

MINUTES OF THE 15th CEOS STRATEGIC IMPLEMENTATION TEAM MEETING

15th November 2004
Beijing

Participants

ASI:	Giovanni Rum
BNSC :	Colin Hicks, Paula Freedman, Mark Churchyard
CNES:	Daniel Vidal-Madjar
Coastal Theme:	Liana McManus
CONAE :	Laura Frulla, Ana Medico
CSA:	Virendra Jha , Daniel DeLisle
CSIRO/COSSA:	Alex Held
ERSDAC:	Hiroshi Watanabe
ESA:	Stephen Briggs, Josef Aschbacher
EUMETSAT:	Lars Prahm, Roy Gibson
GCOS :	Paul Mason
GEWEX/IGWCO:	Rick Lawford
ICSU:	Roberta Balstad
JAXA/RESTEC:	Yoji Furuhashi (Chair), Yukio Haruyama, Chu Ishida, Satoko Miura, Mariko Kato, Kazuko Misawa, Stephen Ward
MOST/NRSCC:	Li Deren, Mengxue Li, Liu Dingsheng
NSC:	Rolf Skaar, Per Erik Skrovseth
NOAA:	Greg Withee, Brent Smith, Michael Hales, Renee Leduc Clarke
UNESCO :	Robert Missotten
UNEP:	Norberto Fernandez
USGS:	Barbara Ryan , Larry Pettinger, Jay Feuquay
WCRP/Cryosphere:	Gilles Sommeria
WMO:	Donald Hinsman

1. Welcome and introduction

The Chairman, Yoji Furuhashi, opened the meeting, thanking NRSCC for hosting the meeting and thanking all participants for joining. He made an opening statement containing the following points:

- 1) IGOS-P is entering new territory: with Themes in the Implementation Phase and one more seeking approval of their Report.
- 2) SIT-15 will focus on review of the IGOS Coastal Theme Team report with just a brief review of the written status reports submitted by other Themes and agencies.

2. Adoption of Agenda

The proposed agenda for the meeting was adopted with the addition of an item on 'GCOS-WCRP climate requirements' under AOB.

3. Minutes of the 14th SIT and SIT action status

The previous minutes were adopted as final and the recorded action status was reviewed by Chu Ishida.

No.	A/I	Status
14-1	SIT Chairman to investigate prospects of CEOS member support for the IGWCO 'indicators' workshop (by SIT-15)	<p>COMPLETE</p> <p>IGWCO Theme Team has developed a proposal. (This was reported in Agenda item No. 5)</p>
14-2	SIT Chairman and IGWCO Team to co-operate to prepare analysis of surface and sub-surface water measurement capabilities of space segment (by SIT-15)	<p>COMPLETE</p> <p>A presentation on this topic has been provided to the GEWEX Hydrometeorology Panel and preliminary discussions were held regarding possible follow-up actions. More concrete follow-up plans are expected in the next few months.</p>
14-3	CNES and IGWCO Team to discuss role of Megha-Tropique mission in theme implementation (by SIT-15)	<p>COMPLETE</p> <p>A dialogue is on-going between Mr. Vincent Casse of CNES and the chair of IGWCO regarding the status and potential contributions of Mega Tropheique.</p>
14-4	JAXA and IGWCO Team to report on status of Theme workshop planning (by SIT-15)	<p>COMPLETE</p> <p>A joint CEOP/IGWCO workshop is being planned for Tokyo for February 28 to March 4, 2005. It is anticipated that the current version of the IGWCO Implementation plan will be completed at this workshop. Interested CEOS-SIT members are invited to nominate participants for this workshop. A web-site is available for your information: [http://www.prime-intl.co.jp/ceop.igwco/index.html]</p>
14-5	SIT Chair and Geo-hazards Theme team to explore topography dataset access issues (by SIT-15)	<p>COMPLETE</p> <p>SIT Chair made connection to USGS on behalf of Geo-Haz team. A very encouraging and comprehensive response was received outlining the main issues.</p>
14-6	IGCO Team to distribute draft implementation plan for information of IGOS Partners (by SIT-15)	<p>COMPLETE</p> <p>IGCO has provided a Theme Status Report for SIT-15 including a draft Plan.</p>

