



CONTENTS

Wrapping up – INPE’s Chairmanship	1
The way forward for Strategic Implementation Team (SIT) in 2011	2
Announcement of the CEOS High-Profile Publication	2
WCRP Open Science Conference “Climate Research in Service to Society”	2
Assessing GEOS Implementation Midway through Its First Decade	6
CEOS Executive Officers : Your 2011-2012 CEOS Leadership Support Team	6
CEOS Exhibition at the GEO-VII Meeting	6
Working Group on Climate (WGClim)	6
Working Group on Information Systems and Services (WGISS)	6
Working Group on Education, Training and Capacity Building (WGEdu)	6
Working Group on Calibration and Validation (WGCV)	6
Meeting Calendar	6
A Message from the 2011 CEOS Chair	6

Wrapping up – INPE’s Chairmanship

Dr. Gilberto Camara, Director General, INPE (Brazil), 2010 CEOS Chair

It was a great pleasure for INPE to host the 24th CEOS Plenary from 12-15 October 2010, in Rio de Janeiro, Brazil. The 77 delegates, representing CEOS Members and Associates, got together to report on CEOS activities and achievements in 2010 and discuss the use of satellite imagery for monitoring the Earth system, aligning action plans for the incoming year.

In 2010, the top priority activities included Forest Carbon Tracking (FCT), Global Monitoring of Greenhouse Gases from Space, Data Democracy, and Climate Change, all of which must also be taken as priorities in 2011.

The two key drivers in giving CEOS focus and direction were the need for society to develop information in support of climate change and the resulting need for continuous, operational surveying of key variables. The FCT has been instrumental in showing practical applications of the Virtual Constellations. The recent SIT Workshop highlighted some of the challenges CEOS has been facing, and, as we move from the provision of interoperable and calibrated data to the provision of services, we encounter structural limitations in the CEOS arrangements. The provision of services should be carried through other

international organizations such as GEO, and the trend towards open data access policies is essential in this regard.

INPE is pleased to report good overall performance by CEOS in support of GEO. It has been a year full of accomplishments and challenges, comprising the continuous progress towards the implementation of the GEOS space segment. Along the year, CEOS has led or co-led 17 GEO tasks, in general it has supported 20% of GEO Work Plan tasks. CEOS has defined a number of internal actions to address its GEO Work Plan commitments, 95% of which are closed or progressing, which should be considered a major success by CEOS.

The reports made by CEOS Working Groups indicated a very productive year. We were proud to endorse the recommendation to set up the new Working Group on Climate with the usual *modus operandi* of CEOS Working Groups. (see article P.5)

Thanks to the hard work of our Community, several major documents and new portals have been developed in 2010 - notably the update and upgrade of the CEOS Missions, Instruments and Measurements (MIM) database, the Data Democracy Portal and the remarkable publication of “CEOS Satellites, Science and Society”. Furthermore, various workshops and training courses have been held, and new public datasets have been generated.

During the Plenary in Rio, CEOS gained two new members: NSMC (National Satellite

Meteorological Center), from CMA (China Meteorological Agency); and SANSA (South Africa National Space Agency). China is now represented in CEOS by NSMC, CAST (Chinese Academy of Space Technology), CRESDA (China Center for Resources Satellite Data and Application), and NRSCC (National Remote Sensing Center of China). South Africa has had an active participation in CEOS as an associate member through CSIR (Council for Scientific and Industrial Research). In 2008, the Council took over the chairmanship of CEOS, establishing during its Plenary, the Data Democracy initiative, which was adopted by subsequent Chairs.



Special thanks to Ivan Petiteville for his remarkable efforts, outstanding leadership and hard work as CEOS Executive Officer (CEO) of CEOS, for the past 3 years. And, welcome Tim Stryker and Kerry Sawyer as new CEO and Deputy CEO of CEOS. (see related article on P.4)

INPE would like to take the opportunity to thank ASI for accepting the invitation to be the CEOS Chair in 2011. It was a very affirmative action, although challenging, to accept such role. All CEOS community is grateful for that and more than wishes a successful term.

