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IGOS Strategic Implementation: Projects and Partnership

D. Brent Smith

International and Interagency Affairs Office, NOAA/NESDIS

In discussions since late 1995, CEOS has appropriately focussed its attention on the space component of an Integrated Global Observing Strategy (IGOS) with an understanding that satellite-based measurements must be integrated with in situ surface measurements to produce an optimized set of observing data.

Ad hoc meetings organized by CEOS (Seattle, March 1996) and GCOS (Geneva, September 1996) helped increase the understanding that integrated global observing can succeed only through the development of a synergistic partnership among funding agencies responsible for provision of space-based and in situ observations, user organizations, and user communities. As reported in the previous CEOS Newsletter, there was consensus at the November 1996 Plenary that CEOS interact with other involved international organizations to continue work toward achieving such a strategy, with the Plenary creating an IGOS Strategic Implementation Team (SIT) at senior level.

First Strategic Implementation Team Meeting

In accordance with direction from the Plenary, NOAA and NASA hosted the first meeting of the SIT, in February 1997, in Irvine, California, under the chairmanship of Brian Embleton, CSIRO. The rationale of the meeting was: to continue development of the IGOS concept; to examine how CEOS could contribute to the space component of such a strategy; and to agree on early implementation activities. All CEOS participating agencies were invited as was the International Group of Funding Agencies (IGFA) because of its key role in bringing together funding agencies for international global change research programs. Turnout was excellent with senior representation from ASI, BNSC, CCRS, CNES, CSA, CSIRO, DARA, EC, ESA, EUMETSAT, INPE, ISRO, JMA, NASA, NASDA, NOAA, and STA as well as from WMO, IGFA, GCOS and GOOS. Also represented were the WGISS Chairman and the Chairman and Affiliates' point of contact for the CEOS Analysis Group which was established by the 10th Plenary to complement the IGOS focus of the SIT in its analysis of how well existing and planned space missions and products address fore-

seen user requirements. There was strong agreement in the Irvine meeting that the requirements definition for IGOS be user driven and address the political protocols and conventions (such as IPCC and Agenda 21) as well as the programmatic level in support of specific national and international research and operational activities.

Selection and Development of IGOS Prototype Projects

The SIT, in consultation with participating GCOS and GOOS scientists and the Director of WMO's World Weather Watch, identified and agreed to pursue six prototype projects of international dimension designed to demonstrate the accrued value of working within an IGOS framework. The accompanying table briefly identifies the projects together with identified provider and user participant organizations. While the projects vary greatly with regard to scope, they were selected on the basis of degree of political and societal importance, the feasibility of early and tangible accomplishments, the clear need for an integrated global strategic approach, and the existence of agencies willing to take the lead in developing a partnership.

The Global Ocean Data Assimilation Experiment, for example, builds upon a set of operational requirements well articulated within the global ocean community and is being developed as a high priority requirement of the GOOS/GCOS/WCRP Ocean Observations Panel for Climate. Over the course of the next several months, project articulation has advanced through identification of participants, holding of focussed workshops, and analysis of associated user requirements and existing/planned space component capabilities in March, July, and September meetings of the CEOS Analysis Group (see next page). Reports on the status of project development will be made to the Second SIT Meeting in September and in a Plenary session of the International Astronautical Federation Congress in Turin in October.

Toward a Broader IGOS Partnership

As agreed in the First SIT Meeting, the Chairmen of CEOS and IGFA contacted senior officials of the Global Observing Systems (G3OS) and their sponsor organizations,

(to be continued on Page 2)

THE 1997 CEOS Yearbook "Towards an Integrated Global Observing Strategy"

The 1997 CEOS Yearbook, entitled "Towards an Integrated Global Observing Strategy", is planned to be issued in October 1997. The report, prepared by ESA on behalf of CEOS, presents the status and perspectives of the IGOS development, the main capabilities of Earth Observation satellites and their major current and future applications, as well as a systematic overview of present and planned E.O. satellite missions and instruments.

It is a valuable source of information for a variety of users spanning the wide range from Earth system research to decision making in political and socio-economic sectors. Copies will be distributed to all CEOS Members, Observers and Affiliates. Other interested readers can obtain copies through their regional CEOS Secretariat contacts (see last page of CEOS Newsletter).

Harald Arend, ESA

CEOS Analysis Group Activity

Yukio Haruyama

Chair of Analysis Group, STA / NASDA

The CEOS Analysis Group (AG) was formed at the 1996 CEOS Plenary in Canberra. Its Chairman is Yukio Haruyama, NASDA and he is closely supported by John Morgan, GOSSP Chairman and Affiliates' Coordinator. The Plenary also formed the Strategic Implementation Team (SIT) which has Brian Embleton (CSIRO) as its Chairman.

