

Sentinel Asia

Collaborative works for better decision making
in disaster management



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Disclaimer

- All works and results presented in this presentation were produced during my assignment with GeoInformatics Center, Asian Institute of Technology, Thailand.

Introduction

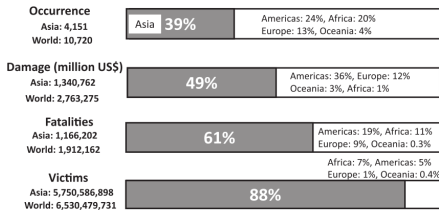
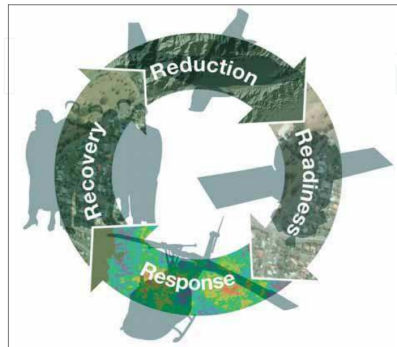


Fig. 2. Impacts of natural disasters by region, 1987–2016.

Source: ADRC-Natural Disasters Data Book 2016 [7].



Remote Sensing in Disaster Management

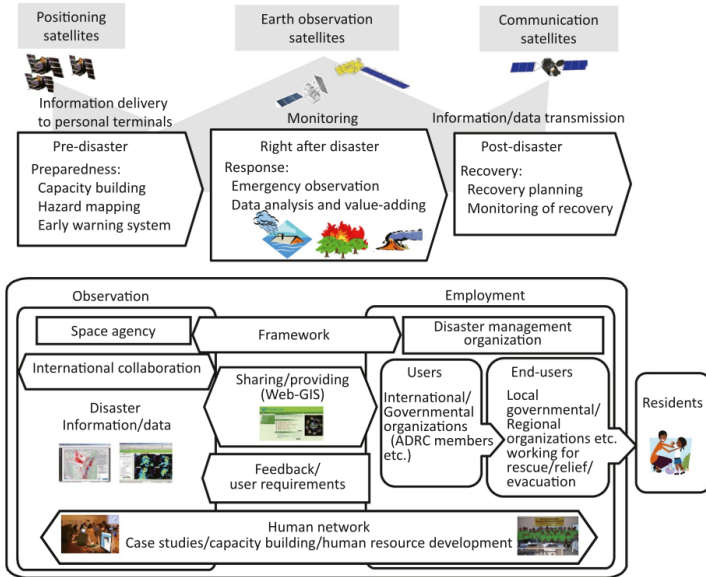
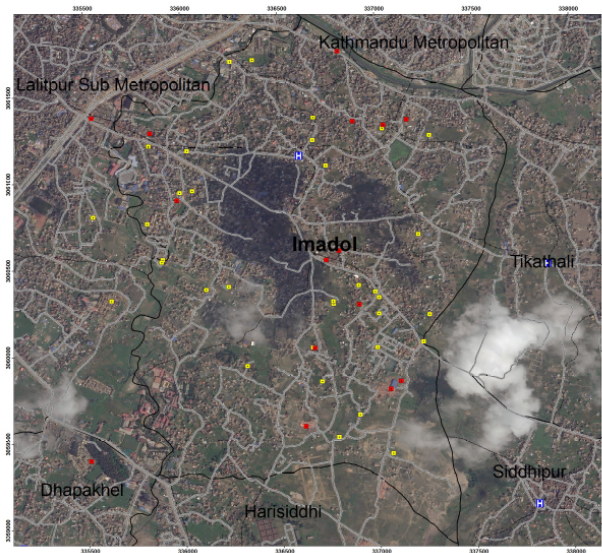


Fig. 14. Conceptual illustration of applying satellite remote sensing to disaster management support

Previous participations

DAMAGE ASSESSMENT OF IMADOL VDC, LALITPUR DISTRICT



This map shows possible damaged buildings in Imadol VDC of Lalitpur district, Nepal after the 25 April 2015 earthquake in Nepal. Visual interpretation of high resolution satellite image was done to prepare the map.



Map Scale A1 = 1:8,000
Coordinate: WGS 1984 UTM Zone 45N

Legend

- Completely damaged
- Partially damaged
- H Health Facility
- Roads
- Village Development Community (VDC)
- Ward

Satellite Data: WorldView-3
Imagery Date: 27 April 2015
Resolution: 50 cm
Copyright: DigitalGlobe, Inc.

