



JULY 2014 UPDATES

UN-SPIDER at a glance

Dominican Republic: Using novel geospatial tools for hurricane response

On 30 July 2014, USSOUTHCOM's Science, Technology and Experimentation Division, the National Emergency Commission (NEC) of the Dominican Republic and the UN-SPIDER programme organized a simulation in Santo Domingo, Dominican Republic, as a way to demonstrate the usefulness of the GEOSHAPE application in emergency response efforts. The simulation was conducted with the aim of integrating this application into the routine procedures employed by the Dominican Republic's National Emergency Operations Center. The simulation also involved the EIGEO technical team established by the NEC at the recommendation of UN-SPIDER.

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First Preparatory Committee meeting for WCDRR concluded

On 14 and 15 July 2014, Member States and major groups convened in Geneva, Switzerland for the First Session of the Preparatory Committee of Third United Nations World Conference on Disaster Risk Reduction (WCDRR) to provide clear guidance and inputs to what the post-2015 framework should look like. In March 2015, Member State delegations will come together during the WCDRR in Sendai, Japan, and will agree on a global post-2015 framework for Disaster risk reduction. Two representatives of UNOOSA and UN-SPIDER participated in the session to raise awareness on the importance of satellite-based information for the post-2015 framework for disaster risk reduction and to continue planning an official side event during the WCDRR with several partners.

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Crowdsource mapping: UN-SPIDER talks at AGIT2014 conference

UN-SPIDER participated in the 2014 session of AGIT

"Geospatial Innovation for Society", a three day conference for the international geoinformatics community. The conference took place from 2 to 4 July 2014, in Salzburg, Austria and brought together over 1,000 participants and 60 expositions. UN-SPIDER's expert contributed to the session "Disaster Management 2.0 and natural Hazards" organized by the GIScience Research Group of the Institute of Geography of Heidelberg and Z_GIS at the University of Salzburg. The presentation focused on the collaboration of UN-SPIDER and the Crowdsourcing Community in order to improve disaster management and the generation and sharing of information.

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UN-SPIDER participates in 2014 Toulouse Space Show

On 2 July 2014, UN-SPIDER's Senior Programme Coordinator, Mr Luc St-Pierre, participated in the roundtable "Crisis management and mitigation: anticipating, managing and rebuilding" of the 2014 Toulouse Space Show in France. The 90 minutes roundtable was attended by over 100 experts and allowed UN-SPIDER to present its work, highlighting the programme's two goals: Raise awareness on how to access and use Earth observation for disaster risk reduction or emergency response; and raise awareness on the application of space-based information for disaster preparation, mitigation or early warning.

Read more: [Knowledge Portal](#)

Dominican Republic: Supporting wild fire response

In late July 2014, La Vega Province of the Dominican Republic was heavily affected by forest fires. Over 5,000 hectares of forest have been burnt. In response to the request for support by the National Emergency Commission of the Dominican Republic, UN-SPIDER requested the activation of the International Charter: Space and Major Disasters. The activation was officially triggered by USGS on 30 July 2014. The Center for Satellite-based Crisis Information (ZKI)



of the German Aerospace Centre (DLR) was designated as Project Manager on behalf of the International Charter and has prepared maps displaying the extent of the burnt area using satellite imagery from different satellites. UN-SPIDER has compiled these and other satellite-based resources for these forest fires in the Dominican Republic on the Knowledge Portal.

Read more: [Knowledge Portal](#)

Call for experts: Join our Technical Advisory Mission to Gabon

At the invitation of the Government of Gabon, and in connection with the upcoming GEO-XI Plenary in Gabon,

UNOOSA (through the UN-SPIDER Programme) is tentatively planning to conduct a Technical Advisory Mission (TAM) to Gabon from 4 to 7 November 2014. UN-SPIDER is therefore seeking four to six qualified international experts from the space- and Disaster Management communities who would be interested to volunteer for participating in this Mission, if confirmed. Interested candidates should ideally have good expertise in various areas of disaster preparedness and response, as well as in the use of space technology, spatial data infrastructures or policy analysis in that context. Specific experience in Gabon and affiliation with a regional or international entity working in Gabon or in the region are further advantages.