14-7	ESA and IGCO Team to discuss arrangements for the proposed IGCO workshop (by SIT-15)	COMPLETE Workshop planned for 3-5 November in ESA ESRIN
14-8	Coastal Theme team to liaise with David Williams to supply the draft theme report to the IPTT of GEO (by end July)	COMPLETE The final report was submitted in accordance with IGOS Process Paper ahead of P-11bis
14-9	SIT Chair to liaise with WMO and CEOS Chairman on topic of GCOS-WCRP Climate Requirements for the Plenary agenda (by Nov)	COMPLETE This effort is well underway now within WMO, GCOS, and WCRP. The WMO Executive Council made the following statement. "The Council acknowledged the need expressed by space agencies and WMO Members for a single set of climate requirements and agreed that this would be achieved by the Steering Committee of the WMO co-sponsored Global Climate Observing System through its coordination with relevant climate communities." (Update was provided in Agenda item No. 10)
14-10	SIT Chair to advise CEOS members of the importance of review of the GCOS Implementation Plan (by end June)	COMPLETE GCOS invited to update SIT on next steps with UNFCCC. GCOS will report at P-11bis on status.

Open actions from previous SIT meetings

13-10	JAXA to confirm the Japanese operational agency appropriate for participation in the Geo-hazards Theme	OPEN JAXA in consultation with the Cabinet Office and Asian Disaster Prevention Center in order to conclude this
13-11	NASA to provide SIT with information on the proposed 'international altimetry service'	COMPLETE NASA has advised that the International Association of Geodesy has established a planning group for an international altimeter service. More details available at: http://iag.dgfi.badw.de/?ias-pg CEOS/IGOS Members represented include: NASA, NOAA, ESA, CNES, UNESCO
13-13	Ocean Theme Team to advise SIT Chair on their plans for assessment of the Theme implementation	OPEN Change in Theme leaders in both GOOS and NASA has resulted in a hiatus on the Theme. Keith Alverson appointed by GOOS. Paul DiGiacomo appointed by NASA.

4. Review of the Coastal Theme Report

Dr Liana M^cManus gave a presentation on the Coastal Theme Report, including the following key points

- the Coastal Theme observing requirements have been categorised as follows:
 - *Geophysical: ocean winds, waves, sea surface height, currents, salinity, temperature, discharge, precipitation, ice cover;*
 - *Biological and Biogeochemical: pigments, nutrients, particulate and dissolved matter, aerosol properties, slicks and spills, fluorescence, optical properties, O₂ and pCO₂;*
 - *Mapping (Physical, Ecological, and Socio-Economic): topography, bathymetry, shoreline position & use, high/low tide lines, habitat types and condition, land cover/use, reef maps, coastal population assessments/demographics.*
- the spatial and temporal resolutions and other characteristics of the requirements have been quantified by the Theme team;
- the main issues relating to space observations are:
 - *existing space observations provide inadequate spatial, temporal and/or spectral resolution and coverage of coastal regions;*
 - *improved calibration/validation in coastal regions is a critical, underserved need;*
 - *some required observations are not presently made from space - eg surface currents, salinity, ecological parameters;*
 - *need to facilitate transition from research to operational satellites;*
 - *the need exists for dedicated adaptive sampling capabilities.*
- the recommended priorities for space agency implementation efforts in support of the Theme are:
 - *provision of: geostationary, hyperspectral ocean colour observations of coastal areas; higher resolution/improved coverage for ocean vector winds & SSH; high spatial and spectral resolution capacity to assess coral reef community changes & vegetation assessments;*
 - *improvements in: calibration/validation of measurements in coastal regions; data management infrastructure (near-real time delivery; climate data records);*
 - *support for development of a Coastal Data Assimilation Experiment (CODAE);*
 - *co-operation on blending high-resolution multi-sensor data products;*
 - *facilitating access to highest resolution DEM as soon as possible;*
- the implementation framework will be lead jointly by GTOS and GOOS, and will include an oversight committee and regional/national links alliances to ensure linkages to relevant programmes; written endorsements confirming participation have been received from GTOS, GOOS, and FAO;
- UNESCO/IOC has offered to fund publication and printing of the Theme report;
- the first workshop in 2005 of CODAE will be sponsored by NOAA, NASA and IGBP;
- the overall implementation timetable is shown in the figure below:

