



## Working Group 2

# Data Sharing and Integration for Disaster Management

*Status Report 2013-October 2015*  
for the

20th UNRCC-AP and 4th UN-GGIM-AP  
Plenary Meeting  
6-10 October, 2015  
Jeju island, Republic of Korea

**National Cartographic Center, IRAN  
Indonesia, China, New Zealand, Republic of Korea**

## *Background:*

Based on the resolutions of the 18th UNRCC-AP in Bangkok (Thailand, 2009), the Working Group II was intended to act on three items including Capacity Building in Disaster Management, Data Access and Data Integration. These items were the objectives of WG2 Work Plan (2010-2012).

The 19th UNRCC-AP(Thailand, 2012) adopted nine resolutions, a number of which charged the UN-GGIM-AP with undertaking further activities on geodetic framework, data sharing and disaster management, and place based information management for economic growth.



# UN-GGIM-AP Working Group2 Work plan ( 2013-2015)

Based on resolution adopted at at 19thUNRCC-AP, Thailand (2012) and (a,b,c) recommended Items

Operation Items	Executive manager	Time table		
		2013	2014	2015
<b><u>A. Investigating disaster management Geoportals (DM-GP) at the national and regional levels.</u></b>	The chair with the cooperation of the vice-chairs	<b>Done</b>		
A.1. Investigating Disaster Information Networks (DINs)				
A.2. Investigating existing disaster management portals/geoportals				
A.3. Selecting two disasters as case studies and clarifying:				
a) spatial data requirements for disaster response				
b) spatial analysis required for emergency operations (e.g. sheltering, path finding)				
c) unit spatial operations to satisfy spatial analyses				
d) composition flow of unit operations to satisfy spatial analyses				



# UN-GGIM-AP Working Group2 Work plan ( 2013-2015)

Based on resolution adopted at 19<sup>th</sup> UNRCC-AP, Thailand(2012) and (a,b,c) recommended items

Operation Items	Executive manager	Time table		
		2013	2014	2015
<b><u>B. Design and development of a disaster management Geoportal (DM-GP): pilot project.</u></b>	The chair with the cooperation of the vice-chairs		In Progress	
<b>B.1. Design the architecture of the DM-GP.</b>				
a) to request the architecture of the DM-GP of experienced countries (Indonesia, New Zealand, Korea, Japan, Australia).				
b) investigate the received architecture of the DM-GP to design the architecture of the regional DM-GP.				
<b>B.2. Clarification of required standards and specifications for the development of DM-GP</b>				
a) to request the titles of standards that used for development of the DM-GP of experienced countries (Indonesia, New Zealand, Korea, Japan, Australia) in respect of metadata, data and services.				

# UN-GGIM-AP Working Group2 Work plan ( 2013-2015)

Based on resolution adopted at 19<sup>th</sup> UNRCC-AP, Thailand(2012) and (a,b,c) recommended items

Operation Items	Executive manager	Time table		
		2013	2014	2015
B. Design and development of a disaster management Geoportal (DM-GP): pilot project.	The chair with the cooperation of the vice-chairs		<b>In Progress</b>	
<b>B.5. Development of the DM-GP</b>				
B.6. Development of a service composition technique within the DM-GP(clarified in A.3.d)				

# UN-GGIM-AP Working Group2 Work plan ( 2013-2015)

Based on resolution adopted at 19<sup>th</sup> UNRCC-AP, Thailand(2012) and (a,b,c) recommended items

