Geospatial Information Data and Technology on Disaster Management Activities

Shoichi OKI …

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Co-chair WG Disaster of UN-GGIM
Director General of Geodesy, GSI, Japan

Contents

1. Sendai Framework and UN-GGIM(-AP)
2. Hazards in Asia Pacific Region
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   (a) 2019 Typhoon No.19
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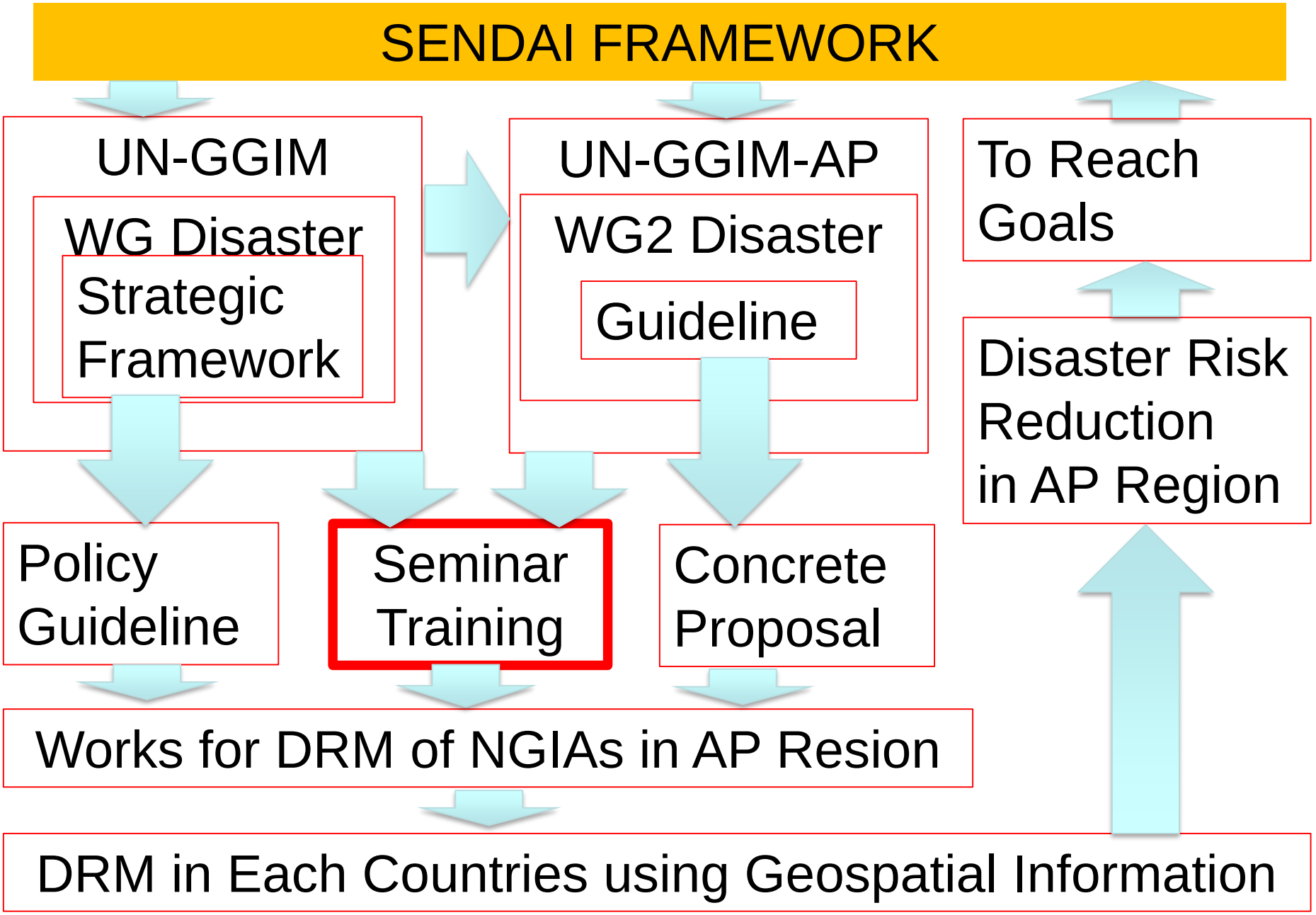
   (c) 2018 Heavy Rain
4. Shear the Experiences and Capacity Building
   - WG Disaster Conference TOKYO 2020 -

Sendai Framework and UN-GGIM(-AP)



UN-GGIM-AP: Working Groups

WGs (up to Nov.2018)

WG1 : Geodetic Reference Framework for Sustainable Development

WG2: Disaster Risk Management

- This WG aims to enhance the capability of NGIAs in Asia and the Pacific region for contributing to disaster risk reduction by applying geospatial information for effective implementation of Sendai Framework for Disaster Risk Reduction (SFDRR).

WG3: Regional SDI

WG4: Cadastre and Land Management

UN-GGIM-AP: Recent Output for DRM

Guidelines for Disaster Risk Management
Using Geospatial Information and Services

Eruption of Pinatubo Volcano (left) and Pinatubo Crater at normal time (upper and lower right)
Photos by PHIVOLCS-DOST, the Philippines

Working Group on Disaster Risk Management (WG2),
Regional Committee of the United Nations
Global Geospatial Information Management
for Asia and the Pacific (UN-GGIM-AP)

November 2018

Guidelines for DRM to assist NGIAs on taking actions against natural disasters

- International trend in utilization for DRM
- Summary of SFGISD – explore strategic viewpoint of NGIAs to manage disaster risk
- Policy and measures NGIAs can take before, during and after disasters
- Collection of Best Practices and actions by NGIAs

Mr. Magayama
GSI, JAPAN

UN-GGIM:
WG on Geospatial Information and Services for Disasters

UN ECOSOC adopted the resolution entitled "Strategic Framework on Geospatial Information and Services for Disasters" tabled by the **Philippines** and Jamaica.

