EC-IGBP-GTOS Terrestrial Carbon Meeting took place in Costa da Caparica, Portugal, 23-28 May, 2000. The primary objective of the meeting was to develop an integrated, international approach to studying the global terrestrial carbon cycle in the form of a science plan and implementation strategy. Through plenary and breakout group discussions, the meeting formulated a research agenda for terrestrial carbon cycle in its full breadth, including linkages to the human dimensions of the carbon cycle. The meeting also considered the results of the Ottawa workshop, and refined these in the context of the research issues. A report of this meeting will form a basis for the future research agenda of IGBP and related international research programs in relation to the terrestrial carbon cycle, and will also ensure integration of observations in the research programs.

Report to the Strategic Implementation Team (SIT). At its 7th meeting in Geneva (6-7 June, 2000) SIT considered progress in the preparation of the carbon theme. SIT expressed satisfaction with the rapid development and the plans for the theme team report. It also highlighted that more attention needs to be given to the global carbon cycle and the ocean carbon component.

Current status and plans. The theme team is currently preparing a draft of the global carbon theme report. It is intended to circulate the report widely in August for scientific and technical feedback; to revise the report in September; and to submit it to IGOS-P in October for the November 2000 meeting (IGOS-P5). At this time, it is not clear whether the ocean component can be completed in this time frame. However, the IGOS schedule provides for the possibility of a further revision of the report by March 2001.

Working Group on Calibration and Validation Activities in 2000

Dr. Alan Belward
European Commission
Chair, WGCV

The Indian Space Research Organisation (ISRO) kindly hosted the 16th meeting of the CEOS Working Group on Calibration and Validation (WGCV) in Bangalore from 21st to 23rd February 2000. The work of India's National Resource Management System was introduced to the WGCV through technical visits to ISRO facilities and an excellent technical session on ISRO's applications research programme. Together these provided a stimulating and informative framework for the meeting. WGCV16 identified ways in which WGCV could support the ISRO led CEOS initiative on education and training.

Dr George Joseph, President of ISPRS Technical Commission I and ISRO Distinguished Professor at Space Applications Centre Ahmedabad, opened a special session on traceability[1] by raising issues of standardisation and understanding. Discussion papers from the UK National Physical Laboratory and the US National Institute of Standards and Technology followed. Wide-ranging debate addressed questions of legal responsibilities arising out of the use of remotely sensed data, requirements for independent assessment, the value and necessity of independent audit, current institutional framework and institutional gaps, plus the costs to Agencies. A framework for a detailed report to Plenary was drafted and will be elaborated at the next WGCV meeting.

Previous requests for assistance from the original IGOS pilot projects and two subsequent ad hoc meetings of the WGCV identified a clear need for improved international collaboration concerning the validation of land products derived from earth observing satellites. A new subgroup within the WGCV was proposed to the CEOS Plenary in Stockholm at the end of 1999 and received full support.

Discussion at WGCV16 acknowledged that land product validation is still in its infancy as there have been few operational products up to now, but highlighted potential overlap with the existing subgroup dealing with Infrared and Visible Optical Sensors (IVOS). A meeting to examine the issues surrounding the validation of land surface parameters, to identify areas of overlap, redundancy and gaps with the work of the existing IVOS sub group and to draw up a subsequent three-year work plan for presentation at WGCV17 was recommended.

ESA put forward Dr Yves-Louis Desnos as a nomination for the next Chair of WGCV. ISRO and CSIRO seconded the nomination and the ESA offer will be presented for consideration at the next CEOS Plenary.

WGCV17 will take place at the National Institute of Standards and Technology, Gaithersburg, Maryland, USA, from 23rd to 27th October 2000. NOAA will co-host the meeting with NIST.

[1] Traceability refers to an auditable route describing and confirming the calibration chain and attributed accuracy back to an internationally agreed reference, usually SI as maintained by a national standards laboratory.

(continued from Page 1.)

Fifth Session of the Partners for an Integrated Global Observing Strategy (IGOS-P) - 7 June 2000

explore options for a permanent IGOS Secretariat. The details of these issues will be further considered at the Sixth meeting of IGOS Partners to be held in Rio de Janeiro, Brazil, on 7 and 8 November 2000 and hosted by INPE. It was agreed that Dr. Marcio Barbosa, chairman of CEOS, would serve as the Partners Chair during the last half of the year 2000 and that Dr. Patricio Bernal, Incoming Chair of the G3OS Sponsors, would serve as the Partners Chair during the first half of 2001.

