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IGOS Partnership Marks its 5th Anniversary with Progress on Themes and Implementation

Mr. Gregory W. Withee
 NOAA
 CEOS Chairman and IGOS Co-Chairman

Substantial progress was achieved in connection with the 10th IGOS Partners Meeting, June 5, 2003, hosted by UNESCO in Paris. The session was opened by Marcio Barbosa, UNESCO's Deputy Director General, himself a former Chairman of both CEOS and IGOS. In their opening remarks, IGOS Co-Chairmen Walter Erdelen of UNESCO and Gregory Withee of CEOS/NOAA, noted that IGOS was well on its way to meeting the goals established at its founding meeting, almost exactly 5 years ago in Paris.

Mr. Withee, having participated in some of the Theme Team workshops over the past few months, emphasized that work of the highest caliber has gone into the development of the Themes and that it is now up to Partners, and their Member States, to push the Themes forward.

Results of the 10th Partners Meeting include:

- The Ocean Theme Implementation Team, represented by Colin Summerhayes, was charged to initiate its rolling review and restatement of the Ocean Theme itself, with progress to be reported to the 11th Meeting.
- The Global Water Cycle Theme Team, the Integrated Global Carbon Cycle Theme Team and the GeoHazards Theme Team were each commended for the major work thus far accomplished and each charged to collect and coordinate inputs to finalize their reports. The Partners plan to formally consider the three final reports at an ad-hoc IGOS-P-10-bis meeting that will convene at the conclusion of the CEOS Plenary, November 20, in Colorado Springs.

Water Cycle Theme Team Co-Leader Richard Lawford, stated that the Global Water Cycle Theme has been established to develop and promote strategies to maintain



continuity for observing the global water cycle and to progress towards an integrated water cycle observational system that not only integrates satellite and *in situ* systems but also integrates data from different sources together with data assimilation capabilities. The Water Cycle Theme is expected to contribute to the realization of improvements in predicting variations in the water cycle over many time scales and spatial scales from global to local.

Integrated Global Carbon Observing Strategy Theme Team Co-Leader, Philippe Ciais, characterized the Theme's goal to be development of a flexible yet robust strategy for deploying systematic observations over the next decade with the resulting system to provide the long-term observations required to improve understanding of the present state and future behaviour of the global carbon cycle and to monitor and assess the effectiveness of carbon sequestration and/or emission reduction activities on global atmospheric carbon dioxide levels, including attribution of sources and sinks by region and sector.

GeoHazards Theme Team Co-Leader Stuart Marsh identified the need to integrate disparate, multidisciplinary, applied research into global, operational systems. His team suggested doing this by filling gaps in organisation, observation and knowledge over the next decade in the effort to improve the provision of timely, reliable and cost-effective information to those responsible for managing hazards and increasing the capacity of all nations to be resilient in the face of related disasters.



High-level Information Meeting on Global Earth Observation for The Ambassadors/Permanent Delegates and Observers to UNESCO and Integrated Global Observing Strategy – Partners

UNESCO Headquarters
Paris, France

On Friday 6 June 2003, UNESCO organized for the Ambassadors, Permanent Delegates and Observers to UNESCO and the IGOS Partners a High level Information Meeting on Global Earth Observation for the Monitoring of the Environment and the Planning of Sustainable Development.

The meeting was opened by Mr Marcio Barbosa, Deputy Director-General of UNESCO who stressed that it is encouraging to note that the issue of global observation is increasingly present on top level political agendas. Thus, the World Summit on Sustainable Development held last year in Johannesburg clearly referred to the importance of global observation in its declaration and plan for action. As a follow-up, in cooperation with the UN Commission for Sustainable Development, a Type II Partnership on Earth Observation has been launched through the IGOS process. Another example is the Summit on Earth Observation held in the United States to consider plans for an operational observation system

An introduction dealing with Earth Observation and Sustainable Development was given by Professor José Achache, Director of Earth Observation Programmes at the European Space Agency. This was followed by presentations of the IGOS Partnership's findings regarding priority actions to be taken by policy-makers to strengthen Earth observation and the protection of our planet. The first presentation was given by Dr Summerhayes of IOC/UNESCO on Oceans, followed by a presentation of three new IGOS reports that are being finalized this year. The

Mr. Robert Missotten, UNESCO

theme of the Global Water Cycle was presented by Dr Lawford of NOAA. Professor Moore, Director of the Institute for the Study of the Earth, Ocean and Space of the University of New Hampshire introduced the Global Carbon study and lastly, the IGOS study on Geohazards was presented by Dr Modaressi of the French Geological Survey, BRGM.

