UNITED NATIONS
Office for Outer Space Affairs

United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)

UN-SPIDER

November 2011 Updates

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UN-SPIDER News

1. UN-SPIDER Conference in Beijing

UN-SPIDER organised the "United Nations Conference on Space-based Technologies for Disaster Management - Best Practices for Risk Reduction and Rapid Response Mapping" on 22-25 November 2011. The conference brought together 128 participants from 42 countries representing 93 national, regional and international organizations, non-government organizations, the private sector and academia representing all the continents. Participants represented civil protection agencies, emergency management organizations, space agencies, remote sensing agencies, research institutions, ministries of environment and natural resources, science and technology bureaus, and other government and non-government agencies. The conference included 7 plenary sessions that incorporated 36 presentations from the experts and users of the technology, 3 side meetings and 3 breakout discussion sessions. It covered a range of topics including advancements in technology, best practices in disaster risk management, experiences in rapid response mapping, etc. Outcomes and impacts of the recent UN-SPIDER technical advisory missions were discussed.
For further information and the Conference Report >> ***UN-SPIDER***

2. Second UN-SPIDER International Expert Meeting: Crowdsource Mapping for Preparedness and Emergency Response which took place in Geneva, Switzerland on 16 November 2011

This one-day Expert Meeting brought together 72 experts and practitioners from 21 countries. This second Expert Meeting was purposely organised back-to-back with the International Conference on Crisis Mapping (ICCM 2011) (http://crisismappers.net/page/iccm-geneva-2011). This ensured the participation of the crisis mapping community which converged to Geneva to attend their annual meeting as well as the humanitarian community based in Geneva. The agenda of the second Expert Meeting built upon the recommendations and conclusions of the first Expert Meeting, which took place in Vienna earlier this year, focusing on exploring possible ways of contributing to better coordination of the crowdsource communities with the space

technology community and on overall improvement of its involvement to facilitate the preparation and processing of space-based products used by the disaster risk reduction and emergency response community. The discussions targeted opportunities that make space-based information available for disaster risk reduction and emergency response, including their access and use, as well as the further involvement of existing mechanisms to ensure increased coordination and cooperation of all three communities. The Samoa Simulation Exercise, proposed during the first Expert Meeting, was also discussed and fine-tuned during this second Expert Meeting. Both experts meetings were organised with the support and cooperation of the Government of Austria (through the Federal Ministry for Transport, Innovation and Technology of Austria) and the Secure World Foundation.
For further information>> ***UN-SPIDER***

3. UN-SPIDER conducted a Technical Advisory Mission to the Dominican Republic

On 7 – 11 November, UN-SPIDER conducted a Technical Advisory Mission to the Dominican Republic under the coordination of the National Emergency Commission of the Dominican Republic. The mission was conducted with the support of experts from the Center for Water of the Humid Tropics of Latin America and the Caribbean (CATHALAC) in Panama and from the Agustin Codazzi Geograhic Institute (IGAC) in Colombia. CATHALAC has served as a Regional Support Office to UN-SPIDER and has contributed to the execution of missions to Latin America and the Caribbean. IGAC is finalizing arrangements to become a Regional Support Office. As a follow-up to the Technical Advisory Mission carried out in January 2010, this mission included the conduction of an inter-institutional workshop and meetings with representatives from government agencies, the United Nations, the European Union (EU), and the International Cooperation Agency of Spain (AECI). The aim of the mission was to assist the National Emergency Commission (CNE) in the institutionalization of the use of space-based information. As part of the mission, CNE and UN-SPIDER conducted an inter-institutional workshop on 8-10 November 2010 in the facilities of the Commission to elaborate the operational framework for the Geo-Spatial Information Team which will target efforts in the areas of risk management and disaster response. The mission concluded with the presentation of the results to the coordinators of the European Union, the International Cooperation Agency of Spain, and to representatives of the United Nations and the Ministry of Foreign Affairs. Representatives from these agencies reiterated the usefulness of such a team and highlighted the fact that several institutions and non-government organizations have already generated geo-spatial information on risks through several projects already conducted in specific regions of the Dominican Republic. This TAM was made possible due to the third consecutive contribution received from the Austrian Ministry for European and International Affairs in 2011 to continue supporting Small Island Developing States including carrying out technical advisory missions to both the Dominican Republic and Sri Lanka in 2011.
For further information >> contact ***Juan Carlos Villagran***

