



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

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)

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Werner Balogh (OOSA)

Graz, Austria, 11-14 September 2007



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50 Years of Space Exploration - Over 800 Satellites Up There

- 45 countries have launched satellites
- 800 satellites up there; 63 launches in 2006
- Meteorological Satellites – Earth Observation Satellites – Communication Satellites – Global Navigation Satellite Systems



Photo credit: NASA

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



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Space-based Solutions for Disaster Management ...

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





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General Assembly A/RES/61/110

- 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.



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General Assembly A/RES/61/110

- 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”.



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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



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UN SPIDER Team

	1. GATEWAY	2. BRIDGE	3. FACILITATOR
OOSA Vienna	1.4 Outreach Activities		3.3 Capacity Building
Beijing Office	1.3 Awareness Raising 1.5 Regional and Country Profiles		3.1 National Activities 3.2 Planning and Policies
Bonn Office	1.1 Compilation of Information 1.2 Dissemination of Information	2.1 Communities of Practice 2.2 Knowledge Mgmt and Transfer 2.3 Platform for Fostering Alliances	

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



UN Bonn Campus

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

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Bonn Office – Status





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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

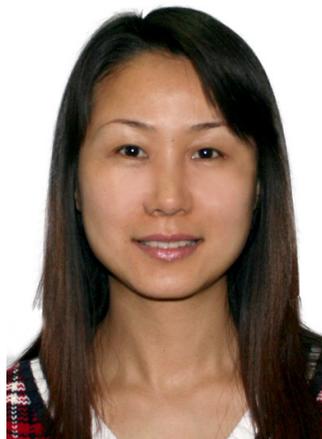


Dr. Songmei Zhang - Majored in RS and GIS application 2006 now: working in NDRCC and Ministry of Science and Technology. Postdoctoral researcher at Beijing Normal University 2002-2005, project manager in the RS Center of China of MoST

Dr. Suju Li - Majored in environmental remote sensing 2003-now, Dep. RS, NDRCC; 2000-2003, studied in Environmental Science Collage, Peking University for Ph.D; Nov 2004-May 2005, Worked in WFP Beijing Office and engaged in Vulnerability Analysis and Mapping.

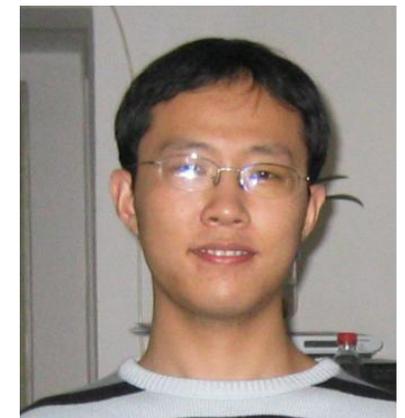


Dr. Siquan Yang Majored in GIS,GPS,RS and their application for disaster reduction. Deputy director of Dep. RS, NDRCC, Assistant professor Deputy general designer of ground application system of disaster reduction satellite. In 2004, he had been study in SPOT company FRANCE for a year



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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UN SPIDER 2008 – 2009 Plan of Work

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



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UN SPIDER 2008 – 2009 Plan of Work (2)

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



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UN SPIDER 2008 – 2009 Plan of Work (3)

