



# UN-SPIDER Newsletter

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Burkina Faso experiences the hydrometeorological extremes of flood and drought

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## UN-SPIDER Provides Advisory Support to Burkina Faso Ministries

*Conducts Technical Advisory Mission to help nation integrate space-based information capacities and services*

FACING AN EVER-increasing number of potential natural disasters and climatic change, the government of Burkina Faso requested a UN-SPIDER Technical Advisory Mission to assess and advise on the use of space-based technology and information for disaster management and emergency response. The mission, conducted in Burkina Faso from 17 to 21 November 2008, aimed at identifying potential areas where space-based technology and information could play a greater role, and at proposing recommendations on how to improve Burkina Faso's access to and use of space-based technology and information.

Preceding the mission, a preparatory meeting was held at the end of August 2008 in Ouagadougou, with the National Council for the Environment and Sustainable Development (SP/CONEDD, the governmental focal point for the mission), and other relevant institutions to discuss the mission objective and programme. For the official Technical Advisory Mission in November, a five-member team of experts was put together: one each from the Algerian Space Agency, the French Space Agency CNES, the UN Office for the Coordination of Humanitarian Affairs, and two from UNOOSA/UN-SPIDER. It is worth noting that a total of 15 institutions were initially interviewed by the mission team, including nine governmental institutions, four UN organizations (UNDP, OCHA, WFP, WHO), and one bilateral institution (FEWSNET).

(see "Burkina Faso" on page 3)

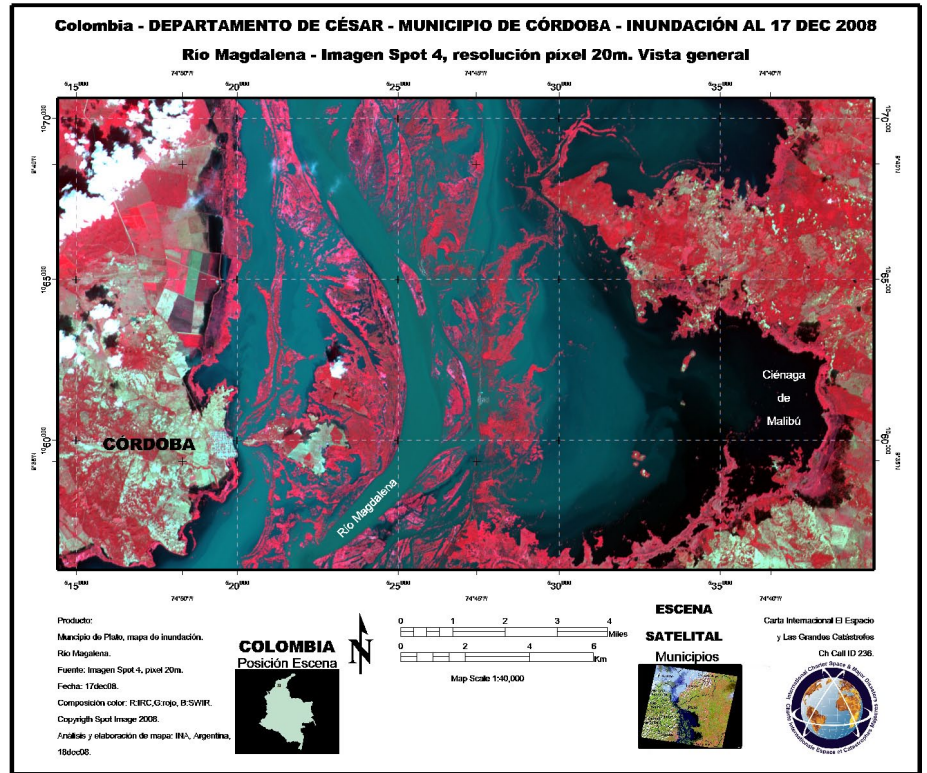


Mission Team Expert Said Benali with a staff member of the National Geographic Institute

# UN-SPIDER Staff Continue to Link Disaster Managers with Satellite Operators

*International Charter mechanism activated three times recently at the request of UNOOSA on behalf of disaster managers*

Right: Córdoba city flood plain on 17/12/2008. Source: SPOT 4 color composition, 20m pixel spacing. Credits: CNES 2008. Image processing, map created 18/12/2008 by INA.



