



Promoting the Application of Space Technology for DRR and CCA - ADRC Activities -

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ADRC Member Countries



29 member countries and 5 advisor countries

Forthcoming ACDR 2011



- Purpose: to report progress on and discuss the efforts for DRR among Member Countries
- Period: June 2011 / Place: Sri Lanka (to be confirmed)
- Participants: delegates from Member countries, UN & International Organizations, NGO's, academic institutions



NEEDS from ADRC member countries

At ACDR2010 in Kobe, member countries expressed the need to use space technology for DRR and CCA

Problems

- Less resources for monitoring
- Less resources for analyzing data
- Less communication between the Department of Disaster Management and the Department of Space Technology

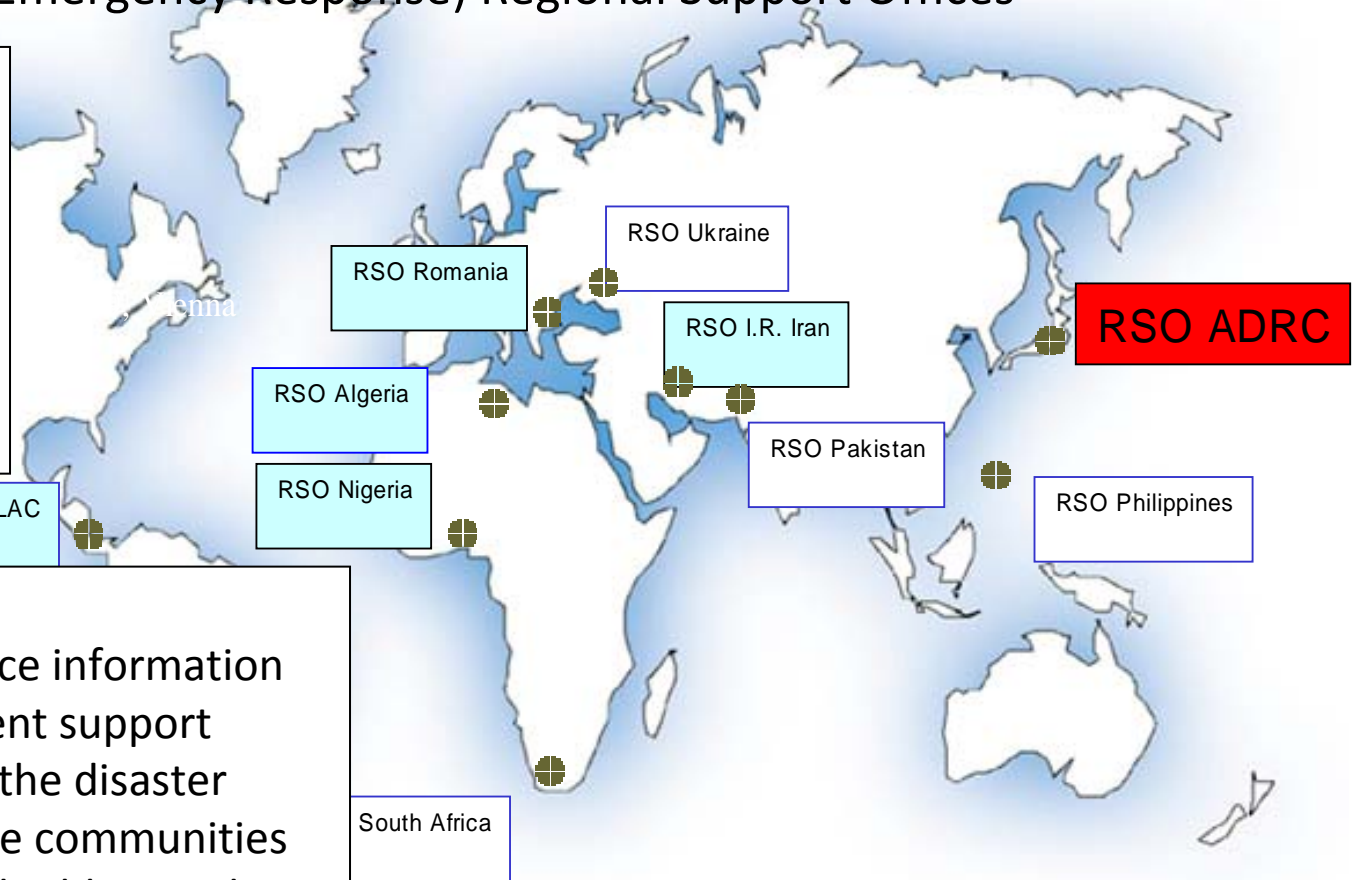
Coordination Activities

- UN-SPIDER RSO
- Advocacy(e.g. Side Event of AMCDRR, Incheon 2010)
- Emergency Observation: Sentinel Asia

UN-SPIDER RSO


