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Report from the 9th CEOS Plenary in Canada

Garry M. Lindberg

Vice President, Corporate Development, Canadian Space Agency (CSA)



Dr. Lindberg chaired the 9th CEOS Plenary.

The ninth CEOS Plenary meeting was held in Saint-Hubert, Canada on October 11-13, 1995. The meeting was hosted by the Canadian Space Agency (CSA), the 1995 CEOS Chair. A total of 79 participants representing 26 organizations attended the meeting.

Dr. Garry Lindberg, CEOS Chairman 1995, opened the Plenary and introduced Mr. Mac Evans, President of CSA. In his welcome speech Mr. Evans noted the considerable growth of CEOS since 1988 when he had chaired the first Plenary in Canada. Mr. Evans said that the creation of CEOS in 1984 had forecast the needs of the nations of the world and that it gives him great pleasure to see the importance that the nations of the world attribute to this activity. He emphasized that EO is a priority area of the Canadian Space Program and that the CSA will continue to support the actions and initiatives of CEOS and its working groups.

CEOS Task Force on Planning and Analysis

Dr. Lindberg summarized the outcomes of the 1995 CEOS User Requirements Workshop. He noted that the workshop participants recognized that there are data users not completely represented by CEOS Affiliates that would need to be considered in the CEOS requirements assessment process, once the focussed effort of the Task Force was complete.

The Task Force's overall objective was to assess whether current and planned satellite instruments provide information sufficient to meet user requirements. During 1995 the Task Force studied Dossier Volumes A and C and found dis-

parities and lack of detail in the information contained therein and was unable to conduct a thorough comparative analysis of the two documents. Therefore, it proposed a new information structure for the Dossiers, based on a standard format to be completed by users and providers. The new format will enable the comparative requirements analysis that will provide information on compatibility, gaps, and duplications.

The time frame allocated to the Task Force to accomplish its mandate was extended up to the 1996 CEOS Plenary. The Plenary approved that the Task Force continue with a single chair, Dr. Bizzarri of ASI.

CEOS Dossiers

The biennial update of the Dossier is planned during 1996, in accordance with the CEOS Future Strategy. In conjunction with the efforts of the Task Force on Planning and Analysis, ESA offered to provide a database version of Volumes A and C available on-line at ESA/ESRIN, incorporating an interactive search capability.

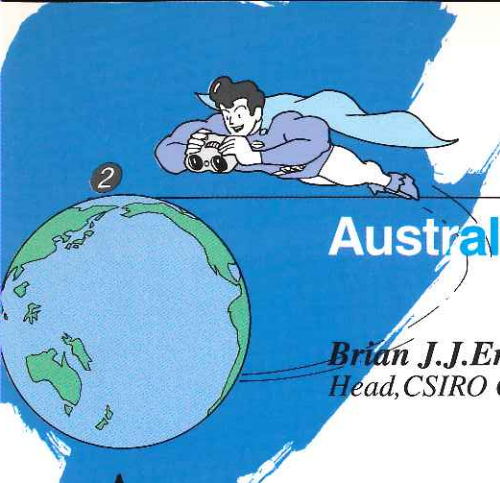
Working Groups Realignment

WGCV, WGD, and WGISS provided status reports on their activities. The WGCV Strategic Plan is now available through the CEOS Infosys system. Mr. Lauritson of NOAA, Chair of WGD, noted a prototype bulletin board, accessible through CEOS Infosys, for posting and reading purge alert messages.

A joint proposal from WGD and WGISS to disband these two working groups and create a single working group, the Working Group on Information Systems and Services (WGISS) was presented to the Plenary. The Plenary approved the merger of the two working groups and appointed Ms. Helen Wood of NOAA to serve as WGISS Chair. The Plenary also appointed Mr. Hiroshi Kikuchi of STANASDA to serve as WGISS Vice-Chair (designated to assume the Chair after two years), and Dr. Gerard Szejwach, who is transiting from EUMETSAT to IGBP-DIS, to serve as WGISS Vice-Chair charged to facilitate effective interaction with users.

