

The approach of UN-SPIDER in assisting nations in implementing the Sendai Framework for Disaster Risk Reduction

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Office for Outer Space Affairs



United Nations Office for Outer Space Affairs: 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;
- Maintains the **Register of Objects Launched into Outer Space** as per the Convention on Registration of Objects Launched into Outer Space which was enacted in 1976.



- Sendai Framework for Disaster Risk Reduction 2015-2030
 - **7 global objectives with global and national targets and indicators**
- +
- Sustainable Development Goals
 - **17 goals and 169 targets**
- +
- Climate Change COP 21
 - **National commitments**



Sustainable Development Goals: the relevance of space technology



Direct

Indirect



Sendai Goals

- (a) Substantially reduce global disaster **mortality** by 2030...
- (b) Substantially reduce the number of **affected** people globally by 2030...
- (c) Reduce direct disaster **economic loss** in relation to global gross domestic product (GDP) by 2030
- (d) Substantially reduce disaster damage to **critical infrastructure** and disruption of **basic services**, among them **health** and educational facilities, including through developing their resilience by 2030;
- (e) Substantially increase the number of countries with **national and local disaster risk reduction strategies** by **2020**;
- (f) Substantially enhance **international cooperation** to developing countries ...
- (g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments** to people by 2030.



Definition of agendas: e.g. Sendai framework

- Co-organise working session: “Earth observations and high technology to reduce risks” working session
- Co-organise public forum: “New global framework for sharing of space technology and data standards to serve nations’ disaster management needs”
- Contributed to working session: “Early Warning”
- Co-author White Paper “A global partnership for Earth observation to support nations in their disaster risk reduction efforts”
- Co-author White Paper “International network for multi-hazard early warning systems (IN-MHEWS): a multi-stakeholder partnership for promoting a holistic and integrated approach to early warning systems and services for disaster risk reduction and resilience”



1. Post-2015 framework for disaster risk reduction

As of 28/01/2015

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. [...]**;



Post-2015 framework for disaster risk reduction - voluntary commitments

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.**



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Global partnership



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für Luft- und Raumfahrt
German Aerospace Center



GFDRR
Global Facility for Disaster Reduction and Recovery



Disaster Management Centre



14-18 March 2015
Sendai, Japan

About

Programme

Earth Observation and High Technology to Reduce Risks

Multi-Stakeholder Segment, Working session - Commitments to Implementation

Organizer(s): WCDRR

Venue: Sendai International Centre Room N^o: Exhibition Hall 1 [See Map](#)

Sunday 15 March 12:00 - 13:30

Primary floor language: English

The session demonstrated how new innovations in the application of earth observation, satellite geospatial information and ICT can support the implementation of the new framework for disaster risk reduction. The session shared good practices and examples of the practical application of satellite and earth observation technologies for disaster risk reduction. Emphasis was on the users of satellite data and services to identify and assess risks.



Earth observations in support of national strategies for disaster-risk management

A Synergy Framework for the integration of Earth Observation technologies into Disaster Risk Reduction

Final Issue, dated 25 February 2015



UNOOSA International follow-up conferences

- “**United Nations/Germany** International Conference on Earth Observation – Global solutions for the challenges of sustainable development in societies at risk” (May 2015)
- “**United Nations/China** International Conference on Space-based Technologies for Disaster Management - A consolidating role in the implementation of the Sendai Framework for Disaster Risk Reduction: 2015-2030” (Sept. 2015)



Sendai Framework

Sendai Framework for Disaster Risk Reduction

Intergovernmental Expert Working Group

Commitments

Words Into Action

Terminology

Hyogo Framework for Action

Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction

As indicated in paragraph 50 of the Sendai Framework for Disaster Risk Reduction, the WCDRR conference recommended that the UN General Assembly establish an open-ended intergovernmental expert working group, comprised of experts nominated by States, and supported by the United Nations Office for Disaster Risk Reduction (UNISDR), with involvement of relevant stakeholders, for the development of a set of possible indicators and terminology to measure global progress in the implementation of Sendai Framework in coherence with the work of the inter-agency and expert group on sustainable development indicators.

EVENT

First formal session: 29-30 September – preceded by an informal session on 28 September

The first formal session of the open-ended intergovernmental expert working group will be held in Geneva, Switzerland on 29-30 September, and will be preceded by an informal session on 28 September. Sessions will be held in the Palais des Nations.



