



# CEOS/WGCV/ACSG Activities

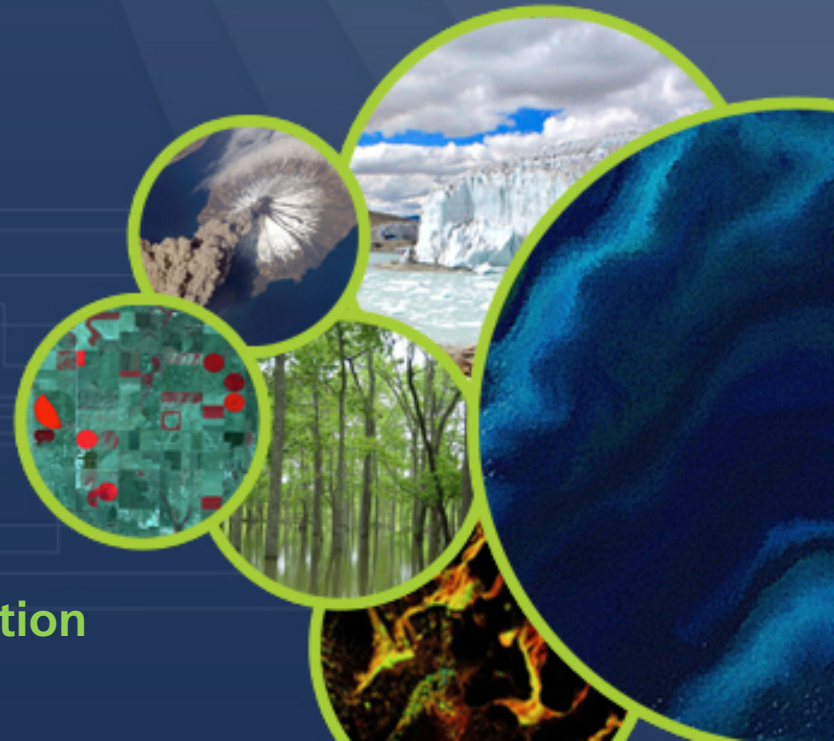
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CEOS WGCV-39

DLR, Berlin, Germany

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**Working Group on Calibration and Validation  
Atmospheric Composition Sub Group**



- The **CEOS Working Group on Calibration and Validation** (CEOS/WGCV) Mission is to ensure long-term confidence in the accuracy and quality of Earth Observation data and products and provide a forum for the exchange of information about calibration and validation, coordination, and cooperative activities.
- The **CEOS WGCV Atmospheric Composition SubGroup** (CEOS/WGCV/ACSG) Mission is to ensure the accurate and traceable calibration of remotely-sensed atmospheric composition radiance data and validation of higher level products for application to atmospheric composition and *in conjunction to* climate research.

The WGCV/ACSG work has focused on three targeted small scale activities (that do not overlap with existing structures such as for example IWGGMS):

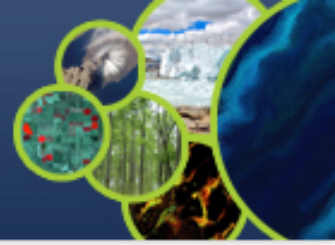
1. Support / develop Fiducial Reference Measurements (FRMs) for atmospheric composition (**CEOS actions CV-6/CV-7**):
  - Support the calibration, traceability and characterization of Brewers using the Izaña standard instrument (4 campaigns to date) – *in cooperation with WMO/GAW*
  - Support the inter-comparison of ground-based instruments (Brewer-Dobson, of ground-based NO<sub>2</sub> measurements, etc.)
  - The development ground-based O<sub>3</sub> and NO<sub>2</sub> profiles from spectrometers – *in cooperation with NDACC*
  - The standardization of the mini-spectrometer retrievals and processing (Pandonia) and its consistency with other systems (see ESA agency report)
  - Cooperate on merging ground-based measurements such as LIDAR, sun-photometers and spectrometers, to enhance aerosol classification databases

## 2. Cross-cutting activities

- Organization of the February 2015 Radebeul workshop on the selection of the CEOS/WGCV cross-cutting activities
- Limited 2-year targeted studies – based on a clear defined procedure with defined deliverables
- Selected studies (to follow QA4EO principles) to support EO applications:
  - o Atmospheric Correction for land and ocean parameter retrievals
  - o Harmonised cloud screening approach (and nomenclature)
  - o Digital Elevation Model (DEM) characterization

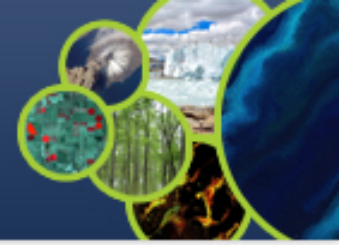
### 3. Atmospheric Composition / Chemistry instrument calibration (recent developments from the WGCV)

- Joint WGCV/ACSG and GSICS/UV-VIS working meeting at NOAA in Fall 2015 (**CEOS action CV-5**)
- Organization CEOS pre-launch calibration & characterization workshop together with all WGCV sub-groups (targeted date: second half 2016)
- Definition of QA4EO “best practices” for the consolidation of datasets and the calibration documentation



WGCV/ACSG work has also be done towards cross-agencies/cross-domain harmonization of validation practices:

1. Transmission of WGCV experience (incl. QA4EO) to CDRs:
  - Pragmatic implementation in Envisat Phase F data evolution, EUMETSAT O3M-SAF trace gases validation, ESA CCI Ozone...
  - QA4ECV (ACSG, IVOS and TMSG joint venture): generic framework virtually applicable to all ECVs, traceability chains, maturity matrix, specific tools and methods (Atmosphere and Land)...
  - GAIA-CLIM: validation component of gap analysis for integrated atmospheric ECV climate monitoring
  
2. Interaction with CEOS VC/ACC since WGCV-38:
  - Participation/contributions of ACSG Chairs and members to ACC-11, April 2015
  - Validation support to cross-agencies harmonization efforts for nadir ozone column and nadir ozone profile data
  - Geophysical Validation Needs for the future GEO-AQ Constellation
  - Note: partially addressing CEOS action CV-4



*Thank you!*

*WGCV/ACSG points of contact:*

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