The meeting ended with closing remarks from the Co-Chairs of the IGOS P-10 meeting held the day before, Mr Greg Withee of NOAA and Professor Walter Erdelen, Assistant Director-General for Natural Sciences of UNESCO.

Mr Withee was represented by Dr Brent Smith who gave further information on the goals and objectives of the first Earth Observation Summit taking place on 31 July 2003 in Washington U.S.A.

Mr Erdelen concluded that the meeting formed an important contribution to foster the dialogue between high level government decision-makers and scientists, space agencies and data-provider communities, and that it contributed to the construction of a vision for better Earth observation and sustained socio-economic development in all countries of the world regardless of their geographical position or level of industrialisation. ■

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Other meeting highlights included:

- The Partners endorsed development of an IGOS Coastal Theme, commending the scoping of such a proposal over the past year by a team sponsored by CEOS, GOOS, GTOS and IGBP and led by Paul DiGiacomo. The Theme's stated goal is to develop a strategy for integrated global observations that will provide improved understanding of Earth system variability and change in the coastal zone, with a particular emphasis on propagation of change and variability across the land-sea interface.
- The Coral Reef Sub-Theme's final report, as presented by Arthur Dahl, was accepted by IGOS-P-10 and will be distributed with appropriate notation that it will become an annex to the Coastal Theme Report. The Coral Reef

Report stresses the need to integrate satellite remote sensing into coral reef monitoring and modeling programmes, complementing and reinforcing *in situ* monitoring and assessment to analyze circulation, sediment transport, bleaching-risk and other processes.

- A status report of the Integrated Global Atmospheric Chemistry Observations Theme was presented by Jorg Langen. Focusing on promoting accurate, comprehensive global observations of key atmospheric gases and aerosols, this Theme has made substantial progress and is expected to complete its final report by 2004.
- The Partners accepted with minor modifications the report of the Implementation Task Force headed by Don Hinsman and charged the Task Force to assist each of the Themes

(to be continued on next page.)

The G8 Summit and the 3rd World Water Forum

-Two major achievements in promoting Earth observation for decision making-

Mr. Chu Ishida
NASDA / EORC

One of the recent major efforts of CEOS has been to strengthen the links between Earth observation and key international bodies (such as the IPCC) and conventions – as well as promotion of the the Integrated Global Observing Strategy (IGOS) in major international conferences - such as the World Summit on Sustainable Development (WSSD). Recent achievements include the G8 Summit, and the 3rd World Water Forum.

The G8 Summit - held on 1st-3rd June, 2003 in Evian, France - recognized the need for cooperative scientific research and technology development to address the challenge of global climate change, as acknowledged by the WSSD Plan of Implementation. The Heads of G8 nations agreed to focus their efforts on three areas that present great opportunities for progress, namely: co-ordination of global observation strategies; cleaner, sustainable and more efficient energy use; agricultural sustainability, productivity and biodiversity conservation. The G8 Action Plan for Science and Technology includes specific provision for global observations. The Earth Observation Summit (31st July 2003, Washington DC) provided a follow-up to the G8 Summit and established a framework for development of the implementation plan for global observations.

Science and Technology For Sustainable Development G8 Action Plan

1. Strengthen international co-operation on global observation

We will:

- 1.1 Develop close co-ordination of our respective global observation strategies for the next ten years; identify new observations to minimise data gaps;
- 1.2 Build on existing work to produce reliable data products on atmosphere, land, fresh water, oceans and ecosystems;
- 1.3 Improve the world-wide reporting and archiving of these data and fill observational gaps of coverage in existing systems;
- 1.4 Favour interoperability with reciprocal data-sharing;
- 1.5 Develop an implementation plan to achieve these objectives by next spring's Tokyo ministerial conference.

