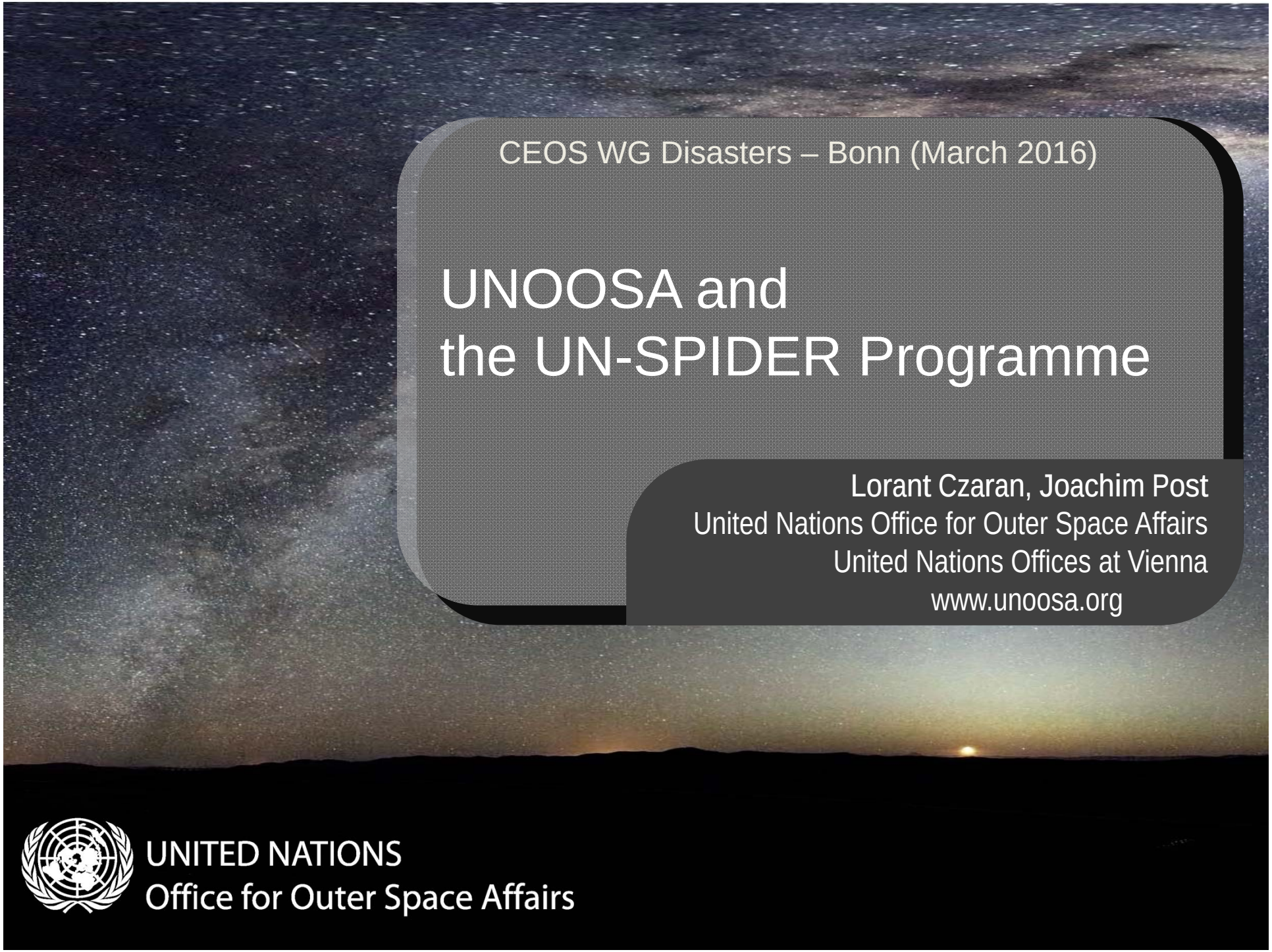

CEOS WG Disasters – Bonn (March 2016)

UNOOSA and the UN-SPIDER Programme

Lorant Czaran, Joachim Post
United Nations Office for Outer Space Affairs
United Nations Offices at Vienna
www.unoosa.org

UNITED NATIONS
Office for Outer Space Affairs

UN and Outer Space: Early Years

- 1958: Resolution by the UN General Assembly 1348(XIII):
  - Outer space to be used for peaceful purposes only and to be exploited to the benefit of mankind
  - Established an ad-hoc Committee on the Peaceful Uses of Outer Space (COPUOS) as an appropriate body for international cooperation

- 1959: UN General Assembly resolution 1472 (XIV) reaffirmed the role of COPUOS and mandated the Committee to:
  - Review international co-operation
  - Study space-related activities that could be undertaken under United Nations auspices
  - Encourage and assist with national space research programmes
  - Study legal problems which may arise from the exploration of outer space

United Nations Office for Outer Space Affairs (1962): Mandate

- The Office **implements** the decisions of the **General Assembly** and of the United Nations **Committee** on the Peaceful Uses of Outer Space (COPUOS);
- Performs **functions** of substantive **Secretariat** of the Committee on the Peaceful Uses of Outer Space and its Scientific & Technical Subcommittee and Legal Subcommittee;
- **Coordinates** the inter-agency coordination within the United Nations on the use of space technology (**UN-SPACE**);
- **Maintains** coordination and cooperation with space agencies and intergovernmental and non-governmental organizations involved in space-related activities;
- **Implements** the United Nations **Programme on Space Applications**;
- Is **responsible for** the implementation of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (**UN-SPIDER**) programme;
- Serves as **Executive Secretariat** for the International Committee on Global Navigation Satellite Systems (**ICG**); and
- **Maintains**, on behalf of the United Nations Secretary-General, the **Register** of Objects Launched into Outer Space, and discharges responsibilities of UNSG under the treaties.

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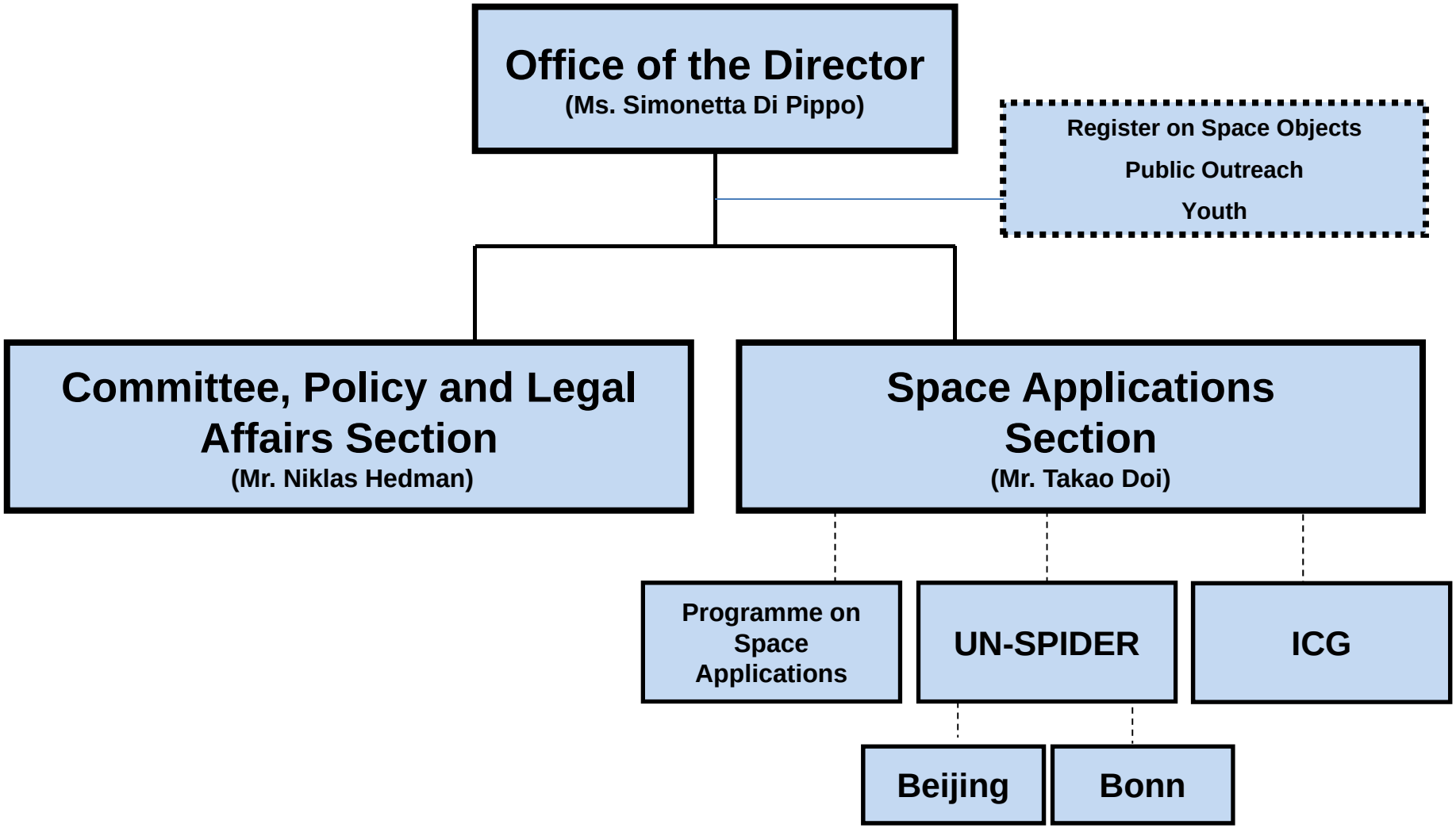
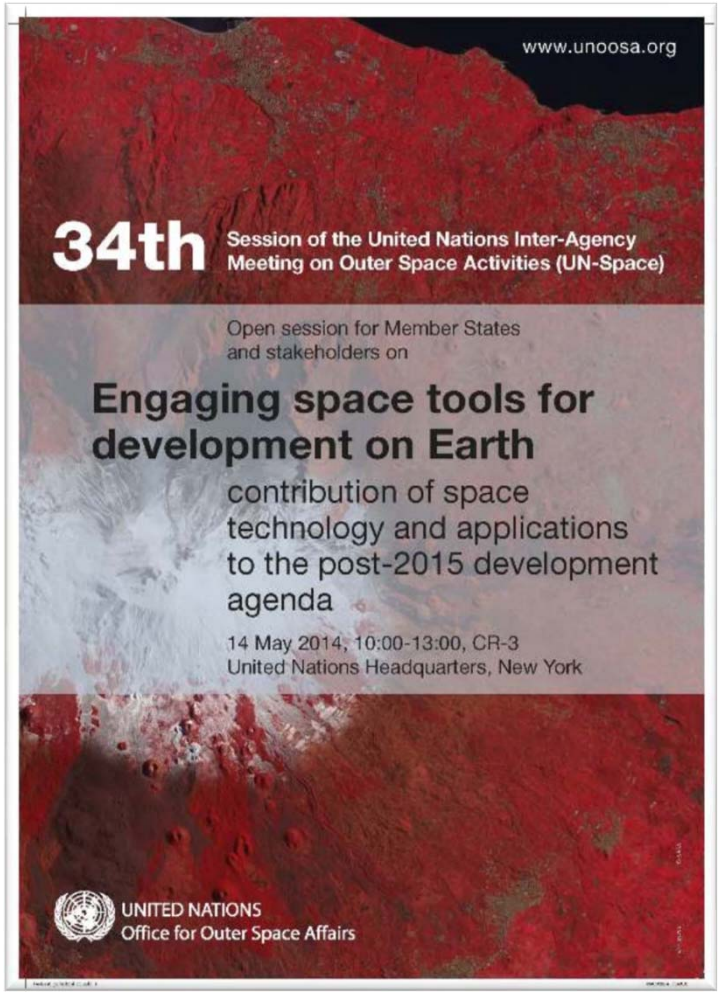