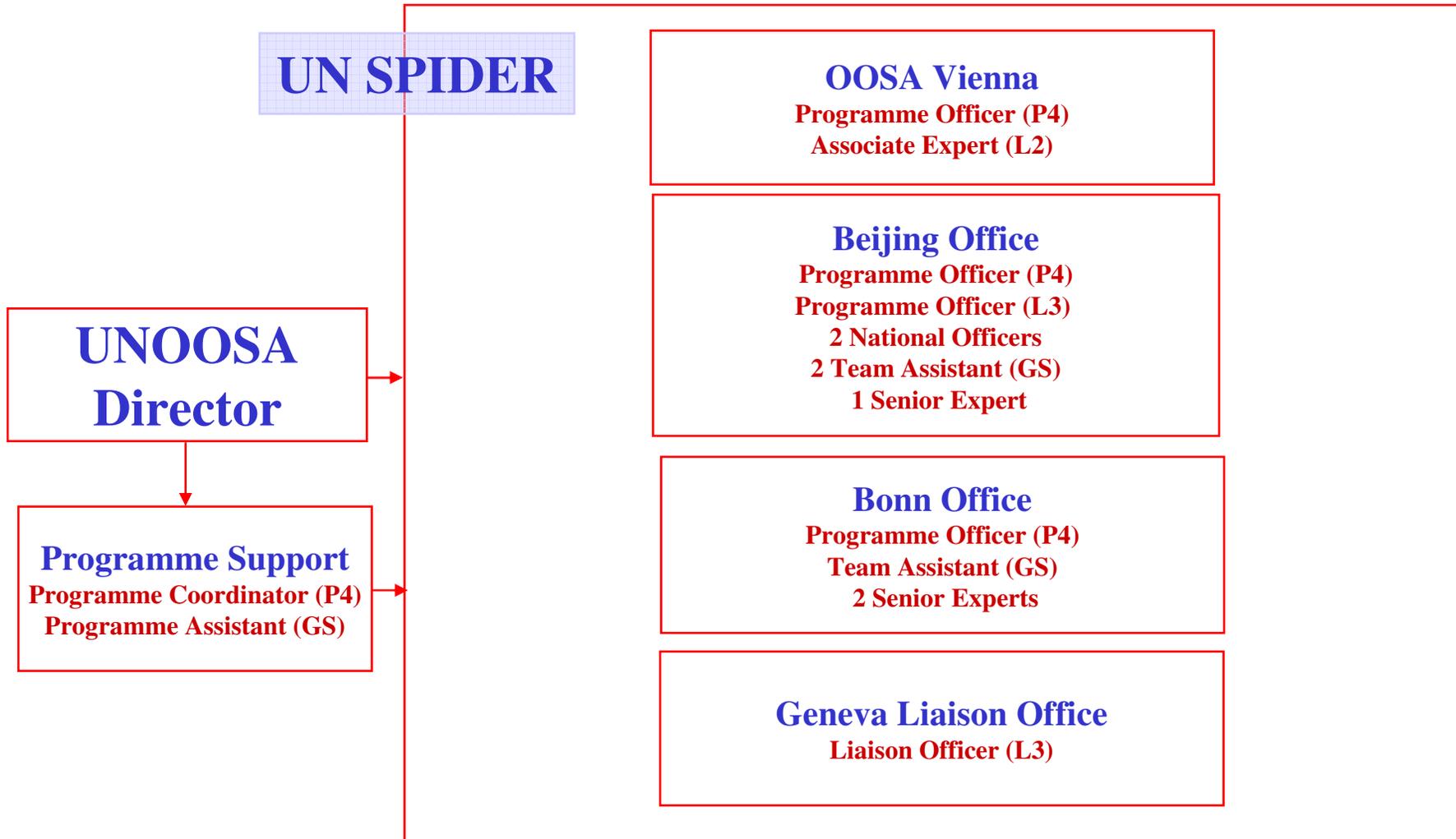
3. A Facilitator

- 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.



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UN SPIDER – 2008-2009 Staffing Planned