Read more and apply: [Knowledge Portal](#)

News from our Regional Support Offices

IGAC: Studying Flooding and Droughts as baseline in Agroclimatic Risks

CIAF, the “Research and Investigation Centre Remote Sensing Group and Geographic Applications” of UN-SPIDER’s Colombia Regional Support Office IGAC, has developed a model to correct and process satellite images for automatic extraction of flood areas using image processing algorithms, called “CAIN” (Atmospheric Correction and Indexes of flooding). This project is being implemented within the framework of the technical assistance to the Colombian Corporation of Agricultural Research (CORPOICA, 2014).

Read more: [Knowledge Portal](#)

ICIMOD receives GIS Award at Esri International User Conference

UN-SPIDER’s Regional Support Office in Nepal, ICIMOD, received a “Special Achievement in GIS Award” at the ESRI International User Conference in San Diego, California, honouring its innovative use of Esri’s geographic information system technology for addressing mountain issues in the Hindu Kush Himalayas. “The award recognizes and honours ICIMOD’s contribution in using GIS technology to leverage geospatial information resources for addressing the pressing developmental challenges of the mountain region of the Hindu Kush Himalayas,” said Basanta Shrestha, Director of Strategic Cooperation at ICIMOD.

Read more: [Knowledge Portal](#)

RCMRD installs MODIS satellite data receiving station

RCMRD, the Regional Centre for Mapping of Resources for Development, and host of UN-SPIDER’s Regional Support Office in Kenya, recently installed and launched a new satellite receiving station. The station is capable of receiving data from the Moderate Resolution Imaging Spectro-radiometer (MODIS) sensor on the US Aqua and Terra satellites, as well as other Earth Observation satellites. The Director for Remote Sensing at RCMRD, Dr. Tesfaye Korme, said: “We have started receiving data from MODIS Aqua and Terra, NPP, METOP, Fengyong3, NOAA18, and 19. The ground coverage is so huge that 75 per cent of Africa is covered by our receiving station alone.”

Read more: [Knowledge Portal](#)

Argentina: Satellite-based atlas of Tucumán region

The National Commission for Space Activities (CONAE), UN-SPIDER’s Regional Support Office in Argentina, presented an extensive satellite-based map of the province of Tucumán, Argentina. This is a unique effort assembling satellite images and topographic cartography in 1:100.000 scales. The project was presented on 23 June 2014 at the Government House of the Tucumán province, Argentina, in the presence of national and regional authorities, professionals and students of primary schools. The atlas contains topographic maps and satellite imagery, as well as high resolution aerial images and several thematic maps showing natural environments, productive areas, and population distribution.

Read more: [Knowledge Portal](#)





News from our Community

Japan: First images of Daichi-2 released

Japan's Aerospace Exploration Agency (JAXA) launched their Advanced Land Observing satellite-2 "Daichi-2" (ALOS-2) from the Tanegashima Space Center on 24 May 2014. The capabilities of Daichi-2 were shown by the first data obtained from the satellite, which JAXA released at the beginning of July 2014. Daichi-2 has a radar instrument that can recognize objects about three meters in size and can observe land even at night or when it is raining. As a result, the satellite is expected to help disaster responders, as it can fly over Japan twice a day.

Read more: [Knowledge Portal](#)

National Hurricane Center: Decisive tools for storm surge preparedness

Some days before Hurricane Arthur hit the North Carolina coast in the USA on 4 July 2014, the US National Hurricane Center posted a forecast map on their web site, enhancing preparedness for the storm surge. This so called Potential Storm Surge Flooding Map predicted the location and severity of the surge by showing different storm surge water levels in varying colours, specifying how high goods should be moved off the ground to prevent water damage and even predicting where the hardest hit places could be. The forecast maps are still experimental and will be further developed for future events.

