



UN-SPIDER

September 2011 Updates

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UN-SPIDER News

1. UN-SPIDER supports the Russian Federation's efforts to boost the use of space-based information for disaster risk management and emergency response in Central Asia

From 7 to 8 September 2011 an international seminar was organized by the Ministry of Emergency Situations (EMERCOM) of the Russian Federation with support from the UN-SPIDER Programme at the premises of the Space University of Krasnoyarsk. The meeting was instrumental to exchange information and best practices on the uses and possible applications of space-based information for disaster risk management and emergency response in the Central Asian region. The seminar furthermore allowed strengthening the cooperation between emergency services from the Russian Federation and neighbouring countries as well as with providers of space-based information and the United Nations. Representatives of Emergency Management and Civil Protection agencies from various regions of the Russian Federation and from Kazakhstan, Kyrgyzstan, Mongolia and Uzbekistan attended the seminar. The space community, represented by the Russian Federal Space Agency (Roscosmos), the private company SCANEX and the Space University of Krasnoyarsk actively took part in the meeting as well. Several technical visits to leading institutions in emergency management and space technology in the Krasnoyarsk region complemented the successful event. Another main objective of the meeting was to further institutionalize the fruitful cooperation between the United Nations Office for Outer Space Affairs, through the UN-SPIDER Programme and the Ministry of Emergency Services (EMERCOM) of the Russian Federation. Recognizing the leading role EMERCOM is playing both in the Russian Federation as well as in supporting countries in the region, discussions were held to finalize a cooperation agreement between the Office for Outer Space Affairs and the Russian Federation to establish a UN-SPIDER Regional Support Office at EMERCOM.

For further information >> [UN-SPIDER News](#)



2. UN-SPIDER's RSO in Ukraine tests new approaches to flood hazard mapping

In recent years flood management has shifted from protection against floods to managing the risks of floods (European Flood Risk Directive). Corresponding flood hazard and flood risk maps should be provided to enable flood risk assessment, and flood probability density is to be estimated in order to produce flood hazard maps. The use of space-borne remote sensing data to flood risk mapping is a complement approach to the existing flood modelling techniques. Members of the Space Research Institute NASU-NSAU, the UN-SPIDER Regional Support Office (RSO) in Ukraine, N. Kussul, A. Shelestov and S. Skakun have developed and tested two new approaches for flood hazard mapping from satellite imagery. The first approach exploits a time-series of Landsat TM/ETM+ images to estimate flood probability density. The second approach is targeted for event-specific flood hazard mapping. The proposed approach is based on a neural network method for flood mapping from SAR images.

For further information >> [UN-SPIDER News](#), or contact [Natalia Kussul](#)

3. UN-SPIDER's RSO in the I.R. of Iran supports upcoming World Space Week Activities

World Space Week, the largest public space event on earth, is an annual event as declared by the United Nations General Assembly in 1999, and this year will be celebrated in over 55 nations from 4 to 10 October 2011. The theme for World Space Week 2011 is "50 Years of Human Spaceflight" honouring the first human spaceflight that took place on April 12, 1961, when Russian cosmonaut Yuri Gagarin made one orbit around the Earth aboard the Vostok 1 spacecraft. The Iranian Space Agency (ISA), the UN-SPIDER RSO in the I.R. of Iran, will be holding two conferences at the national level during World Space Week 2011. The Space and Environment Conference on 8 October 2011 will be opened by the President of ISA and the programme will include a presentation on the activities of the UN-SPIDER Programme and more specifically the work carried out by the RSO. The Workshop on Space Technology and its applications on 9 October 2011 will be a one-day workshop for high- school teachers to discuss space technology and its applications such as in disaster management.