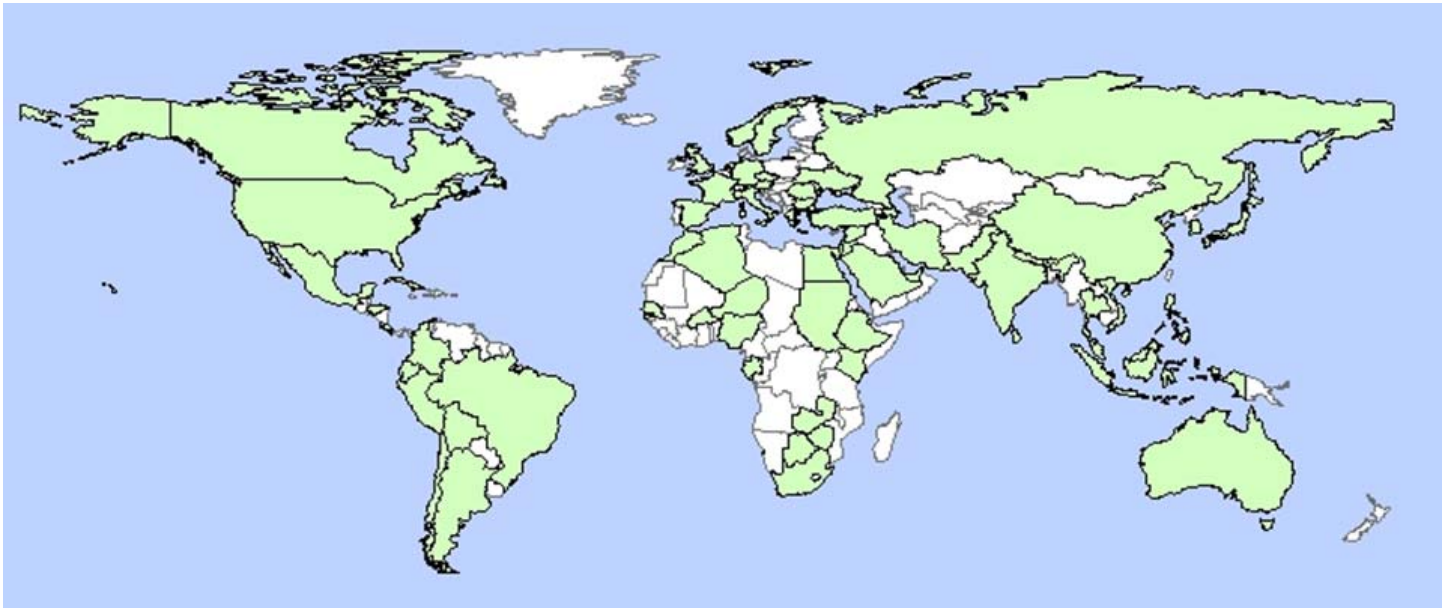
Inter-Agency Coordination on Outer Space Activities

- UN-Space: Secretary-General report on coordination of space activities in the UN system 2014-2015 – addressing the post-2015 development agenda;
- UN-Space: Special report on Space for Global Health (to be issued in 2015). In addition joint WHO/UNOOSA workshop 2015;
- Past reports: Space benefits for Africa, for Climate Change, for Agriculture and Food Security
- UN-Space: Secretary-General report to address UN system contribution to global space governance (planned for 2016-2017);
- UN-Space: GGE-report as pertaining to UN system entities. ODA and UNIDIR invited;
- GA/Fourth Committee panel discussion jointly with Division for Sustainable Development, DESA on post-2015 development agenda, held October 2014;
- Joint ICAO/UNOOSA Aerospace Symposium in Montreal, 18-20 March 2015



Workshops/Conferences/Seminars (1971-2014)

- 305 events, 75 participating nations, over 21,000 participants



- Mountain Regions
- Tele-Health/Tele-Medicine
- Natural resources management
- Environmental monitoring
- Water Management
- Socio-Economic Benefit
- Global Navigation Satellite Systems
- Space Science
- Space Law

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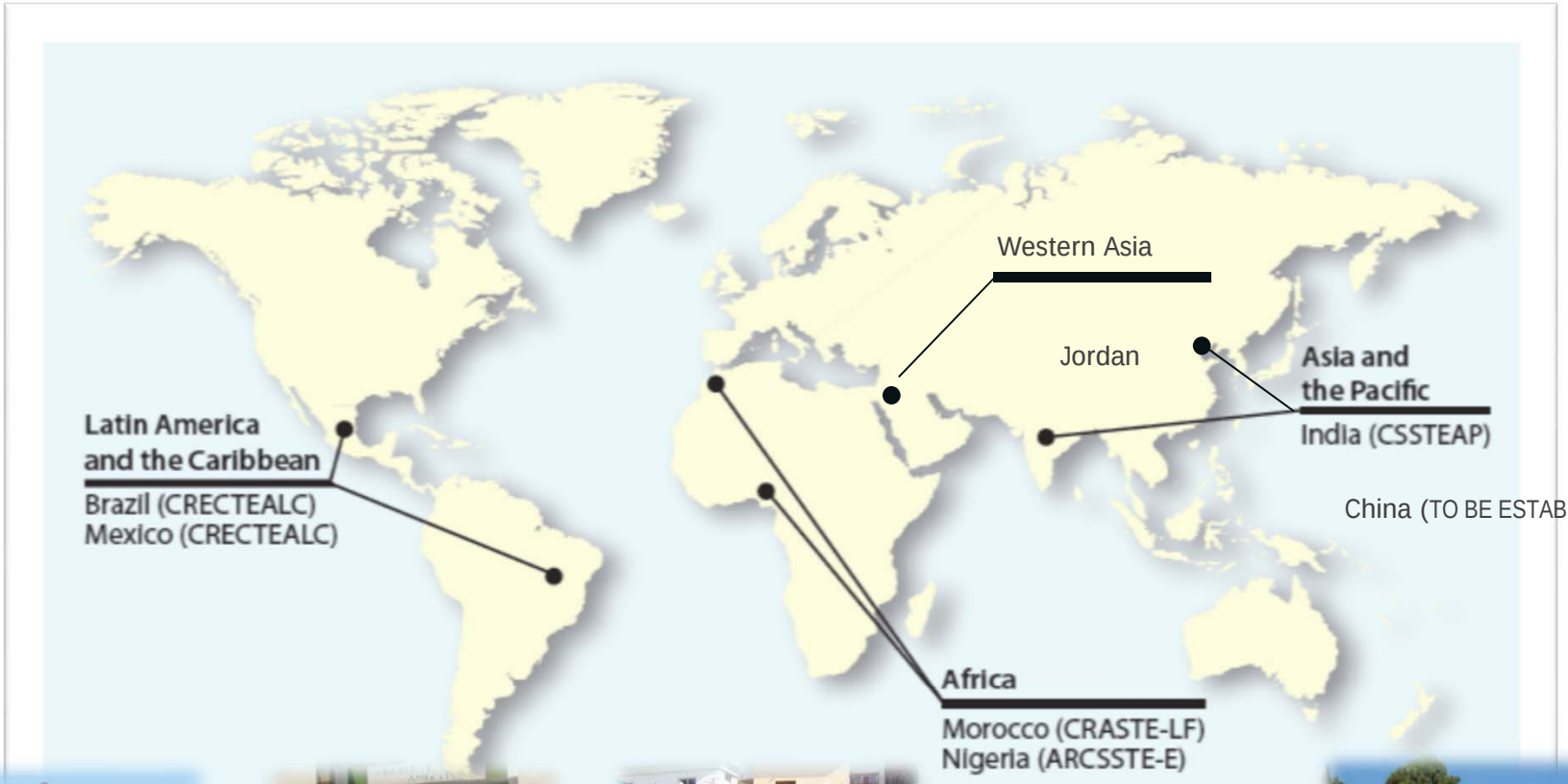
Regional Centres for Space Science and Technology Education, affiliated to the United Nations