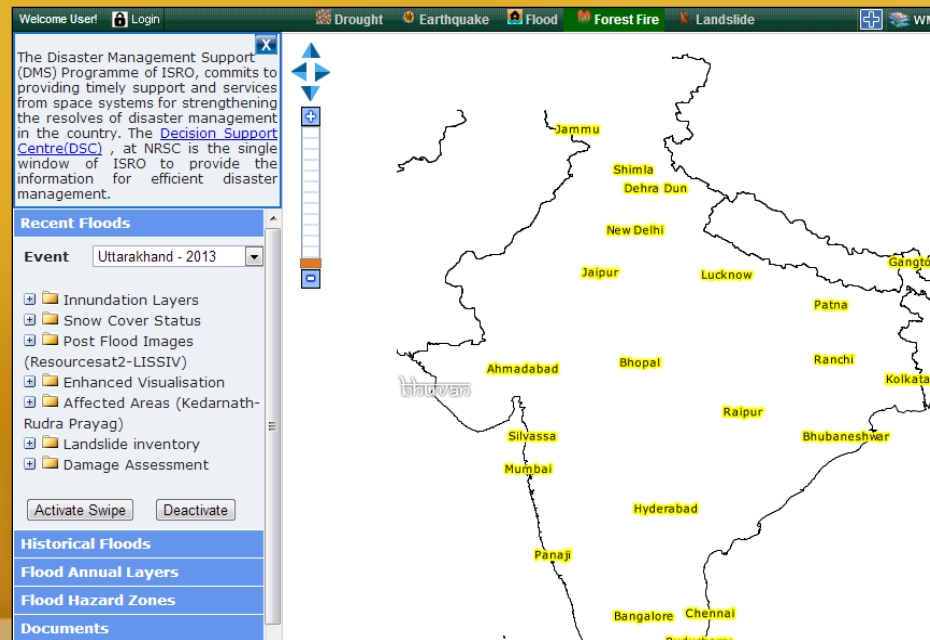
Operation Items	Executive manager	Time table		
		2013	2014	2015
<b><u>C. Implementation of the Geoportal: pilot test</u></b>	The chair with the cooperation of the vice-chairs and three member countries as pilots.			<b>In Progress</b>
C.1. Evaluation of the DM-GP at the national level				
C.2. Implementation of DM Geoportals for three member countries which are currently without a disaster management Geoportal based on the architecture, standards, atomic services and composition techniques in B (sub-region implementation)				
C.3. Evaluation of the DM-GP at the sub-regional level and test the feasibility of these Geoportals to understand the requirements for a regional Geoportal Implementation of the Geoportal: pilot test				
C.4. Planning the development and implementation of the DM-GP at Asia and Pacific region				



# Actions Taken since the 19th UNRCC-AP ( 2012)

## In 2012:

- Investigating disaster information networks.
- Investigating Geoportals.
- Investigating required data for disaster management Geoportals.
- Investigating required spatial analyses.



Investigating Disaster Management Geoportals



## In 2013:

- Design Disaster Management Geoportal
- With the aim of designing and creating the Asia and Pacific Disaster Management Geoportal, a questionnaire for the vice chairs was prepared and sent to them.

The screenshot displays the Disaster Management Geoportal interface. At the top, a green navigation bar contains the text "GEOPORTAL DISASTER MANAGEMENT" and the UN-GGIM-AP logo. Below this, a central map of Iran is shown with numerous yellow circular markers representing earthquake data points. The map includes a coordinate grid and a legend for "Iran Data" with categories like "Magnitude" and "Permanent locality". To the left of the map is a vertical menu with options: "Pro Search", "Satellite IMG", "Earthquake", "Flood", "Documents", "Landslide", "Catalog Services", "Geodesy Data", and "Help". To the right of the map is a "Management of Layers" panel with a sub-section for "Iran Layers". The interface is set against a white background with a green grass border at the bottom.





# Design Disaster Management Geoportal

The screenshot displays a web-based geoportal interface. On the left is a vertical sidebar with a 'Metadata Search' section containing a search box with the text 'gps'. Below this are several data layers: 'NCC GIS DATA', 'NCC Geodesy DATA', 'velocity vectors' (highlighted in orange), and 'GPS points' (highlighted in orange). The main area features a satellite map of a region with a toolbar at the top containing icons for navigation, drawing, and information. A browser window titled 'MetaData - Google Chrome' is overlaid on the map, showing the URL '10.10.3.42:8084/UNSITE/result.jsp'. The browser content displays the following metadata information:

ISO19139 Standard based on metadata information

File identifier  
47130478-0cf4-4329-9e51-c293f0618ec0

Hierarchy level name

character set

Metadata standard name  
ISO 19139 Geographic Information - Metadata - Implementation Specification