(02 July 2018)

Dr. Peter Tiangco
NAMRIA

UN-GGIM:

WG on Geospatial Information and Services for Disasters

- Task Group A:

Disaster Implementation and Monitoring

- Task Group B: Lead Mr. Fujimura, GSI

Disaster Scenario Based Design and Implementation

- Task Group C:

Common Disaster Statistical framework

- Task Group D:

Integrated Geospatial Information on Disasters

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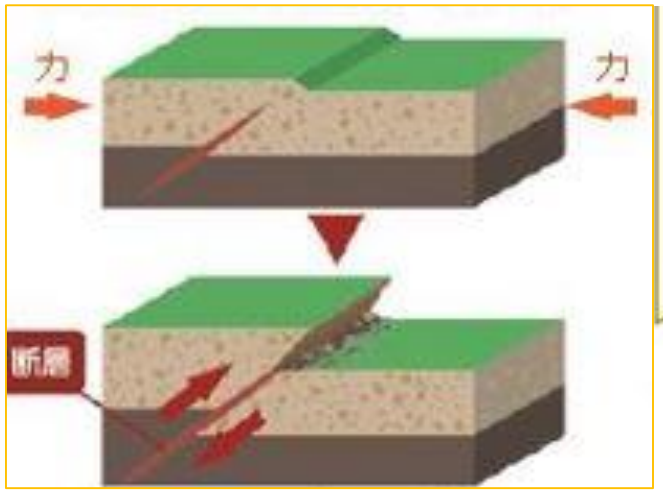
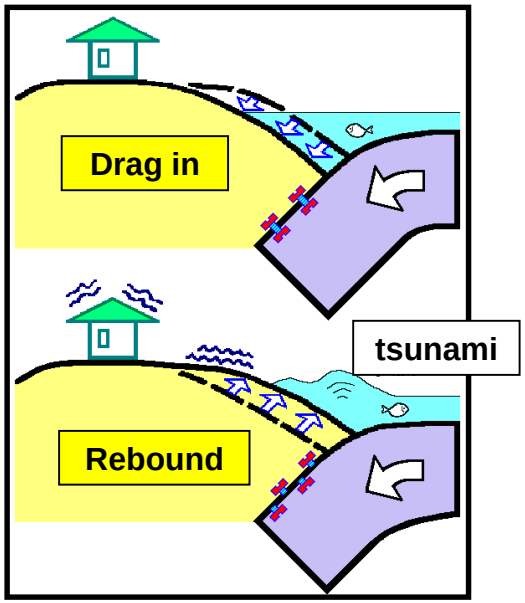
Plate Motion detected by GGOS