4. UN-SPIDER's RSO in the Islamic Republic of Iran supports APSCO Training Course

The Iranian Space Agency, in its role as a UN-SPIDER's RSO, represented the UN-SPIDER Programme in the "APSCO Training Course on Environment and Disaster Monitoring through Space Technology" which took place in Dhaka, Bangladesh, from 22 November to 1 December 2011. ISRA staff gave lectures on the topics of Image processing methods and tools for disaster and environmental monitoring, including Geometric correction, GPS-based GCP collection, geo-referencing, digital mosaicking etc.
For further information >> ***Ali Sadeghi Naeini***

5. UN-SPIDER participated in SAFER EUAC meeting and final SAFER User Conference

UN-SPIDER was invited to participate in this final External User Advisory Committee meeting of the SAFER project and given Special Observer status for the meeting which was conducted from 16 to 18 November 2011. UN-SPIDER' Programme Officer Lorant Czaran represented the Office for Outer Space Affairs and delivered a presentation on UN-SPIDER at the Conference Plenary. The two-day meeting was followed by a one-day final SAFER User Conference, which brought together all the EU National focal Points for SAFER and the LinkER

project. The first two days included technical presentations regarding results achieved, followed by an intense session that was devoted to drafting recommendations for the EC concerning Operational Services funding. The Conference was attended by NFPs, EU and EC employees, the SAFER project- and user community.
For further information >> contact ***Lorant Czaran***

6. UN-SPIDER's RSO in Algeria supervises a training workshop on satellite navigation and positioning-based services in Togo

The Algerian Space Agency participated in a training workshop on satellite navigation and positioning-based services, jointly organized by ISESCO (Islamic Educational, Scientific and Cultural Organization) and the LF-CRASTE (African Regional Centre for Science and Technology of Space-Rabat) in collaboration with the Togolese Ministry of Environment and Forest Resources. The workshop took place in Lome, Togo from 3 to 7 October 2011 and focused on both theoretical and practical knowledge on GNSS (Global Navigation Satellite Systems) as well as the reference systems and coordinates. Participants were introduced to the technological foundations of the global navigation satellites, and operational uses of these systems. Dr. Salem Kahloucha, who oversaw the training workshop, directs the Division of Space Geodesy Space Centre, an operating entity of the Algerian Space Agency, and is responsible for the Magister programme on "Space technology and applications". In his speech at the opening session, Dr. Aisha Bammoun, representative of ISESCO, stressed the importance of GNSS in the management of natural resources and in the prediction of disasters and commented that ISESCO will continue its efforts to develop the capacity of human resources. Dr. Bammoun's presentation was followed by the presentation from the Algerian Space Agency, which focused its mission and functions and on the National Space Program 2020.
*For further information >>****Algerian Space Agency***

7. UN-SPIDER's RSO in Algeria Organises National Workshop on Forest Fires

In the context of cooperation between the Algerian Space Agency (ASAL) and the Directorate General of Forests (DGF), a workshop on the balance sheet of forest fires in 2011 was held on November 29, 2011 at the headquarters of the ASAL. The workshop benefitted from the participation of various national bodies, including the General Directorate of Civil Protection (CPB), the national Meteorological Office (ONM), the National Institute of Soils, Irrigation and Drainage (INSIDE), the National Institute of Forestry Research (INRF), and forest conservation wilaya of Blida, Skikda, Sidi Bel Abbes, and Jijel. The Director General of the Algerian Space Agency recalled the history of collaboration between the DGF and the ASAL in the theme of forest fires since 2003. The Director General of Forests (DGF), for its part, presented the main trends in the preliminary assessment of forest fires campaign 2011 and stressed the quality of institutional collaboration ASAL-DGF, allowing better diagnosis, because based on satellite tool and geographic information systems. Since 2003, cooperation linking the ASAL and FMB will result in the creation of an annual assessment of forest fires through remote sensing techniques, as well as prevention and management of forest fires through the implementation a Geographic Information System developed by the ASAL areas of pilots, Ghazaouet (Tlemcen) and some districts of province of Saida and Sidi Bel-Abbes. This system is dedicated to the production of risk maps of forest fires.
*For further information >>****Algerian Space Agency***