For further information >> [Ali Sadeghi Naeini](#) and [UNOOSA](#)

4. UN-SPIDER's RSO in Romania organises a Summer School on Crisis Management and Emergency Response

The 2011 GEOSS Summer School organized by the Romanian Space Agency (ROSA), the UN-SPIDER RSO in Romania, was held from 29 August to 4 September 2011 in Constanta, Romania. The main goal of this year's summer school was to acquire knowledge on current use of Earth observation data and image information including techniques helping to prevent, monitor and assess the impact of natural and man-made disasters and crisis situations. The programme of the Summer School included: Emergency response in the framework of GMES and GEOSS; overview of user needs and information requirements, good practices and lessons learned; SAR based rapid mapping for emergency response - theory and practice, operational experience; Infrastructure and land slides monitoring using SAR data - methods and techniques, and Marine environment monitoring (SAR and optical data) - workflows and information products.

For further information >> [ROSA](#)

5. UN-SPIDER's RSO in Pakistan publishes a monthly Bulletin on Crop Monitoring

The Space and Upper Atmosphere Research Commission (SUPARCO), the UN-SPIDER RSO in Pakistan, is leading the monitoring of crops through the use of Satellite Remote Sensing (RS) and Geographic Information System (GIS) technologies. This work is being carried out in collaboration with the Pakistan Meteorological Department and Provincial Crop Reporting Services. This system provides not only a temporal and synoptic view on a country wide basis of the cropped area but also quick and precise crop statistics. In this context, a bulletin is being issued monthly to provide an account of the activities SUPARCO is carrying out in the field of crops monitoring through the use of RS/GIS technology. The September 2011 issue of the Bulletin focuses, among others, on rainfall, flash floods and flood monitoring based on satellite data processed in August 2011. This



data overview serves as a basis for comprehensive crop damage assessment as well as evaluation of irrigation water supply situation and temporal vegetation changes.

For further information >> [SUPARCO](#)

6. UN-SPIDER's RSO in Algeria provides maps of areas sensitive to desertification

In the framework of the preparations for the 10th session of the Conference of the State Parties to the United Nations Convention to Combat Desertification (UNCCD) which will be held from October 10 to 21, 2011 in the Republic of Korea, the Algerian Space Agency, the UN-SPIDER RSO in Algeria, took part in the Regional Preparatory Meeting conducted from 5 to 8 September 2011 in Algiers. The Regional Preparatory Meeting was co-organized by the executive Secretariat of the UNCCD and the Ministry of Agriculture and Rural Development. The Algerian Space Agency, in cooperation with the General Directorate of Water and Forest Administration, helped launch the implementation of an action plan to combat desertification which will be led by the Ministry of Agriculture and Rural Development. For this purpose, it provided maps of areas sensitive to desertification based on satellite data. Moreover, the Algerian Space Agency took part in an exhibition presenting key elements such as used methodology and different data that served to elaborate the above mentioned maps. At the end of the meeting, it was concluded that awareness of national and regional decision-makers regarding the issue of desertification needs to be raised. Also, a framework for better regional cooperation should be established so as to facilitate sharing of space-based data and related expertise.

For further information >> [ALGERIA](#)

7. ADRC, a UN-SPIDER RSO, organises a Training Course for Central Asia and the Caucasus

From 27 June to 5 August 2011, the Asian Disaster Reduction Center (ADRC), a UN-SPIDER RSO, conducted the 8th Training Course for disaster management officials from Central Asia and the Caucasus with the cooperation of the Japan International Cooperation Agency (JICA). The course was attended by a total of 13 central and local government officials representing 4 countries: Kazakhstan, Tajikistan, and Uzbekistan in Central Asia, and Armenia in the Caucasus. Central Asia and the Caucasus frequently experience disasters such as floods, droughts, landslides, earthquakes or heavy snowfalls that can eventually lead to flooding when mountain glaciers thaw in the warmer seasons. Thus, these regions have common concerns in terms of disaster risk management. It is hoped that the participants will make good use of the knowledge, technologies, and methods they learned from the training course and help strengthen the disaster management systems in their home countries.