Chair
Mr Basara MIYAHARA

CNES

Plate Motion and Earthquake / Volcanic Eruption



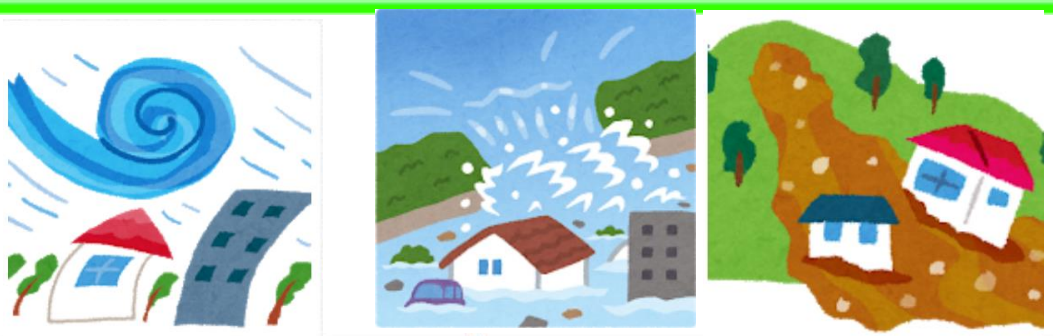


Seismicity Map of the World

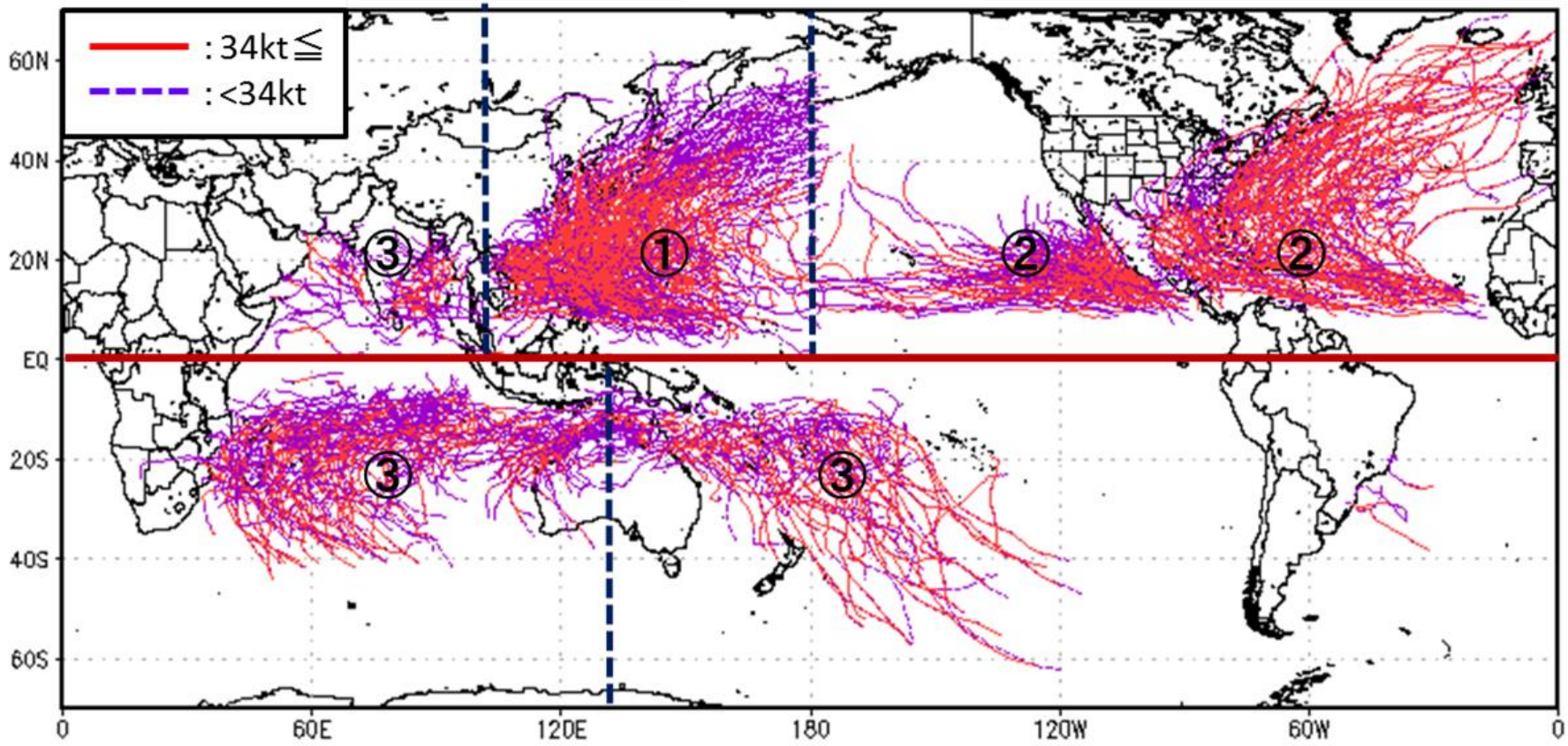
Earthquakes > M5.0 in 1977-2014

Earthquake Research Institute, University of Tokyo, http://www.eri.u-tokyo.ac.jp