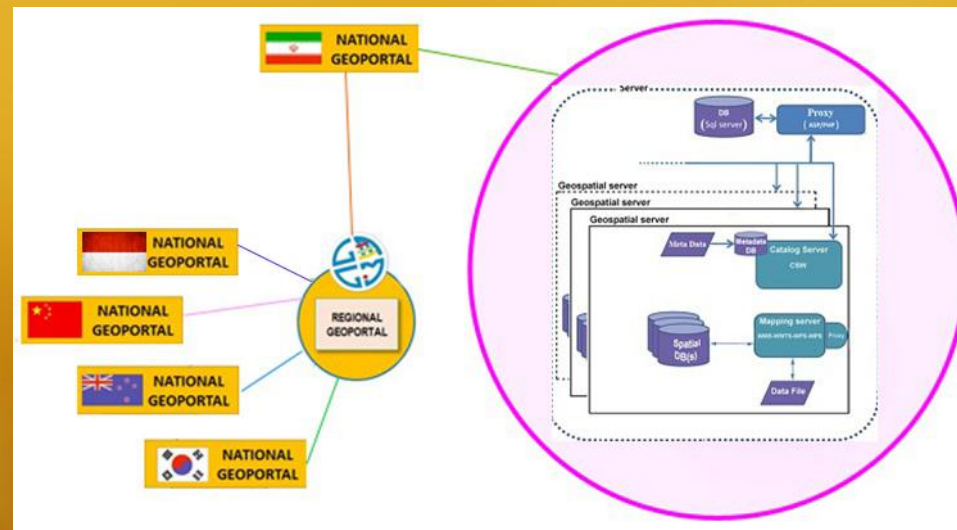
Metadata standard version  
2007

**Identification info**

Title  
velocity vectors



- Design the architecture of the DM-GP.
- Clarification of required standards and specifications for the development of DM-GP
- Investigation of service composition techniques
- services to adopt or design appropriate technique for service composition of the regional DM-GP.
- Development of sample web services to satisfy unit operations.
- Development of the DM-GP
- Development of a service composition technique within the DM-GP



Geoportal Architecture

**In 2014:**

Based on countries recommendations related to disaster management Geoportal the following schedule table designed and also according to resolution items (a,b,c), we've suggested some responsibilities for each country.

## Schedule Table

### Mitigation Phase:

	Activities	Responsible	Duration (Months in 2015)
Earthquake & Flood	Micro zonation & Building codes	Korea, New Zealand, Iran, ...	4-6





# Schedule Table

## Preparedness Phase:

	Activities	Responsible	Duration (Months in 2015)
Earthquake	Automatic online processing	Iran, ... (Process) Other Members (Data Entry)	4-6
	Strain Analysis	Iran, ... (Process) Others Members (Data Entry)	4-6
	Identify potential high risk	Iran, ... (Process)	5-7
Flood	Utilizing information from DEM	China, Indonesia, ... (Process)	4-6
	Increasing the volume of water	China, Indonesia, ... (Process)	4-6
	Identify vulnerable areas of flooding	China, Indonesia, ... (Process)	4-6



# Schedule Table

## Response Phase:

	Activities	Responsible	Duration (Months in 2015)
Earthquake & Flood	Sheltering	Iran, ... (Process)	4-9
	Path Finding	New Zealand, ... (Process)	4-9
	Loss Assessment	Iran, China, ... (Process)	4-9
	VGI (Volunteer Geospatial Information)	Korea, Indonesia, ... (Process)	4-9

## Recovery Phase:

	Activities	Responsible	Duration (Months in 2015)
Earthquake & Flood	Facilities like positioning for creating new cities	Korea, ... (Process)	5-7
	Implementing plans on the current maps in Geoportal	New Zealand, Indonesia, ... (Process)	6-8



Research on investigating disaster management Geoportals at the national and regional levels by Working Group2 in National Cartographic Center.  
(Final Report : Phase A result of WG2 Work plan& Appendix B)





# Implemented Sample of Disaster Management Geoportal :

- The initial plan of Asia and Pacific Disaster Management Geoportal was developed in Iran
- Data related to Iran has been placed in Geoportal for the issues of flood and earthquake.



The screenshot displays the Geoportal Disaster Management website. The header features a green navigation bar with links for Home, About Us, All News, and Contact Us. A login form is visible on the right side of the header, including fields for Username and Password, and options for Remember Me, Sign in, and Register Now. The main content area is titled "DISASTER MANAGEMENT FOR EARTHQUAKE" and includes a section for "About UN-GGIM" with a small globe icon. Below this, the "GENESIS OF UN-GGIM" section provides a detailed account of the organization's formation in 2009. The UN-GGIM-AP logo is positioned on the right side of the main content area. The footer contains the text "Website NCC National Cartographic Center" and "Programming Group Of GIS".

Username:

Password:

Remember Me?

[Sign in](#)

[Register Now](#)

## GEOPORTAL DISASTER MANAGEMENT

### DISASTER MANAGEMENT FOR EARTHQUAKE

#### About UN-GGIM

...