The 3rd World Water Forum was held in Kyoto, Japan, in March 2003 in order to address water issues. 23,000 people attended the forum and 98,000 people visited the exhibition. NASDA participated in three sessions and the two exhibitions of the WWF3 in order to promote satellite based observations of the global water cycle. NASDA and NASA organized a session entitled "Precipitation measurement from space" with the participation of ESA, NRSCC (National Remote Sensing Center of China), WCRP and the International Flood Network (IFnet) of the Ministry of Land, Infrastructure and Transportation. Plans for the Global Precipitation Measurement (GPM) mission development and utilization were presented and stimulated interest in the project. The WWF3 concluded by adopting a ministerial statement, which included recognition of the need for cooperative observation and research on the global water cycle. ■

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that are finalizing reports by November in developing implementation guidelines.

- The IGOS Co-Chairs agreed to prepare a discussion paper on a strategy for emerging IGOS Themes including consideration of a Socio-Economic Theme. ICSU and the Co-Chairs also agreed to establish a working group to examine generic socio-economic issues common to each IGOS Theme.
- The Partners agreed that IGOS education, training and capacity building efforts should be pursued in common with the CEOS Working Group on Education and Training. As well, an IGOS focus on sustainable development is to be explored in connection with the CEOS WSSD Follow-up Team with a special focus on linkage of IGOS Themes

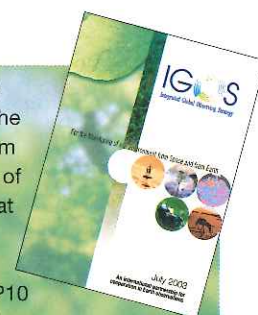
to sustainable development.

- Dietrich Leihner, FAO, replaced Walter Erdelen as IGOS Co-Chair at the close of the meeting. The 11th Partners Meeting will be hosted by FAO in Rome on May 27, 2004. ■

On behalf of IGOS, MEXT/NASDA revised the IGOS Brochure, "For the Monitoring of our Environment from Space and from Earth" in support of the EO Summit held on July 31st at the U.S. Department of State in Washington, DC. The updates reflected the results of the IGOS-P10 meeting, held in June 2003 in Paris.

For further information, please visit the IGOS website:

<http://www.igospartners.org>





CEOS WSSD Follow-up Program

Mr. Michael Hales

NOAA

CEOS Ad-hoc WSSD Follow-up Team Leader

The CEOS WSSD (World Summit on Sustainable Development) Follow-up Program is bringing CEOS members together to share information and develop deep understandings of, and ties to, existing sustainable development efforts underway in Africa and other parts of the world.

The CEOS WSSD Follow-up Program consists of five Modules that are led by CEOS Members and Associates. Module 1 focuses on education, training and capacity building; Module 2 on water resource management; Module 3 on disaster management; Module 4 on climate change; and Module 5 on global mapping, land cover change, and GIS. Modules 1 and 5 are considered cross-cutting Modules, meaning that specific outcomes of Modules 1 and 5 are to be incorporated in the implementation activities of the other Modules.

Currently, Modules 1 and 2 are well underway planning workshops in Africa to take place October 2-3 in Stellenbosch, South Africa, and October 6-7 in Rabat, Morocco, respectively.

At the Module 1 workshop in Stellenbosch, stakeholders from throughout Africa will gather to develop a set of capacity building principles specifically targeted towards CEOS' goals of addressing the 12 specific references to Earth observation in the WSSD Plan of Implementation. These principles will be developed by the workshop participants, and used to guide future capacity building efforts for Modules

2-5 in the years to come.

Module 2 efforts include significant involvement from the ESA Tiger Project and its cooperation with UNESCO and the Royal Centre for Remote Sensing (CRTS). Together, they have designed a comprehensive workshop on water resource management issues relevant to the needs of countries throughout the region. NASDA/MEXT has also made important contributions to Module 2 through the Coordinated Enhanced Observation Period (CEOP) effort.

Other CEOS WSSD Modules are organizing their resources to develop Module strategies consistent with the overall CEOS WSSD Follow-up Program Plan. Module 3 on disaster management is examining groundwork already laid by the CEOS DMSG (Disaster Management Support Group) and the International Disaster Charter. Additionally, Module 5 on global mapping, land cover change, and GIS is building bridges to a number of well established, sustainable development geo-related efforts in Africa.

