Joint WGCV 35 /WGISS 34 Plenary Meetings September 2012

WGCV & WGISS Joint Tasks

Greg Stensaas (USGS) WGCV Chair

Committee on Earth Observation Satellites

QA4EO Implementation Profile

- **QA4EO implementation is supported by a framework document and a set of key guidelines to assist in its interpretation and implementation**
  - **Principles and Guidelines Version 4.0 and Implementation Management**
    - **CEOS, IEEE, agency support and workshop revisions**
  - **QA4EO Website** http://qa4eo.org/
  - **Overall Key Guidelines and associated reference documentation populated on QA4EO**
  - **Enhanced documentation continually being developed**

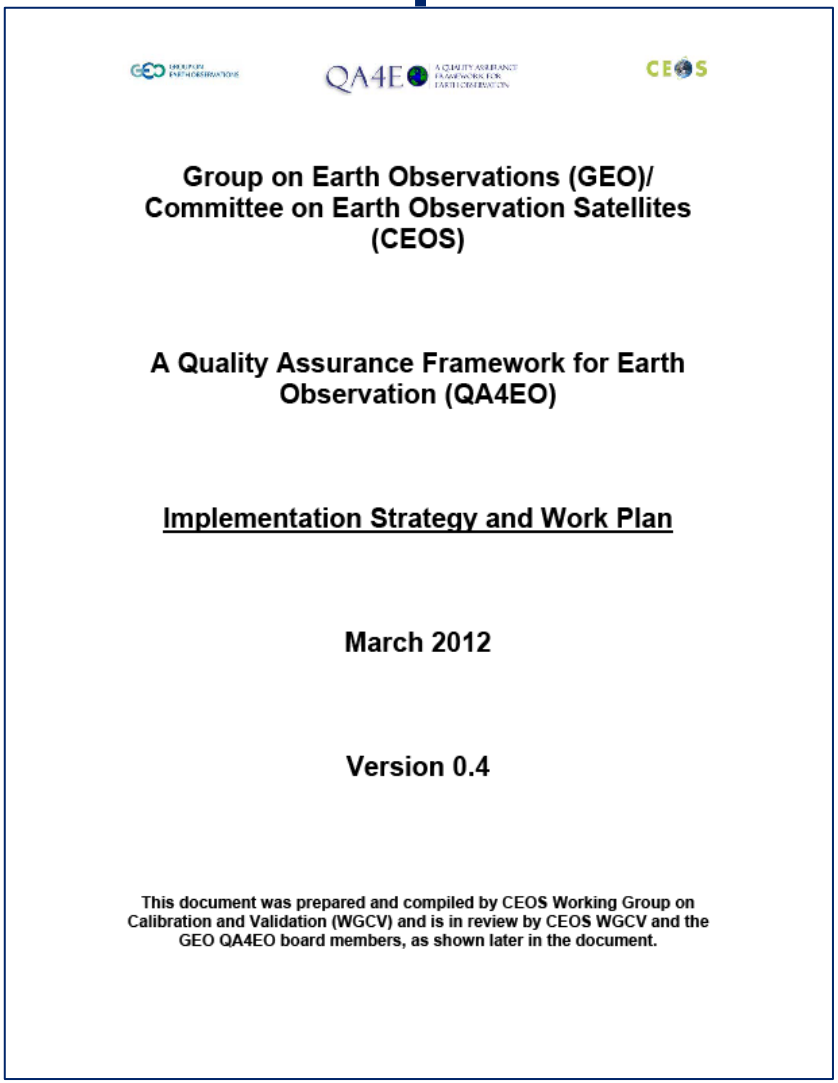
- **Organizations that fund and oversee the development and execution of Earth Observation programs are responsible for implementing QA4EO principles**
  - **Need CEOS and GEO requirements, guidelines, and implementation mechanisms**
  - **Need to support CEOS and GEO data and information architecture**
  - **Need to continue to provide QA4EO Showcases and Implementation Pilots**

IN-02-C1

- **GEO lead under a GEO task IN-02 Earth Data Sets, C1: Advances in Life-cycle Data Management *(previous task DA-09-01: GEOSS QA strategy)***

QA4EO Implementation Plan

- **Based on, previous workshop outcomes and actions**



Group on Earth Observations (GEO)/
Committee on Earth Observation Satellites
(CEOS)

A Quality Assurance Framework for Earth Observation (QA4EO)

Implementation Strategy and Work Plan

March 2012

Version 0.4

This document was prepared and compiled by CEOS Working Group on Calibration and Validation (WGCV) and is in review by CEOS WGCV and the GEO QA4EO board members, as shown later in the document.

