



## 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



students attending Post Graduate Diploma in Remote Sensing and GIS. During the ceremony, the participants briefed about their background and how they would be using knowledge gained from this training course in their respective office in their home country. The participants

also learned about the family of the UN affiliated centres, its contribution to UNOOSA and how they are supporting to important initiatives of UNOOSA.

Read more: [Knowledge Portal](#)

## 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](#).

### Forest Fires

Around 330-431M ha around the world is affected by forest fire every year. Small forest fires are a part of the natural system and can benefit the ecosystem by renewing vegetation. However, forest fires that are difficult to control can destroy big settlement areas, ecosystems, human lives and properties. International cooperation networks aim to improve the management of forest fire

by focusing on response, reconstruction, prevention and preparedness. Satellite imagery contributes to all four phases of the disaster management cycle by providing information about forest fire occurrence and factors affecting fire risk.

Read more: [Knowledge Portal](#)

## News from our Regional Support Offices

### ICIMOD: SERVIR project's success in combating forest fires

The International Centre for Integrated Mountain Development (ICIMOD), UN-SPIDER's Regional Support Office (RSO), has developed a programme in order to prevent and manage forest fires through the SERVIR-Himalaya Small Grants Programme, and in conjunction with the South Asian Forum for Environment (SAFE). The project includes a platform based on remote sensing information to understand how land use affects forest fires, and awareness campaigns among the local communities of Northeast India. The platform is a one-window tool that offers data on hazard zones, vulnerable areas, accessibility, affected settlements, mitigation options, and future predictions to support disaster preparedness.

Read more: [Knowledge Portal](#)

### IWMI project to enhance flood insurance for India's farmers

The International Water Management Institute, UN-SPIDER's regional Support Office, organised together with the CGIAR research program on Climate Change, Agriculture and Food Security (CCAFS) a day long workshop in Patna, India, to present a new project on the development of the Index Based Flood Insurance (IBFI) on August 1. Due to the constant floods India is facing every year and the huge losses these events produce, the IBFI project aims to implement the use of space technologies such as remote sensing images and geographic information systems (GIS) in order to improve the insurance's payout processes.

Read more: [Knowledge Portal](#)





### **Algerian Alsat-2A to determine the impact of forest fires**

The Algerian Space Agency (ASAL), Regional Support Office of UN-SPIDER, has monitored the forest fires occurred during July thanks to its satellite Alsat-2A. It has helped to evaluate the impact over the affected region. During the month of July, several forest fires took place in the provinces of Tizi Ouzou and Bejaia, which are mountainous areas covered with sparse forests. The Alsat-2A satellite provided an image from July 25 that has helped to determine the reach of the disaster and its impact over the vegetation.

Read more: [Knowledge Portal](#)

### **CONAE: satellite data to mitigate flooding in Buenos Aires province**

The Argentinean Space Agency (CONAE), UN-SPIDER's Regional Support Office, has provided satellite data to monitor major flooding caused by the overflow of the Areco and Luján rivers in the province of Buenos Aires. CONAE is supporting the institutions and organisms in charge of the mitigation activities through satellite images, which show the environmental situation of the covered areas. These images follow a rigorous process of downloading, preprocessing,

examination, processing and final elaboration. Moreover, CONAE has activated the International Charter: Space and Major Disasters together with the SIFEM-DNPC in order to receive satellite-based emergency information and maps.

Read more: [Knowledge Portal](#)

### **Vulnerability Mapping Workshop held by RCMRD and PREPARED**

The Regional Centre for Mapping of Resources for Development (RCMRD), UN-SPIDER's Regional Support Office, held a workshop on Vulnerability Mapping in conjunction with USAID/East Africa's Planning for Resilience in East Africa through Policy, Adaptation, Research and Economic Development (PREPARED) Project between August 10 and 14 in Entebbe, Uganda. The participants came from the East African Community (EAC) member states: Kenya, Uganda, Tanzania, Burundi and Rwanda. During the training, participants were able to learn how to create regional risk maps, identify each country's least and most vulnerable zones and infer the factors behind the mapping results.

Read more: [Knowledge Portal](#)

## News from our Community

### **China to launch first remote sensing commercial satellite**

The Northeast province of Jilin in China is planning to launch in October the country's first self-developed remote sensing satellite for commercial use. Jilin-1 is composed of a group of four satellites: one in charge of high-definition imagery, one to test new space technologies and the other two to capture videos, as explained by Xuan Ming, board chairman of Chang Guang Satellite Technology, the company responsible for launching. Beside their commercial aim, the pictures and videos provided by these four satellites will help forecasting and mitigating geological disasters as well as assisting the research of natural resources.

Read more: [Knowledge Portal](#)

### **Geoscience Australia to develop a satellite system for bushfire monitoring**

Geoscience Australia is working on a real-time satellite system for bushfire monitoring that would send images to emergency services and the Australian public every 10 minutes, a

spectacular increase infrequency as these captures are currently available every six hours. The programme, called "Sentinel", is part of the National Emergency Management Projects (NEMP), funded by the Federal Government, and it should be launched by mid-2016. The imagery will be captured by Himawari-8, a weather satellite operated by the Japan Meteorological Agency, launched in October 2014. It features a 16 channel multispectral imager to capture visible light and infrared images of the Asia-Pacific region. The data will be sent directly to firefighters via a live web feed, and another public facing web service will also be established.