What makes all these efforts under the CEOS WSSD Follow-up Program exceptional is that this is the first time CEOS, a unique organization representing the space community, has specifically focused its attention on such a diversity of issues important to sustainable development, and linked these efforts directly to Earth observations using space based technologies. ■

CEOS ad hoc Team on Utilisation

Prof. John Townshend, University of Maryland, Utilisation Team Leader

When taking over as Chairman of CEOS at the end of the 16th CEOS Plenary in Frascati, Italy, in November, 2002, Greg Withee (NOAA) identified his major goals for his year in office. High on his list was the need for an effort to increase the utilisation of space data, products and services.

Shortly thereafter, the CEOS Chairman invited me to lead a small team to make recommendations in this field, for consideration at the 17th CEOS Plenary in November, 2003.

The team, which started work early in 2003, decided from the outset to consult widely with experienced users of satellite observations in different parts of the world, with the aim of identifying problems, as well as measures which have

proved helpful to users.

In order to give the team's recommendations a credible foundation, it was also decided to gather details of specific examples ("case studies" so to say) of satellite data utilisation – both those which have been successful, as well as those which have been less successful. One particular emphasis has been to examine case studies where, adoption has been unexpectedly fast and successful and to discover what lessons might be learnt from them

At the time of writing the interviews and case studies (although not yet complete) have already yielded much interesting information, and the team is starting to see

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The Working Group on Information Systems and Services

Mr. Terry Fisher
CCRS
Chair, WGISS

WGISS-15 was hosted by CNES in Toulouse, France in May 2003. This was the first combined Working Group and Sub Group session since the new format was approved by the CEOS Plenary. Paul Kopp and his staff at CNES did a superb job in accommodating the combined meetings intended to make WGISS more efficient.

The membership in attendance at WGISS-15 unanimously nominated Ivan Petiteville of ESA as the next WGISS Vice-Chair. Pending Plenary concurrence, Ivan's term begins in November of 2003 culminating in his accession to the Chairmanship in November of 2005.

The CEOS Grid Task Team is currently composed of six diverse application projects working together to explore Grid technologies and solve common problems. The application projects are briefly described here.

- 1) The USGS Data Delivery project will explore use of GridFTP and user authentication methods such as public key infrastructure based Grid certificates for the delivery of Earth science data from USGS to scientific user communities and reception of data from producer sites into USGS archives.
- 2) The NOAA Operational Model Archive and Distribution System (NOMADS) goals are to develop a distributed Grid framework to provide access to climate and numerical weather prediction models for analysis and intercomparison.
- 3) The ESA Data Integration project will develop a Grid web portal to support on-demand user driven data integration.
- 4) The NASA Goddard Space Flight Center Advanced Data Grid project will assess the scalability of Grid implementations for Earth science data life cycle management and workflow by demonstrating a realistic science application.



WGISS-15 Participants

- 5) The George Mason University EOSDIS Data Pools project will provide interoperable, on-demand data access and services from EOSDIS data pools at four NASA data centers.
- 6) The University of Alabama at Huntsville Scientific Data Mining project will explore the use of Grid software tools and resources for compute intensive data mining Earth science applications.

The CEOS Test Sites WTF, or WGISS Test Facility, has been progressing well and is close to accomplishing its Phase I requirements. A demonstration of this joint WGCV and WGISS web portal effort is planned for the November 2003 Plenary in Colorado Springs.

WGISS-16 will be hosted by GISTDA and NASDA at Chiang Mai, Thailand 15-19 September 2003. All Members and Associates are encouraged to send representatives to this meeting.

Further information on WGISS can be found at <http://www.ceos.org> under the Subsidiary Groups button or directly from <http://wgiss.ceos.org>.

Seek additional data and information for MODIS Land Product Validation.

CEOS Test Sites WTF

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directions in which it will be able to make practicable recommendations to the CEOS Plenary. These are likely to include recommendations concerning the removal of impediments, ensuring the right preconditions for adoption exist and the incremental actions needed to facilitate adoption.