Typhoon, Hurricane and Cyclone



2000-2011



Source: HIROSE, Yokohama National University

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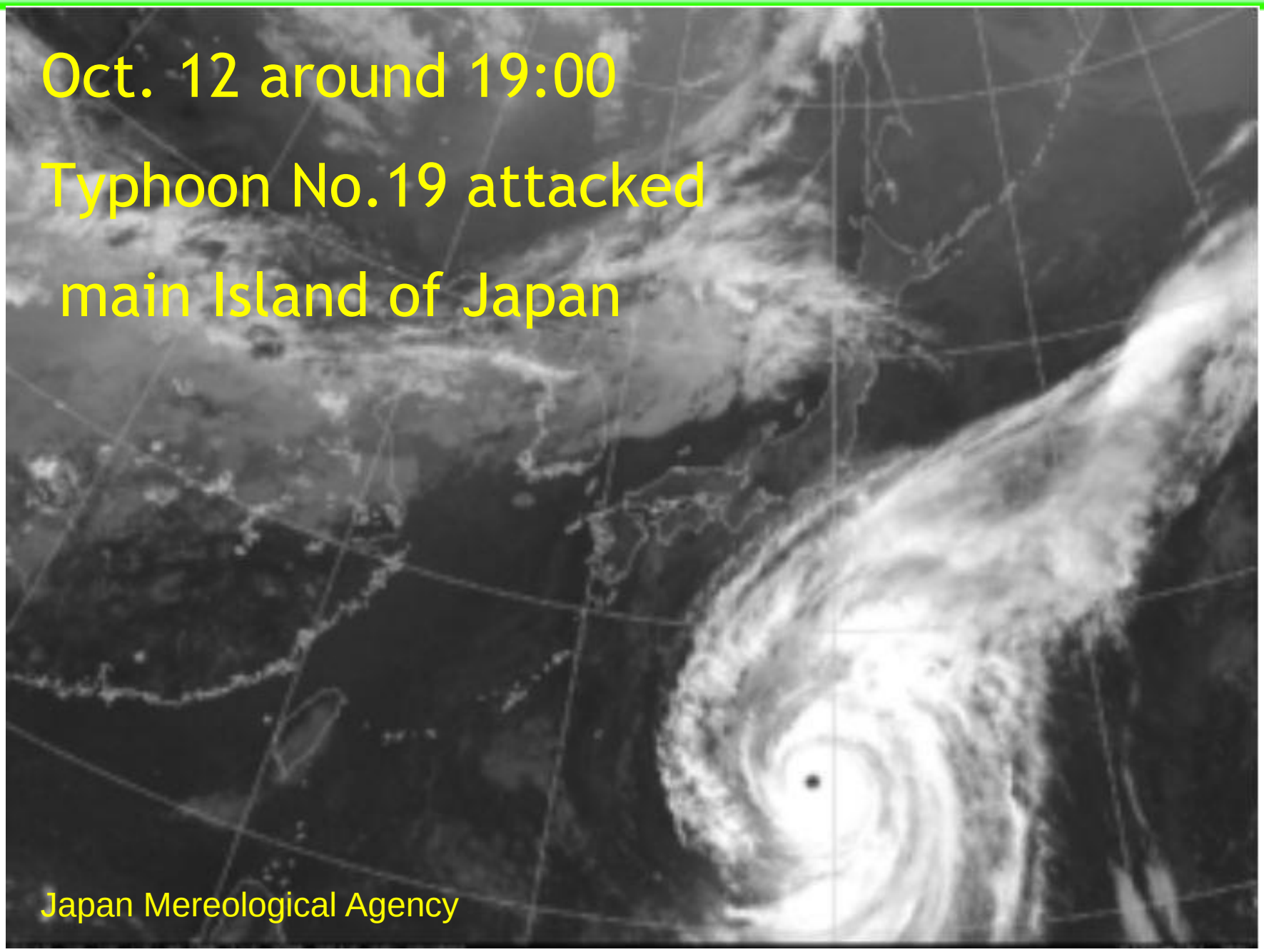
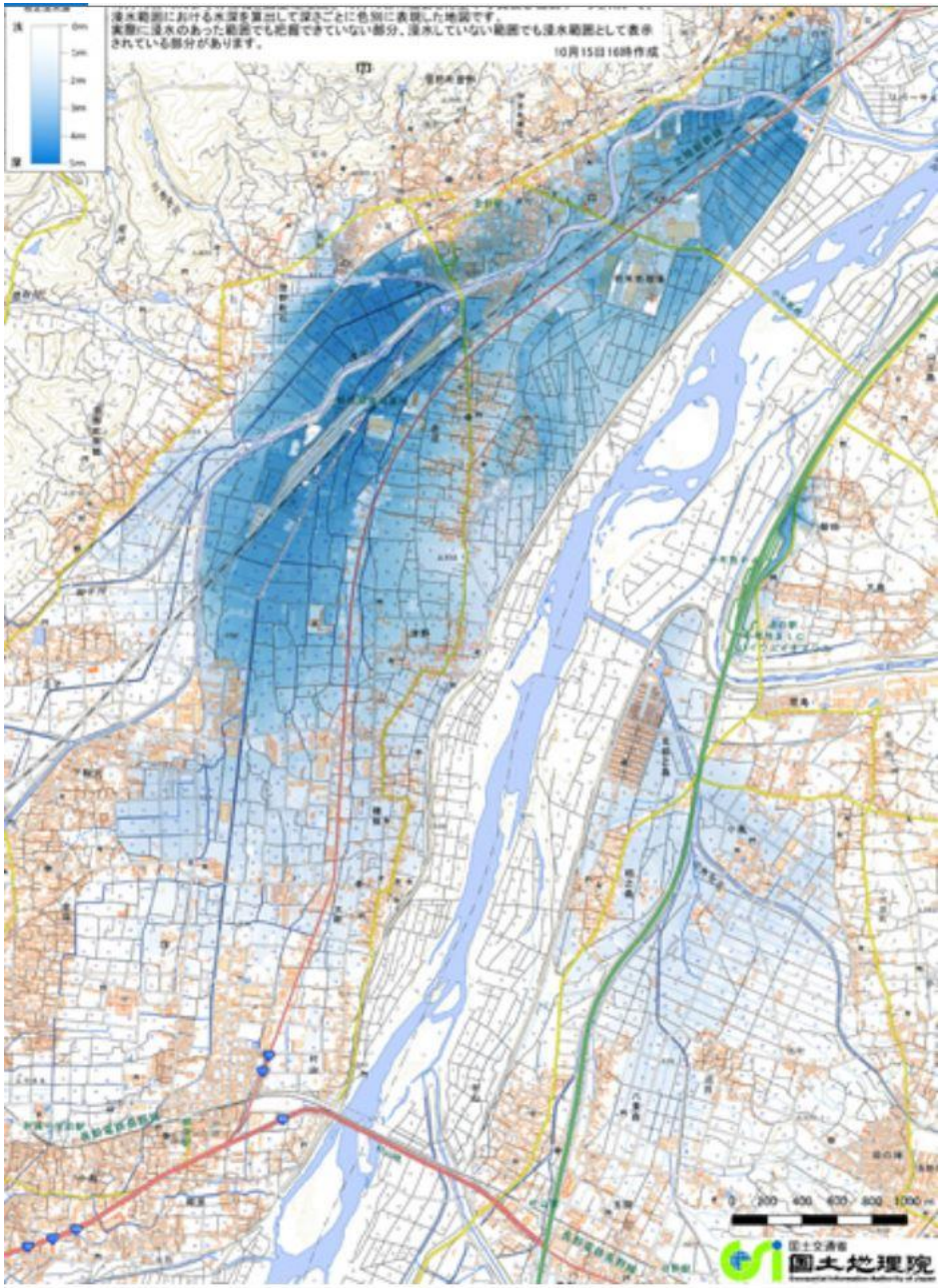
(a)2019 Typhoon No.19