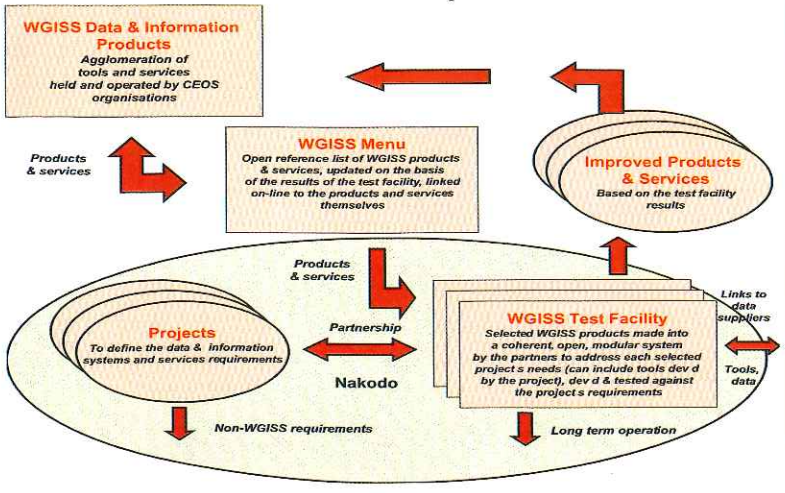
The Working Group on Information Systems and Services: an Update and a Move Towards a WGISS Test Environment

Mr. Peter N. Churchill
European Commission
Chair, WGISS

The CEOS Working Group on Information Systems and Services (WGISS) held its tenth meeting in Canberra from 10 to 12 May, kindly hosted by CSIRO of Australia.

Prior to the meeting CSIRO organised a Workshop concerning Global Spatial Data Infrastructures (GSDI). Representatives of a wide range of regional and national SDI's attended the Workshop and reviewed global and regional initiatives with a particular emphasis on data access and integration. The conclusions of the Workshop were very positive, with both SDI and WGISS representatives agreeing that the SDI's are addressing a range of technical issues relevant to WGISS. These included technical areas such as resource discovery, resource evaluation and resource access and data formats where technical collaboration could be foreseen in the development of tools, techniques and recommendations. It also included potential joint demonstrations of technical work. At the conclusion of the Workshop it was agreed that these areas of collaboration would be pursued, with appropriate mechanisms to allow such collaboration identified.

The WGISS meeting itself focussed on number of issues, but one key issue dominated the proceedings: how to develop and improve the availability of the rich suite of information systems and services (ISS) tools, techniques and recommendations developed and held by WGISS and its members and associates. This discussion took place in the wider ISS context. CEOS agencies are continually developing and implementing data and information systems to support that space systems. In addition initiatives such as the IGOS-Partnership are now evaluating the requirements for ISS. In the wider spatial information world there are numbers of initiatives currently underway to ensure the development of ISS tools, techniques and recommendations.



The solution was stimulated by consideration of the USA / Japan initiative, the Global Observation Information Network (GOIN). GOIN's objective is to exchange global environmental data via information networks within and between the USA and Japan. It has achieved this by having scientists and ISS technicians working together to come to optimum solutions. This model was considered and developed at the WGISS Sub-Group meeting in London in April 2000, hosted by BNSC, when the Global Observation of Forest Cover (GOFC) project approached WGISS for help in the field of ISS. It was then further developed at WGISS 10, where the idea of a WGISS Test Environment was born.

The WGISS Test Environment will call upon the conglommeration of WGISS tools and services held and operated by CEOS WGISS members and associates. These will be made available via an on-line WGISS Menu, which is basically an open reference list of WGISS products and services. The WGISS Menu will be linked on-line to the products and services held by the individual organisations. Selected user projects will then work in partnership with WGISS to define their data and information systems and services requirements. Using a WGISS Test Facility the ISS requirements of individual projects will be made into a coherent, open, modular system by the Test Facility partners to address each selected project's needs. The system will then be tested against the project's requirements, and can become the project's pre-operational data and information system. At the same time using this approach WGISS will be able to develop and improve its tools and products to better serve users' needs. This concept is summarised in the figure.

The concept and implementation of the WGISS Test Environment will now develop further. A first demonstration of the Test Environment will take place at the WGISS Sub-Group meeting in Bangkok on the 11th – 15th September, and again at WGISS 11 in Ispra on the 27th – 29th September. This will be based around the GOFC project. The results of these demonstrations will also form part of the WGISS report to Plenary in Brazil.