For further information >> [ADRC](#)

8. Regional Training Activity on the use of Remote Sensing and GIS for disaster management in Ouagadougou, Burkina Faso

With funding support provided by the Government of Austria the UN-SPIDER Programme supported from 26 to 30 September 2011 a Regional Training Activity on the use of Remote Sensing and GIS for Disaster Management in Ouagadougou, Burkina Faso, together with the Regional Center for Training in Aerospace Surveys (RECTAS) from Ile-Ife, Nigeria, under the auspices of the Ministère de l'Environnement et du Développement Durable/Direction du Suivi Ecologique et des Statistique. Upon official invitation of the Government of Burkina Faso this event was conducted as a follow-up activity of the Technical Advisory Mission to Burkina Faso carried out in November 2008. The main goal of this capacity building and capacity development activity was to train a network of professionals from different institutions and countries as well as to establish an inter-institutional technical group as a way to institutionalize further the use of space-based information for disaster management. The training started with a half-day high-level awareness raising event in Ouagadougou organised by the local committee and attended by around 60 participants from national and international organisations and institutions. Subsequently, the course programme for the 20 participants from Burkina Faso, Cameroon and Togo extended over four training days covering main topics of physical principles



of Remote Sensing, spatial data acquisition, image processing procedures, spatial data analysis and case studies displaying the utilisation of those techniques in the frame of risk and disaster management and emergency response. The training included theoretical lectures and practical hands-on exercises on spatial data application. Lectures concerning existing international mechanisms for disaster management, such as the International Charter Space and Major Disasters and the European GMES Services and Applications for Emergency Response (SAFER) initiative were presented as well. Additionally, the group of trainees visited the National Meteorological Service where the Director provided a detailed introduction to the EUMETSAT receiving station that was installed in the framework of the European funded AMESD Project.

For further information >> contact [Lorant Czarán](#)

9. Africa and China step up cooperation on drought risk

From 24 to 26 September 2011 over 40 officials from China, African countries and the United Nations took part in a three-day “Sino-African High-Level Seminar on Drought Risk Reduction” which is calling for drought risk reduction to be on the agenda of the next year’s Sino-African Summit for Development Cooperation. Delegates at the seminar also included heads of national meteorological services, disaster managers, national DRR (disaster risk reduction) coordinators and academics and scientists from China and 11 African countries, Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Niger, Nigeria, Sudan, Tanzania, Uganda and Zimbabwe. Participants shared knowledge and scientific approaches, practical methods in drought monitoring, early warning and management of agricultural drought. UNOOSA was represented by Mr. Shirish Ravan from the UN-SPIDER Office in Beijing. During this event, UN-SPIDER’s cooperation with NDRCC (National Disaster Reduction Center of China) on the Horn of Africa crisis was prominently highlighted.

For further information >> contact [Shirish Ravan](#)

10. UN-SPIDER contribution to the Second Meeting of ITU-D Study Group 2

The mandate of the International Telecommunication Union’s (ITU) Study Group 2 includes methods and approaches that are the most suitable and successful for service provision in planning, developing, implementing, operating, maintaining and sustaining telecommunication services which optimize their value to users. The second meeting of the group was held in Geneva, Switzerland, 12 to 16 September 2011. UNOOSA and UN-SPIDER activities were introduced in a presentation by Dr. Yusuf Haşçıçek from UNOOSA/UN-SPIDER who also met with ITU officials to discuss possible areas of cooperation.

Information on these meetings is available at >> [ITU-D](#)

11. Technical Advisory Mission (TAM) to Sri Lanka

At the request of the Government of Sri Lanka, UN-SPIDER is planning a Technical Advisory Mission (TAM) to Sri Lanka from 17 to 21 October 2011. A team of 9 experts will meet with key disaster management authorities in the Government, UN agencies, regional and international organizations/initiatives and private entrepreneurs to discuss, make recommendations and develop guidelines to improve the use of space-based information in disaster management. As part of the TAM, a one-day workshop will be organized on 20 October 2011 by the Government of Sri Lanka on the “The Use of Space Technology for Disaster Management”. It is envisaged that the workshop will be attended by over 100 participants from government departments, UN agencies, NGOs, academia and corporate companies.