The work will continue until around the beginning of October, at which time we need to be finalising the report. The gist of the team's recommendations will be given a preview at a Special Event scheduled for 18 November,

2003, the afternoon prior to the opening of the 17th CEOS Plenary in Colorado Springs.

It will be for Plenary to decide what to do with the team's recommendations, but it is already apparent that the next CEOS Chairman (the Chinese CEOS Member) share's Greg Withee's opinion that increasing the utilisation of satellite observation data must remain a priority concern for CEOS.

It is in this spirit that the team is working to produce results, which could have a continuing benefit both for CEOS and for present and future users of satellite data.



The Working Group on Calibration and Validation

Mr. Yves-Louis Desnos
ESA / ESRIN
Chair, WGCV

The 20th meeting of the CEOS Working Group on Calibration and Validation (WGCV-20) was held in Hobart, Australia from 12-14 February 2003. The meeting was held at the CSIRO Marine Laboratory and was hosted by CSIRO Marine Research, the CSIRO Earth Observation Centre and the Australian Antarctic Division.



WGCV-20 included detailed updates from each of the six subgroups of the WGCV, and also presentations of the joint ventures being undertaken by the working group members. The meeting saw the

unanimous approval of the new LPV subgroup chair, Jeffrey Morisette, (NASA), who has taken over the good work started by Jeffrey Privette (NASA). The issue of a new chair to the WGCV to take over from Yves-Louis Desnos (ESA) in October of this year, was also raised. To date, a replacement chair has not been found.

A lot of effort is currently being channelled into developing a prototype, together with WGISS, that aims to provide a web-based data access and delivery service to support validation and inter-comparison of remotely-sensed land data products. The services for MODIS land and SPOT Vegetation NDVI products have already been developed under Phase I of the project. In Phase II, the plan is to expand the number of sites and remotely-sensed data sets as well as access to in situ measurements collected by core site principal investigators.

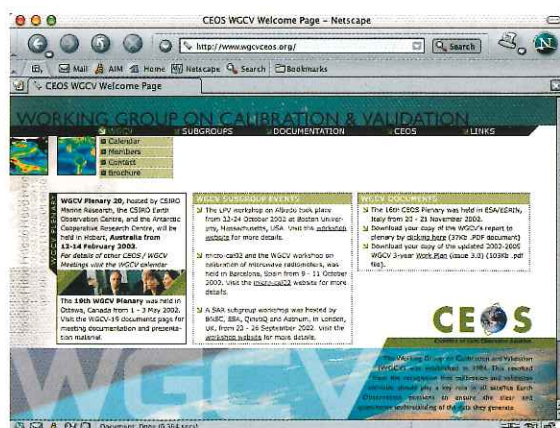
Another joint activity is being undertaken with the International Society for Photogrammetry and Remote Sensing (ISPRS) to formulate a plan for standardisation of radiometric and geometric parameters of sensors. After a kick-off meeting in Denver in November 2002, Bruce Davis (NASA) was confirmed as the chair of the taskforce, and Veljko Jovanovic (JPL) as co-chair. NASA has agreed to host an International Workshop on Radiometric and Geometric Calibration from 2-5 December 2003, and this will form a springboard for the task force's deliberations.

A joint venture between the Atelier ASAR workshop 2003 and the 11th CEOS WGCV SAR calibration /

validation workshop 2003 was hosted by the Canadian Space Agency in St-Hubert, Montreal, Canada from 25-27 June 2003. Almost 120 participants attended and 99 presentations were given. The presentations, including keynote talks, spanned fourteen sessions ranging from new concept techniques and technologies to modelling, processing, calibration and applications of SAR. Of particular interest were dedicated presentations and results from the calibration and validation of Polarimetric-Interferometric SAR systems. One of the main conclusions from the workshop included a recommendation that the Amazon rainforest should be used as the standard reference target for C and L band SAR. The next meeting of the subgroup is scheduled for May 2004 at ESA-ESTEC, The Netherlands.

