

Second Meeting  
Committee on Earth Observation Satellites (CEOS)  
Integrated Global Observing Strategy (IGOS)  
Strategic Implementation Team (SIT)  
September 29-30, 1997  
Oxford, United Kingdom

The British National Space Centre (BNSC) hosted the second meeting of the Strategic Implementation Team (SIT) at New College, Oxford, under the chairmanship of Brian Embleton, CSIRO. The meeting was charged to:

- review the work of the CEOS Analysis Group (AG);
- review the status of, and assess CEOS agency support for, the six IGOS prototypical projects;
- address issues common to the projects;
- consider an IGOS in the context of international conventions;
- discuss the way forward on an IGOS partnership approach with other entities;
- discuss CEOS' role in an IGOS (future of SIT and AG).

CEOS agency representatives included: BNSC, CCRS, CNES, CSA, CSIRO, DARA, EC, ESA, EUMETSAT, GCOS, GOOS, IGBP, IGFA, INPE, ISRO, NASA, NASDA, NOAA, SNSB, STA, WCRP and WMO. Also participating were the six IGOS project chairs and the two CEOS Working Group Chairs.

After welcoming and opening remarks, CEOS AG Chair, Yukio Haruyama, NASDA, and Affiliate Focal Point, John Morgan, Quensha Associates, outlined the work of the Analysis Group, recalling the work through three meetings this year. They presented the AG Report prepared for Plenary (Executive Summary, Appendix Document P3), addressed cross-cutting issues, and proposed a way ahead. The AG considers its initial task as having been achieved and recommends its own dissolution, with project-related activities to take place within the framework of the SIT, possibly by establishing a subgroup. The SIT provided qualified support for the recommendations presented in the AG Report and whilst some reservations were expressed, and the notion of a subgroup discussed, participants did not come to closure.

### **Discussion of IGOS Projects**

A co-chair of each of the six projects presented a status report and specific recommendations for SIT consideration. Meeting participants were invited to react with comments, recommendations for direction, and indications of support.

Philippe Courtier, CNES, addressed the status and recommendations of the Global Ocean Data Assimilation Experiment (GODAE) (Appendix Document P4), a project of the GCOS-GOOS-WCRP Ocean Observations Panel for Climate. Several agency participants noted that GODAE was an excellent example of potential IGOS integration of satellite and *in-situ* measurements. The intention of NASDA and NASA to provide Sea Wind observations, thereby filling an identified gap, was further acknowledged as a successful example of IGOS cooperation. It was recommended that GODAE develop near-term, tangible deliverables and milestones to gain an early understanding of how the assimilation experiment might work, for example through a regional analysis. This should include consideration of the infrastructure needed to deliver the real

time data. It was noted that CEOS does not directly fund projects but can endorse projects and encourage member agencies to support them. Several agencies did offer in-kind contributions.

Paul Menzel, NOAA, addressed the Upper Air Measurements for Numerical Weather Prediction (NWP) Project (Appendix Document P5), outlining initial findings that provision of satellite sounding and wind data over land could mitigate the impending loss of *in-situ* radiosonde observations that will negatively impact global NWP forecasts. SIT participants noted that this project responded to an identified gap and is consistent with meeting an IGOS objective. Several agencies indicated their willingness to consider the provision of satellite data over land in support of the work of the national NWP centers.

Chris Readings, ESA, gave the report of the Long-Term Continuity of Ozone Measurements Project (Appendix Document P6), detailing a proposed workshop and report outline. Agencies indicated interest in this project and recommended that the initial project focus be narrowed to assess the provision of long-term measurements over the next 10-15 years. Participants acknowledged that a shorter-term product does not obviate the need for a longer-term report. The importance of cross calibration of space and *in-situ* data, as well as the willingness to participate in cal/val activities, was noted by meeting participants.