CEOS QA4EO Implementation Taskforce

- **Management of CEOS QA4EO Implementation:**

- Evolve QA4EO, scope and guidelines
- Develop and refine of Implementation Strategy
- Focal point for guidance on key guidelines and implementation
- Team/Effort requirements and tasks needed in CEOS for QA4EO
- Develop and define implementation prioritization of QA4EO needs in CEOS
- Create the implementation requests to obtain resource in CEOS and present to CEOS management
- Support management and integration across CEOS
- Create Ad hoc Working Groups for Implementation of new tasks or efforts in accordance with on-going CEOS efforts

Members:

- WGCV Chair/Vice Chair
- WGCV Subgroup Chairs and delegates
- WMO
- Metrological Standards bodies (2 minimum)
- QA4EO Secretariat
- WGClimate, WGCapD, WGISS delegates
- Virtual Constellation and CEOS effort leads and/or delegates

- All members of the CEOS QA4EO Management Team will be invited and considered as support and maybe called upon as needed by the taskforce.

QA4EO SEC and Support

- **UKSA with Centre of Carbon Management (CCM) at the National Physical Laboratory (NPL)**
  - **2 year effort to support QA4EO implementation support – secretariat, web, leadership**
  - **http://www.npl.co.uk/carbon-measurements**

WGCV engage in common efforts w/ other CEOS components

- **WGCV engaged in these efforts and gather GEO/CEOS /support efforts to move QA4EO forward**
  - QA definitions/standards
  - Quality in metadata, "fit for purpose" information, accuracy, error, uncertainty, traceability
  - Fields in GEO and CEOS data structure
  - System specs and standards?
  - ECV cal/val and QA
  - Carbon and climate requirements validation
  - In situ and modeling quality, uncertainty, traceability
  - Other related programs and tasks
  - ISO

QA4EO actions required of SIT and CEOS members

- **CEOS members to provide examples of activities current or past which are consistent with QA4EO principles which can be used as case studies on new web-site.**
- **Agencies to present/summarize their efforts to meet QA4EO principles to QA4EO implementation team/SIT.**
- **Encourage appropriate "badging" use of CEOS Quality/QA4EO logo to build awareness and visibility**
- **Provide key representatives to support any evolution/additions of the guidelines**
  - **Climate data "maturity index"**
  - **Long Term Data Preservation (LTDP)**
  - **High level product QIs**

QA4EO actions required of SIT and CEOS members (continued)

- **CEOS (GEO SBA) contacts to promote principles and implementation in GEO.**
- **Agencies to encourage reporting of QI (uncertainties with data they supply) and providing ready access to necessary metadata providing evidence to support it.**
- **Agencies to request appropriate QA information from providers (utilizing QA4EO as shorthand specification) to stimulate and progress QA4EO principles.**
- **Agencies to provide resource to facilitate QA4EO implementation team in delivering actions.**

Why so much attention to Data Quality now?

- In the past, it was difficult to access satellite data.
- Now, within minutes, a user can find and access multiple datasets from various remotely located archives via web services and perform a quick analysis.
- This is the so-called Data Intensive Science.
- The new challenge is to quickly figure out which of those multiple and easily accessible data are more appropriate for a particular use.
- However, our remote sensing data are not ready for this challenge – there is no consistent approach for characterizing quality of our data.
- This is why data quality is hot now.

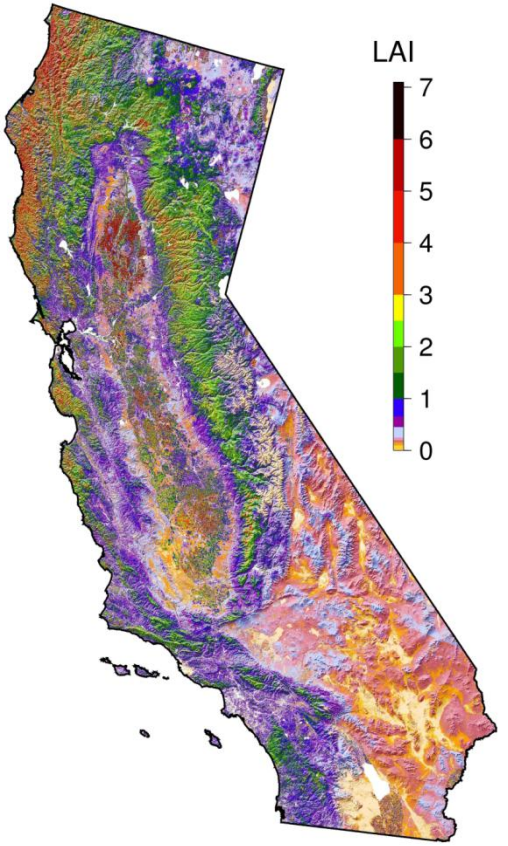
Leptoukh, Pecora'11

Moving from Data to Information

L1T At-sensor Radiance (FCDR)

Surface Reflectance (TCDR)

Leaf Area Index (ECV)



Why so difficult?

