

CEOS Working Group on Cal/Val WGCV29 Chair Report

Changyong Cao, Chair
Pascal Lecomte, Vice Chair
Petya Campbell, Technical Secretariat

September 29, 2008
Avignon, France

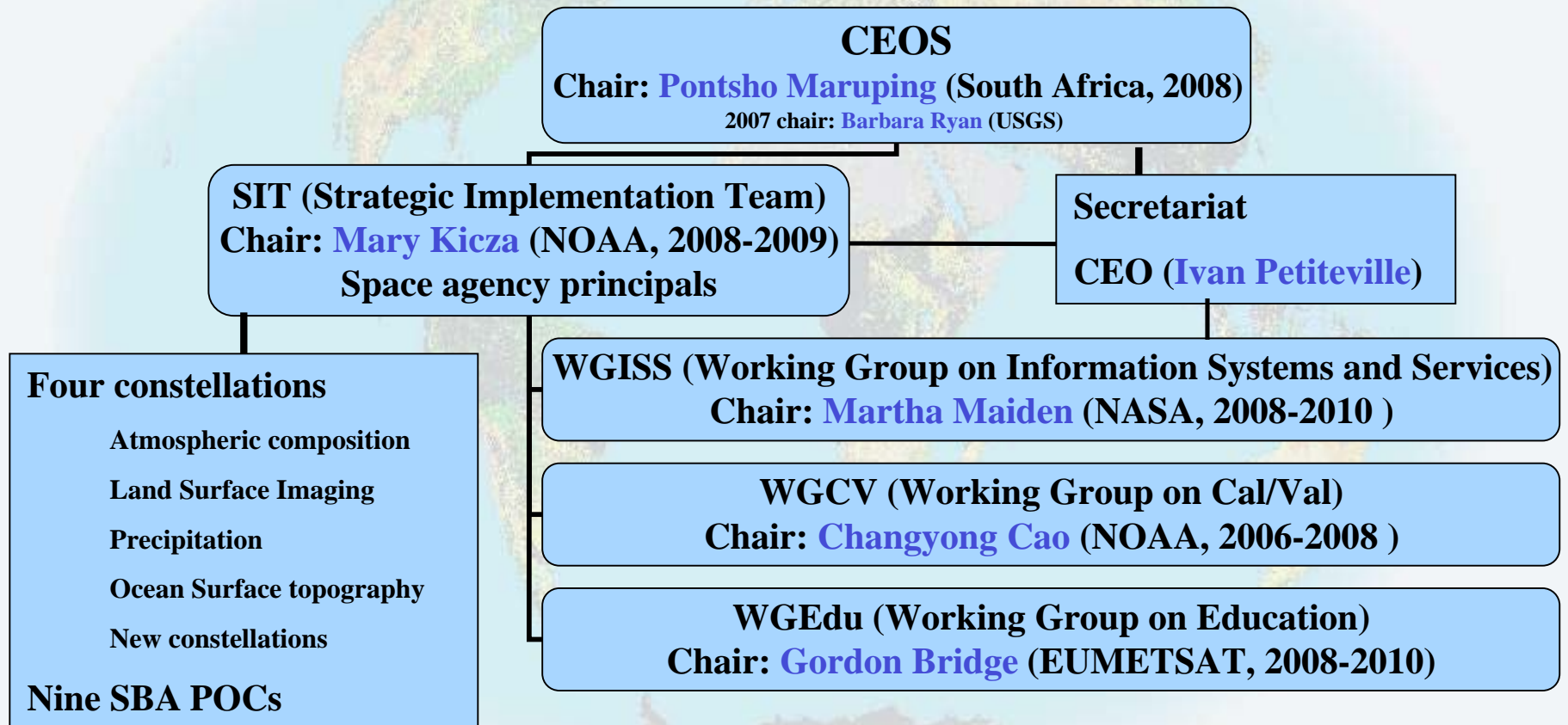
Meeting Objectives

- Review progress made for the CEOS 2008 actions, tasks, and deliverables.
- Provide cal/val update by subgroups and member agencies.
- Learn more about the remote sensing programs in France.
- Hold special session on land product validation.
- Visit the La Crau calibration site – one of the eight CEOS endorsed sites.
- Explore collaboration opportunities with WGISS and SEO.
- Elect vice chair and prepare for chair succession.