Frank Ahern, CCRS, briefed participants on the Global Observations of Forest Cover Project (Appendix Document P7), defining a suite of potential products that will be needed and identifying data access policies and costs as potential challenges. Cognizant of the need to coordinate this project with FAO, Ahern noted that he and the CCRS Director General had met with FAO to discuss collaboration. A number of agencies including IGBP expressed strong interest in the project and a willingness to provide experts and other in-kind contributions with NASDA indicating its intention to provide low-cost data, and the EC access to results and data from its on-going global tropical forest project.

Trevor Platt, Bedford Institute of Oceanography, presented the Ocean Biology Project (Appendix Document P8), which is now being pursued under the auspices of the International Ocean-Colour Coordination Group. Most agencies indicated support for the project and intention to participate. Whilst several space agencies are already contributing to the activities of the IOCCG, there is a further need to support algorithm development, access to ocean-colour data and, through IGFA, support for oceanographic expeditions for the collection of *in-situ* data. It was suggested that this project presented an opportunity to address potential redundancies in the provision of observing systems for ocean colour, consistent with the pursuit of IGOS criteria, and that the project would also benefit from a long-term focus.

Helen Wood, NOAA, outlined the Disaster Management Support Project (Appendix Document P9), which was recognised at the outset as different from the other projects in that specific user requirements for satellite data have not yet been developed. User agencies have been identified and have participated in a series of three well-attended meetings/workshops. The overall response was encouraging, with some seeking clarification of the methodology and others a focus on specific issues. Most agencies expressed strong support for developing this area, which they deemed to be of high political and societal significance. Assurance was provided that the project would complement and support national agencies (eg National Meteorological Services) responsible for preparing and issuing warnings.

Yukio Haruyama, NASDA, briefly described a proposal from the Japan Meteorological Agency for a new IGOS project in the field of Global Land Surface Hydrology. It was suggested that this project might be considered within the context of GEWEX. Members concluded that proposals for new IGOS projects should be considered by CEOS and other partners in a more broadly based, future IGOS.

## **International Conventions and Common Issues**

Meeting participants appreciated the considerable effort to identify international conventions of relevance to an IGOS (Appendix Documents P10). While an IGOS is not primarily driven by the observational requirements encapsulated by such conventions, it was recognised that international political commitments are a noteworthy context within which to consider priority IGOS projects and activities. It was agreed that treaty verification was not in the remit of either IGOS or CEOS, although individual SIT agencies may wish to identify IGOS activities in national reports for relevant international conventions.

While a set of common issues relating to IGOS activities were identified, particularly the issues of data availability and data policy (Appendix Documents B7, 9-12), meeting participants chose not to engage in detailed discussion of these matters but recognised their potential relevance in discussion of specific projects.

In an animated discussion in which the basic premises of an IGOS were queried in response to questions raised by new SIT participants, John Townshend, GCOS, introduced two diagrams (Appendix Document P11) to elucidate the IGOS process and range of activities. He pointed out that even if a portion of the activities proposed for an IGOS are accomplished, value will have been added through the IGOS process. In further remarks he cited clear achievements in certain projects as evidence that "IGOS has been born."

Both CEOS Working Group Chairs were invited to address how their respective working groups could assist with specific tasks for the IGOS projects and process. The Working Group on Cal/Val particularly noted the overarching IGOS requirement for enhanced emphasis on cal/val activities. (Appendix Documents B5, 6)

## **Partnership**

The CEOS Chair reaffirmed that the IGOS concept does not belong to any one community and stated that an IGOS should be the joint product of all agencies involved in the collection and analysis of both space-based and *in-situ* data. (Appendix Document P12) The considerable efforts by former CEOS Chair, Gerard Brachet, CNES, to invite partnership in IGOS with the three Global Observing Systems (G3OS) and their sponsoring organisations were recounted, as well as the recent letter of the current CEOS and IGFA Chairs to the September 1997 meeting of the Sponsors' Group for the G3OS. At that meeting, attended by David Williams, EUMETSAT, on behalf of CEOS, the G3OS Sponsors proposed that the Directors of the three observing systems establish an informal working task group jointly with CEOS. High-level partner meetings should await the completion of internal approval of the prospective partners, in a similar way that the WMO has already achieved in its Executive Council. (Appendix Document B8)

SIT participants agreed to the G3OS Sponsors proposal. In response to clarifications sought by WCRP and IGBP representatives, it was agreed that they should consult with their respective sponsors whether they should be separately represented in partnership discussions.