The Terrain Mapping subgroup met for a successful one-day workshop on 16 June, prior to the ISPRS workshop on "3D mapping from InSAR and Lidar" in Portland, USA. The minutes and action plan resulting from this meeting will be available shortly. Future subgroup events include an evening meeting of the Atmospheric Chemistry subgroup on 24 July in Toulouse, France, in conjunction with IGARSS. In addition, the next Infrared and Visible Optical Sensors meeting is scheduled for 13-14 October in Beijing, P.R. China, immediately prior to WGCV-21.

A new website is being designed in order to improve accessibility to both the WGCV membership, and also to the wider community. The new site is due to be launched at the end of July / early August. In addition to this promotional activity, issue 10 of the WGCV newsletter will be published in July. This will provide further detail on the activities of the WGCV and its subgroups, and a copy can be obtained through the WGCV website (www.wgcvceos.org) or from the WGCV chair (Yves-Louis.Desnos@esa.int). ■



Fourth Meeting of the Working Group on Education and Training in Earth Observation

Dr. Sergio Camacho

*United Nations Office for Outer Space Affairs
Chair, WGEdu*

The CEOS ad hoc Working Group on Education and Training in Earth Observation (WGEdu) held its Fourth Meeting from 28 to 30 April 2003. The meeting was hosted by the Deutsches Zentrum für Luft - und Raumfahrt (DLR) at its facility in Oberpfaffenhofen, Germany. Previous meetings of the WGEdu were held in Dehra Dun, India (2000), Frascati, Italy (2001), and Ottawa, Canada (2002).

These meetings provide opportunities to discuss and coordinate actions to be carried out throughout the year to prepare a strategy for future CEOS activities in education and training with particular emphasis on developing countries. The strategy being prepared by the WGEdu aims to establish an effective coordination and partnership mechanism among CEOS agencies and institutions offering education and training. The key objective is to facilitate activities that enhance international education and training in Earth observation techniques for a diverse range of applications.

The Meeting reviewed the status of and agreed on future work to be carried out regarding the on-going activities of the WGEdu. A high priority goal of the WGEdu is to establish the resource web site with information on EO training and education, together with an interactive, web-based access mechanism, in time to demonstrate it at the CEOS Plenary Special Event to be held in November 2003. To accomplish this, the WGEdu will issue another invitation to CEOS Members and Associates to populate the site. The WGEdu also plans to present a summary of its accomplishments at that Special Event. In particular, the Meeting agreed to hold a workshop to finalize a set of draft data principles for the use of EO data in education and training for consideration by CEOS Plenary. The workshop, to which all CEOS Members and Associates will be invited, is currently being planned for September 2003.

The Meeting dedicated a full day to discuss the objectives and work to be carried out under Module 1 (Capacity building) of the CEOS World Summit on Sustainable Development (WSSD) Follow Up Programme. The meeting agreed that the WGEdu should make substantial contributions to the work of Module 1, in particular regarding the organization of a workshop for African stakeholders in sustainable

development to be held in Stellenbosch, South Africa from 2 to 3 October 2003.

The Meeting discussed the proposal made by CEOS for a Type 2 Partnership in the framework of the Plan of Implementation of the WSSD. The Meeting noted that the proposal indicated that the CEOS Plenary will provide high-level coordination of the partnership activities and that specific implementation activities involving CEOS agencies will be coordinated through the WGEdu. The Meeting agreed that the work involved in producing the results expected of the Partnership was to a large extent the same work that the WGEdu was carrying out under its three-year work plan and other actions that it might undertake in the framework of Module 1 of the CEOS WSSD Follow Up programme.

The Meeting noted that the IGOS-P had an action that called for providing support to user communities in developing countries in areas of education and capacity building. Following a presentation to an IGOS-P meeting of the objectives and work being carried out by the WGEdu, the Partnership agreed to join efforts with the WGEdu thus avoiding duplication. To build further synergies, the WGEdu invited representatives of Action Team 17, established by the Committee on the Peaceful Uses of Outer Space to implement the recommendation of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) that deals with education and capacity building. As a result, Action Team 17 and WGEdu will contribute to each other's work. ■

From the CEOS Chair

I hope my tenure as CEOS Chair for 2003 will be marked by a focus on the four priority areas I have identified at last November's Plenary: 1) data utilization; 2) the CEOS Follow-up Program to the World Summit on Sustainable Development; 3) making progress on IGOS Themes; and 4) harmonization among coordination groups.