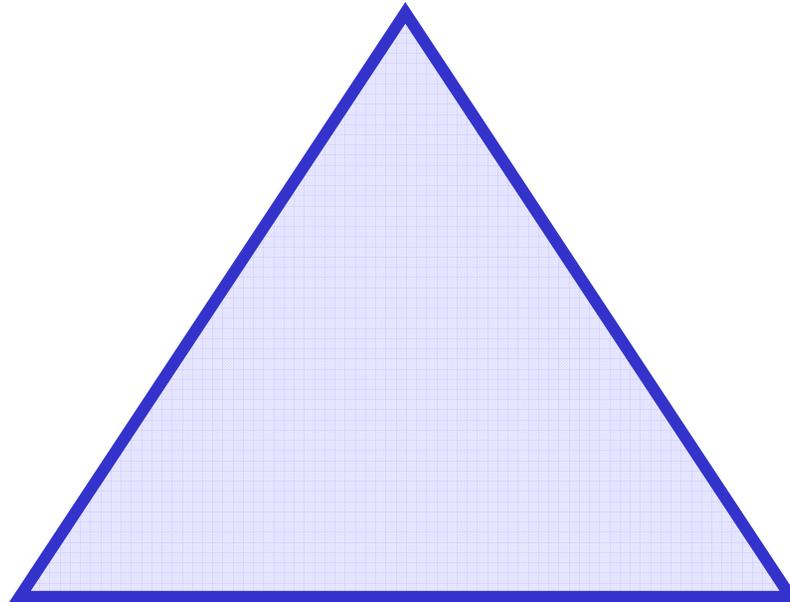
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UN SPIDER Cornerstones