Disaster Management Support Group Implements its Work Plan for 2000

Ms. Helen M. Wood
NOAA (USA)
Chair, DMSG

The Ad Hoc Working Group on Disaster Management Support (DMSG) planned its work at a meeting in Tokyo, Japan, February 2000 and began to implement its plan at a workshop in Ottawa, Canada, June 2000. Space agencies and industries exchanged views on ways to make information from Earth observation satellites more accessible and affordable. Hazard teams refined their information needs. Participants agreed on working closely with the United Nations (UN) International Strategy for Disaster Reduction (ISDR) and the UN Committee on the Peaceful Uses of Outer Space (COPUOS). DMSG was invited to collaborate with future ISDR and COPUOS disaster management activities.

Under a mandate "to support natural and technological disaster management on a worldwide basis by fostering improved utilization of existing and planned Earth observation satellite data," DMSG participants organized their work during a planning meeting hosted by the National Space Development Agency of Japan in Tokyo, February 2000. They advanced a demonstration phase of the work plan at the DMSG workshop, hosted by the Canada Centre for Remote Sensing, in Ottawa, June 2000.

In Tokyo, participants agreed to demonstrate coordination among space agencies in responding to specific disasters. The European Space Agency (ESA) and the French Space Agency (CNES) drafted and presented in Ottawa a proposed set of guidelines under which space agencies could conduct multi-mission tasking of existing satellites, on a best efforts basis, as demonstrations of joint support for specific hazards. In addition, it was agreed that the DMSG can both support and learn from the experiences of agencies participating in the ESA-CNES "Charter" that was announced in July 1999 at UNISPACE III and formally signed in June 2000.

In Ottawa, representatives from four commercial remote sensing operators (Spot Image, RADARSAT International, Orbimage and Space Imaging) provided perspectives on using satellite data for disaster management support. The Hazard teams reported on their activities. The new Ice Hazards Team will review and assess operational efforts to use remote sensing data to identify potential hazards to ships operating in ice-covered waters. Team leads are David Benner (National Ice Center, USA) and Bruce Ramsey (Ice Services Canada). Hiroshi Ohkura was appointed co-lead for the Landslide Team and Ren Capes (NPA Group, UK) co-lead for the Earthquake Team. The DMSG is working closely with WGISS to enhance the utility of the CEOS International Directory Network for disaster applications.

The DMSG will work closely with UN ISDR and COPUOS -- both of which have roles in coordinating aspects of disaster management. Through liaison with these UN entities, DMSG can fulfill its mandate of "fostering improved utilization of existing and planned Earth observation satellite data" in pursuing common, humanitarian goals.

For more information, see the project website at disaster.ceos.org or contact DMSG Chair, Helen Wood (email: Helen.Wood@noaa.gov; Tel: +1-301-457-5120; Fax: +1-301-457-5184).

Interaction between the CEOS and Private Sector

RESTEC's Special 25th Anniversary Symposium

Mr. Yukio Haruyama
Remote Sensing Technology Center of Japan

The International Symposium on Satellite Remote Sensing towards the 21st Century was held on July 10-11, 2000 at the Capitol Tokyu Hotel in Tokyo, Japan. The Symposium was organized by the Remote Sensing Technology Center of Japan (RESTEC) in commemoration of its 25th Anniversary and attracted a sizeable audience (660 participants) from both international and domestic agencies.

The Symposium was opened by Mr. Hiroyuki Osawa, President of RESTEC, who expressed his great appreciation to the contributors and participants of this special event. Among the speakers, Dr. David Williams, EUMETSAT represented CEOS on behalf of Dr. Marcio Barbosa, CEOS Chairman, INPE. He addressed current CEOS activities, IGOS implementation, and Japan's contribution through the efforts of STA/NASDA and RESTEC.

The main theme of the Symposium was "collaboration on international satellite remote sensing between governmental agencies and private sectors." During the two day symposium, we were treated to informative and enlightening presentations from representatives of government agencies and private sector organizations worldwide, including: CCRS,

Working Group on Education and Training Meets in India

Mr. Mukund Rao
ISRO (India)
Chair, WGEdu

The CEOS Working Group on Education and Training (WGEdu) had its first meeting on August 11, 2000 at Dehradun, India. The meeting was hosted by Indian Institute of Remote Sensing (IIRS), Dehradun – the national agency for EO education and training in India. The meeting was attended by DLR, NOAA, CCRS, CSA, CNES, NASDA, ISRO and also had as observers representatives from AIT, ITC, GDTA, IIRS, CSSTE-AP and selected universities of India - Andhra University, Roorkee University and Anna University.

