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CEOS Holds Meeting on Integrated Global Observing Strategy

Lisa R. Shaffer

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Participants of IGOS meeting in Seattle

On March 27-29, 1996, CEOS Members, Affiliates, and Observers met in Seattle, Washington, hosted by NOAA and NASA, to discuss the desirability, feasibility, and potential role for CEOS in an integrated global observing strategy (IGOS). This meeting fulfilled CEOS Plenary action item 9-19 from the Montreal plenary in 1995. An organizing committee, comprising NOAA, NASA, STA, NASDA, ESA, EUMETSAT, GCOS, and CSIRO, planned the meeting, which was chaired by CEOS Chair Dr. Brian Embleton of CSIRO. All CEOS participating agencies were invited to attend and to provide input to the discussion. Papers were circulated in advance to all CEOS participating agencies to solicit their input regardless of their actual attendance in Seattle.

The meeting focused on the space component of a possible IGOS, while noting that a fully integrated strategy would necessarily include provisions for incorporating observations made by non-space-based instrumentation, and would involve organizations beyond the scope of CEOS. The interest in exploring the elements of a long-term, integrated strategy was sparked by the general realization that many research and operational endeavors can make effective use of Earth observations from space and non-space sources, but there exists no strategic framework within which observational requirements can be presented and addressed.

The consideration of an IGOS addresses the need for much closer coordination and integration of the observing and analysis programs in place and planned for the next decade. Better coordination is required within the space-based and non-space-based components, as well as between space-based and non-space-based components. The term "strategy" implies that CEOS and other organizations could make more effective use of existing and future instrumentation by developing and evolving an international strategy to avoid unnecessary redundancies, fill data gaps, and integrate research results. It also implies the integrat-

ed use of both operational and research systems for studying the Earth and managing its resources, while responding to progress in science and in observations.

The meeting considered several major topics pertaining to a viable integrated global observing strategy, including:

- the need for an IGOS;
- defining characteristics of an IGOS
- implementation mechanisms and the role of CEOS
- next steps

Many social, economic, and environmental issues, such as sustainable development and environmental security could benefit from development of an IGOS. Participants agreed that the existing and planned space-based systems could fulfill user needs more effectively if agencies achieved better coordination and cooperation. It is for these purposes that participants generally supported the concept of an IGOS. The strategy should integrate planning among agencies leading to cost-effective space-based systems, inter-calibration, compatibility of data delivery systems, and better links between and among users and providers. Participants noted that the report of the CEOS Task Force on Planning and Analysis will be instrumental in assessing how well existing and planned systems meet user requirements.

The group agreed on several recommendations. In preparation for the November 1996 CEOS Plenary in Canberra, Australia, the group recommended:

1. The outcomes of the Seattle Ad Hoc CEOS Meeting on an Integrated Global Observing Strategy should be fully discussed at the 1996 CEOS Plenary in Canberra.
2. The CEOS Chairman and Secretariat undertake a review of the CEOS Terms of Reference with regard to: (1) the status of Affiliates within CEOS; and (2) any changes necessary to accommodate an IGOS, and report as appropriate at the Plenary.



Report from the Second CEOS WGISS Meeting

Helen M. Wood

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The second meeting of the CEOS Working Group on Information Systems and Services (WGISS) was held at the Earth Observation Research Center in Tokyo on May 27-29, 1996, hosted by STA/NASDA, with logistical assistance from the Remote Sensing Technology Center of Japan. WGISS-2 had over 40 participants (plus about 20 more Subgroup members at a joint WG/SG session on May 29). Representatives attended from 17 CEOS participating agencies. Helen Wood, WGISS Chair, led the meeting along with the WGISS Vice Chairs, Hiroshi Kikuchi of STA/NASDA and Gerard Szejwach of IGBP.

