



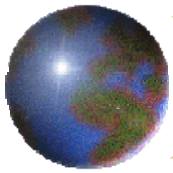
*Improving Asia Regional Network for
Disaster Management*

Thematic Session 2.9, WCDR Kobe 2005
kuta Room, Portopia Hotel
January 21, 2005

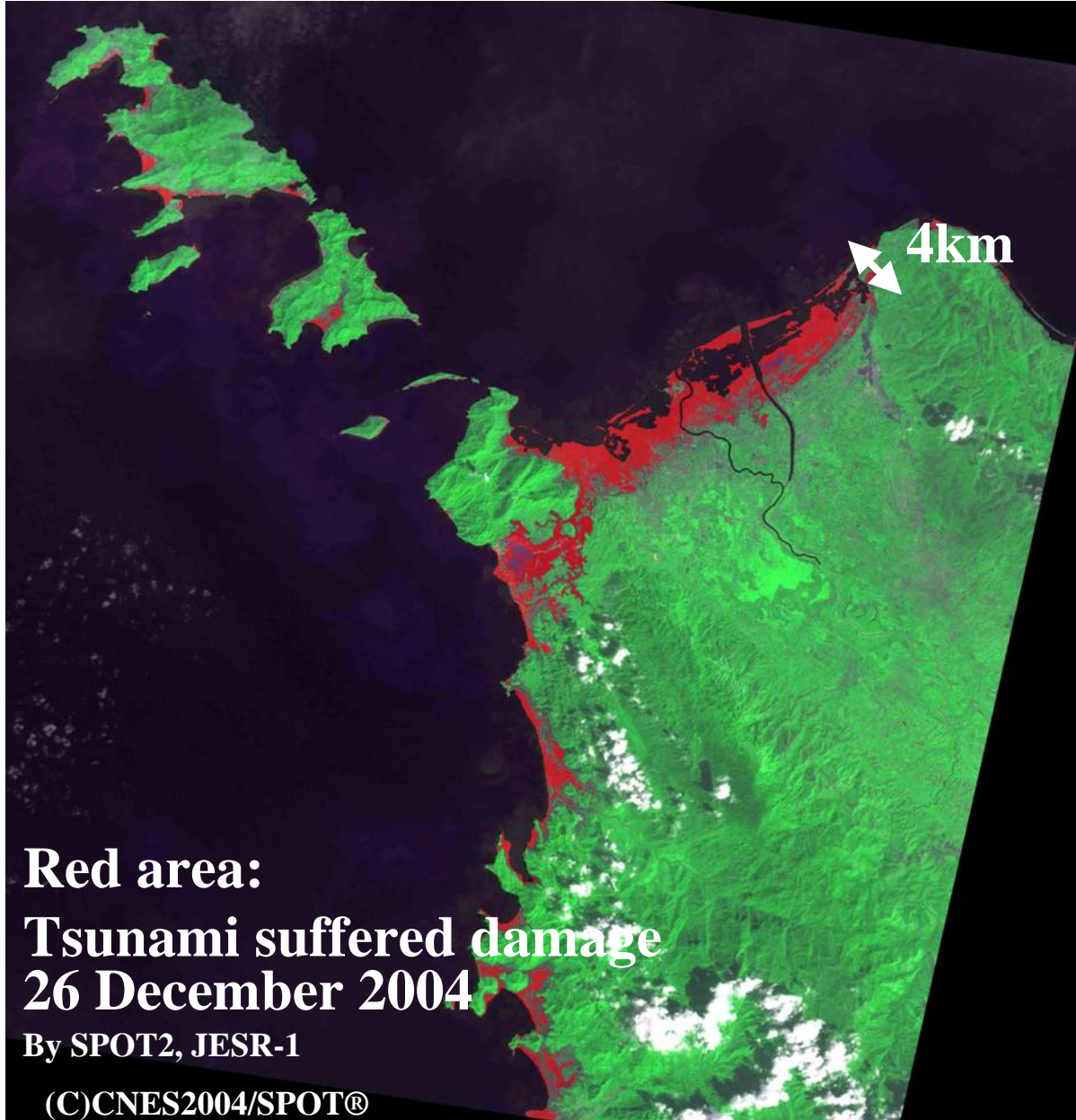


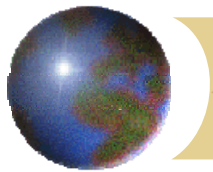
Yoji Furuhama

Japan Aerospace Exploration Agency (JAXA)



Tsunami disaster in Banda Aceh, Indonesia





Present situation of disaster and Needs for Disaster Management in Asia

The last ten years have witnessed an increased number of natural and technological disasters



478,100 people killed, more than 2.5 billion people affected and about US\$ 690 billion in estimated economic losses

40% disaster events, 50% killed people and 90% affected people occurred in Asia.