2004-2005	<ul style="list-style-type: none"> Finalization and printing of report. Establishment of Coastal Theme Implementation team Further determination/acquisition of available resources
2005-2007	<ul style="list-style-type: none"> Joint oversight mechanism between Coastal modules of GOOS and GTOS Design CODAE Pilot Project Support development of platforms/sensors with CEOS
2007-2010	<ul style="list-style-type: none"> Implement CODAE Strengthen socioeconomic component Revision of the Coastal Theme Report after 5 years
2010-2014	<ul style="list-style-type: none"> Analysis of CODAE results Increasing implementation of coastal observing programmes on a regional basis Second revision of the Coastal Theme Report after 10 years

- initial membership of the implementation team is as follows:

Lead	Robert Christian Tom Malone	Coastal-GTOS Coastal module of GOOS
CEOS Reps.	Eric Bayler Paul DiGiacomo Hiroshi Kawamura Peter Regner	NOAA/ CEOS JPL/ CEOS JAXA/ CEOS ESA/ CEOS
User Reps.	Arthur Dahl Julie Hall Liana Talaue McManus	UNEP/ Coral Reef Subtheme IGBP-IMBER/GOOS- COOP IGBP-IHDP LOICZ
Resource Support	GOOS, GTOS, IGBP, NOAA, NASA, other CEOS	

The highlights of the discussion which followed the Coastal Theme Team presentation were as follows:

- Roy Gibson (EUMETSAT) noted that the Report should include details of the Theme team membership and the observation priorities: both of which had been cited in the presentation to SIT-15 but which were not obvious in the report itself;
- Daniel Vidal-Madjar (CNES) suggested that the CODAE studies would have to focus on a pilot region; the improved spatial and temporal resolution required in the coastal zone of space observing systems will be hard to achieve – and certainly not on a global basis in the near future; Dr McManus confirmed that this was the intention – to start with ‘data-rich’ sites; the first sites will be selected in the initial workshop;
- Don Hinsman (WMO) commended the Coastal Theme team on their emphasis on defining specific coastal observation requirements and their detailed characteristics – which will facilitate assimilation of the Theme requirements into the CEOS/WMO database;
- recognising that a number of the Coastal Theme observation requirements were common to other Themes (including Geo-hazards and IGACO); it was agreed that the Coastal Theme team would convey their requirements to existing Theme team leaders with a request that they highlight the commonalities;

Action	15-1	Coastal Theme team to convey their observational requirements to other Theme team leaders with a request that they highlight any commonalities	SIT-16
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- Brent Smith (NOAA) expressed NOAA’s support for the project; he hoped that other CEOS agencies would support the implementation of the Theme;
- Dr M^cManus recognised that the issue of resourcing was important for approval of the Theme by IGOS Partners and assured the meeting that the necessary resources for the first year of operations had already been secured.

The SIT Chair referred participants to the ‘compliance matrix’ he had drafted in order to check compliance of the Coastal Theme Report with the main provisions of the IGOS Process Paper. He noted that, whilst the presentation to SIT-15 had clarified a number of issues, the Report itself required some amendments in order to be fully compliant:

- clarification of the space observation priorities – to provide focus for space agency participation in implementation;
- explicit definition of the Theme team membership and leadership in implementation phase;
- an appreciation of the resources required for implementation and assurances regarding the source of the effort required for the Theme to move forward.

Dr M^cManus confirmed that these points could be easily addressed and the revised report provided to the SIT Chair for a final check ahead of publication. The report will be issued by February 2005.

Action	15-2	Coastal Theme team to revise the Theme report and provide to SIT Chair for a final check prior to publication	December 2004
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The SIT Chair congratulated the Coastal Theme team on their excellent Report and confirmed that he would recommend to IGOS Partners, on behalf of CEOS, that they adopt the Coastal Theme report at the P-11bis meeting and that they approve the Theme to move to implementation phase.

5. Other Theme Reports

IGACO

Don Hinsman (WMO) reported that the IGACO Theme implementation was in full swing, and that the Theme was being leveraged and linked to by a number of high-profile initiatives in the relevant communities, including:

- GEMS: development of a chemical assimilation model by ECMWF;
- the Frontier Global Climate Centre (Japan): which is considering registering their model development efforts (Global Environmental Simulator) as a regional IGACO Centre for Asia;
- the European Union’s decision to fund the IAGOS project (‘Integration of Routine Aircraft Measurements into a Global Observing System’ – the follow-on to MOZAIC) was due in large part to the expression of requirements in the IGACO Theme Report;

- the IGACO team is working with the Future WMO Information System (FWIS) staff in order to set data submission standards for ozone and aerosol observations to be provided to forecast groups as real-time data;
- a pilot project has been defined (by EC and DLR) to consider a European data centre that would construct a World Reference Observational Data Base for a key set of IGACO variables.