For further information >> contact [Shirish Ravan](#)

12. UN-SPIDER participation in the 3rd Anniversary Celebration of HJ-A/B Satellites

On 6 September, 2011, the China National Disaster Reduction Committee organized the 3rd year on-orbit operation anniversary and user service conference of HJ-A/B satellites to celebrate the 3rd year anniversary on orbit operation of HJ-A/B satellites and evaluate the operational management and application status of both satellites. More than 60 representatives from the China National Space Agency, satellite manufacturing



institutions, user agencies and related international organizations participated in the celebration. The two disaster monitoring satellites, which are equipped with optical, infrared and hyper-spectral sensors, have provided government agencies with disaster information three to six times faster than previously. Over the past three years, they have provided data to more than 70 natural disasters within China and have also helped monitor the situation of 15 disasters outside of China, including the Haiti earthquake in 2010.

For further information >> [xinhuaNet](#)

13.UN-SPIDER supports APSCO's "Third International Symposium on Earth Quake Monitoring and Early Warning by Using Space Technology" Beijing, 13 to 15 September, 2011

Earthquake Monitoring and Early Warning is a vital issue being faced by the Asia-Pacific region due to geographical position and geological structure of this region. APSCO's "Third International Symposium on Earth Quake Monitoring and Early Warning by Using Space Technology" was organized to address this issue with a specific emphasis on rapid earthquake detection and notification and use of space technology for earthquake monitoring. This Symposium was organized in Beijing by APSCO jointly with the Ministry of Industry and Information Technology (MIIT) of the People's Republic of China. UN-SPIDER supported the symposium, chairing the first session "Organization Role in Earthquake Monitoring" and delivering a key note presentation.

For further information >> [APSCO](#)

14.Progress on the VALID Project: Extended support and first stakeholder feedback

In the follow-up of the VALID Round Table in May 2011 the project has gained considerable scientific support. VALID (The Value of Geo-Information for Disaster and Risk Management) is planned as another joint publication of the JBGIS and UNOOSA. At two meetings of the VALID editorial group, chaired by Professor Orhan Altan of Istanbul Technical University, and Dr. Robert Backhaus, UNOOSA/UN-SPIDER, increased interest of the scientific community in the VALID project work was reported and discussed. This includes the JBGIS member societies, and also IUGG (International Union of Geodesy and Geophysics), URSI (Union Radio-Scientifique Internationale), and EuroSDR (European Spatial Data Research). During past months a poll has been conducted to collect the explicit and tacit knowledge of the global expert community about the benefits which can be attributed to specific geo-information products and services with regard to operational and strategic aspects of disaster management. The poll results highlighted the stakeholders' concern about geo-information products and services supporting prevention and mitigation as well as response action with emphasis on flood, drought, earthquake, and fire disasters, and will be published in more detail on the UN-SPIDER Knowledge Portal in due course.

For further information >> [VALID](#), or contact [Robert Backhaus](#)

Community News

15.International Charter develops geographic tool to provide information about satellite data used for activations

The International Charter for Space and Major Disasters has developed a geographic tool to display footprints and characteristics of satellite data provided in the frame of each activation. This catalogue contains no data but rather metadata describing the images acquired by a range of satellites during Charter activations. The catalogue brings together the metadata from the images used in each activation and provides a user-friendly which allows discovery and browsing of these metadata.

For further information >> [Link to the geographic tool](#)



16. New Oil Monitoring research project coordinated by KSAT of Norway

A new three-year project, Multisensor Satellite Technologies for Oil Pollution Monitoring and Source Identification (SeaU), funded by the European Commission through FP 7 has been approved to develop the next generation satellite based oil monitoring service. Use of satellite radar data has proven to be an efficient tool to assist the national authorities in detecting potential oil slicks and locate polluters. Fast detection and warning of oil slick at sea is crucial as it allows pollution control authorities to initiate actions before the oil drift on shore. The overall objective of the SeaU project is to improve the current state-of-the-art methodology for satellite based oil spill detection and monitoring, and demonstrate through deliveries to existing and new users how these improvements can contribute to the development of a next generation downstream service.

