

The Second UN-GGIM-AP Plenary Meeting

# NCC roles in successful disaster response *I.R.IRAN*

Teheran Iran  
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National Cartographic Center (NCC)



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## Outline

- Types of natural disasters occur in IRAN
- Examples of these disasters
- Measures taken by NCC for disaster management
- Types of data collected and prepared by NCC for disaster management
- Equipment or technical methods used by NCC for disaster management
- Factors contributing to effective disaster preparedness by NCC
- Users of NCC's data and services
- Role of UN-GGIM-AP in disaster management



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## Types of natural disasters occur in IRAN

- Earthquake
- Landslide
- Flood
- Drought
- Avalanche
- Wildfire



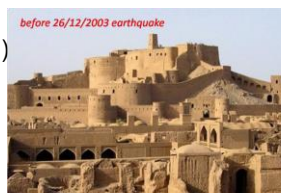
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## Examples of the disasters

- Earthquake
  - Bam, (2003, Mw 6.5)
  - Baladeh, (2004, Mw 6.2)
  - Ahar-Varzaghan, (2012, M 6.4 and M 6.3)
  - Booshehr, (2013, Mw 6.3)
  - Bashagard-Jask (2013, Mw 6.2)
  - Saravan (2013, Mw 7.2)
- wildfire
  - Golestan, 2010, 2013



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## Measures taken by NCC for disaster management

data acquisition  
for disasters  
management

spatial support  
atlas for  
earthquake  
management

SDI of disaster  
management

proper allocation  
for temporary  
settlement after  
disaster

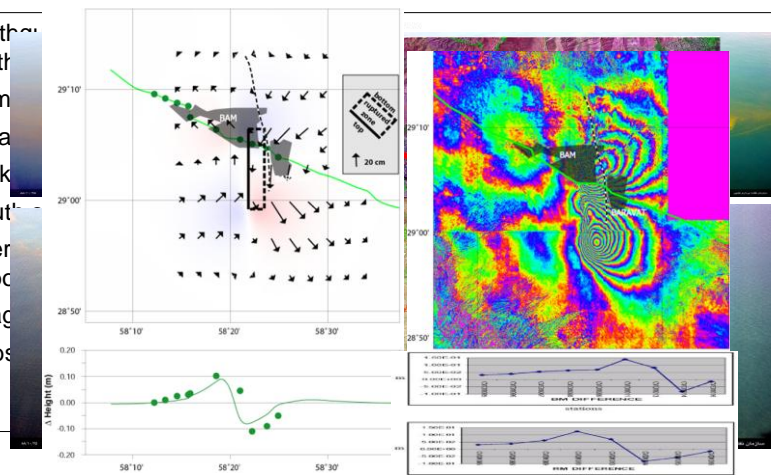


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## Data acquisition for disasters management

- Earthquake
- Earthquake
- Bam
- InSAR
- Kark
- South
- Azer
- airbo
- Imag
- Subs



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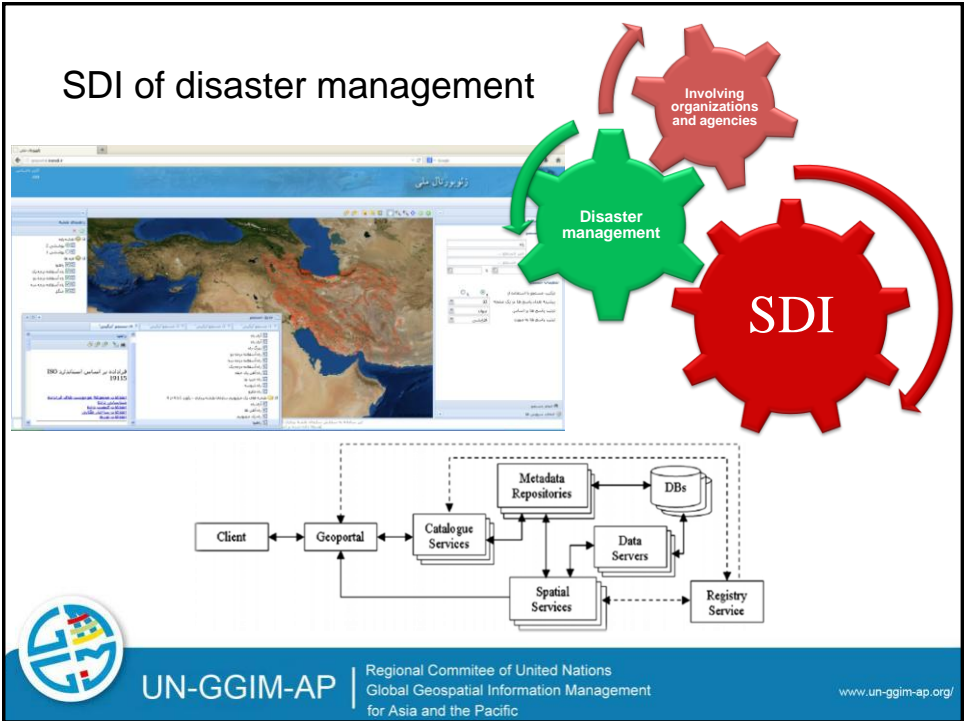
# Spatial support atlas for earthquake management