Cryosphere

Gilles Sommeria (WCRP) referred participants to the update on the Cryosphere Theme status recently distributed by Vladimir Ryabinin (WMO) which reports that:

- the theme team has been working hard to address the shortcomings in the Theme proposal identified by the SIT-14 meeting;
- the theme originators are: WCRP - acting through its Climate and Cryosphere (CliC) Project; and ICSU - acting through its Scientific Committee on Antarctic Research (SCAR); in July 2004 an MoU was signed by WCRP and SCAR on joint sponsorship of CliC;
- Dr Jeffrey Key of NOAA NESDIS (Advanced Satellite Products Team) has agreed to chair the CliC Observation Products Panel and to lead the Theme report preparation; Dr Mark Drinkwater of ESA ESTEC (Head of Oceans/Ice Unit, Earth Observation Programmes) has agreed to serve as the vice-chair of the Theme;
- the theme team has been significantly enhanced; help of Don Hinsman (WMO) is important and much appreciated; core contributors from partners are Barry Goodison, Vladimir Ryabinin, Chad Dick, Colin Summerhayes; there are 23 other contributors; the team still requires more expertise in certain areas - work on this is ongoing; the most important role is to be played by the CliC Observation Products Panel;
- the approach to the theme report preparation is being refined, it is likely to include the following major stages: an update of user requirements, a study of how they are met by current, planned and prospective in situ and remotely sensed observations, a proposal on the way forward with a subsequent attempt to build on adequate mix of satellite and in-situ observations and achieve a consensus on priorities and wide acceptance of the Theme recommendations; all stages require very significant efforts;
- the updated Theme concept document, a current list of potential Theme contributors, and some other relevant documents are now available for the Theme contributors' reference at a dedicated webpage <http://stratus.ssec.wisc.edu/IGOS-cryo/>; this is not an official theme site but a working tool where contributions can be gathered and reviewed;
- some very modest resources for Theme preparation have been secured from CliC and SCAR; the Canadian Space Agency (CSA) has graciously offered sufficient support to host a workshop on the Theme; approximately three workshops on the Theme are envisaged: in North America (supported by the CSA), and in Asia and Europe (sponsors yet to be identified);
- the team requests SIT to help in identifying the sponsors for workshops, advice on the approach and Theme content and support in identifying resources for finishing and eventual printing of the final report.

Action	15-3	SIT Chairman to circulate Cryosphere Theme team update (including request for workshop sponsors) to CEOS agencies for information and feedback	December 2004
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Geo-hazards

Robert Missotten (UNESCO) reported the main updates:

- recent effort has focused on implementation mechanisms and in the realignment of the GARS programme of UNESCO and ICSU for this purpose; the theme team was delighted to welcome JAXA and ESA to the steering committee;
- ESA and BRGM (French Geo Survey) have created a bureau for implementation assistance and focus; this is funded for an initial 3 years and incorporates 2 full time staff dedicated to the theme implementation; the official opening was held in early Nov 2004;
- the team has been extremely active on outreach efforts, including at: ISPRS (July, Istanbul), COSPAR (July, Paris), the International Geological Congress (August, Florence), IAC (October, Vancouver), and the UN Workshops on Disasters and Remote Sensing;
- in January 2005 the team will hold their first workshop with the bureau and GARS; the meeting will populate the working groups defined for implementation (on capacity building, observations and key systems, integration and modelling, databases and interfaces, underpinning science);
- an international workshop will be held by BRGM on 6th-8th April 2005; the outcomes will be reported to IGOS-P-12;
- the Theme team has been actively supporting the GEO and IPTT efforts.