(a)2019 Typhoon No.19



Oct. 12 around 19:00

Typhoon attacked

main Island of Japan

Oct. 13

GSI took Arial Photos,

estimated flood map,

published on WEB map

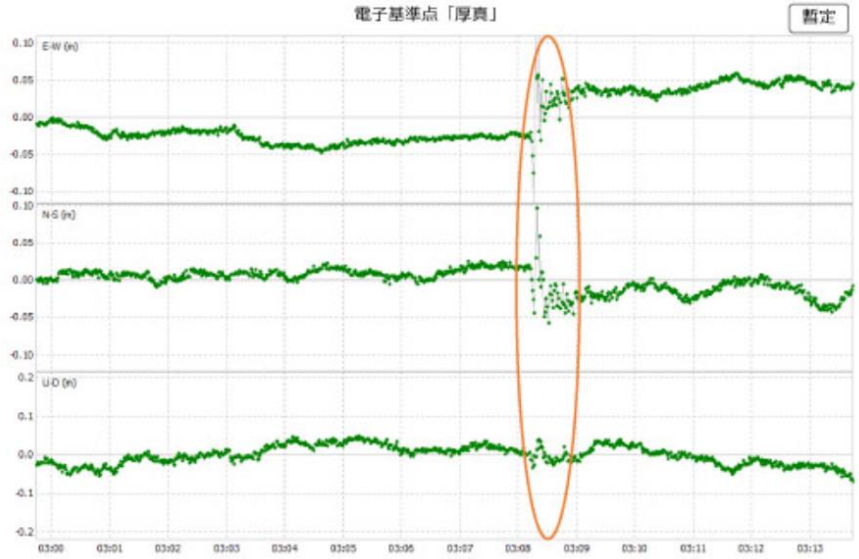
(b)2018 Hokkaido Eastern Iburi Earthquake