Asia 1997~2001 581 events

Death 85,300 people Damaged 928.8M people

Total loss US\$113.61 billion

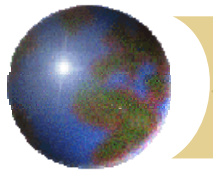


Japan 1987~2001 >100 killed/year by mostly heavy rain and typhoon

Total loss JPY3.45 trillion

Countries from the region should promote a comprehensive, integrated and strategic approach to disaster reduction

(Asian Conference on Disaster Reduction 2004)

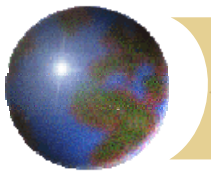


Japanese contribution to GEOSS

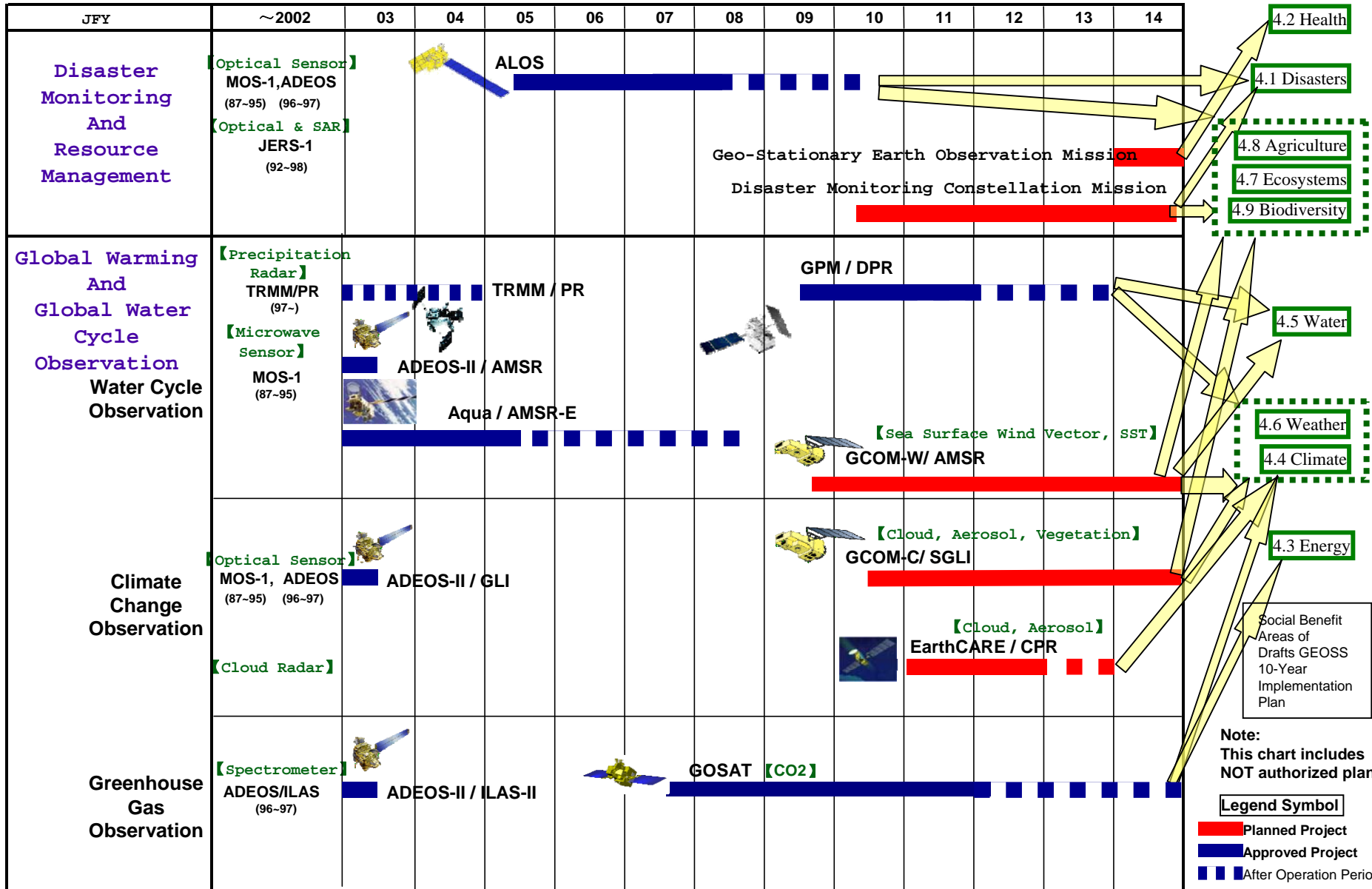
Japan expressed the intention of making contribution at the 2nd Earth Observation Summit, especially in following three areas;