International Committee on Global Navigation Satellite Systems (ICG)

- 2005: ICG Establishment (noted by UNGA 61/111 of 14 December 2006)
  - Promote the use of GNSS and its integration into infrastructures, particularly in developing countries; Encourage compatibility and interoperability among global and regional systems
- ICG Membership: Members: 9 nations & the European Union Current and future core, regional or augmentation system providers: China, EU, Russian Federation, USA, India, and Japan. State Members of the UN with an active programme in implementing or promoting a wide range of GNSS services and applications (Italy, Malaysia, United Arab Emirates). Associate Members and Observers: 18 organizations
- Promoting the use of GNSS technologies as tools for scientific applications, including space weather effects on GNSS
  - **Reference Frames and Timing**
    - to provide technical knowledge on the operational and practical aspects and issues relating to references frames, more specifically, facilitate a regional forum for geodetic agencies, improve data sharing (GNSS, levelling, tide gauge, gravity) and dense regional reference frame
  - **Space Weather Effects on GNSS**
    - Ionospheric modelling is an effective approach for correcting the ionospheric range error and improving the GNSS positioning accuracy

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Towards UNISPACE+50 in 2018

- **2018** marks the 50th anniversary of the first UN Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE), held in Vienna in 1968
- **Committee on the Peaceful Uses of Outer Space (COPOUS)** decided in June 2015 to use this milestone anniversary to renew and strengthen its mandate as **a unique platform for interrelationship between major space faring nations and emerging space nations**, supported by the Office for Outer Space Affairs (**UNOOSA**)

- **UNISPACE+50 will articulate a long-term vision for Space**: from a domain of States towards a domain of a commonly shared human experience