Background

- **The Working Group on Calibration and Validation (WGCV) was originally established in 1984. This resulted from the recognition by CEOS that calibration and validation activities should play a key role in all satellite Earth Observation missions to ensure the clear and quantitative understanding of the data they generate.**
 - **Calibration:** The process of quantitatively defining the system responses to known, controlled signal inputs.
 - **Validation:** The process of assessing, by independent means, the quality of the data products derived from the system outputs.
- **In the GEOSS era, CEOS has become the space segment of GEOSS in support of GEO. WGCV is actively engaged in both GEO and CEOS tasks.**
- **WGCV is one of the three CEOS working groups (WGCV, WGISS, WGEdu) that report to the CEOS and the SIT (Strategic Implementation Team)**
- **The CEOS/SIT plays a central role in coordination of existing and future missions of CEOS agencies, particularly to support GEO in its realization of the space segment of GEOSS.**

Current CEOS Structure



CEOS WGCV Structure



WGCV holds meetings every 6-9 months. WGCV28 was held in conjunction with WGISS25 in Sanya, China in Feb. 2008. WGCV29 is currently being held in Avignon, France, Sept. 30-Oct. 3, 2008

CEOS WGCV 28th Plenary
Sanya, China – Feb. 26 - 29, 2008



Thank our hosts Dr. Tang of NSOAS, and Dr. Dong,
Prof. Liu, and Prof. Jiang of NMRSL/CAS

Major activities since WGCV28

- CEOS/SIT21 meeting (April 22-24, 2008), Woods Hole, MA
 - Chaired by Mary Kicza of NOAA/NESDIS
 - Focused on 2008 CEOS actions
 - More constellations
- GEO/CEOS workshop at Gaithersburg, MD, May 6-8, 2008
 - Data quality assurance key guidelines
- CEOS 2008 Action Project workshop: Ottawa, June 4-5, 2008, Measurement consistency for 1-5 km sensors
- CEOS/SIT21 meeting (September 17-18, 2008), Tokyo, Japan
 - Chaired by Mary Kicza
 - Focused on 2008 CEOS actions and deliverables
 - Constellation going forward.
- Personnel changes:
 - Barbara Ryan to become the new director of the WMO space program
 - New GEO secretariat Mike Tanner from NOAA/NESDIS
 - Bojan Bojkov joined ESA
 - Sebastian Garrigues joined CNES

GEOSS Data Quality Assurance Strategy

From the GEO 2007-2009 Work Plan (page 25)

- GEO Task DA-06-02: “This task is led by CEOS and IEEE”
- “Develop a GEO data quality assurance strategy, beginning with space-based observations and evaluating expansion to in-situ observations, taking account of existing work in this area”.

This task is fundamental and cross-cutting for GEOSS

Relevant changes in the GEO 2009-2011 Work Plan

1. DA-09-01: Data Management

- **b) GEOSS Quality Assurance Strategy** (former DA-06-02)
 - sub-task led by CEOS and IEEE
- **c) Data, Metadata and Products Harmonisation** (former DA-06-04)
 - sub-task led by USA and CEOS

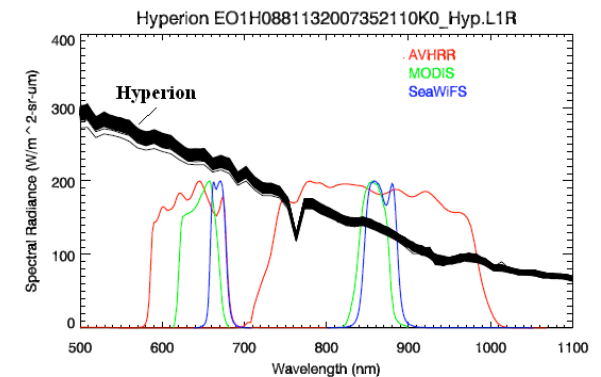
WGCV 2008 Category 1 Actions

Leading GEO DA-06-02: Data quality assurance for GEOSS (3 cat. 1 actions)

- **GEO-CEOS Workshop**, Gaithersburg, May 6-8, 2008
 - Organized by ESA; Hosted by NIST/NOAA/NASA
 - Endorsed by the CEOS SIT Chair and GEO Director
 - Reported to GEO in the task sheet (May 2008)

- Data quality assurance **guidelines** (led by ESA, USGS, and NASA)
 - Ten key guidelines developed (currently under final review, **will be delivered at WGCV29 this afternoon**)
 - **CEOS action: endorse the document**

