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

13 September 2007

The United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)

David Stevens (OOSA/UN-SPIDER), Georg Magerl (OOSA/UN-SPIDER), Werner Balogh (OOSA)

Graz, Austria, 11-14 September 2007
50 Years of Space Exploration - Over 800 Satellites Up There

- 45 countries have launched satellites
- 800 satellites up there; 63 launches in 2006

- All began in 1957 with the launch of Sputnik
- How much is being used to support disaster management?

Graz, Austria, 11-14 September 2007

Photo credit: NASA
**Satellite communications** help warn people who are at risk, especially in remote areas. They help connect a disaster zone to the outside world.

Images from **earth observing satellites** help assess the damage caused by disasters like earthquakes, volcano eruptions, oil spills and floods.

**Global navigation satellite systems** enable us to obtain positional information on events that have to be mapped.

Graz, Austria, 11-14 September 2007
The United Nations General Assembly agreed to establish the “United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)” as a programme within the United Nations to provide universal access to all types of space-based information and services relevant to disaster management by:

- being a gateway to space information for disaster management support;
- serving as a bridge to connect the disaster management and space communities; and
- being a facilitator of capacity-building and institutional strengthening.

Graz, Austria, 11-14 September 2007
Established as a **programme of the Office for Outer Space Affairs** under the Director of the Office as an open network of providers of disaster management support and that the Director of the Office would be responsible for the overall supervision of the programme.

**Mission statement:** “Ensure that all countries have access to and develop the capacity to use all types of space-based information to support the full disaster management cycle”.

Graz, Austria, 11-14 September 2007
UN SPIDER Activities

A Gateway to Space-based Information for Disaster Management Support

1. Compilation of Information
2. Access to Information
3. Awareness Raising
4. Outreach Activities
5. Regional and Country Profiles

A Bridge to Connect the Disaster Management and Space Communities

1. Support to Communities of Practice (CoP)
2. Knowledge Management and Transfer
3. Platform for Fostering Alliances

A Facilitator of Capacity Building and Institutional Strengthening

1. Support to National Activities
2. Support to Establishing National Planning and Policies
3. Support to Capacity Building

Graz, Austria, 11-14 September 2007
The United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)

UN SPIDER Team

<table>
<thead>
<tr>
<th>OOSA Vienna</th>
<th>1. GATEWAY</th>
<th>2. BRIDGE</th>
<th>3. FACILITATOR</th>
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<td>1.4 Outreach Activities</td>
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<td>Beijing Office</td>
<td>1.3 Awareness Raising</td>
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<td>3.1 National Activities</td>
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<td>1.5 Regional and Country Profiles</td>
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<td>3.2 Planning and Policies</td>
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<tr>
<td>Bonn Office</td>
<td>1.1 Compilation of Information</td>
<td>2.1 Communities of Practice</td>
<td></td>
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<tr>
<td></td>
<td>1.2 Dissemination of Information</td>
<td>2.2 Knowledge Mgmt and Transfer</td>
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**Geneva Liaison Office:** contribute to disseminating and integrating the work of the programme within the disaster reduction and humanitarian response communities in Geneva.

**So far support from:** Austria, China, Germany and Switzerland, Algeria, Argentina, Chile, Colombia, Ecuador, Finland, India, Indonesia, I. R. Iran, Italy, Morocco, Nigeria, Romania, Russian Federation, Saudi Arabia, South Africa, Syrian Arab Republic, and Turkey.

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Activities Have Begun

1. A Gateway
   - Dissemination of information: webpage, e-newsletters and mailing lists
   - Outreach activities which include workshops, participation in conferences and support to relevant seminars and workshops.

2. A Bridge
   - Co-lead GEOSS Task CB-07-02 and Task DI-06-09
   - Working with relevant forums: GEO, UN/ISDR, the International Charter Space and Major Disasters and Sentinel Asia
   - Contribute to the coordination among UN initiatives

3. A Facilitator
   - Request to Member States to nominate National Focal Points (NFPs)
   - Drafting a capacity building framework specific to the use of space-based technologies and solutions for disaster management and emergency response.

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Bonn Office – Status

- Office space already reserved (23rd Floor)
- 2 Senior Experts to be seconded
- Inauguration: 29 October 2007
Bonn Office – Status
Beijing Office – Status

- Co-located with the NDRCC – National Disaster Reduction Center of China
- Staffing arrangements
  - NDRCC Implementation Team in 2007
- Facilities already available
  - By 2009 will move to the National Satellite Disaster Reduction Center (800 m²)
- NDRCC Implementation Team to provide support in 2007 to:
  - Begin activities as planned in the 2007 Plan of Work
  - Organising China Workshop

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NDRCC Implementation Team 2007 Plan-of-Work

Dr. Songmei Zhang - Majored in RS and GIS application 2006 now: working in NDRCC and Ministry of Science and Technology. Postdoctoral researcher at Beijing Normal University 2002-2005, project manager in the RS Center of China of MoST


Dr. Siquan Yang - Majored in GIS, GPS, RS and their application for disaster reduction. Deputy director of Dep. RS, NDRCC, Assistant professor Deputy general designer of ground application system of disaster reduction satellite. In 2004, he had been study in SPOT company FRANCE for a year

Ms. Yan Guan - Graduated from Beijing Foreign Language Study University; Devoted in international relationship promotion field for 6 years; Professional with bilateral and multilateral cooperation.