SINCE THE PUBLICATION of our last Newsletter, the International Charter “Space and Major Disasters” was triggered three times by the United Nations Office for Outer Space Affairs at the request of United Nations entities, bringing the total number of activations to 12 times in 2008 and 55 times in total since 2003.

The United Nations Office for Outer Space Affairs triggered the International Charter on 28 October at the request of the OCHA Regional Office for the Middle East, North Africa, and Central Asia - (ROMENACA). On 24 and 25 October, most districts of the Hadramout and Al-Mahara governorates in the eastern part of Yemen

were affected by storms and torrential rains causing severe flooding. The Project Management for this Charter call was carried out by the German Aerospace Center (DLR).

On 15 November the Charter was again triggered by UNOOSA, this time at the request of OCHA for Kenya, as severe flooding and landslides affected an estimated 300,000 people in several parts of the country. The Charter assigned the FEWS NET Kenya office as the Project Manager for this call.

Finally, floods in different regions of Colombia, with a concentration in the regions of La Mojana and Magdalena Medio,

led the OCHA Office in Colombia to approach UNOOSA, which in turn requested a Charter activation on 11 December 2008. The Project Management for this charter call was done by the Argentinean Instituto Nacional del Agua (INA).

As the group within UNOOSA which deals with natural disasters and emergencies, UN-SPIDER is constantly involved in providing advisory support and contact links to international and regional partners for cases involving the International Charter mechanism, and also for cases which fall outside of the International Charter mandate. ■

## Horizontal Coordination

# UNOOSA to Co-Chair UN Geographic Information Working Group

*Priority areas of the incoming Co-Chairs to include: increasing UNGIWG participation by experts in the UN System and strengthening UNGIWG links with other UN structures*

THE UN OFFICE FOR Outer Space Affairs (UNOOSA) and the UN Economic Commission for Africa (UNECA) were elected as Co-Chairs of the UN Geographic Information Working Group (UNGIWG) secretariat, during the 9th UNGIWG Plenary Meeting on November 2008.

UNOOSA is currently consulting with UNECA on the Working Group’s plans for 2009, and a core group of UN experts are working on establishing terms of reference for a number of structures that will help ensure the implementation of UNGIWG’s

United Nations Spatial Data Infrastructure (UNSDI) initiative. UNSDI is an institutional and technical mechanism aimed at establishing system coherence for the exchange and application of geospatial data and information for UN activities.

An informal consultation with New York-based UN organizations took place at the end of December, hosted by the Division of Ocean Affairs and Law of the Sea at the UN Office for Legal Affairs, regarding the work programme and expected results of this Working Group.

The formal handover of the chairmanship is expected to take place in the end of February, and one of the priorities of the incoming Co-Chairs is to significantly increase UNGIWG participation by identifying and involving more geographic information system (GIS) and remote sensing experts working in the UN System, both in the field and at headquarters. Another priority is to likewise strengthen and harmonize UNGIWG links with other formal UN structures such as the Inter-Agency Meeting on Outer Space Activities. ■

## UNOOSA Active in GEO Plenary

A UNOOSA DELEGATION (which included the Head of the UN-SPIDER Bonn Office) attended the 5th Group on Earth Observation (GEO) Plenary which took place in Bucharest, Romania, on 17-21 November 2008. The Plenary was hosted by the Romanian Space Agency and the Romanian Research and Education Ministry at the Palace of the Parliament.

The Plenary addressed a number of technical and strategic issues on the agenda, including the 2009-2011 Work Programme, the Global Earth Observation System of Systems (GEOSS) Common Infrastructure developments, the membership, and the administrative/funding mechanisms supporting GEO. Also, new participating organizations were approved for membership, among them the UN Economic Commission for Africa (UNECA).

A major highlight at the meeting was the announcement that the full 40-year-spanning archive of data and images from the Landsat Earth observation satellites is now freely available to all users without restrictions.