Water Cycle

Rick Lawford (GEWEX) updated the meeting on the IGWCO status:

- in response to SIT action 14-1, IGWCO has developed a proposal for an indicators workshop, to which IGOS Partners are invited to respond with offers of support;
- an outline plan for 'CEOP-II' has been developed and will be elaborated over the next few months: this report will: emphasise the need for the development of products based on the data sets collected in CEOP; extend some of the data collection and processing activities; identify new opportunities related to the International Polar Year (IPY); this proposal will be presented to the next IGOS-P meeting; with the exception of a few satellite data sets, the inputs for the integrated CEOP data products are coming together nicely;
- a joint CEOP/IGWCO workshop is being planned for Tokyo for 28th February to 4th March 2005; JAXA is supporting this event; the current version of the IGWCO Implementation plan will be completed at this workshop; CEOS-SIT members are invited to nominate participants for this workshop;

Action	15-4	CEOS SIT members invited to nominate participants for the IGWCO workshop (Tokyo, Feb 2005)	January 2005
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- IGWCO, in collaboration with GEWEX (WCRP) and UNESCO, held a workshop (supported by ESA and NOAA) on trends in the global water cycle at UNESCO in early November; a report from this workshop will be submitted to Working Group I of the IPCC; observational recommendations from this work will be presented at SIT-16 and at the Joint Scientific Steering Committee of WCRP; these will include the need for reprocessing of key satellite data-sets to attempt to reconcile differences with in-situ measurements;
- ESA has hired a European GEWEX coordinator - including for studies of soil moisture; the joint secretariat function of the Theme team is developing well – with support from NOAA and JAXA;
- IGWCO is interested in arranging a workshop on 'High resolution precipitation products' in order to initiate a preliminary evaluation of current products derived from satellite and to compare them;

- IGWCO is also arranging a series of capacity-building workshops – hoping to cover Latin America, East Asia, and Africa (in the case of Africa it was proposed that IGWCO should explore linkages with the TIGER project since considerable work of relevance is already underway within that framework).

Action	15-5	SIT Chairman to circulate Water Cycle Theme team update (including requests for workshop sponsors) to CEOS agencies for information and feedback	December 2004
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Carbon Cycle

The SIT Chair referred participants to the draft implementation plan and status update recently circulated by the IGCO team. It was noted that the team had met recently at ESRIN and a draft implementation plan had been prepared. ESA will host a ‘Carbon from space’ workshop to bring together the instrument makers, modellers, and data assimilators – in Frascati in April-May 2005.

6. Space Agency Reports

The SIT Chair thanked CNES, ESA, INPE, JAXA, and NOAA for providing updates on the status of their efforts in support of IGOS Theme Implementation. These updates are summarised in the matrix below.

Short verbal reports were also provided as follows:

ASI: confirmed that COSMO Skymed will be launched in late 2006. Designed in co-operation with the Italian Civil Protection Authority – the constellation will study seismic and volcanic hazards;

USGS: noted that the US Office of Science and Technology Policy had issued a statement in August confirming that they intend to operationalise the Landsat mission – with the next generation flying on the NPOESS platform from 2009;

METI: Hiroshi Watanabe (ERSDAC) reported that the ASTER sensor (on Terra) continued to operate after 5 years in orbit. The sensor has acquired around 870,000 scenes world-wide. METI and NASA are extending their MoU and hope to continue ASTER operations until 2007. ASTER data is routinely used in many geological, forestry, environment, and other applications. A joint Landsat-ASTER mission has been discussed during the last year but no decision was reached. An ASTER follow-on sensor would (if approved) ensure continuity of data supply to the user community.



	CNES	ESA	INPE	JAXA	NOAA
Ocean		<p>A GMES Sentinel satellite planned for operational ocean monitoring: altimeter & optical/thermal instrument with AATSR, MERIS and Spot/Vegetation heritage.</p> <p>GOCE will provide 1-2cm geoid @ 100km scale: 2007-2008.</p>			<p>NOAA CoastWatch/ OceanWatch established a pilot effort for connecting satellite observations with regional <i>in-situ</i> efforts for research and operational applications of integrated observations.</p> <p>NOAA's satellite-ocean-color-based Harmful Algal Bloom (HAB) Bulletin product declared operational at the end of September.</p> <p>Jason-2 planned for operational topography. QuikScat ocean vector winds being assimilated into NWS numerical modeling and forecaster analysis systems.</p> <p>Progress continues on development of a merged SST product from geostationary and polar-orbiting observations, with initial validation to commence in Dec 04 and planned transition to operations in early 2005.</p> <p>Sea-ice: Efforts continue toward the development of a NASA interferometric SAR (IN-SAR) mission to provide the U.S. with a domestic SAR capability as a pathfinder for an operational SAR capability.</p>
Carbon	<p>CNES supporting (with other French agencies) the establishment of an IGCO office in Saclay, budget for missions and representations, and one post doc for at least 2 years.</p>	<ol style="list-style-type: none"> 1. Studying mission concepts based on lidar systems. 2. Studying requirements (esp greenhouse gases) of next generation active optical instruments. 3. IGCO team met Nov 3-5 at ESRIN to develop imp. Plan. Carbon from Space workshop planned for Spring 2005 at ESRIN. 	<p>Continuous effort on monitoring of Amazon Deforestation – PRODES project.</p> <p>Detection of fires and assessment of risks – PROARCO project.</p>	<p>GOSAT has gone up to Phase-B. Tentative launch schedule is JFY 2007. The meeting on Kyoto Carbon Initiative held on October 19th – 22nd at JAXA/EORC.</p>	<p>Designated Dr. Christopher Barnet as NOAA NESDIS IGOS Carbon representative.</p> <p>Developing experimental carbon trace gas satellite products (CO, CH4, and CO2) and testing products with the Aqua AIRS observations.</p> <p>Working to extend lessons learned from experimental AIRS to EUMETSAT IASI and NPOESS CrIS operational products.</p>



