



KOBE REPORT draft
Report of Session 2.9, Thematic Cluster 2

Reducing Risk Through Effective Use of Earth Observations

1. Summary of Session's Presentation and Discussions

Deputy Minister Tetsuhisa Shirakawa

- Stressed the importance of global Earth observations for solving global issues. The ad-hoc intergovernmental Group on Earth Observations is developing a 10-year Implementation plan for the Global Earth Observation System of Systems (GEOSS). GEOSS will be comprehensive, coordinated and sustained; will be driven by user requirements; and have a capacity building component.
- GEOSS will aim to realize socio-economic benefits in nine areas, including reducing the loss of life and property from natural and human-induced disasters.
- There is a need for improvements in Earth observations to make maximum use of scientific and technological potential and to contribute to overcome the shortcomings including technical issues, gaps in time and space, and lack of systems for transforming data into useful information.
- Japan is already planning various, coordinated satellite and in situ platforms and data for contribution to GEOSS.

Ken Davidson

- 90 percent of disasters are weather, climate or water related; World Meteorological Organization (WMO) and the national meteorological and hydrological services' (NMHS') responsibility for early warning for weather is well known.
- Emerging developments of early warning for climate anomalies are now being developed through NMHS. The impacts of El Nino are one area that early warnings are now being issued through the NMHS. Must link science knowledge to risk identification and understanding.
- Improvements in observations, assimilation into numerical models, and understanding of climate variability and extremes are central to improved early warnings to prevent weather, climate and water hazards from becoming disasters.
- Looking to GEOSS to help fill in the observational gaps for better early warnings.

Alain Retiere

- Importance of global access to Earth observations for local disaster risk reduction. Facilitated access to reliable geo-referenced information is essential from global to local scales. Integrated mapping services for humanitarian relief and sustainable recovery.
- Must be based on user needs and requirements
- UN is the best framework to mainstream Earth observation for achieving global disaster reduction. Is connected to both the supply side and the user side.
- Importance of building capacities at the local level as this is where vulnerability reduction can be planned and carried out.
- Need to expand the International Charter for Space and Major Disasters

Sergio Camacho

- Space Technology can provide the necessary information to help in disaster management, but a more integrated and coordinated approach is needed.

- Capacity development and knowledge building is key. The space technology community should reach out to understand specific needs of user community and develop end-to-end solutions that meet their requirements.
- Importance of Data Access, Data Availability and Information Extraction. Limited or no mechanisms in place to make data rapidly available at all decision levels during disaster response; when data is available it is not always in a “user friendly” format.
- Need for enhancing awareness. Create awareness among national and international stakeholders that space-based solutions reduce risk and vulnerability and are cost effective.

Phillippe Bally

- Importance of the user-based approach.
- Need to take into account methods coming from both the operational and the research communities with a view to deliver operational solutions.
- Need to look at operational solutions building upon the inherent capabilities of Earth observations.
- Importance of considering end-to-end systems (space segment, ground segment, value adding, user segment) within which the user is included.
- Importance of providing information that concerns not only short term issues (crisis / emergency) but also longer term issues (rehabilitation, reconstruction, prevention, international development)
- In order to develop sustainable services, it requires taking stock of what exists today and not building isolated systems.
- Need to utilize the complementary skills of National, European and International organizations, at institutional level (users, providers) and with the European service industry (value adding service providers).

Yoji Furuhami

- Space technology can effectively provide information for disaster management in Asia, through International and regional frameworks and national programs.
- Space agencies should provide satellite data in a manner that responds to information needs, and translate data into simple and useful information for the end-users.
- Different needs at each phase of disaster should be considered (prevention, early warning, detection, response and recover).
- Space Agencies and private sector should cooperate and share satellite data for rapid response and application.
- Capacity building for data interpretation is essential.

2. Session objective

Earth observations provide critical information to inform planning and decision making at all levels (local to international) and through all stages (mitigation through preparedness, response and recovery) of disaster management. Advances in Earth observation technologies (both in situ and remote sensing), along with developments in computing and data communications, have yielded highly sophisticated tools to identify, monitor, assess, and model hazards that may lead to disasters. The purpose of this session is to provide practical guidance to governments worldwide on how to enhance their risk reduction and disaster management efforts through more effective use of Earth observations.

3. Session overview

This session will review lessons learned from user and data provider perspectives and identify recommendations for future improvement. Topics addressed will include findings from regional workshops; collaborative efforts to improve the use of space based Earth observations in disaster reduction; and UN-based and ad hoc intergovernmental programs to provide comprehensive,

coordinated and sustained Earth observations for disaster reduction and other high priority, socio-economic benefit areas.

4. Primary issues

- ✓ Earth observation information is critical for all phases of disaster management from early warning, to emergency response, to mitigation/prevention efforts.
- ✓ Comprehensive, coordinated and sustained observations are key to realizing full socio-economic benefits from Earth observations.
- ✓ To be truly useful, Earth observation data must be successfully incorporated into information products that meet clearly identified end-user requirements.
- ✓ Capacity development and knowledge building are essential. Importance of building capacities from the global level to the local level.
- ✓ No one agency or entity can meet all requirements alone. We must work together through coordinated efforts of various international and regional organizations to seek common solutions for common problems.

5. Partnerships

Promotion of existing partnerships including but not limited to: intergovernmental Group on Earth Observations, International Charter for Space and Major Disaster, Europe's GMES, UN-related efforts such as UN OOSA, UNITAR/UNOSAT, WMO, UNESCO, UNEP

6. Name, affiliation and contacts of presenters and titles of presentations

- (1) GEOSS: Intergovernmental Planning to Provide Earth Observations to Benefit Society
Speaker: Tetsuhisa Shirakawa, Deputy Minister (MEXT/Japan; Co-Chair, Group on Earth Observations) (via Naoko Sugita: nsugita@mext.go.jp)
- (2) The Use and Integration of Earth Observations for Early Warnings -a WMO perspective
Speaker: Kenneth Davidson (WMO World Climate Programme, Director (retired))
- (3) Using Space To Improve Crisis Response and Vulnerability Reduction: The UN Experience from the Charter to Sustainable Recovery
Speaker: Alain Retiere (UNOSAT) - alain.retiere@cern.ch
Co-author: Jerome Bequignon (ESA)
- (4) Making Space based Technologies Available to Developing Countries for Improved Risk Reduction and Disaster Management
Speaker: Sergio Camacho (Director, UN Office for Outer Space Affairs) Sergio.Camacho@unvienna.org
Co-authors: Harald Mehl (DLR/Germany), Jean-Luc Bessis (CNES/France)
- (5) The Contribution of Earth Observations to Hazard Risk Reduction: Findings from Current Activities
Speaker: Phillippe Bally (ESA) - Phillippe.Bally@esa.int
Co-author: Marc Paganini (ESA, IGOS GEO hazards)
- (7) Improving Asia Regional Network for Disaster Management
Speaker: Yoji Furuhami (JAXA/Japan) Yoji.Furuhami@jaxa.jp

b) Name, affiliation and contact of person filling in the form

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