The overall objective and specific goals of WGISS as outlined in the Terms of Reference are given below:

The overall objective of WGISS is to facilitate data and information management and services for users and data providers in dealing with global, regional, and local issues. It will address in particular the capture, description, processing, access, retrieval, utilization, maintenance, and exchange of spaceborne Earth observation data and sup-



Australian Research Agency Chairs CEOS

Brian J.J. Embleton

Head, CSIRO Office of Space Science and Applications (COSSA)

Australia's Commonwealth Scientific & Industrial Research Organization (CSIRO) has become Chair of CEOS. At the conclusion of the Montreal Plenary, Dr Brian Embleton, Head of CSIRO's Office of Space Science and Applications, assumed the position, succeeding Dr Garry Lindberg of the Canadian Space Agency.

Australia's location in the Asia-Pacific Region will provide an opportunity to focus attention on achievements, progress and plans for Earth observation activities in the region.

CSIRO is Australia's premier R&D agency, with responsibility for research in fields that include communication science and engineering; minerals and energy technologies; rural and agricultural sciences; industrial technologies and environmental and natural resources. CSIRO's Office of Space Science and Applications (COSSA) is responsible for co-ordinating the Earth observation activities and has recently established the CSIRO Earth Observation Centre.

The CEOS Chair, coming to CSIRO, is timely because it coincides with initiatives in CSIRO designed to strengthen R&D performance in Earth observation science and technology.

The region is also one that is facing significant social and environmental challenges, and the application of space technologies is regarded by many agencies as a sound basis for sustainable development in the region.

The Plenary in Montreal helped to highlight a number of issues which CEOS agencies will need to grapple with over the next 12 months.

These include, spectrum management, including relationships with ITU/WARC and the increasing competition for communication wave bands through the expanding commercial and non-commercial use of communication networks.

Another issue is the extent to which space agencies are willing and able to respond to user's needs. Through the tireless contribution of affiliate organizations, CEOS members now have a much more systematic means of understanding user requirements, at least in the public sector. The CEOS Task Force is now re-analysing information on user needs; the challenge for members is to heed these inputs, and incorporate them in space sector program planning.

The private sector users bring an additional and important dimension to the category of Earth observation data users. The Chair and the Secretariat will continue the dialogue with the private sector during the coming year.

Finally, following ad hoc presentations in Montreal, CEOS will also be discussing ways of moving towards a global observing system. The new Chair and Secretariat will be co-ordinating plans for additional meetings on this topic, beginning with a meeting in Seattle, March 27-28, 1996.

CEOS seeks to achieve harmony in international Earth observation missions for one main reason. This is so that humankind can gain greater social benefit from the application of Earth observation technologies. One of the

Chairs' objectives during 1996 will be to encourage the continued documentation of the social benefits of Earth observation.

The 1996 Plenary will be held in Australia's Capital, Canberra, November 13-15. This will be the second occasion for the Plenary to be held in the Southern Hemisphere. Northern visitors to the Plenary will have the opportunity to observe the unfamiliar sights of southern hemisphere constellations, like the Southern Cross. In a similar vein, the by-words for the Plenary could be "same world-different view!"



CEOS Resolution on WGISS

(as adopted by the 9th Plenary, 1995)

CEOS,

recognizing the unique characteristics of Earth observation information systems and data communications networks as tools for timely access to, and dissemination and exchange of, data and information,

and recognizing the need to advance the understanding of environmental processes and Earth resources management and monitoring,

also recognizing the necessity to promote effective international cooperation,

establishes the Working Group on Information Systems and Services (WGISS) by consolidating the CEOS WGD and the WGINs,

thus stimulating, coordinating, and monitoring initiatives, thereby enabling users worldwide to exploit more effectively and benefit from data generated by Earth observing satellites and other sources for national, regional, and global purposes, aware that this measure will provide a more effective way forward than the current structure.

