# II Hemispheric Encounter
# on National Mechanisms and Networks for Risk Reduction.
# "Encounter of Santa Marta: From Theory to Practice"

## Special Session of the SPIDER Thematic Partnership LAC
## Space-based Applications for Managing Risk Reduction and Emergency Response in Latin America and the Caribbean

Santa Marta, Colombia
14 April 2010
17:30 – 19:30 PM

## *Introduction*

Disaster-risk Management demands information deduced from a variety of sources to identify hazards and vulnerabilities which are the components of risk; social processes which modify these hazards and vulnerabilities such as population growth and migration to urban areas, and to identify the set of measures which are required to conduct risk management in an integral fashion in urban and rural areas. Space-based information has been widely applied in the case of emergency response and is finding uses in the identification and characterization of the communities which are exposed to such hazards, as well as in the evaluation of these hazards and vulnerabilities.

Taking advantage of the 2nd Hemispheric Encounter of Santa Marta, the UN-SPIDER Programme organized and conducted a special session during the event in the context of the SPIDER Thematic Partnership for Latin America & Caribbean. The session allowed UN-SPIDER to bridge the space community represented through the Colombian Space Commission (CSC) and the Argentinean National Commission on Space Activities (CONAE); and the community which focuses its efforts on the topic of disaster-risk management. The session benefited 34 participants from a variety of agencies working at the national, regional, and international levels such as the Civil Defense, the Risk Management Secretariat and Armed Forces of Colombia; the Association of Caribbean States (ACS); the Office for the Coordination for Humanitarian Affairs (UN OCHA) and the Economic Commission for Latin America and the Caribbean (ECLAC) of the United Nations; the Organization of American States (OAS); the International Federation of the Red Cross (IFRC); civil protection agencies from a variety of countries, the University of the West Indies and Florida International University; Thermopylae T-S; the International Strategy for Disaster Reduction (ISDR), and the Inter-American Defense Board (IADB) among others. The session allowed:

1. Representatives of space commissions of countries of Latin America to present examples of activities conducted in the topics of disaster-risk management and emergency response.
2. Experts to present a geo-viewer as an example of state-of-the-art technologies focusing on the display of information on which to make decisions.
3. UN-SPIDER staff to present this programme and the SPIDER Thematic Partnership for Latin America and the Caribbean.
4. To discuss elements to elaborate a Plan of Action for the Thematic Partnership for LA&C with a focus on disaster-risk Management to support national platforms for disaster-risk reduction.

## *Programme of the Session*

| **Activity** | **Brief description** | **In charge of** |
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| Introduction of participants | Mr. Juan Carlos Villagran de Leon opened the session with a few remarks and then participants introduced themselves on an individual basis. | Juan Carlos Villagrán de León (Programme Officer, UN-SPIDER, Austria). |
| Presentation entitled: "*Colombian Space Commission: Use of* | The presentation focused on policies and processes to institutionalize the Space Commission; the programme on earth observations which includes applications targeting disaster-risk management; the Colombian Spatial | Lilia Patricia Arias (Technical Coordinator of |

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| *Space Technologies for Development*". | Database Infrastructure as the basis to exchange and disseminate information; and research and training programmes conducted by the Commission. | the CSC, Colombia) |
| Presentation entitled: "Space-based Information for Prevention and Disaster Risk Management". | This presentation focused initially on the activities conducted by CONAE in the areas of risk Management and emergency response, including the application of space-based imagery to identify areas exposed to floods, the impacts of drought on crops; and hot spots and the spatial extension of forest fires. As a second topic the "International Charter: Space and Major Disasters" was presented as the mechanism established by space agencies from around the world, which includes the acquisition of satellite imagery to generate information in case of early warning and emergency response. Examples focusing on floods, volcanic eruptions, and tsunamis were provided, with a particular focus on activations targeting the American hemisphere. | Gabriel Platzeck (in charge of Emergencies y and user follow-up on behalf of CONAE, Argentina). |
| Presentation of the 3D-UDOP geo-viewer | This presentation allowed participants for familiarize themselves with the capacities of this state-of-the-art geo-viewer in terms of combining information generated by a variety of sources in different formats and to superimpose it on a satellite image. Using examples from Haiti, the easiness of use of this tool was displayed, given the fact that it is based on the Google Earth visual environment. In addition, participants were able to observe the easiness with which information generated before, during, and after a disaster can be displayed; as well as its capacity to introduce geo-referenced information while using the geo-viewer. | A. J. Clark (President, Thermopylae Sciences and Technology, United States). |
| Presentation of the UN-SPIDER programme and the SPIDER Thematic Partnership for Latin America and the Caribbean | This presentation began with a brief description of the programme, including the pillars on which it has been established, its operational structure in terms of the knowledge portal, outreach activities, technical advisory support, and facilitating capacity building efforts. Subsequently the presentation targeted the general issues concerning the SPIDER Thematic Partnership for Latin America and the Caribbean which has been established as an inter-institutional framework to support national platforms for disaster reduction to access and use of space-based information. The partnership and the national platforms have been established through a structure promoted by the International Strategy for Disaster Reduction of the United Nations in the context of the Hyogo Framework for Action. | Juan Carlos Villagrán de León (Programme Oficer, UN-SPIDER). |
| Discussion regarding the SPIDER Thematic Partnership for Latin America and the Caribbean | Once presentations were concluded, the session began to approach the issue of the Thematic Partnership, where participants exchanged suggestions regarding how to proceed to activate the partnership. Next steps identified and discussed included the conduction of a workshop with regional agencies such as ACS, the Central American Coordination Center for Natural Disaster Prevention (CEPREDENAC); the Caribbean Disaster and Emergency Management Agency (CDEMA); the Andean Committee for Prevention and Response in case of Disasters (CAPRADE); and national platforms to pave the way for technical advisory support to be provided to national platforms in an efficient, effective, and timely fashion. Strategies such as the involvement of regional agencies such as ACS, CEPREDENAC, CAPRADE, and CDEMA were highlighted to provide a more comprehensive support to national platforms; as well as the identification and promotion of novel tools which can be applied in disaster-risk management, and those procedures which are used by agencies such as CONAE to generate space-based information for subsequent dissemination in the region. | Juan Carlos Villagrán de León (Programme Oficer, UN-SPIDER). |

