

**United Nations / Austria / European Space Agency
Symposium**

**Space Applications to Support
the Plan of Implementation of the
World Summit on Sustainable Development**

**SPACE SYSTEMS: PROTECTING AND RESTORING
WATER RESOURCES**

**13-16 September 2005
Austrian Academy of Sciences, Institute for Space Research
Schmiedlstraße 6, Graz, Austria**

Hosted by the Austrian Federal Ministry for Foreign Affairs,
Federal Ministry for Transport, Innovation and Technology,
State of Styria and City of Graz
and co-sponsored by the European Space Agency

12 September 2005

Honorary Committee for the Symposium (in alphabetical order):

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 R. González A. Ambassador, Chile
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 Department of State, United States of America
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 B. Strimitzer-Riedler State of Styria
 G. Tuscher Consultant for Joanneum Research
 H.P. Weingand Joanneum Research

<p><u>Focal Point:</u></p> <p>Mr. Shuhrat Sulaymanov Associate Programme Officer Committee Services and Research Section Office for Outer Space Affairs United Nations Office at Vienna P.O. Box 500, A-1400 Vienna, Austria Phone: (+43) 01-26060-4952 Fax: (+43) 01-26060-5830 Email: shuhrat.sulaymanov@unvienna.org</p>	<p><u>Local Organizer:</u></p> <p>JOANNEUM RESEARCH Forschungsgesellschaft mbH Prof. Otto Koudelka Institute of Applied Systems Inffeldgasse 12, A-8010 Graz, Austria</p> <p>Ms. Gerlinde Tuscher Consultant for Joanneum Research</p> <p>Phone: (+43) 0664-2808818 FAX: (+43) 0316-46 36 97 Email: gerlinde.tuscher@campus02.at</p>
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Tuesday, 13 September 2005

Morning

09:00 Opening session

Chairperson:

W. Riedler (Austrian Academy of Sciences)

09:00-
10:00 *Opening ceremony*

Welcome / Opening Remarks¹

- *W. Baumjohann, Space Research Institute, Austrian Academy of Sciences*
- *P. Piffle-Percevic, City of Graz and State of Styria*
- *S. Camacho, United Nations Office for Outer Space Affairs*

Objectives of the Symposium

S. Sulaymanov, United Nations Office for Outer Space Affairs

Keynote addresses

Chairperson: V. Singhroy, Canada

10:00 Combining global water cycle observations and science to address issues related to the protection and development of the world's water resources

R. Lawford, National Oceanic and Atmospheric Administration, United States of America

10:30 The GEO user requirements approach to achieving societal benefits

V. Singhroy, Canada Centre for Remote Sensing, Canada

11:00- *Coffee/Tea break*

11.00-
12.30 *Press Conference*

(by invitation)

¹ Music: Ensemble Priorität, University of Music and Dramatic Arts, Graz, Austria

11:30	Protecting and restoring water resources <i>Chairperson: V. Singhroy, Canada</i>	
11:30	Protecting and restoring water resources in the Americas	<i>O. Cosenza, Ministry of Agriculture, Honduras</i>
11:50	Protecting and restoring water resources in the Caucasus	<i>Z. Jincharadze, UNDP/SIDA Project "Reducing Trans-boundary Degradation of Kura-Aras"</i>
12:10	Questions and answers	<i>All participants</i>
<i>12:30</i>	<i>Lunch</i>	
<i>Afternoon</i>		
14:00	Protecting and restoring water resources (continued) <i>Chairperson: R. Lawford, United States of America</i>	
14:10	Space technology for integrated water resources management of the Lake Chad Basin: the pilot project implementation plan for Lake Chad basin	<i>G. Sambo, Lake Chad Basin Commission</i>
14:30	Space information for water and drought risk management	<i>K. Muminov, Space Research Centre, Academy of Sciences, Uzbekistan</i>
14:50	Space technology for water resources management in Morocco	<i>A. Er-Raji, Royal Centre for Remote Sensing, Morocco</i>
15:10	Remote sensing and Geographic Information Systems (GIS) integration in the model for river basin environment management in Northern Vietnam	<i>M. Tran, Institute of Geography, Academy of Natural Science and Biotechnology, Vietnam</i>
15:30	Scientific solutions for protecting and restoring water resources	<i>W. Garner, International Atomic Energy Agency</i>
<i>15:50</i>	<i>Coffee/Tea break</i>	
16:10	Remote sensing in support of water resource management	<i>P. Saccon, Institute for Water Resource Management, Hydrology and Geophysics, Joanneum Research, Austria</i>
16:30	Discussion: <ul style="list-style-type: none"> ○ Identify information and data requirements for efficient regional and national water resource management ○ Identify how space technology could contribute to water monitoring networks for improved water resources forecasting ○ Identify how space technology could contribute to the development of cost-effective mechanisms for restoring degraded aquatic habitats and protecting these rehabilitated systems 	<i>All participants</i>

	World Bank perspective	
14:40	Funding projects in Africa	<i>S. Donkor, Economic Commission for Africa</i>
15:00	Team projects at the International Space University relating to water resource management	<i>O. Abraham, African Regional Centre for Space Science and Technology Education, Nigeria</i>
15:20	Towards integrated water management in Africa: space technologies for bridging the water information gap	<i>L. Fusco, European Space Agency</i>
15:40	<i>Coffee/Tea break</i>	
16:00	Follow-up exercise to UN/Austria/ESA Symposium on “Water for the World: Space Solutions for Water Management”, Graz, Austria, 13 – 16 September 2004	<i>S. Sulaymanov, United Nations</i>
16:10	Discussion: <ul style="list-style-type: none"> ○ Identify financial requirements for projects aimed at using space technology to protect and restore water resources ○ Identify potential sources of funding for projects that use space-based data and information for water resource management ○ Other matters 	<i>All participants</i>
17.00	<i>Transfer</i>	
17:30	<i>Guided Tour through the Old Town of Graz</i>	
19.30	Reception by the Governor of the State of Styria	<i>Graz Castle</i>