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UNOOSA

Space Applications Section

Committee Policy and Legal Affairs Section

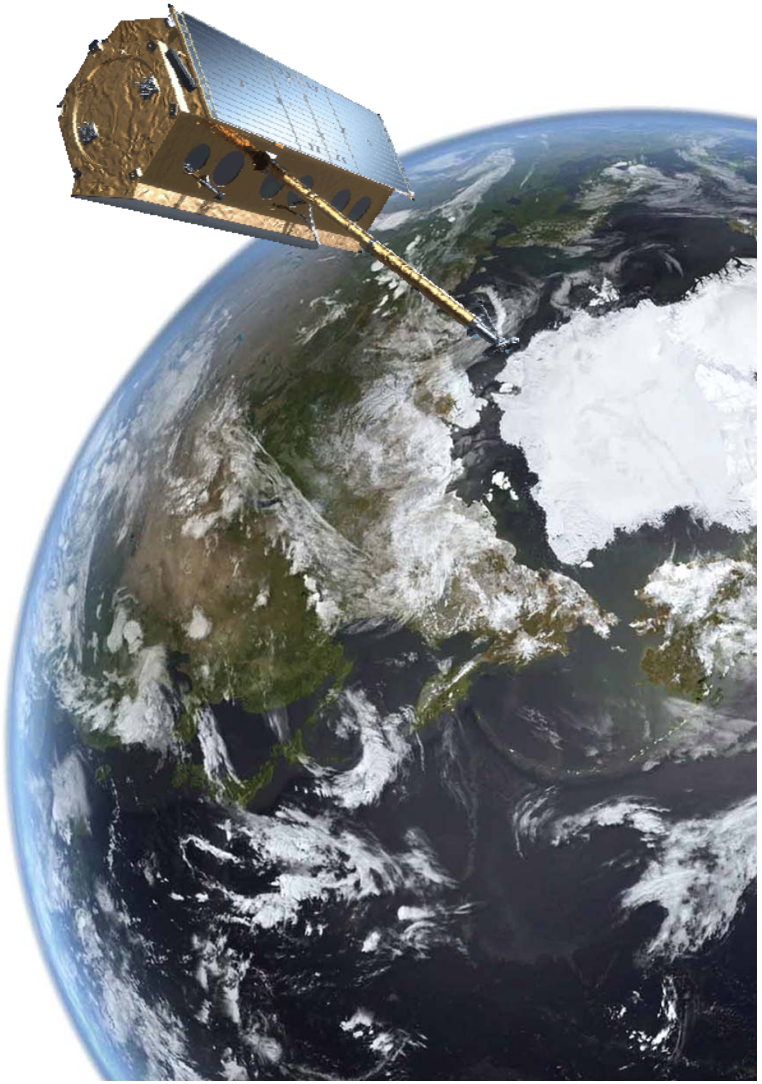
Programme on Space Applications

UN-SPIDER

UNITED NATIONS
Office for Outer Space Affairs

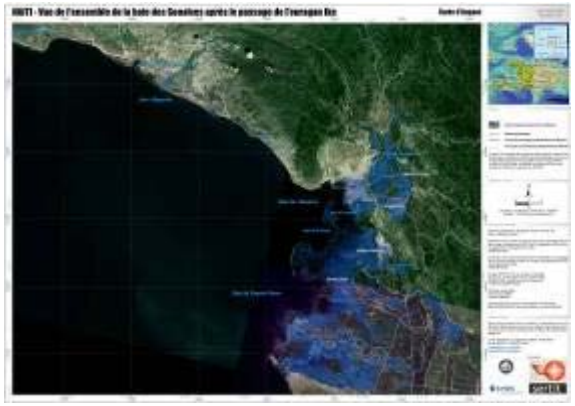
Mission statement

„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**.“



UN-SPIDER
... use all types of space-based information

- **Earth Observation**



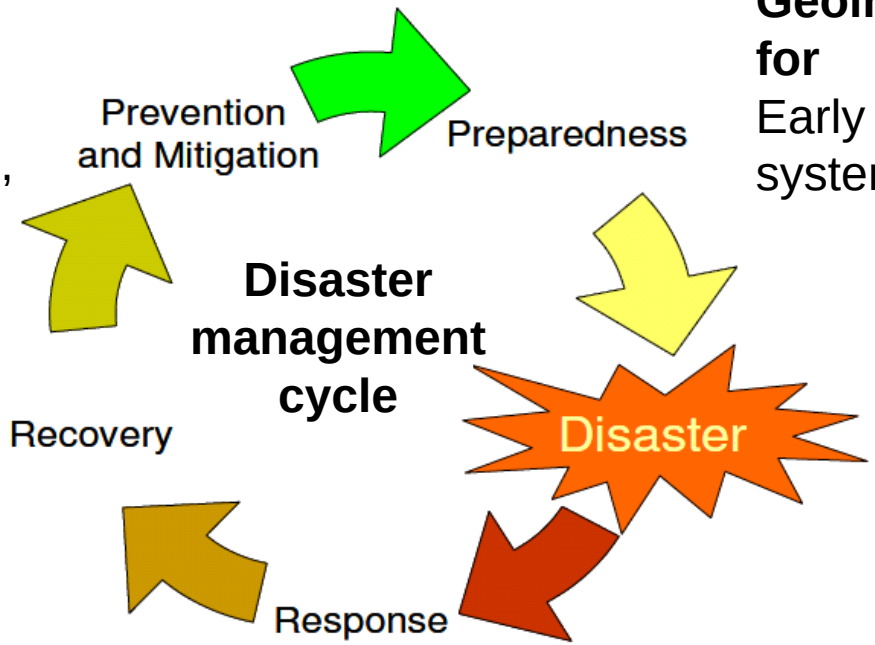
- **Satellite Communication**

- **Navigation and Positioning**

… to support the full disaster management cycle

Geoinformation for
Hazard, exposure, vulnerability, and risk assessment

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



Geoinformation for
Early Warning systems

Geoinformation for
Rapid mapping: Extent and impact

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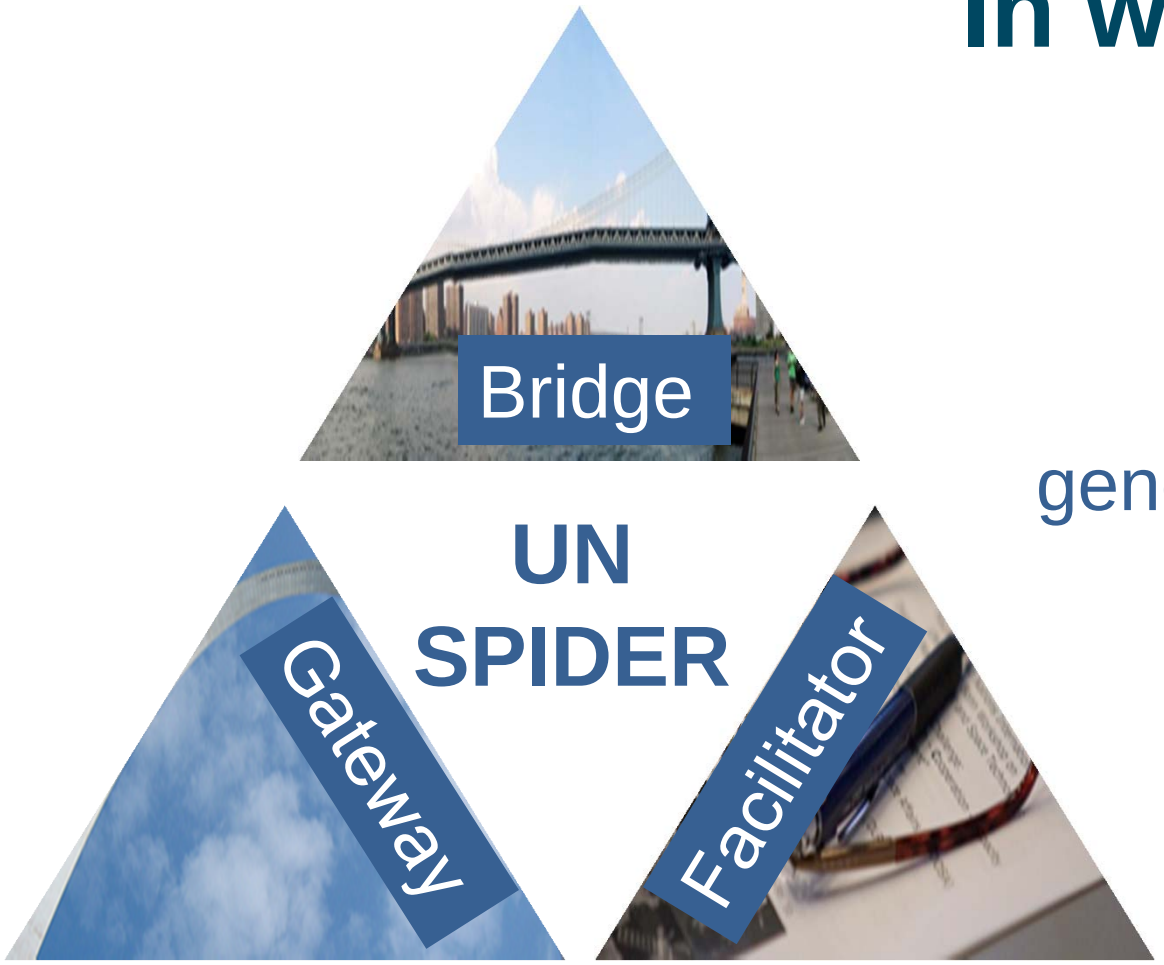
In which way



Enabling institutions to generate and use space-based information

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Global presence

Bonn

Vienna

Beijing

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Office for Outer Space Affairs

Network of Regional Support Offices (+4)

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UN-SPIDER

Knowledge Portal

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

Fostering Cooperation

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

Capacity Building

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

Technical Advisory Support

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

and many more…

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Knowledge Portal

Space Application Guides
including scientific papers, best practices and experience reports

News and Events from the space and the disaster/risk management community

Guides on **Technologies, institutions** and **organizational mechanisms**

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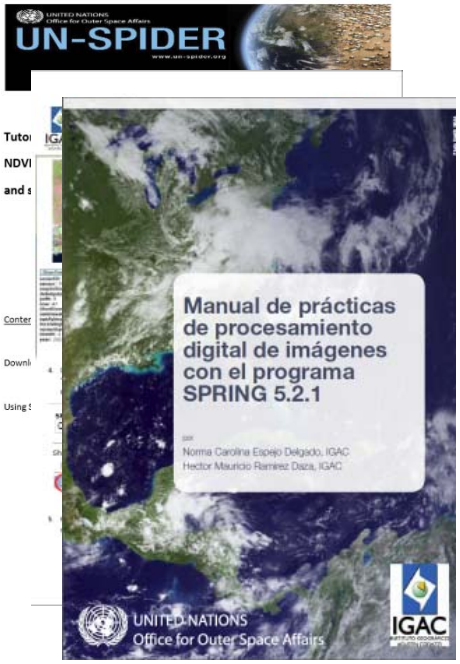
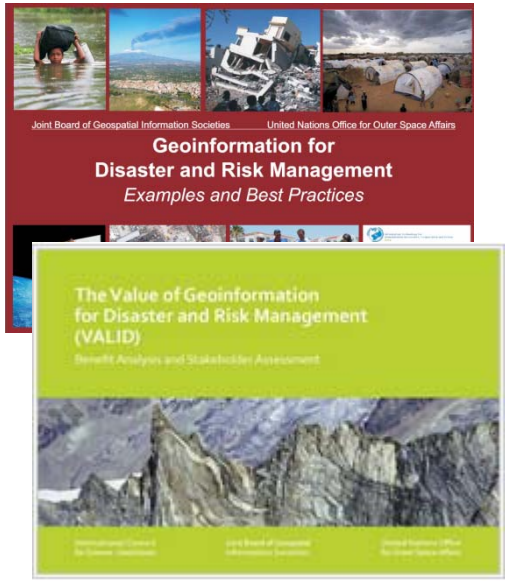
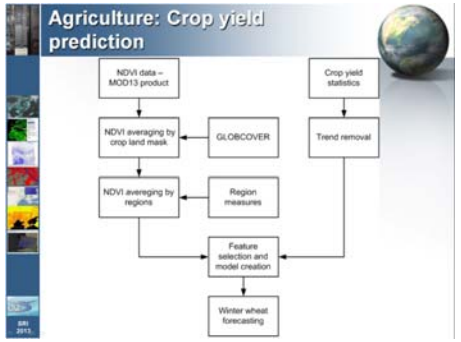
Knowledge Generation:



Training material, tutorials



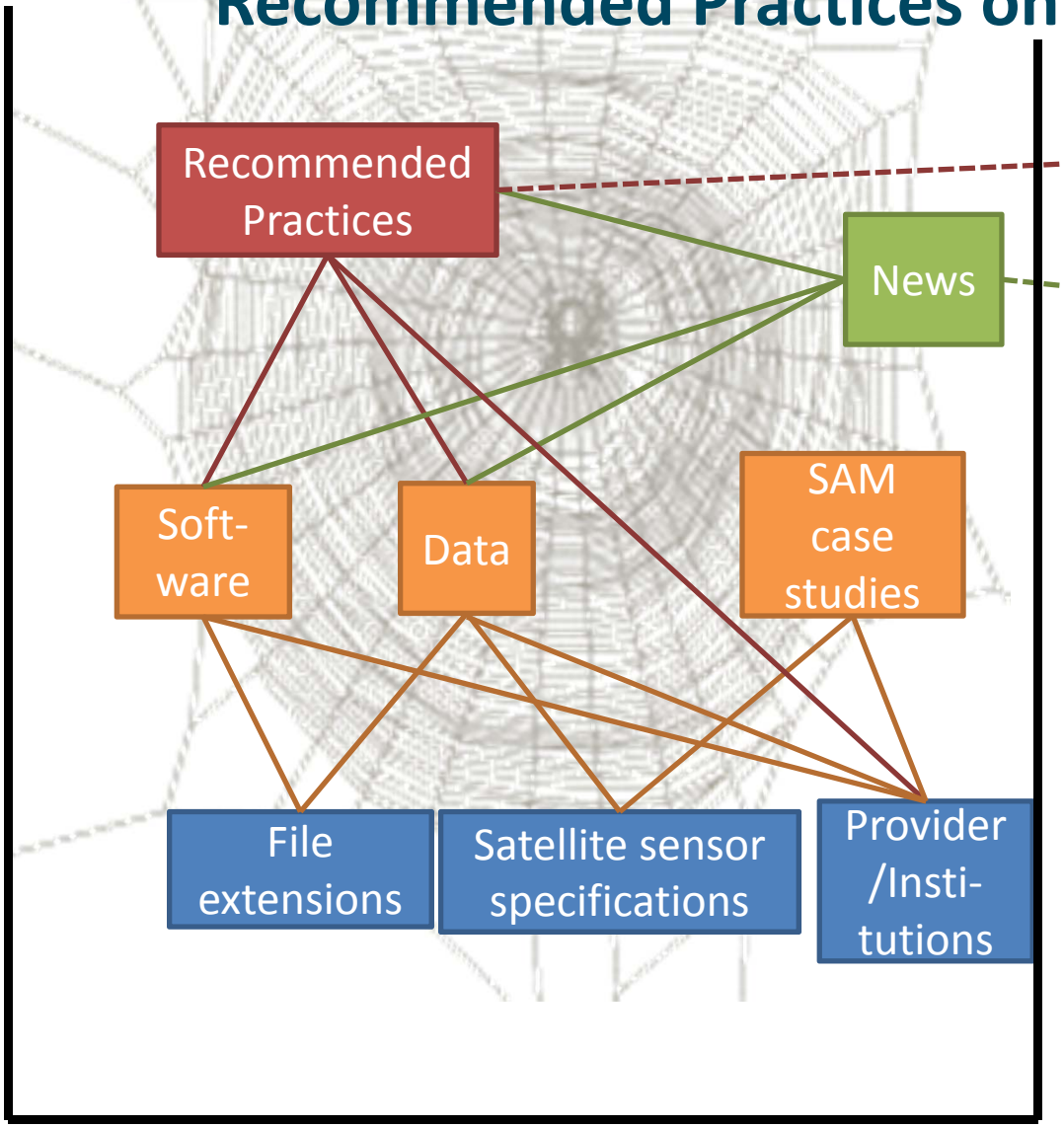
Publications

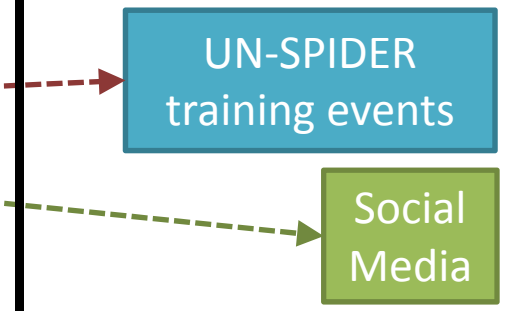


Recommended practices

Lessons learned

Recommended Practices on the Knowledge Portal





104 published data sources
107 software items
199 SAM case studies
106 satellite sensor specifications
1878 news
375 institutions
2 recommended practices finalized