Read more: [Knowledge Portal](#)

### **176 forecasting stations for monitoring floods in India**

The Government of India has established 176 flood forecasting stations across the country which would help to monitor river flooding during monsoons. The stations use information captured by Indian satellites, including near-real time flood inundation maps provided by the National Remote Sensing Centre. The Central Water Commission (CWC),





belonging to the Ministry Water Resources, is in charge of predicting floods in major rivers and their tributaries through rainfall-runoff models provided by the India Meteorological Department.

Read more: [Knowledge Portal](#)

### **WorldView-3 satellite sensor completes its first operating year**

The WorldView-3 satellite sensor has completed a successful year in orbit after its launch on August 13, 2014. During this year it has contributed to disaster and humanitarian efforts in critical situations such as the earthquake that struck Nepal on April 25, 2015. The advanced fourth-generation satellite WorldView-3 was licensed by the National Oceanic and Atmospheric Administration (NOAA) and contributed to DigitalGlobe's constellation being its first super-spectral and high resolution commercial satellite.

Read more: [Knowledge Portal](#)

### **NASA DEVELOP's Virtual Poster Session for summer 2015**

DEVELOP, NASA's Applied Sciences' Capacity Building Program, organizes a Virtual Poster Session (VPS) for this summer 2015 where participants can send their projects on Earth observation (EO), disaster risks, water monitoring, mapping invasive species distribution and environmental concerns. It features 178 researchers across 15 DEVELOP locations, who carry out 38 projects. The participant projects need to analyse societal and scientific dilemmas and discover ways in which these issues can be better forecasted, monitored or mitigated through the application of NASA EO.

Read more: [Knowledge Portal](#)

### **Upcoming first release of the SMAP data**

NASA will release on August 2015 the first Soil Moisture Active Passive (SMAP) data, the beta version of L1 radar and radiometer data. The SPAM mission was developed in order to record surface soil moisture measurements with high levels of accuracy and resolution. It will improve weather and climate forecasts, flood predictions and drought monitoring systems. The measurements provided by the SMAP global mapping open a new path for monitoring the oceans and the terrestrial biosphere. As explained on the website of the International Society for Optics and Photonics (SPIE), "the SMAP active and passive microwave measurement approach builds on the heritage of earlier microwave sensors used for Earth monitoring.

Read more: [Knowledge Portal](#)

### **Free access to X-Band satellite data for Canadian institutions**

Airbus Defence and Space and the Canada Centre for Mapping and Earth Observation (CCME) have signed a contract that enables the Canadian government and institutions to access imagery captured by the TerraSAR-X and TanDEM-X satellites for carrying out research and professional training without charges. The objective of the partnership is to support Canadian agencies in the development of operational monitoring concepts by employing Canada's C-Band radar mission in conjunction with the European X-Band satellites for maritime surveillance, disaster management and environmental monitoring. It focuses on an academic context that could enhance research and education.

Read more: [Knowledge Portal](#)

### **Research warns about the need to improve rainfall satellite portfolio**

A joint study by Cornell University, Princeton University and The Aerospace Corporation found that the current portfolio of rainfall satellites is insufficient to meet information needs for global flood monitoring, and that further loss of satellites would dramatically worsen data coverage. According to the authors, there are currently 10 rainfall monitoring satellites, but four of them have become obsolete and the rest are reaching the end of their lifespan. However, no specific plans exist to replace them with new satellites that measure real-time rainfall. This is a major problem as the data captured by these space artifacts is essential for flood management: the information is introduced into sophisticated models to forecast the timing and intensity of floods, allowing governments to take action to mitigate the impact of flooding.

Read more: [Knowledge Portal](#)

### **Satellite observations used to measure how much fires pollute the atmosphere**

The National Oceanic and Atmospheric Administration (NOAA) has published a report in which the quantity of carbon dioxide and other pollutants produced by fires that remains in the atmosphere has been determined. The estimation of the polluting emissions into the atmosphere is possible thanks to the data produced by computer models that combine satellite observations of burned area and active fires together with information about vegetation, fuel loads, and other details. Only the Moderate Resolution Imaging Spectroradiometers (MODIS) on NASA's Aqua and Terra satellites detect approximately 10,000 active fires on a normal day of August.

Read more: [Knowledge Portal](#)





### **Mexico to launch Morelos 3 satellite to support disaster relief**

The Mexican Secretariat of Communications and Transportation (SCT) has announced the launch of the Morelos 3 satellite as part of a series of Mexican communication satellites. This one will support disaster relief activities and provide emergency services, among others. The launch will take place on 02 October 2015 from the Lockheed Martin Commercial Launch Services base in Cape Canaveral, Florida, USA. Morelos 3 will be part of the Mexican Satellite System (Mexsat), which comprises three telecommunication satellites that belong to SCT but are operated by Telecom.

