



UNITED NATIONS
Office for Outer Space Affairs

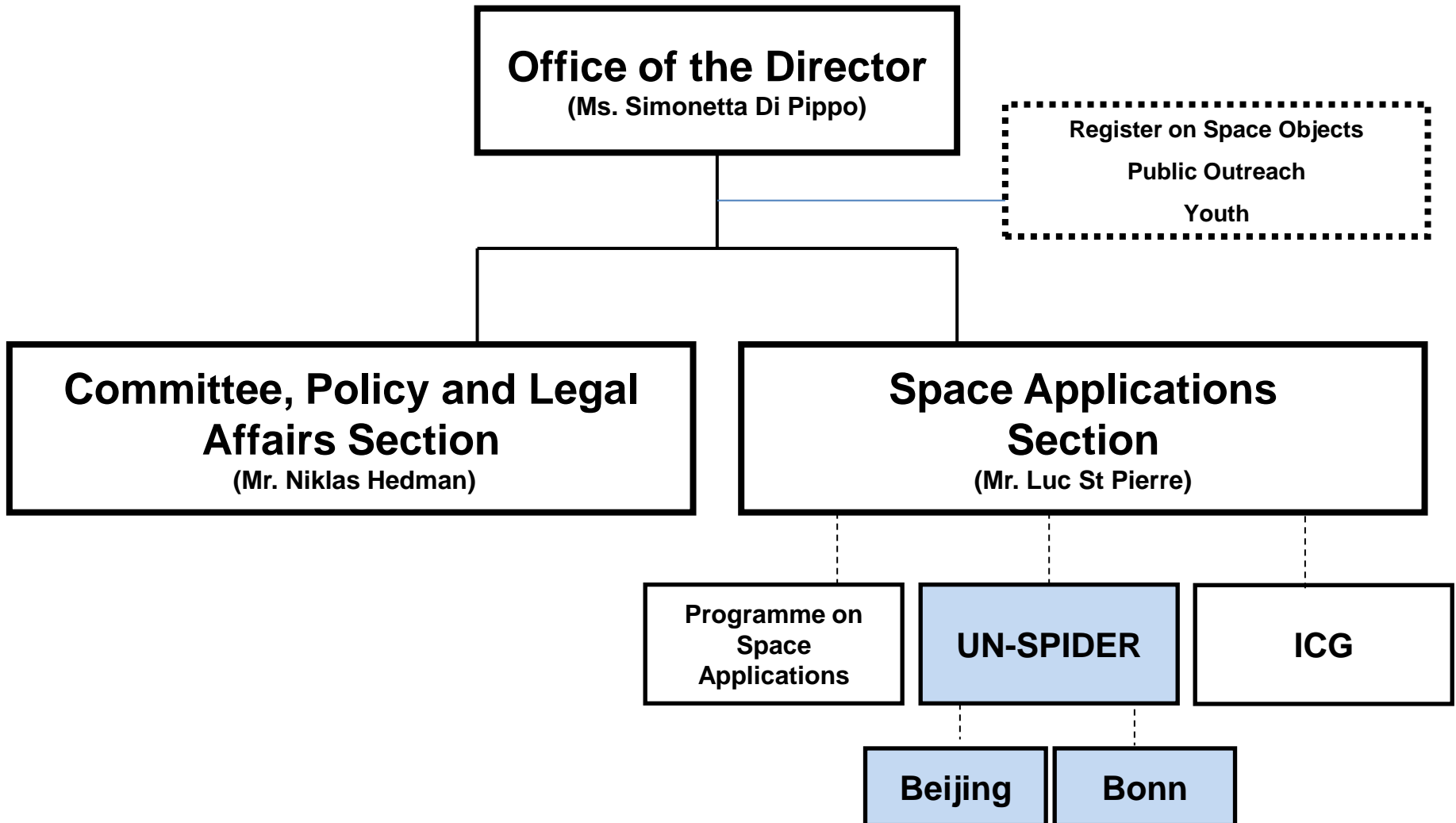
07 June 2018

Evidenz Project Workshop Eastern Cape Province

United Nations Office for Outer Space Affairs
United Nations Office at Vienna
www.unoosa.org



United Nations Office for Outer Space Affairs





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...