UNOOSA staff delivered a presentation on the International Committee

### The 40-year image archive from the Landsat Earth observation satellites is now freely available to all users without restrictions

on Global Navigation Satellite Systems (ICG) activities during a well-attended lunchtime event organized at the EU exhibition stand. It also attended a number of Committee discussions, including those on the User Interface Committee (UIC), and participated in other side events such as the Data Sharing Principles discussion coordinated by the International Council for Science/Committee on Data for Science and Technology (CODATA/ICSU), while also presenting a brief Participating Organization Report in the Plenary. During this presentation, the UNOOSA delegation highlighted the important inter-agency task it had committed itself to for the next two years, as the newly-elected Co-Chair of the United Nations Geographic Information Working Group.

Participants welcomed the engagement by the UN in the work of GEO.

## Burkina Faso Advisory Mission

(continued from page 1)

The observations of the mission team and preliminary results were presented during a debriefing meeting at the end of the mission. The delegation identified institutions within the country which had the capacity to work with space-based information and technology, such as the National Geographic Institute. However, the mission team also found that the flow of disaster-relevant information between different governmental institutions and between different levels of government was

### UN-SPIDER will continue to work with Burkina Faso in order to move forward with the insights gained

insufficient. This hindered the use and flow of existing disaster-related information and constituted an obstacle for fully exploiting the potential benefits of using space-based information, as disaster relevant applications typically require information and expertise from many different government agencies. The institution tasked with the coordination of disaster prevention and management in the country, CONASUR, was found lacking in certain technical geospatial skills. Also, decision-makers would benefit from an increasing awareness concerning the usefulness of space-based technology for disaster management.

Two initiatives were found to be promising for the exchange of disaster management information. One was an informa-

tion exchange network of institutions, established under the National Program on Environmental Information Management (PNGIM) and coordinated by SP/CONEDD. Another was the national environmental information system, which is a geospatial database hosted by SP/CONEDD. Another promising example was identified in the health sector, where a fast and efficient information flow on potentially epidemic diseases exists from village level health posts to the central ministry in Ouagadougou, the capital.

The mission team identified a number of activities which could lead to improved use of space-based information for disaster management in the country. Included in their list of recommendations were: to integrate space-based information elements into the National Multi-risk Contingency Plan currently under development; customized training sessions for remote sensing, GPS and geographic information systems; compilation of existing paper-based disaster information documents and integration of currently delinked information sources; and identification of a national focal point to request imagery from international satellite data mechanisms and to distribute it to the relevant end-users. UN-SPIDER will continue to work with Burkina Faso and the Mission Team in order to move forward with the insights gained. For the biennium 2008-2009, fifteen such UN-SPIDER Technical Advisory Missions are planned. Member States of the United Nations which are interested in receiving such advisory support should contact UN-SPIDER. ■



The Mission Team at the Burkina Faso Department of Meteorology

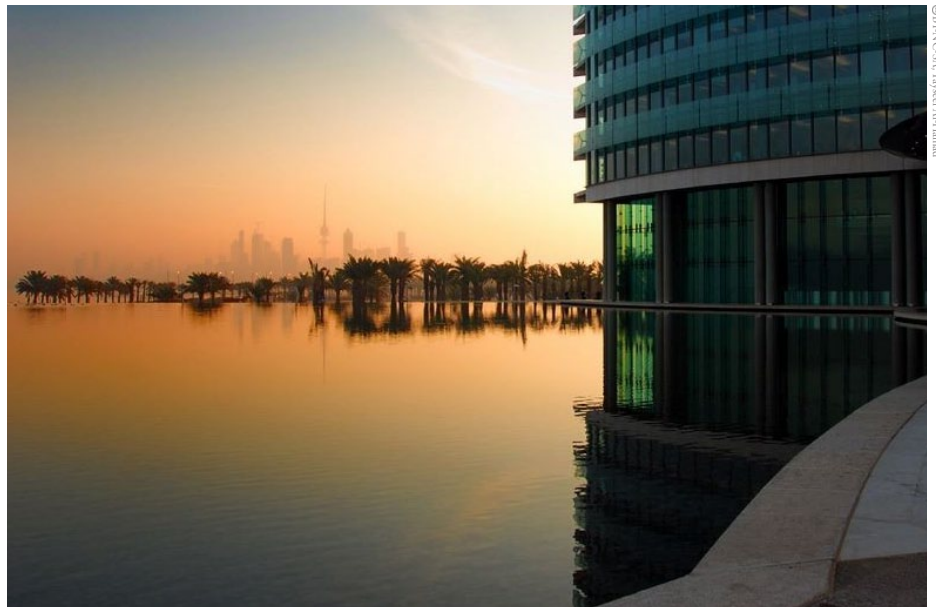
## Kuwait Involves UN-SPIDER in Regional Geo-informatics and Disaster Conference