#### GENESIS OF UN-GGIM

In 2009, the United Nations Statistics Division/DESA (UNSD) convened in New York, on the side of the 9th United Nations Regional Cartographic Conference for the Americas (UNRCC-A), an informal consultative meeting with geospatial information experts from different regions of the world, and discussed how to better coordinate the various regional and global activities on geospatial information and the related management issues. Subsequent to the consultative meeting, the UNSD, jointly with the United Nations Cartographic Section, convened three preparatory meetings on Global Geospatial Information Management (GGIM): the first in Bangkok in October 2009, prior to the 18th UNRCC-AP, the second in New York, in May 2010, and the third one also in New York, in April 2011.

...

UN-GGIM-AP

Website NCC National Cartographic Center

Programming Group Of GIS



# WG2 Prototype Geoportal

- WG2 in cooperation with the Secretariat has released the WG2 proto-type Geoportal within the domain of UN-GGIM-AP
- After the Nepal earthquake struck on April 2015, InSAR-derived crustal deformation data using ALOS2 data, and Global Map data for elevation and land cover of central Nepal were shared through the Geoportal.

UN-GGIM-AP | UN-GGIM-AP Geoportal (proto-type) Links Sign In

Detail Manage Layers Basemap Measurement Find address or place

How to use:

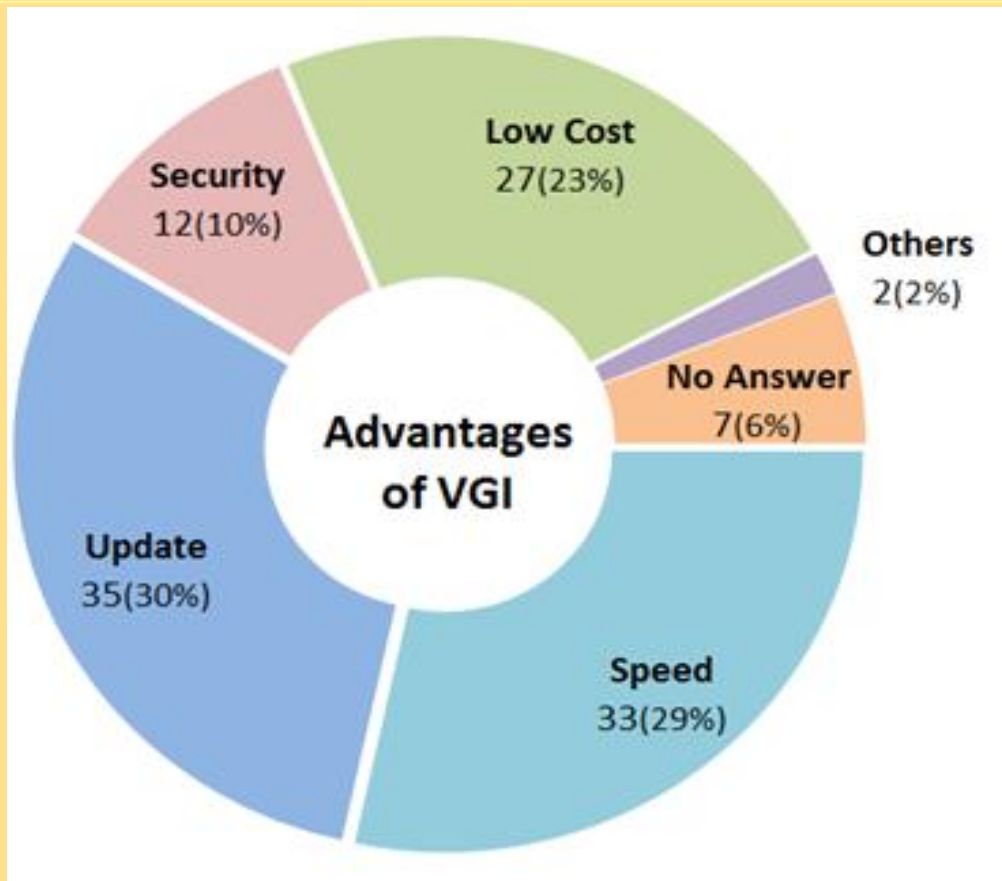
How to operate this geoportal is very easy. Follow the steps below:

1. **Select area**  
Navigate and zoom the map to somewhere or do a search by name or address
2. **Determine what do you want to be displayed.**  
Select the basemap then add your desired layer.
3. **Use the provided tools**  
We provide tools such as measurement to help your work.

<http://geoportal-prototype.un-ggim-ap.org/unggim>

# Volunteer Geospatial Information pilot research of Response Phase prepared by Korea:

## Questionnaire, Pilot VGI-Portal and Use-case





**Thank You  
and  
Good Luck**