- Quality is perceived differently by data providers and data recipients.
- Many different qualitative and quantitative aspects of quality.
- No comprehensive framework for remote sensing Level 2 and higher data quality
- No preferred methodologies for solving many data quality issues
- Data quality aspect had lower priority than building an instrument, launching a rocket, collecting/processing data, and publishing a paper using these data.
- Each science team handled quality differently.

Leptoukh, Pecora'11

Joint meetings Ideas

1) WGCV teams should also suggest ideas of quality data metadata fields for the key sensors and products.

WGISS to look at quality metadata for WGISS 35

2) Metadata requirements for quality, need to tap each WGCV working group for sensor information. Have WGISS find out what is available. Get NASA ESIP feed back on this and others.

ISO?? 19115, 19113, 19157, 19159, ….
IEEE …
ASPRS/ISPRS
others

Joint meetings Ideas

3) Data access of CEOS Test Site information starting with:
   1) CEOS IVOS sites (also test first one prior to meeting for Libya 4 site), 2) LPV sites, 3) SAR, 4) DEM and others. Recommend starting with some key examples. SG support needed.

4) Quality indicators: get WGCV SG support and ideas and ideas from WGISS.

Search on high level and then get more detail

5) It would be good to have input from an ECV quality perspective (Working Group on Climate).
How does quality assurance information on ECV products get populated and stored and what are the documentation components needed

Ties into LTDP tasks

Joint meetings Ideas

6) Identifying key partners and how they benefit the working group and they benefit from WG

- working sharing experiences and lessons learned in engaging additional partners
- Based on WGISS suggest, I believe data access is very good;
- data quality requirements from VC would great suggestion

WGISS use Wish list from VCs
What about ESA, IEEE, ISO, APSRS/ISPRS

7) Updated and develop new showcases

Good comment on DEM; how do decide on showcase if there a format for presentation is there a media or place to put them

WGISS – new DEMqis

http://calval.cr.usgs.gov/satellite/sites_catalog/

Remote Sensing Technolog... | My Yahoo! | CEOS Home | CalVal Home - CalValPortal

File Edit View Favorites Tools Help

USGS science for a changing world

USGS Home
Contact USGS
Search USGS

Remote Sensing Technologies

Remote Sensing Technologies

understanding the technologies needed to sense our world

Google™ Custom Search Search

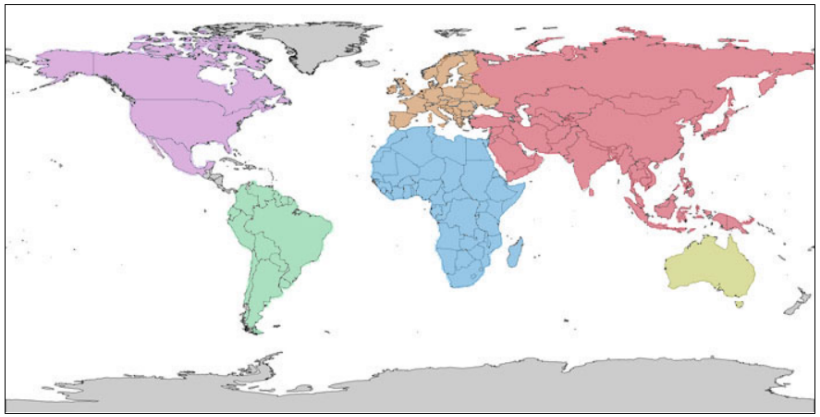
Home | Instrumentation and Infrastructure | Digital Aerial | Optical Science Lab | Satellite | Collaborations | About Us | Sitemap

You are here: Home » Satellite » **Test Sites Catalog**

Test Site Catalog

In an era when the number of Earth-observing satellites is rapidly growing and measurements from these sensors are used to answer increasingly urgent global issues, it is imperative that scientists and decision makers rely on the accuracy of Earth-observing data products. The characterization and calibration of these sensors are vital to achieve an integrated Global Earth Observation System of Systems (GEOSS) for coordinated and sustained observations of Earth. The U.S. Geological Survey (USGS), as a supporting member of the Committee on Earth Observation Satellites (CEOS) and GEOSS, worked with partners around the world to establish an online Catalog of prime candidate worldwide test sites (Poster) for the post launch characterization and calibration of space-based optical imaging sensors. The online Catalog provides easy public Web site access to this vital information for the global community. Through greater access to and understanding of these vital test sites and their use, the validity and utility of information gained from Earth remote sensing will continue to improve.