CEOS Working Group on Information Systems and Services (WGISS)

Helen Wood
Chief, Office of Satellite Data
Processing and Distribution,
NOAA/NESDIS, USA

Hiroshi Kikuchi
Chief of Strategic Planning, Earth
Observation Planning Department, Office of
Earth Observation Systems, NASDA, and
Deputy Director, Earth System Science
Division, Research and Development
Bureau, STA, Japan

Gerard Szejwach
Director, International Geosphere-
Biosphere Program Data and
Information System (IGBP-DIS)

The Committee on Earth Observation Satellites (CEOS) Working Group on Information Systems and Services (WGISS) is a brand-new Working Group, established at the 9th CEOS Plenary in October 1995 (see related article on page 1). However, its roots can be found in its predecessors, the Working Group on Data (WGD) and the Interim Working Group on International Network Services (WIGNS).

The WGD was established at the initial meeting of CEOS in 1984 to facilitate the use of data from Earth observation missions by coordinating and standardizing aspects of data management. Over the years it had notable achievements in areas such as formats (creation of CEOS Superstructure), catalogs (establishment of the CEOS International Directory Network), and auxiliary data (initiation of the Global Land One-kilometer Base Elevation project). Although WGD formed a technical Network Subgroup, the CEOS Plenary felt that the importance of global networks merited a higher-level forum. Therefore, the Plenary created a one-year ad hoc Working Group on Networks, followed by a one-year Interim Working Group on International Network Services.

By the time of the joint WGD/WIGNS meeting in May 1995, it became clear that the work of WGD and WIGNS would have to be rationalized and coordinated at the working group level, resulting in a proposal to merge these two groups into the Working Group on Information Systems and Services. The 1995 Plenary established WGISS (see previous page, "CEOS Resolution on WGISS") and approved its Terms of Reference.

The overall objective of WGISS is to facilitate data and information management and services for users and data providers, including the capture, description, processing, access, retrieval, utilization, maintenance, and exchange of Earth observation data from satellites and supporting auxiliary data and information. WGISS will strive to increase the accessibility of data, the interoperability of data and information services, and the interconnectivity of systems used to transfer data and information.

WGISS is committed to responding to the needs of users, including those in developing countries. WGISS will

support improvements in the quality and reliability of data. As appropriate, WGISS will recommend standards and tools to enhance data interuse.

Chairmanship of the WGISS will rotate among WGISS members every two years. For the next two years, WGISS will be chaired by Helen Wood of NOAA.

Hiroshi Kikuchi of NASDA is the Vice Chair designated to assume the Chair after two years. Gerard Szejwach of IGBP-DIS is the Vice Chair responsible for facilitating effective interaction with users.

The inaugural meeting of WGISS was held on November 13-16, 1995, hosted in Moscow by Roshydromet and the Russian Space Agency. The meeting was highly productive and made significant progress in organizing the Working Group to carry out its charter from the CEOS Plenary. The first day was spent reviewing the Plenary decisions regarding WGISS, summarizing recent accomplishments of the WGD and WIGNS, and reporting on several demonstration projects supportive of the objectives of WGISS. The bulk of the meeting was spent discussing the future of WGISS, including a WGISS Five Year Plan to provide a framework for its activities. The group then discussed **what** WGISS should do as well as **how** WGISS should be organized to get its work accomplished. Regarding the sub-Working Group structure, WGISS decided that in the short term, the existing WGD subgroups are continued as interim WGISS subgroups; by October 1996, WGISS intends to implement a new sub-WG structure. The group appointed a writing team to prepare the next draft of the WGISS Five Year Plan, based on input from WGISS-1. The revised version will be circulated to WGISS members in early 1996 for comment well in advance of the second WGISS meeting, which is planned for May 27-29, 1996, hosted by NASDA in Japan. The WGISS Five Year Plan should be completed in time for presentation at the 1996 CEOS Plenary.

