



MARCH 2015 UPDATES

UN-SPIDER at a glance

UN-SPIDER to conduct two training programmes in Asia in April

In April 2015, UN-SPIDER is organising two training programmes in Asia. From 5 to 9 April, UN-SPIDER, in cooperation with the Department of Disaster Management (DDM) of Bangladesh, is conducting the 5-day course “Earth Observation Technologies for Disaster Damage and Loss Assessment”. It aims to strengthen damage and loss assessment by offering specific skills on using satellite images to contribute to damage and loss assessment within DDM and other important stakeholder departments. From 13 to 17 April, UN-SPIDER and UNDP Bhutan is conducting a training session for Bhutanese officials on Response and Recovery Preparedness at the Centre for Space Science Technology Education in Asia and the Pacific (CSSTEAP) in Dehradun, India. The activity is a follow up of the UN-SPIDER Technical Advisory Mission to Bhutan in November 2014.

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New international framework for disaster risk reduction mentions importance of Space technologies

After 30 hours of negotiations, the 187 Member States that attended the Third UN World Conference on Disaster Risk Reduction (WCDRR) in Sendai, Japan, agreed in the evening of 18 March on the post-2015 framework for disaster risk reduction, valid for the period 2015 to 2030. It contains seven targets and four priorities for action. As in the previous draft versions, the framework specifically mentions Space-based information both for the local and national as well as for the global and regional levels. For example, the text underscores the importance to “develop, update periodically and disseminate, as appropriate, location-based disaster risk information, including risk maps, to decision makers, the general public and communities at risk to disaster in an appropriate format by using, as applicable, geospatial information technology”.

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WCDRR: A global partnership on Earth observation for disaster risk reduction

UNOOSA/UN-SPIDER successfully co-organised a working session on Earth observation and high technology to reduce disaster risks on Sunday, 15 March 2015 during WCDRR in Sendai, Japan. The session focused on the roles of Earth observation, geospatial information, information and communication technologies (ICT) and robotics in disaster risk reduction, and their contribution to quantitatively monitoring the progress of disaster risk reduction. One of the key outcomes of the session was the formation of a global partnership comprised of UNOOSA and fifteen partners from the Space community, from the development community and from the disaster-risk reduction community. Among others, it aims to facilitate the dialogue among stakeholders in Earth observation, satellite-based technologies and the global community of disaster risk reduction experts and policy makers.

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WCDRR: Public Forum on geospatial information for disaster resilience

On Sunday, 15 March 2015, UNOOSA/UN-SPIDER co-organised a public forum on the sidelines of WCDRR together with IRIDeS of Tohoku University, DLR and JAXA. The forum themed “Enhancing Disaster Resilience by Fusion of Simulation, Sensing and Geospatial Information” focused on enhancing society’s resilience towards future catastrophic disasters by providing possible and severe disaster scenarios and leading actions of citizens. It provided an opportunity to share the advances of disaster management systems by fusion of simulation, sensing and geo-informatics, and to discuss its utilization and future perspectives. During this event presentations were delivered by DLR, UNOOSA/UN-SPIDER, JAXA, CEOS and UN-SPIDER’s Regional Support Office ADRC (Asian Disaster Reduction Center).

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UNOOSA/UN-SPIDER contributes to Early Warning Session at WCDRR

Experts of UN-SPIDER as well as UNOOSA's director Simonetta Di Pippo contributed to a working group on early warning during WCDRR on Saturday, 14 March. In her statement, Ms Di Pippo stressed the significant progress in strengthening multi-hazard, end-to-end early warning systems over the past ten years. "Progress has been particularly evident in the development of observation and monitoring systems and the strengthening of communication/information on risks, as part of the overall efforts to strengthen disaster resilience."

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WCDRR: CANEUS public forum on sharing Space data

On 17 March 2015, UNOOSA/UN-SPIDER contributed to a side event at WCDRR in Sendai, Japan, organized by the CANEUS (Canada-Europe-US-Asia-Africa) International Organization. The forum focused on the need to collaborate and share information on an international level in order to mutually enhance the capabilities of nations to cope with disasters. UNOOSA's director Simonetta Di Pippo held a keynote presentation presenting the Office's work. UN-SPIDER's experts Shirish Ravan and Joachim Post held presentations on user requirements and high resolution Earth observation applications and on flood monitoring and the importance of sharing recommended practices.

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UNOOSA participates in CEOS Working Group on Capacity Building

UNOOSA/UN-SPIDER expert Lorant Czaran participated

in the fourth meeting of the CEOS Working Group on Capacity Building and Data Democracy (WGCapD) from 18 to 20 March 2015 in Pretoria, South Africa. CEOS is the Committee on Earth Observation Satellites. UNOOSA is an associate member of CEOS and an active participant in the Working Group. In its fourth meeting, the participants discussed issues such as the status of main projects and courses. UNOOSA presented the Offices' various capacity building activities including UN-SPIDER's Technical Advisory Missions and training efforts. UNOOSA/UN-SPIDER also contributed to a workshop on Digital Elevation Models that was held back to back with the meeting in South Africa.

