



## DECEMBER 2014 UPDATES

### UN-SPIDER at a glance

#### **New UN-SPIDER Portal design and French version launched**

UN-SPIDER started the new year with a graphical re-launch of its Knowledge Portal. The new user interface and the re-structured homepage offer greater usability and usefulness to the website's users. Additionally, a French language version of the Portal was launched to complement the existing English and Spanish versions. This will allow more French-speaking users, especially from developing countries, to use the Portal to get better access to information about space-based resources for disaster risk management and emergency response.

Read more: [Knowledge Portal](#)

#### **UN-SPIDER participates in Asia-Europe Meeting Roundtable on Disaster Rescue**

The "Roundtable Meetings on Innovations in Technologies for Disaster Rescue Efforts amongst ASEM countries" took place on 4 and 5 December 2014 in New Delhi, India. ASEM is the Asia-Europe Meeting. Dr Shirish Ravan of UN-SPIDER co-chaired a session on Technology Transfer: Joint ventures among ASEM Countries and presented the topic "Consideration for Effective Use of Space-based Information

for Emergency Response". One of the main objectives of the meetings was to focus the attention of ASEM member countries on how technology innovations can be utilized to save lives and reduce effective disaster response times by Governments. Participants also addressed how ASEM countries can contribute to capacity building both in Asia and Europe through the sharing of best practices.

Read more: [Knowledge Portal](#)

#### **Korean delegation visited the UN-SPIDER Bonn Office**

On Friday 12 December 2014, a delegation from the Emergency Preparedness Resource Division of the Ministry of Public Safety and Security of the Republic of Korea visited the UN-SPIDER Office in Bonn, Germany. During the meeting, UN-SPIDER's Bonn Head of Office, Dr Juan Carlos Villagran, highlighted the role of UN-SPIDER in dealing with knowledge management for disaster risk reduction and emergency response. The visiting delegates were informed on the use of Earth observation and satellite technology through a wide range of examples taken from lesson learnt and past activities.

Read more: [Knowledge Portal](#)

## Data application of the month

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

Access the full list [here](#).

### Digital elevation models

Digital elevation models (DEMs) are needed for mapping and modelling natural hazards and risks that are influenced by topography, for example floods and landslides. Elevation can be measured from space using different approaches designed for different sensors. For

radar sensors, interferometric SAR (InSAR) is applied. For optical sensors, stereo images are analyzed to derive elevation information. A variety of datasets on digital elevation models are available.

Read more: [Knowledge Portal](#)





## News from our Regional Support Offices

### **SUPARCO: Satellite-based Monitoring of Pakistan Floods 2014**

Heavy monsoon rains initiated flash floods in Azad Kashmir, Punjab and Gilgit-Baltistan regions of Pakistan during the first week of September 2014. The heavy rains and flash floods overflowed Chenab and Jhelum River, destroying hundreds of houses and causing human and property losses. The National Disaster Management Authority and Provincial Disaster Management Authority of Punjab requested the Space and Upper Atmosphere Research Commission (SUPARCO) of Pakistan to provide pre-flood images of Chenab and Jhelum Rivers as well as technical assistance during the monsoon spell. SUPARCO, which hosts a UN-SPIDER Regional Support Office, closely monitored the 2014 floods, soon after the issuance of the flood alert on 4 September. The experts generated Rapid Maps of 29 districts showing inundation and flood extents in each district which were uploaded to the web for interactive visualization.

Read more: [Knowledge Portal](#)

### **Recommended Practice: Agricultural Drought Monitoring**

A new recommended practice was elaborated by UN-SPIDER's Regional Support Office in the Islamic Republic of Iran, the Iranian Space Agency (ISA). This recommended practice focuses on the potential use of remote sensing for drought monitoring and assessment. Multi-temporal drought severity maps are produced from MODIS satellite data using different satellite-based vegetation Indices. NDVI, NDVI-Dev, VHI, VCI, TCI and WSVI are calculated and compared to determine which one is most appropriate index for drought assessment. Based on the most appropriate selected Index, a variation matrix for certain months in particular regions is obtained and a differential specific Index Map is created. The purpose of this recommended practice is to monitor impacts of meteorological drought on natural vegetation (rain fed, range land & forest).

Read more: [Knowledge Portal](#)

## News from our Community

### **SPOT-7 remote sensing satellite to be managed by Azerbaijan**

Azerbaijan and the French company Airbus Defence & Space have signed an agreement to transfer the management of SPOT-7 satellite to Azeri specialists. SPOT-7 is a low-orbit satellite, designed for remote sensing of the Earth's surface. According to the Minister of Communications and High Technologies of Azerbaijan, Ali Abbasov, the satellite will be used for various purposes, including in emergencies, for the needs of agriculture, and cartography.

Read more: [Knowledge Portal](#)

orbit - up to 25,900 km above the Earth and back down to 13,713 km - rather than completing the expected circular trajectory.

Read more: [Knowledge Portal](#)

### **ESA: Laser link offers high-speed delivery of Earth Observation data**

ESA has successfully linked up the Sentinel-1A and Alphasat satellites by laser. The satellites were linked up from a distance of almost 36,000 km between them. The link will make it possible to deliver images of Earth just moments after they were captured. According to Magali Vaissiere, ESA's Director of Telecommunications and Integrated Applications, the link is operated at 1.8 Gbit/s, with a design that could scale up to 7.2 Gbit/s in the future. She describes the link as "an optical fibre in the sky". The link will make data collected by Sentinel-1A available at any time, not only when the satellite orbits over its ground stations in Europe, as it was the case before the satellites were linked up.