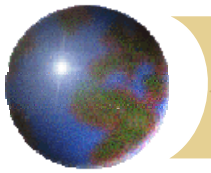
1. Reduction and prevention of disasters
 - Establish timely monitoring, prediction, and warning technologies to contribute to reducing the damage caused by disasters, such as earthquakes, volcanoes, tsunamis etc.
2. Adaptation to global warming and carbon cycle change
3. Adaptation to the climate change including water cycle variation

(GEOSS: Global Earth Observation System of Systems)



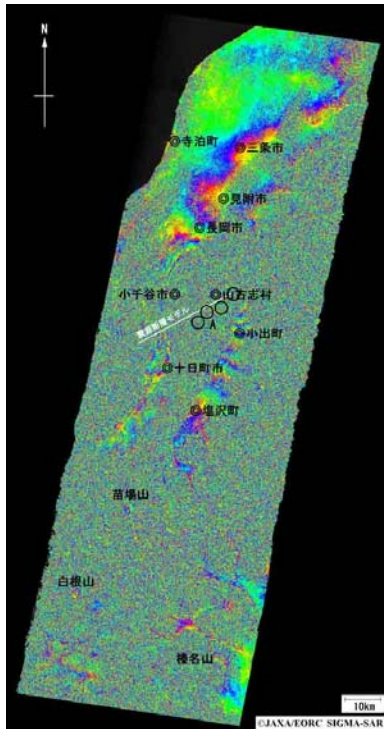
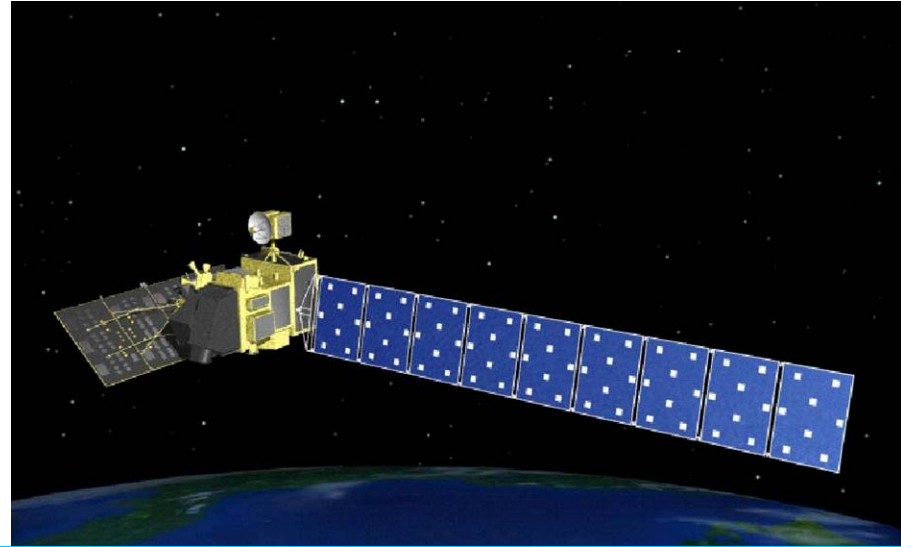
JAXA's Contribution to GEOSS





ALOS (Advanced Land Observing Satellite)

Launch Date	JFY2005
Spacecraft Mass	about 4,000kg
Orbit	Sun Synchronous
Altitude	691.65km
Repeat Cycle (Sub-Cycle)	46 days (2 days)