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Two Offices and coordination by UNOOSA in Vienna



Bonn



Vienna



Beijing



Network of Regional Support Offices





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





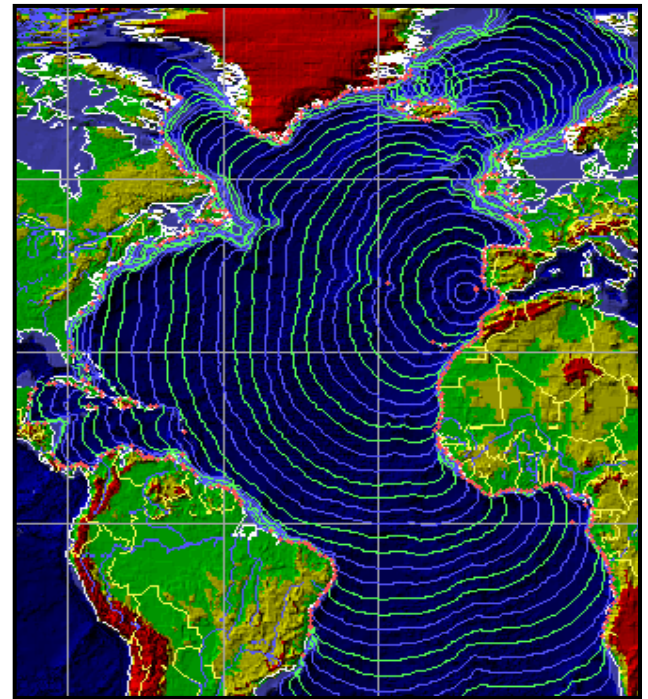
Using up-to-date satellite imagery to track the path of hurricanes and cyclones

Since the 1970s, satellites are aiding meteorological departments in tracking the paths of cyclones and hurricanes



