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## Report from the 22<sup>nd</sup> CEOS Plenary

Ms. Pontsho Maruiping, CSIR (South Africa), CEOS Chair 2008

CSIR hosted the 22<sup>nd</sup> CEOS Plenary in the picturesque capital of the Garden Route, George, on the 11<sup>th</sup> and 12<sup>th</sup> November 2008. George is situated in the beautiful Western Cape Province. The town is very centrally situated halfway between Cape Town and Port Elizabeth and centre of the Garden Route – ideal from where to explore the areas many variant and diverse scenic wonders. Situated on a 10 kilometre plateau between the majestic Outeniqua Mountain to the North and the Indian Ocean to the South.

The persistent but soft rain fall during those two days seemed not to have any bearing on the robust yet constructive level of debate generally desired and expected in such type of meetings.

A number of important objectives were achieved in areas such as:

### 1.1 SIT Responsibilities and activities

- Progress towards targets of CEOS IP
- Management and monitoring of CEOS IP
- Establish space priorities for GEOSS

The revised CEOS IP contains enormous information with regards to the efforts made by CEOS Agencies in support of the GEOSS

space segment implementation. Special thanks to Ivan Petiteville for his remarkable efforts.

I also note that all this could not have been achieved without outstanding inputs from the Working Group Chairs, the SBA Coordinators and the Constellation Co-Leads.

I would like to thank Changyong Cao for all his invaluable support over the previous years as Chair of WGCV. This 22<sup>nd</sup> Plenary also confirmed that CEOS endorses the Quality Assurance Framework for EO document.

### 1.2 Sustained progress on CEOS constellations

The Constellations process paper as drafted and presented by the SIT Chair was endorsed and adopted.

### 1.3 Launch of the 2008 edition of Earth Observation Handbook

Volker Liebig officially launched the 2008 EO Handbook, a special edition on Climate Change.

### 1.4 CSIR Special topic: Data democracy for developing countries

The CSIR presented a comprehensive progress report on Data Democracy. CSIR is particularly thankful for the contributions made by agency members:

- NOAA for your role in AFIS
- INPE and CRESDA for CBERS-2B
- CONAE for the SAC-C data reception
- USGS for Landsat
- JAXA for JERS-1 SAR and PALSAR

### Africa Mosaic

- CSA for Radarsat
- ESA for Globcover

### 1.5 Admission of new members

Plenary endorsed the recommendation of CEOS SEC with regard to the applications from IEEE and GGOS.

### 1.6 New CEOS Chair 2009

Dr Darasri Dowreang, the Geo-Informatics and Space Technology Development Agency's 2008-2009 goals for her CEOS Chair term.

I would like to acknowledge the following agency colleagues:

- Special thanks to the SIT Team under the very able leadership of Mary Kicza. The CEOS -GEO relations are ever improving and deliverables are consistently met in accordance with the CEOS philosophy.
- Special thanks to USGS under the guidance of Barbara Ryan for having to play the oversight role of the successful transitioning of IGOS-P into GEO.

I would also like to thank the Honourable Member of Parliament (Chairperson of the Portfolio Committee on Science and Technology), Mr Godfrey Oliphant, for outlining in his opening remarks the context of South Africa's space activities in terms of the past, present and the future.

You may recall from the acceptance speech I made at the 21<sup>st</sup> CEOS Plenary wherein I said: "CEOS is only as strong as the combined efforts of its members and these commitments can only be sustained through the continuing participation of members." May this statement remain one of the guiding principles in CEOS and on that note, I wish CEOS a wonderful year filled with success and reward in 2009. ■



Participants of the 22nd CEOS Plenary



## CEOS SIT Way Forward for 2009

Ms. Mary Kicza, NOAA/NESDIS (USA), SIT Chair



SIT-22 Participants, Tokyo, Japan

As we look forward to 2009, let us first reflect upon what we accomplished in 2008. We focused our attention on achieving demonstrated results in connection with the GEOSS 10-Year Implementation Plan and the GEO 2007-2009 Work Plan. We also welcomed two new Constellations – Ocean Colour Radiometry and Ocean Surface Vector Wind – into the CEOS fold and received final endorsement and acceptance of the *CEOS Constellations for GEO Process Paper*. The commitment from the CEOS Agencies was exceptional and I would like to take the opportunity to thank everyone for your hard work and dedication to CEOS and SIT, and to significant progress toward implementing the space segment of GEOSS. I see 2009 as requiring the same level of effort from CEOS Agencies as we refocus our priorities in connection with the GEO 2009-2011 Work Plan.

