



SIT-27 Meeting
La Jolla, CA, USA
March 26-28, 2012



Working Group on Calibration and Validation (WGCV) Report

Greg Stensaas (USGS) - WGCV chair
Satish Srivastava (CSA) - WGCV vice-chair

CEOS SIT-27
Wed 28th March 2012
La Jolla, CA



- **One stop shop for all cal/val activities within CEOS**
 - **2011 – 2016 WGCV Plan at <http://www.ceos.org/wgcv/>**
 - **Detailed to subgroup level; will be updated on a regular basis**
- **Provide international collaboration of sensor and product cal/val**
- **Expertise related to ground-based, airborne and satellite sensors used for the cal/val of satellite sensors**
- **Consultants for cal/val requirements and standards**
- **Development/identification of cal/val sites and continuing observations and intercomparison of cal/val**
- **Quality assurance expertise to include definitions and methodologies required to establish traceable indicators for CEOS products**



WGCV-33: ROSCOSMOS, Moscow, Russia on May 16-20, 2011

WGCV-34: CSIRO/TERN/others, Brisbane, Australia

- *Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Space Policy Unit of the federal Department of Innovation, Industry, Science and Research (DIISR), Geoscience Australia, the Bureau of Meteorology, and the remote sensing facilities in the DIISR Science Infrastructure programs - TERN (the “Terrestrial Ecosystem Research Network”) and IMOS (“Integrated Marine Observing System”).*
- **Pre-meetings for WGCV and QA4EO planning**
- **Transitioned to new WGCV SEC**
- **Very successful meeting, extensive Australian support**
- **New 5-year work plan for WGCV finalized**
- **Nominations for vice-chair not available**

WGCV-35:

- **Planning a joint meeting with WGISS in September 2012; hosted by ISRO in Hyderabad, India**
- **Vice-chair elections to be held at WGCV-35**

WGCV-36: Initial agreement with China



The WGCV is supported by 6 subgroups that represent key communities / domains.

- Through their own dedicated meetings, these groups focus on issues relevant to their communities and report back through the WGCV.
- They are providing cal/val expertise, quality processes, and cal/val sites for all CEOS agencies to use.
- Theme teams being created in subgroups.

Synthetic Aperture Radar (SAR)	Chair: Dr. Manfred Zink, DLR
Infrared Visible Optical Sensors (IVOS)	Chair: Dr. Nigel Fox, NPL
Microwave Sensors (MWS)	Chair: Dr. Xiaolong Dong, CSSAR
Terrain Mapping (TMSG)	Co-Chair: Prof. Jan-Peter Muller, UCL Co-Chair: Dr. Hannes Rueter, NL
Land Product Validation (LPV)	Chair: Dr. Joanne Nightingale, NASA Vice Chair: Dr. Gabriela Schaepman-Strub, Univ of Zurich
Atmospheric Chemistry (ACSG)	Chair: Dr. Bojan Bojkov, ESA Vice Chair: Dr. Jean-Christopher Lambert, IASB/BIRA

WGCV Subgroup Highlights



- **Slides available at WGCV Plenary meeting site**
- **LPV**
 - **Multiple meetings – Focus Groups - Land Cover, Fire, Biophysical, Surface Radiation, Land Surface Temperature, Soil Moisture, Land Surface Phenology**
 - **Cross CEOS Support**
- **SAR**
 - **7-9 November 2011, Annual Subgroup Meeting/workshop, Fairbanks, Alaska**
- **IVOS**
 - **April 13-15, 2011, CNES, Toulouse, France (45), IVOS workshop at JRC, Oct 2010 ~ 70 attendees**
 - **Next Meeting, May 8-10, 2012 USGS, Sioux Falls, SD**
 - **CalVal Portal Update, Comparisons, Test Site discussions, QA4EO, Process discussion, Thematic Focus Groups, Successful DOME-C and field campaign**
- **MW**
 - **Successful CEOS Microwave Sensor Calibration and Validation Workshop and CEOS WGCV MSSG Meeting, Beijing, China (24-28 October, 2011)**
- **TM**
 - **New Vice Chair**
 - **Global DEM, Potential support for Elevation Showcase**
- **AC**
 - **Many joint meetings with other atmospheric groups**
- **All Subgroups Working toward document processes and best practices for calibration and validation**



Requests / recommendations from the WGCV Subgroups:

- ▶ **Strong need for agency support for ground networks and field campaigns to support new missions.**
- ▶ **Two new thematic groups (Geo-spatial quality and Geo-image quality) have been established within IVOS. LPV groups are open to new support. Agencies are encouraged to participate.**
- ▶ **Strong need to continue and enhance the Cal/Val Portal as a community resource. Need to CEOS cal/val data storage and viewer support/tools.**
- ▶ **Agency support in maintaining instrumentation at the cal/val test sites, and acquiring data routinely over them, is imperative.**
- ▶ **MWSG welcomes new members from interested member agencies and request agency support in developing and enhancing QA processes for microwave.**