REQUIRED DATA TO MANAGE EARTHQUAKE

No	Feature Name	Feature Type	Attribute
1	Building	polygon	Administrative, Commercial, Industrial, Residential, Storey_No, Age, Building_Material
2	Water_Engin_Room	point	-
3	Water_Reservoir	polygon	-
4	Freeway	Polygon-line	Speed limit
5	Highway	Polygon-line	Speed limit
6	Main_Street	line	Width, number of bands-direction, Speed limit
7	Street	line	Width, number of bands-direction, Speed limit
8	Tramway	line	
9	Sidewalk	line	
10	Power_Line	line	
11	Gas_Pipe	line	
12	Water_Pipe	polygon	
13	Park	polygon	
14	Orchard	polygon	
15	Tress	polygon	
16	Forest	polygon	
17	Vineyard	polygon	
18	Pasture	polygon	
19	Camping_Area	polygon	
20	Public_Service_station	point -polygon	Type of station
21	Bridge	line	Type
22	Tunnel	Point- line	
23	Statistical_Block	polygon	Block code-population
24	Soil	polygon	
25	Fault	line	
26	Land_Cover	polygon	



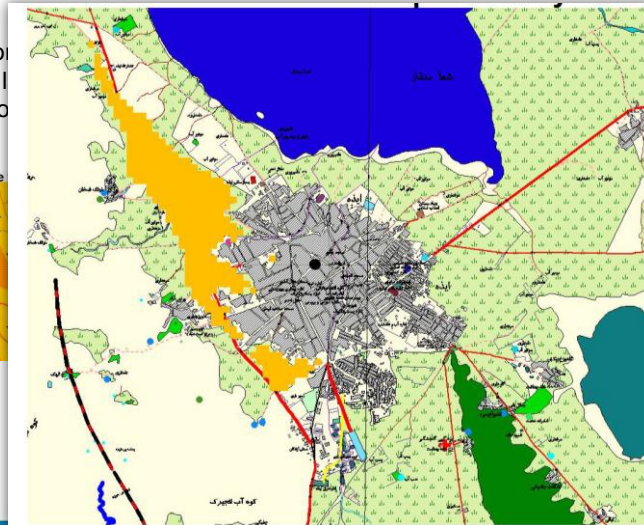
# SDI of disaster management



## Proper allocation for temporary settlement after disaster

- The color-coded map shows the distance from the faults, indicating areas that are exposed to seismic hazards.

Distance



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## Type of Data Collected and Prepared by NCC for disaster management

- National Geodatabase includes:
  - The vector layers of Topographic Basemaps at 1:25000 and 1:1000000 scales from whole country
  - The vector layers of Geological maps at 1:100000 scale covering whole country
  - ETM Image coverage of whole country (15m)
  - DTM of whole country (10m)
  - SPOT Images of whole country (2.5m)
  - IRS Images of whole country (5m)



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## Type of Data Collected and Prepared by NCC for disaster management

- General topographic, thematic and image maps
  - Supporting rescue Teams with Different kinds of **thematic maps** of affected areas before and after disaster;
  - Production of **Atlases** in different subjects, such as "POPULATION, GEOLOGY, ROADS, ... for pre-disaster preparation;
  - Development of the **Geographic Names Database** to guide rescuers in locating villages and small inhabited places in post Disasters phase.