SIT aims to achieve real progress and provide tangible contributions to GEO and GEOSS. Our goals for 2009 are to continue to strengthen CEOS linkages to GEO and GEOSS; to advance the CEOS Virtual Constellations for GEO; and to address potential observational gaps through identification of a handful of topics for strategic consideration in 2009 and beyond.

CEOS, SIT, and GEO Secretariat representatives met again this past December to address the results of the November annual Plenary meetings of both CEOS and GEO and to discuss next steps with regard to implementing the space segment of GEOSS. A review of GEO's 2009-2011 Work Plan resulted in the identification of fourteen GEO Tasks/Sub-tasks that CEOS is co-leading and over fifty additional GEO Tasks/Sub-tasks that CEOS and/or its Agencies could potentially contribute to. Our immediate goal is to work with Agencies, Working Groups, and Constellations to identify contributions and then to confirm the willingness and abilities of CEOS entities to participate in these GEO Tasks/Sub-tasks. As was done last year, we will focus on developing actionable actions that have direct relation and traceability to the GEO Tasks/Sub-tasks for which CEOS is a Co-Lead or Contributor. The number of 2009 actions should be both manageable and able to be supported by each involved CEOS entity. **As we embark on this endeavor, I want to make sure that we remain focused on what we, and our Agencies, are realistically capable of accomplishing for the coming year.**

We are also continuing to advance the Virtual Constellations. CEOS Constellation outputs, when joined with *in situ* observations, can contribute to the

tailoring of specific services that support end-user customers in relevant GEO Societal Benefit Areas (SBAs), marking our opportunity as space agencies to contribute to a “value chain” end-to-end system. In 2009, we need to make a concerted effort to tie Constellation products and services to GEO Tasks/Sub-tasks to thus complete the intended value chain.

Lastly, SIT is working with GEO to identify potential observational gaps and determine how SIT can address these gaps. Our aim is to develop “Threads” that will enhance our understanding of potential measurement by asking specific questions and then working through a systematic analysis to determine the products needed to answer the questions, the models involved in delivering those products, and the measurements which are inputs to those models. We can then begin to assess the extent to which our collective mission plans are prepared to support needed measurements.

I anticipate a very full year for SIT. We began with the 2<sup>nd</sup> CEOS-GEO Remapping Workshop January 27-28, in Silver Spring, Maryland. SIT-23 takes place March 4-5 in Cocoa Beach, Florida with all Agency Principals urged to participate. And SIT-24 will follow September 10-11 in Darmstadt, Germany, hosted by EUMETSAT. ■

## Atmospheric Composition Constellation Begins Climate Assessments

Dr. Ernest Hilsenrath, NASA/Headquarters, CEOS ACC Co-lead Dr. Claus Zehner, ESA/ESRIN, CEOS ACC Co-lead  
Dr. Brian Killough, NASA/LaRC, CEOS SEO Lead

Eight international space agencies are collaborating in the Atmospheric Composition Constellation (ACC) on several short term projects dealing with Air Quality and Aviation Hazards which will demonstrate added value to societal benefits by combining satellite data sets. A longer term goal for ACC is to recommend how assessments and services for ozone depletion, air quality and climate change can be met or improved by coordination of international missions. This effort began by identifying missing atmospheric composition measurements from existing and future missions. The Systems Engineering Office (SEO) conducted a Requirements and Gap Analysis (R&GA) through work

contracted to the Rutherford Appleton Laboratories. The R&GA was recently completed by comparing internationally accepted atmospheric composition requirements with existing and planned measurements. The first draft of this report can be found at the CEOS website and could be used as a model for other CEOS led activities.

The ACC conducted its 3<sup>rd</sup> workshop to determine the impact of missing data on climate model validation and accuracy. The workshop was held at the NASA's Goddard Institute for Space Studies (GISS) in New York City 15-17 October 2008 and was attended by 45 scientists and users from

(to be continued on page 3)

# CEOS and The Group on Earth Observations (GEO) Cooperation



GEO Secretariat Members

**Dr. Michael D. Tanner** *Group on Earth Observations (GEO) Secretariat (Switzerland)*

Marking the fourth year of GEOSS implementation, 2008 will be viewed as a key transition year. Until now, GEO has focused on building a community, strengthening consensus, identifying gaps, launching new activities to fill them and designing the architectural blueprint for GEOSS. Over the next few years, this architecture will support the construction of the “system of systems”. The achievements and advances made in 2008 will prove critical to the future success of GEOSS and CEOS will continue to play a major role.

