



2006 UN Graz Symposium: *Review & Follow-up Activities*

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*UN Symposium on Space Tools and Solutions for Monitoring the
Atmosphere in Support of Sustainable Development*

*11-14 September 2007
Institute for Space Research • Graz, Austria*



2006 UN Graz Symposium

Overview

Symposium on Space Tools for Monitoring Air Pollution and Energy Use for Sustainable Development

Sponsors: United Nations Office for Outer Space Affairs
Government of Austria
European Space Agency

Dates: 12-15 September 2006

Goal of three-part symposia: Promote the use of the demonstrated capabilities of space technology to support some of the actions called for in the Johannesburg Plan of Implementation (WSSD)



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Overview

Themes: Air Pollution/Air Quality
Energy Use

Objectives:

- A. To inform participants about the uses of the demonstrated capabilities of space technology to support ... the monitoring of air pollution and energy use;
- B. To examine what low-cost space-related technologies and informational resources were available for addressing air pollution and energy use;
- C. To examine what type and level of training would be required, and for which target groups, in using space technologies for addressing air pollution and energy use;
- D. To examine the strategy for including space technology-based tools and information in the decision-making process in monitoring air pollution and energy use;
- E. To identify a functional partnership that could be established in order to promote the use of space technologies for monitoring air pollution and energy use;
- F. To enhance the participation of women in decision-making related to monitoring air pollution and energy use.



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Session Topics

Session Topics (5 sessions, 20 presentations):

1. Air pollution and energy use: a challenge for sustainable development
2. Space applications for exploration and production of energy
3. Addressing the impact of energy use on air pollution using space applications
4. Remote sensing for monitoring sources of air pollution in urban and rural areas
5. Affordable space technologies and information resources for addressing air pollution and energy use

Discussion Panel:

Enhancing the participation of women in decision-making related to monitoring air pollution and energy use



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Participants

Participants: 60 participants
*including 29 from developing countries and
countries with economies in transition*

Algeria	Austria	Cambodia
Georgia	Guatemala	Hungary
India	Indonesia	Iran
Kazakhstan	Kenya	Madagascar
Maldives	Mongolia	Morocco
Nigeria	Pakistan	Romania
Rwanda	Senegal	Thailand
The Philippines	USA	Viet Nam
Zimbabwe		

Organizations: United Nations Interim Administration Mission in Kosovo, International Institute for Applied Systems Analysis, Institute for Space Research, UN Office for Outer Space Affairs, and the Secretariat of the UN Framework Convention on Climate Change



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Findings

- Significant research has facilitated a better understanding of air pollution and the atmosphere. However, in many countries the policy framework for air pollution needs to be strengthened.
 - In some countries there is a need to enact “clean air acts”
 - Emission reduction technologies & cleaner fuels are not widely available.
- The need to build sustainable national and regional infrastructure for space applications through research and development programmes, and mechanisms for the transfer of technology
 - Help managers & decision-makers better understand the potential of space-based technologies
- Need to develop effective solutions and policies for data sharing on transboundary air pollution
 - Satellite observations can well observe transboundary transport
 - Enhance and expand current monitoring network
 - Evaluate performance of chemical transport models



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Findings

- Capacity-building should be seen as a process initiated by ongoing or new energy-related projects, and projects on air quality and air pollutants.
- Participants agreed that it would be beneficial to organize training courses for a variety of user levels
 - Importance of “training the trainers” was repeatedly mentioned
 - Regional training courses could facilitate data sharing and preparation of project proposals
 - Need to develop and consolidate national and regional expertise
 - Training needs to include requirements for ground-based measurements to pair with satellite observations
- Provided a venue for Air Quality and Energy professionals to meet with space technology professionals to explore what can be done together



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Participants Survey

Survey of 2006 Symposium participants (19 responses)

Interest in Group on Earth Observation Communities of Practice:

Energy-Solar	8	Energy-Hydropower	7
Energy-GeoThermal	3	Energy-Wind	10
Energy-Ocean	4	Energy-Biomass	8
Air & Public Health	11		

Applications and Decision making varied:

- Planning, Locating, Monitoring, Yield estimates, Trends assessments, Forecasting, etc.

Consistent message in the survey:

- Desire for information & training on methods to receive satellite data, process and interpret the data.



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Recommendations

- UN Office for Outer Space Affairs and other relevant organizations should consider organizing training courses. There should be exchanges of experience and greater cooperation among countries
- There should be mechanisms to bridge the gap between the space technology community and decision makers, with a particular focus on middle managers
- Access to available data and decision-support tools should be promoted to assist policymakers and decision makers in monitoring and managing atmospheric pollution, in particular in developing countries
- The UN Office for Outer Space Affairs (and other organizations) should use the Symposium activities as input to the Group on Earth Observations (GEO) “Communities of Practice” to:
 - Identify the needs for access to satellite and ground data
 - Share expertise to apply Earth observation products to decision-making



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Progress & Achievements

Introducing Air Quality Observations into SERVIR

- SERVIR is an information delivery system in Central America to disseminate satellite data and information for disasters, weather, etc.
- Based on discussions at the 2006 Symposium, organizations are incorporating satellite measurements of air quality into SERVIR

Providing Initial Training Course on Air Quality Measurements

- The 2007 Symposium includes a half-day, hands-on training for participants from developing countries
- The course addresses satellite observations and applications for air quality and atmospheric composition

Introduced 2006 Symposium Participants to GEO Communities of Practice

- Public Health Community of Practice
- Energy Community of Practice
- GEO User Interface Committee supporting the training course(s)



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Activities in Progress

Seeking to Pursue Solar Energy Project in Nigeria

- Person at 2006 Symposium identified project to use existing “RetScreen” decision support tool and satellite observations for siting solar energy arrays to support Nigerian rural electricity efforts
- Communications difficulties have hampered progress

Seeking to Pursue Updates to Forest Cover in Zimbabwe

- Person at 2006 Symposium identified need for periodic satellite observations to update forest and land-cover maps. Such information exists routinely from multiple sources.
- Communications difficulties have hampered progress

Week-long Training on Air Quality & Atmospheric Measurements

- Training materials are in development
- Desire to hold first training in Southeast Asia in late 2007/early 2008
- Training topics will be discussed at length on Friday