Road Data: OpenStreetMap (OGM)
Health Facility Data: WHO
Administrative Boundary Data: Survey Dept.

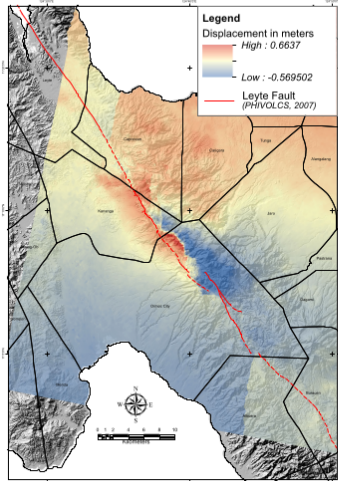
Disclaimer:
GIS data collected from various sources. Accuracy is not verified.



Philippines activation 2017

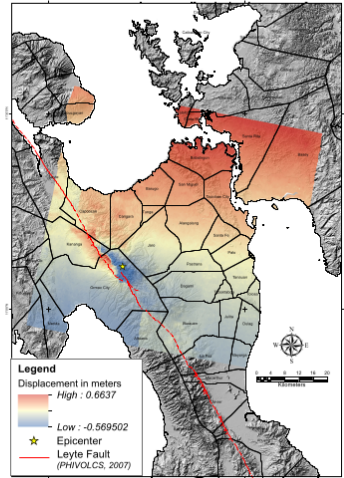


DEFORMATION ANALYSIS USING ALOS-2 DATA
06 July 2017 M6.5 LEYTE EARTHQUAKE, PHILIPPINES



GeoC GeoInformatics Center
LAXA
GeoBAR processed by GeoInformatics.AIT

DEFORMATION ANALYSIS USING ALOS-2 DATA
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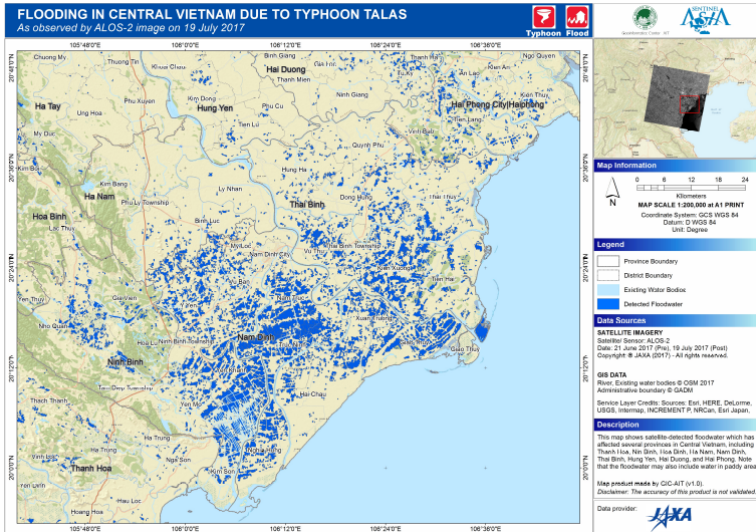