UN-SPIDER Activities



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





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KNOWLEDGE PORTAL

Space-based information for Disaster Management and Emergency Response

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

UN-SPIDER, UNDP and the Department of Disaster Management (DDM) (Ministry of Home and Cultural Affairs) conducted follow up activities and a 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.

Explore el Portal del Conocimiento

¿Cómo se puede emplear la tecnología espacial en caso de desastres?

¿Dónde puedo acceder a datos satelitales y otros recursos?

¿Quiénes son los usuarios de la tecnología espacial para los desastres?

¿Qué es lo que ONU-SPIDER puede proporcionar a los Estados Miembros?





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



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

global agreement on climate change; and a new set of targets for economic, social and environmental development: the Sustainable Development Goals (SDGs) which are building on the Millennium Development Goals running out at the end of 2015.

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 its 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.

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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 Agustín 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 (JFSM) 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](#)

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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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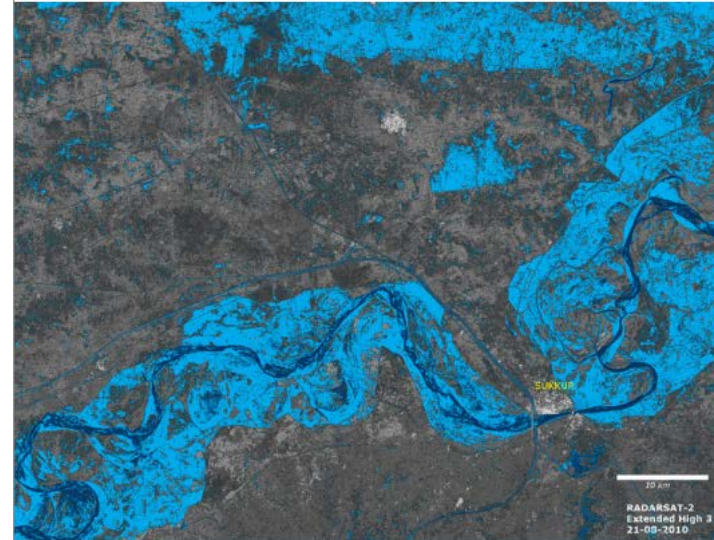