For more information about WGISS, please contact Helen Wood, the WGISS Chair, at hwood@nesdis.noaa.gov or fax +1-301-457-5184.



Participants of the inaugural meeting of WGISS



CEOS and Ocean Color

John Withrow

*Senior Assistant Secretary (Remote Sensing and Data Management)
Intergovernmental Oceanographic Commission (IOC)*

The Ninth Session of the Committee on Earth Observation Satellites (CEOS), acting upon the recommendations of the IOC Workshop on Ocean Colour Data Requirements and Utilization (Victoria, BC, 21-22 September 1995), supported the formation by IOC of an International Ocean Color Coordination Group. It tasked that group to coordinate relevant activities within CEOS in order to foster the best collective use of the various ocean color sensors to be launched by different nations over the next decades.

Ocean colour data are essential for monitoring and fostering our understanding of important ocean biological processes. Adequate data pertaining to ocean biological processes is extremely difficult to obtain due to the vast area of the ocean (over 70 % of the earth's area) and to the logistical difficulties of shipboard sampling. Satellite views of ocean colour are our only chance for gaining an overall view of the state of ocean biology at any given time. Ocean colour data is also the most practical way to develop the time-series data that will allow us to separate natural variability in ocean biological processes from secular changes.

Ocean colour data will allow us to monitor at a minimum such important areas as: biogeochemical cycles, direct effects of biology on ocean physics, coastal resources, and fisheries sustainability. The oceans are an important net sink for carbon dioxide released by the burning of fossil fuels. However, because the great spatial and temporal variability of fluxes of carbon dioxide into and out of the ocean are poorly understood, the nature and sustainability of this critical process is unknown. It is known that the uptake of carbon dioxide is related directly to the abundance of marine algae, which can only be monitored effectively on a global scale through ocean colour. The relative abundance of certain types of marine algae, also affect the ability of the oceans to absorb carbon dioxide by affecting the amount of calcium in the oceans, creating the potential for positive feedback between ocean warming and ocean biology.

Changes in alga abundance and species composition affect the extent to which solar radiation is absorbed or reflected by the surface ocean. Such changes will alter local and global oceanic heat budgets, with implications for both local and global climate. Trace gases produced by marine algae and released from the ocean to the atmosphere can affect local climates directly through their effect on cloudiness.

Half the world's population lives within 100 kilometres of the ocean. This huge population has a large impact on the coastal zone. Rivers discharge large amounts of nutrients and sediments, much of it is derived from human activities, into coastal waters, affecting water quality, recreational opportunities, and coastal fisheries. Blooms of toxic algae affect human health both directly and indirectly, most notably through their effects on shellfish. Ocean colour will allow us to better detect, monitor, assess and mitigate the impacts of these events.

Ocean colour measurements will provide data to support the rational management of living marine resources

including aquaculture. Fish populations aggregate at areas of discontinuity between oceanic water masses; because phytoplankton growth may change across such boundaries, ocean colour gives the capability to map the surface manifestation of structure. Utilizing such information, scientists will be able to understand more fully how fish stocks respond to this structure. They will provide the tools that will give managers enhanced capability to intelligently manage and control these living marine resources. This will contribute to the efficient use and sustainability of these resources.

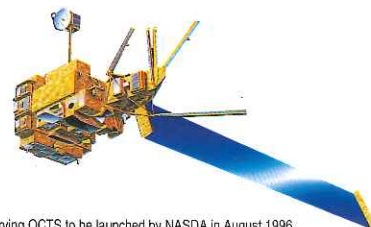
The International Effort

International cooperation in satellite ocean color remote sensing of the global and coastal oceans is very timely owing to the large number of sensors planned for launch over the next 10 years. This cooperation will save money and produce the best possible local, regional and global data products to study daily to interannual changes and trends in the biological characteristics of coastal and open ocean waters. The experience learned from the Japan/U.S. Working Group on Ocean Color (JUWOC), now in its sixth year of operation, suggests that an expanded effort involving more satellites and space agencies will be successful. For example, JUWOC led to coordination of OCTS and SeaWiFS sensor specifications, inter calibration of the sensors, compatible data products and formats, and cooperative calibration and validation programs leading to an exchange of key in situ observations. In addition, JUWOC meetings and symposia helped develop better ocean color applications. Other successful models include the U.S. Pathfinder program for AVHRR measurements and the ISCCP program for global cloud climatologies based on data from international weather satellites.