8. Asian Disaster Reduction Center, a UN-SPIDER RSO, conducts JICA Training Course: Disaster Management Planning for China 2011

From 19 October to 8 November, the Asian Disaster Reduction Center (ADRC) conducted a training course for disaster management and urban design officials from the central and local governments in the People's Republic of China, with cooperation from the Japan International Cooperation Agency (JICA). A total of 19 people participated in the course. This training course was designed to convey basic knowledge and experiences related to natural disaster management in Japan. During the course, participants were given an outline of the disaster management practices used in urban areas in Japan and were taught how to formulate

plans for effective urban disaster management within their organizations. In addition to attending lectures, they visited central and municipal government agencies, a lifeline facility, a research institute, and a broadcasting company to enhance their understanding of Japan's disaster management system. In Iwate Prefecture, they also conducted a field survey in the area devastated by the Great East Japan Earthquake and Tsunami. They learned about the current situation in the affected area and lessons learnt during the recovery process. An official from the Iwate prefectural government gave a presentation on debris management, one of the largest recovery challenges being faced in the area.
*For further information >>**ADRC***

9. Open GIS/GEO data collection by UN-SPIDER

If you know about the availability of open gis/geo datasets, please support UN-SPIDER's effort to populate a standardized database by sharing your knowledge with the community and putting the information into following form: ***Open GIS/GEO Data Collection Form***

Community News

10. NASA Finally Launches New Climate Satellite, Highlighting Need For Funding New Monitoring Capabilities

In the end of October NASA launched the National Polar-Orbiting Operational Environmental Satellite System Preparation Project satellite (short NPP). The satellite was launched from Vandenberg Air Force Base in California, five years after its originally scheduled launch date. It features five new instruments that will collect more detailed information about Earth's atmosphere, land, and oceans and contribute to both weather and climate forecasting. As many of the weather satellites currently in orbit are aging beyond their life expectancies and experiencing technical problems the NPP is just a stopgap. The satellite is designed to test new monitoring instruments and serve as a bridge between NOAA's current polar orbiting satellites and the next generation, the Joint Polar Satellite System (JPSS), which is tentatively scheduled for launch in 2017.
*For further information >> **Think Progress***

11. Using NASA Earth Observations to Evaluate the Relationship Between Land Use/Land Cover and Tornado genesis in Alabama

In the framework of NASA's DEVELOP National Programme; a team of scientists investigated the role of terrestrial environmental parameters such as topography in the development of tornadoes. NASA EOS has been used as a source for historical data on environmental parameters and tornadoes to study these associations retrospectively. In the current project the geographical focus is on Alabama for the time period from 1974 to 2011. Furthermore the project could also be expanded to examine the role of other factors, including meteorological variables.
*For further information >> **Earthzine***

12. Mapping Data for European Disaster and Crisis Response

An agreement which will improve access to data from national mapping and cadastral agencies in Europe was signed at the Group on Earth Observation (GEO) plenary on 16th November in Istanbul. The goal is to help provide a common operational picture for those involved in crisis management to work from. Civil protection agencies, national and local emergency services, humanitarian aid organisations and European Union bodies will all be able to use the rush-mode mapping and damage assessment maps created as part of the GMES emergency management service. This service may be activated on any day at any time and aims to provide reference maps just six hours after gaining access to earth observation data and damage assessment maps within 24 hours.
*For further information >> **GIM International***

