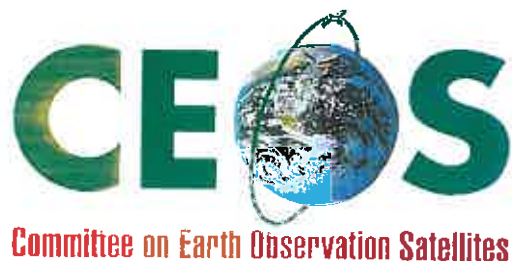


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To all
CEOS Participants 1999 /Stockholm
CEOS Principals
CEOS Contacts

EUM/SIR/LET/00/0072 31 January 2000

Final CEOS and IGOS Partner Meeting Minutes

Dear Colleagues,

Please find attached the final set of the 13th CEOS minutes as well as the minutes of the 4th IGOS-P meeting. All comments have been implemented. They primarily concerned the correction of salutations and the renaming of Disaster Management Support to Disaster Application.

Sincerely yours,

Dr. D. Williams
CEOS

Encl. 4th IGOS-P Minutes
13th CEOS Plenary Minutes

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**MINUTES OF THE COMMITTEE ON EARTH OBSERVATION SATELLITES
(CEOS)**

13th PLENARY MEETING : 10-12 NOVEMBER 1999, STOCKHOLM

(Papers and background material related to individual agenda items are cross referred to in the minutes)

1 INTRODUCTION

The 13th Plenary was conducted under the chairmanship of EUMETSAT and hosted in association with the Swedish National Space Board (SNSB). The meeting was held from 10-12 November 1999 at the Royal Swedish Academy of Sciences (IVA) in Stockholm. A total of 88 delegates from 19 Member and 12 Associate organisations attended. A list of the participants is set out at **Annex 1**.

2 WELCOME CEREMONY

Dr Tillmann Mohr, Director General of EUMETSAT and 1999 CEOS Chairman, started the meeting by inviting Dr Per Tegnér, Chairman of SNSB to give an opening address on behalf of the Swedish Minister for Industry.

Dr Tegnér warmly welcomed delegates to the 13th CEOS Plenary and expressed his delight at the large turn out, noting with particular pleasure the significant number of lady delegates. He was grateful to Eumetsat for providing Sweden with the opportunity of hosting the meeting, which he thought appropriate given Sweden's ambitions in space, notably in the field of Earth observation from satellites. As a long-standing member of both CEOS and the European Space Agency (ESA), Sweden sought to foster the transition from space science into beneficial applications. Sweden had developed important ground station facilities at Kiruna. It was a participant in relevant ESA programmes and was a partner in the French-led SPOT Earth observation programme. It was planning to launch its own ODIN satellite in the Spring of 2000. Though not very large, the Swedish space industry played an important part in their space activities through such key companies as Ericsson.

In conclusion Dr Tegnér drew attention to growing demands at all levels for better environmental protection and the crucial role Earth observation techniques were assuming in monitoring and measuring the effects of measures taken to achieve that goal. He saw CEOS as fulfilling a vital function in that particular context, and consequently the meeting took on a particularly important dimension. He wished delegates every success in their deliberations.

Responding, Dr Mohr shared Dr Tegnér's sentiments about the increasing impact of CEOS activities on emerging environmental protection initiatives. He highlighted as significant achievements in the course of a busy year : significant progress in implementing IGOS; taking full advantage of the platform offered by Unispace III; reinforcing contacts with relevant UN Convention Secretariats at COP 5; widening promotion of CEOS activities in various fora; the output of the Working Groups; and continuation of dialogue with the private sector. Dr Mohr welcomed CONAE and IOCCG as applicants to join CEOS and then thanked Swedish colleagues for their efforts in making excellent arrangements for the

Plenary. Finally he noted that letters regretting unavoidable absence had been received from Messrs Barbosa (INPE), Dahl (UNEP) and/or Asrar (NASA).

3 ADOPTION OF AGENDA

Dr Mohr proposed Document, **CEOS/13/99/AGN Rev 3**, as the agenda for the meeting and this was adopted. A copy is at **Annex 2**.

4 RECORD OF THE 12TH CEOS PLENARY

Mr Mukund Rao (ISRO) presented the 12th CEOS Plenary Minutes with a short overview of the key decisions taken at Bangalore. Plenary then adopted the minutes as presented in Document, **12th CEOS/Min/1**.

Reviewing the actions from the 12th Plenary, Dr D Williams (Eumetsat) reported that 17 of the 19 actions had been completed. The two outstanding actions, (Action 12/17 - CEOS representation at the 2nd ESCAP Ministerial Meeting; and Action 12/19 - CEOS participation in the World Conference in Science), would be dealt with off-line.

5 REPORT OF CEOS CHAIRMAN

Summarising the main activities of 1999, (**Refer Document CEOS/13/99/Doc/22**), Dr Mohr highlighted the following achievements :

- **IGOS** : IGOS-P had been firmly established and the partnership was working well.
- **SIT** : Significant progress had been made under the admirable leadership of Mr R Winokur (NOAA).
- **Unispace III** : The CEOS presence, primarily through the IGOS Forum, had borne fruit both in terms of opening up IGOS opportunities and of securing wider publicity for CEOS activities as a whole. Thanks were due in particular to FAO for their preparatory work.
- **Contacts with the Private Sector** : Dialogue with the Private Sector continued in side meetings in the course of Unispace III and of the IAF Plenary. The Secretariat ascertained that there is no pressure for Private Sector membership of CEOS, but that they have a strong desire to maintain contact and to exchange information and opinions on developments.
- **CEOS Working Groups** : Dr Mohr had attended a WGCV meeting and had been represented at a WGISS meeting. He had been impressed by the substance of the work undertaken, and would be offering guidance later in the meeting on integrating the efforts of the Working Groups more closely with the overall workings of CEOS.
- **CEOS Secretariat** : The CEOS Secretariat had worked hard throughout the year, coordinating their activities through meetings, telephone conferences and e-mail. Dr Mohr paid tribute to their efforts.

6 MEMBERSHIP ISSUES

Dr L Charles (NASA), speaking for the Secretariat, introduced two applications to join CEOS which had been received in 1999, (**Refer Document CEOS/13/01 and related Annexes**).

One was from the Comision Nacional de Actividades Espaciales (CONAE), the national space agency of Argentina, for full membership status. The other was an application for associate status from the International Ocean Colour Coordinating Group (IOCCG). Dr Charles pointed out that both applicants met the CEOS criteria for the type of membership sought. She also reported that IOCCG had undertaken to work closely with GOOS within IGOS in identifying requirements.

Commenting on the IOCCG application, Prof D Southwood (ESA) supported their admission on the specific merits of their case, but warned against treating this as a precedent in dealing with any future applications from entities closely linked with existing CEOS Associates. From a GOOS standpoint, Dr P A Bernal (UNESCO/IOC) said identification of all requirements of a particular type from a single source would be beneficial to the IGOS process.

Plenary approved both applications as follows :

- CONAE to become a CEOS Member;
- IOCCG to become a CEOS Associate.

Thanking plenary for their confidence, Dr C Varotto (CONAE) outlined the main elements of Argentina's space programme, much of which was involved in Earth observation activities and consequently relevant to CEOS.

Dr T Platt (IOCCG) said that his organisation was delighted to be accepted as a CEOS Associate and very much welcomed the opportunity to contribute directly to IGOS. He confirmed IOCCG's intention of inviting GOOS representatives to future meetings involving GOOS issues and indicated IOCCG's willingness to advise IOC on ocean colour matters.