Sep. 6 around 03:08

M6.7 Earthquake

attacked Hokkaido

電子基準点「厚真（950132）」（厚真町）



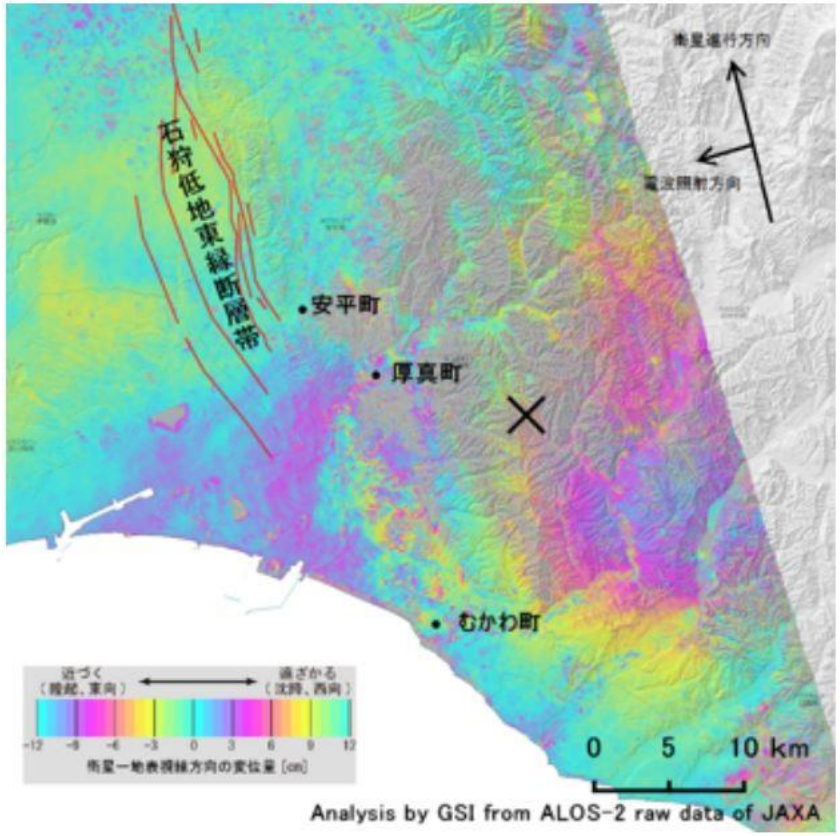
Sep. 6 around 03:08

Real Time CORS

Analysis by GSI

was reported

(b)2018 Hokkaido Eastern Iburi Earthquake



Sep. 6 around 03:08

M6.7 Earthquake

attacked Hokkaido

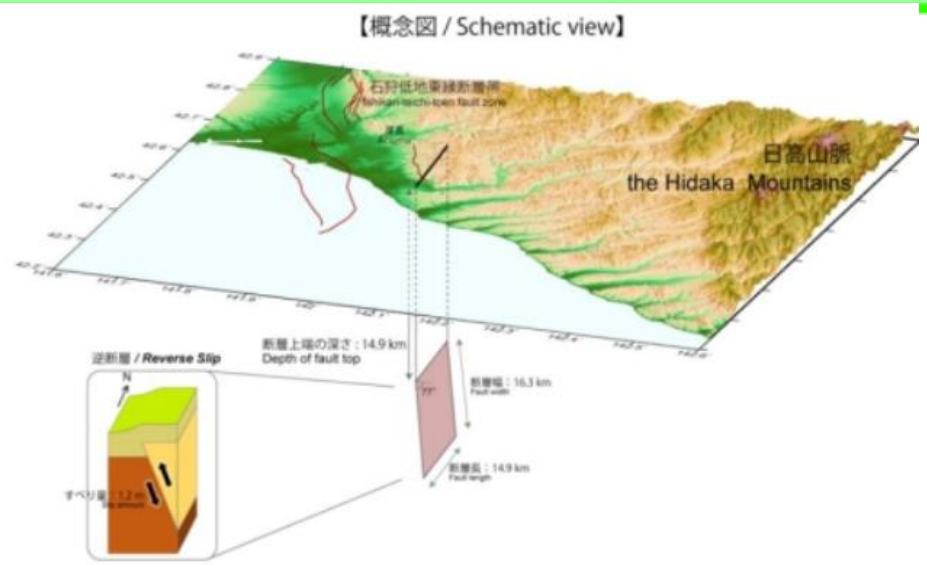
Sep. 6 11:41

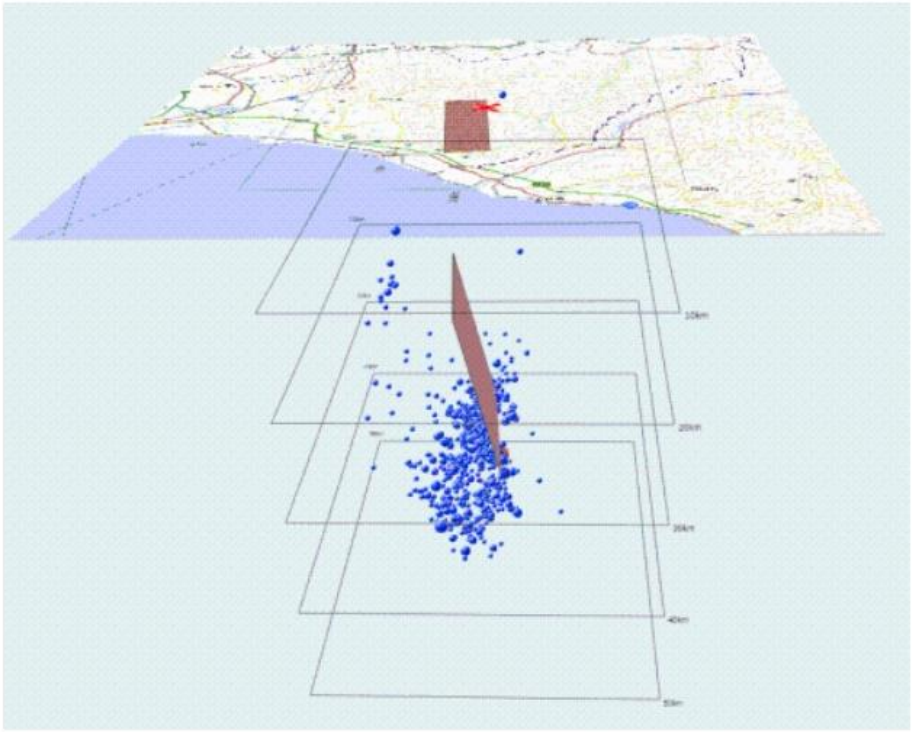
ALOS2 Satellite InSAR

Observation by JAXA

Analysis by GSI