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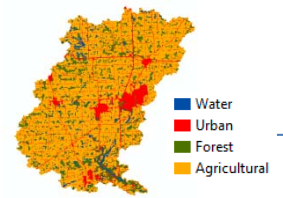
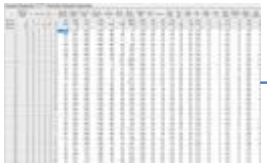
Recommended Practice Flood Hazard Mapping

How do land use changes affect runoff and potential inundation areas in my region?

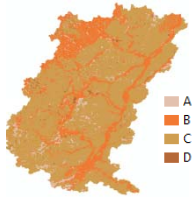
Recommended practices provide step-by-step instructions on how to apply the methodology.



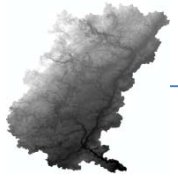
Land Use



Meteo Data



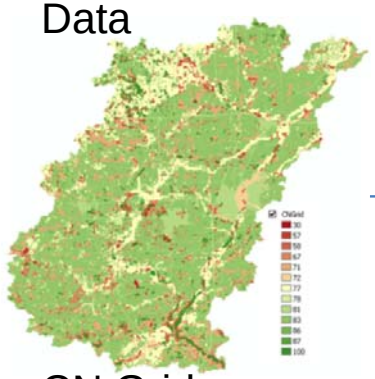
Soil



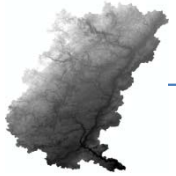
HydroDEM

LUValue	Description	A	B	C	D
1	Water	100	100	100	100
2	Medium Residential	57	72	81	86
3	Forest	30	58	71	78
4	Agricultural	67	77	83	87

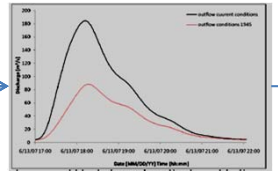
CN Look Up



CN Grid

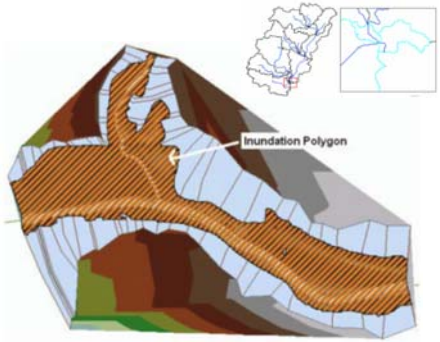


DEM



Hydrograph

Drainage Network



Inundation Polygon

PURDUE UNIVERSITY
LYLES SCHOOL OF CIVIL ENGINEERING

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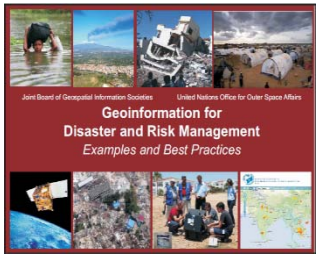
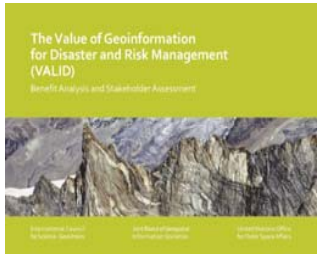
Publications





Optimizing Disaster- and Risk Management (DM/DRM) with geoinformation products and services is an increasing global trend and also challenge to the scientific community

- Best practice methodology and benefit valuation successfully addressed by two foregoing joint publications
- Continuation highly recommended by the participants at the VALID booklet launch and presentation in Vienna
- Third booklet planned: How geoinformation is utilized in the context of specific application cases

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NEWSLETTER

May 2015 Vol. 2/15

In Focus

Space-based information for post-2015 sustainable development

2015 is a milestone year for the United Nations. Not only is the organization celebrating its 70 years of existence, the year is also the starting point for major agreements and frameworks that will shape global sustainable development in the years to come. Nations worldwide will jointly embark on new paths to end poverty, promote prosperity and well-being for all, protect the environment, address climate change and reduce disaster risks. It is in this context that the United Nations Secretary-General Ban Ki-moon has launched the "2015: Time for Global Action" campaign.

Most notable among the processes to be kicked off in 2015 are these three:

The Sendai Framework for Disaster Risk Reduction (2015-2030); a new global agreement on climate change; and a new set of targets for economic, social and environmental development: the Sustainable Development Goals (SGDs) which are building on the Millennium Development Goals running out at the end of 2015.

Drought and shrinking water levels in the Jaguari Reservoir, Brazil observed by the Landsat 8 satellite in August 2014 (Image: NASA)

Satellite technologies can be key in ensuring the successful implementation of these three frameworks. The data that satellites can collect from space provide vital input to decision-making processes as well as to monitoring and evaluation efforts. With such inputs, nations and societies can stay on track in achieving these global goals and implement their national plans with regards to disaster risk reduction, climate change adaptation and mitigation and sustainable development in it various dimensions.

The United Nations Office for Outer Space Affairs (UNOOSA), through its UN-SPIDER programme among others, is working with governments and partners in promoting the use of reliable and objective data that satellite technologies provide - especially in developing countries. It does so through awareness raising, capacity building, technical advisory support and outreach events.

From 26 to 28 May 2015, UNOOSA/ UN-SPIDER, in cooperation with the German Aerospace Center (DLR) and the German Federal Ministry for Economic Affairs and Energy, is organising the United Nations/Germany International Conference for Earth Observation. 120 international experts will convene in Bonn, Germany, to discuss and share knowledge on the use of space technologies in the context of the post-2015 agreements on disaster risk reduction, on climate change adaptation and mitigation and on the Sustainable Development Goals.

In this issue

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AUGUST 2015 UPDATES

UN-SPIDER at a glance

UN-SPIDER and IGAC conducted a Regional Expert Meeting in Colombia

UN-SPIDER and its Regional Support Office IGAC conducted a Regional Expert Meeting in Bogota, Colombia from 12 to 14 August within the International Geomatic Week carried out by the Geographic Institute Agustin Codazzi (IGAC). The meeting brought together around 20 participants from the Caribbean, Central America and South America. The Regional Expert Meeting benefitted from the participation of regional and international experts from the Regional Centre for Space Science and Technology Education for Latin America and the Caribbean (CRECTEALC), the International Research Centre on El Niño Phenomena (CIIFEN), the Federal University of Santa Maria in Brazil (UFSM) and the Central American Agriculture and Livestock Committee (CAC).

Read more: Knowledge Portal

Agreement between UNOOSA and the Swiss Government

The United Nations Office for Outer Space Affairs (UNOOSA) is pleased to announce an agreement with the Swiss Government to support the development of new initiatives to advance the use of space-based tools and technology in the various areas of work of Geneva-based United Nations entities, international organisations or non-governmental organisations. Funded by the Federal Department of Foreign Affairs and the Federal Department of Environment, Transport, Energy and Communications, the agreement aims at increasing awareness of the benefits of space-based tools and technology for environment and natural resource management, humanitarian affairs, peace building and security. Switzerland, a Member State of the Committee on the Peaceful Uses of Outer Space (COPUOS), hopes through this collaboration to strengthen the capabilities of Geneva-based entities in using space-based data, information, products and services.

Read more: Knowledge Portal

UN-SPIDER and UNDP Bhutan office support efforts to manage landslide risk in Bhutan

The UN-SPIDER, the UNDP and the Department of Disaster Management (DDM) (Ministry of Home and Cultural Affairs) conducted follow up activities and training workshop as a next step after the UN-SPIDER Technical Advisory Mission (TAM) to Bhutan, offered in June 2014. The activities were executed from 17 to 21 August, 2015.

Soon after the TAM was conducted, the UN Resident Coordinator secured funding to implement the recommendations of the TAM through the UN joint project titled "Recovery Preparedness and Resilience-building in Bhutan". Through this funding, 19 officials from Bhutan visited the UN Affiliated Centre for Space Science Technology Education in Asia and the Pacific in India to attend one week training programme titled "Response and recovery preparedness" in April 2015. This training provided general understanding on the role of space based information in managing various hazards in Bhutan.