7 CEOS PARTICIPATION IN IGOS PARTNERSHIP

Dr Mohr explained that the purpose of this item was to :

- report to CEOS on developments in IGOS-P during 1999;
- advise CEOS representatives on the issues arising at the IGOS-P meeting later that day;
- prepare a common CEOS position on issues being considered at the IGOS-P meeting later that day.

7.1 IGOS-P Briefing

Reviewing IGOS-P activities in 1999, (Refer Document CEOS/13/Doc/02), Dr D Williams (EUMETSAT) highlighted the main developments as :

- All IGOS Partners had formally confirmed their membership of IGOS-P and their acceptance of the Partnership terms of reference.
- The 3rd IGOS-P meeting, hosted by FAO in Rome, had re-iterated support for a "theme approach" to IGOS.
- The Oceans Theme was accepted as a path-finder.
- Two further theme proposals had come forward following the 3rd IGOS-P meeting. These were :
 - a Disaster Application Theme, together with an associated proposal for a CEOS ad-hoc group on the same subject;
 - a Terrestrial Carbon Cycle Theme.

- An updated Themes paper and an IGOS process paper, (Refer Documents CEOS/13/Doc/18 and CEOS/13/Doc/20 respectively), had been circulated as information documents for the 13th Plenary.
- Activities promoting awareness of IGOS, including in particular the IGOS Forum at Unispace III, had been undertaken during the year.
- A paper on data and information management issues, (Refer Document IGOS-P/4/04+Add.1) had been prepared for consideration at the 4th IGOS-P Meeting.

7.2 IGOS Space Component

Dr D Williams (EUMETSAT) explained that the concept of a document defining the space component of IGOS had been overtaken by the integration of both space and in-situ requirements embodied in the pilot projects, and currently in the "theme approach", (Refer Document CEOS/13/Doc/03). The factual description of space requirements would now be incorporated within individual theme structures and by that token would constitute the definition of the space component for that particular theme. A definition of the space component divorced from specific themes was neither desirable nor necessary. Mr R Landis (WMO) questioned how the Partners would test integrated systems within themes. Dr Williams said that the CEOS/WMO database, which was planned eventually to be a descriptor of both space and in-situ components, would be the tool for assessing such systems.

Reporting on the status of the CEOS/WMO database, Dr D E Hinsman (WMO) said that some agencies had still to provide their inputs to the 1999 updating process. He urged that this should be done as soon as possible and he asked that the new CEOS Member, CONAE, and Associate, IOCCG, also provide inputs.

Responding to this discussion, the CEOS Chairman, Dr Mohr, asked Dr Hinsman to contact those agencies still to update their database entries for 1999 and to seek early inputs from them, as well as from the two new members.

[Actions 13/1 and 13/2 - Dr D E Hinsman (WMO), CONAE and IOCCG]

7.3 SIT Report

Mr R S Winokur (NOAA), Chairman of the Strategic Implementation Team (SIT), reviewed the activities of SIT in 1999, (Refer Document CEOS/13/Doc/04). He recalled that the 12th Plenary had approved the continuation of SIT in 1999, tasking it to evaluate the lessons gained from the pilot projects, to foster the move from a project strategy to a theme approach to future implementation of IGOS, to continue to develop the space component of IGOS, to respond to space requirements identified in projects and themes and to work throughout in close cooperation with the IGOS Partners.

At its 4th meeting in January SIT received reports from project leaders or their representatives, provided a collective response to project requirements and facilitated the transition of IGOS elements within projects to current or prospective themes. It agreed to take forward the thematic approach, endorsed criteria for selecting future IGOS activities and proposed the Oceans Theme as a path-finder with NASA as the lead. In a move to increase

visibility of IGOS, SIT also commissioned at its 4th meeting production of an IGOS brochure, led by NASDA, and an IGOS bulletin, led by CNES.

At the 5th SIT meeting in June discussions with the Oceans Theme Team Leader, Dr E Lindström (NASA) clarified the shaping and content of the report to be submitted to IGOS Partners. Encouragement was given to bringing forward proposals for new themes on Disaster Application (following on from the earlier IGOS pilot project), and on the Terrestrial Carbon Cycle. Preparations were made, too, for giving IGOS visibility at the UNFCCC COP 5 meeting in October.

Overall Mr Winokur thought SIT had made good progress over the year. There was in his view still a role for SIT to play and a consensus of team members supported its continuation for another year.

7.4 GOSSP Status Report

Professor F Bretherton (Chairman) outlined the involvement of the G3OS Space Panel (GOSSP) in the IGOS process and their assessment of progress. GOSSP had participated in the Oceans Theme Report to Plenary, (considered under Item 11), and believed it correctly identified the issues to be resolved. Timely resolution of these was now necessary.

From their experience of the Oceans Theme work, GOSSP recognised that the CEOS/WMO database was a useful tool. However, they identified several shortcomings. In the integration of space-based and in-situ requirements, the database was angled too heavily towards the space side. They used input from the GODAE and Ocean Biology projects to circumvent the problem in the case of the Oceans Theme, but this was a temporary expedient and the in-situ side of the database needed improvement. Furthermore GOSSP concluded that the database ought to extend its knowledge base to data-derived products, since without an appreciation of the latter there was no easy way to judge results.

7.5 CEOS Position

Dr Mohr invited discussion on three emerging issues on which the Plenary needed to establish a CEOS position in preparation for the ensuing IGOS-P Meeting. These were :

(i) Oceans Theme Paper (Refer Document Dual No CEOS/13/Doc/18 and IGOS-P/4/Doc/08)

Plenary representatives were content with the broad thrust of the paper, but the following reservations were expressed :

- clearer proposals were needed on how integration of space and in-situ observations would be effected - Dr P A Bernal (UNESCO/IOC)
- the paper should be more closely aligned with the IGOS criteria to indicate how recommendations were to be taken forward - Prof D Southwood (ESA)
- the scope of the theme was too broad; a breakdown into smaller elements would for instance make it easier to handle ocean carbon - Dr S Briggs (BNSC); Dr E Shaw (CCRS); Dr T Platt (IOCCG); Mr P Van der Westhuizen (CSIR).
- The paper should bring out the policy drivers more clearly - Dr E Shaw (CCRS)

Dr Lindström acknowledged a measure of mismatch with the IGOS criteria in his paper, explaining that as a path-finder the Oceans Theme Team had been working to a SIT-driven action plan rather than to specific criteria.

Dr Mohr concluded that, while the paper was a valid basis for seeking space component commitments, the discussion had indicated some deficiencies, especially on the in-situ side, and some refinement was needed. As Plenary concurred with his summing up, Dr Mohr asked for an updated version of the paper to be produced by mid-January 2000 for consideration by SIT at its next meeting.

[Action 13/3 - Dr Lindström]

(ii) Disaster Application Theme (Refer Document IGOS-P/4/Doc/02 + Annex)

Ms H Wood (NOAA) set the discussion in context, explaining the respective roles of the proposed new theme and a proposed new CEOS working group. Essentially the latter would continue the overall work of the original IGOS project including non-IGOS issues and the new theme would deal with specific IGOS matters arising from the work of the new group.

