Evidenz Project Workshop
Eastern Cape Province
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United Nations Office for Outer Space Affairs
United Nations Office at Vienna
www.unoosa.org
UN-SPIDER: 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.“

General Assembly Resolution 61/110 (2006)
Key tasks

Technical Advisory Support
UN-SPIDER provides support to countries in assessing national capacity and in evaluating disaster and risk reduction activities, policies and plans.

Knowledge Portal
The UN-SPIDER Knowledge Portal is a web-based tool for information, communication and process support.

Capacity Building
UN-SPIDER facilitates capacity building and institutional strengthening, including the development of curricula and an e-learning platform (e-SPIDER).

Fostering Cooperation
UN-SPIDER fosters alliances and creates forums where both space and disaster management communities can meet.

and many more...
Two Offices and coordination by UNOOSA in Vienna

Bonn

Vienna

Beijing
Network of Regional Support Offices

[Map showing locations of regional support offices around the world, marked with stars and labels such as AEM, UWI, CATHALAC, IGAC, ASAL, NASRDA, CRU, ROSA, BEYOND, ISA, SUPARCO, ICIMOD, ADRC, ADPC, NASU, EMERCOM, RCMRD, IWM, LAPAN, REGINONAL SUPPORT OFFICE]
Space technologies which can be applied in all phases of the disaster management cycle

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.
Using up-to-date satellite imagery to track the path of hurricanes and cyclones

Since the 1970s, satellites are aiding meteorological departments in tracking the paths of cyclones and hurricanes
Satellites to transmit warnings across continents in case of events such as tele-tsunamis and to transmit data from monitoring stations to Observatories to forecast potentially catastrophic events.
Space-based technologies

Exposure

In a coastal city for example, different types of elements are exposed to tsunamis.
Up-to-date satellite imagery to pinpoint the location of vulnerable groups, critical infrastructure and assets.
Facilitating the Generation of Knowledge

Training material & tutorials
Publications
Recommended practices
Access to Knowledge

**Geoinformation for**
- Hazard, exposure, vulnerability, and risk assessment
- Post Disaster Needs Assessment (PDNA)/Damage and Loss Assessment (DaLA)
- Early Warning systems
- Rapid mapping: Extent and impact
- Flood Hazard Mapping
- Flood Extent Mapping
- Drought Monitoring

**Recommended Practice on**
- Flood Hazard Mapping
- Flood Extent Mapping
- Drought Monitoring

**Disaster management cycle**
- Prevention and Mitigation
- Preparedness
- Response
- Recovery

**Disaster**
Strengthening early warning systems for droughts (SEWS-D)

The SEWS-D project aims to:

Contribute to the implementation of the Sendai framework;

Strengthen national drought policies;

Incorporate the routine use of drought indices such as the NDVI, the EVI, the VCI and the SVI;

Encourage the use of geospatial visualization technologies.
Comparison of VCI and SVI maps for Julian day 97 corresponding to 4 distinct years using EVI composite products from MODIS - Guatemala

- 2001
- 2006
- 2011
- 2015
Example of the use of the UN-SPIDER Recommended Practice for flood mapping.

Floods in the shores of the Rhine river on 06 January 2018, in an area between Cologne and Dusseldorf.

Using SNAP software and Sentinel 1 radar satellite images.
International Charter Space and Major Disasters

- Composed of more than 21 space agencies and private companies that operate Earth observation satellites;
- It is activated at the request of National Disaster Management Organizations; in South Africa the NDMC;
- Provides the most-up to date view of impacts of disasters derived from satellite imagery.
THANK YOU

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