We are wrapping up, but we are not saying goodbye to the support we have been giving to CEOS. INPE will continue very active in this Committee and strongly committed with the priorities established for next year. We wish CEOS and the whole community a wonderful year filled with success and reward. ■



Participants of the 24th Plenary in Rio de Janeiro



The way forward for Strategic Implementation Team (SIT) in 2011

Makoto Kajii, JAXA (Japan), SIT Chair



CEOS-related high-level events, the GEO-VII Plenary and Ministerial conference in Beijing, China and the UNFCCC COP-16 in Cancun, Mexico, were successfully completed. We are pleased that the effort CEOS agencies spent in the last few years was rewarded through our achievements at these events. However, CEOS must continue to expand cooperative activities on Earth observation satellite systems, since satellite data is becoming more important for the global community to resolve recent global issues.

As Chair of SIT, I would like to propose the way forward for SIT in 2011 under the leadership of the new CEOS Chair Agency, ASI.

First of all, needless to say, CEOS actions to support GEO including new activities considered at the CEOS-GEO coordination meeting held in Geneva last December, must be promoted as high priorities. We should strive to register more data sets as part of the GEOSS Common Infrastructure (GCI), in order more broadly support user community needs. Progress in data discovery and access will also be an important topic for discussion at our next SIT meeting.

Secondly, SIT should continue to support the four highlighted activities of 2010, "Global Monitoring of Greenhouse Gases from Space", "CEOS role in GEO Forest Carbon Tracking", "CEOS response to GCOS requirements" and "Data Democracy for developing countries". The

importance of those activities remains high for 2011.

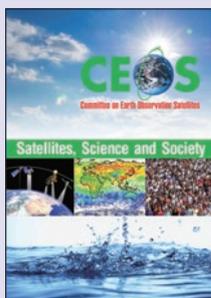
Thirdly, I would like to propose that CEOS enhance certain core activities in order to achieve the next level of CEOS contributions to the global society. Particularly we should focus and enhance the activities on the Virtual Constellations, since I am convinced that such cooperation activity crystallizes the nature of CEOS as an international coordination body, with wide-ranging and beneficial deliverables.

I would like to encourage the SIT principals and related CEOS colleagues to come to Tokyo for SIT-26 in March, where we expect to have lively and constructive discussions and decisions on these and other topics. ■

Announcement of the CEOS High-Profile Publication

The "Satellites, Science and Society" focuses on key CEOS priorities which are Global Monitoring of Greenhouse Gases from Space; Forest Carbon Tracking; Climate Change; and Data Democracy. In addition, it provides information on other significant CEOS initiatives in 2009-2010. Efforts target on promoting CEOS activities at the GEO Plenaries and GEO Ministerial Summit; and 2010-2011 meetings of the G8/G20 and UNFCCC and associated bodies. Co-leading by GISTDA and JAXA, the "Satellites, Science and Society" publication was planned and completely published based on the CEOS agreement at the 23rd Plenary in 2009.

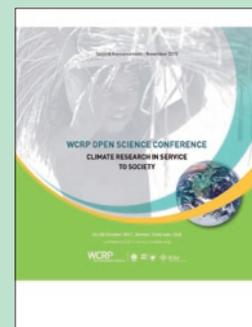
The publication would not be accomplished without full contribution from CEOS members, CEOS Chair team, SIT Chair team, Troika, SEO team, CEO team and leaders of WGs, VCs, and SBAs who supported on composing articles and other materials. We would also love to thank GISTDA and NOAA, as a past CEOS Chair 2009 and past SIT Chair 2008-2009, for initiating efforts in articulating and implementing a list of CEOS Deliverables in past few years; and INPE for taking forward this priority into 2010 - in collaboration with JAXA, a current SIT Chair. Lastly, we are pleased to announce that the "Satellites, Science and Society" is set to distribute to EO communities. ■



WCRP Open Science Conference "Climate Research in Service to Society"

24-28 October 2011, Denver CO, USA

The WCRP Open Science Conference (OSC) will represent a unique opportunity to assemble the large international scientific community to focus on key challenges and opportunities in advance understanding and prediction of variability and change of Earth's climate system on all space and time scales. The OSC will assist WCRP and its partners to identify and develop the climate information required to address climate-related challenges facing all citizens of the planet.