A number of representatives supported the proposal to have a theme in parallel with a CEOS group. Mr C Paternmann (EC) underlined the global aspect of disaster management work which necessitated an international approach beyond the space contribution. Prof L Ding-sheng (NRSCC) concurred and considered that the proposed structuring would generate an important contribution to planning at the international level. Dr J-L Fellous (CNES), Mr C Ishida (NASDA) and Mr M Rao (ISRO) felt that the proposed group and theme would be complementary and that the CEOS activity should be continued for some time for fear of losing momentum. Other representatives were uneasy about having both a CEOS group and an IGOS theme. Dr S Briggs (BNSC) favoured focusing the work under an IGOS theme, while Prof D Southwood (ESA) preferred to continue the activities under a CEOS group. Mr R Landis (WMO) said that, following the decade for disaster reduction activity, a new body was being set up to carry forward strategy for disaster reduction. CEOS was envisaged as participating in one of the groupings under the new body.

With the agreement of Plenary, Dr Mohr concluded that he should indicate to IGOS-P that there was majority support within CEOS for initiating a Disaster Application Theme. If overall IGOS-P opinion favoured setting up such a theme, he would seek to allay the doubts of those CEOS representatives with reservations.

(iii) Terrestrial Carbon Cycle Theme (Refer Document IGOS-P/4/Doc/09)

Recalling the background to this proposal, Mr J Tschirley (GTOS) said that IGOS-P had decided to investigate this prospective theme at its 3rd meeting in Rome. Mr J Cihlar (CCRS) had drawn up the proposal now to be considered by IGOS-P, which envisaged a dual approach embracing the activities of atmospheric modellers and taking in inputs from individual local sites. The broad aim was to proceed along the lines adopted by the Oceans Theme.

While Prof J Townshend (SIT) supported the need to set up a carbon theme, he questioned whether this should not be pitched on a global rather than on a terrestrial scale. Many representatives echoed this view, pointing out that the ocean element was a critical aspect of a

carbon analysis so that a global approach was desirable. Mr C Patermann (EC) welcomed the proposal as promising to make an important contribution to the work initiated under the Kyoto Protocol on carbon sinks.

Dr Mohr concluded with the agreement of Plenary that CEOS was ready to proceed with a carbon theme, but on a global level encompassing both terrestrial and ocean elements.

8 EO EDUCATION/TRAINING IN DEVELOPING COUNTRIES

Mr M Rao (ISRO) presented a paper (**Refer Document CEOS/13/Doc/09**) on measures for strengthening education and training on Earth observation techniques in developing countries. Against a background of widening use of such methods combined with non-space data such as integration with GPS/GIS data, Earth observation from space was potentially a useful tool for developing countries in tackling a range of developmental problems in areas such as crop, forest, urban, water resource and land management. A number of education/training initiatives in use of space data were under way, including a network of UN regional centres, programmes for graduate students by EURISY, ISU and various regional institutions. CEOS was in a good position to provide a focus in the field of EO education/training and the paper therefore proposed the creation of a CEOS task group for one year to develop a strategy and an action plan for CEOS involvement in this area.

Mr J F W Purdom (WMO) described a WMO education/training programme in this area which was structured round centres of excellence for trainers. Many representatives expressed their strong support for the ISRO proposal. Dr Mohr referred Plenary to **Resolution CEOS/Doc09/Res.1** (attached at **Annex 3**) which invited ISRO to lead the proposed ad-hoc working group. Plenary passed this resolution.

[Action 13/4 - CEOS Participants]

9 INTERACTION WITH PRIVATE SECTOR

Introducing this subject, (**Refer Document CEOS/13/Doc/10**), Dr D Williams (EUMETSAT), reported that a number of informal discussions had taken place during the year with senior representatives of EO companies, including those at two side meetings in the margins of the Unispace III and IAF Conferences. While industry were not pressing for membership of CEOS, they wished to maintain contact and continue a regular dialogue.

Mr L Fritz (ISPRS) said that ISPRS had set up an advisory committee to oversee the interface with CEOS, but that the issue was complex and rapid progress was unlikely. Dr G W Withee (NOAA) recognised the benefits of keeping in touch with the private sector EO community and NOAA was interested in finding ways of working with it. As incoming WGISS Chairman, Mr P Churchill (EC) said there was increasing need to exchange views with the private sector in the field of information systems and services. While endorsing these comments, Prof D Southwood pointed out the need to ensure that all sides of industry were represented in such interaction and suggested operating through trade associations. Mr G Schreier (DLR) drew attention to the fact that the current UN legal framework surrounding space activities was attuned to national state rights and obligations and made no distinction between public and private sector activities.

On the basis of the views expressed, Dr Mohr drew the following conclusions :

- At least one meeting should be arranged in 2000 to further the dialogue with the EO private sector. The CEOS Chairman in 2000 is recommended to arrange with the help of

NOAA and ISPRS such a side meeting in the margins of the IAF Conference scheduled to be held that year in Brazil.

[Action 13/5 - 2000 CEOS Chairman]

- The CEOS Chairman was encouraged to work closely with ISPRS in dealing with the various parts of the EO private sector community.

[Action 13/6 - 2000 CEOS Chairman]

- The CEOS Secretariat should make a consolidated report to Plenary on the outcome of meetings and contacts with the EO private sector.

[Action 13/7 - CEOS Secretariat]

- CEOS members are encouraged to arrange meetings with the EO private sector at national or regional level as appropriate.

[Action 13/8 - CEOS members]

- CEOS Working Groups should continue to encourage the participation of the EO private sector in their work.

[Action 13/9 - Working Group Chairmen]

10 WORKING GROUP RECOMMENDATIONS

10.1 Chairman's Report

Introducing his note on the activities of the Working groups (**Refer Document CEOS/13/Doc/05**), Dr Mohr said that he had made a special effort to keep in touch with the Working Groups in recognition of their valuable work. Having been present at a WGCV meeting and been represented at a WGISS meeting, he was in no doubt that the groups were performing an important function. However, he doubted whether CEOS was making best use of the output from the groups. This was in his view largely due to shortcomings in the reporting procedures employed by the groups in their dealings with Plenary. His impression was that the groups tended to formulate their recommendations in too general terms with the result that Plenary often accepted them without appreciating the implications for individual members. Accordingly he had advised the groups to couch their recommendations in future in more specific, concrete terms. He also felt that more formal procedures should be introduced to govern the development of products and tools, the submission of proposals for their adoption to individual Plenary members and the subsequent approval and utilisation of these by Plenary members.

Endorsing the Chairman's views, Prof D Southwood (ESA) said that ESA department heads decided on representation on the groups according to the perceived benefits likely to accrue from representation. Dr Mohr thought, by the same token, that when members designate representatives to serve on groups they should ensure adequate funding for them to make an effective contribution.

10.2 WGCV Recommendations

The Chairman of WGCV, Dr A Belward (EC) outlined the activities of the group in 1999, (**Refer Document CEOS/13/Doc/07**). He singled out as key developments :

- The establishment of links with some National Standard Laboratories aimed at ensuring traceability in sensor calibration, and the plan to set up a one year study group to examine this issue.
- In response to needs identified by the GOFIC Pilot Project and by a combined WGCV/ISPRS workshop in May, a new sub-group was planned to examine land surface parameter validation.
- WGCV may have a role to play in harmonisation of parameter measurements for atmospheric chemistry and seeks to identify relevant points of contact to consult on this issue.