Surface Deformation

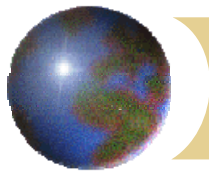
PRISM : Panchromatic Remote-sensing Instrument for Stereo Mapping

AVNIR-2 : Advanced Visible and Near Infrared Radiometer type 2

PALSAR : Phased Array type L-band Synthetic Aperture Radar



Land Slide



i-Space (Space Infrastructure)



ETS-VIII



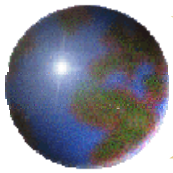
WINDS

Launch Date	JFY2006
Orbit	146° E (tentative)
Altitude	Geo-stationary
<u>High speed mobile communications</u>	

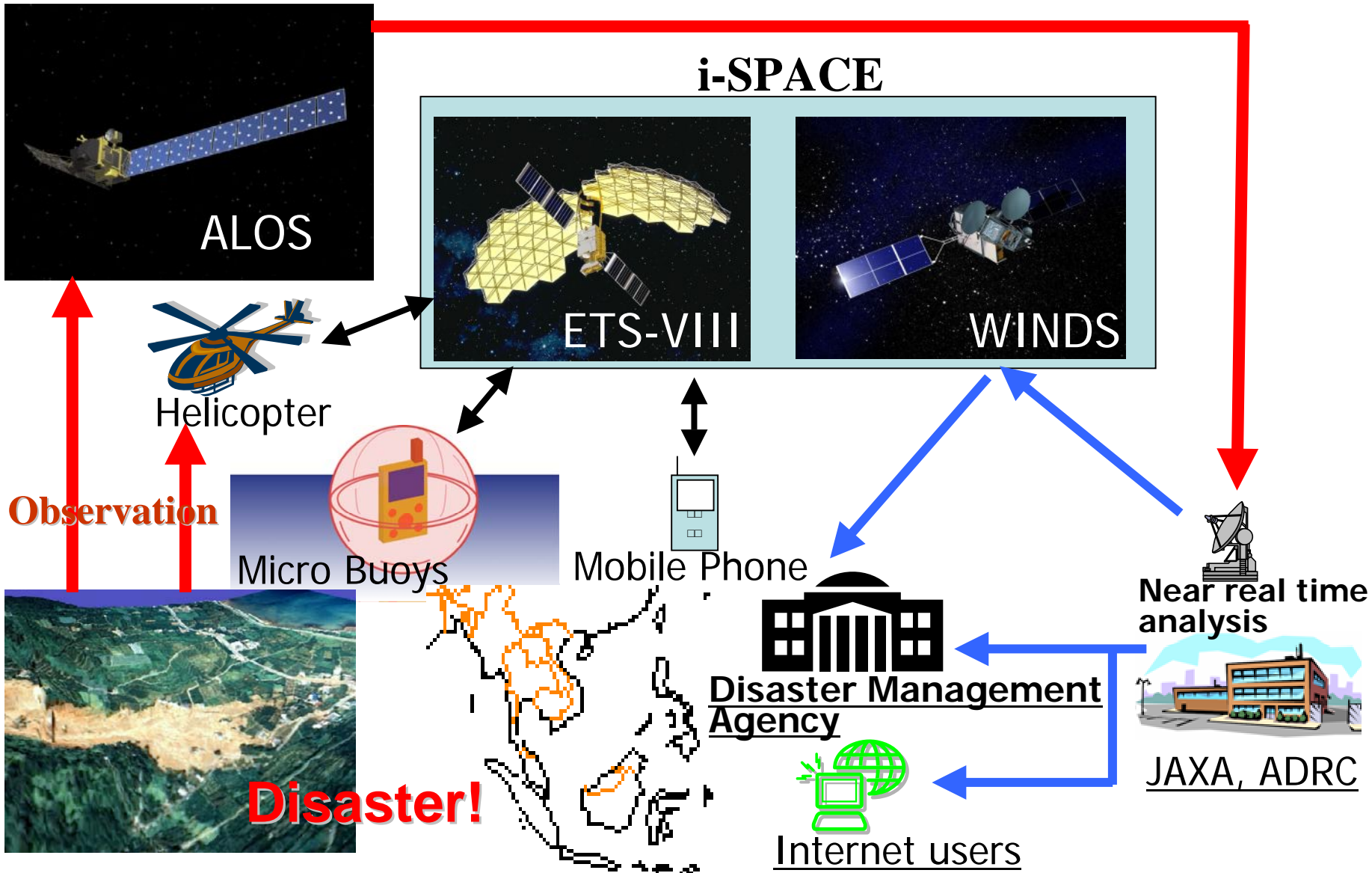
Launch Date	JFY2007
Orbit	143° E (tentative)
Altitude	Geo-stationary
<u>Gigabits communications</u>	

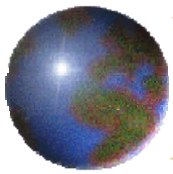
JAXA aimed at establishing advanced "Space Infrastructure", is called 'i-Space'.