For more information, please visit the conference website:
<http://conference2011.wcrp-climate.org/>
Or, contact the Conference Secretariat
info.conf2011@wcrp-climate.org ■

Assessing GEOSS Implementation Midway through Its First Decade

Robert Koopman, GEO Secretariat (Switzerland)

The 2010 GEO Ministerial Summit, held on 5 November in Beijing, highlighted the progress achieved during the first five years of GEOSS implementation and set priorities for the way forward. The Beijing Declaration recognised the critical role GEOSS can play in supporting international environmental treaties, committed governments to specific actions for implementing the GEOSS Data Sharing Principles, and encouraged the Global Forest Observation Initiative, the GEO Biodiversity Observation Network, and the Global Land Cover Initiative.

Successes and priorities

The successes of GEO's first five years were highlighted during the Summit in statements by delegations and through several "showcase" videos. Another sign of growing commitment to GEO was the continued increase in countries and organizations that participate in Plenary meetings; at present GEO has 86 Members and 61 Participating Organisations.

Each participant in Beijing received a copy of the highly visual publication "Crafting Geoinformation," which describes how the vital data that support decision-making are obtained, processed, integrated and then disseminated (the book can be downloaded from the GEO web site). The Report on Progress and the booths of the GEO-VII Exhibition provided a more in-depth review of contributions to the System of Systems. The role of CEOS in advancing GEOSS was in evidence throughout the proceedings.

The Evaluation Team established through the Monitoring and Evaluation process presented its first report to the Plenary. It provided a number of recommendations for improving GEO's work that address not only the next five years but also the post-2015 period.

The Summit and Plenary both recognized that data sharing must remain a top priority during the next five years of GEOSS construction. The Data Sharing Action Plan

agreed in Beijing will assist all Members and Participating Organisations in turning the Principles into reality. CEOS and its member agencies have made significant contributions to many of the early data-sharing successes acknowledged by the GEO community. In view of their significant data holdings, CEOS agencies will have an important role to play in the practical execution of the Data Sharing Action Plan.

The Plenary also identified the GEO Biodiversity Observation Network and the Global Forest Observation Initiative as priorities. The latter will build upon achievements of the Forest Carbon Tracking Task to sustain and strengthen the provision of data and information products to national governments. CEOS has been a central player in the GEO Forest Carbon activities from the start, and data from its agencies are key to the success of this initiative. The successful model of coordinated CEOS data provision could serve as an important asset for other recent initiatives, including in the fields of disaster research, agriculture and water management.

The GEO-VII Plenary and exhibition celebrated the operational status that has been newly achieved by the GEOSS Common Infrastructure. This is an important milestone in the continuing development of this infrastructure and of the broader GEOSS architecture that supports decision making in the nine Societal Benefit Areas.

CEOS itself is actively engaged in building the space component of GEOSS, coordinating the space-borne Earth Observation capabilities of GEO Member agencies. It is demonstrating through the virtual constellations how this space component of GEOSS serves the nine Societal Benefit Areas effectively.

How CEOS can respond

CEOS agencies have vast

data holdings, many of which are still to be registered as resources in the GEOSS Common Infrastructure. As for the GEOSS architecture, CEOS has already made significant progress towards realizing interoperability between the many systems and products of its member agencies, often involving data from independent sources as reference. Bridging the gap between the GEOSS space-based architecture and that of the diverse sub-orbital sampling communities is not a 'nice-to-have'; it is the only means to achieving the credible and reliable information required for environmental decisions. CEOS is well placed to play an important role in this broader convergence.

The success stories highlighted in Beijing demonstrate that the alignment of strategies, the interoperability of systems and information products, and the sharing of data and support services yield not only added value but also significant momentum for accelerated progress. A major challenge for the next five years will be to apply the lessons learned to all areas of GEOSS, in particular those where interactions are still not fully developed.