*Government authorities increasingly aware of the need to acquire appropriate geospatial and space-based information*

THE FIRST REGIONAL Conference on Geo-informatics: Disaster Management and Early Warning Systems was held in Kuwait from 24 to 26 November 2008, in the presence of a number of Kuwaiti political representatives, United Nations representatives, and international participants. Its purpose, consisting of introducing natural hazards and proposing national disaster management plans, crystallized in the context of a political and civil recognition of the combination of perils facing the Gulf region today, due to its geographical location, as well as its economical, political and environmental conditions. Government authorities and research institutions in the region have been increasingly aware of the need to acquire appropriate geo-spatial and space-based technology to successfully meet this challenge.

The conference, organized by the Kuwait Institute for Scientific Research (KISR) and the Kuwait Foundation for the Advancement of Sciences (KFAS) in cooperation with the Egypt National Authority for Remote Sensing and Space Sciences (NARSS), aimed at addressing natural hazards such as flash-floods, sandstorms, earthquakes, dust storms, hurricanes and droughts, as well as man-made disasters like oil spills, release of toxic gases, nuclear radiation outbreaks, and war damage. Not only did the conference shed light on the dangers and disasters, but it also aimed at introducing and proposing guidelines for a national disaster management plan in order to support Kuwaiti policy makers in dealing with any future crises, whether natural or man-made, and to assist national efforts in introducing a national policy for disaster management and early warning.

The three-day conference unfolded in the presence of the Minister of Education, Ms. Al-Subeeh, representing the Prime



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Minister, H.H. Sheikh Nasir Al-Sabah, as well as participants from Egypt, Italy, Libya, Oman, Syria, United Kingdom and the United Nations (UN-SPIDER and the World Health Organization), who all presented and discussed case studies, research results and national experiences. Dr. Robert Backhaus from UN-SPIDER presented a keynote address on the role of space technology in facilitating disaster management and supporting early warning systems. He also introduced UN-SPIDER and illustrated how space-based mapping and satellite telecommunications are applied in practice by borrowing examples from the European Commission Assessment Mission Course on Cyprus in June 2008 (see UN-SPIDER Newsletter June 2008).

The United Nations representatives

were also invited to take part in the panel of the concluding session on guidelines for the National Disaster Management Plan, chaired by H.H. Sheikh Thamer Al-Sabah, Vice-President of the National Security Bureau. Besides space-based remote sensing and GIS application, the implementation of advanced communications technologies was highlighted to illustrate its importance in ensuring information exchange between subsystems and the creation of common operational pictures.

Finally, leading representatives of KISR expressed their interest in participating in the UN-SPIDER Programme, a prospect which will be further discussed during the UN-SPIDER Stakeholder Meeting to be held in Vienna on 9 and 10 February 2009.



### Outreach

## UN-SPIDER Shares Experiences with UN Editors Group

ON 30 AND 31 October 2008, UN-SPIDER staff attended the UN Editors Group (UNEG) meeting, which is a gathering of the editorial staff in the United Nations and other International Organizations. The aim of the meetings is to share experiences and knowledge on public information and communication. The UN Editors Group was founded by senior editors at the United Nations to establish a mechanism for regular consultation and contact with colleagues. The Group has conducted annual informal meetings each year since 1965. Throughout the years the Group has expanded its scope from an initial focus on flagship magazines to now include a wide variety of publications and online media. The 2008 meeting was

hosted by the United Nations Volunteers in Bonn, Germany.

