Earth Observation Systems for Nation Building – A United Nations Perspective

David STEVENS, United Nations

23 April 2012, Amsterdam, The Netherlands
The core business of the United Nations Office for Outer Space Affairs is “to promote international cooperation in the use of outer space to achieve development goals for the benefit of humankind”.

© German Aerospace Center (DLR)
Space is a growing business ....

... with an expected increase of over 50% in the decade from 2011-2020 with a forecast of over 1100 satellites.
The Work of the Office

The United Nations Programme on Space Applications (1971)


UN-affiliated Regional Centres for Space Science and Technology Education in Brazil/Mexico, India, Morocco and Nigeria (1982)
The Space-Community perspective and expertise...
and the Disaster Management Community reality!
On 14 December 2006 the United Nations General Assembly, established UN-SPIDER as a programme implemented by the United Nations Office for Outer Space Affairs (UNOOSA), with the following mission statement:

“Ensure that all countries and international and regional organizations have access to and develop the capacity to use all types of space-based information to support the full disaster management cycle.”

- Especially 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 (A/RES/61/110).

http://www.un-spider.org
Images from **earth observing satellites** help assess the damage caused by disasters and assess vulnerability to hazards.

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

**Global navigation satellite systems** enable us to obtain positional information on events that have to be mapped.
The UN-SPIDER Programme

- UN-SPIDER Team
- Network of Regional Support Offices (RSOs) (12 + 4)
- National Focal Points (45)

Network of Regional Support Offices (RSOs) (12 + 4)
- RSO Algeria
- RSO Nigeria
- RSO I.R. Iran
- RSO South Africa
- RSO Ukraine
- RSO Turkey
- RSO Pakistan
- RSO RCMRD
- RSO ADRC
- RSO Argentina
- RSO Hungary
- RSO CATHALAC
- RSO UWI
- RSO Colombia
- RSO Indonesia
- RSO Ukraine

Network of Regional Support Offices

UN-SPIDER Team in Vienna
UN-SPIDER Beijing Office
UN-SPIDER Bonn Office

Knowledge Portal

A web portal for information, communication, and process support. A platform which supports knowledge management, capacity building, technical advisory support and support to emergency and humanitarian assistance.  

http://www.un-spider.org
Countries Receiving Technical Advisory Support

- Tonga
- Namibia
- Cameroon
- Maldives
- Philippines
- Dominican Republic
- Jamaica
- Ecuador
- Guatemala
- Haiti
- Togo
- Burkina Faso
- Cabo Verde
- Congo, Democratic Republic of the
- Sudan
- India
- Bangladesh
- Myanmar
- Sri Lanka
- Philippines
- Samoa
- Fiji
- Madagascar
- Mozambique
- Malawi
- Maldives
- India
- Madagascar
- Nepal
- Nepal
- Nepal
Technical Advisory Support – Sudan May 2011
Earthquake hit 22:53 UTC time – UNOOSA/UN-SPIDER activated the International Charter and other mechanisms at 00:38 UTC time in coordination with other UN agencies exactly 1 hour and 45 minutes after the earthquake struck. UN-SPIDER ensured UN agencies had access to the imagery and data made available and carried out a technical advisory mission meeting with UN, government and non-government institutions. UN-SPIDER is now supporting the Haitian Civil Protection Agency in rebuilding its capacity.
Earthquake hit 06:34 UTC time – UNOOSA activated the International Charter and other mechanisms at 13:23 UTC time in coordination with other UN agencies and CONAE (the Argentinean Space Agency). RapidEye covered the tsunami affected area on the same day. Imagery was sent to ONEMI through UN-SPIDER and was the basis of the initial impact assessment. UN-SPIDER carried out a technical advisory mission at the request of the Chilean Government.
Ensuring the end-users benefit

“The only tools and information you will use and trust in a crisis are the ones you have been using already”
Sharing of Geospatial Data and Information

“Limited access to existing geospatial data and information is one of the main impediments to ensuring that countries are able to benefit from space-based information.”
Take advantage of the crowd

“There is a need to take advantage of the crowd, the internet and the increasing volume of data being made available”
UN-SPIDER and the Crowdsourcing Mapping Community

- Work through existing Communities of Interest (COIs): Data Licensing; Preparedness and Prioritization; Data Scramble; Decision Makers Needs
- Ensure data made available reaches the UN-SPIDER RSOs and the End Users. Contribute to setting up mechanisms leading to a wider access to satellite imagery by the VTCs.
- Involve the VTCs in the Technical Advisory Missions
- Crowdsourcing Mapping vis-à-vis Crisis Mapping
- Crowdsourcing Mapping Workshop Vienna July 2013
THANK-YOU