The purpose of the AG is to supply CEOS Participants and the SIT with an analysis of the extent to which existing and planned missions are meeting the current set of defined requirements. This analysis is to be presented such that CEOS Participants can consider their own plans and the SIT can develop recommendations for coordinated CEOS agencies action to act upon recommendations regarding correction of gaps/overlaps in observing programmes.

The AG has made best use of existing analysis and has ensured that its work plan integrates with, and complements, existing Affiliates plans for similar analysis.

The workplan of the AG was developed during late 1996 and distributed widely for comment. Yukio Haruyama and John Morgan attended the first meeting of the SIT in

Irvine, California (February 1997) and presented details of the workplan to the SIT. These were accepted, with the analysis requirements of the 6 prototype projects forming the basis of the first year of activities of the AG.

The first meeting of the AG was held in Darmstadt in March 1997 (EUMETSAT HQ) and this was attended by 25 users and providers of space data and information. The meeting endorsed the workplan and set out procedures by which the individual projects requirements could be analyzed against CEOS members provision of data and information. The AG identified two types of possible analysis: matching of users requirements against products that are actually available from space agencies (the availability strand); matching of users requirements against products that in principle can be derived from current and planned satellite missions (the utility strand). It was decided that the AG would focus on the availability strand and that analysis of the utility strand would be left to the users (eg CEOS Affiliates such as GCOS, WCRP etc). Preparations then began in earnest for an international workshop to be held in Tokyo, July 22-25, 1997. The aim of the workshop was to answer the question: How well do the current and planned satellite missions and product supply systems of CEOS members meet users requirements? The workshop lasted four days. Days 1 and 4 were held in Plenary session and days 2 and 3 involved parallel sessions focusing on each of the projects. The workshop was a great success with around 100 expert users and providers in attendance.

The final report of AG produced at the third AG meeting in Washington, Sept. 9-10, 1997 will be presented at the 1997 CEOS Plenary in Toulouse, France. The principal results of the AG's activities will also be presented to the second meeting of the SIT, September 29-30, 1997.



Participants of the First AG Meeting at EUMETSAT in Darmstadt

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IGOS Strategic Implementation: Projects and Partnership

as well as other science and user organizations, to propose informal discussions on the IGOS concept with an invitation to become involved in planning an early 1998 senior-level IGOS Partners Meeting. CEOS Chairman Gerard Brachet made an informal IGOS presentation at the invitation of FAO in Rome in mid-May, timed with a meeting of the GTOS Steering Committee. He addressed the WMO Executive Council in Geneva in mid-June on the topic of IGOS. A further informal IGOS discussion took place in Paris in late June with the GOOS sponsors. In connection with that occasion, the CEOS Chairman hosted an informal evening discussion among prospective IGOS partners with participation by CEOS, IGFA, IOC, GOOS, ICSU, WMO, UNEP and IGBP. CEOS has been invited to address IGOS and join in a UNEP-hosted meeting of the G3OS Sponsors Group in Geneva in mid-September. At the discussion among prospective IGOS partners in Paris there was consensus on the need for IGOS partner discussions that would examine models for IGOS

cooperation and lead to a senior-level IGOS Partners Meeting for early 1998.

Second SIT Meeting Planned for Oxford

Principals of all CEOS participating agencies have been invited by SIT Chairman Brian Embleton to the Second SIT Meeting, to be hosted in Oxford, UK by BNSC Director General Derek Davis. Key user organizations have been particularly urged to participate. The SIT will review the status of IGOS prototype projects with project representatives and the AG Chairman; it will address the potential relationship of IGOS to implementation of key international political conventions; it will discuss a range of IGOS-related common issues including project resources and availability of satellite and in situ data; and it will address the concept of IGOS partnership as a prelude to the focus on this topic over the next few months by an IGOS partners planning group.

CEOS Activities in Relation with User Organizations

Jean-Louis Fellous
Chairman of CEOS, CNES

While a good deal of consultation with user organizations has taken place since 1990 when CEOS first created a participant category for the major international user organizations, such consultation has received an immense boost in the last few months, thanks to the active role of my predecessor as the CEOS Chair, Gerard Brachet*, who had placed the reinforcement of the relationships between CEOS and these partners on his top priority agenda.

User organizations have obviously a major role to play in the development of an integrated global observing strategy. As a matter of fact, an IGOS would have little to offer without the active involvement of the international user organizations – on an equal footing and from the beginning – in its definition, planning and future implementation.