- **WGCV is co-lead (with IEEE) on GEO task DA-09-01a: GEOSS Quality Assurance Strategy**
- **The Quality Assurance framework for Earth Observation (QA4EO) was created and endorsed**
- **Working on specific task actions as reported at GEO CEOS Actions Workshop in Feb 2012 under Task IN-02, C1**
 - ▶ **QA4EO in active use (<http://www.qa4eo.org>)**
- **QA4EO implementation meeting for GEO and GEO -Thursday Afternoon**
 - ▶ **CEOS member agencies are requested to provide support to the implementation of QA4EO via CEOS and agency's work efforts**



- QA4EO Workshop on Providing Harmonised Quality Information in Earth Observation Data by 2015
- Held 18 – 20 October 2011, hosted by RAL-Space in Harwell, UK
- Attendance by a variety of EO communities, including EEA and US EPA
- Stressed the need for better QA practices and user support
- Strong support from GEO Secretariat; GEO-level Working Group to be set up; QA4EO processes to be embedded within the SBAs
- ▶ A QA4EO Implementation Plan is to be presented at GEO Plenary 2012
- ▶ The implementation of QA4EO needs to involve worked showcase exemplars
- ▶ For effective QA4EO implementation within CEOS, a common cross-agency focus is required
- Promotion, training, education and tools to assist
- QA4EO implementation is needed throughout EO communities



CEOS QA4EO Showcases

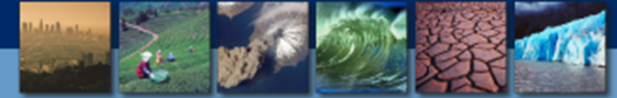


- **At the Joint WGCV/WGISS meeting in 2010 it was agreed to define a set of showcases to exemplify QA4EO implementation for CEOS. This activity was approved at CEOS-24.**
- **Three focus areas agreed upon:**
 - **Forest Carbon Tracking: strongly recommended as an important key focus area after discussions at QA4EO workshop**
 - **Change showcase from "Air Quality" to "Climate; e.g., ozone"**
 - **Global Elevation: a good focus exemplar**
 - ▶ **Little progress made on any of the above due to lack of resources. Resource and support from CEOS member agencies is needed to continue**
- **Support will be needed to finalize a common presentation format and display tools once core work on the showcases is complete**
- **Completion time of showcases reliant upon resource provision but aim to be complete by GEO plenary in 2012**



CEOS WGCV recommends that CEOS and its agencies consider:

- ▶ **Nominating representatives to join and support the WGCV and its subgroups if not already doing so**
- ▶ **Nominating candidates for WGCV vice-chair and subgroups**
- ▶ **Support for and implementation of QA4EO in their work efforts**
- ▶ **Supporting the resource commitment that is currently lacking for the QA4EO effort, including support for the QA4EO Secretariat and the QA4EO showcase initiatives for CEOS**
- ▶ **Provide support for cross VC and WG tasking and efforts**
- ▶ **Cross-organization funding and support for international field campaigns, instrumentation, and analysis**
- ▶ **Supporting calibration missions**



- *The role open for CEOS*
 - *Defining cal/val and quality process and architecture within CEOS requires the support and effort of all members*
- *Approach, emphasis required by the VC/WG*
 - *ECVs and Climate Modeling are great examples*
 - *WGCV 5-year plan available*
 - *Need requirements for efforts (liaisons)*
- *Any issues for SIT & Principals to help resolve in relation to the VC/WG having the potential to fulfill the proposed role*
 - *CEOS specific tasks and actions to WG*
 - *Defined joint WG/VC tasks and POCs*
 - *\$ and resources (many examples of multiple agency involvement but no way to fund efforts)*

Needs & issues for SIT attention



- *Skills, resources, - list particular concerns and issues that VCs/WGs wish to bring to attention of SIT & CEOS Principals in moving forward to support CEOS implementation*
- For a given task, each CEOS agency that is involved in the task should provide the name of its representatives that will coordinate the task within the agency and with WGCV.
- WGCV needs commitment from those CEOS agencies to provide resources (personnel and funds) to carry out the work which are involved in specific tasks.
- Other Issues
 - WGCV Vice Chair nominations needed
 - Sept 2012 vote; Waiting for DLR response
 - CEOS Showcases
 - CEOS WGs and constellation involvement needed
 - QA4EO
 - Agency resource support for secretariat and administration being worked by UKSA/NPL
 - CEOS agency support of QA4EO implementation actions
 - CEOS team to enhance and implement of QA4EO process

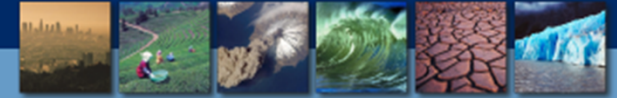


SIT-27 Meeting
La Jolla, CA, USA
March 26-28, 2012

Backup and Questions



- **Questions?**



- **SIT action 24-13 (open; completion by SIT-27)**
 - **All CEOS recommended cal/val sites available from IVOS, LPV, SAR, and TMSG on Cal/Val Portal**
 - Request CEOS members continue collection over the CEOS reference sites
 - Support for the 2nd CEOS DOME-C collection in Dec 2011/Jan 2012
 - **ACSG and MWSG working on recommended sites and process**
 - **Minimum instrumentation list and labor for sites being worked by WGCV subgroups and will be updated SIT-27 (This is slipping until after WGCV-35)**