UNSPIDER (United Nations Platform for Space-based Information for Disaster Management and Emergency Response) Regional Support Offices

Objective: To develop the capacity to use all types of space-based information to support the full disaster management cycle



Activities:

- Being gateway to space information for disaster management support
- To bridge to connect the disaster management and space communities
- To facilitate capacity-building and institutional strengthening

 Network of Regional Support Offices

Incorporating space-based information technology into DRR and CCA, AMCDRR, Incheon 2010

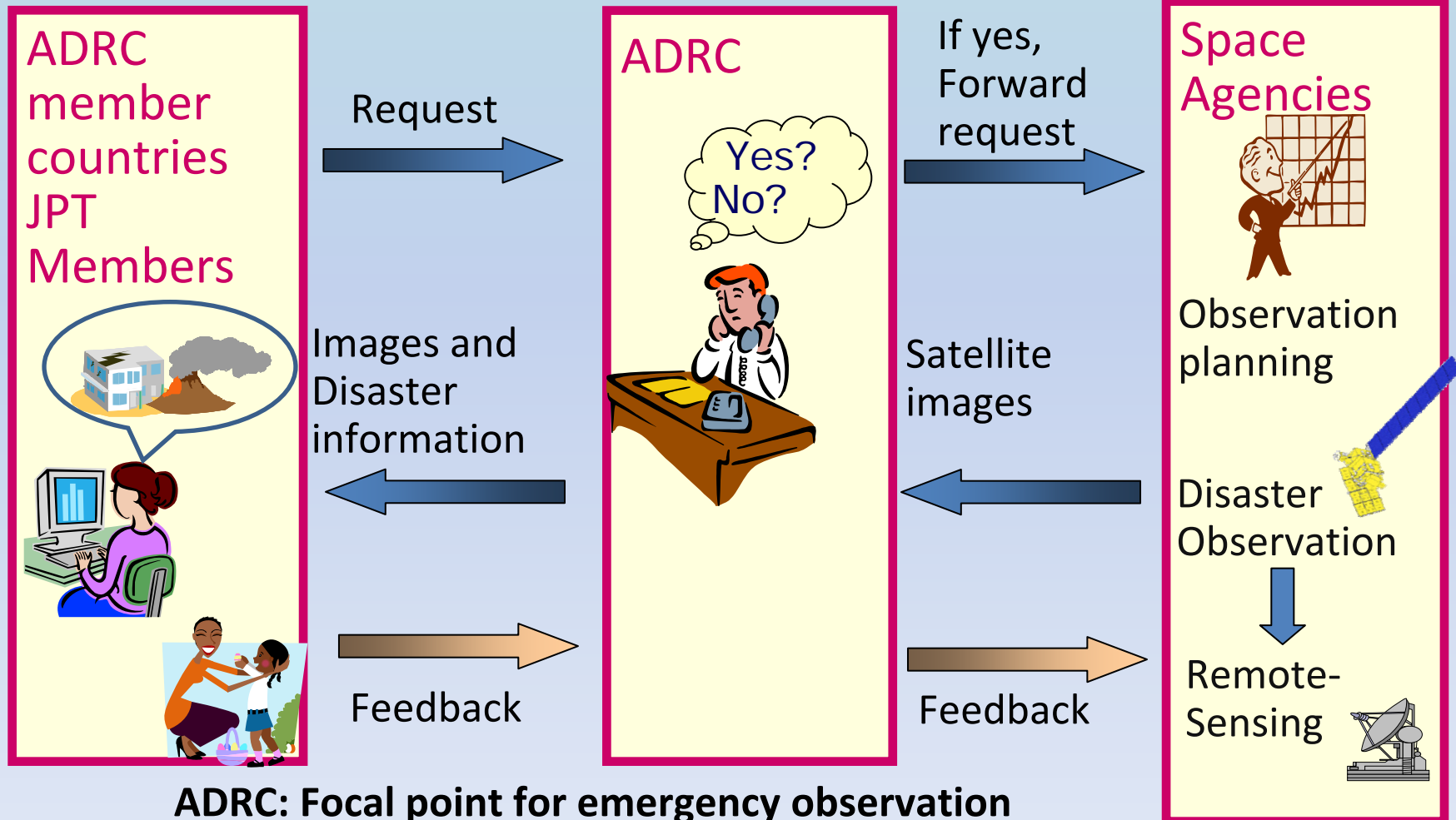
- ADRC and UNOOSA co-organized a side event of AMCDRR.
- UNOOSA, ADRC, JAXA, and KARI presented their activities related with space technology into DRR and CCA.
- UN-Spider and Sentinel-Asia are introduced as useful initiatives on Disaster Risk Reduction.
- Many end users still do not know how countries access satellite data during disasters.

