Counter measures against disasters in Japan and promotion of approaches for disaster risk reduction in each member states of the UN-GGIM-AP

20th United Nations Regional Cartographic Conference
for Asia and the Pacific (UNRCC-AP)
Jeju Island, Republic of Korea, 7th October 2015

Toru NAGAYAMA
Geospatial Information Authority of Japan (GSI)

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1. Vulnerable Asia and the Pacific
2. Geospatial activities for DRR – Japanese NGIA case
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4. Strengthening NGIAs' role for DRR

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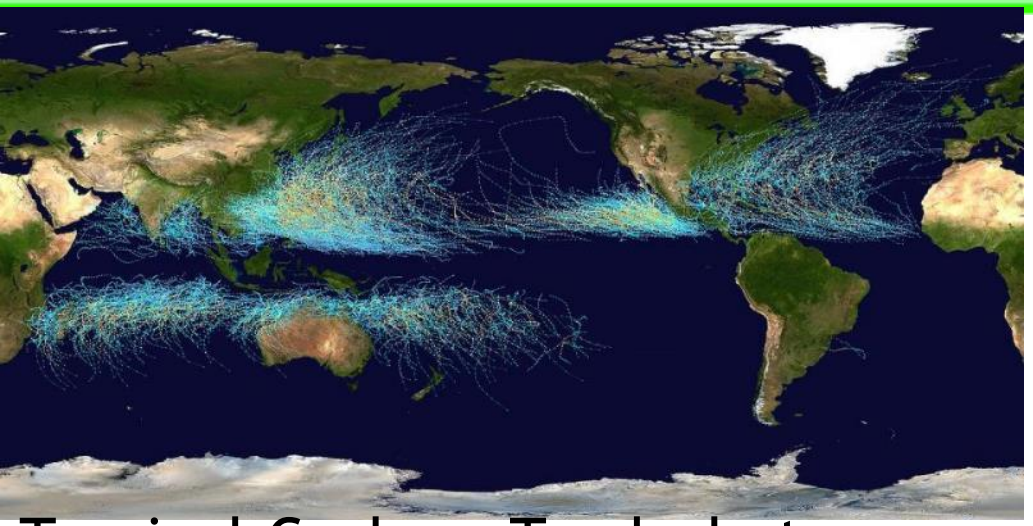
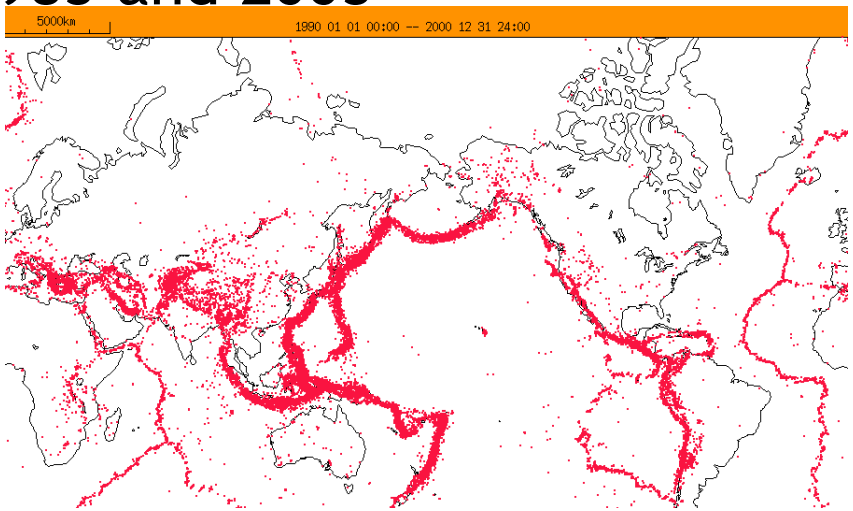
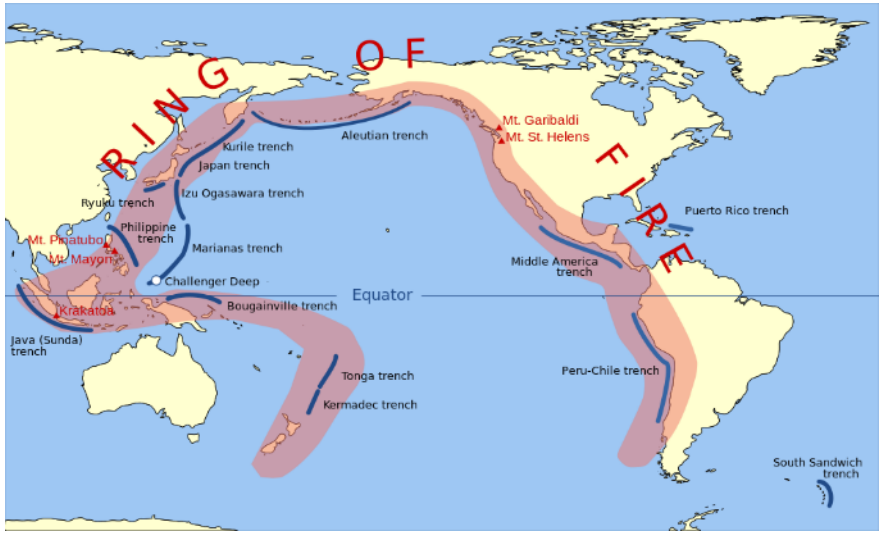
Disasters in Asia-Pacific Region