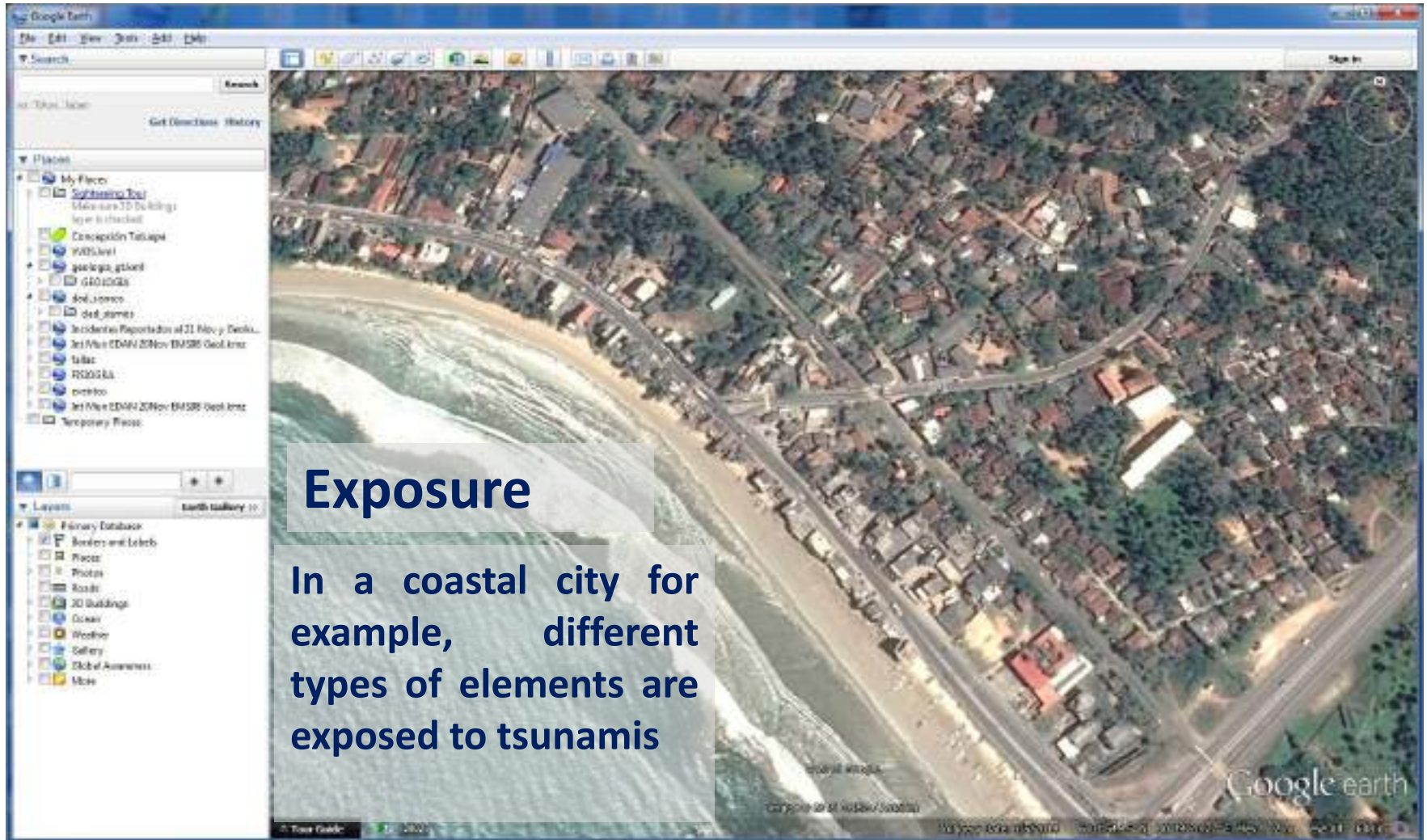


Satellites to transmit warnings across continents in case of events such as tele-tsunamis and to transmit data from monitoring stations to Observatories to forecast potentially catastrophic events.





Space-based technologies



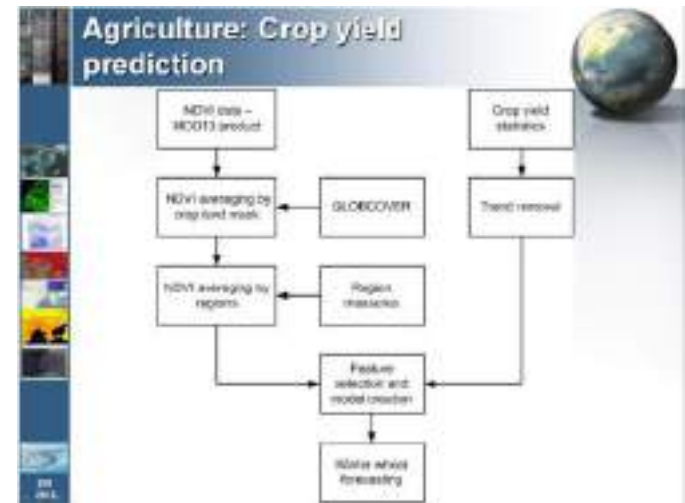
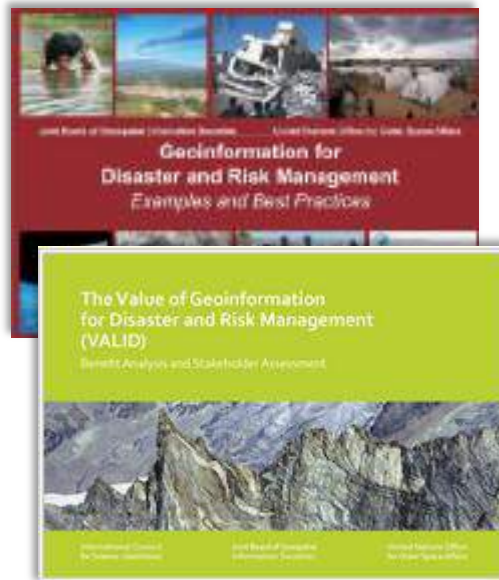
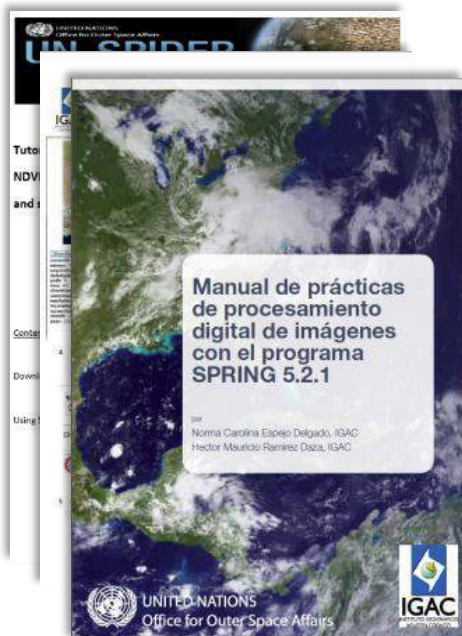