The meeting was very successful, completing the integration into WGISS of the work of its two predecessor groups, the Interim Working Group on Data and the Working Group on International Network Services. Most of the first day of the meeting was spent reviewing the WGISS Five Year Plan. Since the inaugural WGISS meeting last November, the Plan has been intensively revised by an interagency Writing Team, led by Alan Haskell of BNSC/DRA, and reviewed by the entire WGISS membership. WGISS-2 approved Version 1.0 of the Plan, which will be presented at the CEOS Plenary in November 1996. The Plan identifies six broad areas of work for WGISS: user consultation, data and information management, user services, data standards, CEOS information services, and promotion. To organize its tasks, WGISS established three subgroups:

- Access Subgroup, to work on increasing the accessibility of data and information to users; Chair is Terry Fisher of CCRS and Vice Chair is Gerhard Triebnig of ESA;
- Data Subgroup, to foster the interuse of data by enhancing compatibility of data content, formats, and data application tools; Chair is Gunter Schreier of DARA/DLR and Vice Chair is Wyn Cudlip of BNSC/DRA; and
- Network Subgroup, to promote international coordination of network infrastructure and improve network security and performance; Chair is Richard desJardins of NASA and Vice Chair is Kohei Arai of NASDA/Saga University.

WGISS also established a User Panel, to help ensure that WGISS activities are suitably user-driven and meet user needs. The User Panel will be led by Gerard Szejwach, WGISS Vice Chair for facilitating interaction with users.

Much of the second day of the meeting was devoted to a review of existing activities and consideration of new ones. WGISS approved the following activities as new WGISS tasks:

- Hazards and Emergency Response, led by Miriam Baltuck of NASA, to facilitate cooperation in the rapid exchange of data and information in response to disasters;
- WGISS Strategy, led by Hiroshi Kikuchi of STA/NASDA, to integrate the top-down strategies of WGISS and the bottom-up task team activities;
- CEOS Information Locator Service, led by Thomas Ruwwe of DARA; the

CEOS Plenary supported the DARA proposal to develop a pilot project and asked DARA to work with WGISS to facilitate the electronic exchange of information between CEOS participating agencies and developing countries;

-- Ocean Color, led by John Withrow of IOC, to work with the International Ocean Color Coordination Group on the integration of ocean color data from different sensors and the accessibility of ocean color data;

-- CEOS InfoNext, led by Salim Ansari of ESA, to plan for technology enhancements of the on-line CEOS Information System;

-- Network Architecture and Network Resource Planning, led by Dieter Sundermann of DARA/DLR, to plan and coordinate links for global Earth observation and environmental information networks; and

-- Network Security, led by Grant Miller of NASA, to prevent unauthorized access to networks and develop an Acceptable Use Policy.

The WGISS members expressed their thanks for the years of hard work performed by the outgoing Interim Subgroup Chairs (and formerly Chairs of Working Group on Data Subgroups): George Saxton of NOAA, Catalog Subgroup; Wyn Cudlip of BNSC/DRA, Format Subgroup; Kohei Arai of NASDA/Saga University, Network Subgroup; and Gunter Schreier of DARA/DLR, Auxiliary Data Subgroup. Their leadership and enthusiasm helped to ensure that valuable momentum was not lost during the formation of WGISS.

The WGISS-2 meeting concluded on the morning of May 29 with a half-day joint session with the interim WGISS subgroups to discuss the newly-approved Five Year Plan and subgroup structure. WGISS solicited the cooperation of subgroup members, Interim Subgroup Chairs, and newly-appointed Subgroup Chairs and Vice Chairs in effecting a rapid transition to the new subgroup structure and full implementation of the Five Year Plan.

The next WGISS meeting will be held on October 8-10, 1996, hosted by DARA at the DLR facilities in Neustrelitz, Germany. WGISS-4 will be May 13-15, 1997, in Ottawa, Canada, hosted by CCRS. For more information about WGISS, please contact Helen Wood, WGISS Chair, at hwood@nesdis.noaa.gov or fax +1-301-457-5184, or Jean Schiro-Zavela, WGISS Secretariat, at jschiro-zavela@nesdis.noaa.gov or fax +1-301-736-5828.



WGISS Subgroups Meet in Japan

*Kohei Arai, NASDA/Saga University
Wyn Cudlip, BNSC/DRA*

*George Saxton, NOAA
Jean Schiro-Zavela (ed.), NOAA*

Following a half-day joint session with the Working Group on Information Systems and Services (see related WGISS-2 article, page 2), three of the WGISS Interim Subgroups met in joint session on the afternoon of May 29 at the Earth Observation Research Center in Tokyo.

Presentations were given on a number of topics of mutual interest, including the Catalog Interoperability Protocol (CIP), the Catalog Interoperability Experiment (CINTEX), browse, network performance, network security, NASA Earth Observing System Data and Information System (EOSDIS) "DAAC in a Box," and the regional network program of the United Nations Economic and Social Council for Asia and the Pacific (ESCAP). The subgroups then held two days of meetings at the Earth Observation Center in Hatoyama, hosted by STA/NASDA. Because of the restructuring of the WGISS Subgroups, these were the final meetings of the Interim Catalog, Format, and Network Subgroups.