Tropical Cyclone Tracks between 1985 and 2005



Hypocenter Distribution of Earthquake from 1990 to 2000



Ring of Fire

Asia-Pacific share of disaster loss

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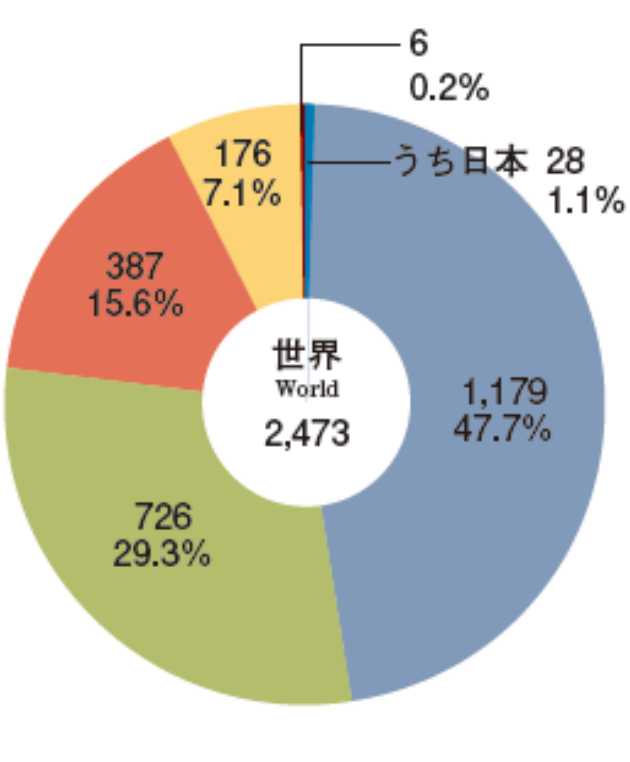
Casualties (thousanads)

47.9%

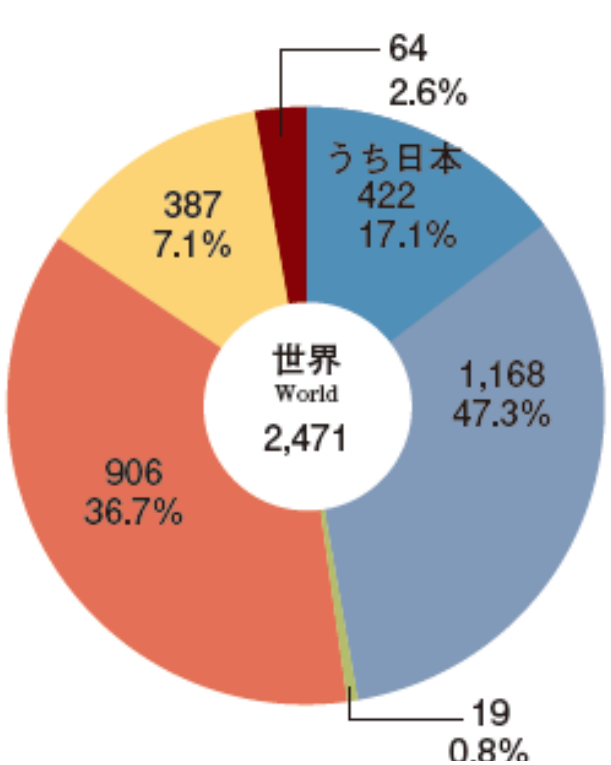
1,185 thousands

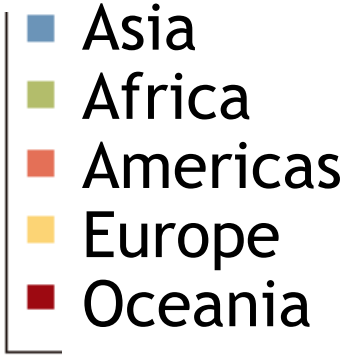


Damage (bil. US$)