Contact Information: Gyanesh Chander gchander@usgs.gov or Gregory L. Stensaas stensaas@usgs.gov



Click on a Continent to View Radiometric Test Sites

Test Site Home

RADIOMETRIC SITES

Select Site

- CEOS Reference Sites
- Radiometry Test Site Gallery
- Download Google Earth KMZ

GEOMETRIC SITES

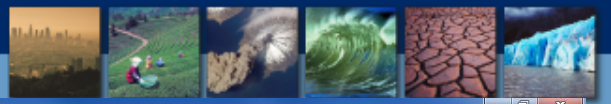
Select Site

ADDITIONAL INFORMATION

- Acronyms
- References

CEOS QA4EO

1:52 AM
9/26/2012



http://calvalportal.ceos.org/cvp/web/guest

Remote Sensing Technologies... | My Yahoo! | CEOS Home | CalVal Home - CalValPortal

File Edit View Favorites Tools Help

CEOS Cal/Val Portal

Welcome!

CalVal Home

- Overview
- Instruments
- Sites
- Documentation
- Cal/Val Campaigns & Events
- Tools
- Projects
- QA4EO
- Data Access
- Forum
- Cal/Val Wiki
- Acronyms
- Feedback
- Links
- IVOS
- OLIVE

Search... Everything

Sign up

Email Address @brockmann-consult.de

Password

Remember Me

CalVal Home

The Committee on Earth Observation Satellites (CEOS) is providing information and data for Calibration (Cal) and Validation (Val) of Earth Observation (EO) data through this portal.

This portal shall support worldwide activities on calibration and validation, and specifically ensure that sensor intercalibration is favoured in a standardised way. The overall goal is to increase measurement accuracy of all the sensors which will be supported by this system, so that the GMES (Global Monitoring for Environment and Security) programme can be served with the best information products available.

Currently the portal is dedicated to calibration of Infrared and Visible Optical Sensors (IVOS

Cal/Val Events!

CEOS WGCV 35 MEETING - 23-28 September 2012 - <READ MORE>

Past events:

- **SENTINEL 2 PREPARATORY SYMPOSIUM** - **<AGENDA + PRESENTATIONS>**
- **SENTINEL 3 CAL/VAL PLANNING MEETING** - **<PRESENTATIONS>** - **READ MORE**
- **IEEE TGARS SPECIAL EVENT ON "SATELLITE INTER-CALIBRATION" - READ MORE!!!**
- **CEOS WGCV IVOS WORKSHOP 2010, October 18-20** -- <AGENDA+Presentations> -- <Summary and Actions> PRIORITY ACTION [A1] [A2] [A3]
- **Special Session on Land Product Validation -- <READ MORE>**
- **NEWSLETTER No 4 Now Online!!**

- **CEOS Land Cal/Val Event - Tuz Golu - 14-25 August 2010** <READ MORE> <DAYLY BLOG>
- **SMOS Validation and Retrieval Team workshop**, Frascati (Italy), 29-30 November 2010 <READ MORE>
- **CALCON Techinical Conference - 23-26 August 2010, Logan, UT, U.S.A** - More Info
- **COVE (CEOS Visualization Environment) IS ONLINE and available HERE!!!!**
- **WGCV-31 Meeting: Presentations available HERE**
- **CEOS LAND CALIBRATION EVENT 2010** - More Info
- **CEOS SENSOR CALIBRATION EVENT 2010** - More Info
- 11-14 May 2010 : CEOS WGCV Infrared and Visible Optical Sensors Subgroup meeting, DST, South Africa

"When you can measure what you are speaking about and express it in numbers you know something about it; but when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind" (Lord Kelvin, 1883)

A Memory from the first lesson of Physics

Cal/Val News

- [S[SMOS]: August 2012 Activity Report
- [S[SMOS]: July 2012 Activity Report
- [S[SMOS]: June2012 Activity Report
- [S[SMOS]: May 2012 Activity Report

The new Cal/Val Portal

1:41 AM 9/26/2012

Joint meetings Ideas

8) Portal Quality and Commonality\ new portals

9) Linking of CEOS tools and accessibility of tools

10) Data Accessibility and availability – list per mission ?
Data Policy – CAL/VAL – free and open

11) CEOS related calendar
For subgroups – and other CEOS related efforts