

A System to enhance DAN's DRR Activities



Jagath Rajapaksha

jagath@ait.ac.th

Geoinformatics Asian Institute of Technology
Thailand

Why we need a system for DAN activities

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- Systematic flow of its tasks
- Avoid ad-hoc nature and missing tasks
- Semi-automated some of the tasks
- Keep records of tasks (who, when and what)
- Monitoring and generate reports
- Partially independent of persons involve
- Identify the gaps of functionality
- Keep continues improvements
- Efficient delivery of product and services
- Networking, Communication and Coordination
- Many more...

Contents

- PDAN and DAN's DRR activities
- Our targets
- The PDAN system and its functionality
- Future developments and considerations
- Recommendation

PDAN and DAN's DRR activities

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- EOR support
- Communication & Coordination
- Disaster event management
- Data/product sharing
- Local GIS data sharing
- Networking local agencies & DMCs
- Disaster information collection and awareness
- Monitoring the progress
- Training/ capacity building
- Project Manager activities to IDC

Our targets

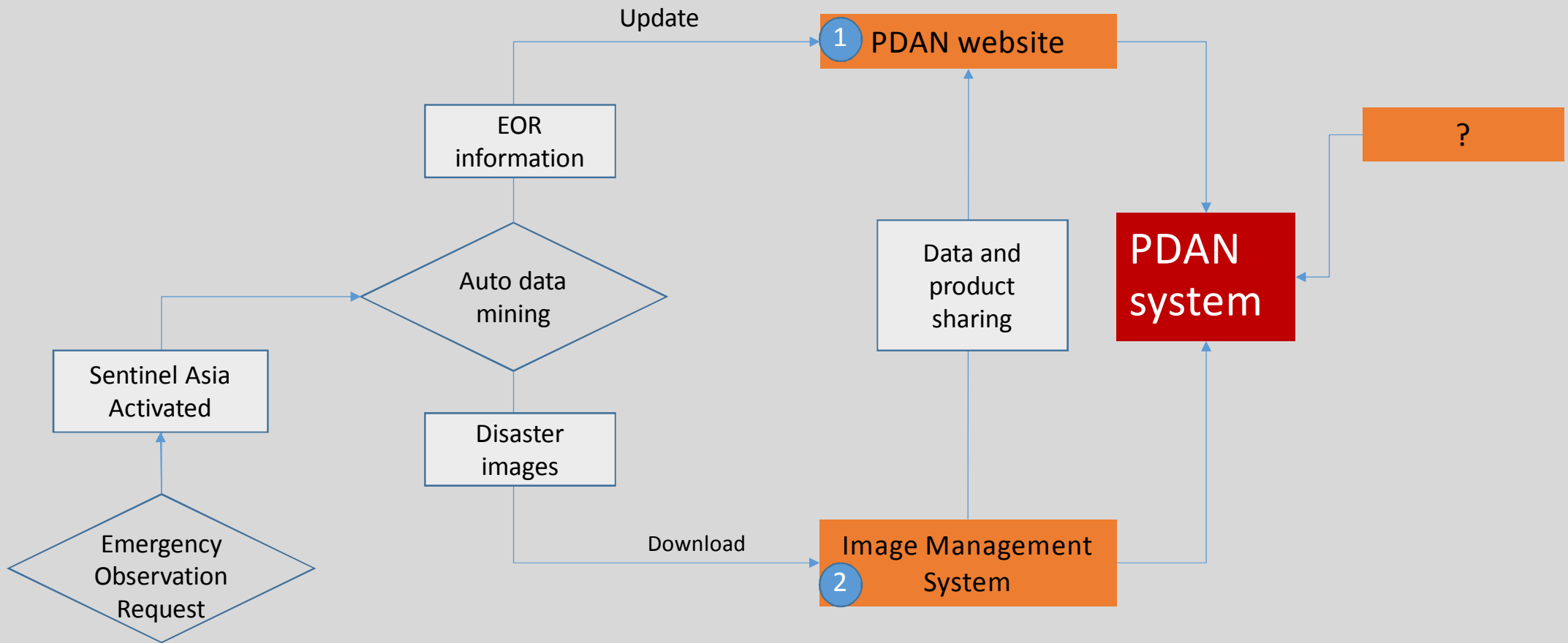
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- Enhance EOR process
 - Information from local community
 - Information verification by local nodes (DANs) for official EOR
 - Extend EOR to ADRC/SA
- Systematic communication for coordination
 - Communication with DANs
 - Feedback data/information collection for product validation
- Disaster event management
 - Data analyses
 - Data/product sharing
- Interactive mapping for GIS data sharing issue
 - Customized PDAN system to local Agencies
 - Intergrade HiRes GIS data
 - Map customization tools
- Networking local nodes
 - Disaster specific technical agencies and DMCs
 - Promote technical agencies as DAN members
- Disaster awareness and information collection
 - Sentinel Asia activations
 - SA activities
 - Worldwide disaster info
 - Public forums

