

Atmospheric Composition Constellation (ACC)

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ACC Objectives

- Establish a framework for long term collaboration among the CEOS agencies where the “Constellation” will identify specific opportunities for meeting science and application requirements
- Collect and deliver data to improve predictive capabilities for coupled changes in the *Ozone Layer, Air Quality, and Climate Forcing* associated with changes in the environment.
- Demonstrate Constellation capability through demonstration projects for future operational use
- Consider future opportunities to provide added value to SBA through synergy of combined satellite data

Progress to Date -1


- Established three projects employing multiple satellites and CEOS members
 - Air quality *NOAA/Eumetsat/NASA*
 - *Metop and Aura intercalibration is more of a challenge than expected, but will be completed in June (HE-09-03a_3)*
 - Smoke and dust forecasts *NOAA/NASA*
 - *Demonstration complete, funding requested to make operational (HE-09-01_2)*
 - Volcanic alerts *ESA/DLR/NASA*
 - *Operational with improvements underway. Workshop in Rome 6-7 April 2009 (DI-09-02a_2)*
- Conducted Requirements and Gap Analysis (R&GA)
 - Draft posted on CEOS website for agency feedback (AR-09-02a_14)

Progress to Date - 2

- **First meeting (December 2008) with JAXA on establishment of International Working Group on GHG**
 - *Presented at SIT – 23*
- **NO₂ Intercomparison campaign – Netherlands Jun 2009 (SIT-22-5 Action)**
 - <http://www.knmi.nl/samenw/ceosgeomon/>
 - *Working with WGCV/ACSG*
 - *Envisat, Metop, Aura*
 - *Establish accuracy of ground measurements*
- **First meeting with DLR on establishment of AC Portal. (AR-09-02b_2)**
 - *Working with WGISS and the WMO*
 - *DLR agrees to support*
 - *Requirements and specifications underway*
- **Conducted workshop on the “Implication of AC Data Gaps on Climate Modeling” at NASA/GISS, 15-17 October 2008 (CL-09-02a_13)**
 - *Workshop sponsored by WCRP(SPARC), WMO, and GCOS*
 - *Attended by 45 scientists from Europe, Japan, and US*
 - *Draft report being reviewed by attendees*
 - *Includes recommendations to CEOS members*

Summary of GISS Workshop-1

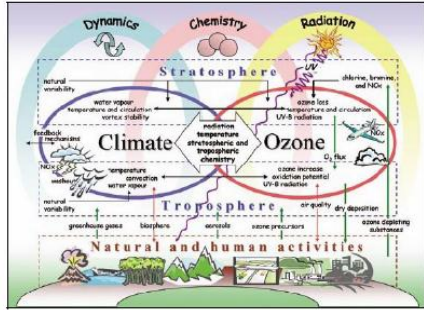
- Review of existing AC data sets and those under development
- Discussion of observational requirements and gap analysis
- Discussion of the status and requirements of chemistry/climate models
- Panel discussion
- Recommendations and priorities based on data gaps
- Workshop report (under review). Final version expected by March 13. (CL-06-01c_20).
- Next AC workshop planned for June 2009 with a focus on air quality. (CL-06-01c_21)




Report of the Atmospheric Composition Constellation Workshop on the Impact of Data Gaps on Climate Modeling Validation and Forecasts

Recommendations to the CEOS Agencies

-- DRAFT --



Goddard Institute for Space Studies
 October 15-17, 2008



Summary of Recommendations

- **Ozone profiles – Restore OMPS Limb Sensor on NPOESS**
- **Chemically active constituents and ozone – Re-fly SciSat and include SAGE for stratospheric aerosols**
- **Optimum global coverage for climate/chemistry – Fly PREMIER**
- **Global coverage for climate/chemistry – Include limb sounding on Sentinel 5**
- **Air Quality/Climate connections – Coordinate GEO-CAPE and Sentinel 4**
- **Chemically active constituents and ozone – Move up launch of GACM**