Read more: [Knowledge Portal](#)

### **Russia to develop an Earth observation system for Iran**

According to the Russian Federal Space Agency, Roscosmos, two Russian space companies signed a pre-contractual agreement with the Iranian Bonyan Danesh Shargh in order to assist the Islamic Republic of Iran to build its own satellite observation system. The aim of the remote sensing system is to monitor the Earth's atmosphere and oceans. The Russian NPK BARL will be in charge of constructing and adapting the system's ground infrastructure and VNIIEM Corporation, the other Russian partner, is expected to build and launch the satellites. For its part, Bonyan Danesh Shargh will be responsible of operating the system when it is completed.

Read more: [Knowledge Portal](#)

### **Earth observation satellite to be developed by Nasa and ISRO**

NASA and the Indian Space Research Organisation (ISRO) have joint hands to build an Earth observations satellite called NISAR (NASA-ISRO Synthetic Aperture Radar (SAR) Mission). The space artifact will be in charge of measuring changes in the Earth's surface related to motions of the crust and ice surface, and its launch is scheduled for 2021. Its mission will comprise snow and glacier studies in the Himalayas, monitoring of agricultural biomass over India, Indian coastal and near-shore ocean studies, and disaster monitoring and management.

Read more: [Knowledge Portal](#)

### **International Charter activated five times in August 2015**

The International Charter: Space and Major Disasters was first activated on 5 August, due to floods caused by torrential monsoon rains in 12 of the 14 states of Myanmar, particularly in Chin, Magway, Sagaing and Rakhine areas. Then on 9 August after a heavy rainfall over the northern and central area of Chile, which caused floods and landslides; on 12 August the mechanism was activated by CONAE for floods in Argentina. The fourth activation occurred on 13 August to provide satellite-based emergency maps in response to a major forest fire in Russia's Siberian district. The last activation happened on 26 August, because of torrential rains in the Artvin Province of Turkey, which caused floods and landslides.

Read more: [International Charter](#)

## Upcoming events

### **Apply now! 14-16 September 2015, Beijing, China: United Nations International Conference on Space-based Technologies for Disaster Management - "A consolidating role in the implementation of the Sendai Framework on Disaster Risk Reduction: 2015-2030"**

The conference focuses on the consolidating role of Earth observation technologies in the implementation of the "Sendai Framework on Disaster Risk Reduction: 2015-2030". Efforts need to be taken to promote use of space-based information to help assess potential risks and hazards before disaster occur and contribute to risk-based developmental planning.

The conference will synthesize experiences and lessons learnt by the experts and end users involved in using Earth observation in all stages of disaster management. The aim of the conference is to produce an outcome document with guidelines to Member States to integrate Earth observation and geospatial technologies in implementing the Sendai Framework for Disaster Risk Reduction. The Conference is now open for applications. The final deadline for registration is 19 July 2015. Online registration is mandatory for all participants.

Read more: [Knowledge Portal](#)





### **17-22 September 2015, Beijing, China: International Training programme “Earth observation technologies for earthquake damage and loss assessment”**

Back to back with the upcoming United Nations 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” organised by the UNOOSA/UN-SPIDER Beijing office, an International Training Programme will be organised for 25 participants of the conference with the support of the Asia Pacific Space Cooperation Organisation (APSCO) and the National Disaster Reduction Centre of China (NDRCC).

Read more: [Knowledge Portal](#)

### **12-16 October, Pyeongchang, Korea: 6th International Wildland Fire Conference (IWFC-2015)**

The Korea Forest Service will join forces with Gangwon province to hold the 6th International Wildland Fire Conference in Oct, 2015, in Pyeongchang, Korea, in an effort to exchange views on wildland fire related international issues. The Conference will bring together not only policy makers, researchers and practitioners but also the international organizations and NGOs from 80 countries to discuss about the global efforts to prevent their damage and forge a concerted response to them. Korea has made its utmost effort to undertake greening works and prevent wildland fire damage for the last four decades. The Conference will provide a platform for the nation

to share its know-how for wildland fire prevention and cutting edge technologies including real time wildland fire control system using ICT that has been recently constructed with the international society.

Read more: [Knowledge Portal](#)

### **23 November - 04 December 2015, Sanya, China: 3rd International Training Workshop on Space Technology for Disaster Mitigation**

In response to the needs of developing countries in disaster mitigation to tackle the natural and human-induced environmental disaster, SDIM will organize the 3rd International Training Workshop on Space Technology for Disaster Mitigation with the theme of “Earth observations for Disaster Risk Management in Developing Countries: Technical Practice and Scientific Application”. With the objective of providing a scientific and practical guide to the participants from developing countries, the workshop will collect and integrate information on international best practices with the applicants to a number of hazards events, especially for floods, droughts, earthquakes and so on. Experts from various national and international organizations, such as TWAS, UN agencies, ICSU, GEO, etc., will share their experiences with working on disaster mitigation and Earth observation.

Read more: [Knowledge Portal](#)

