Atmospheric Composition Constellation

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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.**

- **Objectives meet participating Agency priorities and are aligned to the GEO SBA's (Health, Climate, Energy, Ecosystems, Hazards)**

- **Objectives are being 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 collaboration to meet requirements not being met and remain open for possible new requirements. Collaborate on future missions**

  - **Define areas of collaboration with new CEOS Carbon Task Force**

ACC-5 Meeting

- **Held March 30-31 at CSA Headquarters, St.-Hubert (Montreal), approx. 45 attendees. Three sessions:**
- **ACC Activities**
  - **AC Portal**
  - **Volcanic Ash Monitoring**
  - **NO2 Retrieval, Smoke/Aerosol Forecasting**
  - **SEO CO_2 Gap Analysis**
  - **SPARC Data Harmonization**
- **Air Quality / Geostationary Constellation**
  - **Purpose, AQ Monitoring**
  - **Agency Status (ESA, EUMETSAT, JAXA, Yonsei Univ., NASA)**
  - **Position Paper Composition**
- **Climate Change Activities**
  - **Feb. 1 Geneva Meeting Outcomes**
  - **CEOS Carbon Task Force Interactions**
  - **Agency Mission Plans/Concepts (JAXA, DLR, NASA, ESA, CSA, EUMETSAT, Univ. Bremen)**
  - **GCOS IP Support**

CEOS Action Status

SIT 24-9: The CEOS Agencies, with interest and assets in atmospheric composition, should investigate a joint mission development to fill the data gap in atmospheric composition in the UT/LS and stratosphere after the end of Aura, ENVISAT, and SciSAT-1 mission lifetimes by SIT-25, April 2010

- Now task AR-09-02a_31. Activity is central to GCOS-IP ACC actions and CEOS response, further discussion at ACC-6 meeting in September.

SIT 24-10: The CEOS Agencies planning geostationary atmospheric composition measurements (Europe, NASA, KARI (Korea), JAXA) should develop a plan to coordinate their missions that will result in a Constellation of geostationary missions circling the planet with intent that these missions have at least a one-year overlap by SIT-25, April 2010

- Now task AR-09-02a_32. Position paper articulating the rationale from user services and science perspectives is being developed by interagency team for delivery to CEOS Principals by October 2010.

ACC Near-Term Plans

- **Continuing Discussions with Carbon Task Force on ACC collaboration potential**
- **ESA to sponsor “Carbon From Space” Workshop and ACC meeting in Oxford (September 6-10, 2010)**
- **Work with Climate SBA to develop GCOS-IP space-based actions response and participate in other CEOS/GCOS-IP document preparation**
- **AQ Constellation activities: Position paper development**
- **AC Portal: New functions identified at ACC-5 meeting. DLR-NASA Memorandum of Agreement to be signed soon**

AC Portal

- GEO encourages data accessibility and interoperability via dedicated portals
- NASA and DLR are teaming, with WGISS guidance, to develop an AC portal using WDC-RSAT as a platform
- Will serve forecasters, assessment, climate users: Ozone, Air Quality, Climate
  - Provide data access, tools, services and guidance to investigators and value-adding organizations
  - Employ web-based services such as GIOVANI, BEAT, DataFed, AirNow, etc
  - Contribute to GEO AIP (Community Node) and adhere to OGC standards
  - One year demonstration project is underway. NASA-DLR Memorandum of Agreement to be signed soon. Other CEOS agencies encouraged to participate