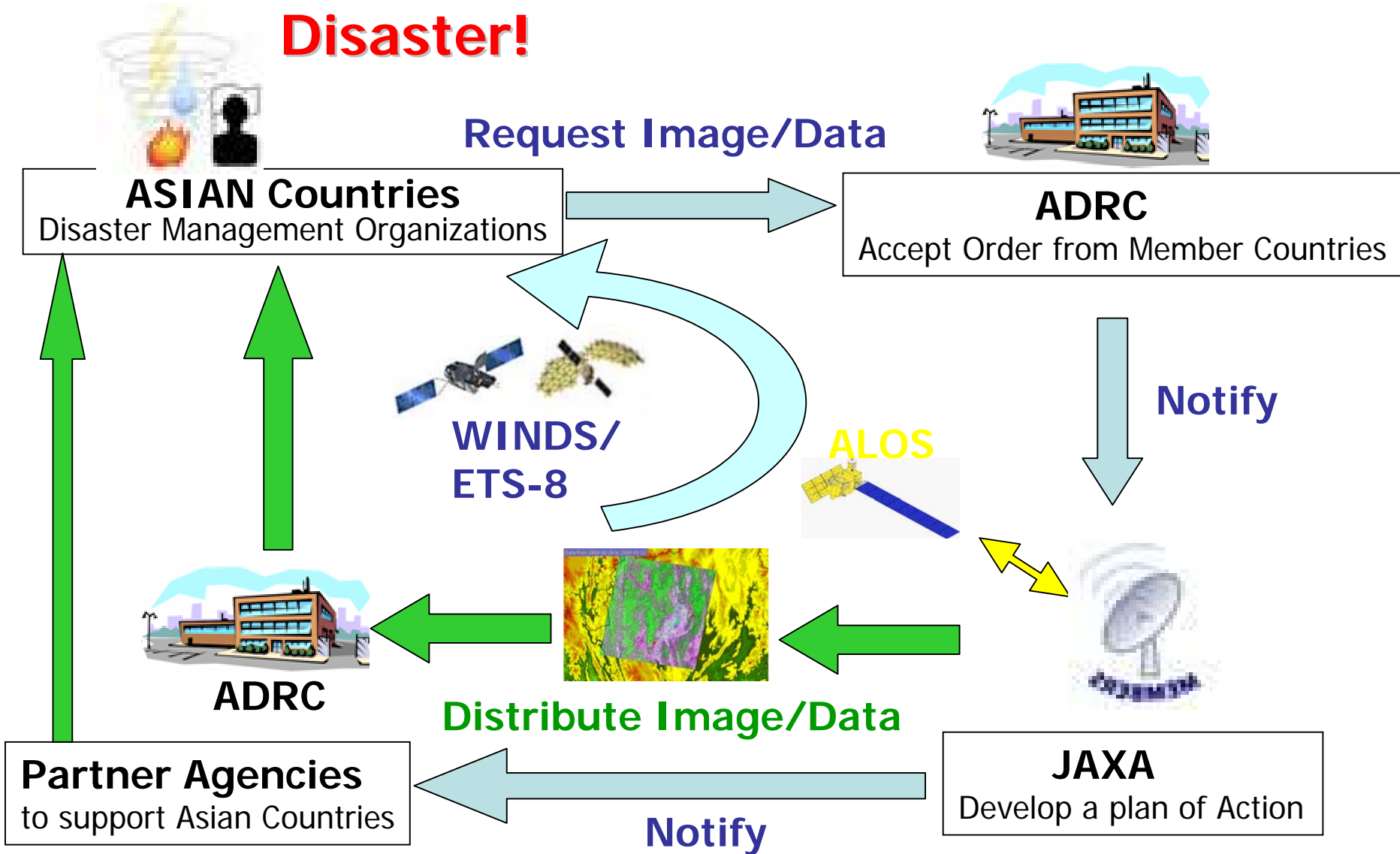
Pilot Project for Sharing Disaster Information



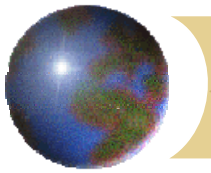


Framework of Pilot Project for Disaster Management using Space Technology in Asian countries

Disaster!