- **Dome C calibration campaign**
 - Results summarized in the **IGARSS08** paper (July, 08) (delivered to the CEOS repository)
 - Additional work at NOAA on SeaWiFS at Dome C
 - Transfer SeaWiFS stable lunar calibration to AVHRR and other sensors at Dome C (**Research to Operations**)



WGCV 2008 Category 1 Actions

CL-06-02: Key climate data sets from satellites (GSICS collaboration)

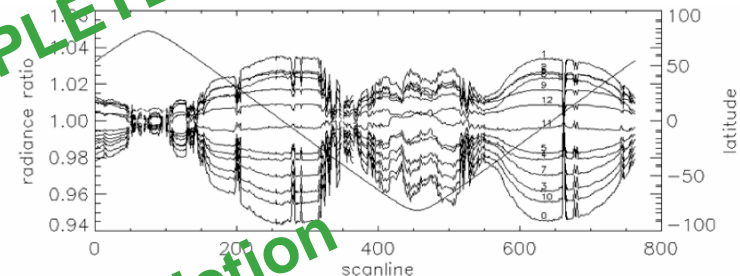
Action: Measurement consistency for 1-5 km sensors. Recommendations & strategies for recalibrating historical satellite data (Support Climate Actions: T-4, T-3, O-17).

- ✓ Ottawa workshop held in June 2008 at CCRS (NOAA, NASA and USGS)
- ✓ CCRS/CSA will lead the 1KM AVHRR reprocessing, supported by NOAA, USGS, & NASA
- ✓ Early preparation for the calibration session at the AVHRR workshop in November 08.

CL-06-01: Reanalysis and Reprocessing (GSICS collaboration)

Action: Infrared sounder: Historical HIRS spectral calibration using IASI/AIRS

- Paper presented at SPIE in August 08, (delivered to the CEOS repository)
- Journal paper submitted



DA-07-01: Global DEM interoperability

Action: BNSC/UCL lead

Workshop held in Beijing, hosted by IRSA/CAS

Guideline paper developed and delivered to the CEOS repository

Near Completion

Other Actions (cat 2 & 3)

DA-06-02: Data quality assurance

Action: Benchmark mission coordination (Climate Action A-5).
CLARREO/TRUTHS (NASA and BNSC/NPL).

Action: Radiometric reference standard report (NOAA/NIST/IEEE)

Action: Preparation for the 2009 ground based cal/val campaign
International radiometer intercomparison (March 2009)

Invitation sent out to CEOS colleagues
CEOS Action: Request space agency support (\$)

EC-06-01: Integrated global carbon obs.

Action: Greenhouse gas workshop (CalTech, organized by
AC subgroup chair B. Bojkov)

EC-06-02: Ecosystem classification

Action: LPV (land product validation) session at WGCV29 (Sept. 2008)