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UNOOSA/UN-SPIDER supports summer courses at Central European University

UNOOSA and UN-SPIDER are supporting two summer courses at the Central European University in Budapest, Hungary this July on "Bridging ICTs and Environment". "Making Information Talk and Technologies Work" will take place from 6 to 10 July 2015 and is co-sponsored by UNOOSA's Programme for Space Applications. The course aims to bridge the gap between decision- and policy-makers and ICT technologies (e.g. GIS, remote sensing), making data and emerging technologies more accessible, usable, and relevant for decision-making. "Innovations in Disaster Risk Management" will take place from 13 to 17 July 2015 and aims at bridging the gap between decision- and policy-makers and ICTs in the realm of disaster management and risk recovery.

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Data application of the month

In this section, the UN-SPIDER team presents every month a specific example of a satellite data application for disaster risk reduction or emergency response.

Access the full list [here](#).

Precipitation

Floods, landslides, and droughts are hazards that are triggered by excess or shortage of precipitation. Monitoring precipitation is important to see those hazards coming and to enable decision makers to take measures as early as possible. Precipitation data - together with ancillary data - thus help to prevent that natural hazards turn into disasters. A whole fleet of weather satellites is

in orbit. However, few satellites are designed specifically to measure rain, snow, and other types of precipitation at a global scale. TRMM and GPM are such specialized satellites using active radar and passive radiometers to diagnose what is happening in the clouds. They can provide 3-D views of storms.

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News from our Regional Support Offices

Nepal: ICIMOD conducts workshop about rapid response mapping

The International Centre for Integrated Mountain Development (ICIMOD), UN-SPIDER's Regional Support Office in Nepal, organised a workshop on Rapid Response Mapping and Information system on 4 March 2015. The event took place under the framework of SERVIR-Himalaya, and in cooperation with the Japan Aerospace Exploration Agency (JAXA), the Asian Institute of Technology (AIT) and the Ministry of Home Affairs (MOHA) of Nepal. The workshop had been developed due to the increasing frequency of natural disasters across the world and in countries such as Nepal, and the important role of Space technologies in reducing their impact through disaster risk management.

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Bolivia: UN-SPIDER RSO Recommended Practice used in International Charter activation

A Recommended Practice elaborated by UN-SPIDER's Regional Support Office in Ukraine NASU-SSAU, was used to create maps in a recent activation of the International Charter: Space and Major Disasters for the Plurinational State of Bolivia. The mechanism was triggered on 25 February 2015 after heavy floods started affecting the northern part of the country. The United States Geological Survey (USGS) was the project manager for the activation and the Rochester Institute of Technology created the maps based on satellite radar data obtained from the German Aerospace Center's Terra-SAR-X satellite using the step-by-step instructions of

the Recommended Practice. The Practice is freely available on the UN-SPIDER Knowledge Portal.

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Argentina: Satellite images support flood damage mitigation

The Argentinean National Space Activities Commission (CONAE) has been producing information about recent floods based on radar satellite images. In March, the provinces of Santa Fe and Santiago del Estero suffered from intense floods. Satellite imagery of the affected areas has served as support for the efforts of national institutions and organisms to mitigate the damages. The imagery was obtained from the Italian Cosmo SkyMed mission as well as from Landsat and SPOT5 satellites.

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CONAE provides maps to fight fires in the Andes

The Argentinean National Space Activities Commission (CONAE) is providing heat spotlight maps based on satellite images that show the environmental conditions of the Andean-Patagonian native forests, which is crucial information to mitigate the fires in the province of Chubut, Argentina. The maps are based on data from NASA's Landsat, Terra and Aqua satellites. The data is downloaded to and pre-processed in the Earth Station Space Center Teófilo Tabanera (CETT).

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News from our Community

GFDRR and DFID: Challenge Fund to improve disaster risks assessment

The Global Facility for Disaster Reduction and Recovery (GFDRR) and the UK Department for International Development (DFID) announced the launch of their Challenge Fund on March 16, 2015, at the World Conference on Disaster Risk Reduction (WCDRR) in Sendai, Japan. The fund aims to help developing countries use risk information for decision-making and improve assessing disaster risks.

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Satellite technology to reduce drought risk in Kenya

Satellite technology helps to monitor drought in Kenya providing detailed information about the strength, location, spatial extent and duration of the drought. The spatial information allows an analysis of the drought situation in the country and in some of the most affected regions such as Wajir, Marsabit, Isiolo and Garissa. This allows for better disaster management and facilitates the request for donor support.