49.9%

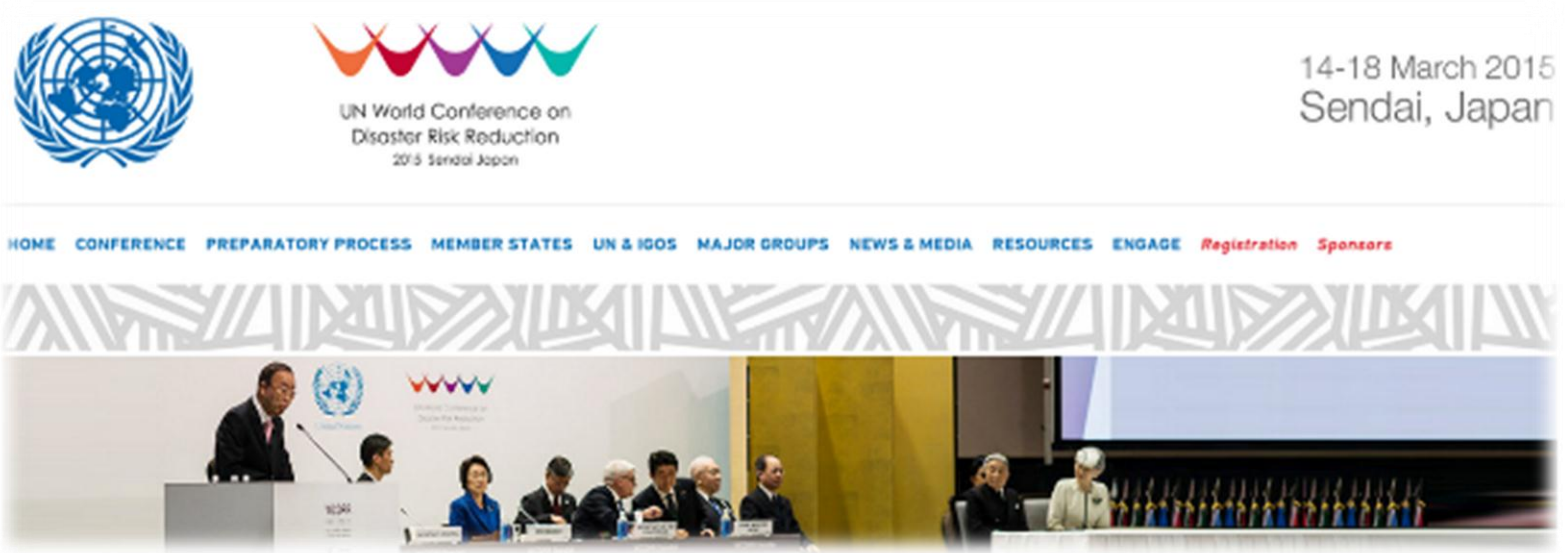
1,232 bil. US$





SFDRR to reduce disaster risk

- Sendai Framework for Disaster Risk Reduction (SFDRR)
- Adopted by UN World Conference on Disaster Risk Reduction in March 2015
- Endorsed by UN General Assembly
- 15-year plan (2015-2030)



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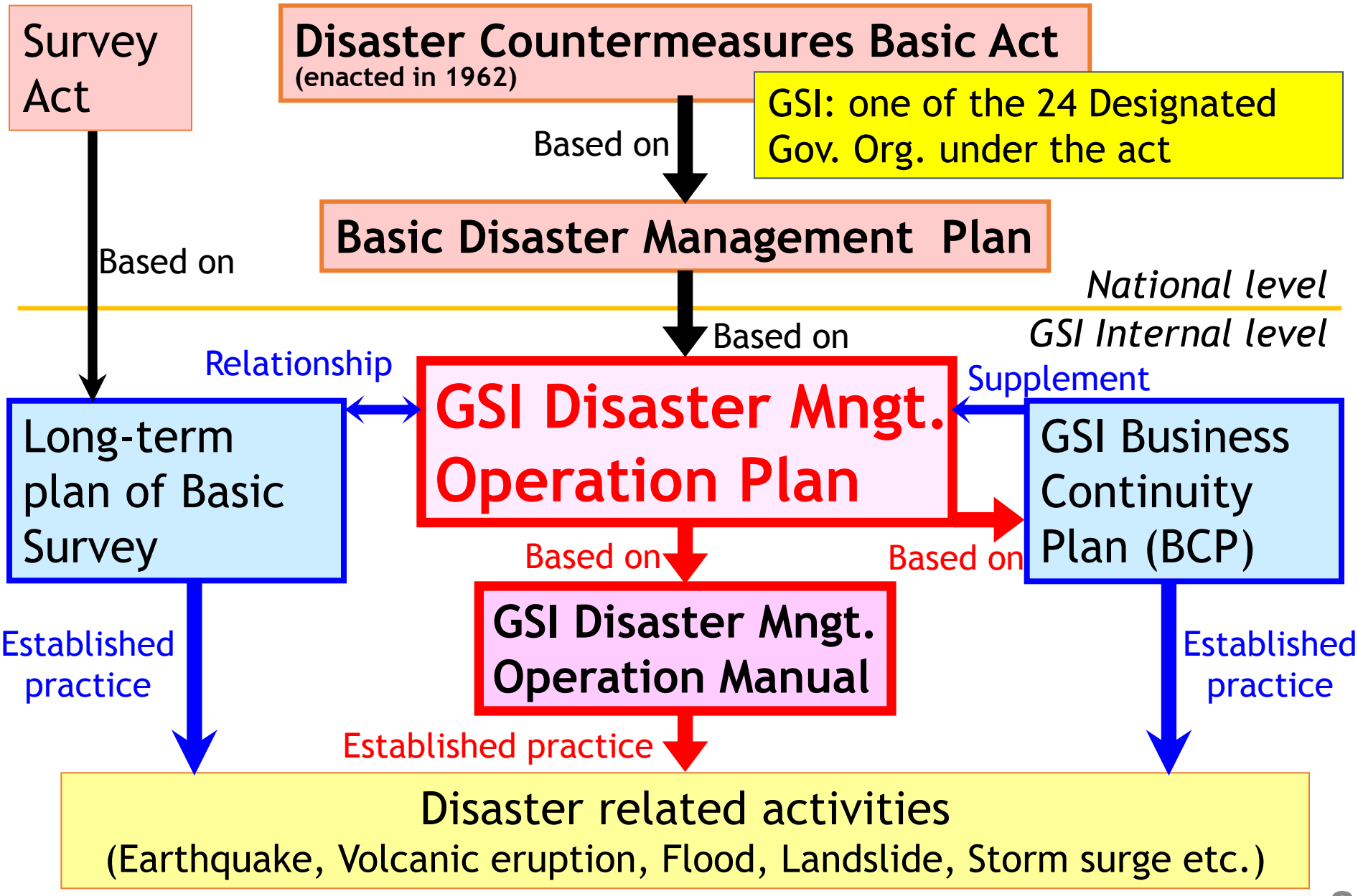
Policy Framework