The PDAN system

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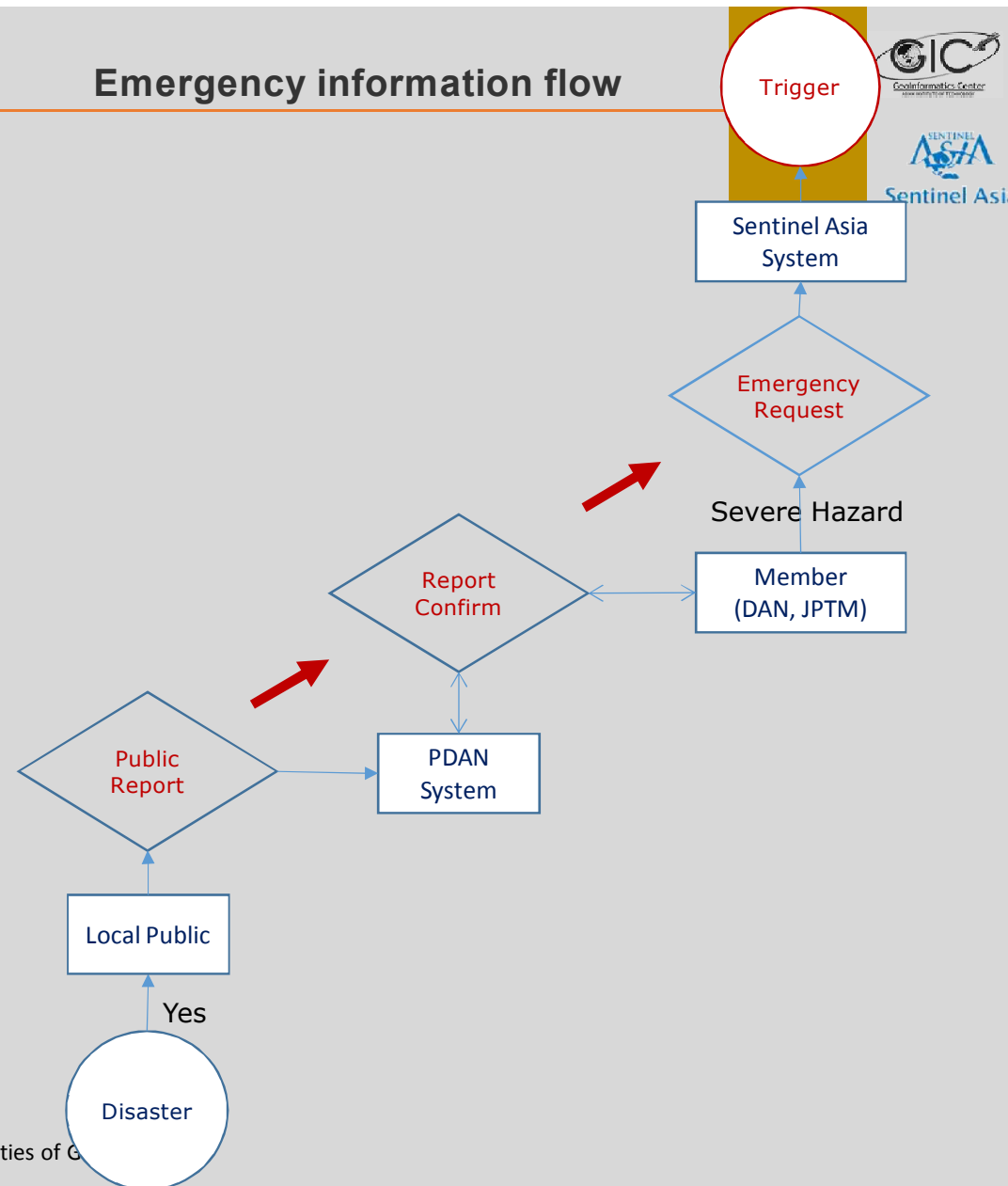
2 components