Read more: Knowledge Portal

UN-SPIDER issues the Role of World Natural Heritage and Sites in Disaster Risk Reduction in a workshop in India

The International Workshop on the Role of World Natural Heritage (WHS) Sites in Disaster Risk Reduction (DRR) was organised by UNESCO Category 2 Centre (C2C) World Natural Heritage Management and Training for Asia and the Pacific Region based at Wildlife Institute of India. The event was performed in Dehradun city on 24 and 25 August.

Read more: Knowledge Portal

UN-SPIDER meets students of 20th Post Graduate Diploma in Remote Sensing and GIS

The head of the UN-SPIDER Beijing Office, Shirish Ravan, visited the UN Affiliated Centre for Space Science Technology Education in Asia and the Pacific (CSSTEAP), in Dehradun, India, on 25 August 2015; to interact with 24 international

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UN-SPIDER REGIONAL SUPPORT OFFICES

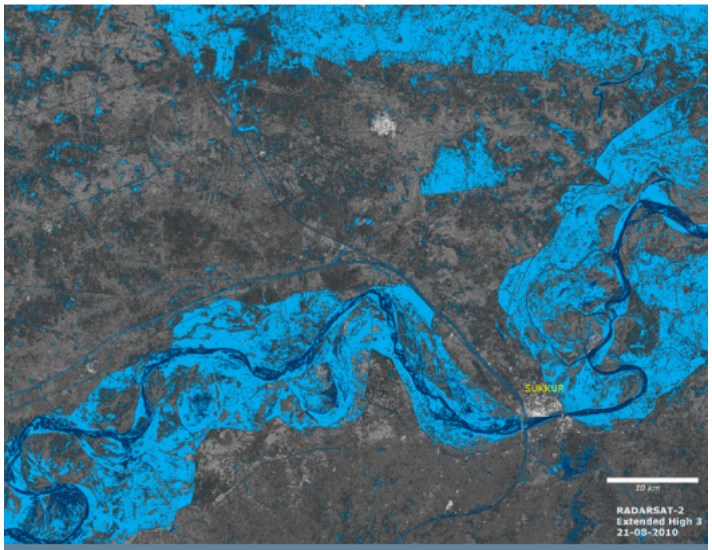
Effective use of Space-based information to monitor disasters and its impacts

Lessons Learnt from Drought in Iran

prepared by Iranian Space Agency

UN-SPIDER REGIONAL SUPPORT OFFICES

SUPARCO



Effective use of Space-based information to monitor disasters and its impacts

Lessons Learnt from Floods in Pakistan

prepared by SUPARCO, Pakistan

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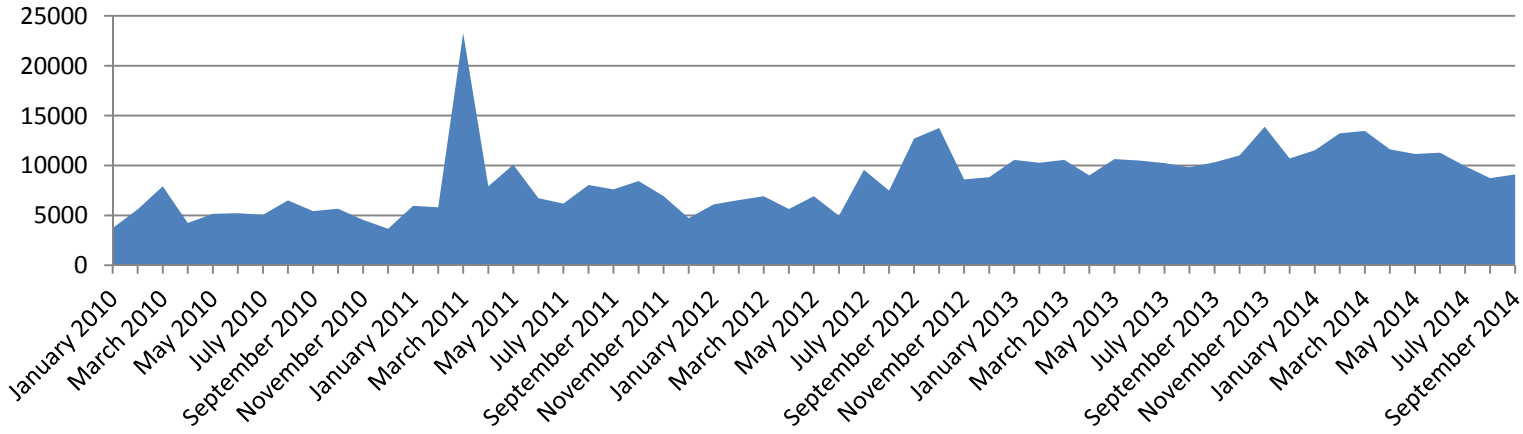
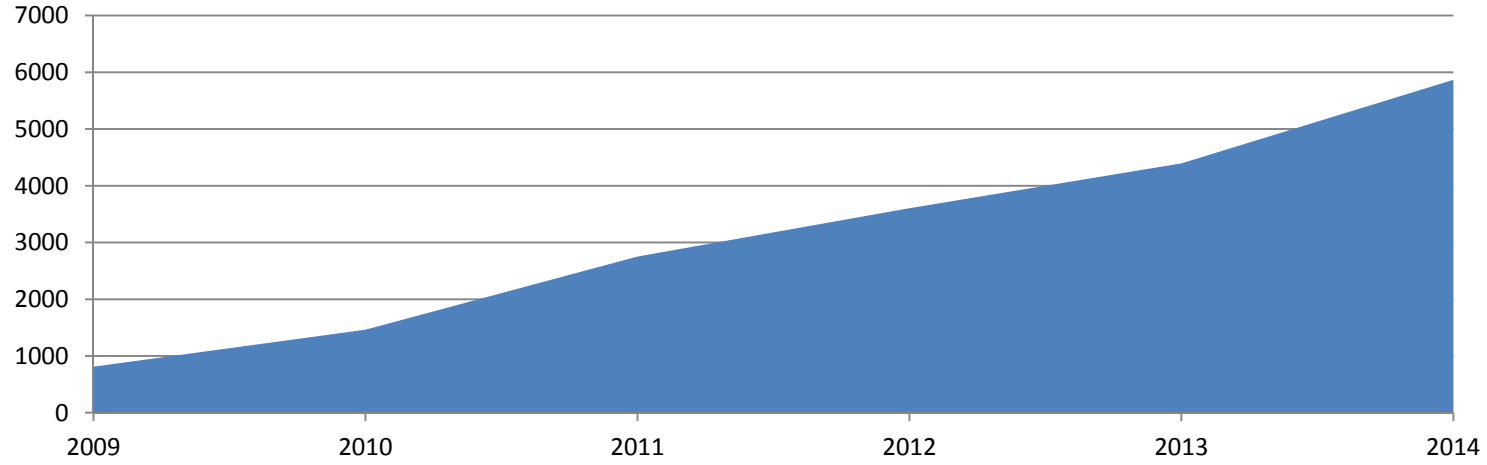
Knowledge Portal

Sessions on Knowledge Portal



Number of content items published



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Digital Outreach

10,000 visits per month

17,000 subscriptions

8,000 Social Media followers

How fire-detecting satellites could prevent wildfires

WED NOV 6 2013

A fire-detecting satellite has been designed by scientists from University of California, Berkeley with the goal of preventing hot spots from growing to out of control fires in the future. Through the use of state-of-the-art sensors and an analysis software to snap pictures of the ground every few seconds, the satellite called the Fire Urgency Estimator in Geosynchronous Orbit (FUEGO), would...

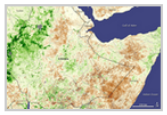
read more

Official launch of AfriGEOSS at AfricaGIS2013/GSDI14

WED NOV 6 2013

During the AfricaGIS2013/GSDI14, held this week in Addis Abeba, AfriGEOSS was launched on 5 November 2013. AfriGEOSS is an initiative by the intergovernmental Group on Earth Observations (GEO) aimed at building infrastructural capacities in Africa to benefit from geospatial data for sustainable development. GEO states: "The intergovernmental Group on Earth Observations (GEO) is playing a key...

read more

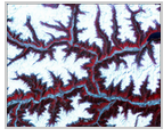


AfricaGIS 2013 and GSDI World Conference inaugurated in Ethiopia

TUE NOV 5 2013

The combined AfricaGIS 2013 and GSDI World Conference was inaugurated in Addis Ababa on 4 November 2013. The conference is jointly by EIS-Africa, the GSDI Association, the International Geospatial Society, the United Nations Economic Commission for Africa (UNECA) and Addis Ababa University and takes place from 4 to 8 November 2013. AfricaGIS is the largest regularly occurring GIS conference in...