In closing, I want to welcome the new CEOS Executive Officer Tim Stryker and Deputy Executive Officer Kerry Sawyer. I also thank the outgoing CEO Ivan Petiteville for his many contributions, his energy and for the productive manner in which he applied his deep knowledge of the GEO and CEOS processes. ■



2010 GEO-VII Plenary in Beijing, China



CEOS Executive Officers : Your 2011-2012 CEOS Leadership Support Team

Timothy Stryker,
USGS (USA), Executive Officer
tstryker@usgs.gov



Kerry Ann Sawyer,
NOAA (USA), Deputy Executive Officer
kerry.sawyer@noaa.gov

We would like to thank CEOS Agencies for their support as we take on our new roles as the 2011-2012 CEOS Leadership Support Team. And we look forward to our new roles serving the CEOS leadership and all CEOS members in the further coordination of space-based Earth observations for societal benefit.

We would also like to emphasize that CEOS would not be where it is today without the sustained leadership, expertise, dedication, and good humor of our friend and predecessor, Ivan Petiteville. He has done an outstanding job as Executive Officer these past three years, and we are very grateful to Ivan for his invaluable advice, guidance, and continued support

as we start in our new positions. We are also very glad that his new responsibilities in ESA will keep him actively involved in CEOS.

For CEOS, 2011 will be an important year for accomplishing progress in forest carbon tracking, greenhouse gas monitoring, climate change assessment, and enhanced data sharing and capacity building. Furthermore, with the close of one GEO Work Plan (2009-2011) and the opening of a new one (2012-2015), CEOS members will be fully engaged in the next steps of GEOSS implementation. Given its many accomplishments, expectations rightly remain high for CEOS in the future. We will do all that we can to enable the CEOS membership to meet

these expectations, and deliver even more coordinated and comprehensive Earth observation information to meet our stakeholders' needs.

The ability of CEOS to achieve its objectives depends heavily on the time, expertise, and commitment of its worldwide network of members and stakeholders. Your active participation in CEOS meetings, Working Groups, and Virtual Constellations will help CEOS to have another successful year in 2011. We look forward to working with all of you in this important and exciting endeavor. Please contact us if we can be of any assistance! ■

CEOS Exhibition at the GEO-VII Meeting

Dr. Brian D. Killough, NASA (USA), CEOS Systems Engineering Office

CEOS showcased its many initiatives and accomplishments to an international audience at the CEOS exhibition booth during the GEO-VII Plenary and Ministerial Summit in Beijing (China National Convention Center, November 3-5, 2010). The booth was staffed by Brian Killough (NASA) and Guo Lixia, a local PhD student whose support was provided by Dr. Guoqing Li (Center for Earth Observation and Digital Earth-COEDE, Chinese Academy of Science-CAS). Ms. Lixia's excellent support enabled the effective communication of CEOS material to Chinese visitors. Throughout the week, Plenary and Summit participants expressed a strong interest in the new High Profile CEOS Publication *Satellites, Science and Society*, the Working Group on Education, Training, and Capacity Building's recent EduFlow publication (a text introducing "Earth Science

from Space" to secondary teachers and students), and the CEOS Disasters Societal Benefit Area video. In addition, visitors asked many questions about CEOS membership, special groups, and general initiatives. This event served as a wonderful opportunity to share CEOS efforts and successes with the GEO community. A special thanks goes out to GISTDA (Thailand) for sponsoring the booth and to CAS (China) for providing local student support. ■



Working Group on Climate (WGClimate)



Mark Dowell,
EC/JRC(Italy), WGClimate Chair



John Bates,
NOAA(USA), Vice Chair

At the recent 24th Plenary in Rio de Janeiro, CEOS agreed to create a new Working Group on Climate, to coordinate and encourage collaborative activities between the world's major space agencies in the area of climate monitoring.

The proposal for this group resulted from the efforts of a CEOS *ad hoc* Climate Advisory Group that was established in April 2010 at the CEOS SIT-25 Meeting in Tokyo, Japan. Stephen Briggs (ESA) reported to Plenary on the process undertaken in 2010, which resulted in a proposal for CEOS to establish a standing Working Group on Climate (WGClimate), this proposal was subsequently endorsed by CEOS Principals at the 24th Plenary. For the initial period of this new Working Group Mark Dowell (EC/JRC) has agreed to be the Chair, and John Bates (NOAA) agreed to be Vice Chair.

The mandate of this new Working Group is to facilitate the implementation and exploitation of Essential Climate Variable time-series through coordination of the existing and substantial activities undertaken by CEOS member agencies.