CEOS has a lot to learn in strengthening its links with the many partner organizations, currently designated by the word “Affiliates” in the CEOS language. Many occasions were used in April, May and June to meet with these partners. On April 18, Gerard Brachet visited Julia Marton-Lefevre, Executive Director of the International Council of Scientific Unions (ICSU), the parent body of the World Climate Research Programme (WCRP) and the International Geosphere-Biosphere Programme (IGBP). ICSU has a primary role and devotes permanent attention to the issues of science in developing countries, of open access to scientific data and information for scientists world-wide, and of interdisciplinary scientific collaboration. It is quite essential that CEOS maintains and develops its relationship with this unique representative of the science community at large.

* Jean-Louis Fellous was nominated as Chair of CEOS on July 15, 1997, taking over from Gerard Brachet, who was appointed Director General of CNES on July 10.

The Chairman also attended the meeting of the World Meteorological Organization (WMO) Executive Council in Geneva on 17 June, 1997, where he was offered the opportunity to present CEOS and IGOS. With its long experience in coordinating contributions from the National Weather Services and other global observation activities, the WMO is in a unique position to contribute to the development of an IGOS. As a parent body of the WCRP, it also has experience of collaboration with the international scientific community.

Defining and developing the three global observing systems for the climate, ocean, and terrestrial communities is the task of GCOS, GOOS and GTOS respectively. These “G3OS” have various sponsoring bodies, and the Chairman of CEOS attended a meeting of GTOS on May 14 in Rome at FAO, as well as a GOOS Sponsors meeting on June 24 at IOC/UNESCO in Paris, where he presented the IGOS concept. A wide exchange of views took place on these and other opportunities, where the prominent role and action of user organizations in making it possible to develop an integrated global observing strategy were emphasized. Such exchange will continue, and CEOS has kindly been invited by Arthur Dahl from UNEP to participate in the G3OS Sponsor Group meeting he will be hosting in Geneva in mid-September.

A closer partnership is also being strengthened with the International Group of Funding Agencies (IGFA) for Global Change Research, which has helped produce an IGOS “Scoping Paper” that will serve as the basis for further discussions on the implementation of an IGOS. Upon an invitation by Gerard Brachet, an informal dinner took place in Paris on June 24, where all participants – users, space and in situ observation funding agencies – perceived

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Initial IGOS Implementation Projects

Global Ocean Data Assimilation Experiment

Need for an integrated suite of remote (and direct) measurements of the ocean for real-time assimilation, interpretation, and application. The project will provide a regular, global depiction of the ocean circulation, from climate down to ocean eddy scales, consistent with the measurements and appropriate dynamical and physical constraints.

Partners: GOOS/GCOS/WCRP OOPC, CNES, ESA, NASA, EUMETSAT, NOAA, NASDA

Upper Air Measurements

With ground-based radiosonde observations and omega sondes being reduced with a likely impact on numerical weather prediction models, there is a need for in situ and satellite data of tropospheric winds and profiles of temperature and specific humidity.

Partners: WMO, NOAA, EC, ESA, NASA, CNES, EUMETSAT, ECMWF

Long-Term Continuity of Ozone Measurements

Need for a long-term strategy for continuity of stratospheric ozone observations to include space and ground-based measurements of total ozone and vertical profiles; ground-based measurements of both ozone and spectrally resolved surface UV; space-based full daily global coverage total ozone; and vertical profiles of ozone, other species, and temperature.

Partners: WMO/IPCC, ESA, NASA, EUMETSAT, CNES, NOAA, NASDA, ASI, CSA/AES

Global Observation of Forest Cover

Monitoring of forest cover and its changes is essential to a variety of issues including land cover change, biodiversity, and renewable energy resources. What is needed is a systematic plan for routine acquisition and analysis of data on global forest cover from optical and microwave satellites.

Partners: GCOS/GTOS TOPC, IGBP LUCC, CSA/CCRS, FAO, INPE, ESA, EC, NASA, CNES, EUMETSAT, ASI, NASDA, NOAA

Long-Term Ocean Biology Measurements

With multiple ocean color sensors either in operation or planned for development, a coordinated strategy is needed to support data needs for scientific studies of ocean biogeochemical and ecosystem processes.

Partners: GOOS, IOC, NASDA, NASA, CSA, ESA, EC, NOAA, CNES, WGISS, WGCV

Disaster Management Support

Earth observation satellite data is not being fully utilized to support disaster prediction, prevention, relief and recovery. A coordinated effort is needed to develop tools to assist emergency management authorities to quickly locate, acquire, and use satellite data products in disaster management.