For further information >> [Kongsberg Satellite Services](#)

17. Monitoring Volcanic Ash and Impacts on Agriculture: CSA, NASA and World Bank Cooperation

During the June 2011 eruption of the Puyehue-Cordon-Callue volcano (Chile), large amounts of ash and pumice were ejected into the atmosphere and subsequently deposited over large areas, threatening the health of many people. The Ministry of Agriculture of Argentina requested assistance from the World Bank to determine the extent of the ash and its impact on the agriculture lands. Earth Observation data was acquired in the framework of the Committee on Earth Observation Satellites (CEOS), collaborating with NASA and CSA. Geomatics experts at the World Bank were able to produce an initial regional map out of this data showing the enormous aerial extent of ash clouds observed daily over parts of Chile and Argentina for most of the month of June, 2011.

For further information >> [Earth Observation Express](#)

18. Uganda plans early warning ICT system

The Telecoms regulator, the Uganda Communications Commission in collaboration with the ITU is jointly developing an early warning system that will provide public alerts to people in case of disaster prediction, detection and mitigation. Ten satellite phones were handed over to the Ministry of Disaster Preparedness and Refugees to facilitate communication as evacuation efforts are still going on in Uganda's Bulambuli district that was affected by mudslides early in the month. UCC contacted the International Telecommunications Union (ITU) for the emergency communications equipment to assist in the management of relief services. The equipment has capacity to use both satellite and GSM networks.

For further information >> [East African Business Week](#)

19. The Philippines to use sophisticated geohazard map for disaster reduction

The National Disaster Risk Reduction and Management Council and the National Mapping and Resource Information Authority (NAMRIA) received a high-resolution geohazard map as part of a grant awarded by the Australian Agency for International Development and Geoscience Australia. The geohazard map was created by using a LiDAR – a remote sensing technology. Nereus Acosta, a Presidential Adviser on Environment Protection, said that the map will significantly help in providing better management of the government's disaster risk reduction efforts. Once the three-year project has been firmly established, local governments can use data from the LiDAR maps to carry out simulations of strong winds, flooding and earthquake scenarios in their respective areas.

For further information >> [futuregov.asia](#)

20. NASA Satellites Busy at the Peak of Hurricane Season

During the first two weeks of September, NASA satellites were keeping tabs on a number of tropical systems. NASA's Aqua, Terra, EO-1 and Tropical Rainfall Measuring Mission (TRMM) satellites provided rainfall rates, cloud height, cloud temperature, sea surface temperatures, and extent of cloud cover throughout the life of all



the tropical cyclones. NASA/NOAA's GOES Project also created images and animations from NOAA's GOES-13 satellite that followed the track of each system through the Atlantic, Caribbean or Gulf of Mexico.

For further information >> [Earthzine](#)

21. Sentinel Asia assists in response to five disasters

September was a busy month for Sentinel Asia: On the 3rd Typhoon Talas hit Japan and was followed by Typhoon Roke on the 20th. In both cases Japan received assistance from Sentinel Asia. In addition satellite images were provided for the ongoing massive flooding in Pakistan and in the aftermath of a 6.8 intensity earthquake in the Sikkim-Nepal border region of India. And finally Sentinel Asia was activated for Typhoon Nesat which crossed the Philippines main island on the 27th.

For further information >> [Sentinel Asia](#)

22. International Charter activated for Flood in Japan and Earthquake in India

The first Activation of the International Charter in September was requested by JAXA on behalf of the Cabinet Office (Japan) to respond to flooding and landslides caused by Typhoon Talas. The storm hit Japan on the 3rd while the activation took place on the 4th and provided maps showing the affected areas based on optical and radar satellite imagery. On the 18th the charter was activated the second time this month for the 6.8 intensity earthquake affecting the north-eastern part of India.

For further information >> [International Charter Space and Major Disasters](#)

23. The UNLock project

One of the challenges in conflict early warning and post-conflict reconstruction is obtaining relevant and reliable data. To address this challenge, the Fund for Peace has developed the UNLock project that links global information technologies with local social networks. From 2007 to 2010, the Fund for Peace has been conducting workshops in the conflict-affected countries for local participants. They, in turn, train others at the community level. Data collected from the field by participants are passed up to the Fund for Peace for analysis and then shared on a dedicated website for the network as a whole. Aggregated data are made available in the form of meaningful reports, or graphical representations of various pressures that can drive conflict. Working with local networks, the Fund for Peace disseminates the findings, creates alerts, and offers policy recommendations to protect civilians and promote sustainable security.