Ground Surface Movement

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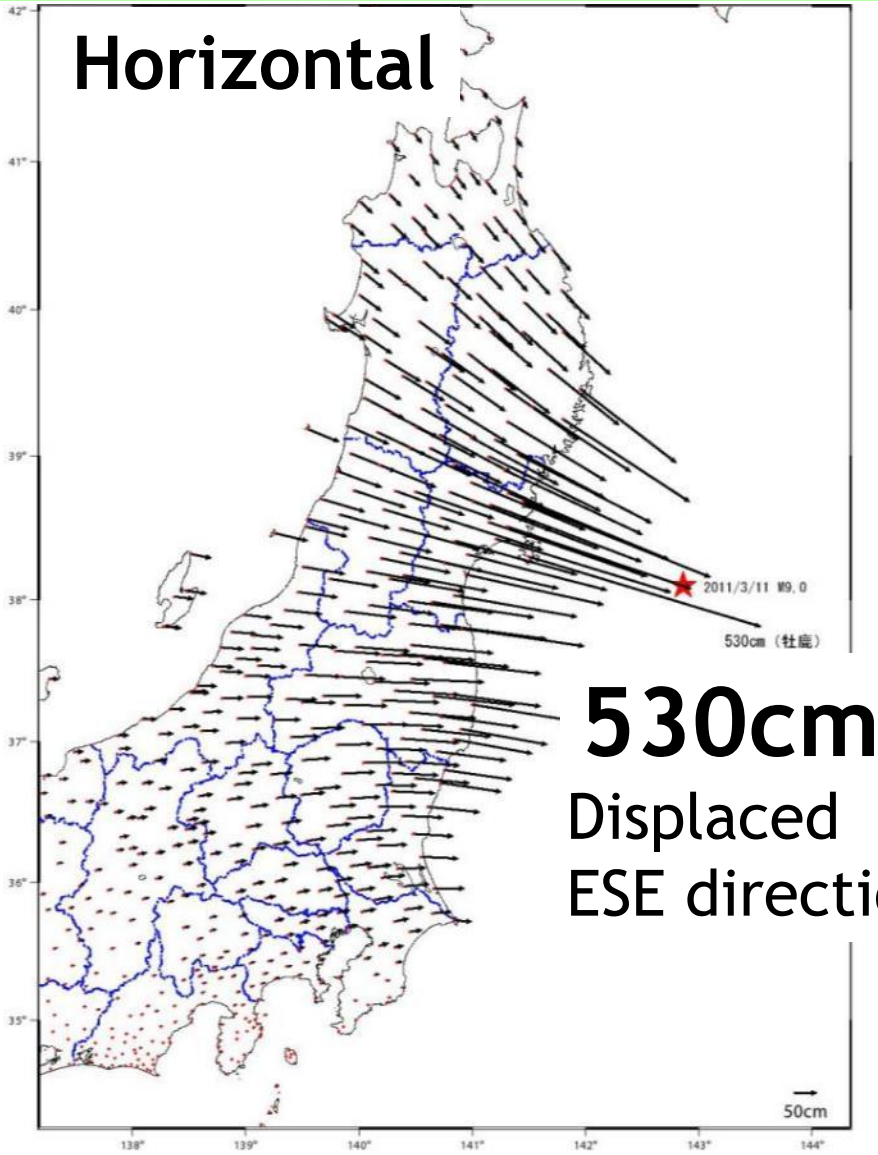
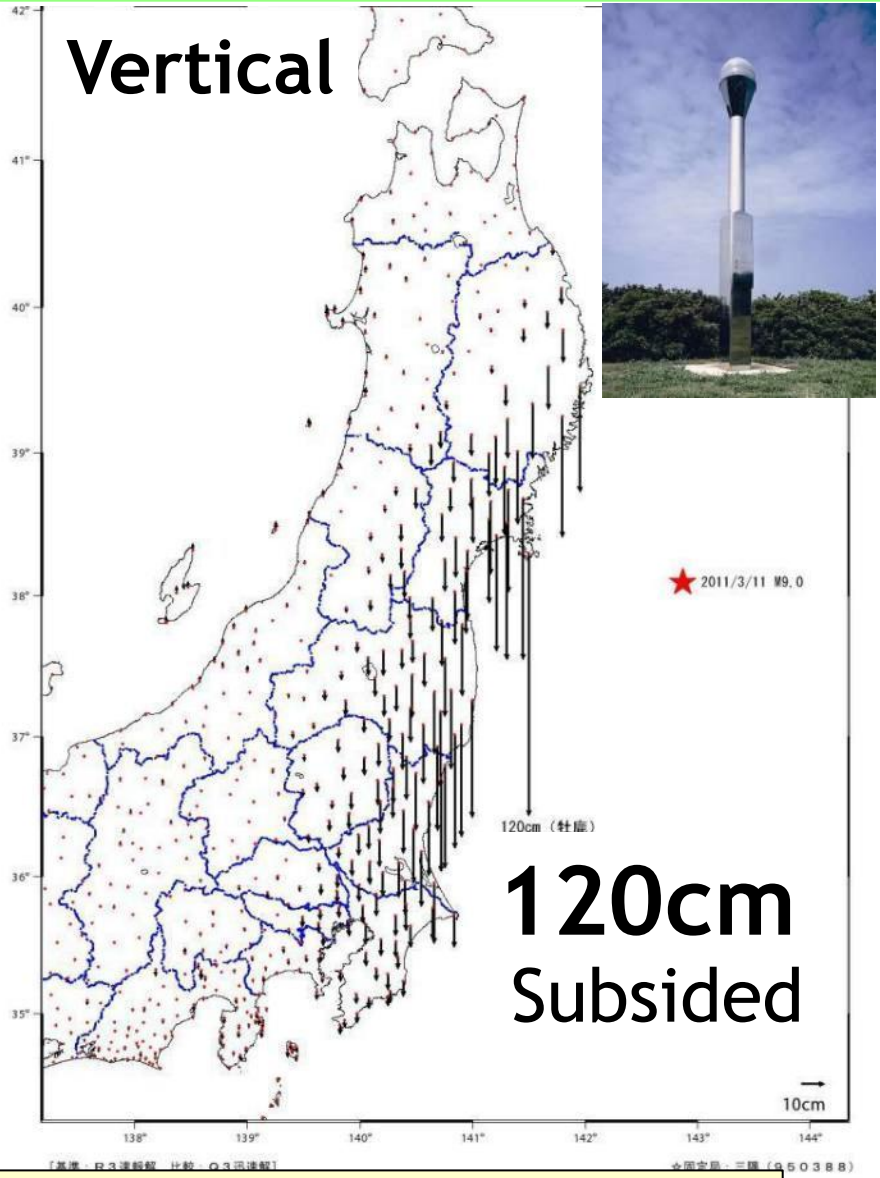