Partners: NOAA, EC, ESA, BNSC, ASI, STA/NASDA, NASA, CSA/CCRS, CNES, Council of Europe, DARA, ESCAP, EUMETSAT, GTOS, IDNDR, INPE, RPA PLAN-ETA, WCRP, WMO, WGISS

News from the Working Group on Information Systems and Services

Helen M. Wood

Director, Office of Satellite Data Processing and Distribution, NOAA/NESDIS

Jean Schiro-Zavela

International and Interagency Affairs, NOAA/NESDIS

The CEOS Working Group on Information Systems and Services (WGISS) held its fourth meeting in May 14-16, 1997 at the Canada Centre for Remote Sensing in Ottawa. It was immediately preceded by the first meeting of the WGISS Strategy Task Team on May 12-13. The three WGISS Subgroups - Access, Data, and Networks - met in Toulouse, France (hosted by CNES) in April 1997, along with a number of WGISS Task Teams.

WGISS welcomed Takashi Moriyama of NASDA as Vice Chair, and thanked Hiroshi Kikuchi of NASDA for his years of leadership with WGISS and for championing the importance of a heightened consideration of networking issues within WGISS and its predecessor groups. Mr. Moriyama will complete Mr. Kikuchi's term as WGISS Vice Chair and then succeed Helen Wood of NOAA as WGISS Chair, following the CEOS Plenary in November 1997. WGISS endorsed the nomination of Peter Churchill of the European Commission as Vice Chair for two years, starting in November 1997, and to then succeed Mr. Moriyama as Chair of WGISS.

Building on discussions begun at the WGISS Strategy Task Team meeting, WGISS prepared a proposal regarding the Integrated Global Observing Strategy (IGOS) initiative. WGISS offers to support the IGOS pilot projects through tools, techniques, and recommended practices for:

- data identification, locating data needed for the projects;
- data delivery, using and establishing advanced network capabilities; and
- data preparation, including formatting and geometric transformation, to support interuse of data.

For each of the six IGOS projects, a WGISS point of contact has been identified and examples offered for how WGISS can contribute to the project.

Gerard Szejwach, WGISS Vice Chair for user interaction, reported on the CEOS/IGBP High Resolution Satellite Data Project. The objective of the task is to facilitate access to a limited number of high resolution satellite data scenes to meet the needs of the global change community represented by International Geosphere-Biosphere Programme scientists. The data will be used for global and transect studies. In January 1998, the Project will make specific data requests to provider agencies. As requested by the 1996 CEOS Plenary, WGISS adopted the project.

Also at the request of the 1996 CEOS Plenary, WGISS began consideration of efforts in the area of Geographic Information Systems (GIS). Terry Fisher described CCRS' proposal to increase interoperability of GIS and Earth observation (EO) data within existing WGISS tasks and proposed to conduct a demonstration project to use a single data interface protocol to access full-resolution GIS and EO data from a Canadian network interface.

Strategy Task Team

The Strategy Task Team agreed to focus on evaluating the consequences of the technical work done by the subgroups/task teams and developing strategic recommendations to direct WGISS toward accomplishing its long-term goals. The STT encouraged Subgroups and Task

Teams to engage in proactive encouragement of adoption of their results by data users and providers. Increased outreach to the user community is urged, by involving users in prototype and demonstration projects. The IGOS projects are seen as a significant opportunity for outreach to the user community. Before the second Strategy Task Team meeting, to be held in conjunction with WGISS-5 in October 1997, members of the STT will draft a paper describing the types and characteristics of target users and uses of WGISS' work, as well as the needs and constraints of data providers. User needs and the developing IGOS pilot projects will be major topics of discussion at the second STT meeting.

Data Subgroup

In conjunction with its April meeting, the Data Subgroup (DS) held initial meetings of two new tasks: Data Interoperability and Archiving. The Data Interoperability Task Team's objective is to explore issues involved with accessing data in a range of formats over the Internet using World Wide Web technologies. A current prototyping activity is installation of NASA's "DAAC-in-a-Box" at a number of sites that have data in differing formats. At the Archiving task team's orientation meeting in April, participants agreed to develop a work plan and expressed common concerns about the recording of raw data in digital format and the long-term stability and exchange of data from mission archives based on robotic libraries. Excellent progress has been made on the 1-km AVHRR (land cover) and 1-km topographic (elevation) global land data sets. The DS continues working on format and auxiliary data guideline documents, while the Global Mapping task team is preparing a tutorial on map projections and a review of existing and alternative schemes for global mapping. The Ocean Color task reported on two meetings of the International Ocean Color Coordination Group and an upcoming Ocean Data Symposium in October.

Access Subgroup

The World Wide Web Task Team hosted a well-attended workshop in February 1997, regarding the use of Web technology to provide access to Earth observation/geo-referenced data; the next workshop is planned for February 1998. The on-line version of the "Yellow Pages" Worldwide Directory of On-Line Services for Earth Observation Data Users is available. The International Directory network now has four coordinating nodes (including UNEP) and over 5000 data set descriptions. WGISS agreed that the Catalog Interoperability Protocol (CIP) should be presented to the CEOS Plenary as a formal standard for achieving interoperability among disparate data catalog systems. Meanwhile, CINTeX continues to test existing catalogs protocols for actual global interoperability. The Browse task team is developing recommendation regarding browse formats; these and other recommendations regarding various aspects of interoperable catalog systems will be summarized in an on-line Guidelines document.