The Next Steps

The following activities are seen as critical in the next six-twelve months.

1. Continuation of the inter-calibration round robins. Closely associated with this is the inter-calibration of national calibration standards.
2. Development of multi-sensor calibration and validation campaigns and test sites.
3. Integration of in situ measurement programs and sensor development programs. Provision for integration of in situ and remotely sensed data streams.
4. Development of multi-sensor data streams and products.



ADEOS carrying OCTS to be launched by NASDA in August 1996

What is the International Group of Funding Agencies for Global Change Research (IGFA)

John Marks
Hans de Boois
IGFA Secretariat

IGFA was established in 1990 as a platform to facilitate international global change research. IGFA mainly deals with the International Geosphere-Biosphere Programme, the World Climate Research Programme and the Human Dimensions Programme. Data and observing systems are part of the agenda as well.

The rationale of IGFA is that for the funding of these ambitious international research programmes by national funds, international communication between funding agencies is essential. Representatives of the main funding agencies in twenty one countries and the European Union are on the membership list. The funds IGFA members spend on global change research amount to US \$ 2 billion per year.

IGFA aims to:

- exchange information
- consider integration and phasing of implementation in the light of available resources
- promote access to specialized research facilities
- optimize allocation of national contributions

At the international level it is the task of the programmes to set scientific priorities. At the same time however, the programmes should take a realistic view of the funding limitations at the national level. IGFA's role is to foster coherence between the national funding priorities, and to ensure that the requirements of the global programmes are adequately taken into account in the process of national priority setting. This is a complex process, but in global research cooperation there is no better mechanism. In fact at the conference of science ministers of the OECD, the role of IGFA in global change research was cited as a good example of how international collaboration in large scale scientific programmes could be organized.

The most important impact of discussions in IGFA is at the national level. In quite a number of IGFA countries the issues raised at IGFA have been an input in the national funding priority setting. Being part of the international global change programmes has in some countries become an advantage, and sometimes even a requirement to obtain funding for global change research.

IGFA is not a super funding agency. However, the platform function means that national agencies are made aware of existing needs and problems at the international level. In several cases this has led to funds being made available through the normal national procedures.

The agenda of IGFA currently includes four main items:

- human dimensions research
 - Through its working group on Human Dimensions, IGFA is actively monitoring the development of HDP.
- data and observing systems
- interactions with development aid agencies for the support of START
 - First steps have been set towards multi-donor funding of certain START activities.
- resource assessment

The resource assessment is a major enterprise to build

an international database of research projects, their funding and the relevance for the core projects of WCRP, IGBP and HDP. The database enables the programmes to reinforce their networks and to identify crucial shortfalls of funding. The assessment is an important instrument for the funding agencies to create transparency and to evaluate national funding efforts in a global perspective. This serves to build justifications for budgets for global change research at a time that these budgets are under severe pressure in many countries.

Society increasingly demands accountability for the resources it makes available for research. Accountability in terms of the real value for the advancement of science, accountability also in terms of the potential value for society. The latter does not mean purely policy driven research, but rather the charge to present the results in terms that can be communicated to decision makers. This trend dictates the conditions which funding agencies must apply. Political priorities in environment research tend to shift towards solutions: questions of developing a sustainable society, sometimes with the naive assumption that this only requires assessment and research in adaptation, or in new technology. There is a need for communication with the decision makers about the role of research programmes. It should for instance be made clear how much the IPCC draws from results of IGBP and WCRP research. But that is not enough: IPCC deals with climate change, whilst global change is broader. It is important to demonstrate how global change research relates to the issue of sustainability.