13.Landsat 5 Mission in Jeopardy

The U.S. Geological Survey (USGS) has stopped acquiring images from the 27-year-old Landsat 5 Earth observation satellite due to a rapidly degrading electronic component. Landsat 5 was launched in 1984 and was designed to last 3 years. For several months, the Landsat flight operations team has been closely tracking the fluctuating performance of an amplifier which is essential to transmit land-surface images from the Landsat 5 satellite to ground receiving stations in the U.S. and around the world. The USGS-operated Landsat 7 remains in orbit collecting global imagery. Since its launch in 1999 with a 5-year design life, Landsat 7 has experienced an instrument anomaly which reduces the amount of data collected per image. Landsat 8, currently called the Landsat Data Continuity Mission, is now scheduled to be launched in January 2013.

For further information >> ***USGS***

14.German satellite could help Chile predict natural disasters

A conference was conducted in the southern Chilean city of Punta Arenas in mid November to discuss the use of the TerraSAR-X satellite system to assist Chile in predicting volcanic eruptions. The satellite, which has been in orbit for nearly a year, could provide Chile with significantly advanced warning of volcanic activity and tsunamis. In the wake of recent volcanic eruptions, Chile is working to improve natural disaster preparedness by extending its volcano monitoring network. The primary advantage of the TerraSAR-X satellite is its capacity to see through natural obstructions like ash, and to compensate for low visibility in certain weather conditions at any time of day. These advantages were exemplified following the June eruption of the Cordón Caulle volcanic complex in southern Chile. The DFD (German Remote Sensing Data Center) also hopes to use its technologies to assist Chile in developing a tsunami warning system. They look to replicate an early warning system they currently use in the Indian Ocean in partnership with Chile's Navy Hydrographic Service (SHOA).

For further information >> ***The Santiago Times***

15.Satellites respond to humanitarian needs

A review of crisis response using Earth observation techniques is now available online. The Respond Atlas outlines global events where remote sensing applications assisted in preparing for and responding to disasters and humanitarian crises. The Respond project began in 2004 as a European Global Monitoring for Environment and Security (GMES) initiative. During its five years of service, hundreds of maps were produced to assist in relief efforts linked to crises such as the aftermath of Cyclone Nargis, the 2004 Asian tsunami and even Sudan's refugee situation in Darfur. The service provided mapping far beyond the disaster response phase by supporting recovery, rehabilitation and reconstruction activities.

For further information >> ***ESA***

16.UK space radar project initiated

The United Kingdom government will kick-start an innovative project to fly radar satellites around the Earth, with an initial investment of £21m. It is hoped that a series of satellites could eventually be launched, enabling any place on Earth to be imaged within 24 hours - a powerful capability. The project, which is supported by the government, has been developed by Surrey Satellite Technology Limited (SSTL), which specialises in building small, low-cost spacecraft, and its parent company, Astrium, which makes some of the biggest satellites in orbit today. The new S-band radar satellite is called NovaSar-S and would have a number of viewing modes that could enable it to perform a wide range of roles, from flood monitoring and land cover management to disaster mapping and maritime enforcement - notably ship tracking and oil spill detection.

For further information >> ***BBC***

17. Social Impact through Satellite Remote Sensing – Visualizing Acute and Chronic Crises beyond the Visible Spectrum

For decades, satellite remote sensing has provided fundamental insights in countless physical science fields such as ecology, geosciences, atmospheric physics, and chemistry. However, as it relates to human and socioeconomic processes, satellite remote sensing is an incredibly powerful tool that is underutilized. Human behavior and socioeconomic parameters have been successfully studied via proxy through remote sensing of the physical environment by measuring the growth of city boundaries and transportation networks, crop health, soil moisture, and slum development from visible and multispectral imagery. The article provides an overview and outlook over the usage of remote sensing for analyzing social aspects.