For further information >> [Fund for Peace](#)



Upcoming UN-SPIDER Outreach Activities

Information on upcoming UN-SPIDER outreach activities can be obtained from the events section of the UN-SPIDER Knowledge Portal:

www.un-spider.org/events

Upcoming UN-SPIDER events

Second UN-SPIDER International Expert Meeting: Crowdsourcing Mapping for Preparedness and Emergency Response, Geneva, 16 November 2011

In July 2011 the UN-SPIDER Programme successfully conducted the First International Expert Meeting on “Crowdsourcing Mapping for Preparedness and Emergency Response”. The second activity of this project will be this Expert Meeting to be held in Geneva, back-to-back with the [International Conference on Crisis Mapping \(ICCM 2011\)](#). For those interested in contributing to the discussion on this topic, please consider joining the [Google Group on Space-based Information for Crowdsourcing Mapping](#).

For more information and registration: [Second UN-SPIDER Meeting on Crowdsourcing Mapping, ICCM2011](#)

United Nations International Conference on Space-based Technologies for Disaster Risk Management “Best Practices for Risk Reduction and Rapid Response Mapping”, Beijing, 22 - 25 November 2011

One year after the successful opening of the UN-SPIDER office in Beijing in November 2010, the first “United Nations International Conference on Space-based Technologies for Disaster Risk Management” will be hosted at the new location. The conference will bring together 120 participants including disaster managers, policy makers, and providers of space technology solutions, tools and applications from Government, NGOs, Academia and the corporate sector. The focus of the conference will be to share and discuss “Best Practices for Risk Reduction and Rapid Response Mapping”. Please note that the registration is now closed.

For more information: [UN International Conference in Beijing](#)

Upcoming events supported by UN-SPIDER

Pacific Island Countries GIS/RS User Conference, Suva, 28 November - 2 December 2011

This series of conferences which began in 1999 will hold its 2011 edition in Suva, Fiji from 28 November to 2 December 2011. “Data Sharing, Better Mapping” will be the main theme of this leading geospatial event for the Pacific region. As in previous years the UN-SPIDER Programme is pleased to be able to extend travel support to a selected expert from a Pacific country to enable the expert to attend the conference and deliver a presentation on a specific case-study that should focus on the use of space-based information for disaster risk management.

For further information: [PICISOC](#). For information on the travel support please contact [Ahmed Osman](#).



“APSCO Training Course on Environment and Disaster Monitoring Through Space Technology” Dhaka, Bangladesh, 22 November to 1 December 2011

As a direct outcome of the TAM UN-SPIDER organised to Bangladesh earlier this year the Asia Pacific Space Cooperation Organisation (APSCO) is organising the above training course with the support of the UN-SPIDER Programme.

For further information: [APSCO](#)

Conferences and Workshops

We maintain a Calendar of Events with upcoming Conferences, Meetings and Events relevant to the area of space-based solutions for disaster management and emergency response. The Calendar can be viewed at:

www.un-spider.org/events

*The **United Nations Office for Outer Space Affairs (UNOOSA)** implements the decisions of the General Assembly and of the Committee on the Peaceful Uses of Outer Space and its two Subcommittees, the Scientific and Technical Subcommittee and the Legal Subcommittee. The Office is responsible for promoting international cooperation in the peaceful uses of outer space, and assisting developing countries in using space science and technology. Headquartered in Vienna, Austria, UNOOSA maintains a website at <http://www.unoosa.org>.*

*In its resolution 61/110 of 14 December 2006 the United Nations General Assembly agreed to establish the "**United Nations Platform for Space-based Information for Disaster Management and Emergency Response - UN-SPIDER**" as a programme within UNOOSA. UN-SPIDER focuses on the need to ensure access to and use of space-based solutions during all phases of the disaster management cycle.*