Up-to-date satellite imagery to pinpoint the location of vulnerable groups, critical infrastructure and assets





Facilitating the Generation of Knowledge



Training material & Publications

Recommended practices



Access to Knowledge

Geoinformation for Hazard, exposure, vulnerability, and risk assessment

Geoinformation for Early Warning systems

Prevention and Mitigation → Preparedness

Recommended Practice on Flood Hazard Mapping

Recommended Practice on Drought Monitoring

Disaster management cycle

Disaster

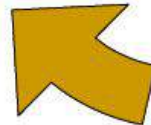
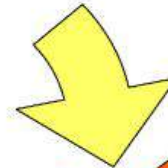
Recovery

Response

Geoinformation for Post Disaster Needs Assessment (PDNA)/ Damage and Loss Assessment (DaLA)

Geoinformation for Rapid mapping: Extent and impact

Recommended Practice on Flood Extent Mapping





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.



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Space-based technologies

Comparison of VCI and SVI maps for Julian day 97 corresponding to 4 distinct years using EVI composite products from MODIS - Guatemala

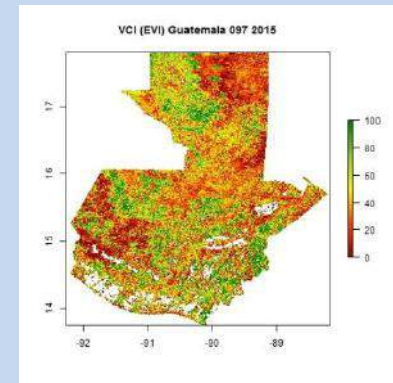
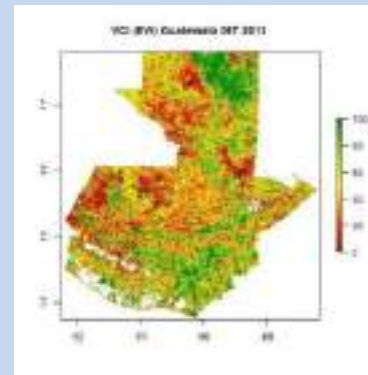
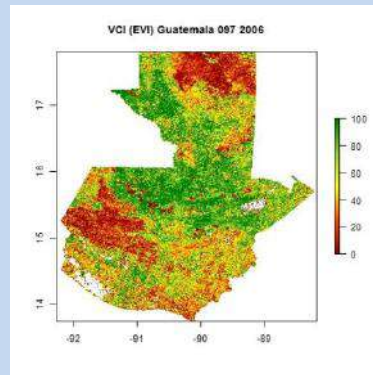
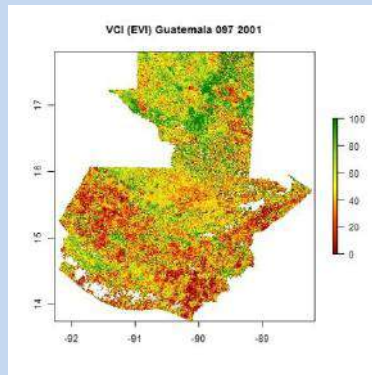
2001