The Format Subgroup, chaired by Wyn Cudlip of BNSC/DRA, held its 12th meeting. The group discussed the preparation of a Format System Guidelines Document, which will continue under the auspices of a Formats Task Team in the new Data Subgroup. Part of the Guidelines activity is the development of a "Data Inter-Use" Model to introduce concepts and define terminology. The form of this model and its applicability was discussed extensively at the meeting. CNES, CSIRO, NASA, NASDA, NOAA, and RAS/IRE presented agency reports, which led to discussion on a range of topics, including: development of the Hierarchical Data Format (HDF) for NASA's EOSDIS, metadata standards, HDF tools, data migration, format translation, the Subgroup's relationship with the Consultative Committee on Space Data Systems, AVHRR HRPT archive formats, and the use of the EAST Data Description Language.

The Catalog Subgroup, chaired by George Saxton of NOAA, held its 16th meeting. Richard Goebel of DLR, leader of the CINTEX Task Team, reported that CINTEX will have several new sites on line by the end of July and that planning for "operational status" is underway. Christiane Nill of ESA, who led the Protocol Development Task Team, presented an overview of the status of the CIP, which is based on Version 3 of the Z39.50 information retrieval standard. Specification of CIP-A, which includes basic search and retrieval functionality, has been completed; CIP-B, which includes accounting and ordering functions, will be ready by January 1997. Yonsook Enloe of NASA, who heads the World Wide Web Task Team, said that a WWW Gateway to CINTEX sites will be completed shortly, implementation of a software reuse library is underway, and the WWW Task Team-sponsored workshop on "WWW Access to Earth Observation and Geo-referenced Data" at the recent International WWW Conference in Paris was very successful. Shin-ichi Sobue of NASDA, the Browse Task Team leader, reported that a Browse Reference

Model, developed by BNSC, and a white paper on browse, written by George Milkowski of the University of Rhode Island, have been accepted as final, and that browse evaluation items for CINTEX and browse requirements for CIP-B have been proposed to the respective task teams. Lola Olsen of NASA, leader of the International Directory Network Task Team, reported on proposals for a new set of keywords for the Data Interchange Format and minor modifications to the DIF format (to comply with U.S. Federal Geographic Data Committee standards), and she demonstrated the use of Z39.50 technology to distribute the IDN database among multiple sites. Brian Thomas, representing BNSC and leading the Catalog Guidelines Task Team, said that, in the future, the Catalog Guidelines will be an on-line, evolving document.

The Network Subgroup, chaired by Kohei Arai of NASDA/Saga University, held its 10th meeting. Andy Germain of NASA gave a presentation on current network performance measurement tests and the newly developed time-stamping tool. Kohei Arai presented some of the current issues in the area of network security. The subgroup also discussed new tasks which were just approved at the WGISS-2 meeting: network resources planning and coordination, network architecture, and network security. The network resources planning and coordination task was combined with the network architecture task to create a single task team under the leadership of Dieter Sundermann of DLR. The task team will create documents on CEOSnet Resource Planning and Coordination and CEOSnet Architecture. Grant Miller of NASA is leading the Network Security Task Team and will conduct a study on network security and report on it at the Network Subgroup meeting in September. The new subgroup will harmonize its activities with the WGISS Access and Data Subgroups and will work with the WGISS User Panel to ensure consultation regarding user requirements.

The Catalog and Network Subgroups each heard reports on significant developments by participating agencies and then met in joint session on the afternoon of May 31 to discuss topics of mutual interest, such as CEOS InfoSys, Yellow Pages, common network architecture issues, network support for the IDN and for CINTEX and CIP testing, end-to-end network performance measurements, and the applications layer networking tools.

The subgroup meetings concluded with a tour of the EOC facilities. The new WGISS subgroups (Access, Data, and Network) will have their first meetings, including a joint session, during the week of September 16, hosted by the U.S. Geological Survey at the EROS Data Center in Sioux Falls, South Dakota. Subgroup meetings are also planned for approximately April/May 1997, hosted by CNES in Toulouse.