It was concluded that a group of participating partners, including the G3OS and IGFA, should draft an overall set of cooperating principles for approval by their respective executive bodies.

## **SIT: The Way Forward**

It was noted by many that the SIT was created to be a small group of senior-level members with authority to speak with regard to their agency resources and that we should move back in that direction. In this connection, and on the basis that the AG be dissolved, it was felt by many that a facilitating group with

technical and programmatic skills should interact with the projects and support the SIT. Such a group could address cross-cutting issues, nurture the IGOS projects between SIT meetings, and identify the next steps to be taken for consideration by SIT senior-level principals. The need to minimise bureaucracy was recognised and in this context SIT was encouraged to return to basics and focus on the CEOS role in an IGOS. The need to maintain a dialogue with other groups was recognised and the Global Observing Systems Space Panel (GOSSP) was cited as a possible forum for technical analysis of gaps and overlaps, although its current remit is limited. The Chair of the panel, John Morgan, indicated support for the concept of sharing responsibility for the analysis activities that will be required through access to a range of data sources broader than those for which GOSSP was created.

It was concluded that the Chair would recommend to Plenary the continuation of the SIT and that this be reviewed on an annual basis as stipulated for *ad-hoc* groups in the CEOS Terms of Reference. In supporting the AG recommendation that it be dissolved, he would also recommend that the SIT requires a support/facilitating/advisory mechanism. The Organising Committee was charged to identify options for such support in advance of the Plenary to be held in Toulouse.

## OXFORD SIT MEETING

### APPENDIX DOCUMENTS

List of delegates

Agenda

#### **Presentations**

1. CEOS Update, Jean-Louis Fellous, CEOS Chairman
2. CEOS Analysis Group AG report, Yukio Haruyama, Chair AG
3. Executive Summary (version 0.4) AG Report
4. CEOS SIT statement on GODAE (Draft, 25/9/97), Philippe Courtier
5. Upper Air Measurements for NWP project (9/97), Paul Menzel
6. Report of the Long-Term Continuity of Ozone Measurements sub-group, Jack A Kaye, Chris Readings
7. Global Observations of Forest Cover: Executive Summary for SIT and Requirements and Recommendations, Frank Ahern
8. Ocean Biology: an IGOS Prototype Project, Trevor Platt
9. CEOS/IGOS Disaster Management Support Project, Helen Wood
10. International Conventions and IGOS
11. Activities within an IGOS, John Townshend
12. The IGOS Partnership Concept, Jean-Louis Fellous
13. IGFA for Global Change Research, John Marks, Chair, IGFA

#### **Background Papers**

1. Draft report of the CEOS Analysis Group (1996/97)
2. Scoping Paper
3. Upper Air Measurements Project Report, 22 September 1997
4. Disaster Management Support Project Report
5. Proposal to the CEOS IGOS Initiative, Helen Wood, Chair, WGISS
6. Background paper for the IGOS SIT Meeting, Alan Belward, Chair, WGCV
7. White Paper on Data Policy Considerations for an IGOS - Discussion Papers
8. IGOS related discussion at the 2<sup>nd</sup> meeting of the Sponsors Group for the Global Observing Systems (GCOS, GOOS, GTOS) - Report by Dave Williams
9. CEOS satellite data exchange principles for global change data policy
10. CEOS satellite data exchange principles for operational environmental data for public benefit policy
11. UN principles on remotely sensed data policy
12. IEOS data exchange principles policy
13. Irvine Report