Functionality of the system

- EOR supporting function
 - Gathering disaster information from 3 processes
 - Data mining
 - Local public reporting
 - Local DAN reporting
 - Emergency online reporting
 - [For public](#)
 - [For DANs](#)
 - Forward information to SA/ADRC for activation
- Manage members' reporting and Public forums

Emergency information flow



The PDAN system

- The homepage
 - List of SA activations and
 - Map with symbols with locations
 - World disaster info
 - SA activation info
 - Our activities
 - Partners
 - Social medias
 - Useful links
 - Contacts

The screenshot shows the PDAN (Disaster Support System) homepage. The browser address bar displays www.geoinfo.ait.ac.th/pdan/index.php. The page features a navigation menu with links for HOME, EVENTS & MAPS, EMERGENCY REQUEST, MEMBERS, ABOUT US, and CONTACT US. A search bar and a LOGIN button are also present. The main content area is divided into several sections:

- Sentinel Asia Activations:** A sidebar on the left lists recent activations, including Typhoon in Philippines, Flood in India, and Earthquake in Afghanistan.
- World Disasters:** A section listing recent global disasters, such as M 1.9 - 8km WSW of Ludlow, California; M 1.4 - 20km NW of Hawthorne, Nevada; and M 1.2 - 3km SW of Cobb, California.
- SA Activations:** A central section with news articles and interactive maps for Typhoon in Philippines, Flood in India, Earthquake in Afghanistan, Typhoon in Philippines, and Forest fire in Indonesia.
- Activities:** A section listing upcoming events, such as the Joint Project Team (JPT) meeting in Colombo and the First Steering Committee Meeting.
- Our Partners:** Logos for GIC and Sentinel Asia.
- Footer:** Contains "FIND US" (social media links), "USEFUL LINKS" (Sentinel Asia, International Disaster Charter, etc.), and "OFFICE ADDRESS" (GIC/Geoinformatics Center, P.O. Box 4, Hong Kong).

PDAN system cont. ...

- SA activation alert
 - Email generation, once SA is activated a disaster.
 - Deliver those information through the system to local DANs as well as the PDAN staff (need registration)
- Event management
 - Communication and Coordination
 - Data and Product sharing
 - Geotif, Jpeg, Shape
- Interactive map with map customization tools
- Public forum (event based)

The screenshot shows the PDAN website interface. The browser address bar displays the URL www.geoinfo.ait.ac.th/pdan/eventsmaps.php. The page header includes the PDAN logo and navigation links: HOME, EVENTS & MAPS, EMERGENCY REQUEST, MEMBERS, ABOUT US, and CONTACT US. The main content area features two event entries: "Typhoon in Philippines" and "Flood in India". Each entry includes a map, a text description, and a "Download" button. A "Contact Project Manager" modal window is open, showing a form with fields for "Name", "Email", and "Subject", and a "Message" text area. A red arrow points from the "Contact Project Manager" button on the "Typhoon in Philippines" entry to the modal window. The footer contains "FIND US", "USEFUL LINKS", and "OFFICE ADDRESS".

PDAN system cont.