530cm
Displaced
ESE direction



120cm
Subsided

Japanese CORS network (GEONET) detected

Aerial Photos

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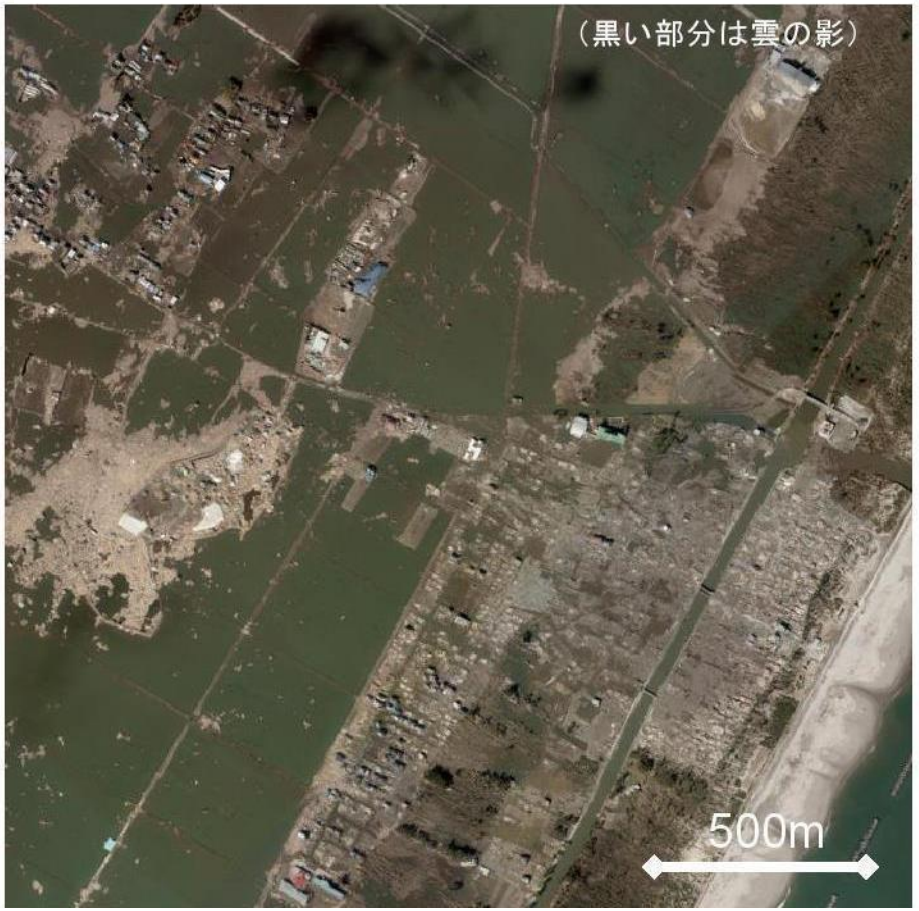
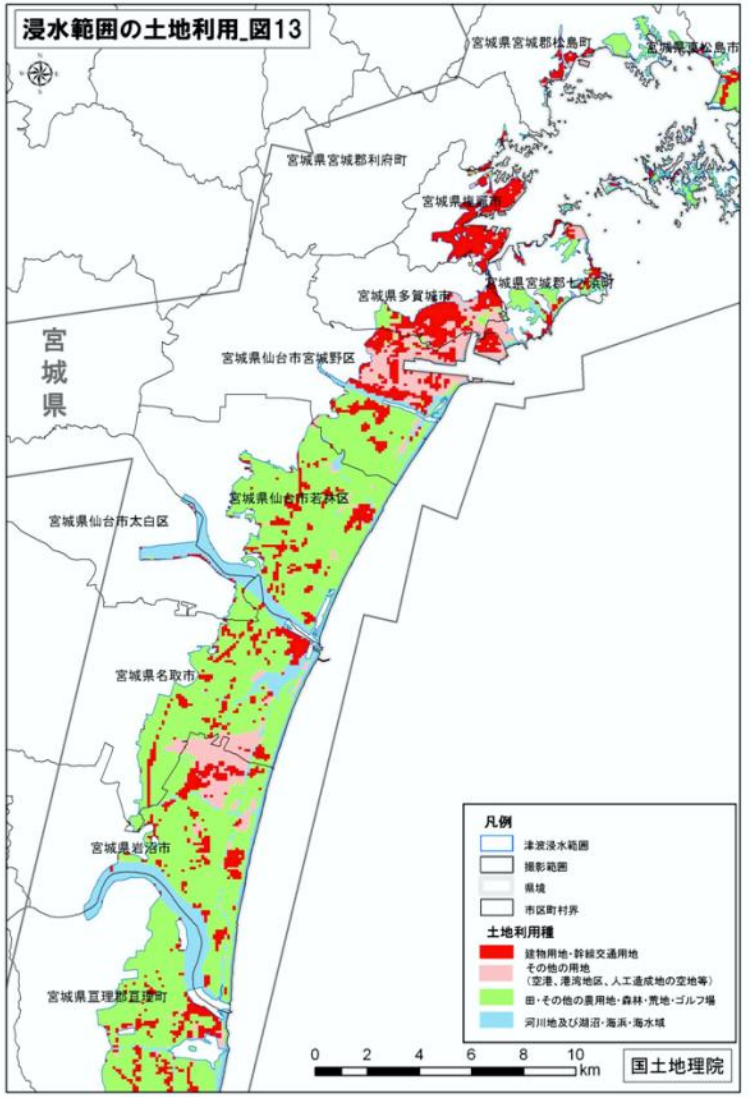
Before (October 2006)