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The CEOS Information Locator System CILS

Susan Giegerich & Gunter Schreier

German Remote Sensing Data Center at DLR

Volker Liebig & Thomas Ruwwe

DARA, German Space Agency

A service especially designed to meet the requirements of users of earth observation remote sensing data in developing countries



Many projects using Earth observation data are going on in developing countries (DC) but nobody really knows where and what or who is a point of contact. Having recognized that, the German Space Agency, DARA, was asked to lead an activity to demonstrate a system for providing users in DC with easier access to project information as well as to relevant auxiliary information.

During the next Plenary the results of these efforts are to be introduced. An internet based system was designed in a consortium under the German Remote Sensing Data Center of Germany's aerospace research establishment, DLR (Deutsche Forschungsanstalt für Luft- und Raumfahrt), consisting of Dornier Satellitensysteme GmbH, Kayser-Threde GmbH and WebWeaving m/v, and with the assistance of international partners with extensive experience in addressing the needs of developing countries, including:

- the European Union's Centre for Earth Observation, CEO
- the United Nations Environmental Program, UNEP
- Australia's Commonwealth Scientific and Industrial Research Organization, CSIRO
- the European Space Agency, ESA

What information is available?

CILS is an electronic information service providing access to such meta-information as:

- Descriptions of *ongoing projects*, with basic information about what satellite data is currently being put to use for what purpose with which partners
- The names and addresses of *institutions* with competence ranging from satellite data reception and processing, to developing geographical based information systems or offering training courses in selected aspects of satellite remote sensing in and for developing countries
- *satellite data and environmental information services* like CINTEX/IMS, GCMD/IDN and CEO/GELOS
- A list of *contact addresses* for projects, individuals and organizations with experience in applying remote sensing technology in a wide variety of environmental applications in developing countries, from desertification studies to insect control strategies
- A list of upcoming *calendar events* on issues relating to environmental remote sensing and developing countries
- An online *acronym list* for selected organizations, programs, instruments and campaigns, with emphasis on their relevance for earth observation and developing countries

A free advertising service

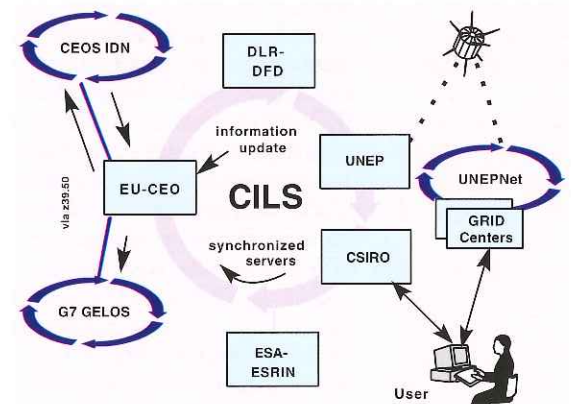
Registered users have the opportunity to provide information about their own institutions, programs, projects and expertise, advertise their own calendar events, or call attention to their own data inventories. CILS will see to it that this information is promptly made available worldwide on the Internet.

Not only that, users are able to regularly update and modify this information from their own workplace, anytime, using either WWW browsers or email.

A free subscription service

Users can stay up-to-date by informing CILS at what regular intervals they would like to be automatically notified about new information added to CILS' database. This might include anything from addresses of institutions in Asia and the Pacific, to information about erosion projects worldwide, or new satellite data products featuring Namibia.

Notification of the availability of subscribed information will be sent automatically by email or-for selected users-by telefax.



What equipment is needed?

For best service, preferably a World Wide Web connection and an email address, but an email address and a telefax connection would also be adequate.

What is the technical background?

The CEOS Information Locator System is based on WWW technology and add-ons developed for the European Commission's Centre for Earth Observation (CEO) project, specifically the G7 Global Environmental Information Locator System (GELOS) (<http://enrm.ceo.org>).

CILS features information interoperability by supporting the z39.50 protocol, and has built-in gateways to a number of CEOS information systems. The information itself is stored in a simple structured database. The structure can be customized according to needs and system requirements.

The various CILS servers, installed worldwide, feature a distributed, synchronized information exchange. If a user has opted to submit information, it is independently copied and shared with all other CILS servers.

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News from the International Ocean Colour Coordinating Group

*Trevor Platt & Venetia Stuart
Bedford Institute of Oceanography (Canada)*

The International Ocean Colour Coordinating Group (IOCCG) held its second committee meeting in Tokyo (Japan), 17-18 March, 1997, at the NASDA Headquarters. It was attended by committee members as well as several observers.