Dr E Shaw and Mr J Cihlar (CCRS), and Dr D Jupp (CSIRO), urged support for WGCV activities particularly on validation of high level products. Prof F Bretherton (GOSSP) said that GOSSP was beginning to recognise traceability as an issue, since traceability back to original radiances was needed when algorithms changed. Prof D Southwood (ESA) said ESA would be unable to field a representative for the proposed traceability sub-group unless it met simultaneously with the main WGCV meeting. Dr Belward (Chairman WGCV) confirmed that it was indeed the intention for the traceability sub-group to meet within the framework of the main WGCV meeting. Prof Southwood also explained that given its multi-national character ESA did not consider it appropriate for them to identify a "partner" National Standards Laboratory as requested in the second WGCV recommendation.

Taking account of the comments made, Dr Mohr obtained the following commitments from Plenary in response to WGCV recommendations :

- CEOS participants would nominate representatives for the ad-hoc sub-group on traceability on the understanding that it would meet at the same time and location of plenary WGCV meetings.

[Action 13/10 - CEOS Participants]

- Where appropriate CEOS participants would identify a "partner" National Standards Laboratory to take part in WGCV meetings.

[Action 13/11 - CEOS Participants]

- CEOS participants would nominate representatives for the new sub-group on Land Surface Parameter Validation and would support their nominee's attendance at at least one meeting in 2000.

[Action 13/12 - CEOS Participants]

- CEOS participants would identify individuals leading their atmospheric chemistry validation programmes.

[Action 13/13 - CEOS Participants]

- CEOS participants would participate in a vicarious sensor calibration results intercomparison workshop.

[Action 13/14 - CEOS Participants]

Item 10.3 was transferred to item 11 as it was closely linked to a related theme proposal under the latter.

10.4 Spectrum Management

On behalf of Dr K Maeda (NASDA and Chairman of the ad-hoc Spectrum Management Group) Mr C Ishida (NASDA) introduced the report of the group. He emphasised the significance of the CPM-99 meeting taking place the following week in Geneva as a key milestone in preparation for the WRC-2000 Conference on frequency allocation. He identified the frequency bands where CEOS members needed to consider proposals to ensure the protection of EO frequencies. Mr Ishida then tabled a resolution identifying specific agenda items which CEOS members should support in CPM-99 and WRC-2000.

Mr A Cross (EU) drew attention to a recent EU document which opened the way for links between EC observers at CPM-99 and WRC-2000 and CEOS participants in spectrum management discussions.

Following a general expression of support from members, Dr Mohr recognised that the work of the group was of crucial importance to CEOS space agencies and he wished to convey Plenary's thanks to Dr Maeda and his colleagues for their efforts. He thought it preferable in future to put this work on a more formal footing and therefore proposed that Dr Maeda should act as a rapporteur reporting back to CEOS. Plenary agreed that Dr Maeda should be asked in future to act as CEOS rapporteur on international negotiations on frequency allocation and decided to support the specific proposals set out in **Resolution CEOS/13/Doc/08/Res 4** (attached at Annex 4).

10.5 WGISS Recommendations including GOIN

Reviewing the achievements of WGISS in 1999, Mr T Moriyama (NASDA and WGISS Chairman) identified the highlights which included :

- The GLOBE Team successfully completed its task on global representation of land surface elevations.
- Catalogue interoperability was now a practical reality through WGISS development of the CIP protocol.
- WGISS set up a task team to conduct an evolution study of the GOIN network, put in place by the USA and Japan. The team will recommend a framework for exploitation of GOIN benefits to the 2000 CEOS Plenary.
- The CEOS Information Infrastructure put in place on the web by the CII team became operational in April 1999.
- Outreach initiatives included production of a WGISS brochure and the forging of links with the GIS community and other relevant organisations.

Dr E Shaw (CCRS) suggested WGISS should extend its collaboration with the geomatics community. Mr P Churchill (EC and incoming WGISS Chairman) gave a short presentation on the main themes WGISS would be pursuing over the coming two years. The directions to be followed would include that suggested by Dr Shaw.

Dr Mohr thanked WGISS and in particular Mr Moriyama for the achievements under his chairmanship. In the interest of securing better uptake of results he proposed to Plenary that in future submissions on new products and tools should be made to individual members before recommendations on their use were made to Plenary. Plenary agreed to this procedure and decided it should be applied to all CEOS groups.

[Action 13/15 - Working Group Chairmen]

Plenary then adopted the WGISS recommendations set out in CEOS/13/Doc/06/Res.5 (attached at Annex 5).

Dr. G Withee (NOAA) and Mr Y Miki (STA) set the scene for a GOIN demonstration which was led by Mr M Schwaller (NASA) and which extended into the lunch break.

11 Discussion of Recommendations from 4th IGOS

11.1 Report on IGOS-P 4

Dr D Williams (EUMETSAT) reported the outcome of the 4th IGOS-P. The main points were:

- In-situ measurements - Mr Landis' paper on this subject was discussed. Comments should be sent to Mr Landis who will prepare a revision in time for discussion at the 5th IGOS-P meeting in mid 2000.
- Oceans Theme - Dr E Lindström will update the interim paper and distribute a revised version by 15 January, for discussion at the 6th SIT meeting on 26/27 January 2000 where initial indications on space contributions will be expected. Status reports on space (SIT) and in-situ (Dr Bernal) positions will be given at the 5th IGOS-P meeting.
- Disaster Application - While recognised as an important area of activity, some doubt was evident about the way to proceed. NOAA will consult IGOS Partners further and, if the responses merit it, will produce a revised proposal for a future IGOS-P meeting, indicating the degree of conformity with IGOS theme criteria.
- Terrestrial Carbon Cycle - IGOS-P tasked a team to develop a Terrestrial Carbon Cycle Team within a global carbon approach. GTOS would lead this with support in particular from IGBP and FAO. Partners would nominate team participants by end November 1999. An ocean carbon cycle element would be included in the Oceans Theme Report. Partners would nominate participants for this part of the Oceans Team by end November 1999. IGOS-P decided to initiate an over-arching activity to link the terrestrial and ocean elements of the global carbon cycle. G3OS would make a start on organising this with GCOS, IGBP, GTOS, and NASA all involved. These partners would decide which organisation should lead the activity.
- IGOS Process - IGOS-P agreed **Document CEOS/13/Doc/20** should be a living document updated periodically to take account of experience gained in running themes.
- Data Management - **Document IGOS-P/4/04** was agreed as covering an issue worthy of further consideration. Volunteers were invited to join Prof J Townshend (SIT) in a group of interested participants to develop the subject further and to report to the IGOS-P 5th meeting.
- COP 5 - The efforts of IGOS Partners, particularly GCOS, GOOS, NOAA, EUMETSAT and the EC, in participating in COP 5 were commended. The incoming IGOS-P Chairman, Mr R Landis (WMO), in cooperation with GCOS, would lead IGOS-P preparations for COP 6. UNEP would continue to lead in building up closer cooperation with UN Convention Secretariats.
- Next Meeting - The IGOS-P 5th meeting would be held on 7 June 2000 in Geneva.

11.2 Oceans Theme Recommendations

Dr E Lindström briefly summarised the Oceans Theme Report (**Refer Document CEOS/13/Doc/19**) giving a flavour of the recommendations for consideration by the next SIT meeting. He said a key feature would be those recommendations for making the transition into operational activities. As an example he cited the ERS/QuikSCAT ocean winds measurement plan for transition to an operational basis. The key requirement in that instance was to close the observational gaps in current planning in the post-2004 period. An early decision was needed in this connection on flying a scatterometer on a Japanese satellite. In updating the Oceans Report, Dr Lindström would endeavour to present required scenarios together with associated timelines.