For further information >> ***Global Pulse***

18. Sentinel Asia supports Vietnam

Heavy rain in central areas of Vietnam for days caused 7 deaths. In some provinces the traffic system was blocked and many households were isolated. Sentinel Asia provided the country with several satellite images.

For further information >> ***Sentinel Asia***

19. SAFER is activated for France and Romania

On the 3rd of November 2011, the Hérault River reached a red vigilance level on the Vigicrues flood-watch site whereas on the Météo France weather vigilance map 3 Departments (Hérault, Aveyron, Lozère) went red and five Departments (Tarn, Bouches-du-Rhône, Haute-Loire, Gard et Ardèche) hit orange vigilance levels with respect to serious flood risks. On the 6th of November 2011, heath and forest fires broke out in the region of Sibiu in Romania at several locations in the mountains. The fires spread quickly and strong winds hampered the fire-fighting operations. A total of approximately 40 hectares of forest, grassland and heathland were burnt down. SAFER provided both countries with several satellite images.

For further information >> ***SAFER***

20. Brazil joins the International Charter 'Space and Major Disasters'

In the year that severe flooding and landslides claimed over 800 lives in Brazil's Rio de Janeiro state, Brazil has joined the international space organisation that makes timely satellite data available to support civil protection authorities during disasters. Brazil's National Institute for Space Research – INPE – became the newest member of the International Charter 'Space and Major Disasters' on 8 November 2011.

For further information >> ***ESA***

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 events supported by UN-SPIDER

The International Training Course on "Applications of Space Technology for Disaster Risk Reduction" at the Centre for Space Science Technology Education for Asia and the Pacific (CSSTEAP), Dehradun, India
UN-SPIDER is supporting the International Training Course on "Applications of Space Technology for Disaster Risk Reduction" organised by CSSTEAP (Affiliated to the United Nations), Dehradun, India. The course brochure is available on http://www.cssteap.org/upcoming_courses_12_1.html. UN-SPIDER will support the cost of travel of mid-level technical experts from disaster management agencies of the Member States that are working closely with UN-SPIDER in Asia and the Pacific region. CSSTEAP will provide a stipend to cover living expenses and will also waive the course fee. The deadline for reception of applications is 31st January 2012. After submitting the application, please get in touch with shirish.ravan@unoosa.org to request travel support. Since funding is limited, preference will be given to candidates from Member States that are closely working with UN-SPIDER.
For further information >> contact ***Shirish Ravan***

Conferences and Workshops

The Fourth International Conference on Advanced Geographic Information Systems, Applications, and Services GEOProcessing, January 30 - February 4, 2012 - Valencia, Spain
The goal of the International Conference on Advanced Geographic Information Systems, Applications, and Services, GEOProcessing 2012, is to bring together researchers from the academia and practitioners from the industry in order to address fundamentals of advances in geographic information systems and the new applications related to them using the Web Services. Such systems can be used for assessment, modeling and prognosis of emergencies. As an example, it can be used for assessment of accidents from chemical pollution by considering hazardous chemical zones dimensions represented on a computer map of the region's territory. The conference will provide a forum where researchers shall be able to present recent research results and new research problems and directions related to them. The conference seeks contributions presenting novel research in all aspects of techniques and technologies applied to geographic information systems and Web Services.
For further information >> ***GEOProcessing12***

Global Environmental Change – Challenges and Innovations, 21-24 February 2012, Chennai, INDIA
The international conference aims to review and interpret results from new research to enable their effective implementation at various levels, to protect our environment; and to make an appraisal of the challenges to progress in the wake of new episodic and climate-induced disasters.The three-day open science international conference being multi-disciplinary in nature, will have participants who are subject experts in the field of environmental studies, ecosystem and biodiversity conservation, ecological assessment, climate change, water resources, disaster management, representatives of prominent civil society organizations, senior government

officials and representatives of various international/regional agencies. The expectation is to accommodate about 150 key participants from India and abroad apart from about 50 young scholars and students working in the field of environmental studies.
*For further information >> **Global Environmental Change***

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.*