Earlier progress on the architecture for GEOSS was consolidated with the kick-off of the Initial Operating Capability (IOC) phase of the GEOSS Common Infrastructure (GCI). Consisting of the GEO Portal, clearinghouse and registries, the GCI will provide the essential interface between GEOSS and policymakers and other users of Earth observation information.

Preparing the GEO Data Sharing Principles for adoption in 2010 also made good progress this year. Together, the GCI and the Data Sharing Principles are fundamental to the next phase of GEOSS implementation.

The Weather and Climate Societal Benefit Areas have maintained momentum. They have traditionally been among the most mature fields in Earth observation and are

essential components of GEOSS. With crucial involvement from CEOS, maintaining and even strengthening the commitment of the weather and climate communities to GEOSS is a key priority.

One of the most exciting advances in 2008 was the launch of the GEO Biodiversity Observation Network (GEOBON). The biodiversity community consists of a highly diverse range of institutions concerned with a wide range of scientific and policy issues. Their desire to collaborate through GEO and link their databases and systems to GEOSS not only benefits decision-makers in the biodiversity field but those engaged in all SBAs.

The Water, Health and Agriculture Societal Benefit Areas have all been re-energized. A large number of new water initiatives, each supported by active leads and contributors have been put together. These initiatives promise to improve monitoring of the hydrological cycle in the near future. Similarly, this year has seen a dramatic advance in GEO’s efforts to engage the World Health Organization and other leaders in the health and environment communities. In addition, GEO is developing work on carbon tracking as a critical activity in the new Work Plan. Major contributors to the Agriculture SBA are now actively joining forces and developing new initiatives in the fields of aquaculture, fisheries, monitoring and food security.

In the Disasters SBA, GEO has focused on collaborating with the various disaster-management networks to integrate seismographic, geohazards and wildfire and water risks information into GEOSS. The Ecosystem SBA has made progress on expanding the ChloroGIN network to the Indian Ocean region, building a global phenology network, assessing and monitoring protected areas, and advancing Integrated Global Carbon Observation. The Energy-related Tasks on solar data, CO<sub>2</sub> storage, environmental impact monitoring and managing energy sources are also on track.

GEO is concentrating on raising resources for engaging developing countries in GEOSS implementation. The European Commission, through its 7<sup>th</sup> Framework Programme, started the process of establishing an advisory capability to support capacity building for GEOSS. Progress continues to be made on GEONETCast, international training programmes and open-source software.

Finally, an important achievement that must be acknowledged was the successful transition of the Integrated Global Observing Strategy (IGOS) Themes into GEO. In particular, by strengthening the GEO Communities of Practice as well as many Task teams, this transition promises to expand the opportunity for GEO Members and Participating Organizations with shared interests and concerns to interact, share ideas and collaborate on implementing GEOSS. ■

(continued from page 2)

several countries in Europe, Japan and the United States. The Workshop reviewed on-going efforts to combine atmospheric composition data from multiple satellites and the challenges to create long term records. The status of chemistry and climate models was reviewed highlighting the interaction of the sun, stratosphere, and troposphere on model predictions. The Workshop minutes and presentations can be found at the CEOS website. The attendees confirmed the results of the R&GA findings and concluded that the following impacts would result if these gaps were not filled:

- (1) The attribution of ozone recovery to the Montreal Protocol and climate change cannot be ascertained in the absence of high vertical resolution profiles of ozone and associated reactive gases. A gap in these measurements will likely begin around 2013
- (2) Detailed measurements of multiple aerosol characteristics are key to

climate model accuracy since they represent the largest uncertainties in climate forcing. Although a variety of aerosol measurements are planned, systematic measurements of simultaneous multiple aerosol parameters will not be continuous.

- (3) The relation between air quality and climate is largely unknown. Measurements of high vertical resolution atmospheric composition profiles in the boundary layer and troposphere and diurnal coverage are essential for assessing this relationship. Vertical profiles will be missing, as noted above, and diurnal coverage will not begin until after 2017 with the launches of Sentinel-4 and GEO-CAPE geostationary missions.