Dr Mohr thanked Dr Lindström and his team for their work. He asked SIT to be ready to address specific recommendations which would be contained in the update of the Oceans Report and to report the outcome to the 2000 CEOS Plenary.

[Action 13/16 - SIT]

11.3 Involvement in New Themes/Groups

(i) Disaster Application Theme and Disaster Management Support Group (**Refer Documents CEOS/13/Doc/21 + Annex and IGOS-P/4/Doc/02 + Annex**)

Dr Mohr reminded Plenary that IGOS-P had been uncertain at their 4th meeting on the previous day about the way forward on a Disaster Application Theme. Accordingly NOAA had agreed to consult Partners further and to report the outcome to a future IGOS-P meeting. He then invited Ms H Wood (NOAA) as leader of the IGOS Disaster Management Support Pilot Project to present the proposal for a CEOS Disaster Management Support ad-hoc group.

Setting the scene, Ms Wood briefly reviewed the activities of the DMS Pilot Project in 1999. She went on to distinguish between the proposals for setting up an IGOS theme team and for an ad-hoc CEOS group. The group would continue the essential function of the former project as a forum to identify, and interact with, current and potential users of space-derived data as one of the tools to deal with disasters. As well as providing this crucial channel in identification of observational requirements, the group would address policy and technical issues extending beyond the role of the proposed theme team, which was intended to focus on a comparison of requirements against capacity and on taking steps to correct any mismatches between the two. In the course of their activities the group would pass on the results of their identification and refinement of user requirements.

A number of Plenary representatives registered strong support for the creation of such a CEOS ad-hoc group. Dr Mohr established that there was overall support for the proposal and Plenary passed resolution, **CEOS/13/Doc/21/Res.3** (attached at **Annex 6**), creating a CEOS ad-hoc working group on Disaster Management Support and setting out its terms of reference.

(ii) Terrestrial Carbon Cycle Theme 9 (**Refer Document IGOS-P/4/09**)

Dr Mohr recalled that IGOS-P had on the previous day tasked a team to develop a Terrestrial Carbon Cycle Theme. He pointed out that nominations for the team were requested, and he asked CEOS participants to do this by the end of November 1999, sending copies simultaneously to the SIT and IGOS-P Chairmen and to the CEOS Secretariat.

[Action 13/17 - CEOS Participants]

Turning to the related IGOS-P decision to include an Ocean Carbon element in the Oceans Theme Report, Dr Mohr asked for nominations for participation in this activity to be made also by the end of November 1999.

[Action 13/18 - CEOS Participants]

11.4 Future of SIT

Bearing in mind the progress in the development of IGOS stimulated by the SIT, Mr R Winokur (Outgoing Chairman) judged that it still had a vital role to play in sustaining the momentum so far generated. He therefore recommended the continuation of SIT for another year and commended Dr J L Fellous (CNES and current Vice Chairman) as his successor in the chair. Dr Mohr thanked Mr Winokur warmly for his sterling work as Chairman in the past year. He established that there was overall Plenary support for continuation of SIT throughout 2000. Mr Y Miki (STA) accepted appointment as Vice Chairman of SIT. Plenary passed **Resolution CEOS/13/Doc11/Res.2** (attached at **Annex 7**), reflecting these decisions and setting SIT tasks for 2000.

12 UNISPACE III

12.1 Report on CEOS Participation

Reporting on Unispace III (**Refer Document CEOS/13/Doc/12**), Mr S Camacho (UNOOSA) said that CEOS had made an important contribution to the Conference, with the IGOS strategy being one of the more structured initiatives to be pursued. A major outcome of the Conference had been the adoption of the "The Space Millennium : Vienna Declaration on Space and Human Development." The strategy to address global challenges set out in the Vienna Declaration called for measures to :

- use space technology to enhance human security and welfare;
- enhance education and training opportunities;
- increase public awareness of the importance of space activities
- strengthen and reposition space-related activities in the UN system

Following on from the Vienna Declaration a draft General Assembly resolution had been drawn up requesting the Secretary General to recommend measures ensuring adequate resources to implement follow-up actions to Unispace III recommendations. This resolution had been adopted by the Fourth Committee of the General Assembly and would be referred to the General Assembly Plenary for adoption in December 1999.

12.2 Opportunities for CEOS

Included in the opportunities set out in the Annex (**Refer Document CEOS/13/Doc/13 + Annex**), which Mr M Rao (ISPRO) introduced were calls for :

- Development and implementation of IGOS and the creation of comprehensive long term global observation data sets.
- Improved management of Earth's natural resources by coordination of remote sensing systems.

- Enhanced climate and weather forecasting by expanding international cooperation in meteorological satellites.
- Implementation of an integrated global system for managing natural disaster mitigation.
- Enhancing education and training opportunities by capacity building, awareness programmes and establishing national mechanisms to coordinate training activities.

Dr Mohr felt that some feedback mechanism was necessary on follow up to these opportunities. Accordingly he asked the Secretariat to arrange for the topic to be on the Plenary agenda, and invited UNOOSA to advise the CEOS Secretariat on a suitable feedback mechanism so that they could report to the 2000 CEOS Plenary.

[Action 13/19 - UNOOSA and CEOS Secretariat]

13 OUTREACH ACTIVITIES

Dr D Williams (EUMETSAT) reviewed the events where CEOS had been represented during the year, (**Refer Document CEOS/13/Doc/14**). He went on to underline the importance of having a CEOS presence at key space-related events and reminded participants of the desirability of informing the CEOS Secretariat of impending events of this kind.

14 FORWARD LOOK

Dr Mohr spoke to his paper on the way forward, (**Refer Document CEOS/13/Doc/15**). On internal matters he saw no need to change the terms of membership. He thought the current tri-partite structure of the secretariat worked well, though it represented a significant burden on those involved. The arrangement of having outgoing, current and future Chairmen involved in the workings of CEOS had also proved effective and he was ready to play his part next year in helping the new Chairman. Dr Mohr made a plea for high level attendance at the Plenary. Turning to the outward-looking side of operations, he underlined the importance of IGOS and of providing a creditable CEOS input. Finally he stressed the importance of outreach activities, pointing out that it was up to all participants to get across the message about CEOS and its initiatives.

Dr Mohr invited participants to give support to these reflections in the future. Dr D Southwood (ESA) took the opportunity of introducing Dr S Bruzzi who was taking over from Dr H Arend as the ESA representative on the CEOS Secretariat. Welcoming Dr Bruzzi, Dr Mohr paid tribute to the significant contribution Dr Arend had made to the work of the Secretariat and, with Plenary's concurrence, he undertook to write to Dr Arend conveying the thanks of CEOS for his efforts.

[Action 13/20 - Dr Mohr]

15 PLENARY PLANNING

Dr Mohr invited Dr V Kirchhoff (INPE) to update Plenary on plans for the Plenary meeting in 2000, (**Refer Document CEOS/13/Doc/16**).

Dr Kirchhoff said the Plenary meeting would take place 8-10 November 2000 in Brazil. The exact location had yet to be decided.

Mr Y Miki (STA) confirmed that Japan would take over the chairmanship in 2001 and the Plenary meeting would be held in Kyoto.

Dr Barbosa as CEOS Chairman would be focusing in particular on issues such as Agenda 21, UNFCCC and the associated Kyoto Protocol, and the Montreal Protocol on the Protection of the Ozone Layer.

In conclusion, Dr Kirchhoff said that Dr Barbosa relished the challenges facing him as CEOS Chairman and he was convinced that Dr Barbosa's term would be very fruitful. Thereupon Mr Kirchhoff formally received transfer of the Chairmanship on behalf of Dr Barbosa.