Read more: [Knowledge Portal](#)

Gravity data could predict flooding months ahead

New findings from the University of California Irvine show that gravity satellite data could be used to greatly improve the overflow predictions of a river months before the event occurs. A case study from NASA's Gravity Recovery & Climate Experiment mission (GRACE) measured changes in earth's gravity due to water storage and saturation. By factoring this data into hydrologic models the total amount of water in a system accounting for groundwater and subsurface accumulations could potentially increase flood warning lead times from two months up to approximately five months before an event. NASA has two GRACE satellites in operation observing monthly variation in total water storage within in river systems.

Read more: [Knowledge Portal](#)

Australia: Government launches National Map for geospatial data

The National Map is an online platform with a map of Australia that allows users to overlay geospatial datasets released by the government under the open data policy. The data comes from the Australian Bureau of Statistics data, the Bureau of Meteorology data, and from data.gov.au. The datasets include terrain, vegetation, utilities, infrastructure, water, habitation and boundaries and data broadband quality and availability. A range of open source software and frameworks has been used for the map, including Cesium, Leaflet, Geoserver, jquery, URI.js, proj4js, html2canvas, knockout, esri-leaflet.js, togeojson, and Tilelayer.Bing.js.

Read more: [Knowledge Portal](#)

EA-SAT-1: New Earth observation satellite developed in South Africa

The South African government has increased investing in space technology in order to build capacities within the country as well as to attract commercial space interests. As a result Spaceteq, a division of the state-run aerospace and defense company Denel Dynamics, developed the new high-resolution multispectral imaging earth observation satellite EA-SAT-1 whose data will be used for resource management, urban planning, development, safety, security, and disaster risk management. Plans by the South African government are in place to increase access to this data.

Read more: [Knowledge Portal](#)

Using remotely sensed thermal images for extreme heat events

Researchers from academic institutions in Indianapolis, USA recently published a study showing major advantages in using remote sensing for extreme heat vulnerability studies, such as the relatively systematic way information can be collected as compared to the in situ measurements that are currently being used. Remotely sensed data is very important to identify heat emergencies for a specific location: spatial variations of air temperature are clearly visualized in remotely sensed thermal images, allowing for improved decision-making or preparedness for extreme heat events. The study points out that advances need to be made in the collection of satellite-based thermal data.

Read more: [Knowledge Portal](#)





Typhoon Rammasun: International Charter activated for China and Viet Nam

On 18 and 19 July 2014, the International Charter: Space and Major Disasters was activated twice in order to provide satellite-based maps on the impact of Typhoon Rammasun in the Chinese province of Hainan and in Northern Viet Nam. In Hainan, 46 people have died and an estimated 100,000 people have been evacuated. In Viet Nam, sixteen people have been reported dead and an estimated 27,000 people have been evacuated. The satellite products are available on the International Charter's website.

Read more: [Knowledge Portal](#)

Contract signed for Development of Sentinel-1B Satellite

On 17 July 2014, representatives of the European Space Agency ESA and Arianespace met in ESA's headquarters in Paris to sign a contract to build the Sentinel-1B, a key part of the largest environmental monitoring effort on the planet through ESA's Copernicus programme. Sentinel-1B is to be launched from the European Space Port in French Guiana in early 2016 to join its sister satellite Sentinel-1A as a dual satellite constellation providing complete coverage of the planet every six days. The Sentinel-1 platform uses advanced radar to scan and monitor the Earth's surface regardless of time of day or weather conditions.

Read more: [Knowledge Portal](#)

Philippines: LiDAR mapping of major river basins completed

The Department of Science and Technology of Philippines has achieved the Light Ranging and Detection Technology (LiDAR) mapping of the three major river basins in Western Visayas. The activity is part of the Disaster Risk Assessment, Exposure and Mitigation (DREAM) project, and will assess the risk of flooding in Jalaur River, Panay River and Ilog-

Hilabangan River in Negros Island. The DREAM-LIDAR project attempts to generate updated, detailed 3D flood hazard maps for the flood-prone major river systems in the country. As a starting point, the high resolution maps will be used to finalize Flood Forecasting Models, which will eventually be included in a comprehensive portal.