Brief presentations were given on the status of ocean-colour missions in various agencies, including ocean-colour sensors in orbit at the time (MOS, OCTS and POLDER) as well as sensors scheduled for launch (SeaWiFS, MERIS, MODIS, LCR, GLI, OCI and OCM). Considerable attention was devoted to the subject of calibration and validation of ocean-colour sensors to common standards. It was agreed that a universally-accepted protocol for standard calibration procedures was desirable and that all agencies should be encouraged to participate in annual multi-mission calibration experiments. Furthermore, the group resolved to hold a specialized workshop scheduled for 6-8 October, 1997 with the aim of reaching an agreement about a common set of spectral channels to be included on all future ocean-colour sensors.

Brief reports were given on the European calibration/validation programmes (CoASTS, CEVEx, COLOURS, and COASTLOOC) as well as NASA's SIMBIOS (Sensor Intercomparison and Merger for Biological and Interdisciplinary Oceanic Studies) project. Information was also presented on recent and present activities of the CEOS working groups relevant to ocean-colour (ie, the Working Group on Information Systems and Services, WGISS, and the Working Group on Calibration and Validation, WGCV). This was followed by an informal presentation on results to date from the large-scale AMT (Atlantic Meridional Transect) programme, the objectives of which are to collect optical and bio-optical data along a transect from Britain to the Falkland Islands for calibration and validation of remotely sensed data.

The terms of reference for the group were finalized at the meeting and can be viewed on the IOCCG homepage along with the complete minutes of the Tokyo meeting (<http://me-www.jrc.it/IOCCG> or <http://www.IOCCG.org>).

Upcoming Events

The IOCCG is co-sponsoring an Intensive Training Course on "Remote Sensing of the Ocean : Applications for Ocean Colour, Temperature and Wind Stress" to be held on 10-22 November, 1997, in Los Andes, Chile. For more information on this course please consult the Training and International Development section of the IOCCG homepage. In addition, the Third Committee Meeting of the IOCCG will be held on 19-21 January, 1998, in Cape Town, South Africa. Please contact the Chairman, Dr. Trevor Platt (tplatt@is.dal.ca) or the Project Scientist, Dr. Venetia Stuart (vstuart@is.dal.ca) for details of this meeting.

SCOR to administer the IOCCG

Since the initial establishment of the IOCCG in early 1996, the Intergovernmental Oceanographic Commission (IOC) of UNESCO has provided administrative support and financial management for the IOCCG. However, at the second Executive Meeting of the IOCCG held in Tokyo on 19 March 1997, it was concluded that the goals of the IOCCG could be more easily achieved by working under an international umbrella organization with somewhat more flexible operating procedures. The Executive of the IOCCG recently approached the Officers of SCOR (Scientific Committee on Oceanic Research) in this regard and the Executive Director (Elizabeth Gross) formally agreed to provide administrative support to the organization. SCOR will thus be the official administrator of the IOCCG, but the IOCCG will continue to maintain liaison with the IOC on matters of common interest. The patron organizations of the IOCCG would then be SCOR, the IOC and CEOS.

What is SCOR?

The Scientific Committee on Oceanic Research (SCOR), established in 1957, is the leading non-governmental organization for the promotion and coordination of international oceanographic activities. SCOR does not fund research directly, but initiates the establishment of programs, providing coordination and administrative support during the early stages. SCOR has national committees in 39 countries and often works in association with intergovernmental organizations such as the Intergovernmental Oceanographic Commission (IOC) and the International Council for the Exploration of the Sea (ICES), as well as non-governmental organizations such as the International Geosphere-Biosphere Program (IGBP).

The activities of SCOR fall into two main categories: establishment of small international working groups to address narrowly focused scientific problems, or the formation of larger Scientific Steering Committees for the planning and implementation of large-scale programs. At present there are 17 active working groups, which accomplish their objectives in a relatively short time frame (around 4 years) as well as two major SCOR-sponsored scientific committees: the Scientific Steering Committee for the Joint Global Ocean Flux Study (JGOFS) and the Scientific Steering Committee for Global Ocean Ecosystem Dynamics (GLOBEC). Both these programs have achieved wide international recognition for their scientific excellence. The early affiliation of each of these programs with SCOR ensured an efficient mechanism for international coordination and cooperation.

In addition to the working groups and scientific committees, there are also four "SCOR-Affiliated Programs". These programs are of a long-term nature, and generally have their own funding and rely on SCOR for advice, review, oversight or administration. The officers of SCOR have proposed that the IOCCG become another "Affiliated Program" of SCOR providing the means for a long-term association with SCOR. This decision is currently being reviewed by the Executive Committee of the IOCCG.