read more



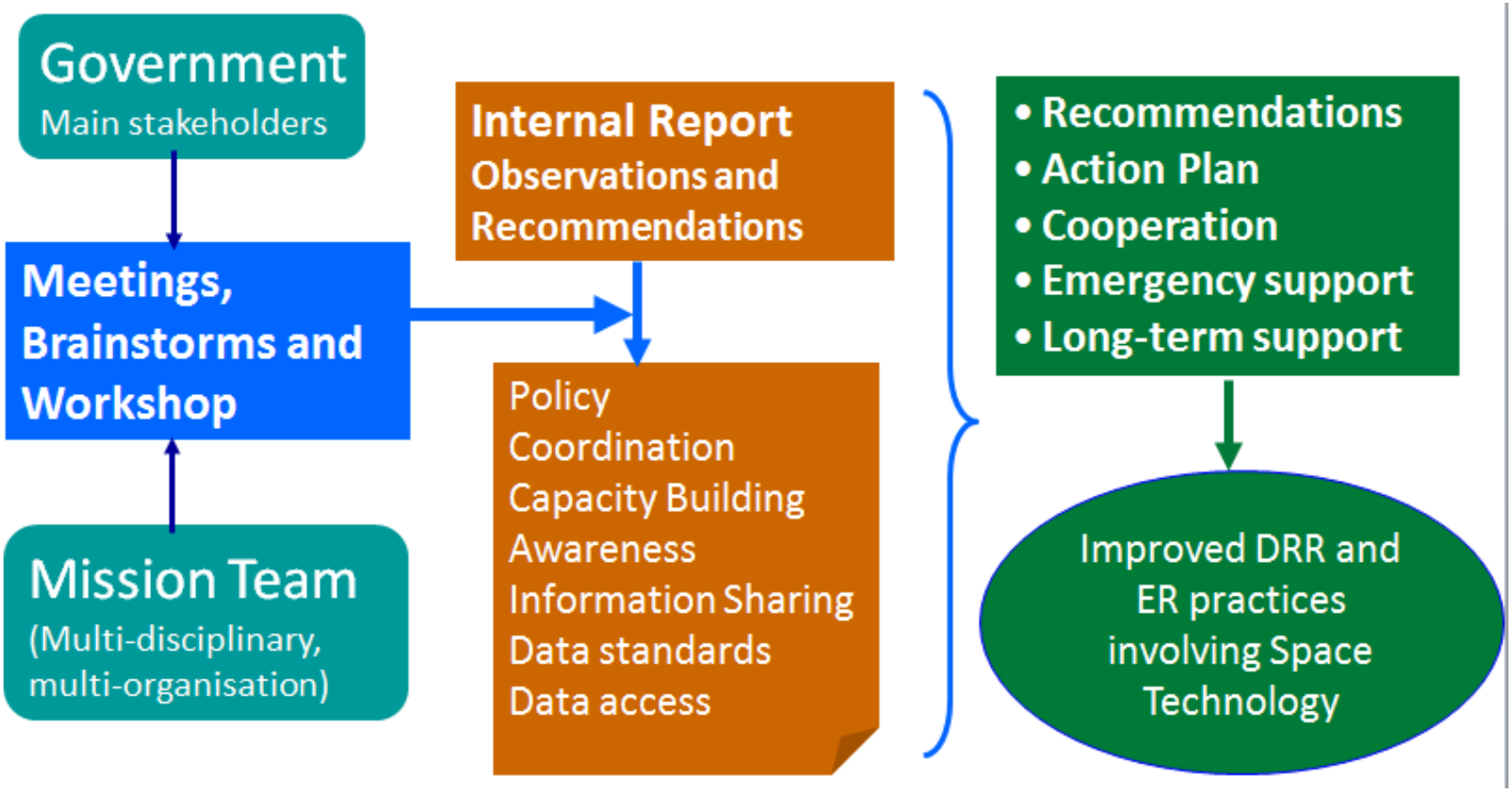
ICIMOD: Grants Programme for utilizing geospatial Tools and Services

MON NOV 4 2013

UN-SPIDER's Regional Support Office located in Nepal, the International Centre for Integrated Mountain Development (ICIMOD), has announced a Request for Proposals for the SERVIR-Himalaya Small Grants Program. The goal of the programme is to help growing the network of organizations, universities and institutions within the Hindu Kush-Himalaya region that utilize geospatial tools and services...

read more

Technical Advisory Missions



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Technical Advisory Mission (2008 - 2015)

Classes of recommendations from Advisory Missions

- **Policy and Coordination**
- **Awareness Raising**
- **Capacity Building and Institutional Strengthening**
- **Accessing and Processing of Data**
- **Information Flow and Management**
- **Strengthening International Cooperation**
- **Specific recommendations to address various stages of disaster management (risk reduction, early warning, emergency response etc.)**

Activities (sample) in 2013

Technical Advisory Mission

- **Vietnam**
- **Ghana**
- **Malawi**

Training

- **Bangladesh**
- **Sudan**
- **Dominican Republic**
- **Mozambique**
- **Indonesia**

Workshops/conferences

- United Nations/**Germany** Early Warning Expert Meeting, Bonn
- SPIDER/NDRCC training on drought, Beijing, **China**
- UN/China International Conference, Beijing, **China**
- Beijing Training: Flood Risk Mapping, Modeling and Assessment using Space technology, Beijing, **China**

Activities (sample) in 2014

Technical Advisory Mission

- **Kenya**, 3-7 March 2014
- **El Salvador**, 2-4 April 2014
- **Zambia**, 26-30 May2014
- **Bhutan**, 2-6 June 2014
- **Mongolia**, 11-15 August 2014

Training

- **Vietnam**, 3rd week September 2014
- **Sri Lanka**, 1st week November 2014

Workshops/conferences

- Regional Expert Meeting/CEPREDENAC to Central America, **El Salvador**, 31 March and 1 April
- Regional workshop ASEAN region (Partners – LAPAN, AHA), **Indonesia**, 15-17 April
- International training with ICIMOD on flood forecast and hazard mapping, **Nepal**, 9-13 June May
- United Nations/**Germany** Expert Meeting on Space Technologies for flood and drought risk reduction, 5-6 June
- UN/**China** International Conference on Space-based Technologies for Disaster, 15-17 September
- Course in space-based applications for Disaster Risk Reduction, **China**, 18-23 September

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UN-SPIDER capacity building efforts

UN-SPIDER
Technical Advisory Missions

→

Follow up actions
(Capacity Building):
- Institutional Strengthening
- Technical Training Workshops

Myanmar

Cameroon

Mexico

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UN-SPIDER activities in Namibia 2008 - 2010

2nd UN-SPIDER Bonn WS

Technical Expert Meeting Bonn

Regional Meeting Namibia

1st Charter activation

1st Technical Advisory Mission

3rd Charter call

Mar | Oct | Feb | Mar | Aug | Oct | Jan | time

2008 | 2009 | 2010

2nd Charter call

3rd UN-SPIDER Bonn WS

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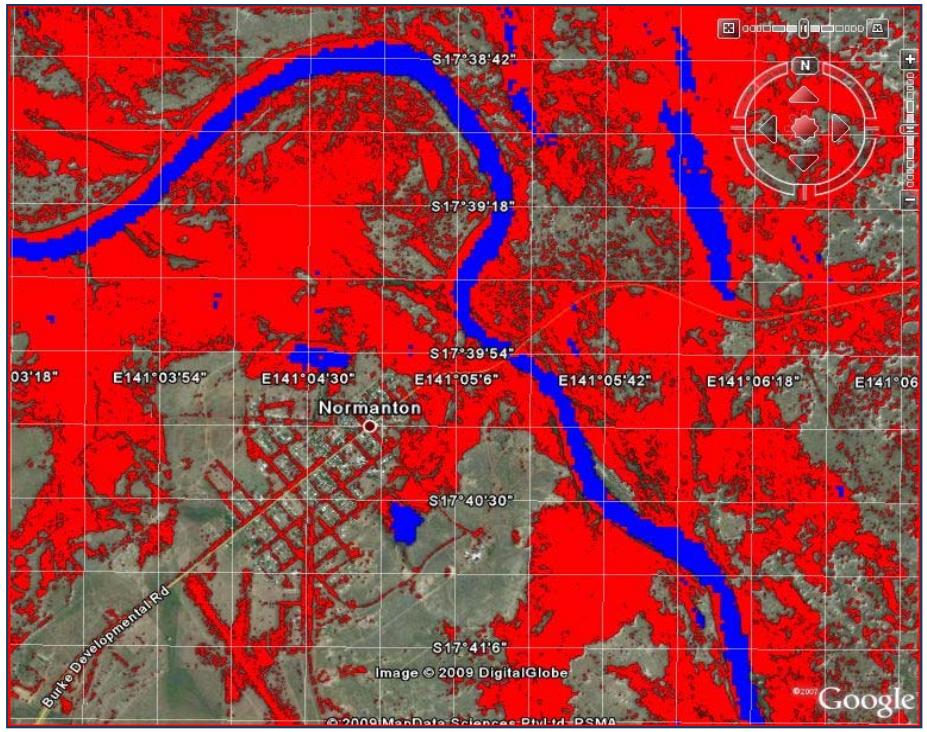
Technical Advisory Support

Example Namibia: Pilot project on integrated flood management and water related vector borne disease modelling

- UN-SPIDER co-leading efforts with NASA's GSFC and NOAA's CREST (Sensor Web Initiatives) together with DLR
- Derivation of flood forecasting models based on weekly EO-1, Formosat and QB collections
- Useful for next flooding season
- Technical experts meeting hosted in Bonn in October 2009 followed by field visits
- Regional Project Proposal developed



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UN-SPIDER Technical Advisory Mission, Sri Lanka

17 – 21 October 2011

1. *Ministry of Disaster Management (MDM)*
2. *Ministry of Technology and Research*
3. *Ministry of ICT and Telecommunication (ICTA)*
4. *National Building Research Organisation (NBRO)*
5. *International Water Management Institute (IWMI)*
6. *UN Country Team Information Management Group (UNCT IM):*
7. *Department of Meteorology*
8. *Coast Conservation Department*
9. *Telecommunication Regulatory Commission*
10. *Department of Survey and Mapping*
11. *Ministry of Public Administration and Home Affairs*