## *Discussion*

Participants had the opportunity to approach presenters with questions to gather additional information regarding approaches conducted by space agencies in the area of risk management, regarding possibilities to access space-based information for a variety of applications, activations of the Charter in the specific case of Colombia, and regarding the geo-viewer; where an interesting discussion took place between the presenter and staff of the United Nations which were mobilized to Haiti in days and weeks following the earthquake. Staff from OCHA recognized the usefulness of such a tool, and indicated that it would have been very beneficial should it have been available in the first weeks following the disaster. The discussion allowed participants:

- To comment regarding the use of this type of information, on tools already available, and regarding the need to conduct awareness campaigns to promote their applications in Latin America and the Caribbean.
- To advance on the discussion regarding how to activate the SPIDER Thematic Partnership for LA&C. In this context, representatives of regional agencies such as the Association of Caribbean States manifested explicitly the recommendation that the SPIDER Thematic Partnership should actively involve these regional agencies when providing technical advisory support.
- To discuss concrete actions to be conducted as a follow-up to this special session.

## *Results obtained from the session*

1. Participants took note of examples of applications of space-based information to target a variety of risks, and existing mechanisms to access and make use of this type of information, including the SPIDER Thematic Partnership.
2. Participants had the opportunity to become aware of geo-viewers as state-of-the-art tools to display information in case of disasters utilizing the Google Earth environment and space-based imagery.
3. The following activities were identified in order to activate the SPIDER Thematic Partnership for LA&C:
    a. Establish contacts with regional agencies such as ACS, CEPREDENAC, CAPRADE, and CDEMA. The goal would be to involve them actively in the Partnership.
    b. The conduction of a workshop targeting space agencies and national platforms for disaster reduction to make such platforms aware of the diversity of applications of this type of information, and for space agencies to gather feedback regarding how to process space-based data to enhance the use of information which can be obtained through different types of procedures.
    c. To promote the use of geo-viewers in the region given their usefulness in visualizing information related to risks and in case of disasters as a tool to plan response activities optimizing inter-institutional coordination. In particular, promoting the use of a geo-viewer in the context of the SPIDER Thematic Partnership.
    d. To systematize the procedures employed in the analysis of the various components of risk using space-based information for further dissemination.

## *The setting of the 2nd Hemispheric Encounter*

The opportunity provided by this 2nd Hemispheric Encounter was used to advance discussions with South American space commissions, regional agencies such as ACS, CEPREDENAC, CDEMA, CAPRADE, and IADB regarding their involvement in the SPIDER Thematic Partnership; and with ISDR with respect to operational aspects related to these types of partnerships. In a similar fashion the event provided the setting to promote the partnership among representatives of national platforms for disaster reduction and with representatives of other agencies; and to promote the discussion and use of the 3D-UDOP geo-viewer as a potential tool to be employed by the partnership.

## *Recommendations:*

During the discussion participants recognized the potential of using space-based information and recommended the conduction of awareness efforts to display examples of such applications within the network of national platforms.

Participants also recommended the use of geo-viewers as tools that enhance the display of information of various types which has been generated by a variety of sources in different formats and superimposed on satellite imagery.

As part of the technical discussion concerning these topics, participants manifested the need to have access to space-based information, as a reference for processes related to land-used planning, prevention, mitigation, emergency response, and disaster-risk management in general. This is possible through the development of geo-spatial database infrastructures which constitute the platform to monitor the territory and to make timely decisions, based on criteria to access and use it reliably.

Therefore, a request is made to space agencies and commissions of the hemisphere to support efforts in the area of disaster-risk management, identifying methodologies and strategies to access and make use of space-based information.