The Centre for Earth Observation (CEO) Technical Ac

Peter Churchill CEO Project Manager,
Gunter Schreier CEO Concept Coordinator,
 European Commission - Joint Research Centre Ispra, Italy

Within the framework of the harmonisation of Earth observation activities in Europe and to take actions to increase the utilisation of Earth observation data and information, the European Commission was asked to initiate a programme, called the Centre for Earth Observation (CEO).

After the initial feasibility phase, CEO has finished its Pathfinder Phase in 1995 which resulted in a CEO Concept. This Concept features four major components:

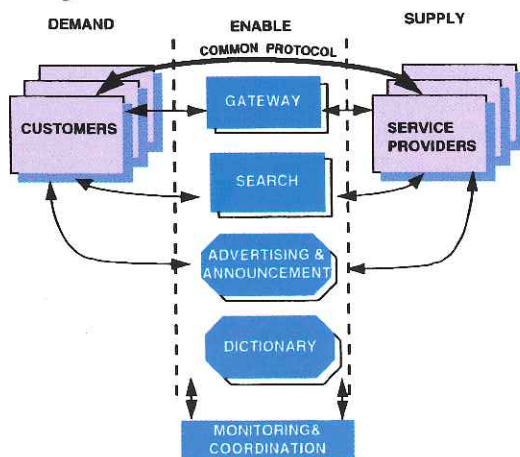
- Application Support
- User Support
- Enabling Services
- Monitoring and Coordination Services

The information technology related part of the CEO Concept is covered in its Enabling Services. The Enabling Services will initiate actions and measures and will provide software tools and systems to increase the exchange and understanding of meta-data, information and knowledge about Earth observation. The systems planned for these shall:

- be based on existing standards
- establish contacts to international a data and information systems
- establish and promote distributed systems

CEO has initiated within its Pathfinder phase a series of "Proof-of-Concept" activities. Some of these activities are concerned with communication technologies in its widest sense. The aim of these "Proof-of-Concept" activities is to test potential technological concepts for the CEO "Enabling Services"; i.e. the distributed CEO information system.

The basic outline of the Enabling Services is depicted in the figure below:



The Enabling Services will consist of:
Catalogue interoperability

- Gateway Services

This element will translate catalogue protocols and "languages" between different catalogue services. This element shall also establish compatibility with other international Earth observation data and information systems, if neces-

sary.

- Common Catalogue Interoperability Protocol (CIP)

This element will establish a common protocol, where data and information catalogues and inventories of different Earth observation data providers could be made interoperable with each other; i.e. users can search for data, independently of the inventory in which the data resides.

Search Services

This element will enable users to search for the data, information and services they need, by means of help, navigation and browse facilities. The Search Services are the tools to connect to data and information repositories. They do not contain information themselves.

Advertising and Announcement Services

This element consists of information repositories of meta-data, service information and user reactions. They contain, meta-information about where to find data, what the data is about, general information and news about Earth observation and fora for interaction and communication between users. The Advertising and Announcement Services can be searched via the Search Services.

Dictionary Services

This element contains a repository of terms, models, parameters and thesauri, which will be used in the dynamic configuration of the common protocol, for the understanding of search parameters and their possible translation between languages.

To prove the concept of these services, the following contracts have been placed within the CEO Pathfinder Phase with European institutions and industry:

1. Preparation of services for the EWSE

CEO is operating a prototype WWW server which mimics many of the potential concepts and promotes the idea of advertising. The server is called European Wide Service Exchange and is the testbed for further developments of the Enabling Services. See <http://ewse.ceo.org/> and register!

2. Population of the CEOS International Directory Network (IDN) with descriptions of European datasets

A study was released which will collect more data information (DIFs) for the CEOS International Directory Network (IDN) and investigates the suitability of the IDN approach for the future CEO Advertising Service. This study also results in a DIF-entry tool (DIFENT). Further on, any of the current and planned CEO application contracts is supposed to describe all information and data they generate into CEOS DIFs.