	CNES	ESA	INPE	JAXA	NOAA
Water Cycle	Megha-Tropiques mission aims to study the water cycle and the energy exchanges in the tropical belt. Recently approved for 2009 launch by CNES & ISRO.	<ol style="list-style-type: none"> 1. Recommendation from ESAC to move EGPM into the GMES EO element 2. IGWCO report issued Apr2004 3. European GEWEX coordinator provided by ESA from Oct 2004 4. SMOS (global soil moisture) planned from 2007 		<p>TRMM operation extended through end of 2004.</p> <p>JAXA will propose a series of satellites for establishing "Global Earth Observation System of Systems (GEOSS)" mainly focused on observations of global warming, water cycle and disaster. The series of satellites, GCOM (Global Climate Observation Mission), consist of 2 satellite series: The sea surface observation mission, so called GCOM-W, will have AMSR F/O. The atmospheric and terrestrial observation mission, so called GCOM-C, will have GLI F/O.</p> <p>IGWCO workshop will be held in February 2005 in Tokyo. The details are now being coordinated with IGWCO team.</p>	NOAA supporting IGWCO capacity building efforts.
Geo-hazards		Land motion is one of the top three priorities for the GMES SAR Sentinel, currently under study.		Tentative launch schedule of ALOS is summer in JFY 2005.	
Atmos. Chem.					<p>SBUV/2 ozone measurements will be continued on NOAA-16, 17, N, & N'.</p> <p>Next generation sensors include the Ozone Mapping and Profiler Suites (OMPS) on NPOESS.</p>
Coastal/Coral			Brazil and China finalizing plans to include a panchromatic high resolution camera, HRC, onboard of CBERS-2B (2,5 m and 27 km swath), to be launched in 2006.		Formation of the Coral Reef Ecosystem Integrated Observing System (CREIOS)
Cryosphere		Cryosat launch planned for march 2005.			Jeffrey Key of NOAA is leading the Theme report preparation.
Land			INPE established public data policy distributing CBERS-2 data freely by Internet. Brazil and China finalizing plans to include a pan high resolution camera onboard of CBERS-2 (2,5 m spatial resolution and 27 km swath). CBERS-3 and 4 also to carry HRC, planned for launching in 2008 and 2011, respectively.		

7. Socio-economic issues for IGOS Themes

The SIT Chair noted that the IGOS-P-11bis meeting would include a presentation on the consideration of socio-economic data by the IGOS Partnership and its Themes and that CEOS would be required to have a view on this topic. He noted that Dr Roberta Balstad of CIESIN (on behalf of ISCU) would report to IGOS on the socio-economic issues workshop ISCU had arranged, and on the workshop report they had provided to IGOS-P.

Participants agreed that CEOS agencies, and likely many IGOS Partners, did not have sufficient experience in the domain of socio-economic issues and/or data, but that it was an essential ingredient for successful IGOS Themes with significant societal impact. The most recent Themes (eg Coastal and Land) have made some attempt to give due consideration to socio-economic issues/data in the definition of the Theme.

Dr Balstad noted that the ISCU workshop had made a number of recommendations – directed at both IGOS-P and at GEO.

