



Executive Summary Report

Workshop on the Use of Space Science and Technology for the Prevention of and Response to Disasters in Mesoamerica

19th – 22th November 2013, Tuxtla Gutiérrez, México

Objective and Goal

The central objective of the Workshop was to demonstrate and build capacity in the use of Earth Observation images from various satellites for disaster prevention and relief.

Profile of Participants

Participants were representatives of disaster prevention and civil protection authorities from Mesoamerican countries as well as remote sensing and geographical information system experts from regional space science and technology institutions, of space-related institutions from the United States and from the United Nations SPIDER programme.

Co-organizers

The Workshop was co-organized by the Regional Centre for Space Science Education for Latin America and the Caribbean (CRECTEALC), the Mesoamerican Centre for Theoretical Physics (MCTP), the Association of Institutions for Fostering Mexican Space Sciences (AIFOCEM), the Secure World Foundation (SWF), the National Oceanographic and Atmospheric Administration as co-chair of the CEOS Working Group on Capacity Building and Data Democracy (WGCapD) and the National Institute for Astrophysics, Optics and Electronics (INAOE).

Financial Support

Financial support to defray the cost of air travel of some participants, hotel accommodations, living expenses of all participants, simultaneous interpretation English-Spanish and technical meeting facilities was provided by MCTP, SWF, CRECTEALC and INAOE.

Overview of the program

The aim was to present, illustrate and promote the use of Earth Observation (EO) images for disaster reduction. Presentations included on-going work and resources made available by the

Global Earth Observation System of Systems (GEOSS), the Committee on Earth Observation Satellites (CEOS) and the capacity building resources being made available for Latin America and the Caribbean under the EOPOWER project of the European Commission.

The Workshop included practical exercises on the use of satellite data and cartographic information in geographic information systems (GIS) and in an operational open-source system to monitor warnings of environmental risks (TerraMA² of INPE).

This was the first international meeting on applied space sciences held at MCTP and the first in space applications to disasters in the south-eastern region of Mexico.

Main Topics

- Disaster cases, Civil protection response to flooding – essential information needed;
- Use of open-source geographical information systems for disaster reduction and response;
- Use of LEO and GEO Earth Observation images in prevention, reduction and response to flooding disasters;
- Use of meteorological data by indigenous communities for disaster prevention;
- The Global Earth Observation System of Systems (GEOSS);
- Data, case histories, best practices and lessons learnt resources available from GEOSS;
- CEOS Disaster Risk Management Team's pilot projects on disasters;
- Aims and achievements of the CEOS Working Group on Capacity Building and Data Democracy (WGCapD);
- Disaster-related activities of CATHALAC, The SERVIR Mesoamerican programme;
- The EOPOWER project of the European Commission;
- International data policies and the need for national data policies and legislation.

Speakers (in situ and virtual):

- L. Aguilar (NASA, FEWSNet),
- S. Camacho (CRECTEALC, México),
- M. Carrera (CATHALAC, Panamá),
- M. Castillejos (Protección Civil, Chiapas, México),
- R. Enríquez (CRECTEALC, México),
- P. Estevez (INAOE, México),
- S. Frye (CEOS, USA),
- J. A. González (CRECTEALC, México),
- V. Hernández (Tecnológico de Costa Rica)/CONIDA/ACAE),
- E. Silva Lopes (INPE, Brazil),
- S. Madry (U. North Carolina at Chapel Hill, USA),
- J. Pérez (CATHALAC, Panamá),
- A. Prados (NASA, USA),
- J. Saborío (CATIE, Costa Rica),
- M. Sánchez (Colectivo ADA, México),
- E. Santos (MCTP, México)
- J. Sutherlun (NOAA, USA),
- Juan Carlos Villagrán (United Nations),
- R. Williamson (SWF; USA)

Main conclusions

The participants held discussions on the usefulness of Earth Observation data and the software systems, commercial and open-source, available to extract information that would be useful to decision-makers in the prevention and response to disasters, particularly in flooding and drought. The participants concluded that:

- Earth Observation and other space technologies can be valuable support to authorities responsible for disaster prevention, mitigation and rehabilitation activities.
- Additional awareness and capacity building is necessary for the disaster management and the scientific and technical communities

Main recommendations

In view of their conclusions, the participants in the workshop recommended that the main actions necessary to continue the process of building capacity in the Mesoamerican that could be pursued were to:

- Establish an email network among participants to review the substantive conclusions and recommendations of the Workshop.
- Plan follow-up activities for in-depth courses on the use of open-source software (QGIS, TerraMA²)