3. Implementation and feasibility test of an "Information Subscription Service"

The feasibility of automatic information subscription is tested here. One basis for this is the CEOS CINTEX network of interoperable catalogues.

4. Installation of tools to monitor the utilisation of EO services and networks

A Simple Network Monitoring Protocol (SNMP) is

Activities in the CEOS Framework

used to monitor the network traffic of major European data servers. This study aims to obtain statistics as an input to the ongoing CEOS network discussion.

5. Interoperability of major European catalogues through CEOS standards

CEO has released two major contracts in order to allow CEOS CINTEX interoperability to three European data catalogues:

SPOT Image -(all global Spot meta data)

Eurimage--(all European Landsat and some more meta data)

EUMETSAT-(all Meteosat meta data)

The contract will ensure that all these data bases (incl. browse for SPOT & Eurimage) will be accessible through the NASA IMS V0 protocol. This would add - from the European perspective - most important data servers, incl. commercial ones. CEO is therewith supporting to continue with CINTEX as a preoperational interoperability and engineering and user testbed for future interoperability systems.

The initiation of the work and the further procedure was discussed with the CEOS CINTEX team. The contracts are also investigating the potential of the new Catalogue Interoperability Protocol (CIP), currently

discussed in the Catalog Subgroup Protocol Definition Task Team.

6. User access to this interoperability via WWW

A further support for CINTEX is that one need an IMS compatible Client to access this data. As the CEO technical concept is relying on public tools such as WWW, a further work is performed to create a WWW client to access CINTEX compatible catalogues via the WWW. To avoid duplication with the work already initiated at NASA, CEO has decided to go with this client to the latest available technology, JAVA from SUN Microsystems.

7. Non expert access to Earth observation information

Within this work CEO is exploring the use of natural language interfaces and Thesauri for the user guidance within catalogue interfaces.

Summary:

This brief overview has shown, that the European Commission with its CEO programme, is relying and building on the technical expertise of CEOS partners and would like to contribute substantial resources to promote and install CEOS compliant systems for the international Earth observation data and information exchange.

Report from the 9th CEOS Plenary in Canada (continued from Page 1)

porting ancillary and auxiliary data and information, enabling improved interoperability and interconnectivity of information systems and services.

Specific goals are to:

Enable Earth observation data and information services to be more accessible and usable to data providers and data users worldwide through international coordination;

Enhance the complementarity, interoperability, and standardization of Earth observation data and information management and services;

Foster easier exchange of Earth observation data and information through networks and other means, to meet the requirements of users and data providers.

The Plenary thanked the Working Groups for their impressive accomplishments and hard work during 1995.

CEOS Resolution on Ocean Colour

IOC proposed to set up an International Ocean Colour Coordination Group, in order to facilitate the coordination and development of this important new data stream and promote user community involvement. The Plenary agreed that this was a timely and appropriate action and expressed its support of these activities through its endorsement of the following resolution.

The Committee on Earth Observation Satellites:

Noting the executive summary of the IOC Workshop on Ocean Colour Data Requirements and Utilization (Sidney, B.C. 21-22 September 1995);

Recognizing the value of ocean colour data in the under-

standing of the marine ecosystem and their contribution to the global ecosystem;

Also recognizing the need for increased coordination among space-based data providers; in-situ data providers, and the global user community to improve data utilization and reduce cost;

Supports the formation by IOC of the International Ocean Colour Coordination Group (IOCCG);

Encourages all CEOS members, observers, and affiliates with relevant scientific, technical, or other interests to fully participate in the IOCCG.

Requests WGISS, WGCV and IOCCG to coordinate relevant activities in order to foster the best collective use of the various ocean colour sensors to be launched by different nations over the next decades.

Developing Country Activities

The Future CEOS Strategy was amended to sharpen focus on Developing Country activities. Progress was reported on several projects relating to Developing Countries, including IGBP analysis of geographic coverage by high resolution satellites, DARA space information system feasibility study, and CSIRO training package.