There is a need to generate more awareness of the DRR stakeholders in the countries.

- Both capacity development on analyzing satellite data and rapid monitoring on affected site are expected to enhance disaster management organizations.



Role of ADRC in Emergency Observation - Sentinel Asia -



Emergency Observation by Sentinel Asia

Record of emergency observation by Sentinel Asia in 2010



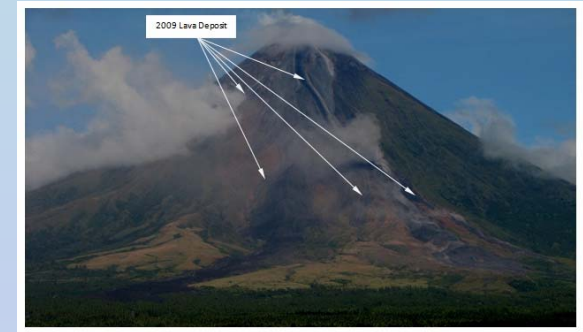
Date	Country	Region	Disaster Type
2010/2/12	Vietnam	Lao Cai	Forest Fire
2010/2/23	Indonesia	Bandung district	Land slide
2010/3/9	Bhutan	Trashigang, Mongar	Forest Fire
2010/3/13	Kazakhstan	Kyzyl-Agash	Flood
2010/3/12	Kyrgyzstan	Bishkek-Osh High way	Snow Avalanches
2010/3/21	Indonesia	Karawang, West Java	Flood
2010/1/4	Pakistan	Hunza Vally	Land Slide
2010/3/12	India	Himalayan region of northeast india	Forest Fire
2010/1/4	Pakistan	Hunza Vally	Land Slide
2010/4/4	Nepal	Chitwan	Forest Fire
2010/4/7	Indonesia	Western sumatra	Earthquake
2010/4/12	Tajikisitan	Vose District	Flood
2010/4/25	Taiwan	Keelung	Land slide
2010/5/7	Tajikisitan	Vose District	Flood
2010/5/18	Sri Lanka	Districts of Gampaha, Colombo and Kalutara	Flood
2010/6/15	Bangladesh	Cox's Bazar	Land Slide
2010/7/15	Vietnam	Ha Tinh province, Hai phong	Typhoon
2010/7/23	Bhutan	Chukha Dzongkhag	Flood
2010/7/24	India	Assam	Flood
2010/7/26	Indonesia	Tanah Bumbu	Flood
2010/7/30	Pakistan	North Western Pakistan	Flood
2010/8/6	India	Kashimir	Flood
2010/8/8	China	Zhouqu, Gansu	Land Slide
2010/8/10	Indonesia	Mt Karangetang in Sitaro Islands district	Volcanic Eruption
2010/8/24	Vietnam	Quang Tri, QuangNgai	Flood
2010/8/29	Indonesia	Mt. Sinabung in the Karadistrict of North Sumatra province	Volcanic Eruption
2010/9/17	India	Northern India	Flash Flood
2010/9/26	Mongolia	Ulaanbaatar	Fire
2010/10/4	Indonesia	Wasior district in West Papua province	Flood
2010/10/14	Cambodia	Pursat Province	Flood
2010/10/16	Vietnam	Nghe An, Thua Thien, Hue	Flood
2010/10/15	Cambodia	Poipet city	Flood
2010/10/16	Thailand	Nakhon Ratchasima	Flood
2010/10/18	Philippines	Isabela	Other(Surge)
2010/10/20	Japan	Amami oshima Island	Flood
2010/10/22	Taiwan	Suao	Flash flood
2010/10/25	Indonesia	Mentawai island	Tsunami
2010/10/26	Indonesia	Mt. Merapi	Volcanic Eruption
2010/10/31	Vietnam	Phu Yen, Khanh Hoa, Ninh Thuan	Flood