UN-SPIDER's focus on and expertise in geospatial information and in the development of a knowledge portal added a new dimension to the plenary presentations and group discussions. UN-SPIDER acts as a "gateway" to space information for disaster management support, with both on- and off-line channels through which it disseminates information to the public. Further collaboration between UN-SPIDER and the UNEG members will enable more efficient communication, which in turn will support the prevention and response to disasters in the future.

## UN-SPIDER Strengthens Collaboration with Bonn-based UN Agencies and Organizations

### *UNOOSA Director explores opportunities for collaboration*

**D**URING AN OFFICIAL VISIT to the UN-SPIDER Office in Bonn, Germany, in December 2008, UNOOSA Director Mazlan Othman held a day of discussions with Bonn-based UN agencies and German organizations to review past collaboration and explore future opportunities.

The UN meeting included representatives from the International Strategy for Disaster Reduction - Platform for the Promotion of Early Warning (UN/ISDR-PPEW), the World Health Organization - Regional Office for Europe, European Centre for Environment and Health (WHO-ECEH),

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and the Consulting Unit of the United Nations World Tourism Organization (UNWTO) on Biodiversity and Tourism for Tsunami Affected Countries.

“The Bonn office provides excellent opportunities to work together as One UN across different programmes and agencies and fully utilize synergies to support disaster risk reduction efforts worldwide and other priority areas of the Office,” observed Director Othman.

She also held discussions on the German contribution to UN-SPIDER with the German Federal Ministry of Economics and Technology. After a visit to the DLR Institute of Aerospace Medicine, future areas of collaboration with the German Aerospace Center (DLR) were discussed with the Vice Chairman of the Executive Board, the head of International Cooperation, and the deputy director of the German Remote Sensing Data Center. “There is a great potential to strengthen common activities between UNOOSA and DLR within the fields of disaster management, climate change and basic space science and technology” said Ms Othman. ■

## UN-SPIDER Welcomes New Head of Capacity-Building and Outreach

**J**UAN CARLOS Villagrán de León, a renowned expert on early warning, risk assessment, and risk management, recently joined the UN-SPIDER programme in Vienna, where he will be in charge of capacity-building and outreach activities.

A national of Guatemala, Mr Villagrán de León graduated with a Bachelor of Science Degree from Worcester Polytechnic Institute in Worcester, Massachusetts in 1981, and later received a Masters Degree in 1985 and a Ph.D. degree in 1987 in Experimental Condensed Matter Physics as a Pre-Doctoral Fellow of the Robert A. Welch Foundation. This was followed by a post-doctoral fellowship at the University of Texas, after which Mr Villagrán de León returned to Guatemala in the spring of 1990 and joined the faculty of Francisco Marroquin University.

Having been a survivor of the great Guatemalan earthquake of 1976, Mr Villagrán de León began to contribute to efforts in the area of disaster-risk management conducted by the Guatemalan National Emergency Committee. As its Scientific Advisor, he helped design and implement a network of Community-Operated Early Warning Systems in the basins of Guatemala, and expanded the network to the context of active volcanoes. In addition, he contributed extensively to the effort of morphing the National Emergency Committee into an agency which also incorporated risk management and disaster preparedness in its mandate. Such efforts materialized in December 1996, when the Congress of Guatemala enacted the legislation establishing the National Coordinating Agency for Disaster Reduction (CONRED). In September 2000, Mr Villagrán de León was appointed Head of the Risk Management Division of CONRED, where he continued his work on early warning, risk assessment, and risk management.

Mr Villagrán de León also supported the efforts of the Central American Coordination Centre for Natural Disaster Prevention, the United Nations Development Program, and the German Technical Cooperation Agency (GTZ), in the design and implementation of additional Community-Operated Early Warning Systems throughout Central America.

