



Global Air Quality Assessment and Forecasting

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Proposed Topic for the 2007 GEO Ministerial Meeting

GEO Summit

Every 2 to 3 years GEO organizes a ministerial-level Earth Observations Summit to:

- Evaluate progress
- Prioritize the next inter-Summit period
- Declare contributions to the GEOSS

The next GEO Summit is in South Africa on November 30, 2007



Proposed U.S. Priorities at GEO Summit

- **Global Air Quality Assessment and Forecasting**
- **Drought Early Warning**
- **Global Land Characterization**
- **Global Environmental Information Delivery System**
- **Framework for Integrated Disaster Risk Reduction**



Global Air Quality Assessment and Forecasting

- Air pollution is a serious global public health and environmental quality issue. Air pollution causes premature mortality and morbidity, damages crops and ecosystems, and contributes to and is affected by climate change.
- Improved air quality information and forecasts can help officials and individuals take appropriate management actions and avoid exposures.
- Regional and long-range transport of pollutants is significant and creates a need for international implementation of integrated monitoring and assessment approaches.
- Forecasts and real-time information are especially useful for dealing with events, such as intense pollution episodes, fires, and dust storms, and are critical for individuals suffering from respiratory diseases.

In the U.S., poor air quality is estimated to cause tens of thousands of deaths and cost society \$100B annually.

Globally, air pollution contributes to the deaths of more than 800,000 people annually, most in the developing world.

Global Air Quality Assessment and Forecasting

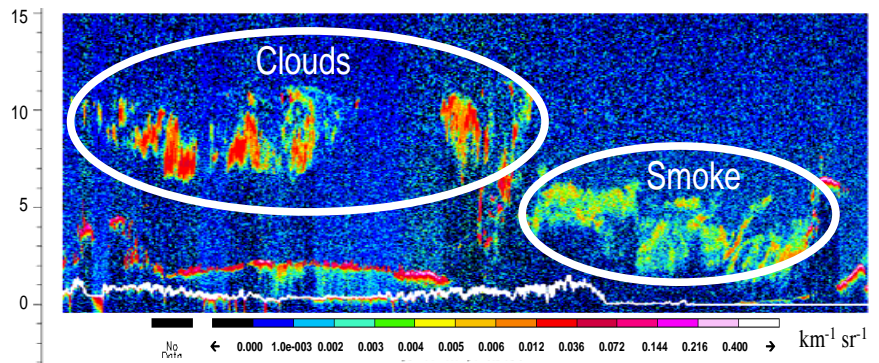
- Building versions of U.S. tools for application in other countries:
 - AIRNow International
 - Near real-time management and mapping of surface air quality data
 - Pilot international application in Shanghai, China
 - IDEA/3-d Air Quality System
 - Near real-time integration of satellite and surface air quality data
 - Pilot international application in Central America through SERVIR
- Can we generalize these applications and prepare for additional applications in other locations?

Global Air Quality Assessment and Forecasting

- Other Accomplishments or Deliverables
 - NESDIS AOD Algorithms for Geostationary Satellites
 - Enviroflash (AIRNow) International Alerting Standards
 - CEOS Atmospheric Composition Constellation
 - LRTAP Convention membership in GEO
- Future Directions
 - Collaboration with European institutions?

Proposed GEO Language

- The United States encourages GEO Ministers to support the development of air quality assessment and forecasting systems and make relevant observational data available for this use.
- The United States invites interested GEO countries to participate, through an advisory panel, in the design of systems and tools to support air quality forecasting and management and become partners in future implementations.



Vertical profiles of particulates, smoke, and dust in the atmosphere from the US/French CALIPSO satellite

USGEO Proposed Theme Benefits

- Through international cooperation to extend existing air quality forecasting and assessment tools, the proposed effort will
 - Inform decisions in multiple societal benefit areas: Health, Climate, Disasters
 - Encourage standardization of data and create the foundation for a global network of air quality information systems.
 - Provide a core activity to further catalyze the formation of a robust Community of Practice in Air Quality and Health

Discussion

- Are there other projects or products that may be in the works that could be
 - Highlighted at the summit?
 - Incorporated into the international consultation?
 - Become a foundation for GEOSS Air Quality activities?