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CEOS Activities in Relation with User Organizations

the new spirit of partnership that is developing between CEOS and user organizations. CEOS has again been kindly invited to attend the next IGFA Plenary meeting, this year in Tucson in October. In the meantime it is planned to continue building upon the excellent climate of collaboration with IGFA that has flourished in the recent period and to act together in view of preparing an IGOS Partners meeting that could take place next spring.

A continuing dialogue between space agencies and user organizations of various backgrounds and experience has come to this stage with a nice touch of friendliness, paving the way to a fruitful convergence of all efforts in setting up observing systems of our unique planet to the benefit of its inhabitants.

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The CEOS Information Locator System CILS

Promoting CILS

Readers of the CEOS Newsletter are invited to have a look by simply connecting to CILS from any WWW browser and examine the offerings.

The CILS URL's are:

- DLR node, Germany <http://cils.dlr.de>
- European Commission node, Italy <http://cils.ceo.org>
- UNEP node, Kenya <http://cils.unep.org>
- CSIRO node, Australia <http://cils.eoc.csiro.au>

CILS would be grateful for comments and suggestions, and, most important of all, assistance in sharing information about this new CEOS service with contacts in developing countries. CILS should not only be a way to log into information sources in the industrialized world; to be meaningful and relevant it must also, and primarily, reflect activities in developing countries, described in the words of local staff, and enable them to contact users of remote sensing technology in other developing countries who may be facing similar situations.

This is only possible if potential users can become acquainted with CILS. Readers of the CEOS Newsletter who are interested in supporting this promotion effort, in a mailing to an appropriate distribution list, or in the course of their regular contacts, can obtain from the CILS staff a brochure, or additional information, by contacting:

Mr. Gunter Schreier, DFD

DLR Oberpfaffenhofen D-82234 Wessing, Germany
Tel. +49(0)8153 28 1375 Fax. +49(0)8153 28 1313
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P.O. Box 300364 D-53183 Bonn, Germany
Tel. +49(0)228 447 303 Fax. +49(0)228 447 703
Email thomas.ruwwe@dara.de

The 1997 CEOS Consolidated Report is planned to be issued in October 1997. The Consolidated Report provides a concise overview of CEOS and its Working Groups, covering its history, purpose and accomplishments to date. NASA will distribute copies to CEOS agencies prior to the Plenary. Additional copies can be obtained from NASA.

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News from the Working Group on Information Systems and Services

Network Subgroup

The Network Architecture and Planning task has developed a CEOSnet Resource Planning and Coordination Document, which describes the current approach to network planning and coordination and activities to define and evolve toward a CEOS global network architecture that will support all CEOS activities. The Network Subgroup has developed an Acceptable Use Policy and a Network Security Policy for the CEOSnet. The Network Performance task continues to monitor and improve network performance in support of CEOS activities. WGISS approved a new task on CEOSnet Next Generation Prototyping, to promote multiagency prototyping of new data and information system services over high performance networks.

Other WGISS Activities

CNES has taken the lead in preparing the 1997 version of the CEOS CD-ROM for Education and Developing Countries. Building on the first version, developed by CSIRO for the 1996 Plenary, CNES is soliciting contributions to expand the CD-ROM's sections on education, remote sensing satellite systems, and application cases.

DARA and DLR have begun the feasibility demonstration phase of the CEOS Information Locator Service (CILS) for developing countries. CILS is a metadata information system that provides a network-based means for users in developing countries around the world to access information about Earth observation by satellite and gives users the opportunity to input, administer, and share their own relevant data and information.

The WGISS Hazards and Emergency Response task team held its first meeting in January and decided to focus initially on pilot projects related to flooding and earthquakes. The task team intends to develop guidelines and demonstrate how Earth observation satellite data can be used for disaster management.

ESA demonstrated the new CEOS Information System (<http://ceos.esrin.esa.it/infosys>) and its full-text search functions.

Future Meetings

The next WGISS meeting (#5), the last one chaired by NOAA, will be held October 21-24, hosted by ISRO in Bangalore, India. It will be preceded by a meeting of the WGISS Strategy Task Team on October 20 and followed by site visits to ISRO and NRSA facilities in Bangalore and Hyderabad. For more information on WGISS or the upcoming meeting, please contact Helen Wood, WGISS Chair, at hwood@nesdis.noaa.gov or fax +1-301-457-5184, or Jean Schiro-Zavela, WGISS Secretariat, at Jean.Schiro-Zavela@noaa.gov or fax +1-301-713-2032.

