



APRIL 2015 UPDATES

UN-SPIDER at a glance

UN-SPIDER compiles list of satellite resources in response to Nepal earthquake

On Saturday, 25 April 2015 a 7.8 magnitude earthquake at a depth of 15 km hit Nepal as well as the neighbouring countries India, Bangladesh and China. Within a 100 kilometre radius approximately 6.5 million people were affected. Authorities estimate that 5,000 individuals were killed and more than 10,000 injured. Several actors of the satellite and mapping communities have become active in providing satellite imagery and up to date maps of the affected areas. For example, the International Charter: Space and Major Disasters and the Copernicus Emergency Mapping Service have been triggered. DigitalGlobe has provided high resolution imagery and has asked the community to help analyse the images via its Tomnod platform. UN-SPIDER has compiled a list of freely available imagery and satellite data products on the UN-SPIDER Knowledge Portal. The list is continuously being updated.

Read more: [Knowledge Portal](#)

UN-SPIDER holds training course for Bhutan officials

From 13 to 17 April 2015, UN-SPIDER and UNDP Bhutan conducted a training course for Bhutanese officials on “Response and recovery preparedness”. The course was held at the Centre for Space Science Technology Education in Asia and the Pacific (CSSTEAP) in Dehradun, India. It is following up on a recommendation of the UN-SPIDER Technical Advisory Mission to Bhutan in November 2014. Its goal was to strengthen Bhutan’s capacities to use satellite imagery for disaster management and to enhance the capacity of Bhutanese officials on disaster preparedness, response and recovery at national and local levels and mitigating the impacts on people’s life and livelihoods when they are hit by disasters, thereby contributing to long-term disaster risk reduction in the country.

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UN-SPIDER concludes training workshop in Bangladesh

From 5 to 9 April 2015, UN-SPIDER and the Department of Disaster Management (DDM) in Bangladesh jointly organised the five-day course “Earth observation technologies for disaster damage and loss assessment” in Dhaka. The course strengthened damage and loss assessment by teaching the use of satellite images to contribute to damage and loss assessment. It provided DDM and important stakeholder departments with easy, rapid and accurate ways of assessing damage and loss during disasters using satellite remote sensing. It more specifically imparted skills on using satellite remote sensing for multi-hazard risk assessment, damage assessment of important sectors like agriculture, housing, road infrastructure and demography.

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Regional Centre for Space Science and Technology Education in Asia and the Pacific: Successful first training

From 20 to 29 April 2015, the UN affiliated Regional Centre for Space Science and Technology Education in Asia and the Pacific (RCSSTEAP), based in Beihang University, Beijing, organized the ten-day course “Satellite Navigation Technology and Applications”. A total of 30 participants from 11 countries participated in the training programme. The aim of the training was to support early career researchers and professionals working on Global Navigation Satellite Systems (GNSS) and BeiDou technologies. Invited experts came from France, Croatia, and domestic universities, satellite navigation companies and research institutions. This was the first short course conducted by RSCSTEAP after the centre was inaugurated in November 2014. Shirish Ravan and Longfei Liu of the UN-SPIDER Beijing Office were present in the closing ceremony to interact with the participants and distribute the course certificates. The centre



has planned three long-term international training courses on space technology application in 2015.

Read more: [Knowledge Portal](#)

UN-SPIDER experts publishes article on space-based information and ecosystems

UN-SPIDER Programme Office Shirish Ravan published an online article about the use of Space-based and geospatial information for ecosystem-based disaster risk reduction on the Geospatial World website. Disasters and ecosystems are closely linked, although national disaster management organisations are yet to embrace ecosystems as an instrument for disaster risk reduction (DRR). Well managed ecosystems and sustainable development (that ensures ecosystems are not harmed) leads to disaster resilient human settlements. Space-based information not only provides information on the extent of ecosystems, but also provides much insight into the dynamics of ecosystems, when analysed in conjunction with the field-based information at all levels such

as biospheres, biomes, landscape, ecosystems, habitats and communities. It is the only tool to monitor remote and difficult areas such as highlands and steep slopes, where role of ecosystem often critical.

Read more: [Geospatial World](#)

UN-SPIDER participates in Engage2015 Conference

DigitalGlobe organised from 27 to 29 April the ENGAGE 2015 conference in London. It focused on the importance of geospatial information and tools to help overcome challenges. This event brought together professionals from the earth observation field and representatives of some of the world's most eminent organisations across energy, mining, environment, agriculture, global development organisations and location based services. UN-SPIDER's expert Lorant Czarán participated as a panellist addressing two different themes: "Strategies to support better decision-making" and "Seeing a Better World".