(b)2018 Hokkaido Eastern Iburi Earthquake





Sep. 6 around 03:08

M6.7 Earthquake

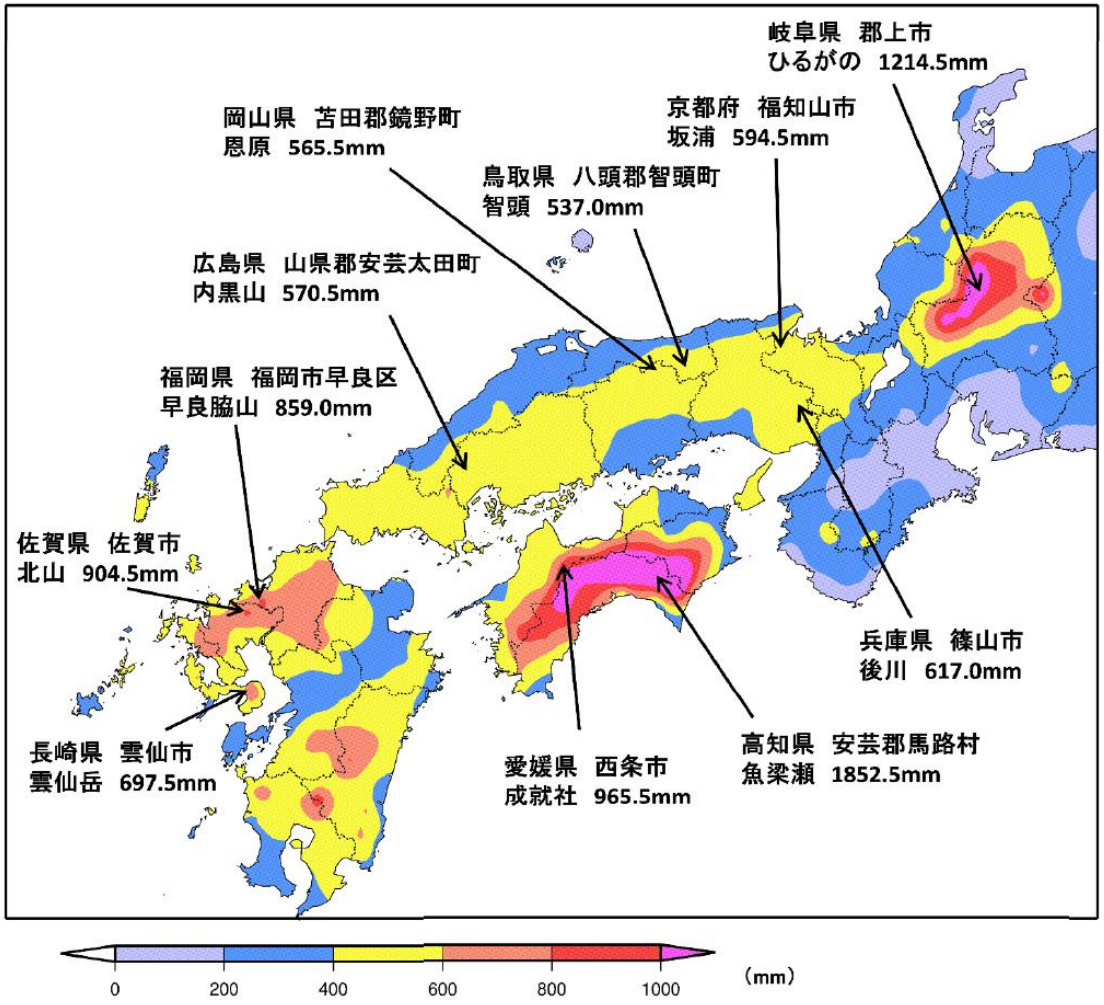
attacked Hokkaido

Fault Modelling from

CORS + Satellite SAR

(c)2018 Heavy Rain

Total Precipitation



Jun. 28 – Jul. 8

Heavy Rain

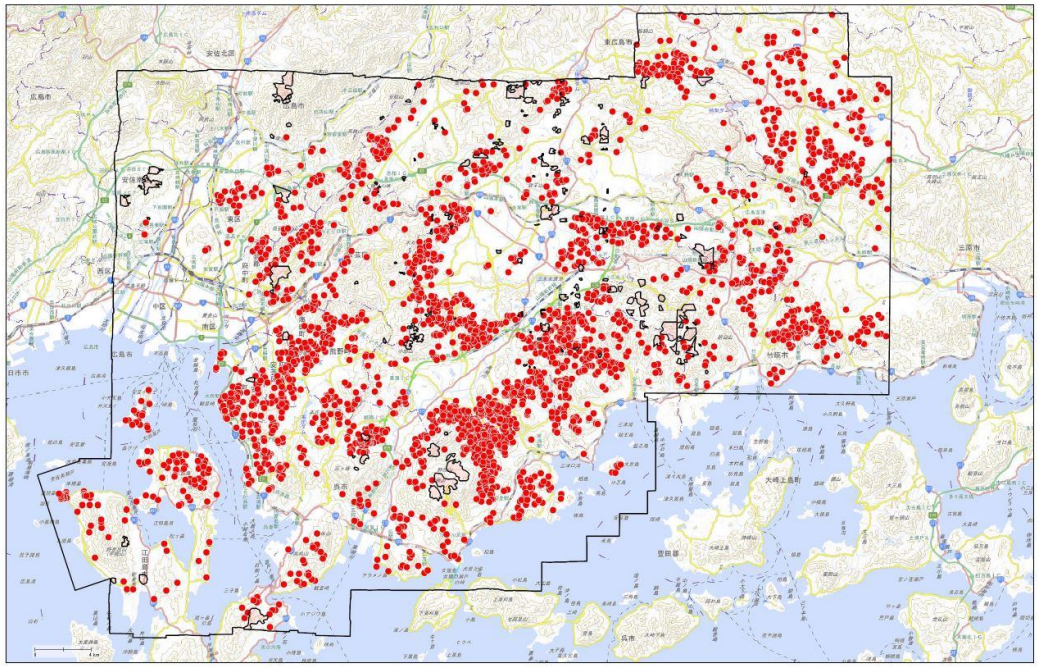
224 peoples killed

459 peoples injured

source: Japan Meteorological Agency / White Paper of Disaster

(c)2018 Heavy Rain

Landslide Map of HIROSHIMA



(Part)