GeoC GeoInformatics Center
LAXA
GeoBAR processed by GeoInformatics.AIT

• Date : 6 July 2017

Requester : PHIVOLCS

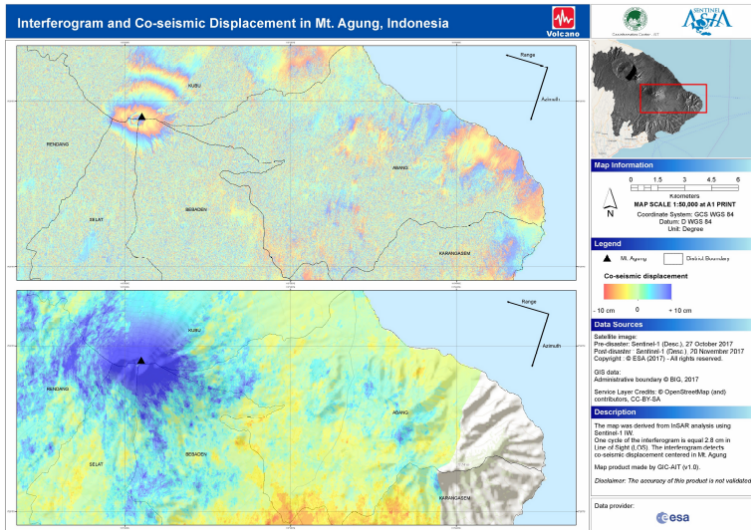
Vietnam activation 2017



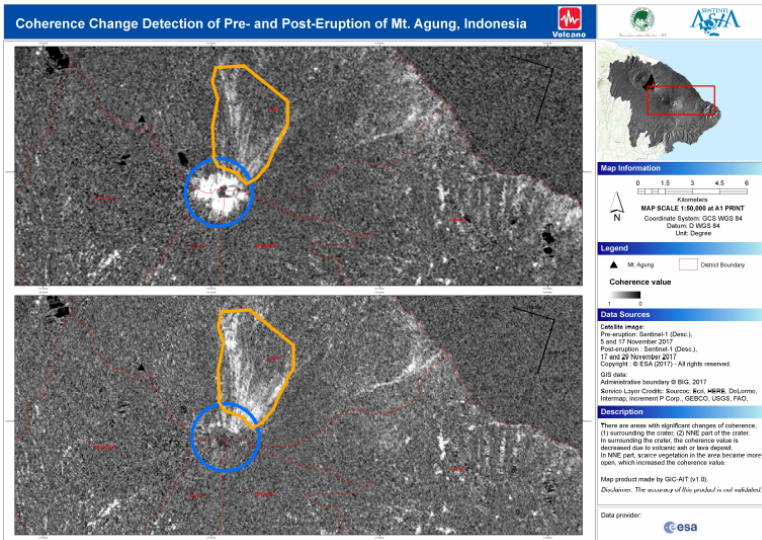
- Date : 17 July 2017
- Disaster : Typhoon

Requester : MONRE

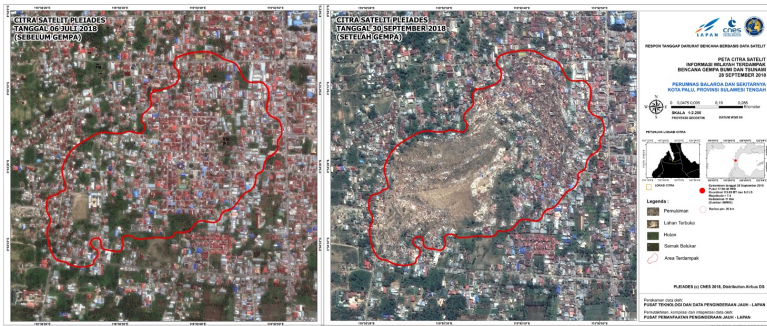
Data provided : ALOS-2



- Date : 21 November 2017 Requester : LAPAN/BNPB
- Disaster : Volcano eruption Data provided : ALOS-2

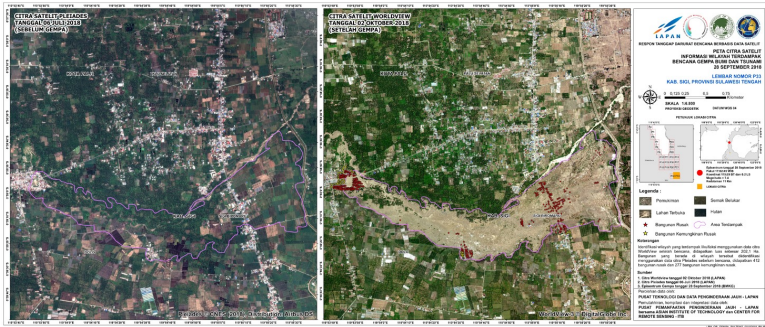


- Date : 21 November 2017 Requester : LAPAN/BNP
- Disaster : Volcano eruption Data provided : ALOS-2