A draft report of the workshop findings and recommendations will be submitted at the upcoming CEOS-SIT in March 2009. ACC will conduct its next workshop, focusing on Air Quality, in Frascati, Italy in June 2009. ■



## CEOS Land Surface Imaging Constellation Activities

Dr. G. Bryan Bailey, U.S. Geological Survey (USA), Co-Chair, LSI Constellation Study Team

Activities of the CEOS Land Surface Imaging (LSI) Constellation are conducted under the direction of the LSI Constellation Study Team, which was established in late 2006. Study Team members represent nearly all CEOS agencies that operate LSI satellite systems or plan to in the future, and they represent various segments of the land remote sensing user community.

In 2008, LSI Constellation activities focused on 1) completing certain key tasks from the 2007 Work Plan, which emphasized mid-resolution, optical systems; 2) establishing a new Radar Focus Area; and 3) compiling regional data sets over selected areas that would become initial contributions to the Global Land Survey 2010 (GLS2010) data set.

Key activities from 2007 that were completed recently include development of a prototype *LSI Constellation Portal for Mid-Resolution LSI Satellite System Information*

*and Enhanced Data Access.* This efficient and user friendly tool, which was developed in cooperation with the CEOS WGISS and exhibited at GEO V in Bucharest, is expected to be released to the public in early 2009. In addition, various CEOS agencies contributed land surface image data to the Forest Resources Assessment 2010 (FRA 2010) Project, completing another LSI Constellation activity that began in 2007 and providing a valuable prototype for other important 2008 activities.

In an effort to broaden its activities beyond mid-resolution optical systems, the LSI Constellation has initiated new activities that focus on expanding and enhancing the use of imaging radar systems to address the needs of the global society. A working group is being established to guide Constellation radar activities, which initially will focus on the use of radar in the 2009-2011 GEO Task on Forest Carbon Tracking.

In 2008, the LSI Constellation Study Team initiated an important new activity to compile regional data sets of mid-resolution optical data covering selected areas on three different continents and collected by satellite systems operated by CEOS member agencies. The data sets will become initial contributions to the GLS2010 data set, and the effort will help prototype development of GLS2010, where the role of international collaboration will be more important than it was in development of previous GLS data sets.

During the past two years, the LSI Constellation has realized some important accomplishments, but much remains to be achieved. In the near future, the LSI Constellation Study Team will develop its 2009 Work Plan, and the participation and support of all CEOS member agencies with interests in land surface imaging will be critical to achieving the goals we set for 2009 and beyond. ■

## The Earth Observation Handbook 2008

Dr. Simonetta Cheli and Dr. Eva Oriol-Pibernat, ESA's CEOS Points of Contact

The European Space Agency (ESA) is very pleased to announce the publication of the 2008 edition of the Earth Observation Handbook. As usual, the plans of all CEOS Member and Associate space agencies (over 30 agencies) for missions, instruments and measurements during the coming decades have been surveyed and captured in the report - making it the most up-to-date and comprehensive statement of governmental Earth observation programmes available.

The 2008 edition has a particular focus on climate change, on the information we need to detect, monitor and adapt to it, and on the role for satellite Earth observations - which are emerging as the single most important contribution to global climate observations, potentially contributing to more than half of the Essential Climate Variables recognised by the United Nations Framework Convention on Climate Change (UNFCCC). A number of case studies are included - highlighting the

important role of satellites in climate change applications. And the familiar timelines of mission and instruments indicate CEOS agency plans for each of 30 different Earth system measurements.

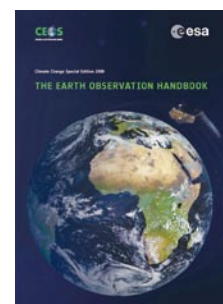
The EO Handbook is always keenly anticipated by the space community worldwide for its insights into future trends - in remote sensing programmes. In support of this demand, 20 copies have been sent to each CEOS Member and 10 copies to each CEOS Associate. In addition, CEOS SEC contacts at ESA, JAXA, and NASA hold further stocks to support requests from their regions. Copies are also available from ESA publications at: [esapub@esa.int](mailto:esapub@esa.int) (quote SP-1315).

In response to community demand, the EO Handbook website ([www.eohandbook.com](http://www.eohandbook.com)) now features a beta database with interactive capability that supports queries of particular agency plans or measurement types.

Significantly, it is intended to keep the data up to date annually so that the information can be used with confidence.

More than 240 satellite missions and 385 instruments planned for the next 20 years by CEOS agencies have been incorporated into the CEOS Handbook and Database. We would like to extend our sincere thanks to all points of contact who invested time in supplying and checking the information from their agency planning processes and to Symbios Spazio who undertook the overall task.