- Interactive map
 - Base layer
 - Bing map
 - OpenLayer
 - OSM
 - Google street
 - Google map
 - Event layer
 - Flood
 - Damage ...
 - Weather
 - Precipitation
 - Temperature'
 - Wind ...
 - Upload layer
 - Map tools
 - Export to png
 - Measure length
 - measure area

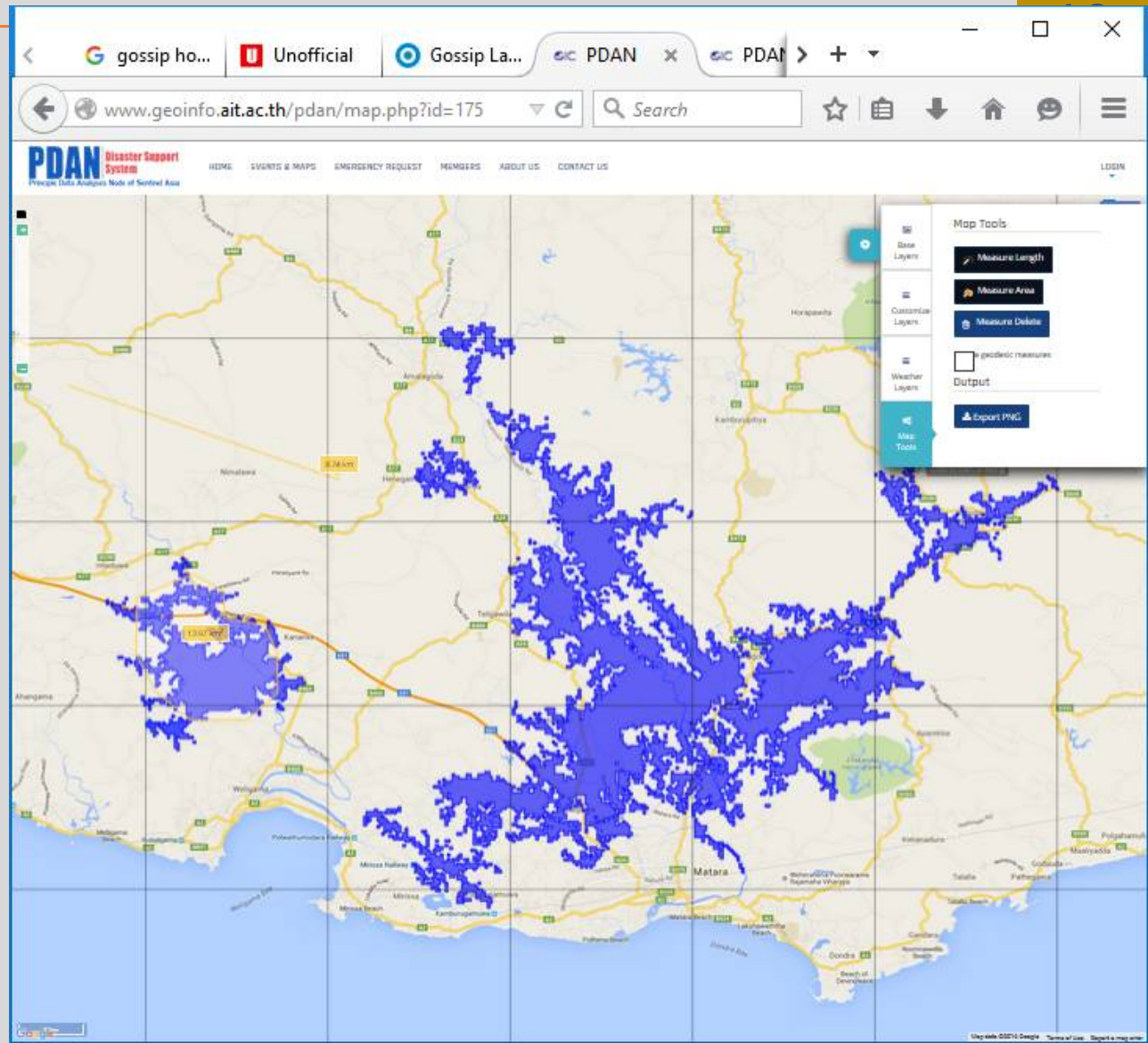


Image management system (IMS)

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To deal with large numbers of images in a disaster situation