- Date : 28 September 2018
- Disaster : Earthquake and Tsunami
- Area : Palu

Requester : LAPAN/BNPB

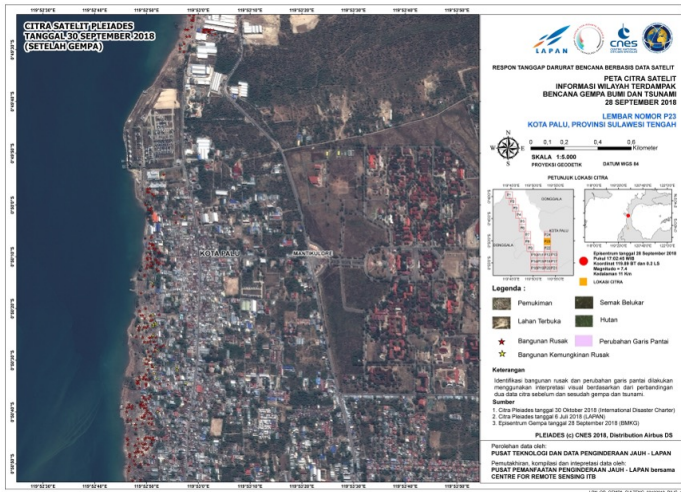


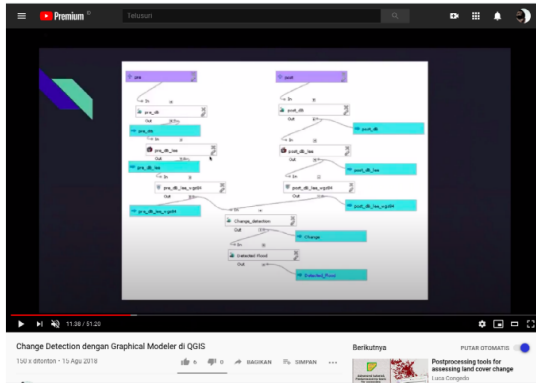
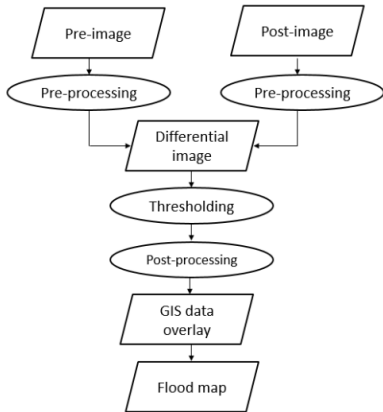
- Date : 28 September 2018
- Disaster : Earthquake and Tsunami
- Area : Palu

Requester : LAPAN/BNBP

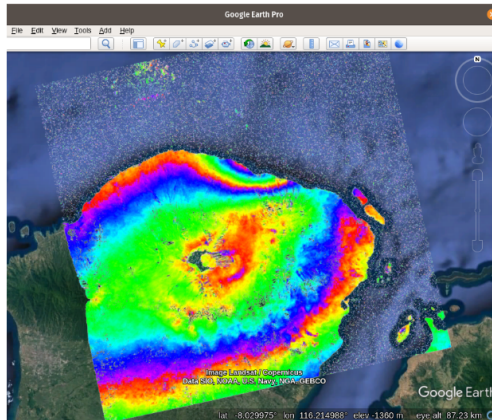
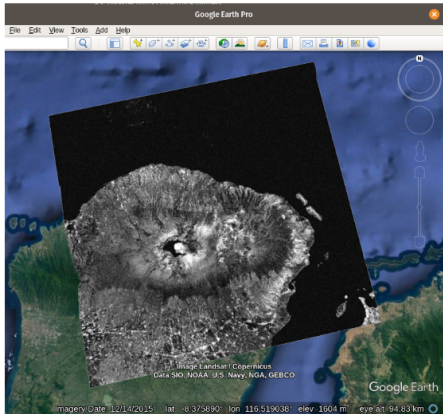
Image processing techniques

Visual interpretation





https://youtu.be/HR_7kENFGT4



Messages from the field

Results from the field

- Around 400 geotagged photos have been collected by AIT in Palu, Sigi and Donggala.
- Partnership with local humanitarian organization was established, including international NGO (World Central Kitchen).
- Local participatory mapping and field survey was initiated.
- Based on personal judgement, the engagement and cooperation between humanitarian initiatives was low or inexistent.



Conclusion

- Intensive communication and collaboration with LAPAN, BNPB (national agencies) and universities (ITB, UGM, UI) accelerate the production of VAPs
- Intensive communication with local partner in the ground is useful to disseminate the product
- Partnership with local humanitarian provides benefit in data collection and updating.
- Continuous engagement between all stakeholders involve in disaster event are crucial.

Thank you
Terima kasih