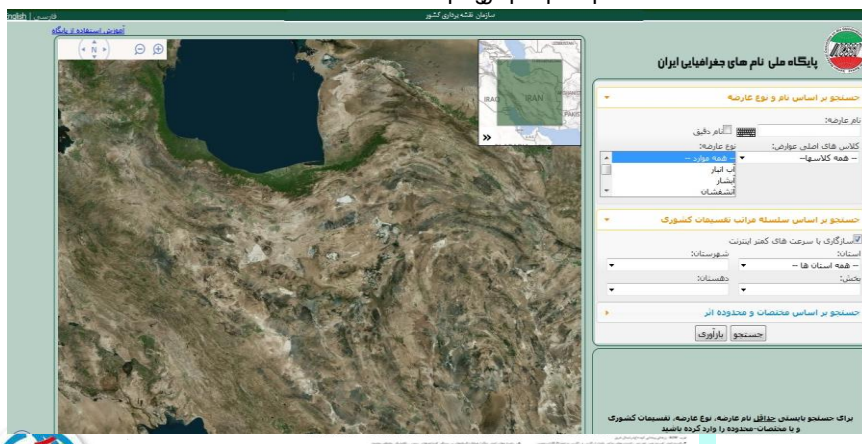
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## Type of Data Collected and Prepared by NCC for disaster management

### Geographic Name Database Search Engine



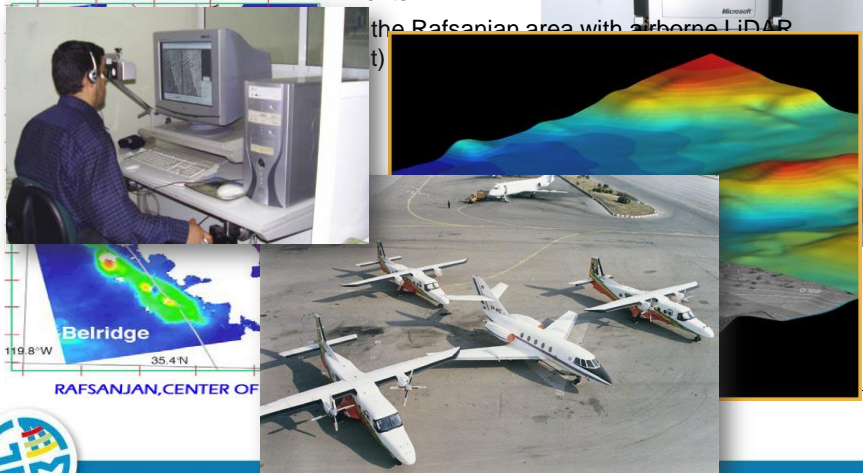
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## Equipment or technical methods used by NCC for disaster management