DA-06-04: Data, Metadata, and products harmonization

Action: Land product harmonization



TXR & RSMAS BB

IVOS: The MIAMI-2009
Radiometer
Intercomparison



Work in progress

Work in progress

In preparation

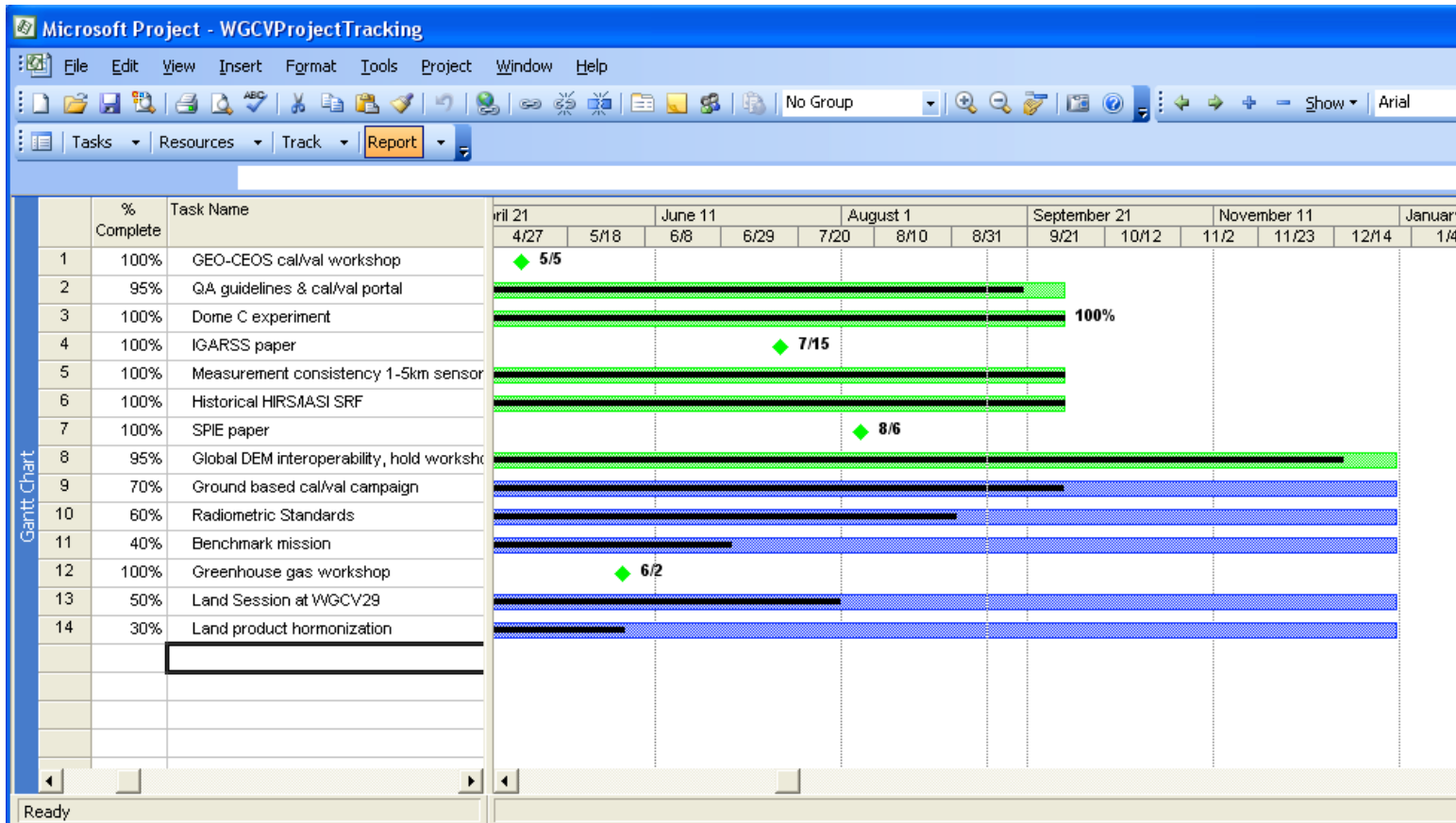
Completed

Good progress

WGISS collaboration

Work in progress

2008 WGCV Projects: Actions, Deliverables, and Milestones



Cat. 1

Cat. 2

All deliverables are available in the CEOS repository, and conference/journal papers.



SIT-22

September 17-18, 2008
Tokyo International Exchange Center
Tokyo, Japan



Vice Chair Nominees

(Vote this Friday, resumes available)

Mr. Greg Stensaas/USGS/EROS Center, Physical Scientist/Project Chief, BSME, South Dakota State University, 1982.

Dr. Kurt Thome/NASA, Professor, University of Arizona, Optical Science Center, Joining NASA/GSFC/Code 614.4, Ph.D., U. of Arizona, 1990.

Dr. Xingfa Gu/NRSCC/CAS/IRSA, Director, Institute of Remote Sensing Applications, Chinese Academy of Sciences, Ph.D., Physical Remote Sensing, University of Paris, 1991.

Upcoming Events

- CEOS 22nd plenary, Nov. 10-13, George, SA
- SPIE Asia Pacific GEOSS/CEOS Conference, Noumea, New Caledonia, Nov. 17-21, 2008
- CEOS/SIT meeting, March, 2009, Coco Beach, FL
- International Radiometer Intercomparison, March 2009, Miami, FL.

Summary

- WGCV has completed all but one 2008 Category 1 actions (which will be completed this afternoon), with good progress for Cat.2&3 actions.
- Will further look into collaboration opportunities with WGISS at WGCV29 (special land session).
- Request CEOS endorsement for the Data quality guideline document, and request space agency support for the 2009 radiometer intercomparison campaign.



SIT-22

September 17-18, 2008
Tokyo International Exchange Center
Tokyo, Japan



Thank our hosts

- Dr. Frederick Baret, INRA
- Dr. Patrice Henry, CNES