We look forward to further developing and applying the Handbook and Database in future in support of our coordination goals. ■



## Working Group on Calibration and Validation (WGCV)

Mr. Pascal Lecomte, ESA/ESRIN (Italy), WGCV Chair

The 29<sup>th</sup> WGCV plenary meeting was held from 30 September – 3 October 2008 in Avignon, France, hosted by INRA and CNES. The meeting included representation from WGISS and the SEO and links with these and other relevant groups, such as the WGEdu and GSICS, continue to strengthen. Alongside reports from the member agencies / organisations, the WGCV's six subgroups provided details of their activities over the year and one afternoon was dedicated to a special session on Land Product Validation. All the presentations can be found via the WGCV's website at [wgcv.ceos.org](http://wgcv.ceos.org). The meeting also saw a leadership change as Changyong Cao (NOAA) completed his two-year term (2006–8) as chair. CEOS and the WGCV extend their grateful thanks to him for the contribution he made throughout his tenure. Pascal Lecomte (ESA), the previous vice-chair, is the new WGCV chair and his newly-elected vice-chair is Gregory Stensaas (USGS).

The WGCV has actively led the cross-cutting GEO task DA-06-02 to develop a data quality assurance strategy for GEOSS. All three category 1 actions towards this task have been completed. The first action, the setting up of a Dome C prototype calibration campaign, has been completed and the aim is to continue to expand this to include more agencies. The second and third actions involved the drafting and CEOS endorsement of a Quality Assurance Framework for Earth Observation (QA4EO). Two of the CEOS 2008 category 1 actions related to the climate actions have also been completed and significant contributions to task DA-07-01 on Global DEM interoperability have been made. Good progress has also been made on completing category 2 actions.

The WGCV's SAR Subgroup held its annual CEOS SAR Calibration and Validation Workshop in November. The workshop was hosted by DLR in



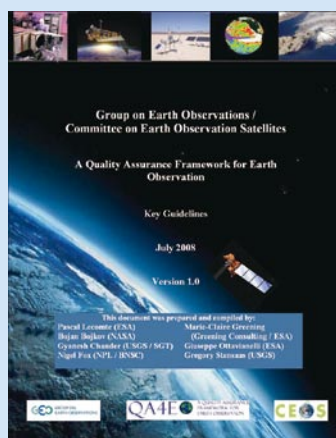
Participants to the WGCV's 29<sup>th</sup> plenary meeting in Avignon, France

Oberpfaffenhofen, Germany. More than sixty participants from different countries attended and a total of forty-four papers were presented. The workshop proceedings are under preparation and will be distributed in early 2009.

IVOS recently met for its 20<sup>th</sup> meeting in Tsukuba, Japan in December hosted by JAXA. IVOS has played a lead role in the development of the QA4EO and has become a test bed for many of its processes. The group has formally established eight terrestrial test-sites as "CEOS reference standards" to serve as an international focus for "post-launch" land imager vicarious calibration activities. The long-term vision is for the formation of a virtual network called "LandNet" to operationally provide coordinated Cal/Val to in-flight sensors and to serve as a bridge between potential data-gaps. A further

five "pseudo-invariant" deserts, together with the Moon, were established as CEOS reference standards for stability and cross-calibration activities. IVOS is also coordinating international efforts to establish a space-based "benchmark" calibration mission to further enhance the use of reference standards.

As the volume of data and number of providers continues to increase rapidly, harmonised and robust data quality assurance is now more critical than ever. Studies show satellite measurements are inconsistent and more efforts are needed by all space agencies to establish consistency. The rapid implementation of the QA4EO by the space agencies will be a huge leap forward in attaining the goal of quality assured earth observation data needed by policy makers to address societal impacts. ■



The Quality Assurance Framework for Earth Observation (QA4EO) was endorsed by CEOS at its 22<sup>nd</sup> plenary meeting in November 2008. The QA4EO framework and guidelines can be accessed via the Cal/Val portal at <http://calvalportal.ceos.org/CalValPortal/showQA4EO.do?section=qa4eoIntro>.

The QA4EO documents were written to be flexible, "living documents" to allow for their evolution as future requirements dictate. The QA4EO documents were created with inputs from CEOS and GEO members and any inputs or feedback towards the evolution of these documents will always be welcomed. ■



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

Mr. Gordon Bridge, EUMETSAT (Germany), WGEdu Chair

### 1) Report to Plenary

At Plenary I presented a report on our activities over the last year and plans for next year, all of which were endorsed by Plenary. WGEdu is mid-way through its current three-year Strategic Plan which focuses on three areas: the Educational Portal, Remote Sensing Workshops, and testing access to archive or near real-time data for educational and capacity building purposes.