2006

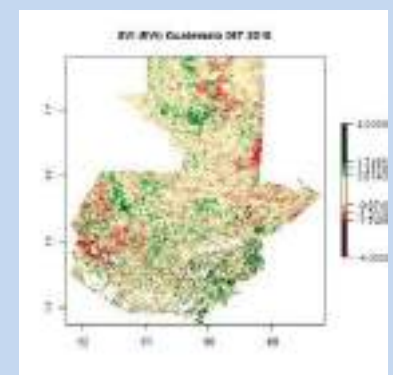
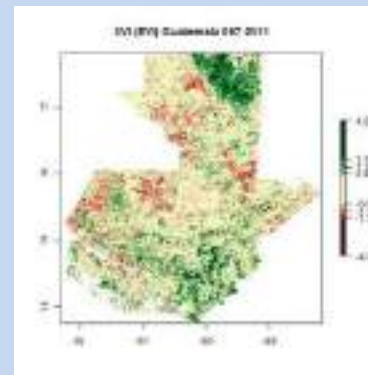
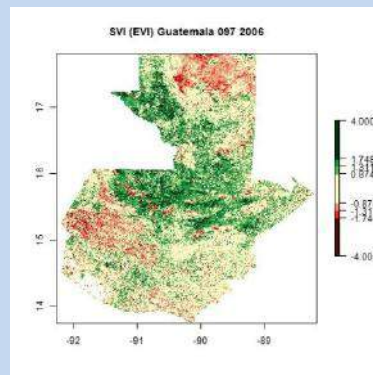
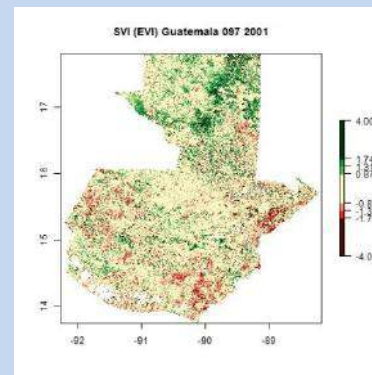
2011

