

GEO – CEOS Workshop on Quality  
Assurance of Calibration and  
Validation Processes:  
*Establishing an Operational  
Framework*

6 – 8 May 2008      Washington, USA

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WGCV 28 30 Sept -03 Oct 2008 INRA, France



## Scope of the Workshops

To identify and scope key elements needed to develop and implement a "data quality strategy" as required by GEO task DA-06-02

- Best practises in Cal / Val Processes.
- Harmonisation and Standardisation of Quality Control and Calibration / Validation Processes.
- The role of CEOS in the Certification of those processes.
- Implementation Strategy.

The Geneva workshop on Guiding Principles identified the need for a Quality Assurance (QA) strategy based on a small set (10-15) of high-level guidelines. These guidelines would be further expanded upon at a lower (technically-specific) level, but the initial requirement to start the process was the definition of an essential number of key high-level guidelines that could scope the initial framework.

A framework document was drafted that attempted to devise an harmonised QA strategy that had sufficient breadth and clarity to scope the expected immediate need, whilst recognising that it would evolve with use.



# Objective of the workshop

The Washington workshop set out:

- To review the framework document that had been drafted after the Geneva workshop, both addressing its structure and content, and to agree on any modifications and/or corrections that needed to be addressed before it could be implemented.
- To scope and discuss the requirements for the detailed guidelines that would sit alongside the framework document.



- Methodologies & Guidelines for Cal/Val – *Nigel Fox (NPL)*
- Cal/Val Sites – *Gregory Stensaas (USGS)*
- Satellite & in situ Data Access – *Bojan Bojkov (NASA)*
- Harmonisation of Quality Information – *Pascal Lecomte (ESA)*



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## WGCV Taskforce to Address Governance for Cal/Val Processes / Guidelines

Steve Mackin (taskforce chair) presented a report on the endorsement of standards and protocols within the fields of Cal/Val of EO data. A taskforce to address governance for Cal/Val processes / guidelines had been set up at WGCV-28 to address this issue and had produced a 20 page report.



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Chairs: Nigel Fox (NPL) & Gyanesh Chander  
(USGS)

Two guest speakers:

- Jeffrey Morisette (NASA) presented  
“Examples from the Land Product Validation  
Subgroup”
- David Llewellyn-Jones (University of  
Leicester) presented “SST Validation, a  
Possible Case Study for Harmonisation”.





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# Data Quality Guidelines

1. A guide to content of a documentary procedure to meet the Quality Assurance requirements of CEOS.
2. To establish a QI for satellite sensor delivered data products the following guidelines are recommended...
3. Organisation and analysis of a measurement comparison
4. Establishing a reference standard – suitability and acceptance
5. Evaluating and expressing uncertainty of measurement
6. Writing and validating models and algorithms
7. Writing and validating software



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Chair: Bojan Bojkov (NASA)

Guest speaker:

- Mark Schoeberl (NASA) presented “Data Access, Release and Distribution”.

1. Establish common format for Cal/Val data exchange.
2. Code of practise for Cal/Val data providers and users to ensure free access and unencumbered access whilst providing recognition for the efforts in its generation.
3. A common set of content and means of association of metadata to Cal/Val data sets.

Chairs: Pascal Lecomte (ESA) & Gregory Stensaas (USGS)

Two guest speakers:

- Pasky Pascual (EPA) presented “All models are wrong, some are wronger”
- Irwin Alber (IEEE) presented “Review of Standards and Best Practices related to Remote Sensing Calibration/Validation”.

- *Peer review by CEOS WGCV and Geneva & Gaithersburg workshop participants*
  - *Version 1.0 draft issued by 27th June 2008 based on comments at Gaithersburg workshop*
- *Final review by CEOS WGCV*
  - *Provide comments to Gaithersburg workshop Chairs and WGCV subgroup chairs by 1 August 2008*
  - *Review and incorporation by 15 August 2008*
  - *Version 1.0 final produced by 1st September 2008 based on comments received and then submitted to CEOS WGCV plenary*
- ***CEOS WGCV level agreement WGCV-29, October 2008 (France)***
- ***CEOS level agreement CEOS plenary, November 2008 (South Africa)***
- ***GEO agreement GEO plenary***