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Using GPS data to characterize earthquake fault lines

The University of Iowa, in cooperation with the United States Geological Survey (USGS), published a study on how GPS and satellite data can be used in real-time to describe a fault line of an earthquake within one day. Using this new method, aid can be delivered faster and more precisely than ever before. An earthquake, which took place on August 24, 2014 in South Napa, California, was analysed to create a three-dimensional map of how the earthquake with a magnitude of 6.0 moved the ground surface was created, by using only GPS and satellite measurements.

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Indonesia: Fujitsu announces smartphone-based disaster information-sharing tool

On 22 March Fujitsu Limited and PT. Fujitsu Indonesia announced the completion of a participatory disaster information-sharing system, created for Jakarta's Regional Disaster Management Agency, BPBD DKI. The smartphone application, which lets residents share disaster information, will be ready to go this month. The app receives real time information from individuals as well as from BPBD DKI, Jakarta's Disaster Information Management System, to which it is linked.

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DigitalGlobe: Community to help map damage in Vanuatu through Tomnod

DigitalGlobe's Tomnod programme asked its crowdsourcing volunteers to map the damage caused by Cyclone Pam in Vanuatu. Tomnod is a programme using crowdsourcing to identify objects and places in satellite images. Volunteers can use satellite images to help countries recovering from disasters as in the case of the category 5 cyclone in the island nation of Vanuatu, which has destroyed the basic infrastructure leaving thousands of people displaced. In the app, users can switch between pre-event and post-event imagery to help determine the exact situation.

Read more: [Knowledge Portal](#)

Amazon Web Services offers free satellite imagery

Customers of Amazon Web Services will have free access to over 85,000 satellite images provided by Landsat 8. The Landsat imagery is probably the most comprehensive publically available set of satellite images of the Earth. It covers the entire globe and is frequently updated. It is widely used across a variety of fields, including regional planning, surveillance, agriculture, cartography, geology, forestry, and education.

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Sixth Galileo satellite already in its target orbit

The sixth Galileo satellite, part of the European navigation system, has now entered its corrected target orbit, after a successful recovery plan. It follows the fifth Galileo which had entered the orbit at the end of November 2014. Its corrected position is a mirror image of the fifth satellite's, placing the pair on opposite sides of the planet. The corrected orbit means they will overfly the same location on the ground every 20 days. This compares with a standard Galileo repeat pattern of every 10 days, helping to synchronise their ground tracks with the rest of the constellation.

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UNDP and Tohoku University launch Global Centre for Disaster Statistics

The UN Development Programme (UNDP) and the International Research Institute of Disaster Science (IRIDeS) at Tohoku University launched the "Global Centre for Disaster Statistics" on 15 March 2015 at the Third UN World Conference for Disaster Risk Reduction (WCDRR) in Sendai, Japan. As a result of a long partnership, the new Centre will help deliver quality, accessible and understandable disaster data to Member States as they endeavor to achieve the goals of the Post-2015 Framework for Disaster Risk Reduction.

Read more: [Knowledge Portal](#)

India successfully launches fourth regional navigation satellite

As announced in the beginning of March, the Indian Space Research Organisation (ISRO) successfully launched its fourth regional navigation satellite IRNSS-1D on 27 March from Sriharikota, Andhra Pradesh, India. The satellite, launched onboard the Polar Satellite Launch Vehicle (PSLV-C27), was already in orbit 21 minutes after take-off. IRNSS-1D is part of the Indian Regional Navigation Satellite System (IRNSS), which is currently created by ISRO.

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Rwanda implements the first Land Use Mapping Portal in Africa

Rwandans can now easily access land-use plans and other spatial data through the National Land Use Planning Portal (NLUPP). The portal, the first of its kind in Africa, has been established on Esri's ArcGIS platform by the Rwanda Natural Resources Authority with the financial support of the United States Agency for International Development (USAID). "Disseminating national and district land use plans to the public, facilitating access to information related to land use planning in Rwanda and increasing awareness and





education on land use planning in Rwanda” are the primary objectives of the effort, according to the Rwanda Natural Resources Authority.

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NASA releases first global rainfall and snowfall map

NASA’s Global Precipitation Measurement mission has produced its first global map of rainfall and snowfall. The GPM Core Observatory – launched one year ago on 27 February 2014, as a collaboration between NASA and the Japan Aerospace Exploration Agency – acts as the standard to unify precipitation measurements from a network of 12 satellites. The result is NASA’s Integrated Multi-satellite Retrievals for GPM data product, called IMERG, which combines all of the data from 12 satellites into a single, seamless map.