News of The Working Group on Calibration and Validation

Susan M. Till

Director, Data Acquisition Division

Canada Centre for Remote Sensing (CCRS)

Eleventh Meeting

The most recent meeting of the WGCV was held at Toulouse, France, on Wednesday 21 to Friday 23 February 1996, chaired by Dr Susan Till (Canada/CCRS). It followed two-day meetings of the WGCV Subgroups on Infrared and Visible Optical Sensors (IVOS) and Terrain Mapping (TM), chaired by Drs Ian Barton (Australia) and Ian Dowman (UK), respectively. The meeting was hosted by the Centre National d'Etudes Spatiales (CNES) and was held in Le Grand Hotel Capoul in the centre of Toulouse. The meeting was well attended with 21 member agencies and two observers represented.

CNES arranged a Special Session on Thursday afternoon, with presentations on RADARSAT, and two CNES activities, status of "Vegetation" and SAR interferometry for geodesy. A tour by bus followed, of four laboratories in the Toulouse area: the Instrument Calibration Lab, at CERT/DERO; the Satellite Integration White Room, at Matra Marconi Space; the Optoelectronic Lab and Antenna Compact Base, both at CNES.

Major items discussed during WGCV11 were the Dossier, Strategic Plan, and subgroup activities. Newsletter Issue 6 was finalised (it is to be published early summer 1996) and proposals for articles were made for Issue 7. Two recommendations were formulated, concerning Interferometric SAR and Calibration and Test Sites, to be presented at the next CEOS Plenary in October 1996.

WGCV Dossier

Much of the input for the Dossier on Calibration and Validation has been assembled by NASA, with information from members, subgroups, and colleagues. The Dossier is compiled in three main sections, Test Sites, Laboratories, and Instruments. Any further information is welcomed and the format allows for continuing updates and additions. It is now available on the WWW at http://spso.gsfc.gov/calval/calval_hpage.html

Strategic Plan

The second revision of Issue 1 (originally released in September 1994) was reviewed at WGCV11, and a third revision is now in process. This updated version will be issued in September 1996, in time for the CEOS Plenary.

This covers the plans and activities of the Working Group and its subgroups over the next five years.

Subgroups

The IVOS Subgroup met in Toulouse 19-20 February, including a special session of eight presentations on Radiative Transfer. The members have had recent discussions on ocean colour, atmospheric correction, test sites, and input to the WGCV Dossier. The next meeting will consider calibration and validation plans.

The Subgroup on SAR Calibration, chaired by Tony Freeman (US/JPL), last met as a special session set up during IGARSS'95. SAR calibration has advanced so that calibrated SAR data is now the norm, with the majority of technical problems addressed and published. The next meeting is scheduled for December, 1996, at the Canadian Space Agency, St. Hubert, Quebec, discussing RADARSAT data quality evaluation (please contact R.Hawkins at

hawkins@ccrs.emr.ca for more details).

The Subgroup on Microwave Sensors, chaired by James Shiue (US/NASA), met in October 1995. Discussions are ongoing on active sensors, terminology, and upcoming microwave missions.

The TM Subgroup also met in Toulouse and held technical discussions on interferometric SAR. Their ongoing concerns are test sites, DEMs, and the Evaluation Guide, which will be distributed widely with the Test Site Catalogue. Projects for validating terrain models derived from sensors were discussed.

Future Plans

The next meeting, WGCV12, is planned for 2 to 6 December 1996 and will be held at Oberpfaffenhofen, Germany, hosted by DLR (contact Wolfgang Noack). It is anticipated that some subgroup meetings will coincide with WGCV12.

The WGCV Dossier will be augmented on a continuing basis. WGCV Newsletter Issue 7 should be available in October/November, 1996.

Change of Chair

Susan Till, who has Chaired the WGCV for the past five years, announced that she will step down from the position in November 1996. Susan took on the Chair's position in late 1990, and the group was revitalized with a meeting in Ottawa in August, 1991, which set new terms of reference and objectives for the group. She has since chaired seven meetings in the UK, Brazil, Italy, USA, Australia, Russia, and France, and has attended all the CEOS Plenaries on behalf of the members.

Some of the main cal/val objectives are addressed by subgroups, particularly on a technical level. The SAR Calibration Subgroup was ongoing in 1991 and has continued its work. In 1992 three additional subgroups were formed:

IVOS, Terrain Mapping, and Passive Microwave (the latter was renamed the Microwave Sensors Subgroup in 1994). The subgroups have worked particularly well to inform WGCV members and to forward proposals for discussion and possible formulation as resolutions to the CEOS.