Effective use of Space-based information to monitor disasters and its impacts

Lessons Learnt from Drought in Iran

prepared by Iranian Space Agency

UN-SPIDER REGIONAL SUPPORT OFFICES



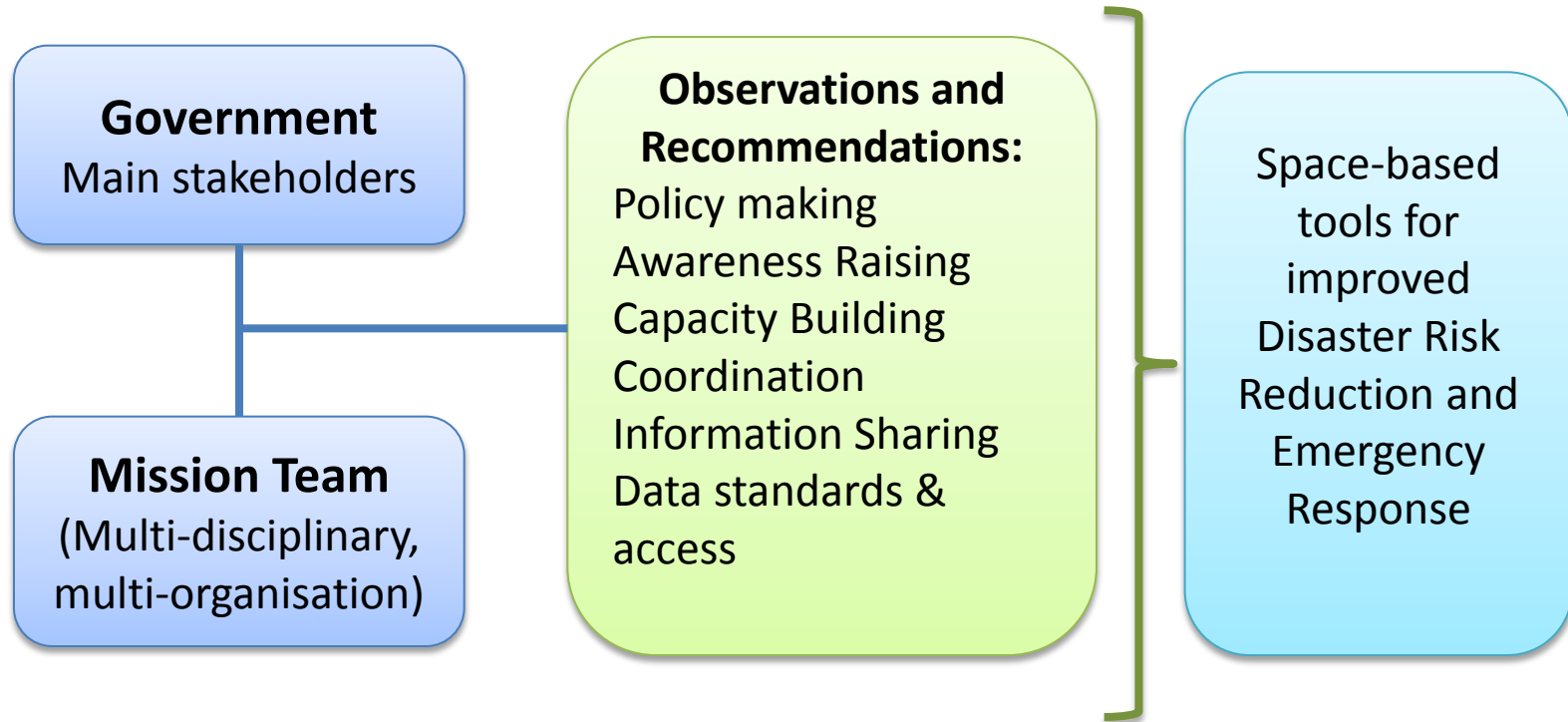
Effective use of Space-based information to monitor disasters and its impacts

Lessons Learnt from Floods in Pakistan

prepared by SUPARCO, Pakistan



UN-SPIDER **Technical Advisory Missions**





Needs

- **Strengthen** existing early warning systems **using geospatial data**;
- Strengthen the **use of** up-to-date Earth observation data and geographic data;
- Strengthen disaster management and contingency **plans** with the incorporation of **space-based and geospatial information**;
- Help develop cooperation and data sharing **agreements**;
- Support National Spatial Data Infrastructures;
- Facilitate access to **international mechanisms** such as the International Charter Space and Major Disasters, Sentinel Asia and EU-Copernicus;
- Develop good **information management** protocols;
- Conduct **training courses** in remote sensing and/or GIS, vegetation and water information extraction related to drought; drought risk assessment and for rapid mapping for drought monitoring and risk assessment;
- Help in preparing **inter-institutional arrangements**
- Help develop **core datasets** on, *inter alia*, real time weather information, climate change resiliency information, flood plain and flood risk, flash flood modelling and prediction, and fire warning systems.



Impacts (1 of 2)

- **Vietnam**

- Government translated Advisory Report to Vietnamese
- Government organised national workshop with regional authorities and delegated responsibilities to implement recommendations of advisory report
- Government signed MoU with JAXA on imagery, capacity building
- Buy-in at ministerial level

- **Bhutan**

- UN Development Programme (UNDP) invited to participate to assessment of UN-SPIDER
- UNDP has integrated space-based geospatial info in its disaster management plan working closely with national disaster management authorities and UN-SPIDER



Impacts (2 of 2)

- **Sri Lanka**

- Has implemented over 50% recommendations of TAM, as informed by the Secretary of Ministry of Disaster Management
- Implementation of NSDI

- **Latin America**

- Advisory provided to 3 countries so far
- Expert meeting in drought monitoring and early warning with 6 countries in San Salvador in 2014
- Expert meeting as side event to Semana Geomática in Bogotá in 2015
- Helped develop a regional network of authorities and practitioners, working with CEPREDENAC



2030 Agenda for Sustainable Development



People: end poverty and hunger and ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.

Planet: protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change.

Prosperity: all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.

Peace: foster peaceful, just and inclusive societies which are free from fear and violence.

Partnership: mobilize the means required to implement this Agenda.