Read more: [Knowledge Portal](#)

Japan: Full scale disaster management system with Quasi-Zenith Satellites

Japan plans a full-scale operation of Quasi-Zenith satellites projected to start in 2018. A first satellite, Michibiki, was launched in September 2010. The Quasi Zenith satellite System (QZSS) consists of multiple satellites that fly in an orbit passing through the near zenith over Japan. The satellites provide data for general Earth observation and specifically mud movement on slopes, allowing to proactively release evacuation information. With QZSS, the Japanese government is also considering to establish the nation's own global positioning system with 10 times the accuracy of the current system.

Read more: [Knowledge Portal](#)

IRS satellite data: New agreement between India and Brazil

India and Brazil signed an agreement on 16 July 2014 which will facilitate Brazilian earth stations to receive and process data from Indian Remote Sensing satellites (IRS). The agreement will facilitate the reception of data from AWiFS and LISS-III payloads of IRS satellites, including the Resourcesat-2 at Cuiabá earth station in Brazil on a Government-to-Government cooperation basis. The implementing agencies of the agreement are the Indian Space Agency (ISRO) and its executive agency (National Remote Sensing Centre) on the Indian side and the National Institute for Space Research (INPE) on the Brazilian side.

Read more: [Knowledge Portal](#)

Upcoming events

24-28 August 2014, Davos, Switzerland: 5th International Disaster and Risk Conference (IDRC)

The 5th International Disaster and Risk Conference IDRC

Davos 2014 will be held under the theme "Integrative Risk Management - The role of science, technology & practice" from 24 - 28 August 2014 in Davos, Switzerland. IDRC Davos



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2014 attempts to find solutions to today's challenges by managing risks, reducing disasters and adapting to climate change. Focussing on a multi-sectors, multi-stakeholders and multi-disciplines approach IDRC helps to build stronger ties with adequate public-private partnership models among risk management communities and sectors, enabling a move towards a truly integrative way of thinking about disasters and risks. The outcomes will be presented at the UN World Conference WCDRR in Sendai, Japan in March 2015 and aim to influence the post 2015 agenda such as the Post-2015 Framework for Disaster Risk Reduction (HFA2), the Sustainable Development Goals (SDGs) or the successor of the UNFCCC Kyoto Protocol.

Read more: [IDRC](#)

18-23 September 2014, Beijing, China: United Nations International Conference on Space-based Technologies for Disaster Management “Multi-hazard Disaster Risk Assessment”

The “United Nations International Conference on Space-based Technologies for Disaster Management - “Multi-hazard Disaster Risk Assessment” taking place from 15 to 17 September 2014 in Beijing, is jointly organized by UN-SPIDER and the Ministry of Civil Affairs of the People’s Republic of China. The objective of this conference is to promote the role of space-based and geospatial information in a multi-hazard disaster risk assessment. This conference is the fourth of its kind since 2011 and aims to offer a forum for disaster management communities and experts to strengthen their capabilities in using space-based information to identify, assess, monitor and respond to disaster risks and integrate space technology into long-term disaster risk management efforts. UN-SPIDER is organizing this conference jointly with the Ministry of Civil Affairs of the People’s Republic of China. It will bring together 120 disaster managers, policy makers, providers of space technology solutions/tools/applications from governments, and representatives of academia, research institutions, NGOs and the corporate sector.

Learn more: [Knowledge Portal](#)

22-24 September 2014, Graz, Austria: United Nations/ Austria Symposium on “Space Science and the United Nations”

This Symposium is organized by UNOOSA and co-sponsored by the Government of Austria, the Committee on Space Research (COSPAR) and the European Space Agency (ESA). Its objective is to briefly review the history and assess the past accomplishments of the Basic Space Science Initiative under the United Nations Programme on

Space Applications as well as relevant past and on-going activities of other United Nations entities. It will also discuss the future role of space science within UNOOSA and reflect where the field of space science is heading and what roles international cooperation and capacity building may be playing.

Read more: [UNOOSA](#)