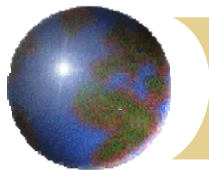
Discussion in ADRC, UN-SCAP, APRSAF members



Outcomes of the Asian Workshop

Asian Workshop on Satellite Technology Data Utilization for Disaster Monitoring on 20 January 2005 at KCCI

1. Space technology can effectively provide information for disaster management in Asia, through International and regional frameworks and national programs;
2. 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;
3. Different needs at each phase of disaster should be considered (prevention, early warning, detection, response and recover);
4. Space Agencies and private sector should cooperate and share satellite data for rapid response and application;
5. Capacity building for data interpretation is essential.



Typhoon Database (example application)

- Typhoon Subset by TRMM (21,741 images) as of December 2004
- Available internet access
- 100,000 access /day (peak)

Tropical Cyclone CELA (03S)

[Track Chart \(JPEG, 500x500, 65KB\)](#)

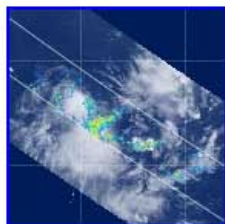
Period : 05 Dec 2003 --

Region : South Indian Ocean

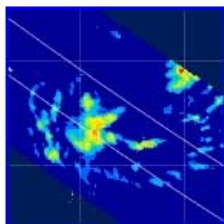
Maximum Sustained Winds : 65kt (Category 1)

Number of TRMM Observation : 12

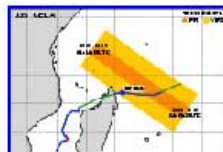
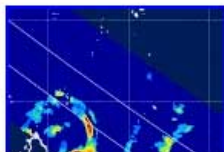
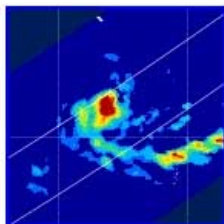
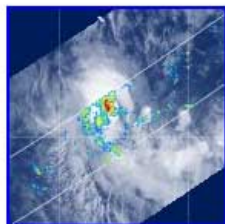
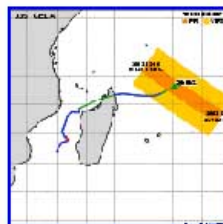
PR/VIRS Image



TMI Image



Observation Area



Tropical Cyclones Database

Tropical Cyclones by TRMM

Japanese | Back

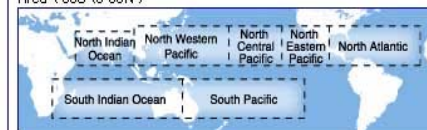
Tropical Cyclones data observed by TRMM/PR,TMI/VIRS from launch are available.

Database

Period : 8 Dec. 1997 to 16 Dec. 2003

Product : PR (2A23 / 2A25), TMI (1B11 / 2A12)
VIRS (1B01)

Area (36S to 36N)



Tropical Cyclones Search

* Search Area

North Western Pacific

* Search Year / Month

Year: 2003

Month: DEC

submit

* AnnualTrack Summary

Topics

New tropical cyclone data until 16 Dec 2003 have been updated.

Tropical Cyclone CELA (03S)
 Date/Time : 16 Dec. 2003 02:39-02:42 (UTC)
 Orbit Number : 34681
 Area : 29.0-13.0S, 36.0-49.0E

Date/Time : 16 Dec. 2003 1

Orbit Number : 34549

Area : 19.4S-8.1S

51.8E-62.9E

Download(HDF Format, .gzip compressed)

VIRS [1B01\(2.8MB\)](#)

TMI [1B11\(0.4MB\)](#) [2A12\(0.3MB\)](#)

PR [2A23\(0.2MB\)](#) [2A25\(0.6MB\)](#)

Date/Time : 09 Dec. 2003 04:16(UTC)

Orbit Number : 34573

Area : 18.5S-5.4S

46.3E-62.2E

VIRS [1B01\(4.2MB\)](#)