Cameroon Capacity Building 2012

- Follow-up of Technical Advisory Mission in 2011
- Requested after similar successful training in Burkina Faso
- 35-40 local participants (Civil Protection, UNDP, University, Meteo services staff)
- 5 international participants also (Civil Protection staff from Gabon, Burundi, Congo, DR Congo)
- Customized for French language as requested

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- Trainers from the Regional Centre for Training in Aerospace Survey (RECTAS) and UNU-EHS
- Geographic Information System & Remote Sensing analysis software donated by Esri (ArcGIS 10, French); ILWIS Academic version also used
- Sample imagery provided by RECTAS for the training modules
- Digital Globe Inc. provided recent very high resolution sample images of hotspots in Cameroon, as tasked; direct download and processing during training
- The training covered basic elements of remote sensing, GIS, simple data extraction and geo-referencing

UN-SPIDER Technical Advisory Support

Some Lessons learned

- Satellite meteorology does contribute to early warning, although access challenges remain
- Contribution of higher-resolution satellite imagery, while wider used in emergency response, is still in "incubation" stage in risk management and less used in other DM phases
- Rapid mapping products remain as reference information during emergency response in many cases, not reaching responders on the ground fast enough; faster access to data, better data sharing protocols and licensing arrangements needed
- Emergency satellite communications is still a less explored domain, though highly relevant
- Quick implementation of TAM recommendations and addressing specific agreed actions is highly dependent on resource availability to the Programme and target countries as well

Earth observation and the Sendai Framework for Disaster Risk Reduction 2015-2030

Sendai Goals

(e) Substantially increase the number of countries with **national and local disaster risk reduction strategies** by **2020**;

(g) Substantially increase the availability of and access to **multi-hazard early warning systems and disaster risk information and assessments** to people by 2030.

Sendai Framework

Priority 1: Understanding disaster risk

National and local levels

22(f) Promote real-time access to reliable data**, make use of space and in situ information, including GIS**, and use information and communications technology innovations to enhance measurement tools, collection, analysis and dissemination of data;

Global and regional levels

23(c) Promote and enhance, through international cooperation and technology transfer […] access to, and the sharing and use of, […] data, information, […] communication and **geospatial and space-based technologies and related services. Maintain and strengthen in situ and remotely-sensed earth and climate observations. […];**

Sendai Framework

Global and regional levels: proposed ways forward

- Proposed partnership involving international, regional and national organizations from the disaster-risk reduction and space communities as a way to facilitate the **use of space-based applications, including Earth observation.**
- Proposed partnership involving international, regional and national organizations as a way to improve Early Warning Systems worldwide, including through the **use of space-based applications and Earth observation.**

Global partnership: Voluntary commitments

- **Continue facilitating the dialogue among stakeholders** in EO, satellite-based technologies and the global community of DRR experts and policy makers;
- **Serve as a collective source and repository of information** on efforts carried out worldwide by the EO and the satellite-based technology communities, including surveys and guidelines to improve the applications of existing and emerging technology to monitor hazards, exposure and risks;
- **Generate policy-relevant advice** to contribute to the integration of EO and satellite-based technologies into development process and public policies relevant to DRR;
- **Facilitate the use of EO and related satellite-based technology** to monitor progress in the implementation of the post-2015 framework for DRR.

Global partnership Earth Observation

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ICIMOD

NDRCC

CEOS

UN-SPIDER

GEO

ASIAN DISASTER REDUCTION CENTER

MEXT MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE AND TECHNOLOGY-JAPAN

FAO FIAT PANIS

SDIM

IWMI 30
International Water Management Institute

UNOSAT
satellite imagery for all
www.unosat.org

esa

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

DLR Deutsches Zentrum für Luft- und Raumfahrt
German Aerospace Center

TOHOKU

DEFENSA CIVIL DC REPUBLICA DOMINICANA

GFDRR
Global Facility for Disaster Reduction and Recovery

JAXA

Disaster Management Centre

International Network for Multi-Hazard Early Warning Systems (IN-MHEWS)

- Proposed by a number of UN organizations and their partners/ stakeholders at WCDRR's Working Session on Early Warning as joint effort to assist and advise States and organizations in sustaining and improving their multi-hazard early warning services as an integral component of national DRR and climate change adaptation strategies

- Builds on the experience, good practice, and achievements of States and the international community in MHEWS within participating partners' organizational mandates

- Based on "hazard clusters" which address cascading impacts of related hazards and to identifies relevant stakeholders groups at different levels, "functional clusters", and regional MHEWS networks

- Focused on a "1+2" approach: Seamless MHEWS based on Standard Operating Procedures (SOPs) + impact-based forecasting and risk-based warnings

Key objectives of IN-MHEWS:

1. **Identify effective strategies and actions to promote and strengthen MHEWS in support of the implementation of the Sendai Framework (e.g. Words into Action guides), the UN Plan of Action on DRR for Resilience, GFCS, etc.;**

2. **Facilitate sharing of good practices and making available to governments and key stakeholders policy-relevant guidance to enhance MHEWS and related services, as an integral component of their national strategies for DRR, climate change adaptation, and resilience/sustainable development strategies;**

3. **Promote synergies and partnerships between and among stakeholders at national, regional and international levels and those in charge of MHEWS at national and local levels and strengthening of user-interface platforms**

4. **Advocate usefulness of MHEWS in regional and international platforms and among key stakeholders, including donors, and across all sectors.**

→ focus is on integration and crosscutting activities and provision of a coordination and advisory mechanism that brings stakeholders and experts from different sectors and hazard clusters together

→ IN-MHEWS is not to be an operational network of MHEWS, but a "preferred source of information on MHEWS and related efforts worldwide

Partners of IN-MHEWS

Jointly proposed by:

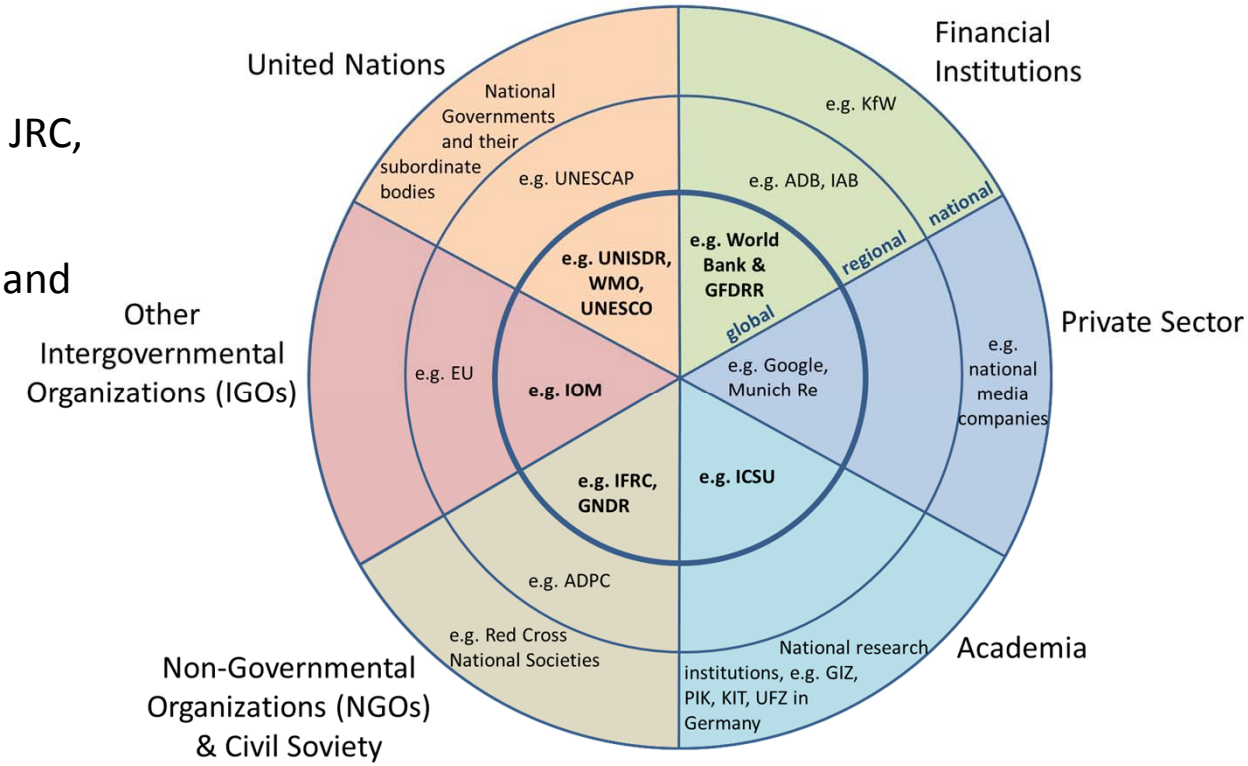
- WMO, WHO, UNDP, UNESCO-IOC, UNESCAP, UNISDR, UNOOSA / UN-SPIDER, IFRC, ITU, GFZ, and GIZ

Further expressions of interest:

- UNESCO, UNEP, UPU, IAEA, EC JRC, private companies
- National delegates to WCDRR and WMO Cg-17 from China, Ecuador, France, Germany, India, Indonesia, Italy, and the Philippines

Further potential partners:

- IMO, FAO, WFP, ICSU, GFDRR, ...



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