In September 2004, Mr Villagrán de León moved to Bonn, Germany, where he worked initially as an Academic Officer and later as the Head of the Risk Man-

agement Section of the United Nations University Environment and Human Security Institute (UNU-EHS). His efforts included projects on the topic of tsunami early warning in Sri Lanka, research on a variety of issues related to risk management, and capacity building. In addition to conducting research, Mr Villagrán de León was entrusted with the representation of UNU-EHS in the Scientific and Technical Committee of the International Strategy for Disaster Reduction (UN-ISDR) and in the Advisory Committee of the Platform for the Promotion of Early Warning of UN-ISDR. Mr Villagrán de León also represented the Institute in many national, regional, and international events.

In the area of capacity-building and outreach, Mr Villagrán de León has been engaged for many years in the design and implementation of training programmes for staff working in disaster management and civil protection agencies in Central America. He has also been conducting similar tasks within UNU-EHS at the global level, in particular coordinating the Urban Training Programme, a flagship training programme of UNU-EHS targeting municipal officers. Also of note is that Mr Villagrán de León has brought forth a variety of publications and training materials both in Spanish and English, which are currently used by many agencies worldwide.



Juan Carlos Villagrán de León

## African Outreach Activities Receive Support from UN-SPIDER



A performance at the African Association of Remote Sensing for the Environment

### Francophone Regional Workshop for Space and Disasters

THE WORKSHOP ON the “Use of Space Technology for Disaster Management and Emergency Response - Technical, Organizational and Legal Aspects,” took place on 10 to 12 November 2008 in Rabat, Morocco. The workshop covered four main themes: space technology available for disaster management, regional and international initiatives for disaster management, national experiences and space law.

The workshop was organized by the Regional Centre for Space Science and Technology in French Language (CRASTE-LF) jointly with UN-SPIDER, the Islamic Educational, Science and Cultural Organization (IESCO), the Islamic Development Bank, the Centre Royal de Télédétection Spatiale (CRTS) and the Ecole Mohammed d'Ingénieur (EMI).

The workshop attracted 130 participants from 23 countries, during which a large number of regional and international initiatives were presented. Participants

highly appreciated the exchange of experiences in space technology and space-based information for disaster management from many different countries in the region.

UN-SPIDER provided significant support for the workshop, using funds provided by the Government of Austria (through the Austrian Federal Ministry for Transport, Innovation and Technology) to finance the participation of attendants from countries within the region. A UN-SPIDER staff member also participated in the workshop and delivered a keynote presentation.

Many participants showed interest in the technical advisory support offered by the UN-SPIDER programme. One of the early outcomes of the workshop was that a UN-SPIDER Country Profile was compiled by the participants from Togo, which will be instrumental in developing UN-SPIDER's collaboration with the Togolese government. ■

### African Association of Remote Sensing for the Environment

THE AFRICAN Association of Remote Sensing for the Environment (AARSE) conference took place on 27-31 October 2008 in Accra, Ghana. In addition to being a conference sponsor, UN-SPIDER co-chaired a special session on “Disaster Management and Early Warning Systems” together with the University Network for Disaster Risk Reduction in Africa (UNEDRA).

Researchers linked to UNEDRA presented the results of recent studies in Africa, some of which were cross-border research initiatives, on issues such as vulnerability assessments in mangrove areas, desertification, and flood monitoring. UN-SPIDER's regional initiatives and cooperating partners were also presented during the conference. Several papers featured innovative approaches to integrate remotely sensed data and socio-economic indicators in a framework of vulnerability analysis.

The conference also offered the opportunity for a side-meeting with the National Disaster Management Office of Ghana, which brought together institutions from Ghana and the region to discuss how space-based technologies could contribute to disaster management in the country. Experts from Nigeria, Ghana, the OCHA Regional Office for Africa, and UN-SPIDER also participated in this meeting, during which the participants presented the technical capacity available in the region. The meeting concluded with participants expressing their willingness to cooperate both on the national and international level. Follow-up activities are being discussed in the context of the establishment of a UN-SPIDER Regional Support Office in Nigeria. ■



UNITED NATIONS  
Office for Outer Space Affairs

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. In 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 new United Nations programme to be implemented by UNOOSA. UN-SPIDER is the first programme of its kind to focus on the need to ensure access to and use of space-based solutions during all phases of the disaster management cycle, including the risk reduction phase which will significantly contribute to the reduction in the loss of lives and property.