Major outputs of the WGCV during Susan's term in office have been production of the WGCV Dossier and the Strategic Plan, periodic publication of the WGCV Newsletter, and organization of and documentation for test sites. The work has been accomplished through productive meetings with exchange of technical information, working sessions, and great support from the WGCV and subgroup members.

Beginning in November 1996, the WGCV will be chaired by Dr Alan Belward. Alan has a Ph.D. in remote sensing and global change, and is employed on the Scientific and Technical staff of the European Commission, working with the Space Applications Institute of the Joint Research Centre (Ispra, Italy).

10th CEOS Plenary Advisory Note 1, April 1996

Brian J. J. Embleton

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

This is the first in a number of regular notes from CSIRO containing information about the 10th CEOS Plenary which will be held at the National Convention Centre, Canberra, 13-15 November 1996.

We look forward with great pleasure to your participation in Plenary events, both business and social.

This will be only the second time that a CEOS Plenary has been held in the southern hemisphere. Many participants will be visiting this part of the world for the first time.

We will be attempting to provide enough information for you to have an enjoyable visit. A logistics package and preliminary registration information will be dispatched around June. A draft agenda and final registration information will follow in August.

Because there is a large amount of business to be completed at the Plenary, much of it complex, we will be insisting on the circulation of agenda papers well in advance to allow for deliberation before the event. Later in the year we will announce schedules for receipt of agenda papers.

With the expected high volume of issues to be dealt with, there will be no time for oral agency reports, except for new and remarkable events. Agencies are, however, encouraged to supply prepared material covering highlights of the preceding year. This material could be in written form for distribution at the Plenary or in electronic form for easier incorporation in the Plenary report or in the CEOS InfoSys.

Secretariat Activities

Since the Montreal Plenary, the Secretariat has met on four occasions:

- 14 October 1995, in Montreal
- 6 December 1995, by Teleconference
- 7 February 1996, in Hobart, Australia
- 29 March 1996, in Seattle, USA

I would like to advise that from February 1996, the ESA representative on the CEOS Secretariat is Dr Harald Arend, replacing Dr Huw Hopkins.

I welcome Harald to the Secretariat, where he has already had a productive impact.

On behalf of the Secretariat, and the CEOS agencies, I sincerely thank Huw for his long-term contribution to our work.

9th Plenary Outcomes

Several key issues were flagged at the 9th Plenary as requiring further attention this year. I refer to several of these issues below, with some personal observations on actions to date.

Task Force report on mission gaps and overlaps

Dr Bizzarri has led a number of meetings, workshops and related activities, designed to revise the CEOS Dossier and enable analysis of long-term needs. The Task Force meeting in September will be another major milestone, prior to presentation of the final report at the Plenary.

Contribution of Affiliates to the work of CEOS

For some years the CEOS Affiliates have been strong contributors to CEOS activities. Their familiarity with Earth observation applications; benefits; and user requirements,

have assisted, and in some cases have led, the development of activities such as the CEOS Dossiers; the Task Force analysis; and the Integrated Global Observing Strategy. Many Affiliates take an active part in CEOS Working Groups. Perhaps it is time to reconsider the relativity of Affiliates and Members at a general level. The Secretariat is currently reviewing the CEOS Terms of Reference, at the request of the 9th Plenary, and will be making suggestions to Members before the 10th Plenary. In the meantime, I would be pleased to receive comment on this issue.

Dialogue with private sector

A vigorous private sector is an important attribute of a long-term, viable Earth observation community. Many Members already engage in or otherwise support commercial activities, and it is natural that there should be interest from that sector in the work of CEOS. At the same time, we must not lose sight of the fact that CEOS Members and Affiliates are overwhelmingly public-funded organisations, and represent a wide range of approaches to the area of commercialisation and commercial practice. In this context, it may be more practical for Members, Affiliates and Observers to continue to interact with the private sector within their own constituencies rather than for CEOS as a whole to make a more general engagement.

Regional emphasis

The 10th Plenary is only the second in the eastern hemisphere - the Asia Pacific region. I am enthusiastic about Earth observation development in this region and CSIRO will be working closely with our regional colleagues, with the aim of highlighting at the Plenary some of the exciting developments taking place here.