The working group meeting was held after a two day workshop on EO Education and Training organized by CEOS WGEdu and ISRO. The workshop was held on August 9-10, 2000. The recommendations of the workshop are included and formed the major discussions of the meeting.

The WGEdu has been charged by CEOS to prepare a strategy for CEOS future activities in education and training in Developing Countries, in time for consideration at 14th Plenary – at which time Members and Associates will be invited to make commitments. Towards this, WGEdu is:

- Assessing the EO Education needs in developing countries by networking with agencies involved in education and training, specially the UN Regional Centres for Space Science and Technology Education
- Assess technology trends in EO and recommend the topics of relevance for education and training – which can then be incorporated in the curriculum
- Recommend a Plan of Action for CEOS participation in EO education activities and also how CEOS agencies can coordinate effective programmes at national level
- Focus CEOS Agencies and WGs role/services for furthering capacity-building activities and contributing to the EO Education efforts

The 1st Meeting of WGEdu discussed the following:

- The recommendations of the CEOS/ISRO International Workshop on EO Education and Training which was held on August 9-10, 2000 at Dehradun – prior to the WGEdu meeting. WGEdu considered the recommendations and noted that CEOS could respond to many of the recommendations.
- Need to survey the CEOS agencies status and further support for EO Education and Training activities. A questionnaire has been formulated and will be administered to CEOS agencies. The response to the questionnaire will form the second element of the WG report to plenary.
- A format for the WGEdu report to Plenary has been discussed and actions are being taken by WG Members to prepare the report.

The report of the working group will be submitted to the Plenary for considering the necessary commitments from CEOS agencies.

Report of International Workshop on EO Education and Training Dehradun, India August 9-10, 2000

Indian Institute of Remote Sensing (IIRS), Dehradun, India during August 9-10, 2000, hosted the International EO Education and Training Workshop. The Workshop was organized by CEOS Working Group on Education and Training (WGEdu) and Indian Space Research Organisation (ISRO) and was sponsored by Asian Institute of Technology (AIT); ITC; United Nations Office for Outer Space Affairs (UN-OOSA); CSSTE-AP and IIRS. 41 delegates attended the Workshop from 11 countries. 20 presentations and a Panel Discussion on "Road Map for EO education and training activities" were held as part of the Workshop. The Workshop recommended 14 actions items - specifically on what the needs of the education/training institutions are and also of what space agencies can support. The report of the Workshop forms a major input to the CEOS WGEdu activities. For more details, contact: Mr Mukund Rao at **isroeos@blr.vsnl.net.in.**

CNES, CSA, ESA, EUMETSAT, ISRO, NASA, NASDA, NOAA, STA, RESTEC, SPOT IMAGE, RADARSAT International, Space Imaging, Earth Watch, Orbital Imaging, MacDonald Dettwiler, West Indian Space, and Aerospatiale Matra.

The first day's Panel Discussion was on "the role of governments for promoting satellite remote sensing" and the second day's Panel focused on "a new framework and roles between the public and the private sectors".

Through these presentations and subsequent interactive discussions, the symposium proved to be extremely fruitful and profitable, with all the audience equipped with a heightened awareness of the current status of satellite remote sensing and with new knowledge and ideas about what we should do for the way forward; including through information sharing and co-operation amongst government and private sectors in the 21st century, and further international collaboration.

For further details, including all the presentation materials and panel discussion summary of the RESTEC Special 25th Anniversary Symposium, please check the RESTEC homepage at:
http://www.restec.or.jp/eng/news/whatnews25.html

A Note from the Chair

Mr. Marcio Barbosa
INPE (Brazil)
CEOS Chairman

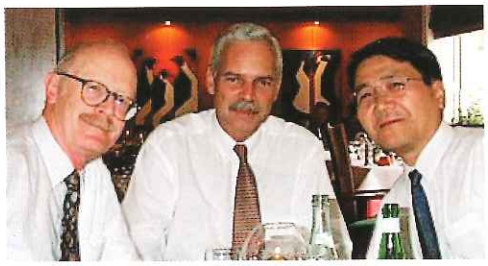
By the time this Newsletter is published, most of the Year 2000 CEOS Chair term has elapsed. A lot has been accomplished already during this period, and the other articles in this Newsletter give a general panorama of what's going on in CEOS. The Working Groups, including the ad-hoc ones (WG-Edu and DMSG), are actively pursuing their assignments in the technical and administrative areas, and the June meetings in Geneva (Secretariat 50, SIT 6 and IGOS-P 5) represented a big step forward in the CEOS management and planning aspects.