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http://www.eoc.nasda.go.jp/guide/guide/committee/ceos/ceosnews_menu_e.html

Information on the Preparation of the 11th Plenary

Dominique Fourny-Delloye, CNES CEOS Team

As Chair of CEOS for 1997, CNES (the French Space Agency) will host the 11th Plenary Meeting which will be held in Toulouse on 19-21 November 1997.

The preparation of this major event in CEOS activities has started a few months ago in order to welcome the Plenary attendees with appropriate conditions for a fruitful meeting and a pleasant social environment.

The Plenary will take place in the Toulouse-Labège Diagona Conference Center including a conference room (maximum capacity 100 persons), a large demonstration room where coffee breaks will be served, and several smaller rooms dedicated to secretariat support, e-mail and Internet facilities, small meetings, etc. During the three days meeting lunches will be served in the Conference Center.

A significant number of technical demonstrations will be installed either related to CEOS ongoing activities, like the CEOS Database, the CILS project, or demonstrations specially set up for the Plenary, for instance on the use of SPOT imagery, or of POLDER images.

CNES wanted to give the CEOS Participants an opportunity of discovering the newly open "Cité de l'Espace" where a cocktail party will be offered by the President of CNES and the Mayor of Toulouse. Visits by small groups will be proposed prior to the cocktail. A Plenary Dinner is also in preparation, together with a cultural event, which is being organized, in the historical part of Toulouse, next to the Holiday Inn Hotel.

CNES having its major technical center located in Toulouse, in the same area as SPOT IMAGE, CLS, GDTA, MEDIAS-FRANCE and SCOT-CONSEIL, we propose to organize an optional visit of these facilities on Friday afternoon, November 21. Those participants who have already been there and who need to fix professional appointments with colleagues based in Toulouse could take advantage of this free afternoon too.

As usual, the Agenda prepared for this meeting is very crowded

and it will be hard work for the participants during these two-days and a half.

The 11th Plenary will focus on the Integrated Global Observing Strategy (IGOS) for which a lot of results have been achieved since the last Plenary in Canberra. According to the 10th Plenary decisions the Strategic Implementation Team (SIT) and Analysis Group (AG) were set up, and held their first meetings respectively in February and March. The Second SIT Meeting will be held in Oxford (Great Britain) on 29-30 September. An AG workshop focussed on the implementation of the 6 prototype projects was held in Tokyo on 22-25 July. The third AG meeting is scheduled for 9-11 September in Washington, DC (USA). Referring to the 10th Plenary decisions CEOS Chair had several discussions with the International Group of Funding Agencies (IGFA) representatives and gave the several presentations about CEOS/IGOS issues during meetings gathering Global Observing Systems (GCOS, GOOS, GTOS) and their sponsors (WMO, UNEP, FAO, ICSU, IOC). A "scoping paper" was produced by CEOS together with IGFA, and an informal IGOS planning Meeting that IGFA and CEOS intend to convene in early 1998, is in preparation.

Another important issue will be placed on the Agenda concerning the concept of dialogue partners, which is being discussed by CEOS Secretariat. The Plenary will have to determine the further steps to be taken with this action item which will be carried out further by the new CEOS Chair for 1998, the Indian Space Research Organization (ISRO).

The CNES Team is working actively in order to give CEOS Plenary attendees the possibility to make a success out of their 11th Meeting. They are also aiming at giving the participants a good overview of the Toulouse area, which is a very interesting region in France for its technological development as well as for its historical and cultural background.

Meeting Calendar

As of Sept. 1997

Activities	1997						1998					
	July	August	September	October	November	December	January	February	March	April	May	June
CEOS Plenary						▲ 19-21 11th Plenary CNES / Toulouse						
CEOS WGISS (Working Group on Information Systems & Services) Subgroups Task Team			▲ 21-26 SG / Task, Italy		▲ 21-24 WGISS-5 ISRO / Bangalore, India ▲ 20 STT-2 (India)					▲ 4/20- SGs DLR / Germany	▲ 5/11- WGISS-6 ESA / Frascati, Italy	
CEOS WGCV (Working Group on Calibration and Validation) Subgroups			▲ 3-5 WGCV 13 Shanghai, China IVOS SG	▲ 1 Terrain Mapping, Hannover		▲ 4-6 DLR / Germany				▲ MS SG Alabama		
IGOS / SIT (Strategic Implemen- tation Team)				▲ 29-30 IGOS / SIT-2 BNSC / Oxford								
CEOS AG (Analysis Group)	▲ 22-25 CEOS AG-2 Workshop / Japan		▲ 9-11 AG-3 NASA / NOAA / USA									
Others	▲ 16-18 GCOS JDIMP Japan	▲ IGRASS Singapore		▲ 22-27 GCOS JSTC-VII Holland	▲ 14-17 IGFA Arizona	▲ 6-10 IAF Turin, Italy						

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

CEOS-related meetings are open only to designated participants.

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