Mr. Wei Wu - Majored in Geographic Information System(GIS); Wuhan University, M.D 2006-now, as a staff of NDRCC, is engaged in disaster management on space technology.

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1. A Gateway

- Dissemination of information: webpage, e-newsletters, mailing lists, RSS feeds
- Design and implementation of a Knowledge Portal
- Awareness raising strategies and 2 campaigns annually
- Outreach activities which include at least 3 workshops annually, participation in conferences and support to relevant seminars and workshops. At least one workshop in Geneva annually.
- Regional and country profiles
2. A Bridge

- Support the establishment of Communities of Practice
- Prepare and implement a Knowledge Management and Transfer Framework (case studies, best practices and end user requirements)
- Working with relevant forums including GEO, UN/ISDR, the International Charter Space and Major Disasters and Sentinel Asia
- Contribute to the coordination among UN initiatives
3. A Facilitator

- National Focal Points (NFPs)
- Support to National Disaster Management Policies and Plans with regard to the use of space-based technologies and solutions (5 countries in 2008 and 10 countries in 2009)
- Contribute to the definition of National Action Plans together with National Focal Points (5 countries in 2008 and 10 countries in 2009)
- Finalise and implement a capacity building framework specific to the use of space-based technologies and solutions for disaster management and emergency response. This includes an e-learning environment.
UN SPIDER Cornerstones

UN SPIDER Team

Network of Regional Support Offices  National Focal Points

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National Focal Points – the national institutions representing the disaster management and/or space application communities that are nominated by their respective government to work with UN-SPIDER to strengthen national disaster management planning and policies and in the implementation of specific national activities that incorporate space-based technology solutions to support disaster management.

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**UN SPIDER – Cornerstones**

**Network of Regional Support Offices**

- Regional and national centres of expertise in the use of space technology in disaster management which agree to form a network for implementing the activities of the programme in their respective regions in a coordinated manner, enabling UN SPIDER to take advantage of the important experience and capabilities being offered, and to be offered, by Member States, particularly by developing countries. These Regional Support Offices should be leading national or regional institutions with notable expertise in the use of space technology for disaster management nominated by their government or by their respective governing body in the case of a regional institution.

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Network of Regional Support Offices

The Network of Regional Support Offices will be able to contribute to any of the specific activities included in the UN-SPIDER work plan by taking on the responsibility for funding and implementing a specific activity jointly and in coordination with UN-SPIDER for that activity category. Such activities could include:

- hosting a regional workshop;
- promoting capacity building activities in the region;
- carrying out missions within a region to support national disaster management planning;
- supporting national and regional vulnerability assessments;
- providing mapping support during emergencies;
- contributing to the systematic compilation of relevant information including the development of country profiles and the compilation of specific geospatial databases;
- supporting awareness raising campaigns;
- and promoting the establishment of regional and national communities of practice.

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UN SPIDER - Outreach Activities in 2007

• **Support** participants from developing countries to attend relevant workshops and conferences.

• **Organise** international and regional workshops/expert meetings:
  - Bonn, Germany - October 2007
  - Bangkok, Thailand – November 2007
  - Shenzhen, China – December 2007
  - Khartoum, Sudan – December 2007
  - Salzburg, Austria – February 2008

• Check out the UNOOSA website for upcoming activities and get involved

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The United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)

What is the Charter?

- An International agreement among Space Agencies to support with space-based data and information relief efforts in the event of emergencies caused by major disasters.
  - Disaster response
  - Multi-satellite data acquisition planning
    - Fast data turn-around – priority acquisition
  - Archive retrievals and spacecraft tasking
  - Data processing at pre-determined level
  - Space Agency contribution in image/data
  - Space Agency initiative for value-added-data fusion

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European Space Agency (ESA)  
ERS, ENVISAT  

Centre national d’études spatiales (CNES)  
SPOT  

Canadian Space Agency (CSA)  
RADARSAT  

Indian Space Research Organisation (ISRO)  
IRS  

National Oceanic and Atmospheric Administration (NOAA)  
POES, GOES  

Argentina's Comisión Nacional de Actividades Espaciales (CONAE)  
SAC -C  

Japan Aerospace Exploration Agency (JAXA)  
ALOS  

United States Geological Survey (USGS)  
LANDSAT  

Disaster Monitoring Constellation (DMC)  
UK, Nigeria, Algeria, Turkey  

China National Space Agency (CNSA)  
FY, SJ, ZY satellite series  

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The United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)

UN Activation of the Charter

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## UN Activations of the Charter in 2007

<table>
<thead>
<tr>
<th>Date</th>
<th>Country</th>
<th>Disaster</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>Mozambique</td>
<td>Floods</td>
</tr>
<tr>
<td>March</td>
<td>Indonesia</td>
<td>Earthquake</td>
</tr>
<tr>
<td></td>
<td>Madagascar</td>
<td>Cyclone</td>
</tr>
<tr>
<td>April</td>
<td>Solomon Islands</td>
<td>Earthquake, Tsunami</td>
</tr>
<tr>
<td>July</td>
<td>Pakistan</td>
<td>Floods</td>
</tr>
<tr>
<td>August</td>
<td>North Korea</td>
<td>Floods</td>
</tr>
</tbody>
</table>

Total number of activations until 4 September 2007: **32**

Graz, Austria, 11-14 September 2007
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THANK-YOU

Graz, Austria, 11-14 September 2007