Promotion of CEOS

Presentations on the work and plans of CEOS have been made at the following venues. The list is probably incomplete:

- International Forum on El Nino, Washington, DC, 7 November 1995 (Dr Brent Smith, NOAA)
- ESCAP Education and Network Working Group meeting, Nakhorn Ratchasima, Thailand, 21 November 1995 (Jeff Kingwell, CSIRO)
- Oceanography 1996 Conference, Brighton, UK, 5-8 March 1996 (Dr Garry Lindberg, past Chair)

The following CEOS Open Forums are planned. CEOS agencies are encouraged to participate.

- IGARSS 96, 28 May 1996 (Leslie Charles, NASA)
- ISPRS, 11 July 1996 (Harald Arend, ESA)
- IAF, October 1996 (Brian Embleton, CSIRO)

Spectrum Allocation

Competition with the communication industry for frequency bands has been a major issue for space science for decades, and may have increasing impact on Earth observation in coming years. Attention to this issue is given by the Space Frequency Coordination Group (SFCG). All CEOS participants are encouraged to make both themselves and CEOS known to their local SFCG contacts.



CEOS EO mission/instruments capabilities and user requirements: the database goes on-line

Luigi Fusco
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 Remote Sensing Exploitation Department
 ESA-ESRIN*

One of the most visible output of the CEOS activities in the last years has been the production and publication of the so-called CEOS Dossiers, to set out the current and future plans of CEOS members and their relation to user needs (specially those of CEOS Affiliate and Observer Members).

The published Dossiers address:

- Space Agency Ground Segment Infrastructure (1992 Dossier)
- The Relevance of Satellite Missions to Global Environmental Programmes (1993 Dossier)
- Space Agencies Satellite Missions and Instruments (1994 Dossier)

Those documents are available in paper form and via the CEOS InfoSys. In particular a specific effort was done when the 1994 Dossier was also published in a database form on floppy disk (also available via CEOS InfoSys).

It was soon recognised the need to periodically (every two years) update and maintain the information provided in the Dossiers, and to make the Dossier information accessible to a larger user community.

The updating task of the Satellite Missions and Instrument capabilities (1994 Dossier) and of the Affiliate Members user requirements (1993 Dossier) has been considered with high priority, as this was the most important input required by the established CEOS Plenary Task Force on Planning and Analysis (see L.Shaffer article on CEOS Newsletter No.5, Summer 1995).

ESA volunteered to provide the necessary system effort to build the on-line database of EO mission/instrument capabilities and user requirements to meet the need expressed by the Task Force team, leaving to the Task Force members the responsibility of defining the parameters to be handled in the database and of filling the specific content.

CEOS Dossiers on line database: objectives

The implementation of the "CEOS Dossiers on line database" is under the responsibility of the team handling at ESA-ESRIN the CEOS InfoSys. The initial objectives of this development can be summarised in:

- make available on line the existing information (specially the 1994 Dossier database)
- provide information navigation capabilities in the database (e.g. hyperlinks between missions, instruments, applications)
- provide an environment for on-line population and maintenance of specific information as defined by the Task Force
- ensure compatibility with the CEOS InfoSys
- provide on-line query of the database

During the initial development phase, considering the potential benefit of the on-line availability of such database, a few additional requirements were raised, mainly in terms of:

- completeness of information to describe mission/instrument capabilities and user requirements;
- hyperlinks to other on-line information available at identified WWW servers
- tools for analysis of capabilities versus user communities requirements
- shared effort for maintenance (each member is responsible for its input validation and in the future for the updating of information)

CEOS Dossiers on line database: capabilities and plans

The system environment for the CEOS Dossier on line

database is in place and is accessible via WWW (and via CEOS InfoSys). Although at present (August 96) the complete functionality is still under development and the population of the database need contribution from most of the CEOS members, the anticipated formal version of the CEOS Dossier will include the following capabilities:

- The mission/instrument description is organised in the following levels of information:
 - Agency description and directory of Agency's satellite/instruments programmes
 - Programmatic features of satellites (and satellite series)
 - Satellite description (orbit, communication and instrumentation information)
 - Instrument description (measurement objectives, spectral characteristics, general and operational features)
 - Instrument performances in terms of geophysical parameters.
- The Affiliate programmes user requirements are organised in terms of parameters versus applications.

At present some 60 applications derived from WMO, GAW, WCRP, GCOS, IOC, IGBP, EC and IUGG programmes are addressed, using some 90 geophysical parameters (e.g. temperature profile, sea surface temperature, ...).