Several Members of WGEdu, working individually or in partnership, regularly organise training courses, workshops and summer schools. The target audiences of such activities cover many disciplines and comprise students at all levels, teachers, professionals, policy- and decision-makers, the media, the public at large, and many non-traditional users of Earth observation data and information.

### 2) Remote Sensing Workshop for South East Asia

The next WGEdu Remote Sensing Workshop will take place in Bangkok, from 4 - 6 February 2009, hosted by

GISTDA. It will provide practitioners and educators with new knowledge and information about important techniques and technologies for applying remotely sensed data in preparation for, and in response to natural disasters in SE Asia. The program will address the characteristics of Land Surface Imaging Satellite Systems Important to Disaster Management in SE Asia, Data Availability and Access for Disaster Management in SE Asia and the Roles of Remote Sensing in Flood Management, Landslide Hazards, Drought Management, and Wildfire Management, and will include a significant "hands-on" component. **Point of Contact is Bryan Bailey (USGS)**

### 3) Training activities for secondary education

In these Newsletters I will highlight one such activity in order to demonstrate the range of training activities and the dedication of CEOS Members and Associates to this task. As a starting point, and since we are in the midst of the IPY, here is some information, kindly supplied by NAROM, the Norwegian



Competition winning students participating in field work at Andøya Rocket Range in February 2008

Centre for Space-related Education, on its PolarEduSpace Project.

Through the PolarEduSpace Project, NAROM (<http://www.narom.no>) offers educational programmes and competitions for teachers and students at many different levels to promote an appreciation for the benefits of space activities, to facilitate recruitment in the space industry, and to stimulate an interest in science in general. NAROM uses the unique technical facilities at its Andøya Rocket Range to provide an exciting educational experience. In addition NAROM concentrates on being an important contributor in the provision of space-related resources for the classroom. The website SAREPTA, <http://www.sarepta.org>, was established to exploit the exciting, visible aspects of space activities to stimulate interest of youngsters in science and technology. Through this website NAROM also aims to show young people how space activities are used as a tool in the development of society and to appreciate and understand the benefits, challenges and importance of space for everybody. ■

## JAXA's 15-Year Capacity Building Activities for the Asia-Pacific Region

Ms. Yoko Inomata, JAXA/SAPC (Japan)

JAXA's Satellite Applications and Promotion Center (SAPC) has been carrying out its capacity building activities for the Asia-Pacific Region for last 15 years and has trained a total of more than one thousand people, including a one-day workshop or seminar participants, who are mainly the governmental and academic staff of the region for the following reasons:

1. To provide necessary technical know-how to RS and GIS users in the region as a contribution by the Government of Japan to the capacity building activities recognized at UNWSSD, CEOS, GEOSS, UNWCDR and EO Summit;
2. To use Japanese satellite data archived for last 30 years for sustainable development, planning and monitoring purposes in the region;
3. To develop in-house capacities of the prospective users in the region by working on project-based training programs; and
4. To identify future space technology needs in the region for better services of forthcoming Japanese satellite data programs.

As of JFY2008 (1<sup>st</sup> April 2008 – 31<sup>st</sup> March 2009), the following five different capacity building activities for the Asia-Pacific Region underway by SAPC-JAXA:



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- (1) Mini-Projects, a problem-solving type of training program, in cooperation with Geo-Informatics Center (GIC) headed by Dr. Lal Samarakoon, Asian Institute of Technology (AIT) located in Bangkok;
- (2) Specialized Training in Japan for Mini-Projects' high achievers and GIC-AIT lecturers engaged in Mini-Projects;
- (3) ALOS Pilot Project, an ALOS data utilization verification program, with Indonesian LAPAN (National Institute of Aeronautics and Space);
- (4) Organizing the Asia Water Cycle Initiative (AWCI) meetings to provide the data-set and to draw up the capacity building activities

(to be continued on page 7)

# Working Group on Information Systems and Services (WGISS)

Ms. Martha Maiden, NASA (USA), WGISS Chair

WGISS held its Fall 2008 meeting, WGISS-26, in Boulder in parallel with meetings of all the GEO Committees. This came about because WGISS saw the opportunity to have a parallel meeting with GEO's Architecture and Data Committee, and I had approached GEO ADC Co-Chair Jay Pearlman of IEEE, who was hosting the next ADC meeting. The growth of the number of GEO meetings during the week of September 22 - 26, 2008 to five and more provided a rich opportunity for WGISS to network with GEO committees and their members. Our Boulder week was full and busy. Included was a joint session with the GEO ADC, wherein WGISS introduced our structure and activities and heard progress reports of the core GEO tasks in data analysis and architecture.