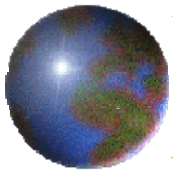
http://www.eorc.jaxa.jp/TRMM/typhoon/index_e.htm

Links

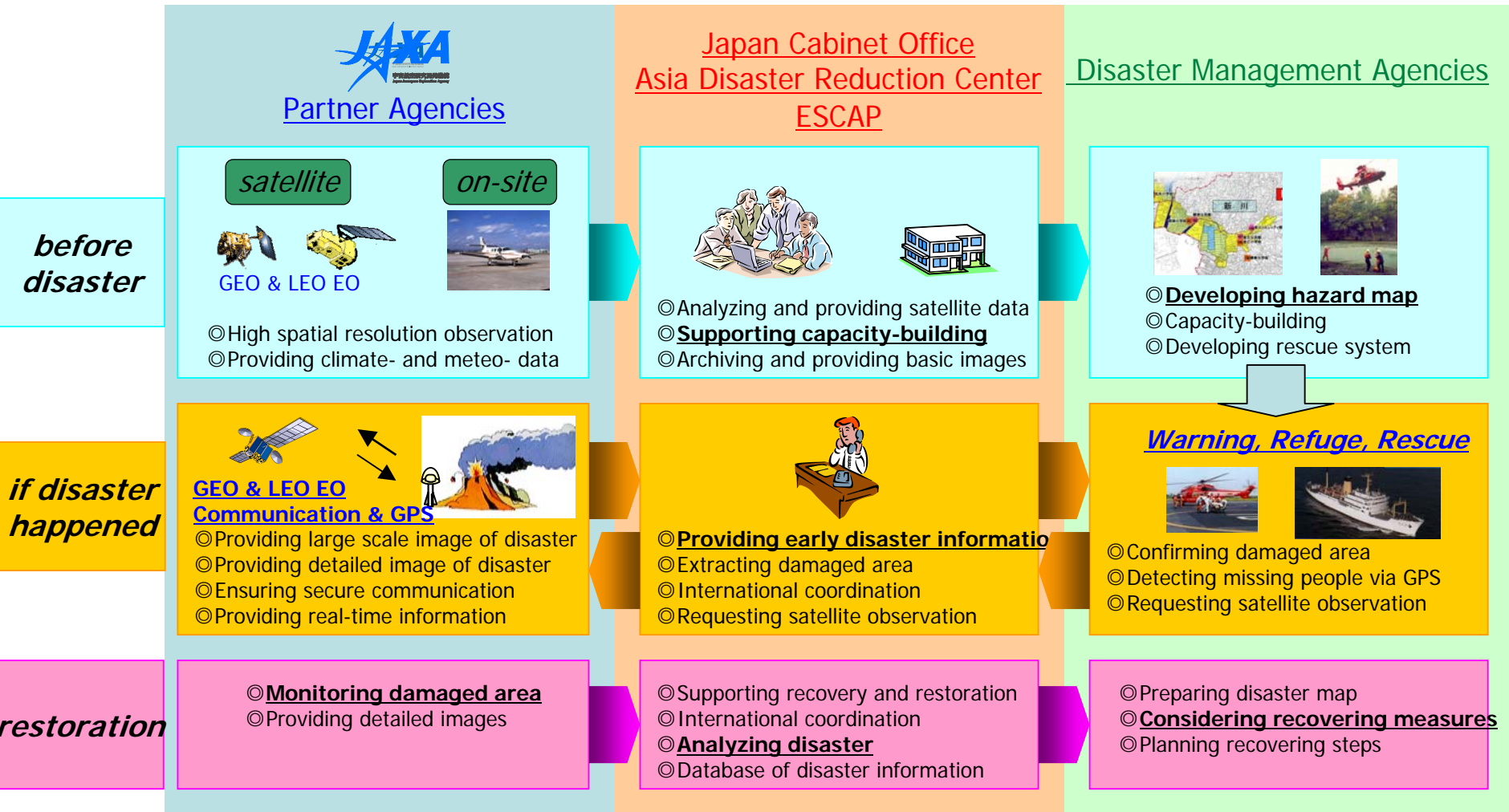
[Tropical Cyclones Related](#)

[TRMM Related](#)

[JAXA/EORC TRMM Home Page](#)



Future Disaster Monitoring System in Asia



**Reduction of death and damage
Safe and secure life**