Example of emergency observation

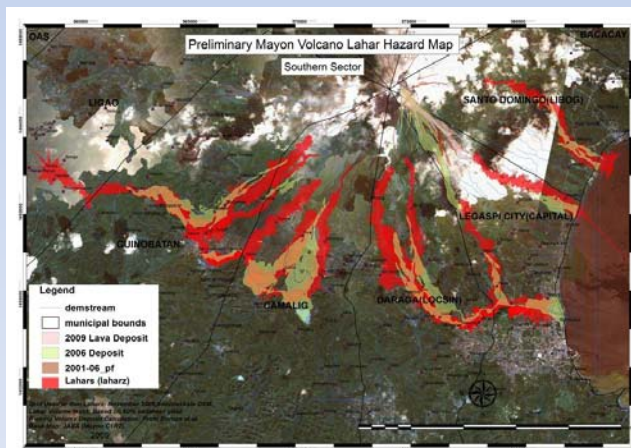
- Sentinel Asia -

Volcano eruption in the Philippines, December 25 2009.

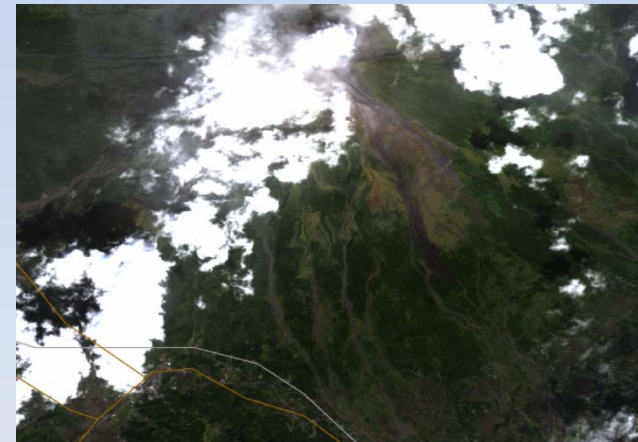
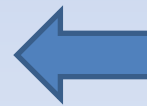
- Emergency observation was made by ALOS/AVNIR-2 and PRISM.
- The data of ALOS was used by PHIVOLCS to update Lahar (volcanic mud flow) Hazard Map.
- The updated hazard map was used for an evacuation alarm to residents.



Mayon Volcano on 30 Dec.2009



Lahar Hazard Map updated by PHIVOLCS using ALOS imagery



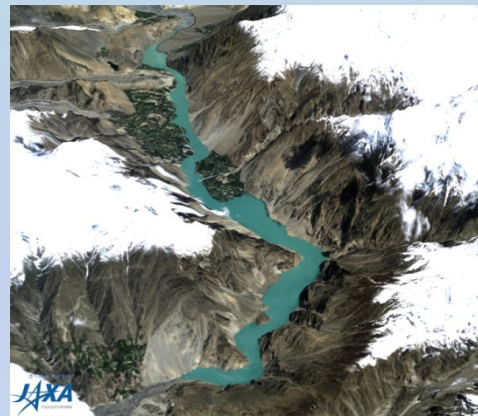
Imagery by ALOS/ AVNIR-2 on 25 Dec. 2009