Jun. 28 – Jul. 8

Heavy Rain

224 peoples killed

459 peoples injured

GSI took Arial Photos,

made Landslide Map

published on WEB map

“Disaster History Record” is also important Geospatial Information for Disaster

Local cenotaph for past disaster

Example of Disaster History Record

flood

flood

earthquake

earthquake

tsunami

tsunami

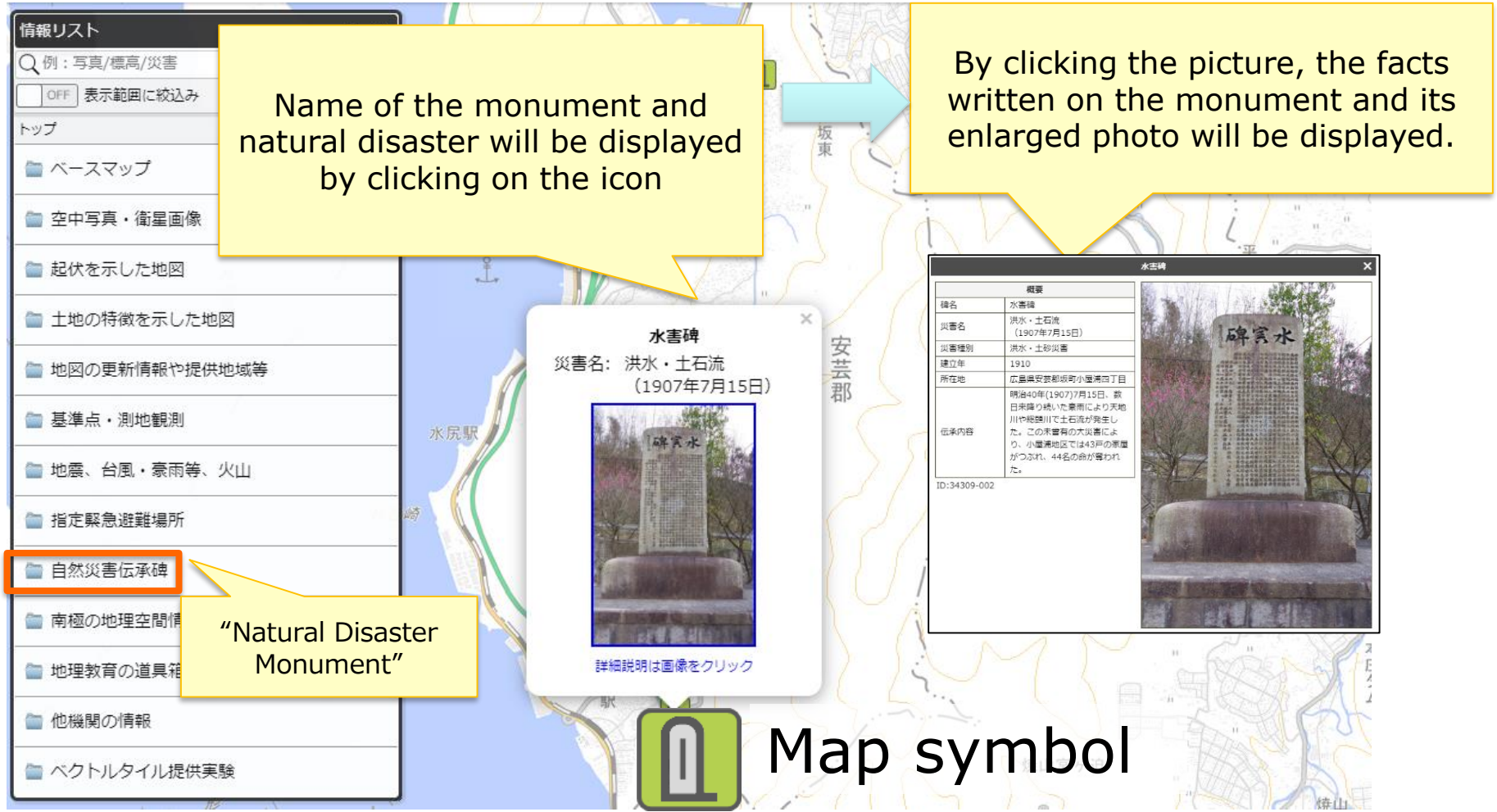
volcanic eruption

landslides

http://www.thr.mlit.go.jp/road/sekihijouhou/archive/top.pdf

Indicating Natural Disaster Monuments on the Map

GSI started providing **information, including location and the recorded facts, about natural disaster monuments** through its **web map, "GSI Maps", on June 19, 2019**.



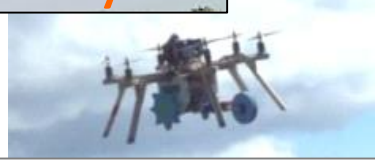
Integrated Disaster Information Mapping System

“ DiMAPS ”

On-site Image

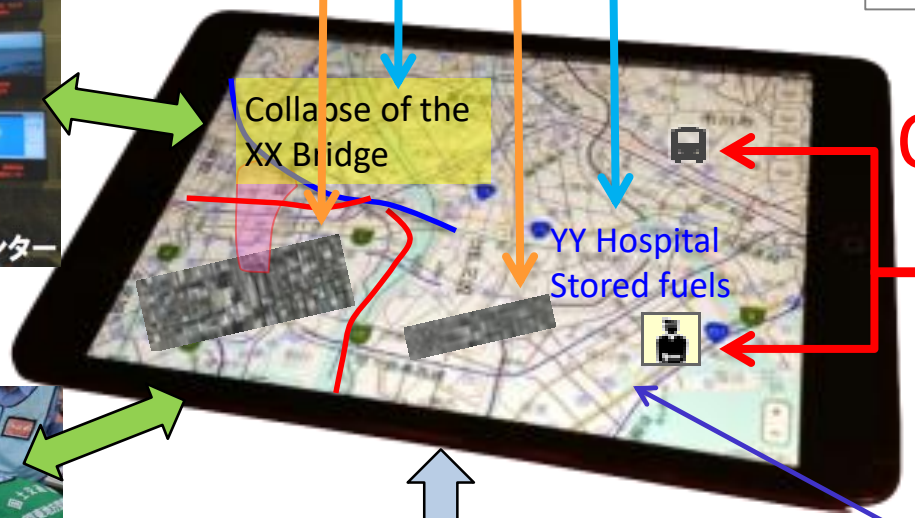
Overlaying
Live Information
from Different Sources
on One Map

Live Video by Aircraft



- SAR image
- Road warning information
- Information about current conditions
- Positional information of disaster victims

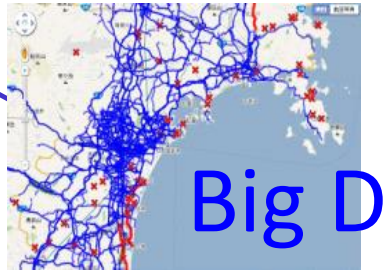
Situation Center



On-site Vehicles

Digital Map Table

Local Government



Big Data

Geospatial Information Platform for Decision Makers

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Objectives:

- Aiming at capacity building
  such as sharing knowledge
  and technology transfer,

how geospatial information and related technologies are utilized to share disaster related information and disaster risk information.

Date: February 25-27, 2020

Venue: @Tokyo

UN-GGIM WG-Disasters Conference 2020 in Tokyo

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