After (12 March 2011)



Pairwise comparison tells the magnitude of tsunami devastation

Inundated areas by tsunami



Interpreting Aerial photographs,
Delineated Tsunami inundated areas: 561 sq. km

Interferometric Synthetic Aperture Radar (InSAR)

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© JAXA

ALOS-2 Satellite

Image of Advanced Land Observing Satellite-2 (ALOS-2) “Daichi-2” (launched in May 2014)

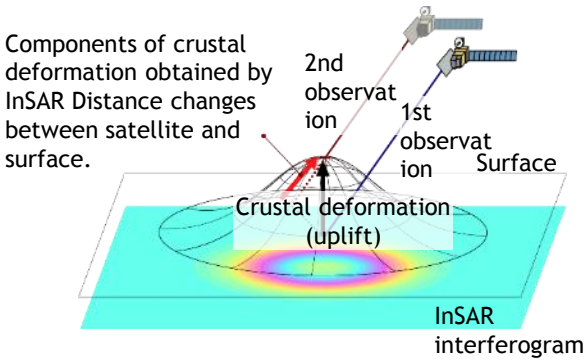
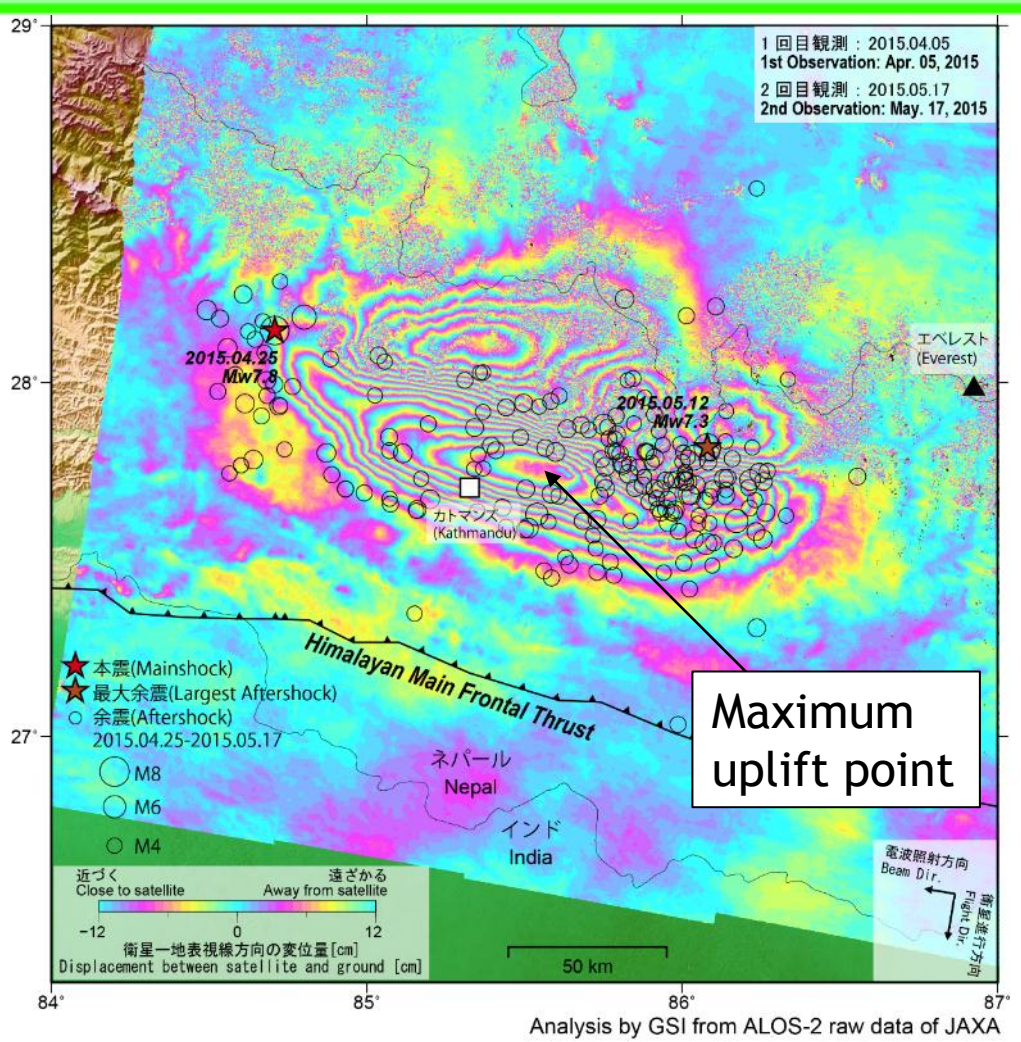