In particular, the idea of a standing support body for the IGOS Partnership, a long-felt need, received wide support and we expect it to be implemented at the next meeting, superseding and enhancing the Liaison Group responsibilities in the form of an IGOS-P Secretariat. We believe this will greatly help the development and follow-up of IGOS Themes. Interaction among Partners can be more efficiently processed and managed in between meetings, and the Partnership can dedicate more focus to evaluation, decision and guidance issues when assembling together.

Interaction with the Private Sector has achieved even more momentum than initially expected, with space opened for it in three events this year: the Tokyo RESTEC 25th Anniversary Symposium, the Amsterdam XIX ISPRS Congress in July, and the 51st IAF Congress to be held in October, in Rio.

Rio is also where the 14th CEOS Plenary is going to happen, and we are striving to make it an experience to remember, not only for the meeting itself. By the time you read this, the Second Announcement will have already been sent out, with additional information and details. The preparation of Plenary documents should make use of the CEOS Information Infrastructure (CII) facilities, so that joint work or revisions can be carried out more easily and efficiently. Participants can download and print the final documents at their convenience. We expect this to simplify and facilitate the overall preparation activities.

We look forward to welcome you in Rio next November.



EUMETSAT, INPE and STA/NASDA: past, present and future CEOS Chairs represented in Geneva.

Contributions for future issues of the CEOS Newsletter from the CEOS Members and Associates, and subscriptions to the CEOS Newsletter, please contact CEOS Japan Secretariat : ceosj@eoc.nasda.go.jp
http://nasda.ceos.org/ceosnews_menu_e.html

Meeting Calendar

As of August 2000

Activities	2000 June	July	August	September	October	November	December	2001
CEOS Plenary						▲8-10 14th Plenary INPE/Rio		Nov. △ 15th Plenary STA/NASDA, Kyoto
CEOS WGISS (Working Group on Information Systems & Services) Subgroups Task Team				25-29 ▲ WGISS-11 JRC/Ispra ▲11-15 SGs,AIT/Thailand				
CEOS WGCV (Working Group on Calibration and Validation) Subgroups					23-27 ▲ WGCV-17 NIST/NOAA Maryland,USA			△ Apr. SAR SG NASDA, Tokyo
CEOS DMSG (Ad hoc Disaster Management Support Group)	▲6-8 CSA Ottawa			▲28 UNESCO, Paris				
CEOS WGEdu (Ad hoc Working Group on Education Training)			▲9-11 Workshop/WG Edu-1 ISRO/Hyderabad					
IGOS/SIT (Strategic Implementation Team) TCO Team Ocean Team	▲6 SIT-7 WMO /Geneva ▲20-22 GOFC/Ottawa			IGCO/New Hampshire	16-20 ▲ 30-1 ▲ GODAE SST JRC/Ispra	▲7 SIT-8 INPE/Rio		△Feb. GODAE ISTC Numae-New Caledonia △June SIT-9 Nov. △ SIT10 Kyoto
IGOS/Partners	▲6 IGOS-P5 WMO/Geneva					▲7-8 IGOS-P6 INPE/Rio		△ June IGOS-P7 UNESCO/Paris Nov. △ IGOS-P8 Kyoto
Others		10-11▲ RESTEC Symposium Tokyo ▲17-21 ISPRS, Amsterdam ▲24-28 IGARSS Honolulu		▲12-15 GCOS Beijing	▲2-6 IAF INPE/Rio	▲13-24 COP-6 The Hague ▲7-16 SFCG-20		△May IPCC Nov. △ COP-7

▲ : determined △ : to be determined
(Date, Host organization/Location)

CEOS-related meetings are open only to designated participants.

Published by
Office of Earth Observation Systems
National Space Development Agency of Japan (NASDA)
World Trade Center Bldg.,
2-4-1, Hamamatsu-cho, Minato-ku,
Tokyo 105-8060, JAPAN

For further information contact in each area allocated:

[Asia, Pacific]
Mr. C. Ishida, NASDA
TEL:+81-3 3438 6318
FAX:+81-3 5401 8702
e-mail:ishida.chu@nasda.go.jp

[North & South America]
Ms. L. Charles, NASA
Dr. B. Smith, NOAA
TEL:+1-202 358 0793
FAX:+1-202 358 2798
e-mail:leslie.charles@hq.nasa.gov,
brent.smith@noaa.gov

[Europe, Africa]
Dr. S. Bruzzi, ESA
TEL:+33-1 5369 7550
FAX:+33-1 5369 7735
e-mail:sbruzzi@hq.esa.fr