Each geophysical parameter quality is described, as applicable, in terms of horizontal and vertical resolution, accuracy, observing cycle, delay of availability and confidence level.

- Tools for analysis of capabilities versus user communities requirements.

In the present version of the Dossier some initial tools will be made available to allow interactive analysis of user applications requirements with the available and planned mission/instrument capabilities. (The list of geophysical parameters and the performance capabilities of each instrument are consistent with the definition of the Affiliate programmes requirements.)

It is important to mention that the responsibility for the definition of requirements and mission/instrument description parameters, and the maintenance of the database content stays with the Task Force members, while ESA-ESRIN has been only in charge of the database system environment development.

In terms of future plans, it is intended to

- maintain the reference version of the database within the CEOS InfoSys,
- make available copy of the database for stand-alone PC utilisation,
- consider the generation of paper copies of some of the dossier information,
- consider the integration of the on-line database with information available in the CEOS International Directory Network (IDN),
- consider the inclusion of related information, such as G/S systems and available/planned data products.

It is expected that such a database could be used as a consultation tool for improving planning of both Member Agencies and Affiliate programmes; and, at the same time, it could be used to provide update information to the EO international user community.

The WWW URL for the CEOS Dossiers on line database is : <http://dossier.esrin.esa.it>

Windows-based Metadata Generator for CEOS IDN now available - DIFENT

Josef Aschbacher

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Space Applications Institute (SAI)
Unit Centre for Earth Observation (CEO)*

The CEOS International Directory Network contains metadata describing thousands of datasets of interest to Earth Observation and Global Change data users. The system is accessible world-wide and is an excellent and inexpensive means of increasing the visibility of your datasets amongst potential users.

The European Community Centre for Earth Observation (CEO) funded the development of a Microsoft Windows based metadata generator to provide entries to the directory.

This is accepted as a premier tool for the generation of entries, and has the following features:

- * Ease of use
 - only limited knowledge of DIF format required
 - only general familiarity with PC/Windows required
 - use mouse to navigate quickly through program screens, select categories etc
- * On-line help
 - command hints on all entry fields
 - extensive help available with mouse clicking on any field
- * Entries can be developed over a period of time, in a number of sessions:
 - no need to finish in one session
 - all data is recorded and available for edit at next session

- * Minimise level of effort required in entry of information:
 - repeated data can be re-used within a number of dataset descriptions
 - 'cut and paste' from any Windows application
 - * Simplified method of generation
 - review output before generation
 - output in new and old DIF formats for compatibility
 - output in GILS, FGDC formats with no additional data entry
- The software is already in use by a number of data centres in Europe, and all have commented upon its ease of use and the significantly reduced effort required in generating DIFs.

Please access the following address to obtain further information, register with the DIFENT User Group and obtain the software:

<http://www.smithsys.co.uk/dif>

For further information please contact:

Centre for Earth Observation (CEO)
European Commission Joint Research Centre
Space Applications Institute 21020 Ispra (Italy)
Tel: +39-332-78-5031, Fax: +39-332-78-5461
e-mail: peter.churchill@jrc.it

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CEOS Holds Meeting on Integrated Global Observing Strategy

3. The Global Climate Observing System (GCOS) should be invited to present to the 1996 Plenary the results of the September meeting of the in-situ community on global observations.

Furthermore, the Seattle participants recommended:

4. In order to address the many issues concerning development of an IGOS, the 1996 Plenary should consider creating a CEOS study team, made up of those Members, Affiliates, and Observers ready to contribute to an IGOS.
5. The 1996 CEOS Plenary meeting should consider invit-

ing the Global Terrestrial Observing System (GTOS) to become a CEOS Affiliate.

A full report of the Seattle meeting has been prepared and is available through the CEOS Secretariat representatives or other CEOS agencies. This topic and, in particular, the recommendations from the Seattle meeting, will be discussed at the upcoming CEOS Plenary meeting. The Plenary will address the broad issue of future CEOS strategy, which includes consideration of a possible CEOS role in the evolution of an IGOS in the future.