In addressing this goal, the WGClimate will review and assess, on behalf of CEOS, the generation of Fundamental Climate Data Records (FCDRs) and derived Essential Climate Variable (ECV) climate products supported by Member space agencies. WGClimate will also contribute to the review of compliance of satellite missions and products with the GCOS Climate Monitoring Principles and with the "Guideline for the Generation of Datasets and Products meeting GCOS Requirements". It will identify multi-agency implementation teams for each

product, review their actions, and ensure that a coherent implementation plan exists for each and every product. In defining these implementation plans, WGClimate will take full account of other pertinent international initiatives such as SCOPE-CM.

WGClimate will also provide guidance to CEOS regarding climate-related Tasks in the GEO Work Plan. In part, this will be accomplished by reviewing relevant reports, prepared by the Climate SBA lead, on behalf of CEOS Plenary. These reports include the update of documents such as the CEOS Response to GCOS requirements and the update of reports to SBSTA/UNFCCC on CEOS climate actions. The WGClimate will also support the work of GCOS in defining and delivering the Essential Climate Variables required by the UNFCCC; and support the overall relation of CEOS to the UNFCCC and its subsidiary bodies, and to the IPCC

In addressing the tasks described above, WGClimate will: undertake an analysis, addressing each ECV in turn, of the extent to which the current status of production of satellite climate records meets the GCOS requirements, including an analysis of the consistency of definitions of ECVs. Importantly WGClimate will work with the CEOS Virtual Constellations, which include the specific expertise on a number of ECVs, to ensure a coherent and consistent approach to the provision of climate records across their various topical areas

Additionally, and in line with overarching CEOS principles such as data democracy, the WGClimate will promote openness, traceability and access to climate data, codes and products.

Specifically this should aim to facilitate the inter-comparison of model outputs with data by identifying a subset of parameters key to the IPCC needs and encourage providers to deliver the necessary data in the required form.

In maintaining a strong scientific basis to the products and time-series promoted by WGClimate, strong interactions with Science programs such as WCRP and IGBP shall be sought to assist in enabling their analysis. Finally, it is fundamental that the WG should pay utmost attention to the quality control and uncertainty assessment of the resulting products. WGClimate will build on the work of the CEOS WGCV, GSICS, and the QA4EO initiative to support the calibration and validation underpinning the production of climate data record. It will also coordinate with existing *in situ* networks to integrate complementary measurements and observations.

The working group will undertake its planned work through strong collaboration with the CEOS Climate SBA, the existing CEOS WGs (WGCV, WGEdu and WGISS) as well as with the CEOS Virtual Constellations.

The initial work for the WGClimate in the first year will include: a CEOS agency ECV meta-analysis to identify the current capability for producing ECVs that will also be used as the basis to identify multi-agency teams for each ECV; a second activity that will address linkage to the IPCC modelling community to facilitate the inter-comparison of model outputs and data; and finally, development of an ECV-by-ECV implementation strategy.

The first meeting of the Working Group will be held in the first half of 2011. ■



6

Working Group on Information Systems and Services (WGISS)

Dr. Pakorn Apaphant, GISTDA (Thailand), WGISS Chair



During the second half of 2010, the Working Group on Information Systems and Services (WGISS) continued supporting the CEOS Work Plan, especially the activities which support GEO actions. Our contribution includes implementing an AC portal in AR-09-02a (Virtual Constellation), supporting data for the Caribbean Flood Pilot and Namibia Flood Pilot in DI-09-02b (Regional End-to-End Disaster Management Applications), and developing the CEOS WGISS Integrated Catalogue (CWIC) in DA-09-01b (Data, Metadata and Products Harmonisation). The CWIC has been developed as the CEOS community catalog for satellite data products within GEO. We wish to extend CWIC to support the harmonised discovery, search, access and use of satellite data from CEOS members both following and contributing to the GEOSS architecture, guidelines and standards. In addition to CWIC development, the “WGISS Architecture and Data Contributions” (WADC) project also addressed GEO architecture and data management tasks.