Future Meetings

Dr. Embleton confirmed that CSIRO will host the 10th Plenary to be held on November 13-15, 1996 in Canberra, Australia. Dr. Ratier confirmed that CNES would host the 11th Plenary in France 1997 and ISRO proposed to host the 12th Plenary in India 1998.

CEOS Holds First Open Forums

In recognition of the importance of interaction between CEOS and the non-CEOS community, particularly representatives of the private sector, the CEOS Secretariat arranged for three CEOS Open Forum meetings in conjunction with already scheduled international conferences. The Open Fora were a first attempt to stimulate a dialog between CEOS and potential commercial satellite operators, as well as with users not directly represented by CEOS members, observers, and affiliates.

The first three CEOS Open Forum meetings were held at the American Society for Photogrammetry and Remote Sensing (ASPRS) conference on Land Satellite Information in the Next Decade, near Washington, DC; at the European Symposium on Satellite and Remote Sensing II in Paris; and at the International Astronautical Federation in Oslo, Norway. All three forum meetings were held in late September/early October 1995.

In each meeting, approximately 25-30 people attended. The

CEOS Representatives gave a brief overview of the organization, its accomplishments, objectives, and interests, and then invited comments and questions from the attendees. There was considerable interest in CEOS and many requests for additional documents, subscriptions to the newsletter, and other information. The attendees expressed appreciation for the initiative by CEOS, and an interest in continuing a mechanism for further communication.

These results were reported to the CEOS Plenary in Montreal, where it was agreed that this experiment was worth continuing. NASA offered to fund development of a CEOS display to support future Open Forum meetings, and CEOS participants were invited to identify future meetings at which an Open Forum might be organized. CEOS Newsletter readers are invited to contact the CEOS Secretariat if there are meetings at which a CEOS Open Forum could be conducted.

News Highlights

NASDA provides on-line CEOS Newsletter on NASDA EOC WWW server. Currently, EOC WWW server contains full gif image version for all scripts and also ASCII text version with gif image for photo of all CEOS Newsletter (No.1-No.5).

NASDA developed WWW interface for CEOS communication locator System (CCLS) to provide CEOS representative profile with WWW browser.

URL of EOC WWW server for CEOS information and service is "http://www.eoc.nasda.go.jp/guide/guide/committee/ceos/ceos_menu_e.html".

Contributions for future issues of the CEOS Newsletter from the CEOS Members, Observers and Affiliates, and subscriptions to the CEOS Newsletter,

please contact:

CEOS Japan Secretariat
or Ms. Kazuko Misawa at

ceosj@ipx.tksc.nasda.go.jp
misawa@rd.tksc.nasda.go.jp

Meeting Calendar

As of Dec. 1995

Activities	1996										
	January	February	March	April	May	June	July	August	September	October	November
CEOS Plenary											▲ 10th Plenary 11/13-15 CSIRO/Canberra, Australia
CEOS WGISS (Working Group on Information Systems & Services)											△WGISS-3 DARA Neustrelitz, Germany
Subgroups			▲ADS-SG 2/28-3/1 Global Mapping Task Team Huntsville, Alabama, USA			▲WGISS-2 5/27-29 NASDA/EORC, Tokyo ▲WG and SG Joint Meeting 5/29 NASDA/EORC ▲Subgroups Meeting 5/30-31 NASDA/EOC, Japan ▲CINTEX Workshop 5/26-28 NASDA/EORC				△Subgroups Meetings USGS/South Dakota, USA	
CEOS WGCV (Working Group on Calibration and Validation)			▲WGCV 11 2/19-23 CNES, Toulouse								WGCV 12 △ TBD
CEOS Task Force on Planning & Analysis			▲Task Force 2/12-13 ESA, Paris							△Task Force ESA/ESRIN	TBD
Others				▲IGOS Meeting 3/27-29 Seattle, USA							

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

Meetings are open only to CEOS designated participants.



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