Thursday, 15 September 2005

Morning

Managing the humanitarian consequences of water-related disasters through the use of space technologies

9:00 *Chairperson: S. Vibulsresth, Thailand*

09:10	Remote sensing in the aftermath of large water-related disasters: from relief to development, examples from hurricane Mitch and the Indian Ocean Tsunami	<i>A. Retiere, United Nations Organization Satellite (UNITAR/UNOSAT)</i>
09:30	Space capabilities to support the prediction and management of the humanitarian consequences of water-related disasters	<i>P. Zeil, Centre for Geoinformatics, Austria</i>

09:50	Satellite image capabilities to support the management of water related disasters and groundwater exploration	<i>V. Singhroy, Canada Centre for Remote Sensing, Canada</i>
10:10	Modelling forest fire hazards in the Lake Chad Basin watershed	<i>G. Sambo, Lake Chad Basin Commission</i>
10:30	<i>Coffee/Tea break</i>	
10:45	Application of remote sensing and Geographic Information Systems (GIS) for flood monitoring and assessment in the Mekong River and Central Vietnam	<i>M. Tran, Institute of Geography, Academy of Natural Science and Biotechnology, Vietnam</i>
11:05	Discussion: <ul style="list-style-type: none"> ○ Identify how space technology could contribute to the development of emergency preparedness and disaster response plans for floods, droughts, and water infrastructure failures ○ Other matters 	<i>All participants</i>
12:00	<i>Lunch</i>	
<i>Afternoon</i>		
13:30	<u>Improving water sanitation and health through space systems</u> <i>Chairperson: F. Benoit, Haiti</i>	
13:40	Space applications for telemedicine	<i>F. Feliciani, European Space Agency</i>
14:00	Space capabilities for improving water sanitation	<i>P. G. Diwakar, Indian Space Research Organisation, India</i>
14:20	Discussion: <ul style="list-style-type: none"> ○ Identify water sanitation and health challenges that could be addressed with the help of space-based data and information ○ Other matters 	<i>All participants</i>
15:10	<u>Special session “Follow-up pilot project development</u> <i>Panel discussion to be moderated by S. Camacho, United Nations</i>	
	Panel members: <ul style="list-style-type: none"> ○ P. G. Diwakar, India ○ Z. Jincharadze, Georgia ○ G. Sambo, LCBC ○ V. Singhroy, Canada ○ M. Tran, Vietnam 	

16:00	<i>Coffee/Tea break</i>	
16:15	<u>Building capacity for the application of space technologies for water-related challenges</u> <i>Chairperson: W. Riedler, Austria</i>	
15:50	Building capacity in the application of remote sensing to water resources management in Africa	<i>A. Lipponen, United Nations Educational, Scientific and Cultural Organization (UNESCO)</i>
16:10	United Nations training opportunities in space applications	<i>S. Sulaymanov, United Nations</i>
16:30	Space science application initiatives in India in the area of water resources	<i>V. M. Rao, National Institute of Rural Development, India</i>
16:50	Discussion: <ul style="list-style-type: none"> ○ Identify capacity-building needs for increasing the use of space technology in water resource management in developing countries ○ Other matters 	<i>All participants</i>
17.30	<i>Transfer</i>	
18:00	<i>Visit to the Brewery Puntigam</i>	
	<i>Dinner</i>	<i>Restaurant of the Brewery</i>

Friday, 16 September 2004

Morning

9:30	<u>Enhancing the participation of women in decision-making on water resource management</u> <i>Panel discussion to be moderated by E. Okeke, Nigeria</i>	
	Panel members:	<i>All participants</i>
	<ul style="list-style-type: none"> ○ O. Roswintiarti, Indonesia ○ K. Jamtsho, Bhutan ○ Z. Jincharadze, Georgia ○ M. Schoenerklee, Austria 	

10:30 *Coffee/Tea break*

10:45 **Conclusions and recommendations of the Symposium**
Chairperson: S. Camacho, United Nations

Organization of work

10:45 – 12:00	Informal consultations of the chairpersons - Preparation of the reports by the chairpersons of the sessions	<i>Chairpersons in cooperation with interested participants</i>
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12:00 *Lunch*

Afternoon

13:30	<u>Conclusions and recommendations of the Symposium</u> <i>Chairperson: S. Camacho, United Nations</i>	
	Reports by the chairpersons	<i>All participants</i>
	Discussion:	
	<ul style="list-style-type: none"> ○ Assess the practical benefits of the follow-up actions resulting from the symposiums and their contributions to the Plan of Implementation of the World Summit on Sustainable Development 	
	Conclusions and recommendations	
<i>15:00</i>	<i>Coffee/Tea break</i>	
15:15	Closing ceremony	
	<i>Master of ceremony:</i> <i>W. Riedler (Austrian Academy of Sciences)</i>	
	Closing remarks	<i>S. Camacho, United Nations Office for Outer Space Affairs</i>
16.30	<i>Transfer to the Hotel</i>	