One month before the CEOS Plenary, the 30th WGISS plenary and subgroup meetings were held in Montreal, Canada during September 13-17, 2010. It was kindly hosted by the Canadian Space Agency. We

had a joint session with WGCV and an LSI Constellation Workshop at this meeting as well. The discussion at the Technology Subgroup meeting included a progress report on the WADC project, applications of Grid technology and Sensor Web. The Applications Subgroup actively engaged in the support of major WGISS initiatives such as the CWIC, Sensor Web and the LSI, AC and Water portals. The Land Surface Imaging Interest Group reported emphasis on the map-based query and access to data granules via CWIC. The plenary also approved the new Interest Group and Project, including The Data Stewardship Interest Group (led by USGS) and the Water Portal Project (led by JAXA). An overview of these new groups and other existing interest groups and their current status and highlights can be found at <http://www.ceos.org/wgiss>. An important leadership change also took place at this meeting. Dr. Natalia Kussul (NSAU) vacated the Chair of the Technology Subgroup. The new Chair is Terence van Zyl, CSIR, and the Vice-chair is Dr. Frank Lindsay (NASA). For the WGCV-WGISS joint meeting, we focused on QA4EO, with the vision that quality indicators should be ascribed to data and products at each stage of the data processing chain, from collection and processing to delivery. The joint meeting recommended

to develop joint case studies on Terrain Elevation, Air Quality, and, Forest Carbon Tracking to demonstrate the implementation of QA4EO. It is expected that these case studies will be demonstrated at the GEO Plenary in 2011.

WGISS recognized the importance of outreach. We submitted a paper on the Security in EO Systems for publication to IEEE JSTARS, and AGU. We also contributed to the CEOS publication “Satellites, Science, and Society” with an article on “Information System and Services”. We supported demonstrations on the AC Portal and CWIC concept at the CEOS booth at the GEO Ministerial in November 2010. We hope that this outreach will benefit CEOS members and EO data users.

In 2011, WGISS will continue to provide efficient contributions to GEO and GEOSS, to strengthen connections with the Constellations, develop joint activities with WGCV, develop and promote the CWIC tool, and promote the ACC portal, and address various technical challenges. Lastly, I would like to take this opportunity to call for a WGISS Vice Chair to serve for the 2011-2013 timeframe, with subsequent appointment as WGISS Chair for 2013-2015. For those who may be interested, please contact me directly by May 2011. ■

Working Group on Education, Training and Capacity Building (WGEdu)

George Jungbluth, NOAA (USA)

Tania Maria Sausen, INPE (Brazil), a new group of Co-Chairs

The CEOS WGEdu is planning for big things in 2011! The WGEdu’s accomplishments and links to other activities within CEOS was the topic of active discussion at the 24th CEOS Plenary in October 2010. WGEdu members met with CEOS colleagues working on Data Democracy tasks to coordinate activities and join forces on activities designed to bring EO data and the ability to apply it to decision making to new user groups.

An action was also taken to investigate through 2011 how the WGEdu and the Data Democracy actions can be better integrated to serve the needs of CEOS. A major milestone in this plan to

integrate these two task areas will be the annual WGEdu meeting, which will be held June 7-9, 2011 in Hampton, Virginia at the NASA Langley Research Center, and hosted by the CEOS Systems Engineering Office.

WGEdu is also planning for the next annual workshop, dedicated to the use of geoinformation technologies for monitoring natural disasters in Central America and the Caribbean. The workshop will be held in Panama City, Panama February 14-17 2011, and hosted by the Universidad Tecnologica de Panama, with support from INPE and USGS. ■

Working Group on Calibration and Validation (WGCV)



Participants to the joint WGISS-30 & WGCV-32 meeting at CSA

Gregory L. Stensaas, US Geological Survey, WGCV Chair

the Quality Assurance Framework for Earth Observation (QA4EO). Efforts have begun to implement QA4EO at GEO level as a contribution to GEO's vision for a Global Earth Observation System of Systems (GEOSS).

QA4EO website at <http://www.qa4eo.org/>.

The 32nd Working Group for Calibration and Validation (WGCV) plenary meeting was hosted by the Canadian Space Agency (CSA) in Montreal, Canada from 13-17 September 2010. This was a joint meeting with the Working Group on Information Systems and Services (WGISS); the two working groups meet together once every few years to focus on joint activities of interest to both groups. At this meeting, the importance of data sharing and of establishing a common framework was stressed. As well as an effective framework, there is also the need to provide all the necessary information to properly interpret the data; often this is missing.