- digital aerial mapping equipments

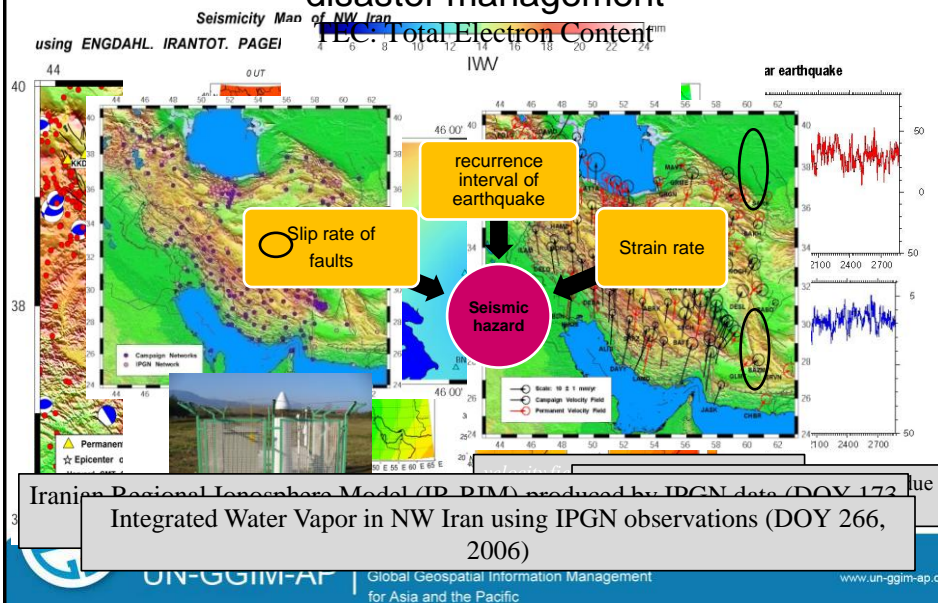


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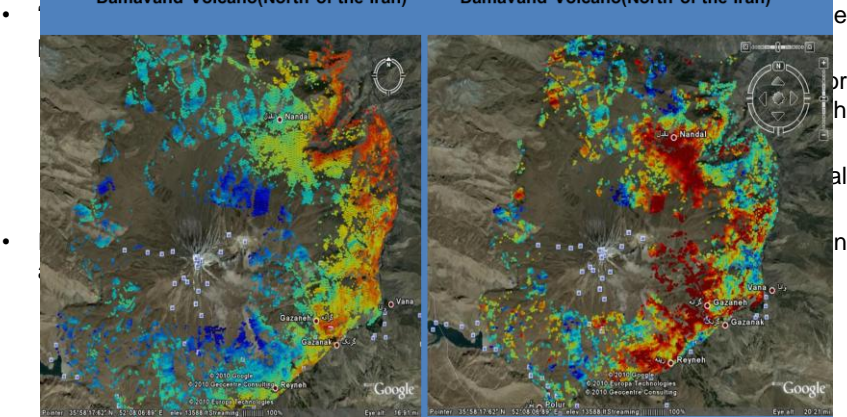


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# Equipment or technical methods used by NCC for disaster management

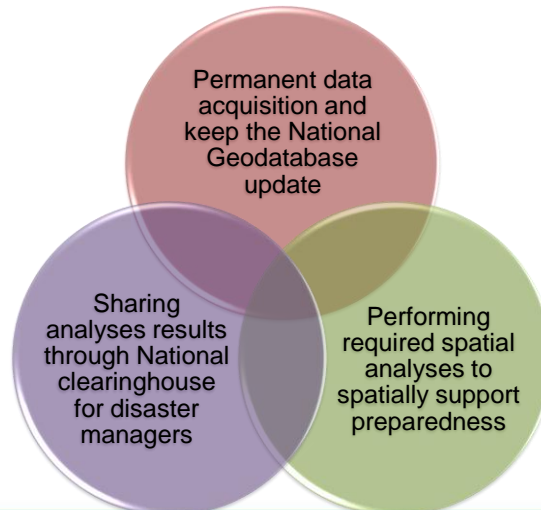


# Equipment or technical methods used by NCC for disaster management





## Factors contributing to effective disaster preparedness by NCC



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## Users of NCC's data and services

Ministries and  
governmental  
organizations

Private and  
Public  
sectors

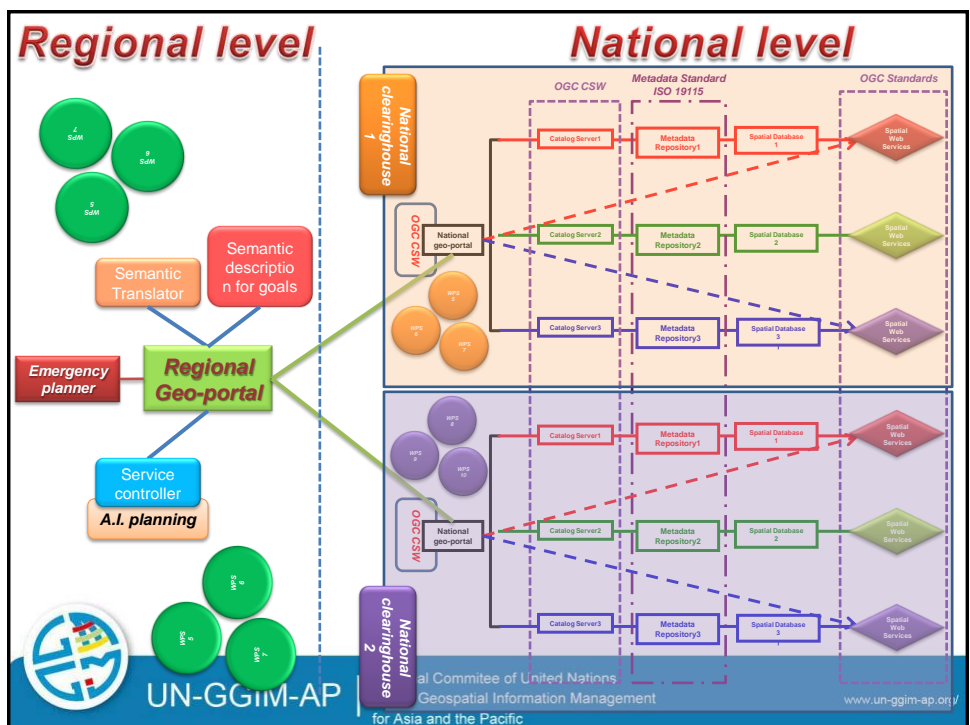
Academies,  
...



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