(continued from Page 5)

10th CEOS Plenary Advisory Note 1, April 1996

A Global Observing Strategy

The CEOS ad hoc meeting on the space component of an Integrated Global Observing Strategy was held in Seattle, 27-29 March 1996. This was an important milestone for efficient, long-term global observation of natural phenomena. The process of strategy development will be continued at a meeting, to be hosted by GCOS, in September and which will consider the "in situ" or local measurement aspects of the integrated approach. A report on the Seattle meeting is being prepared by the Organising Committee, and following review by the meeting attendees, will be forwarded to you. This important issue will be a key agenda item in November.

Documenting social value of EO

As a major activity for 1996, CSIRO is leading the preparation of a CD-ROM containing case studies and

data sets on social benefits of Earth observation. We have received a number of examples from members, but would consider including additional case studies, especially in the areas of planning and infrastructure development. This project is also designed to assist training and education, especially in developing countries.

Developing countries

You will recall at the 9th Plenary that the EC reported it had established a calendar database for airborne campaigns related to developing countries and all agencies were requested to populate this database. If you plan to undertake any airborne campaigns in developing countries, please notify Alan Belward, IRSA, JRC, Ispra, Italy, Ph: 39 992 78 6765, Fax: 39 992 78 9536, Email: alan.belward@jrc.it.

Launch of ADEOS/H-II Launch Vehicle Flight No.4

The National Space Development Agency of Japan (NASDA) launched the fourth H-II Launch Vehicle (H-II-4F) from Tanegashima Space Center with the Advanced Earth Observing Satellite (ADEOS) and Japan Amateur Satellite-2 (JAS-2) on board at 10:53 AM on August 17, 1996 (JST) at a launch azimuth of 115 degrees.

NASDA confirmed that ADEOS was inserted into the following planned orbit:

Apogee	830.8 km
Perigee	800.5 km
Orbit Inclination	98.6 degrees
Period	101.2 minutes

The commands to deploy the NSCAT antenna and the Inter Orbital Communication Subsystem (IOCS) antenna were transmitted from

NASDA tracking and data acquisition stations on the 7th, 8th, 15th, and 21st revolutions. The antennas were successfully deployed as confirmed by telemetry data.

NASDA placed the satellite into its final orbit and continues checking bus system functions and mission instruments for 90 days.

NASDA would like to take this opportunity to express its sincere gratitude to all those who supported this successful launch.

ADEOS Launch information is now available on NASDA WWW server:

<http://www.nasda.go.jp>

News Highlight

The WGISS has established a Data Purge Alert Bulletin Board service on the Internet to facilitate the rescue of potentially valuable environmental data planned to be purged by data archivers.

This advertising service, maintained by ESA, can be accessed through the CEOS Information System Home Page (URL=<http://ceos.esrin.esa.it/Cceosinfo>) by first clicking on "About CEOS", and then "Data Purge Alert Bulletin Board". CEOS participating agencies and other data archivers who intend to purge environmental data may advertise their intent on the bulletin board. Agencies interested in rescuing these data can read purge messages on the bulletin board, or they can subscribe to the service and be automatically informed of intended purges through their electronic mail systems.

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

please contact:

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Meeting Calendar

As of Aug. 1996

Activities	1996						1997						
	May	June	July	August	September	October	November	December	January	February	March	April	May
CEOS Plenary level													
Secretariat Meeting	▲13 Telecon	▲19 Telecon		▲15 Japan	25-26▲ Frascati		▲13-15 10th Plenary CSIPO/Canberra, Australia 12▲▲16						
CEOS WGISS (Working Group on Information Systems & Services)		▲27-29 WGISS-2 NASDA/EORC, Tokyo 29 SG Joint Meeting ▲29-31 Subgroup Meeting NASDA/EOC, Japan				▲8-10 WGISS-3 DARA, Neustrelitz Germany							13-15△ WGISS-4 CCRS, Ottawa Canada
Subgroups		▲26-28 CINTEX Mtg. EORC			▲16-20 Joint SGs Meeting USGS/South Dakota, USA ▲15 CINTEX Workshop								△ SG Meetings CNES, Toulouse
CEOS WGCV (Working Group on Calibration and Validation)					19-20▲ Terrain Mapping SG USGS/South Dakota, USA			▲2-6 WGCV 12 DLR, Germany △SAR/CSA St. Hubert, Canada					
CEOS Task Force on Planning & Analysis					23-25▲ Task Force Meeting ESA/ESRIN								
IGOS (Integrated Global Observing Strategy)					▲10-13 In Situ GCOS/WMO Geneva ▲25 IGOS/Task Force								

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

Meetings are open only to CEOS designated participants.

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