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Chinese Gaofen-2 earth observation satellite comes into service

On 6 March, China’s most advanced Earth observation satellite, the Gaofen-2, was put into service after being launched in August. The Gaofen-2 is the second of seven satellites that will be launched for the Gaofen mission, China’s high-definition observation project, before 2020. The project was initiated in May 2010 and Gaofen-1 was launched in April 2013. The new satellite is able to see 0.8-meter-long objects from space in full colour and collect multispectral images of objects 3.2 meters or longer, according to the Chinese State Administration of Science, Technology and Industry for National Defense.

Upcoming events

Apply now! 26-28 May 2015, Bonn, Germany: United Nations/Germany International Conference on Earth Observation

2015 will be a decisive year for sustainable development worldwide. Three important processes led by the United Nations are underway resulting in: the Post 2015 Framework on Disaster Risk Reduction (March 2015), the Sustainable Development Goals (September 2015), and the new climate change Agreement (December 2015). The United Nations/Germany International Conference on Earth Observation – Global solutions for the challenges of sustainable development in societies at risk aims at bridging the gap between Earth observation experts and decision makers to find Earth observation solutions that match the challenges

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United Nations General Assembly adopts resolution on Global Geospatial Information Management

Delegates in the General Assembly of the United Nations adopted a consensus resolution last week, by which they addressed global geospatial information management. The document entitled “A global geodetic reference frame for sustainable development” (A/RES/69/266) urges States to voluntarily implement open sharing of geodetic data, standards and conventions, inviting them to improve national geodetic infrastructure and engage in multilateral cooperation that addressed infrastructure gaps and duplications, towards the development of a more sustainable geodetic reference frame.

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International Charter activated six times in March 2015

The International Charter: Space and Major Disasters was activated six times in March, three times for events in Chile. On 3 March, it was activated for an eruption at Villarrica Volcano in southern Chile. On 12 March, the cause of the activation was an oil spill off the coast of Viet Nam. On the same day, it was activated to support response efforts in Vanuatu with satellite-based maps due to the Cyclone Pam. The International Charter was activated again for Chile on 14 March for a forest fire in Valparaiso and Viña del Mar and on 25 March for a flood in Northern Chile. On 30 March, the mechanism was triggered for a flood and landslide in Jammu and Kashmir State, India.

Read more: [International Charter](#)

of governments in societies at risk. The application deadline for funded participation has passed, but it is still possible to apply for self-funded participation.

Read more: [Knowledge Portal](#)

1-5 June 2015, Hangzhou, China: East Asia Summit (EAS) workshop on Application of Space Information Technology in Major Natural Disaster Monitoring and Assessment

The EAS workshop aims to offer a forum for disaster management communities and experts to share experiences on applications of space-based information in major natural disaster monitoring and assessment between EAS member countries, strengthen their capabilities and exchange the



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progress of advanced applications of remote sensing technology in disaster risk reduction.

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1-5 June 2015, Hangzhou, China: 2nd ASEAN workshop on “Development of mechanisms for acquisition and utilisation of space-based information during emergency response”

This event is being organised back-to-back with the EAS workshop. The ASEAN workshop aims to advocate the mechanisms and standard operating procedures for utilisation of space-based information during emergency response for ASEAN member states.

Read more: [Knowledge Portal](#)

9-10 June, Beijing, China: International Workshop on Supporting Future Earth with Global Geo-Information

Future Earth is a global research platform aiming to provide knowledge and supporting to accelerate our transformations to a sustainable world. Dynamic Planet, Global Development and Transformations towards Sustainability are its three research themes. These depend critically on the availability and utilization of reliable information at both local and global scale. This joint workshop by UN-SPIDER, the National Geomatics Center of China (NGCC), the Chinese National Committee for Future Earth (CNC-FE), the Chinese National Administration of Surveying, Mapping and Geoinformation (NASG), LIESMARS, and Wuhan University will present the latest development of global spatial data production and sharing, exchange successful application experiences of global geo-information, examine up-to-date user requirements and key gaps, and identify major challenges. It aims at promoting the multi-disciplinary collaboration towards providing reliable global geo-information to support Future Earth.

Read more: [Knowledge Portal](#)

Apply now! 7-10 September, Graz, Austria: United Nations/Austria Symposium for Integrated Space Technology Applications for Climate Change

Satellites offer a unique point of view to observe climate change-related variables and features at the global level such as sea-level rise, deforestation trends or carbon emissions; and to measure on a permanent basis other parameters which may be too difficult or costly to observe from the ground such as changes in polar ice-caps and glaciers, and

social trends such as increasing exposition of vulnerable communities to phenomena related to Climate Change. Among other goals, this symposium aims to discuss ways in which countries affected by climate change can make better use of space applications to assess vulnerability to climate change and to identify potential alternatives in the context of mitigation and adaption to climate change. The symposium is now open for applications.

Read more: [UNOOSA](#)