Illustration of InSAR technique



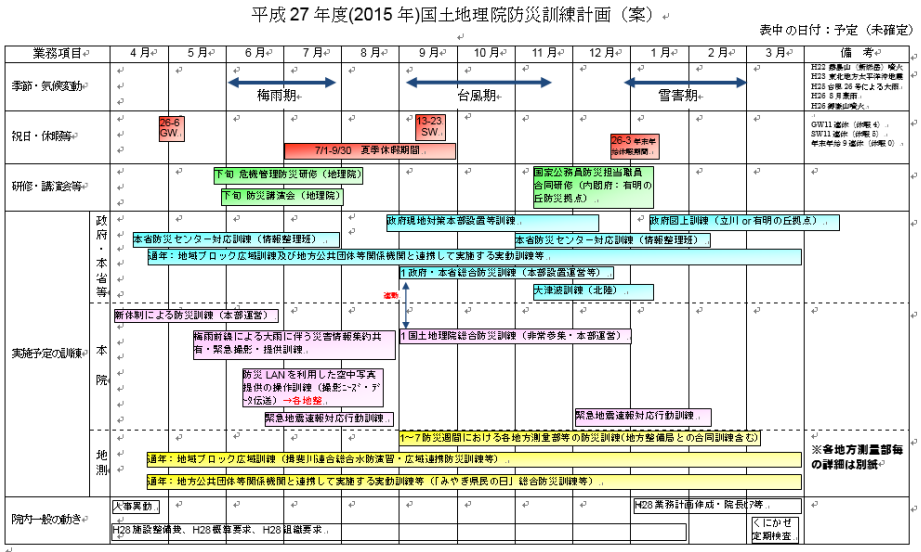
The 2015 Nepal Earthquake: Crustal deformation detected by ALOS-2 data

Emergency Headquarters (EHQs)

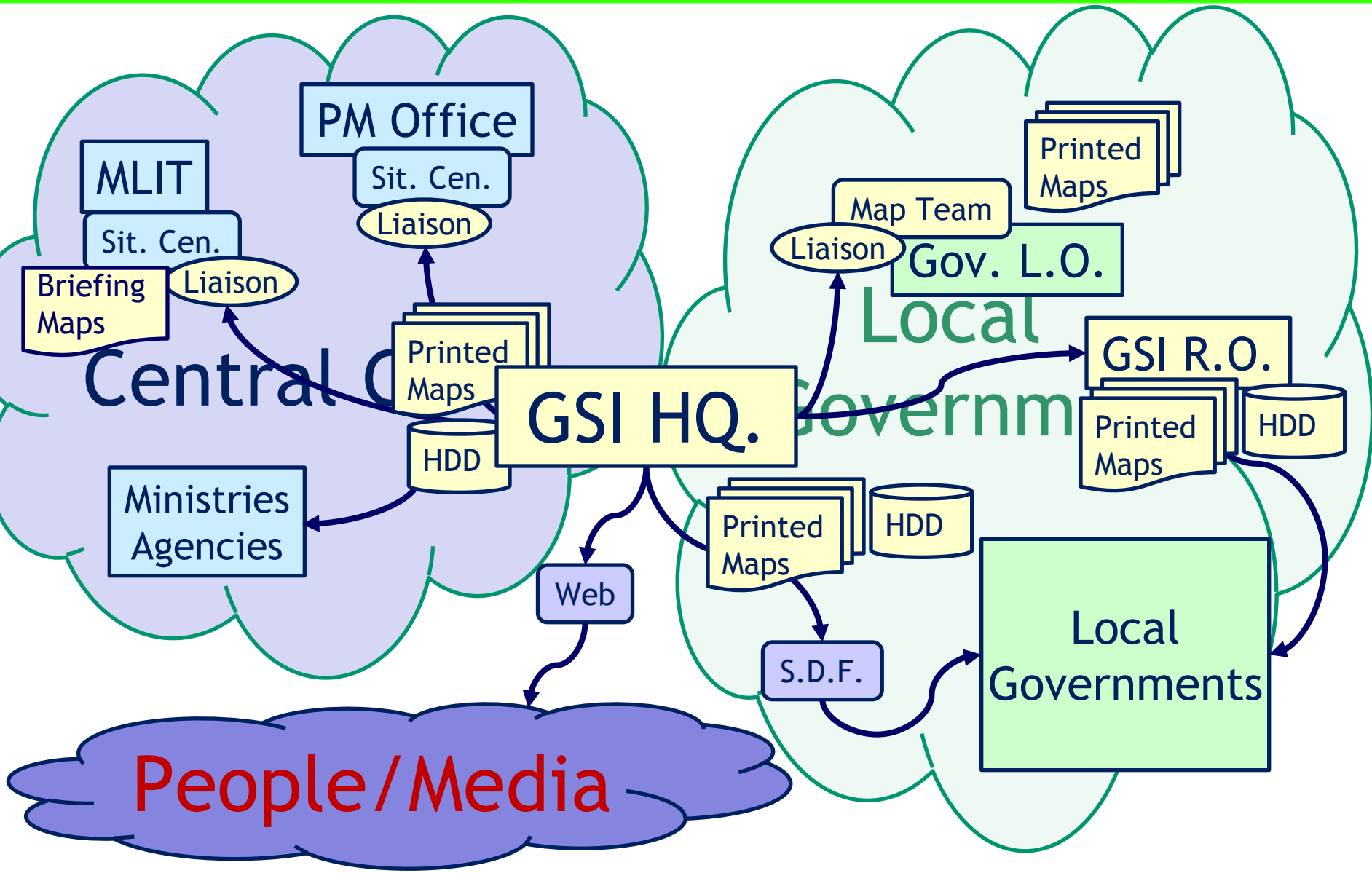
Decision making body by board members, equipped with telecommunication facilities