Within the space domain, the WGCV is assisting in the implementation of QA4EO. Together with WGISS, the WGCV plans to develop three showcases to demonstrate implementation of QA4EO for:

- Air quality,
- Terrain elevation, and
- Forest carbon tracking.

The WGCV and its subgroups are seeking to identify the needs of their user communities and to define a set of test sites for calibration / validation (cal/val). The aim would be to encourage agencies to acquire, archive and provide data to the cal/val community over these CEOS-approved reference standard test sites. Included in this is the need to establish the traceability chain for primary site data and best practise guidance on site characterisation, use and long-term maintenance.

One of the main activities of the WGCV over the past few years has been the establishment and development of

The showcases will be presented to the CEOS and GEO plenaries in 2011. In parallel to this, best practice protocols for validation of global land products are being developed through consultation with the relevant user communities / data providers through the WGCV subgroups. A QA4EO workshop on "Providing Harmonised Quality Information in Earth Observation Data by 2015" will be held in October 2011 at the Rutherford Appleton Laboratory, Didcot, UK. More details on QA4EO can be found on the

At the 24th CEOS plenary in October 2010, Pascal Lecomte (ESA) ended his tenure as WGCV chair. The new WGCV chair is Greg Stensaas (USGS) and the new vice-chair Satish Srivastava (CSA). CEOS and WGCV members expressed their thanks to Pascal Lecomte for his valuable and highly effective contribution to the WGCV.

The 33rd WGCV plenary meeting will be held in Moscow, Russia from 17-20 May 2011. More details on the WGCV and its activities can be found on the WGCV website at <http://www.ceos.org/wgcv/>.

Meeting Calendar

As of February 2011

Activities	2011											
	January	February	March	April	May	June	July	August	September	October	November	December
CEOS Plenary											▲ 8-9 25th Plenary ASI/Lucca, Italy	
CEOS SIT (Strategic Implementation Team)		▲ 16-17 CEOS Action Workshop ▲ 18 Carbon Task Force Mtg Washington DC	▲ 16-17 SIT-26 ▲ 15 FCT Planning Mtg Tokyo, Japan						△ Workshop			
CEOS VCs Interface (Virtual Constellations)		▲ 15-17 OCRC Plymouth, UK		29▲ PC Workshop Fortaleza, Brazil	▲ 11 OST Maryland, USA							
CEOS WGISS (Working Group on Information Systems & Services)						▲ 23-27 WGISS-31 JAXA/Tsukuba, Japan				▲ 26-30 WGISS-32 Budapest, Hungary		
CEOS WGCV (Working Group on Calibration and Validation)				27-29▲ MSG Beijing, China		▲ 17-20 WGCV-33 ROSCOSMOS/Moscow, Russia		△ Workshop SAR SG		△ QA4EO Workshop RAL/Oxford, UK		
CEOS WGEdu (Working Group on Education, Training, and Capacity Building)		▲ 14-17 Annual Workshop UTP/Panama City, Panama				▲ 7-9 '11 Annual Mtg. NASA/Hampton Va						
CEOS WGClimat (Working Group on Climate)			△ First Meeting Ispra, Italy									
GEO related Activities (Group on Earth Observations)	▲ 17-19 GFOI Meeting GEO SEC/Geneva	▲ 1-4 GEO-IPCC Workshop Geneva, Switzerland	▲ 14-15 IGWCO#7 ▲ 16-18 GEOS AP Symposium Tokyo, Japan		▲ 4-6 GEO Work Plan Symposium-2 GEO SEC/Geneva, Switzerland						△ GEO-VIII Plenary Turkey	
Others	▲ 13-14 GCOS/WMO Workshop Geneva, Switzerland	▲ 25-28 UIC-17 Vienna, Austria	▲ 7-11 FAO UN-REDD Summit & GFOI Science Data Summit-2 FAO/Rome, Italy	▲ 2/28-3/3 GEO/ADC INPE/Brazil	▲ 10-15 ISRSE-34 Sydney, Australia	▲ 4-8 WCRP Joint Scientific Committee Mtg. Reading, England	▲ 16-6/3 WMO Congress Geneva, Switzerland	▲ 1-10 COPUOS Vienna, Austria	▲ 1-5 IGARSS 2011 Sendai, Japan		▲ 24-28 WCRP Open Science Conference on Climate Research in Service to Society Denver, CO, USA	▲ 11/28-12/9 UNFCCC COP-17 Durban, SA

▲: determined △: to be determined (Date, Host organization/Location) CEOS-related meetings are open only to designated participants.

