

**United Nations/Austria/European Space Agency Symposium on  
Space Applications to Support the Plan of Implementation  
of the World Summit on Sustainable Development**

**“Space systems: protecting and restoring water resources”  
(Graz, Austria, 13-16 September 2005)**

**REPORT BY THE CHAIRPERSONS**

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

**Chairpersons: S. Vibulsresth (Thailand)**

The purpose of this session was to identify how space technology could contribute to the development of emergency preparedness and disaster response plans for floods, droughts, and water infrastructure failures.

The following presentations were made during this session:

- Remote sensing in the aftermath of large water-related disasters: from relief to development, examples from hurricane Mitch and the Indian Ocean Tsunami, by A. Retiere, United Nations Organization Satellite (UNITAR/UNOSAT);
- Space capabilities to support the prediction and management of the humanitarian consequences of water-related disasters, by P. Zeil, Centre for Geoinformatics, Austria;
- Satellite image capabilities to support the management of water related disasters and groundwater exploration, by V. Singhroy, Canada Centre for Remote Sensing, Canada;
- Modelling forest fire hazards in the Lake Chad Basin watershed, by G. Sambo, Lake Chad Basin Commission; and
- Application of remote sensing and Geographic Information Systems (GIS) for flood monitoring and assessment in the Mekong River and Central Vietnam, by M. Tran, Institute of Geography, Academy of Natural Science and Biotechnology, Vietnam.

**Recommendations/conclusions**

Based on the above presentations and the discussions that followed the presentations, the chairperson and interested panel members and participants of the session made the following conclusions and recommendations:

1. The role of UNOSAT and the International Charter “Space and major disasters” should be more widely made known and taken advantage by developing countries.
2. Space technology should be implanted to the local end-users even before a major disaster in order to familiarize them with the capacity to cope with various emergencies when disasters occur. Not only remote sensing data, but also information and communication technology should be in place to facilitate the monitoring of the event and the rehabilitation after the event.

3. Guidelines and best practices for using space technology to cope with disasters should be developed and made available so that effective use can be made of the remote sensing data and GIS.
4. Many water-related disasters are trans-boundary in nature, therefore, close cooperation among stakeholders should help to minimize the damage of such disasters and even prevent or mitigate such disasters.
5. In the case of Mekong River, which is exposed to floods almost every year, a multilateral cooperation for flood prevention and mitigation should be very useful.