UN SPIDER Team



**Network of Regional
Support Offices**

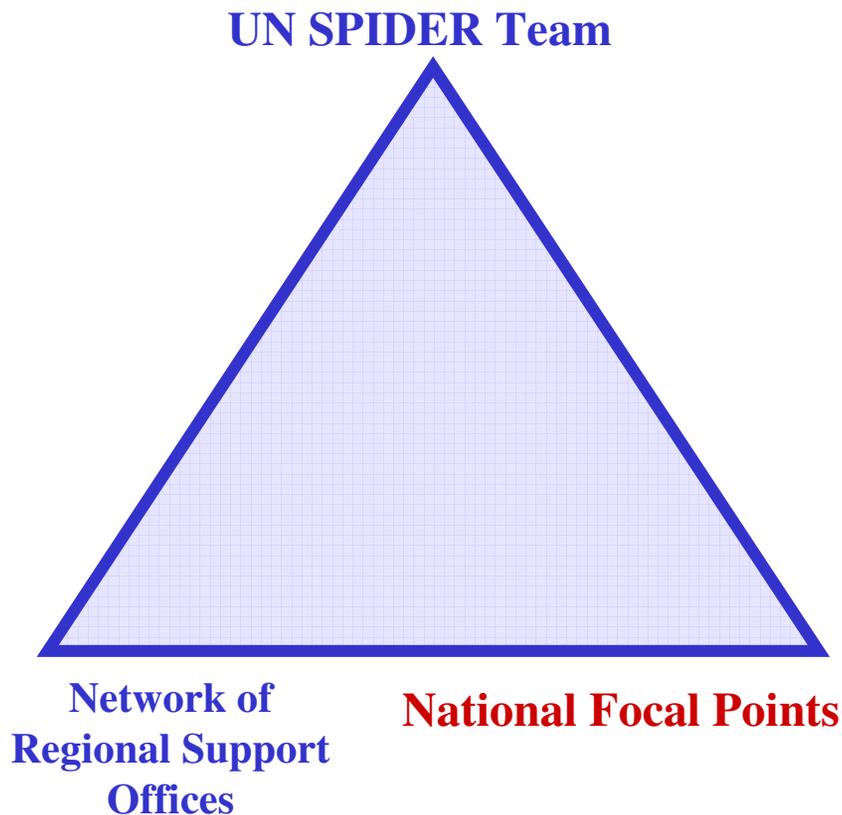
National Focal Points

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UN-SPIDER Cornerstones

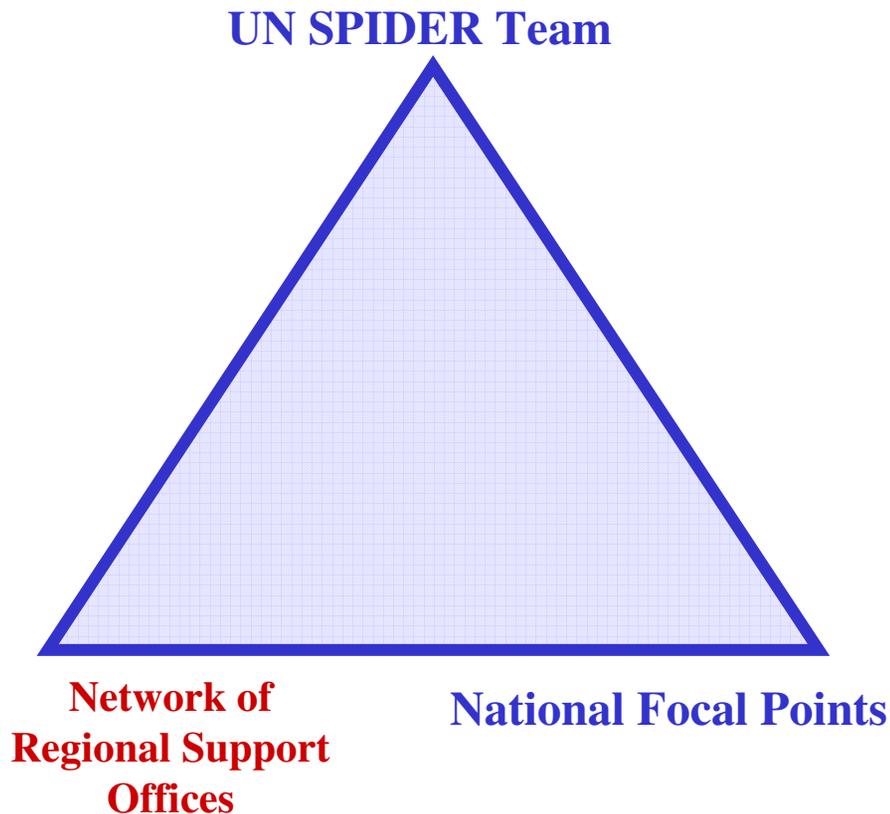


National Focal Points – the national institutions representing the disaster management and/or space application communities that are nominated by their respective government to work with UN-SPIDER to strengthen national disaster management planning and policies and in the implementation of specific national 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
<http://www.unoosa.org/oosa/en/unspider/index.html>

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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**





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

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)

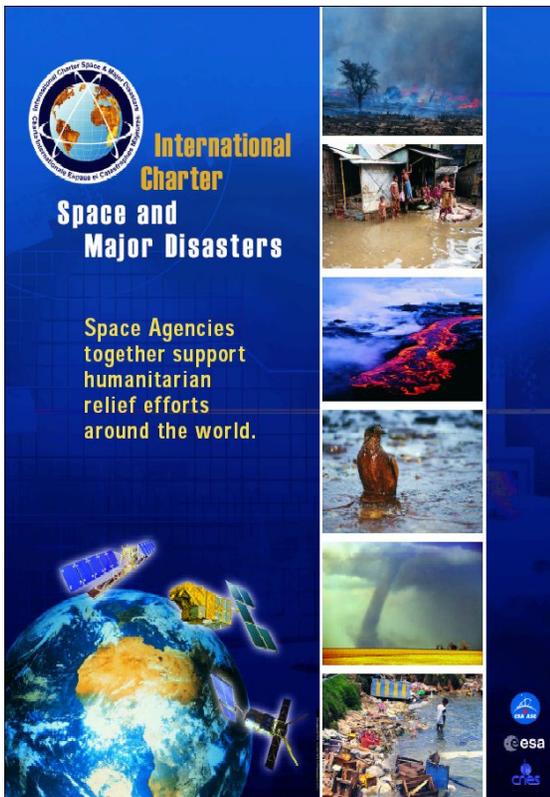
LANDSAT

Disaster Monitoring Constellation (DMC)

UK, Nigeria, Algeria, Turkey

China National Space Agency (CNSA)

