

# Atmospheric Composition Constellation

**Ernest Hilsenrath**  
NASA/HQ  
**C. Zehner**  
ESA

**CEOS SIT 22**  
*Tokyo, Japan*  
*September 15-17, 2008*

- **Action items from SIT-21**
- **CEOS Actions: ACC Category 1**
- **ACC project status**
- **Collaboration among other CEOS elements**
- **Future opportunities**

- **Establish a framework for long term coordination 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.**
- **Objectives meet participating Agency priorities and are aligned to the GEO SBA’s**
- **Objectives will be achieved through the following steps:**
  - **Develop a Requirements and Gap Analysis based on in-orbit and up-coming missions collecting AC data**
  - **Demonstrate how Constellation data can add value to data products serving the GEO SBA’s through Projects**
  - **Develop rationale, strategy, and standards for mission collaboration that meet requirements not being met and remain open for possible new requirements.**

1. **“The EC will review possible representation on the ACC; it was reiterated that data users are welcome and can be members of the Virtual Constellations”**
  - ***EC all ready has representative to ACC, but delegated to ECMWF***
  
2. **“GEO Secretariat encourages ACC to coordinate with the GEO Health Task Team Lead on air quality, pollution, and health because these issues include both the space component and *in situ* component; models should merge both space and *in situ* models”**
  - ***GEO Health SBA Coordinator in Geneva was emailed twice, with no response because of responsibility changes. Mike Tanner will now follow-up***

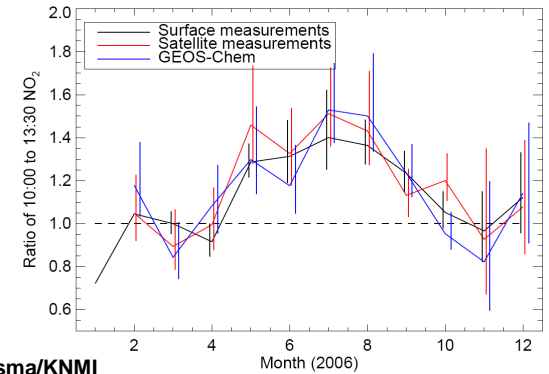
- **DA-03-07\_14: AC Requirements and Gap Analysis.**
  - *Delayed due to other priorities by analytical team (RAL)*
  - *New schedule; Draft - Sept 8, Final - Nov 3*
- **CL-06-02\_13: Long term AC Data sets and climate modeling Workshop at GISS (supports GCOS)**
  - *Determine the impact of data gaps on climate modeling*
  - *Oct 15-17: 50 international attendees, specific agenda in development*
- **EN-06-04\_1: CEOS Energy SBA: Determine AC observations needed to support Energy**
  - *SEO Preliminary report for SIT-22 meeting*

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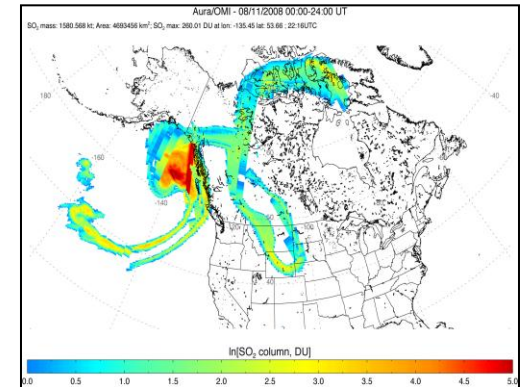
**>> ACC Related <<**

- **CL-06-01\_2: NOAA, Four year extension (2007) to SBUV/2 ozone data set: Mostly completed**
- **CL-06-01\_9: DLR, SCIAMACHY reprocessing: Completed**
- **Category 2, 3 ACC Actions are being tracked and there are no major issues to report**

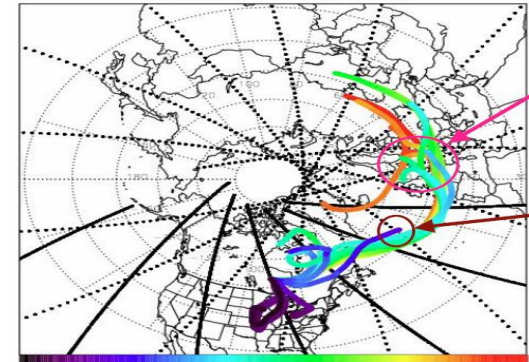
- **Pollution prediction using Envisat and Aura: Health/Air Quality**
  - *NOAA/NESDIS lead: NO<sub>2</sub> diurnal variations using OMI and GOME-2: GOME-2 is running and effort underway to apply same algorithm to OMI. Instrument differences are challenging*
- **Aircraft volcanic ash warning using Envisat and Aura: Hazards**
  - *ESA lead: Collaboration among VAACs continues with enhanced use of satellite data. NOAA is using OMI and GOME-2 operationally. ESA selected ITT proposals for enhancement to PROMOTE to improve forecast accuracy*
- **Smoke prediction from biomass burning using Aura, Aqua, CALIPSO: Hazard and Health**
  - *NASA lead: Progress is slow to make operational, several demos successful. CALIPSO data NRT is not operational*



Boersma/KNMI



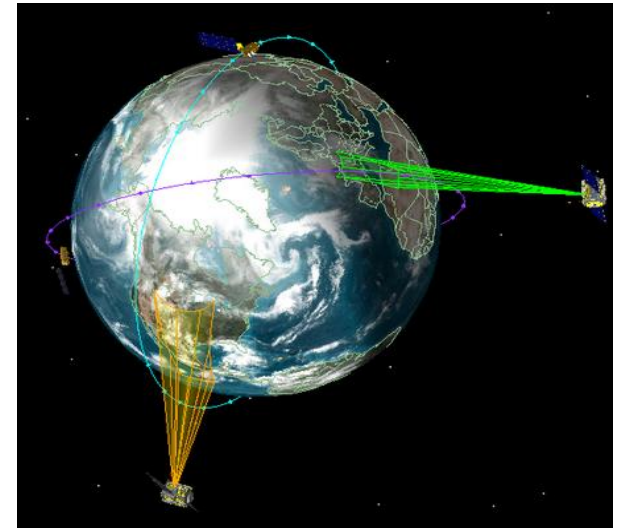
Carn/UMBC



Al-Saadi/NASA

- **WGCV – Close collaboration continues with several projects under way**
  - *NO<sub>2</sub> ground intercomparison response to NASA AO*
  - *OCO/GOSAT calibration intercomparison (EC-06-01\_3)*
  - *OCO/GOSAT Algorithm and Cal/Val workshop completed in May*
  - *ACSG Chair has left NASA for position at ESRIN*
- **WGISS – Formulating two projects**
  - *Sensor Web to add value to Smoke/Dust Forecast project*
  - *ACC data portal is under consideration*
- **WGEdu – Began looking for collaboration opportunities by exploiting ACC Projects as they become operational**

- The US and Europe have major Earth Science mission plans
  - US Decadal Survey
  - ESA Earth Explorers
  - GMES Sentinels
- AC Opportunities:
  - NASA: GEO-CAPE and GACM
  - Europe: Gap filler, Sentinels 4 and 5
  - Operational systems: NPOESS and Metop
- Areas of Collaboration
  - Algorithms, Cal/Val, Instrument/platform, Launch, Data sharing
- Preliminary discussion with JAXA (yesterday) for further collaboration for OCO and GOSAT via ACC



**LEO and GEO missions will provide highly complementary AC Data**