The highlights of the discussion which followed were:

- Greg Withee (NOAA) and Colin Hicks (BNSC) both supported consideration of socio-economic data as an integral part of the IGOS process and IGOS Theme definition; and suggested that CEOS should encourage IGOS-P to investigate further how best to approach the topic;
- Daniel Vidal-Madjar (CNES) suggested that each Theme must find a way to define what could be called essential socio-economic data in their own domain – in order to make their output valuable to society; this would likely involve exploration of common formats and access means to allow intercomparison and exchange of data across Themes and beyond; such work could start by considering a few critical parameters of common interest;
- Stephen Briggs (ESA) noted that the lack of understanding of the topic was such that it was not clear whether socio-economic ‘issues’ or ‘data’ (or both) were the focus of the debate – and that it merited more precise definition before investing more effort.

The SIT Chair proposed to observe how the discussion progressed in the P-11bis meeting and to encourage IGOS Partners to explore the topic further – allowing for further discussion at IGOS-P-12.

8. SIT Report to 18th CEOS Plenary

The SIT Chair briefly reviewed the presentation slides which would comprise his report to CEOS Plenary – focusing on IGOS Theme status and the SIT approval of the Coastal Theme to move to implementation. There were no further comments.

9. Next meeting

The SIT Chair put forward two options for the next SIT meeting:

- Just before IGOS-P-12 (planned for the week of 23rd May 2005); the venue would be somewhere in Europe; BNSC volunteered to host the meeting should that be helpful to the SIT Chairman;
- In Tokyo in mid-to-late April 2005.

It was recognised that uncertainties in the P-12 venue (due to travel advisories regarding Kenya), and the need to allow time for the G3OS meeting, as well as other CEOS meetings (such as the anticipated CEOS Task Force) would necessitate careful co-ordination and planning of dates. The SIT Chair will advise in due course.

10. Any other business

GCOS-WCRP climate requirements.

Gilles Sommeria noted that past SIT meetings had encouraged GCOS and WCRP to work to establish a consistent set of climate data requirements. This objective was discussed and agreed at the WMO Executive Council and GCOS and WCRP were tasked to work towards this – clarifying distinctions for requirements of the various climate applications (research, monitoring etc) in the process.

As part of its new COPES strategy (Coordinated Observation and Prediction of the Earth System), WCRP has established a Working Group on Observation and Assimilation (WGOA) in order to promote and co-ordinate the synthesis of global observations from the atmosphere, land and cryosphere and the fully-coupled system, as well as GCM re-analyses and assimilation activities. In this context and following the recommendation of the earlier WCRP Working Group on Satellite Matters, a high priority is given to the development of global, high quality climate products exploiting the large satellite and in-situ data sets accumulated over the last 20-30 years. WCRP proposes to develop a co-ordinated approach to the re-processing of global climate observations covering the “satellite era”. This approach would involve climate experts and agencies in charge of space systems and global observing systems, and would be complementary to the activities already undertaken as part of the re-analyses. The following tasks are foreseen:

1. To perform an inventory of existing activities related to the development of climate products with the objective of producing an up-to-date list/data base of these products providing comprehensive information on product specifications, quality, types of data used etc;
2. To establish a list of priority global climate products to be developed including new ones and improvements to existing ones. This list will be based on the GCOS essential climate variables, focusing on observation-based parameters for which the expected benefit of re-processing is the highest. This exercise would be a prime responsibility of climate expert groups, with WGOA co-ordination.
3. To define for each of these priority climate products, detailed specifications, identification of data sources (space, in-situ, calibration data...), candidate processing centres/institutes/laboratories having the skills and expertise for the generation of these products; This would likely require the setting-up of a small consortium combining complementary expertise and know-how. For each of these products specific research actions, schedules and levels of resources (manpower and funding) required should be clearly identified.
4. To prepare an implementation plan under WGOA and submitted to WCRP JSC and participating agencies.

Gilles Sommeria suggested that the direct involvement of space agencies is seen as essential for the success of this initiative and the project outline is being presented to SIT-15 with a view to further development of the idea for discussion at future meetings in 2005.

Stephen Briggs (ESA) acknowledged the merits of the objectives outlined by WCRP – but cautioned that it could be a very expensive exercise – which would require a strong justification, probably focusing on a few key products.

The SIT Chair encouraged WCRP to supply more details when available.

Action	15-6	WCRP to update SIT on the efforts of the WG on Observation and Assimilation within COPES strategy	SIT-16 or 17
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11. Adjourn

The SIT Chair thanked the participants for their great efforts and kind cooperation for this meeting and closed the meeting.