Read more: [Knowledge Portal](#)

News from our Regional Support Offices

ICIMOD: Contribution to International Space Apps Challenge 2015

The International Centre for Integrated Mountain Development (ICIMOD), UN-SPIDER's Regional Support Office in Nepal, together with YoungInnovations, organised a Hackathon: The International Space Apps Challenge in Kathmandu. It took place from 11 to 12 April. ICIMOD is organising this event through its SERVIR-Himalaya initiative. SERVIR generates geospatial information, including Earth observation data from satellites, geographic information systems, and predictive models useful to developing countries. The event was an international mass collaboration focusing on space exploration that took place over 48-hours in cities around the world.

Read more: [Knowledge Portal](#)

Nepal: Raising awareness to fight fires through satellite imagery

The SERVIR-Himalaya Initiative of the International Centre for Integrated Mountain Development (ICIMOD), Regional Support Office of UN-SPIDER, in collaboration with the

Department of Forests (DoF) of Nepal, conducted an awareness campaign at field level in the most fire prone districts of Nepal. The awareness campaign took place during the week of 16 to 23 March 2015 in six different districts of the Terai region: Kanchanpur, Kailali, Bardia, Chitwan, Makwanpur, and Parsa. More than 290 participants including forest range officers, Nepal Army, local fire fighters, and media learned the working process of the Forest Fire Monitoring and Detection System, developed by ICIMOD under the SERVIR-Himalaya framework.

Read more: [Knowledge Portal](#)

RCMRD launched land potential knowledge system

UN-SPIDER's Regional Support Office, the Regional Centre for Mapping of Resources for Development (RCMRD) in Kenya, and the Land-Potential Knowledge System (LandPKS) Project released two new apps to support local land management and land use planning. LandInfo and LandCover can help to optimize food security, land restoration, climate change adaptation and biodiversity conservation programmes. LandInfo allows users to enter data about soil texture, topography and easily observable



soil properties. It provides free Cloud storage and sharing, and allows the app to return site-specific temperature, rainfall, estimated amount of water the soil can store for plants, and growing season length. LandCover is a simple tool for rapidly recording vegetation cover and structure

using a 1 meter or yard stick in a 1/4 hectare (3/5 acre) plot. Indicators are automatically calculated on the phone, and all data and indicators are automatically uploaded to the Cloud as soon as a data connection is available.

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News from our Community

DigitalGlobe: First complete satellite imagery base map for Africa now available

On 28 April 2015, satellite image provider DigitalGlobe announced the general availability of its Basemap +Vivid product for the entire African continent. This is the first time that a complete, consistent satellite imagery base layer with 50 cm ground resolution has been available for Africa. Many parts of Africa have never been mapped at this resolution from space, and never before has there been a complete imagery base map of Africa with this level of detail.

Read more: [Knowledge Portal](#)

First satellite for Turkmenistan in space

On 27 April 2015, Turkmenistan's first communication satellite, TurkmenAlem52E/MonacoSat, was launched into Space from Cape Canaveral aboard a SpaceX Falcon 9 rocket. Thales Alenia Space will transfer control of the spacecraft to Turkmenistan's Ministry of Communications by early June, giving the country command of its first satellite.

Read more: [Knowledge Portal](#)

China: Launch of new-generation BeiDou navigation satellite

The Chinese BeiDou Navigation Satellite System (BDS) now includes a new-generation satellite, launched into space on Monday, 30 March 2015. The 17th BeiDou satellite was launched from the Xichang Satellite Launch Centre in the south western Chinese province of Sichuan. The launch marked the beginning of an expansion of the BDS from regional to global coverage.

Read more: [Knowledge Portal](#)

Mapping global forests in unprecedented detail

The International Institute for Applied Systems Analysis (IIASA) Geo-Wiki team has produced new global forest maps combining citizen science with different data sources. "The new maps rely on a combination of recent multisensory remote sensing data, statistics and crowdsourcing," said

Dmitry Schepaschenko, the lead author of the study. "By combining different data sources, and incorporating the input of trained citizen scientists, we were able to produce new maps that are more accurate than any existing data source."

Read more: [Knowledge Portal](#)

Algeria: Alsat-2A satellite imagery shows vegetation recovering after forest fires

Through satellite-based research, the Algerian Space Agency ASAL has found that vegetation is recovering in the forest areas located in the Aïn Témouchent province after the damages caused by wildfires in 2014. The forest fires of summer 2014 devastated around 180 hectares, with Beni Ghenam being the most affected region, as Algérie1 reported.

Read more: [Knowledge Portal](#)

Tanzania: New agency for disaster risk reduction

Tanzania will create a new agency for emergency response and disaster risk reduction, both for man-made disasters and disasters triggered by natural hazards. The Tanzanian Parliament has passed an according law establishing the agency. Reuters reported: "The Disaster Management Agency (DMA) will oversee efforts to prevent damage and deal with the impacts of floods, drought, hail, storms and hunger, as well as managing the stocking of supplies to aid effective response."