Dr Mohr then closed the meeting, expressing his gratitude to the SNSB, particularly to Dr Tegnér and to Dr Treschow, for the excellent arrangements put in place for the meeting.

19 ACTION LIST

The action list is attached at **Annex 8**.

13th CEOS PLENARY - PARTICIPANTS LIST

ASI

RUM Giovanni

British National Space Centre (BNSC)

HICKS Colin
BRIGGS Stephen

Canada Centre for Remote Sensing (CCRS)

SHAW Edryd
CIHLAR Josef

Canadian Space Agency (CSA)

JHA Virendra
WADE Larson

Centre National d'Etudes Spatiales (CNES)

FELLOUS Jean-Louis
FOURNY-DELLOYE Dominique
BRETON Jaques
MARTHON Gilbert
BAUER Pierre

CONAE

RIDNER Albert
VAROTTO Conrado F.

CSIR

VAN DER WESTHUIZEN Piet

Commonwealth Scientific and Industrial Research Organization (CSIRO)

JUPP David

Deutsches Zentrum für Luft- und Raumfahrt (DLR)

SCHMIDT Klaus
SCHREIER Gunter

European Commission (EC)

CHURCHILL Peter
CROSS Alan
PATERMANN, Christian

European Space Agency (ESA)

SOUTHWOOD David
BRUZZI Stefano

European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)

MOHR Tillmann
WILLIAMS David
RATIER Alain
GIBSON Roy
INGLIS Ken
COUNET Paul

Global Climate Observing System (GCOS)

TOWNSHEND John

GOSSP

BRETHERTON Francis

GTOS

TSCHIRLEY Jeff

IGBP

SWANBERG Neil

International Council of Scientific Unions (ICSU)

LARIGAUDERIE Anne

International Group of Funding Agencies (IGFA)

SPENCE Thomas

Institutos Ncional de Pesquisas Espaciais (INPE)

KIRCHHOFF Volker
TOSHIE KAYANO Mary

IOCCG

PLATT Trevor

International Society for Photogrammetry and Remote Sensing (ISPRS)

FRITZ Lawrence W.
Trinder John

Indian Space Research Organisation (ISRO)

RAO Mukund

Japan Meteorological Agecy (JMA)

MASUKO Naofumi

JRC

BELWARD Alan

Ministry of International Trade and Industry (MITI)

MIYAZAKI Yoshinori

National Aeronautics and Space Administration (NASA)

CHARLES Leslie
HOFFMANN Jeffrey
CONDES Al
MAIDEN Martha
SCHWALLER Mathew
LINDSTRÖM Erik
LIPING Di

National Space Development Agency of Japan (NASDA)

MORIYAMA Takashi
INADA Tadahiko
ISHIDA Chu
WARD Stephen

National Oceanic and Atmospheric Administration (NOAA)

SMITH Brent
WOOD Helen
WINOKUR Robert S.
WITHEE Gregory W.
KROEHL Herb

National Remote Sensing Center of China (NRSC)

DONGFENG Luo
LI-ZHONG Zheng
DING-SHENG Liu
JUN Yang
HONG-JIE Cao

Norwegian Space Centre (NSC)

SKAAR Rolf
SKRÖVSETH Per-Erik

RESTEC

MISAWA Kazuko
HARUYAMA Yukio

ROSHYDROMET

DYADYUCHENKO Valery
ASMUS Vasili

Science and Technology Agency of Japan (STA)

TAKEDA Hiroyuki
MIKI Yoshio
UMEZAWA Kazuo

IMAI Yuichi

Swedish National Space Board (SNSB)

**ZENKER S
TRESCHOW Marianne
TEGNER Per
LILJAS Erik**

United Nations Environmental Programs (UNEP)

WILSON Mick J.

UNESCO

BERNAL Patricio

United Nations Office of Outer Space Affairs (UN-OOSA)

CAMACHO Sergio

US Geological Survey (USGS)

THOMPSON RJ

WGISS

MORRIS Richard

World Meteorological Organization (WMO)

**HINSMAN Don
LANDIS Robert
THOMAS Alan R.
PURDOM James F.W.**

**CEOS
13th MEETING
DRAFT AGENDA**

The 13th meeting of the CEOS Plenary will be held on 10-12 November, 1999, at the Royal Swedish Academy of Engineering Sciences, Grev Turegatan 16, STOCKHOLM, Sweden. The meeting will commence at 08h30 on 10 November 1999.

(The 4th IGOS Partnership Meeting will be held on 10 November 1999 and will start at 15h00.)

Wednesday, 10 November 1999

- | | | |
|----------|--|---------------------------|
| 1 | Registration | |
| 2 | Welcome Ceremony and addresses by Sweden & CEOS Chairman | |
| 3 | Adoption of Agenda | CEOS/13/AGN Rev. 3 |
| 4 | Record of the 12th CEOS Plenary: | CEOS/12/Min/1 |
| 5 | Report of CEOS Chairman | CEOS/13/DOC/22 |
| 6 | Membership Issues | CEOS/13/Doc/01 |
| 7 | CEOS Participation in IGOS Partnership | |
| 7.1 | IGOS Partnership- briefing to Plenary | CEOS/13/Doc/02 |
| 7.2 | IGOS Space Component | CEOS/13/Doc/03 |
| 7.3 | SIT report on status of pilot projects &
Space Agency commitments | CEOS/13/Doc/04 |
| 7.4 | GOSSP Status Report | Oral |

15h00 CEOS Plenary will be suspended for the 4th IGOS Partnership Meeting.

The agenda and the corresponding documents are in a separate section

Thursday, 11 November 1999

- | | | |
|-----------|--|-----------------------|
| 8 | CEOS and its role in support for Training and Education in Developing Countries | CEOS/13/Doc/09 |
| 9 | Interaction with Private Sector | CEOS/13/Doc/10 |
| 10 | Working Group Recommendations | |
| 10.1 | Report from CEOS Chairman | CEOS/13/Doc/05 |
| 10.2 | WGCV recommendations | CEOS/13/Doc/07 |
| 10.3 | Proposal for an Ad Hoc Group on Disaster Management Support | CEOS/13/Doc/21 |
| 10.4 | Ad hoc Spectrum Management | CEOS/13/Doc/08 |
| 10.5 | WGISS recommendations including GOIN ¹ | CEOS/13/Doc/06 |
| 11 | Discussion of recommendations from 4th IGOS Partnership meeting | |
| 11.1 | Report on 4th IGOS Partners meeting | Oral |
| 11.2 | Initial views on Ocean theme recommendations | CEOS/13/Doc/19 |
| 11.3 | Involvement in new themes | |
| 11.4 | Future of SIT | CEOS/13/Doc/11 |

¹ Note : there will be a presentation of GOIN during the lunch break on 11th and /or 12th.