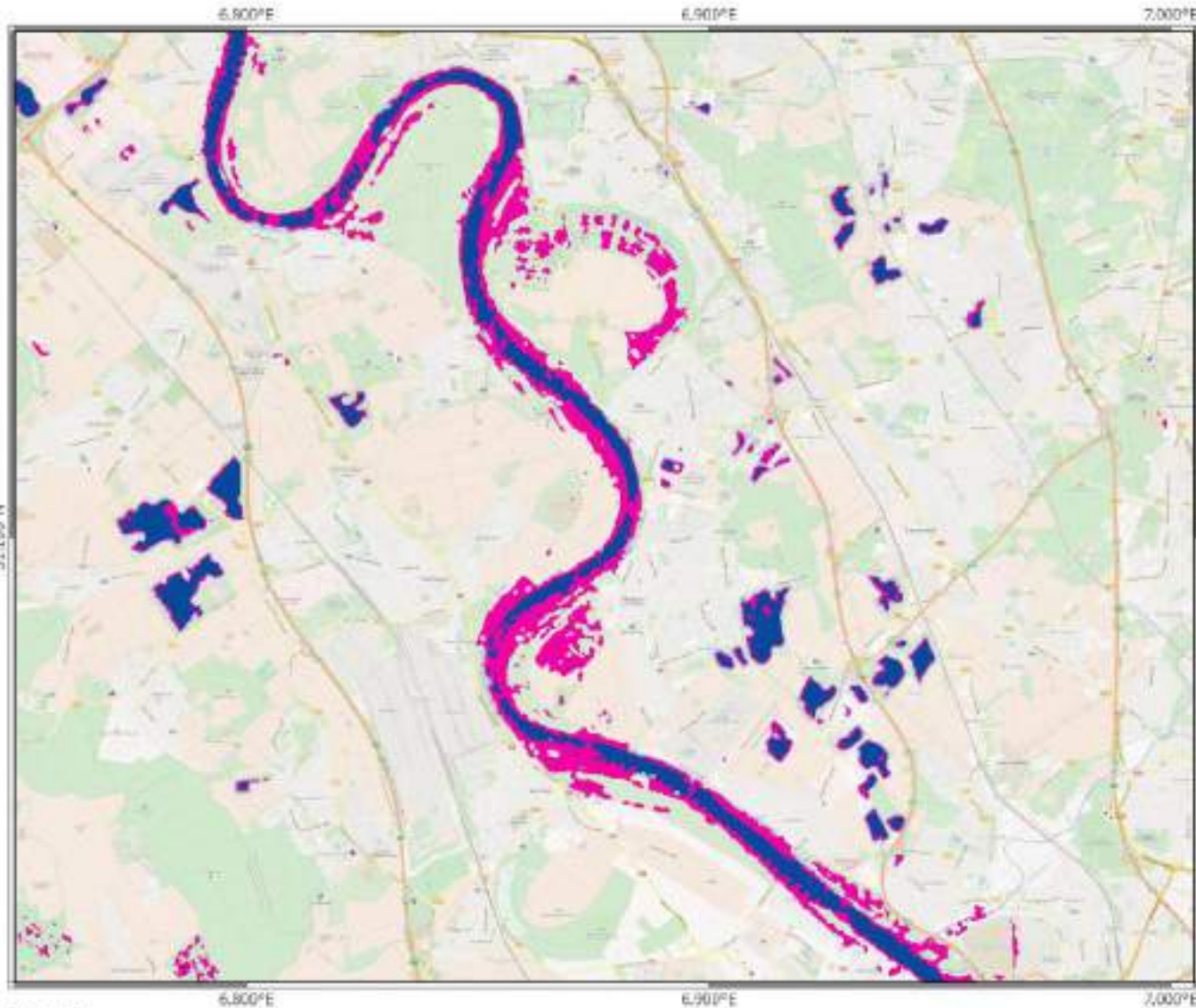
2015

VCI



SVI





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.

Legend

■ Normal water level (6th of August 2017) ■ Flood water level (6th of January 2018)



International Charter Space and Major Disasters

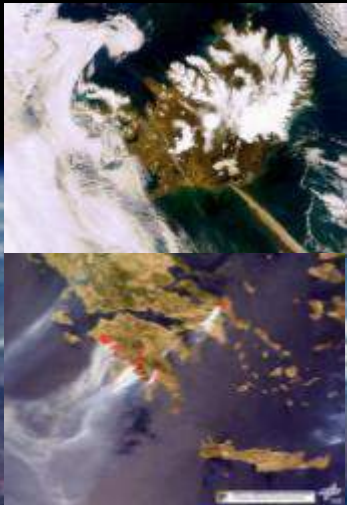
- **Composed of more than 21 space agencies and private companies that operate Earth observation satellites;**
- **It is activated at the request of National Disaster Management Organizations; in South Africa the NDMC;**
- **Provides the most-up to date view of impacts of disasters derived from satellite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





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Examples





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THANK YOU

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United Nations Office at Vienna

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