Example of emergency observation

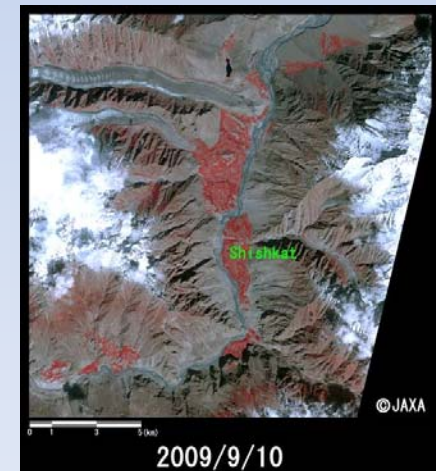
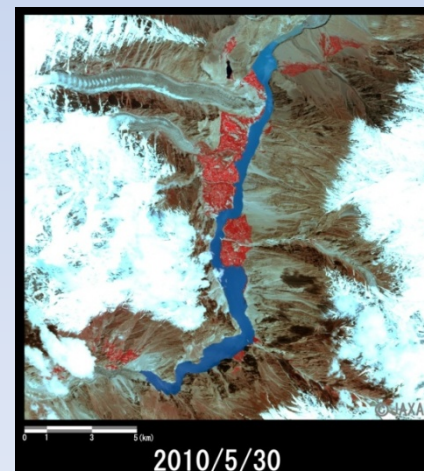
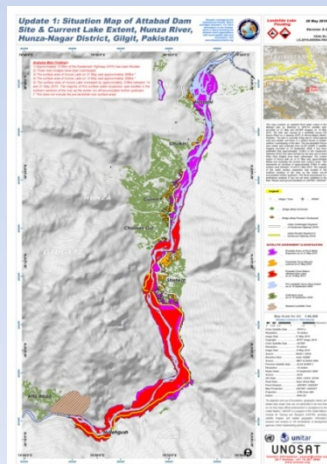
- the International Charter -

Flood in Hunza River, Pakistan May 12 2010

the Bird's view
of Hunza River



Situation Map
Analyzed and
developed by
UNOSAT



Why the need for capacity building on analyzing satellite data



เปรียบเทียบ “เขาหลัก” ในอดีต ที่สวยงามกับหลัง “คลื่นยักษ์สึนามิ” ถล่มพังยับเยิน

Why the need for capacity building on analyzing satellite data



ซึ่งความเสียหาย : (ซ้าย) ภาพดาวเทียมรายละเอียดสูงบริเวณ อำเภอถลาง จ.ภูเก็ต ถ่ายโดยดาวเทียมไอโคโนส (IKONOS) เมื่อวันที่ 24 ม.ค.47 และ(ขวา)ภาพถ่ายแสดงถึงความเสียหายในบริเวณเดียวกันหลังจากตก "คลื่นสึนามิ" ถล่ม เมื่อเช้าวันที่ 28 ธ.ค.47 (ภาพถ่ายเมื่อวันที่ 29 ธ.ค.47)

Jan/24/2004 <---> Dec/29/2004 ?

Capacity Building

Japan-ASEAN Integration Fund (JAIF) Project - Utilization of Space Based Technologies for Disaster Risk Management -

The purpose of the project is to build individual and institutional capacity. In particular, it intends to:

- **Improve technical knowledge of using satellite images**
- **Demonstrate the potential of space technologies (remote sensing/GPS/GIS) for management and reduction of risks due to natural disasters**



Capacity Building

JAIF Project - Utilization of Space Based Technologies for Disaster Risk Management -

Modules to Achieve the Goal

Module 1

Preliminary discussion and need survey with all the stakeholders

Module 2

Development of educational material to provide basic knowledge of space based technology to all the stakeholders.

Module 3

1-day seminar to raise awareness among decision & policy makers about the use of space technologies for various disasters.

Module 4

Carry out at least 5-day technical training locally.

Module 5

Conduct 2 Regional Workshops in Thailand & Indonesia to share knowledge gained and networking in the region.

Capacity Building

JAIF Project - Utilization of Space Based Technologies for Disaster Risk Management -

Seminar and Training Program



Lao PDR



Thailand



Philippines



Cambodia



Myanmar



Thank you for your attention