Let me remind you of WGISS's focus during my tenure as Chair. Our current themes are:

- Provide satellite arm of GEO System of Systems
- Innovative contributions that will persist, and can be reused
- Work closely with and support CEOS Virtual Constellations
- Work closely with and collaborate as appropriate with WGCV

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for the members in cooperation with UN University, University of Tokyo, International Centre for Water Hazard and Risk Management (ICHARM), under the auspices of UNESCO, which is located in the Public Works Research Institute (PWRI) of Japan; and

(5) Sentinel Asia Project's System Operation Training.

Due to the limited lines given to JAXA this time, we would like to recommend you to visit the following site for more detailed information on JAXA's capacity building activities for the region, however, what I would like to emphasize here is JAXA is going to continue its 15-year capacity building activities from now on by enhancing both their qualities and opportunities for our future trainees.

[http://www.sapc.jaxa.jp/about/data/jaxa\\_and\\_its\\_capacity\\_building\\_activities.pdf](http://www.sapc.jaxa.jp/about/data/jaxa_and_its_capacity_building_activities.pdf)



The group of WGISS-26

- Support the CEOS Data Democracy initiative.

At the Boulder meeting, WGISS closed the WGISS Test Facility for CEOP, a project led by JAXA with NASA participation. JAXA and NASA tailored online tools for use by the CEOP community to demonstrate how the CEOP community could more easily visualize and access satellite data with in situ data and model output. These tools use GEO standards and special arrangements. WGISS delegates from JAXA and NASA proactively provided a report of lessons learned and best practices to the GEO Architecture and Data Committee activities concerning the usage of the standards in this WGISS Test Facility for CEOP project. These documents were useful in the Architecture Implementation Pilot testbed kickoff activities going on during that week as well as beyond.

Ken McDonald of NOAA has agreed to become to CEOS Co-Lead for the GEO Task entitled "Data, Metadata and Products Harmonisation". This task is also Co-led by US/USGS/Doug Nebert of the Federal Geographic Data Committee. Ken has updated the Task's planned output to feature an assessment of current capabilities.

These two examples illustrate how WGISS reports and analyses are providing crucial feedback to GEO. As well, deliverables from WGISS Projects contribute key infrastructure for a robust GEO System of Systems.

Continuing in WGISS's effort to support the Virtual Constellations, WGISS initiated an Atmospheric Composition Interest Group

(ACIG) at WGISS-26. Chairing the ACIG is Stefan Falke, a newcomer to WGISS as part of the NASA delegation. Dr. Falke is a research assistant professor in the Department of Energy, Environmental and Chemical Engineering at Washington University in St. Louis and manager of geospatial information services at Northrop Grumman. He leads the Air Quality Cluster of the Earth Science Information Partners Federation, and participates in the Air Quality community of practice of GEO and the GEO Architecture Implementation Pilot. Subsequent to the WGISS meeting, a joint Atmospheric Composition Constellation (ACC) Portal development effort was initiated between the WGISS ACIG and the ACC. Stefan and the ACC point of contact, Diego Loyola of DLR, plan to begin work in the January-February timeframe on this effort, and a session will be held at the WGISS Spring 2009 meeting. All CEOS agencies are cordially invited to send a delegate to participate in the new ACIG.

In other news, at the end of WGISS-26, WGISS had a change-over in officers in its Technologies and Services Subgroup. Having ably led the Subgroup for the past two years, LIU Dingsheng of China's NRSCC stepped down, and he is succeeded by Natalia Kussul, of Ukraine's NSAU. The incoming Vice Chair is Terence van Zyl of South Africa's CSIR.

As Chair, I'm pleased to report that WGISS has had a productive year. Since WGISS-26 and now in 2009, WGISS continues our good works through email and telecons, furthering our ongoing Projects, and planning for next steps. WGISS-27 will be hosted by CNES in Toulouse, France this May. We look forward to an invigorating meeting. ■

# A Message from the CEOS Chair



**Dr. Darasri Dowreang,**

Deputy Director, Geo-Informatics and Space Technology Development Agency of Thailand  
CEOS Chair 2009

GISTDA is delighted to have the opportunity to serve as your Chair for 2009. We were reminded by the recent GEO Plenary that we are reaching the mid-point in 2010 for the implementation of the GEOSS (2005–2015) and the Ministers attending the summit in late 2010 will no doubt be keen to see that, as a community, we have organised ourselves to good effect in achieving the original vision for the GEOSS.