Read more: [Knowledge Portal](#)

South Africa plans to launch Earth observation satellite in 2019

South Africa will launch an Earth observation satellite in 2019, as the head of the South African National Space Agency Sansa, Sandile Malinge, announced to a newspaper. By doing so, South Africa would like to have their own data readily available instead of relying on international satellites. According to the newspaper Mail & Guardian, Sansa buys





Spot-6 and Spot-7 data – used by entities such as the departments of human settlements, agriculture, forestry and fisheries and Statistics South Africa – for about R35 million a year - that is almost 3 million USD.

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Honduras and Colombia share knowledge to reduce disaster risks

Honduran and Colombian authorities participated in an exchange of knowledge to reduce disaster risk. Representatives from national and municipal authorities from both countries did a study visit in Colombia, preparatory sessions and workshops to share their experience. As Honduras is one of the countries that is most affected by climate change and disasters triggered by natural hazards the Honduran government wants to adopt a more proactive disaster risk management approach, and therefore increase their knowledge and capacity on how to incorporate risk reduction and prevention into overall development.

Read more: [Knowledge Portal](#)

NOAA: Interactive storm surge map for flood risks

The National Oceanic and Atmospheric Administration (NOAA) is preparing a new application to help determine at a street-level where water could rise in a storm surge. This experimental storm surge simulator will let people get a look at what kind of storm surges can take place in their surroundings and which can be the possible damages. The preliminary model is based on Charleston (South Carolina), USA.

Read more: [Knowledge Portal](#)

Study to test smartphones as earthquake early warning

A study led by scientists at the U.S. Geological Survey (USGS) has shown smartphones and other personal electronic devices could be used as early warning systems for large earthquakes. This technology would be especially useful for regions that cannot afford the high prices of conventional early warning systems. Despite being less accurate than scientific-grade equipment, the GPS (Global Positioning System) receivers in a smartphone can detect the permanent ground movement caused by fault motion in a large earthquake, according to USGS.

Read more: [Knowledge Portal](#)

Website relaunch: Geospatial crop data for food policy

The International Food Policy Research Institute (IFPRI) and the International Institute for Applied Systems Analysis (IIASA)

improved and relaunched an interactive website that delivers essential information for ensuring adequate, sustainable food production and food security through satellite-based maps. First launched in 2008 using data from 2000, the website had been updated with new data from 2005, is more interactive, and includes a map gallery and data center.

Read more: [Knowledge Portal](#)

Copernicus Master competition now accepting submissions

The European Space Agency ESA announced that the Copernicus Masters competition is now open again for submissions. Entrepreneurs can submit their ideas for services, business concepts and applications based on satellite Earth observation data. In its fifth year, ESA and Germany's Anwendungszentrum GmbH Oberpfaffenhofen are organising this competition to aid entrepreneurs in bringing their innovations to the market. In addition to over EUR 300 000 in cash prizes the winner gets support in bringing the winning idea to market, exclusive data access and the chance to enter the incubation programme of one of Europe's 11 ESA Business Incubation Centres (BICs).

Read more: [Knowledge Portal](#)

Bangladesh: Satellite helps to forecast floods

The Bangladeshi Flood Forecasting and Warning Centre (FFWC) can now better predict disasters caused by floods thanks to the JASON-2 satellite, developed by SERVIR and the International Centre for Integrated Mountain Development (ICIMOD). The monsoon rains together with snow-fed rivers cause annual inundations in the country between March and September, damaging crops and properties and even resulting in loss of lives.

Read more: [Knowledge Portal](#)

FAO and Norway to help developing countries monitor their forest through Earth observation

The Food and Agriculture Organisation (FAO) has signed a partnership agreement with Norway in order to help developing countries assess their forest resources through Earth observation. Through access to these data sources and the development of an easy-to-use platform for processing and interpreting the data, the countries will be able to better monitor and report about their forest situation. "The new platform offers countries a set of efficient tools for monitoring changes in their forest area and carbon stocks", said Eduardo Rojas-Briales, Assistant Director-General of FAO's Forestry Department.

Read more: [Knowledge Portal](#)





International Charter activated three times in April 2015

The International Charter: Space and Major Disasters was activated three times this month to provide free of charge satellite maps. On 23 April, a new volcanic eruption in Chile was the cause of the activation. The Calbuco Volcano in the

Los Lagos region erupted twice in less than 24 hours. On 25 April, the mechanism was triggered twice in the context of the 7.9 magnitude earthquake that struck Nepal. Once for China and once for Nepal and India. The satellite-based products are available from the International Charter's website.

Read more: [International Charter](#)

Upcoming events

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 of governments in societies at risk.

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1-5 June 2015, Hangzhou, China: East Asia Summit (EAS) workshop on Application of Space Information Technology in Major Natural Disaster Monitoring and Assessment and 2nd ASEAN workshop on “Development of mechanisms for acquisition and utilisation of space-based information during emergency response”

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 progress of advanced applications of remote sensing technology in disaster risk reduction. The 2nd ASEAN workshop on “Development of mechanisms for acquisition and utilisation of space-based information during emergency response” 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 adaptation to climate change. The symposium is now open for applications.

Read more: [UNOOSA](#)

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](#)