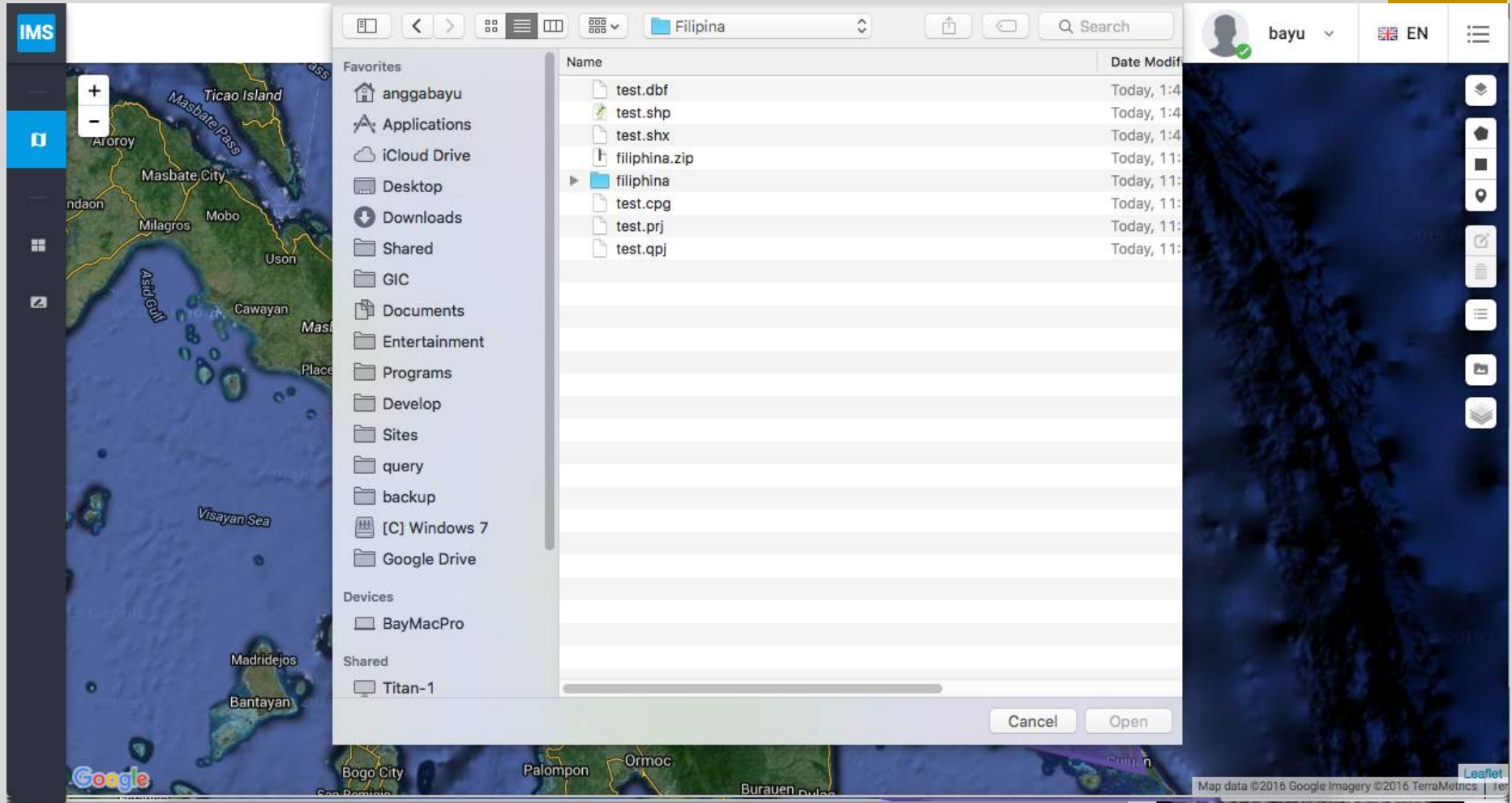
- Automated image download
- Quick image search (ROI, Shape)
- Visualize coverage
- Select appropriate data
- Semi-automated processing
- Data management for DRR R & D

Image management system cont. ...