Read more: [Knowledge Portal](#)

### **Successful Navigation Test Campaign for recovered Galileo satellite FOC-FM1**

The European Space Agency (ESA) has recovered one of two satellites (Galileo-FOC FM1) that were put into the wrong orbit when launched on 22 August 2014. The European Commission will take a decision shortly on whether to employ them for the Galileo satellite navigation system as originally planned. The two satellites, the fifth and sixth of the Galileo series, were directed into a prolonged



### **International Charter activated twice in December 2014**

The International Charter: Space and Major Disasters was activated twice in the month of December 2014 to provide space-based emergency information. On 4 December, the mechanism was triggered by UNITAR/UNOSAT on behalf of OCHA Philippines due to Typhoon Hagupit (known locally as Ruby). The Typhoon made landfall in the Philippines on 6 December. On landfall in the eastern Philippines, the storm was Category Three and caused the death of 21 people. It has been estimated that almost a million people were affected by Hagupit. On 15 December, the mechanism was activated by the Asia Disaster Reduction Center (ADRC) on behalf of Indonesian National Institute of Aeronautics and Space (LAPAN) in response to a massive landslide in Indonesia. The landslide has been caused by heavy rain. It buried Jemblung Village killing over 60 people.

Read more: [International Charter](#)

### **KARI takes over chairmanship of the International Charter for six-month period**

The Korean Aerospace Research Institute KARI has taken over the chairmanship of the International Charter: Space and Major Disasters for a six-month period until April 2015, as the International Charter recently announced on their website. KARI took over from the China National Space Administration (CNSA).

Read more: [Knowledge Portal](#)

### **Turkey: Launch of new satellite within five years**

Ensar Gul, chairman of Turksat Satellite Communications, announced the production and launch of national satellites to occur within a five years time-frame. "If you have experience, you can build a satellite within three years and launch it within another two years. That means Turkey will have its own satellite within five years," Gul said. Turkey has already sent three communication satellites in orbit and has built five satellites in total. Also, the country possesses an Earth observation satellite and is currently developing its own space agency.

Read more: [Knowledge Portal](#)

### **China-Brazil Earth Resources Satellite launched**

The fifth cooperative mission between China and Brazil, CBERS (China-Brazil Earth Resources satellite), was launched at 03:26 UTC on Sunday 7 December 2014. It is equipped with four cameras including a multispectral camera, a panchromatic and multispectral camera, an

infrared multispectral scanner and a wide-field imager. The overall objective is the observation and monitoring of Earth's resources and environment with this multi-sensor imaging payload providing different spatial resolutions.

Read more: [Knowledge Portal](#)

### **Made-in-Nigeria satellite to be launched in 2018**

On 1 December 2014, the Nigerian Minister of Science and Technology, Dr Abdu Bulama, announced the launch of the first indigenous Nigerian satellite by 2018. The mission is part of the broader national initiative of developing a strong science and technology apparatus to advance the pace of socio-economic development and infrastructure in the country. Dr Bulama emphasized the need for Nigeria to develop its own "time and technology" as well as to apply science and technology to the country's economy.

Read more: [Knowledge Portal](#)

### **New highly detailed ecological land units map of the world published**

Esri and the United States Geological Survey (USGS) recently announced the development of the highest spatial resolution ecological land units (ELUs) map of the world ever produced. According to the press release "the Global ELUs map portrays a systematic division and classification of ecological and physiographic information about land surface features. The work was commissioned by the intergovernmental Group on Earth Observations, and published in print by the Association of American Geographers."

Read more: [Knowledge Portal](#)

### **New OCHA report shows opportunities for remote sensing in humanitarian assistance**

The Policy Analysis and Innovation Section of the UN Office for Coordination of Humanitarian Affairs (OCHA) released the World Humanitarian data and Trends 2014 report, dealing with humanitarian needs and assistance in 2013, as well as humanitarian trends, challenges and opportunities in the global context. Among the opportunities to enhance humanitarian operations, OCHA's experts identified remote sensing technology through satellites as useful in delivering "unique operational benefits" in relation to refugee camp mapping, flood monitoring, damage assessments, conflict analysis, and response planning.

Read more: [Knowledge Portal](#)



## Upcoming events

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

2015 will be a decisive year for the international community paving the way for sustainable development worldwide. Three important processes led by the United Nations are underway resulting in three agreements expected for 2015: the Post 2015 Framework on Disaster Risk Reduction (HFA2, 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 of governments in societies at risk. The event is now open for applications. The deadline for applications for those requesting financial assistance is 13 March 2015.

Read more: [Knowledge Portal](#)

### **14-18 March 2015, Sendai, Japan: UN World Conference on Disaster Risk Reduction**

The Third UN World Conference on Disaster Risk Reduction will be held from 14 to 18 March 2015 in Sendai City, Miyagi Prefecture, Japan. Several thousand participants are expected, including at related events linked to the World Conference under the umbrella of building the resilience of nations and communities to disasters. Among the most important objectives of the conferences are the completion of the assessment and review of the implementation of the Hyogo Framework for Action and the adoption of a post-2015 framework for disaster risk reduction. UN-SPIDER and its partners will be involved in the form of a side event to highlight the potential of space-based information for disaster risk reduction.

Read more: [WCDRR](#)