I see data utilization as the process through which the benefits of Earth observation and spaceborne technologies are transferred to—and realized by—society and policy-makers. In that regard, I have asked Dr. John Townshend of the University of Maryland to lead a special Ad-Hoc Data Utilization Team to better understand the right preconditions and barriers for data utilization. The goal of this effort is to help adopt better mechanisms among CEOS Members and Associates for increasing the utilization of space-based data. The team's findings will be compiled in a report to be

presented at the CEOS Plenary in November, and in a brochure shortly thereafter.

My second area of emphasis is to follow-up on the World Summit on Sustainable Development (WSSD) Plan of Implementation's 12 specific references to the importance of Earth observation and using space technologies in assisting sustainable development efforts. Along these lines, two workshops are being planned this year to kick-off and emphasize CEOS' commitment to sustainable development. The first workshop will take place at the University of Stellenbosch in South Africa, October 2-3, and will focus on developing a set of capacity building principles specifically targeted for CEOS WSSD Follow-up Efforts in guiding future sustainable development efforts. The second workshop will take place in Rabat, October 6-7, related to the ESA-led Tiger Project, specifically focusing on issues of water resource management.

Mr. Gregory W. Withee
NOAA
CEOS Chairman



My third priority area is to move forward with the IGOS Themes and to better facilitate the research to operations process, resulting in a quicker and more effective transfer of observation benefits to society. As my report on the recent IGOS Partners' Meeting indicates (see page 1 of this newsletter), we're making substantial progress in getting three additional Themes completed this year.

Lastly, I hope to facilitate 'harmonization' among various coordination groups, including CGMS, the WMO Consultative Group, and CEOS. I've asked Dr. Tillmann Mohr to make recommendations on how best to maximize efforts to achieve common goals among these groups, so that we can more effectively coordinate our common goals.

In closing, I am very pleased with the progress of all these efforts and look forward to discussing them in detail at the upcoming CEOS Plenary in Colorado Springs. ■

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 : ceos-jpn@nasda.go.jp, or misawa@restec.or.jp http://nasda.ceos.org/ceosnews_menu_e.html

Meeting Calendar

As of Aug. 2003

Activities	2003					2004			
	July	August	September	October	November	December	January	February	March
CEOS Plenary						▲ 19-20, 17th CEOS Plenary ▲ 18, CEOS Special Event		NOAA/Colorado, USA	
WSSD Follow-up Team			16-17 ▲ WSSD Planning ESA/ESRIN/Italy	▲ 2-3, WSSD Module-I, Stellenbosch, SA ▲ 6-8, WSSD Module-II, Rabat, Morocco					
Utilisation Team				▲ 18-19, Utili.Team					
CEOS SIT (Strategic Implementation Team)				▲ 14-15 SIT-12 EUMETSAT/Darmstadt					
CEOS WGISS (Working Group on Information Systems & Services) Subgroups/Task Team			▲ 15-19 WGISS-16 GISTDA/NASDA/Chiang Mai, Thailand						
CEOS WGCV (Working Group on Calibration and Validation) Subgroups				▲ 15-17, WGCV-21 CAS/CSSAR/Beijing, China ▲ 13-14, IVOS		▲ 2-5, ISPRS WGCV Workshop Gulfport, Mississippi			△ Jun./2004 WGCV-22 NASA/NOAA Washington D.C.
CEOS WGEdu (Ad Hoc Working Group on EO Education and Training)			▲ 12 WGEdu Data Principles Vienna, Austria						
IGOS Partners						▲ 20 IGOS-P10 bis NOAA/Colorado, USA ▲ 1-12, UNFCCC COP9, Milan, Italy			
Themes:									
Others	▲ 30/Jun.-11 IUGG Sapporo Japan	▲ 31, EO Summit, US ▲ 1-2, 1st GEO Meeting, US	▲ IGARSS Toulouse, France	▲ 24-29 APAN 2003, Pusan, Korea		▲ GIS Workshop, Africa			

▲: determined △: to be determined (Date, Host organization/Location) CEOS-related meetings are open only to designated participants.

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