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Sentinel Asia



Recommendations

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- Networking DMCs with local technical agencies will make a significant impact on DRR
- Extend the customized version of PDAN system to local DANs to manage their own disasters.
- The above system may be in local languages to get public interactions and inputs
- Develop data analyses tools and transfer the methodologies to DANs as well as local governors office for effective DRR

Recommendations *cont.* ...

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- Encourage local agencies to have policy framework to have a proper organization structure and dedicated staff for DRR
- Encourage data sharing policy within local DMC network of technical agencies for effective use of geo-information
- Implementation of systems such as PDAN and expand its use by the DMCs is essential to expand the DRR supports efficiently.

Comments are welcome

Thank you

Public report online form

The screenshot shows a web browser window displaying the PDAN (Principle Data Analysis Node of Sentinel Asia) Emergency Request form. The browser address bar shows the URL: www.geoinfo.ait.ac.th/pdan/emergencyrequest.php. The website header includes the PDAN logo and navigation links: HOME, EVENTS & MAPS, EMERGENCY REQUEST, MEMBERS, ABOUT US, and CONTACT US. A search bar and a LOGIN link are also present.

The main content area features two tabs: "Member Reporting" and "Public Reporting". Below the tabs is a "HOW TO REQUEST" section with a document icon and a blue circle containing a person icon. The text reads: "You are welcome to provide information on emergency situations related to natural disasters such as flood, landslide, earthquake, tsunami, typhoon, hurricane, storm surge, drought and volcano eruption etc. Providing disaster related information is helpful for us to initiate an emergency request to Sentinel Asia disaster support system. On this request, satellite observations will be activated to monitor disaster sites, eventually beneficial to the affected country in many ways." Below this text, it states: "Filling out this online form and hitting the submit key with less than 2 minutes, will make a huge impact on the disaster management activities of the affected country. We are here to support by providing information based on satellite observations. Information such as disaster affected area is needed for damage assessments, preparedness and mitigation measures."

The form fields include:

- Date of Occurrence: 2016/01/10
- Type of Event: -- Select --
- Time of Occurrence: 2:30 AM
- Search Area: Enter your address
- City: [Text Field]
- State: [Text Field]
- Country: [Text Field]
- People Affected: A table with columns for Dead, Missing, Injured, Displaced, and Total, each with a corresponding input field.
- Name of Reporter: [Text Field]
- Valid Email: [Text Field]
- Submit: [Submit Button]

The footer contains three columns of information:

- FIND US:** Social media icons for Twitter, Facebook, Google+, LinkedIn, and YouTube.
- USEFUL LINKS:** Sentinel Asia, International Disaster Charter, Asian Disaster Reduction Centre, Pacific Disaster Centre, Flood List, National Geographic.
- OFFICE ADDRESS:** Location: Geoinformatics Center, Asian Institute of Technology, P.O. Box 4, Klong Luang, Pathumthani 12120, Thailand. Tel: +66 (0)2 2524 5580, +66 (0)2 2524 6195. Fax: +66 (0)2 2524 6147. Email: geoinfo@ait.ac.th. Web: www.gic.ait.ac.th.

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Member report online form

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Sentinel Asia

Emergency Observation

EO ID * ERADRC205

Date of Occurrence * 2016/01/11

Type of Event * Flood

Search Area: Tangalle, Southern Province, Sri Lanka

City: Tangalle

State: Southern Province

Country: Sri Lanka

Map coordinates: lat: 5.891992639168992, long: 81.0296630859375

[View EOR Form](#)

EOR Form

Request ID: EOR_LK_RIV_FLD_205

EO ID: ERADRC205

Disaster Types: Flood

Country: Sri Lanka

Province: Southern Province

City: Tangalle

Date of occurrence: 2016/01/11

Latitude (Upper left): 6.40811

Longitude (Upper left): 80.31281

Latitude (Lower right): 5.89199

Longitude (Lower right): 81.02966

Name: Jagath Rajapaksha

Organization:

Phone:

Mobile Phone: +6622618016864

Fax:

Email: jagath@ait.ac.th

Description: Some description here

[Send](#) [Print](#)

5 February 2016

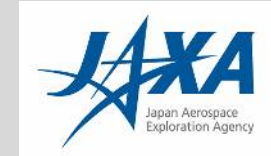
Sentinel Asia Activities of GIC

Geoinformatics Center

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- Established in 1999 at the Asian Institute of Technology (AIT-1959)
- Non-profit entity to support the regional countries in applications of latest technologies in the field of Geoinformatics.
- Major activities are projects, consultancies and capacity buildings



Geoinformatics center

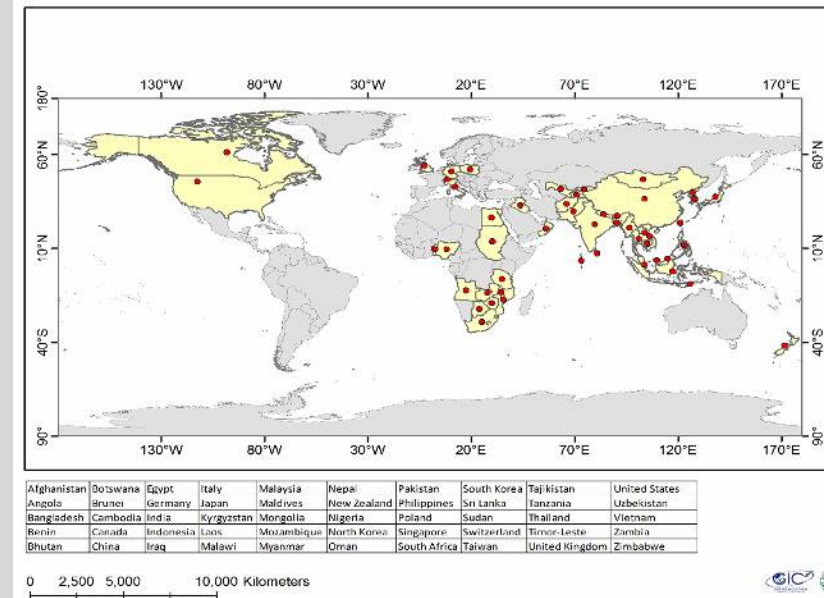
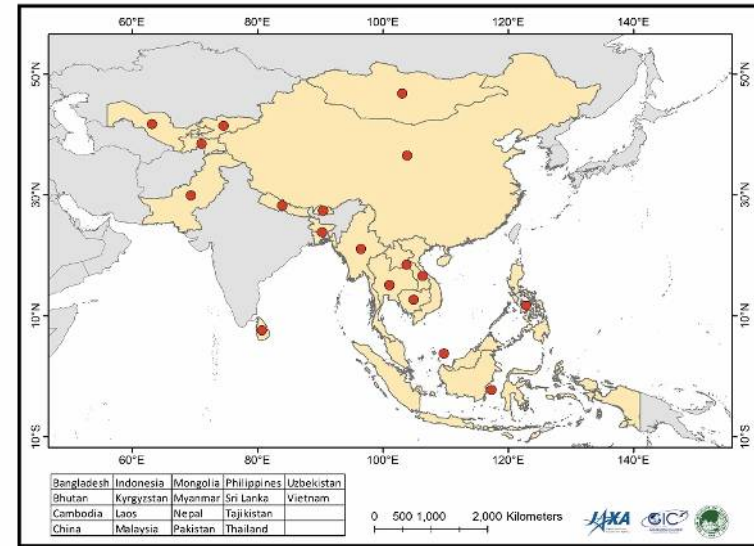
- Our activities

- Projects/consultancy

- Disaster (flood, landslide, drought, earthquake, forest fire, tsunami etc.)
 - Environmental monitoring

- Training

- RS and GIS applications on environmental monitoring, modelling and disaster analyses, damage assessment



Bangladesh
Bhutan
Cambodia
China
Indonesia
Kyrgyzstan
Laos
Mongolia
Myanmar
Nepal
Pakistan
Philippines
Sri Lanka
Tajikistan
Thailand
Uzbekistan
Vietnam