Disaster Response Drilling

- Capacity building for quick disaster response and decision-making
- Regular drills
  - New Fiscal Year (April)
  - Before rainy and typhoon season (June)
  - National disaster prevention day (September)
- Non-regular drills
- Annual plan
- PDCA for continuous improvement



Outreach toward stakeholders



Distribution channels

-in case of Great East Japan Earthquake (2011)

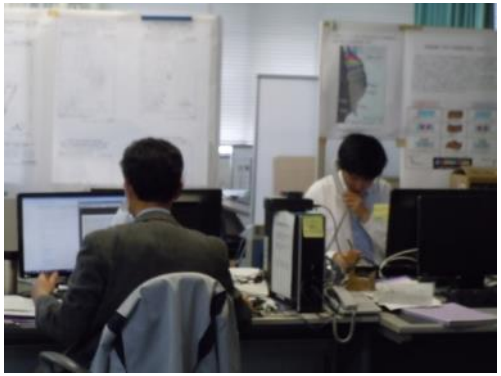
(1) Liaisons stationed in Sendai city

*Map and Data provision to organizations which conduct rescue and recover activities

(2) Geospatial Info. Support Team

*One stop center at GSI HQs,

*1,570 requests (by 2012/9/30) (1)+(2)



(3) Website at http://www.gsi.go.jp

*For the general public

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Major outputs of WCDRR

Adoption:

- **Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR)**
- Sendai Declaration

Endorsed by UNGA

United Nations A/RES/69/283

General Assembly

Distr.: General
23 June 2015

Sixty-ninth session
Agenda item 19 (*c*)

Resolution adopted by the General Assembly on 3 June 2015

[*without reference to a Main Committee (A/69/L.67)*]

69/283. Sendai Framework for Disaster Risk Reduction 2015–2030

The General Assembly,

Recalling its resolution 67/209 of 21 December 2012, in which it decided to convene, in early 2015, the Third World Conference on Disaster Risk Reduction, as well as its resolutions 68/211 of 20 December 2013 and 69/219 of 19 December 2014 and its decision 69/556 of 5 March 2015,

- Stakeholders' voluntary commitments

Four Priorities for action in SFDRR

1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

Priority 1. Understanding disaster risk

- National and local levels; (para 24):
  - (c) Develop, periodically update and disseminate, as appropriate, location-based disaster risk information, including risk maps, to decision makers, the general public and communities at risk of exposure to disaster in an appropriate format by using, as applicable, geospatial information technology;
  - (f) Promote real-time access to reliable data, make use of space and in situ information, including geographic information systems (GIS), … to enhance measurement tools and the collection, analysis and dissemination of data;

Priority 1. Understanding disaster risk

- Global and regional levels; (para 25):
  - (c) Promote and enhance, …, access to and the sharing and use of non-sensitive data and information, as appropriate, communications and geospatial and space -based technologies and related services;
  - (g) Enhance the scientific and technical work on disaster risk reduction and its mobilization through the coordination of existing networks and scientific research institutions at all levels and in all regions, with the support of the UNISDR Scientific and Technical Advisory Group, in order to: … disseminate risk information with the best use of geospatial information technology;

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SFDRR: Opportunity for NGIAs

Geospatial Information Authority of Japan

Potential Outputs

- Clarify NGIAs contribution areas to DRR
- Enhance NGIAs capacity for DRR
- Demonstrate NGIAs capacity for DRR

Potential Outcomes

- Ensure SFDRR implementation
- Show geospatial information usability for DRR
- Change people's perception on NGIA; user oriented, responsive to emergency

Activity Proposal for GGIM-AP

- **Study** present NGIA's role for DRR
- **Collect** and **share** best practices
- **Find** future NGIA's role for DRR
- **Find** geospatial contributions areas for SFDRR implementation
- **Produce** a guideline for NGIAs to commit geospatial activities for effective implementation of SFDRR

Conclusions

1. Asia-Pacific; vulnerable to disasters
2. SFDRR calls NGIAs to work on DRR
3. Learn and share good practices of NGIAs for DRR
4. Time to act; GGIM-AP to help NGIAs contribute to DRR