It is towards this event that I propose we set our planning horizons for CEOS for the time being, and that we focus our resources at all levels towards the achievement of demonstrable outcomes that illustrate the effectiveness of our coordination efforts for the GEOSS space segment. By demonstrable, I mean such as the provision of information systems and services, access to data, climate

data records, or firm agreements to address key observation gaps.

I propose to work with NOAA as SIT Chair, JAXA as incoming SIT Chair, CSIR and INPE as a Troika Team - as well as with our many subsidiary bodies in the Working Groups, Constellations, the Systems Engineering Office, and Ivan Petiteville as our CEOS Executive Officer - to identify the outcomes for the 2010 Ministerial that CEOS can work towards and deliver. We will also continue the Data Democracy Program initiated by our previous Chair with concentrating more in ASEAN region. I further hope that the dialogue initiated among CEOS, CGMS and WMO Space Programme can be developed to good effect such that the limited satellite observing resources available amongst funding states are applied as efficiently as possible for the benefit of society.

CEOS Plenary 2009 will be on the beautiful island of Phuket in the south of Thailand on November 2-4. We will be proposing an agenda which features less reporting, and more extended discussion on strategic issues - such that Principals will be put to work in the meeting. This will require considerable preparation in advance and we look forward to your support.

We trust that all CEOS Agencies will feel welcome to contact us at any time during the coming year with suggestions or concerns regarding CEOS. We look forward to a productive Chairmanship year and to your continued engagement in the CEOS process. ■

Contributions for future issues of the CEOS Newsletter from the CEOS Members and Associates, and subscriptions to the CEOS Newsletter, please contact CEOS Japan Secretariat : [misawa@restec.or.jp](mailto:misawa@restec.or.jp) <http://www.ceos.org/pages/pub.html#newsletter>

## Meeting Calendar

As of February 2009

Activities	February	March	April	May	June	July	August	September	October	November	December
<b>CEOS Plenary</b>										▲2-4 23rd CEOS Plenary Phuket, Thailand	
<b>CEOS SIT</b> (Strategic Implementation Team)		▲3-5 SIT-23 NOAA/Florida, USA						▲9-11 SIT-24 Working Meeting NOAA/EUMETSAT, Darmstadt, Germany			
<b>CEOS VCs Interface</b> (Virtual Constellations)				▲20 OCR Virtual Constellation Steering Group Meeting, Hangzhou/ China							
<b>CEOS WGISS</b> (Working Group on Information Systems & Services)				▲11-15 WGISS-27 CNES/France				▲28-2 The Fall 2009 WGISS-28 Pretoria, South Africa			
<b>CEOS WGCV</b> (Working Group on Calibration and Validation)					▲26-28 30th WGCV Plenary Meeting INPE/São José dos Campos, Brazil		▲11-13 CEOS WGCV IVOS Subgroup Meeting University of Lethbridge, Canada	△14-18 CEOS/WGCV Workshop			
<b>CEOS WGEdu</b> (Working Group on Education, Training, and Capacity Building)	▲4-6 CEOS WGEdu Remote Sensing Workshop, GISTDA, Thailand			▲18-20 WGEdu Meeting, Oslo, Norway							
<b>GEO related Activities</b> (Group on Earth Observations)	▲4-6 3rd GEOSS Asian-Pacific Symposium, Kyoto, Japan			△11-15 GEO ADC Full Committee, Stresa, Italy						△16-20 GEO-VI Week, USA	
<b>Others</b>	▲8-11 GEO ADC Full Committee and Co-Chair Committee, Kyoto, Japan		▲6-9 Joint Scientific Committee, WCRP JSC, Univ MD, USA	▲4-8 33 <sup>rd</sup> (ISRSE) User Interface Committee of GEO held alongside ISRSE, Stresa, Italy	▲3-12 COPOUS 52 <sup>nd</sup> Session, Vienna, Austria	▲13-17 IGARSS-2009, Cape Town, South Africa			▲26-30 CGMS-37, Jeju Island, Republic of Korea		▲7-18 UNFCCC COP15, Copenhagen, Denmark

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

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