FY, SJ, ZY satellite series

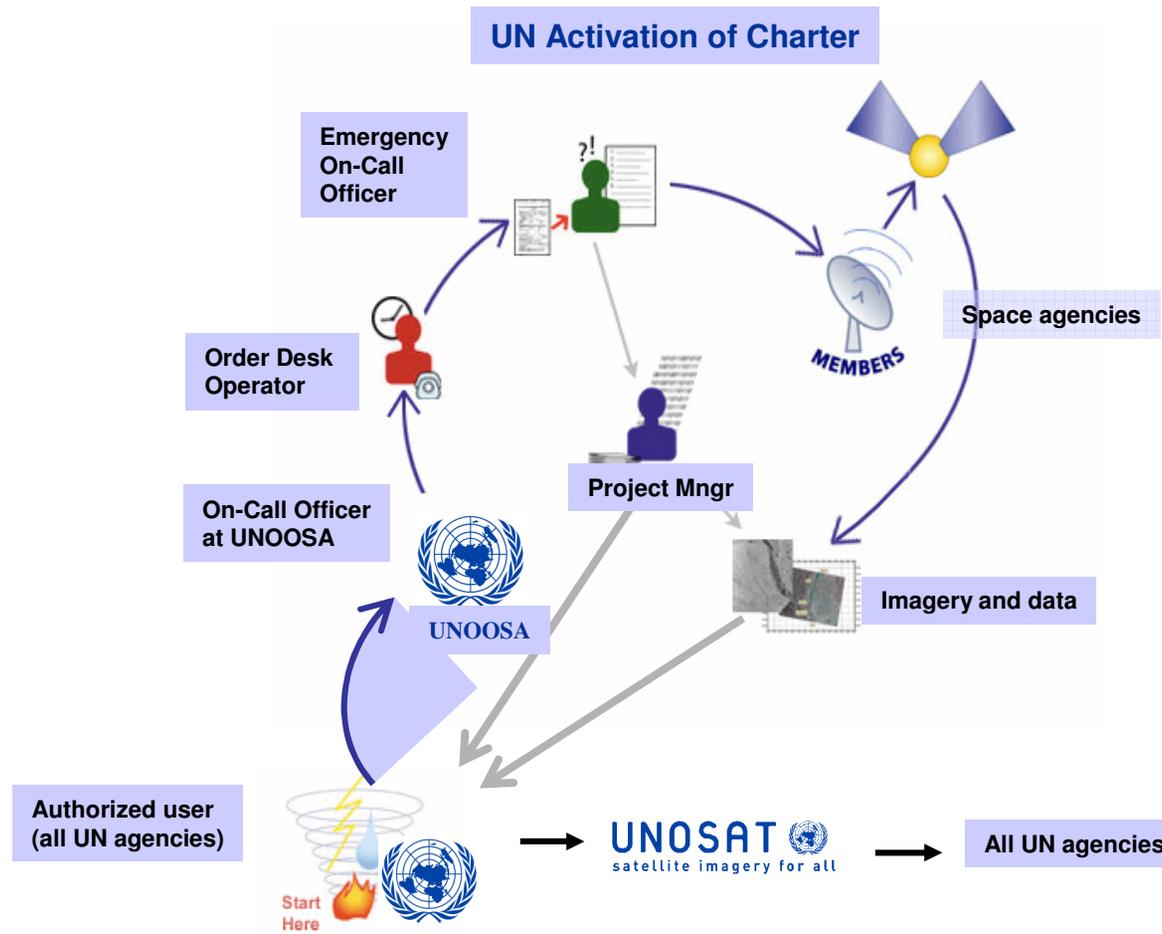


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UN Activation of the Charter



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UN Activations of the Charter in 2007

Date	Country	Disaster
February	Mozambique	Floods
March	Indonesia	Earthquake
	Madagascar	Cyclone
April	Solomon Islands	Earthquake, Tsunami
July	Pakistan	Floods
August	North Korea	Floods

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



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



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THANK-YOU

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