Friday, 12 November 1999

- | | | |
|-----------|---|-----------------------|
| 12 | UNISPACE III | |
| 12.1 | Report on CEOS participation | CEOS/13/Doc/12 |
| 12.2 | Opportunities for CEOS | CEOS/13/Doc/13 |
| 13 | Report on CEOS outreach activities | CEOS/13/Doc/14 |
| 14 | CEOS Forward Look | CEOS/13/Doc/15 |
| 15 | CEOS Plenary planning for next 3 years | CEOS/13/Doc/16 |
| | 2000 INPE | |
| | 2001 STA/NASDA | |
| | 2002 ESA have offered to host | |
| 16 | Any Other Business | |
| 17 | Significant Event Reports by Members | Oral |
| 18 | Transfer to the New Chairman | |

INFORMATION PAPERS

- | | |
|--|-----------------------|
| CEOS Consolidated Report | CEOS/13/Doc/17 |
| A Themes Concept for IGOS | CEOS/13/Doc/18 |
| Practical steps in the implementation of IGOS Themes | CEOS/13/Doc/20 |

13th CEOS PLENARY MEETING

DRAFT SCHEDULE

Wednesday, 10 November 1999

- 08h30 - 09h45** Item 1 - Registration
- 09h45 - 11h00** Item 2 - Welcome Ceremony
Item 3 - Adoption of the Agenda
Item 4 - Record of the 12th CEOS Plenary
Item 5 - Report of CEOS Chairman
Item 6 - Membership Issues
- 11h00 - 1230** Item 7 - CEOS Participation in IGOS Partnership
- 12h30 - 14h00** *Lunch at the Conference Centre*
- 14h00 - 14h45** continuation of CEOS Participation in IGOS Partnership
- 15h00 - 18h15** 4th IGOS Partnership Meeting
- 18h15** *Transport to the Reception in the Stockholm Town Hall*

Thursday, 11 November 1999

- 09h00 - 09h30** Item 8 - CEOS and its role in support for Training and Education in Developing Countries
- 09h30 - 10h00** Item 9 - Interaction with Private Sector
- 10h00 - 12h30** Item 10 - Working Group Recommendations
- 12h30 - 14h00** *Lunch at the Conference Centre*
- 14h00 - 18h00** Item 11 - Discussion of recommendations from 4th IGOS P. Meeting
- 18h30** *Transport to VASA Museum - Dinner*

Friday, 12 November 1999

- 09h00 - 12h30** Item 12 - UNISPACE III
Item 13 - Report on CEOS outreach activities
Item 14 - CEOS Forward Look
- 12h30 - 14h00** *Lunch at the Conference Centre*
- 14h00 - 16h00** Item 15 - CEOS Plenary planning for the next 3 years
Item 16 - Any other business
Item 17 - Significant Event Reports by Members
Item 18 - Transfer to the New Chairman

RESOLUTION FOR AD HOC WORKING GROUP ON EO EDUCATION AND TRAINING IN DEVELOPING COUNTRIES

The 13th CEOS Plenary

Recognising the need for capacity - building in Developing Countries in the field of EO – specifically to take care of the rapidly changing technology trends;

Recognising that the potential exists within CEOS agencies for supporting this important activity

Recognising that CEOS activities, particularly the Working Group services/products, can effectively support education activities

Recognising the need for stronger links between EO programmes and in-situ observations within the context of IGOS

Noting the UNISPACE-III recommendations and the UN efforts to establish the UN Regional Centre for Space Science and Technology Education;

Decides to:

warmly welcome the ISRO proposal, and invite ISRO to lead an ad hoc working group in association with Member and Associates who express interest, to prepare a strategy for CEOS future activities in education and training in Developing Countries, in time for consideration at 14th Plenary – at which time Members and Associates will be invited to make commitments.

RESOLUTION ON CEOS PARTICIPATION TO CPM-99 and WRC-2000

The 13th CEOS Plenary,

Noting the report of the ad hoc Coordination Working Group on Space Frequency Management;

Decides to:

Support the following items in CPM-99 and WRC-2000 (Agenda item 1.16 and 1.17):

- World-wide primary allocation of spaceborne passive sensor using 18.6 – 18.8 GHz;
- The allocation of spaceborne passive sensors above 71 GHz;
- The allocation of earth-based passive sensors above 200 GHz.

Propose an agenda item for WRC-2002 (Agenda 7.2 for WRC-2000) on:

- Allocation of spaceborne SAR using 420 – 470 MHz;
- Primary allocation of spaceborne passive sensors using 4.2 – 4.4 GHz;
- Revision of S5.332 for spaceborne SAR using 1215 – 1300 MHz with the understanding that wind profilers will not be adversely impacted;
- Expansion of 5250 – 5460 MHz to 5250 – 5570 MHz for spaceborne SAR and altimeter;
- Exclusion of footnote S5.551 for spaceborne precipitation radar using 35.5 – 35.6 GHz.
- Sharing conditions for spaceborne passive sensors using 10.6 – 10.68 GHz and 36 – 37 GHz;
- Table allocation for spaceborne and earth-based passive sensors above 275 GHz.

RESOLUTION ON WGISS RECOMMENDATION

The 13th CEOS Plenary,

Noting with approval the report of the WGISS Chairman;

Invites all Members and Associates to improve uptake of WGISS results in agency programmes and to provide the necessary representation to WG and SG meetings

Agrees that WGISS should continue its efforts to make its work of the most relevance and utility to the Members and Associates

Agrees that Therry Fisher became vice-chairman at WGISS

**RESOLUTION ON CEOS DISASTER MANAGEMENT SUPPORT AD HOC
WORKING GROUP**

The 13th CEOS Plenary

Recognizing the promise of benefits for natural and technological disaster management support from improved utilization of data from Earth observing satellites;

Noting the strong, positive response to the related, ad hoc pilot project initiated by the CEOS Strategic Implementation Team; and

Noting the outstanding progress of the pilot project in establishing a mechanism for dialogue with international, regional, and national emergency management and other users;

Decides to:

Create a Disaster Management Support Group within the Committee on Earth Observation Satellites (CEOS) as an ad hoc working group, and that it shall report on its activities at the next CEOS Plenary;

Endorse the attached Terms of Reference;

Welcome the offer of NOAA to provide the ad hoc working group's first chair.

Terms of Reference for the Disaster Management Support Ad Hoc Working Group (DMSG)

Membership

Membership in the DMSG is open to all members and associates of CEOS as defined in the CEOS Terms of Reference, as well as to representatives of other organizations who have an interest in the subject.

Objectives

The objective of the DMSG is to support natural and technological disaster management on a worldwide basis by fostering improved utilization of existing and planned Earth observation satellite data.

Specific objectives are to:

1. Provide a forum to promote mutual understanding and dialogue between the wide range of disaster management communities and the space sector;
2. Foster the creation of appropriate information tools and standardized products;
3. Demonstrate and develop suitable response models for coordinated space agency response;
4. Improve identification of and access to useful Earth observation satellite data and products;
5. Investigate and demonstrate possibilities for technical coordination and cooperation for Earth observation satellite systems and their ground systems;
6. Develop and identify specific user requirements for satellite data, derived products, and services in support of disaster management;
7. Develop and refine recommendations for improving the ability of current and planned space systems to meet disaster management user requirements;
8. Work requirements for space segment with SIT; and
9. Participate in the activities of the IGOS Partnership where appropriate.

In particular, the Group will demonstrate the coordination of space agency responses to specific disasters.

Selected Procedures

The DMSG shall meet when appropriate, but at least once per year, rotating venue among members and geographical regions. A Chair shall be designated by the Plenary, and the group will organize itself to carry out its work. The Chair and Secretariat for the DMSG shall prepare and distribute minutes for each meeting. At each meeting of the DMSG, the time, place, and host for the next meeting shall be established.

The DMSG shall coordinate its work with other international groups involved in related activities, as described in the CEOS Terms of Reference. The DMSG shall cooperate

13th CEOS Plenary

**CEOS/13/DOC21/Res. 3 Attachment
12 November 1999**

with WGCV and WGISS on activities that support disaster management, and it shall report on its activities to the Plenary.