A Message from the 2011 CEOS Chair

Enrico Saggese, ASI (Agenzia Spaziale Italiano) President, 2011 CEOS Chair



Dear CEOS friends,

As you all know, ASI has assumed the chairmanship of CEOS in October 2010, in Rio de Janeiro under peculiar circumstances. In absence of the usual one-year preparation, we have tried to replace it with a lot of enthusiasm, but not only.

I have to say that the first impression coming on board was of surprise, even for those in our team who were vaguely acquainted with CEOS: a solid spirit of cooperation, a team of high quality people around the chairman, (CEO, SEO, SIT chair, Working Groups chairs, and more), unlike anything seen in other similar fora. I should like to add a highly focused group of agencies that have determined where they want to go together.

Nearly three months have gone by and they have been restless, but successful. I have to acknowledge the work of the previous chair, INPE, and of the whole team, who have made this possible. I feel that we begin 2011 in quite a strong position after the highly successful 24th CEOS Plenary, hosted by INPE in Rio: CEOS has been effectively represented at the GEO-VII Plenary and Ministerial in Beijing; CEOS has also taken part in the UNFCCC COP 16 in Cancun, ensuring the delivery of a report to SBSTA (Subsidiary Board for Scientific and Technical Advice of the UNFCCC) outlining the reply of space agencies, through CEOS, to GCOS requirements and a statement has been made by the Brazilian delegation, on

behalf of CEOS and in the same sense, at the SBSTA plenary. In all this, I repeat, ASI has been acting as the front row ambassador, presenting the material and positions matured thanks to the work of all members and of the previous Chairs.

We realize that more is expected of a CEOS Chair, and we look forward to 2011 in order not to disappoint our fellow agencies.

CEOS has set itself as a goal the implementation of the GEOSS space infrastructure; one of the primary tasks of this infrastructure is to respond to climate monitoring requirements; this process will take up importance in 2011, thanks also to the WMO initiative for a climate monitoring architecture. The GEOSS space infrastructure and its role in climate monitoring will most likely be one of the priorities next year. Progress on these matters is expected from CEOS. The development of the Virtual Constellations will have to be pursued and links built across the constellations; we might even go as far as starting to build an operational concept for the constellations.

The alignment of CEOS activities with the GEO Work Plan, which we have started discussing last month in Geneva, will be an essential element of this progressive build-up. Support by CEOS in 2009 and 2010 to activities like the coordinated satellite data acquisition strategy for the GEO Forest Carbon Tracking Task provides

a powerful demonstration of what CEOS can accomplish, and is a glimpse of the increasingly important role for the group.

Always in 2011, we consider crucial the first steps of the CEOS Working Group on Climate (WGClimate). This important new group will focus on ensuring the completeness and continuity of Climate Data Records and space-based Essential Climate Variable observations. 2011 will also be an important year for the development of the CEOS response to the updated Global Climate Observing System Implementation Plan (GCOS IP) and GCOS Satellite Supplement, and the first steps towards development of a CEOS Strategy for Carbon Observations from Space.

In 2011 we will also evaluate the role for CEOS in supporting new initiatives within GEO relating to SuperSites (geohazards) and JECAM (agriculture).

The development of detailed CEOS plans for 2011 began in December in Geneva with the CEOS-GEO coordination meeting, will continue at the CEOS SIT Workshop 16th-17th February in Washington, D.C., and confirmed at SIT-26 in Tokyo 16th-17th March.

I would like to thank the 2010 CEOS Chair, INPE, and the 2010-2011 CEOS SIT Chair, JAXA, for their stewardship of the CEOS efforts over the past year and to assure the community that ASI will work diligently in the coming year to ensure the good work continues. ■

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