RESOLUTION FOR THE FUTURE OF SIT

The 13th CEOS Plenary

Recognising the value of CEOS participation in the IGOS Partnership:

Recognising that the SIT has stimulated significant progress in the development of IGOS since its inception and continues to serve an important role for CEOS;

Commending the valued contributions made to date by the Strategic Implementation Team (SIT), SIT Chairman, SIT Organising Committee, and others, in developing the concept of IGOS, establishing solid working relations between the IGOS Partners and the Global Observing Systems Space Panel, transitioning the IGOS pilot projects to the IGOS Partnership and other bodies, and moving the IGOS Partnership toward an implementing mode;

Noting agreement by the partners to pursue the implementation of IGOS through a theme approach with the first theme being Oceans;

Decides to:

Continue the SIT as an ad hoc group during 2000, participation being open to CEOS Members who commit to contribute to IGOS activities;

Appoint Dr. Jean-Louis Fellous of CNES as Chairman of SIT and Mr. Yoshiro Miki of STA as Vice-Chairman, and invite them to pursue SIT activities, using the CEOS Secretariat and any other support the Chairman may consider necessary, and to provide a detailed progress report and recommendations in time for the 14th Plenary;

Task the SIT to:

- Implement and develop the space component of the specific themes addressed. In the first instance this is the ocean theme;
- Coordinate CEOS agency activities with regard to IGOS;
- Designate the SIT Chairman to support the CEOS Chairman, with the past and future CEOS Chairmen, to represent CEOS at IGOS partners meetings;
- Develop, implement, and review strategies for outreach and education on IGOS issues relating to CEOS.

Ask the CEOS Chairman to ensure that the subject is reviewed at the 14th Plenary.

ACTIONS

No	Action
13/1	Don Hinsman to contact CEOS Agencies who have not yet supplied their 1999 update to CEOS database during 13 th plenary to seek update
13/2	New Member Conae and new Associate IOCCG asked to provide early inputs to CEOS database
13/3	Ocean Theme Team to provide updated report by mid-January in time for consideration by SIT at meeting towards end January 2000
13/4	Members and Associates as soon as possible to provide names to ISRO of participants in the ad-hoc Working Group on Education and Training in Developing Countries
13/5	CEOS Chairman in 2000 to continue contacts with commercial sector with assistance of NOAA and ISPRS and to organise side meeting with commercial sector in margins of IAF meeting in Brazil
13/6	CEOS Chairman in 2000 to work closely with ISPRS in dealing with private sector
13/7	CEOS Secretariat to report to Plenary on contacts with private sector
13/8	CEOS participants encouraged to organise national/regional meetings with commercial sector
13/9	CEOS Working Group Chairmen to encourage participants from private sector in their work
13/10	CEOS participants to nominate representatives for CAL/VAL ad-hoc group on traceability which will convene at the next plenary CAL/VAL meeting
13/11	Where appropriate CEOS participants to identify representatives from National Standards Laboratories and notify these to Chairman WGCV

13/12	CEOS participants to nominate representatives for new CAL/VAL sub group on Land Surface Parameter Validation
13/13	CEOS participants to identify individuals leading their atmospheric chemistry validation programmes and to notify these to Chairman WGCV
13/14	CEOS participants asked to take part in a CAL/VAL vicarious sensor calibration campaign results intercomparison workshop
13/15	Chairmen of Working Groups to ensure a standard procedure is implemented whereby recommendations which have significant implications for Members are submitted to Members before submission to CEOS Plenary
13/16	SIT to seek commitments from space agencies at January 2000 meeting on Oceans Theme recommendations in their final report and report their outcome to plenary in 2000
13/17	CEOS participants to make nominations for Terrestrial Carbon Theme Team to GTOS with copies to SIT,IGOS Chairmen and to CEOS Secretariat by end November 1999
13/18	CEOS participants to make nominations for the Ocean Carbon element of the Oceans Theme Team by end November 1999
13/19	OOSA invited to inform CEOS Secretariat on feedback mechanism for Vienna Declaration actions. Secretariat to arrange for a report to be made to the CEOS Plenary in 2000
13/20	Dr Mohr to write to Dr Arend conveying Plenary's thanks
13/21	Incoming Chairman to use his best efforts to arrange a mid-term meeting with the previous and future Chairmen, and the Secretariat, possibly in connection with IGOS-P meeting in June 2000
13/22	Members and Associates invited before the end of 1999 to propose candidates to A. Belward for next Chairman of the Working Group on CAL/VAL

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No	Action
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REPORT OF CEOS CHAIRMAN (T. Mohr)

Before starting the business of this 13th CEOS Plenary, I should like to spend a few moments summarising the main activities of the year. It has been a very full year, and I do not intend to mention each and every event or action relevant to CEOS; many are the subject of separate items on our agenda, and will be dealt with at length later on. My object is rather to provide a sketch of the CEOS year, and to draw attention to a number of important trends.

The CEOS family has been extended in 1999, and it is a great pleasure to welcome the new participants. I believe that there still more applications in the pipe-line, and these will no doubt be dealt with at a later Plenary. In the meantime we can regard this interest as confirmation of the relevance of what CEOS is doing.

In such a summary the consecration of the IGOS Partnership, and the launching of the first Theme, must be given pride of place. Because it so aptly meets needs at this moment in time, IGOS and the Partnership have been given a very warm reception. The enthusiasm of all Partners is very obvious, and I am sure that here in Stockholm we will be able to build further on the work of the past year. Let me take this opportunity to express particular thanks to all our Partners in this venture. I really have the feeling that the cooperation is working to the advantage not only of each of the Partners, but also the many users world-wide.

You will be hearing about the continued work of SIT, the Strategic Implementation Team which Brian Embleton so ably started. Bob Winokur has continued the work with the same vigour, and we owe him a vote of thanks for his contribution.

We took advantage of UNISPACE II and other events to give more publicity to IGOS, and indeed to CEOS activities as a whole. I find nothing self-serving in the importance which CEOS gives to these outreach activities. We are simply explaining to a wider audience what CEOS is trying to achieve, and how it can help those whose main preoccupations are elsewhere than in space. This has been a particularly successful activity during the year, and many CEOS Members and Associates have invested a great deal of effort into making the various events a success in virtually all continents.

There has also been some modest, but important progress, in developing a dialogue with the private sector. It has for some time been one of CEOS's ambitions, and I think that during the year we have initiated a series of contacts which can be continued into the future. It is too early to say whether this will eventually lead to the private sector in some way being connected to CEOS, but at least there is a will on both sides to maintain the dialogue.

The working groups have been very active during the year, and I have tried to integrate them more into the overall workings of CEOS, and to offer guidance as how they can work more effectively with the CEOS Plenary. We shall be coming back to this subject on the agenda, but I must say here and now how important I personally find the work of our working groups. I am not sure that we have yet found the right formula to ensure that they reach maximum effectiveness. But we will come back to this later on. Meanwhile, thanks are due to the Chairmen, Vice-Chairman and the members of our working groups for all they have done during my period of office.

CEOS could not work without its Secretariat. Much of what it does between Plenaries is not visible to Members and Associates, but I can assure you that they have been particularly active this year. I should like to offer very sincere thanks to all of them for their support.

I hope in this short note that I have given you a satisfactory account of the year's activities, and that has whetted your appetite for tackling the agenda of this, the 13th Plenary of CEOS.