

# Status and Progress of the Tsunami Working Group – Sentinel Asia

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Kobe, Nov-2018

# Purpose/goals of Tsunami WG

Contribution to enhancing capabilities of tsunami disaster management in Asia-Pacific countries

- Tsunami Risk Assessment
- Tsunami Forecasting/Warning
- Mapping Tsunami Inundation/Impact
- Tsunami Evacuation Plan
- Emergency Observation
- Tsunami Risk Awareness/Education
- Training Program

# Proposed activities of Tsunami-WG

- Review of tsunami disaster response protocols of each country (including forecasting, early warning, emergency observation, monitoring, **mapping**)
- Review of past tsunami events
- **Making plan of emergency observation for mapping impact in disaster response**
- **Making plan of using archive data for disaster response and recovery**
- Making plan of success story (Definition of success story)
  - End to end system/services for tsunami disaster mitigation
- Web-based information sharing (Activities/Efforts/Outcomes) in Sentinel Asia web site



# Activities for 2018

## Already done and proposed activities

- WG web meeting
  - Explore the needs and expectation from the member to Tsunami WG
- Capacity building and technology dissemination | 21 Jan 2018
  - Tsunami model and inundation mapping
- Set up information and knowledge portal
  - Tsunami WG website
- Establish a standardized methodology and guideline for tsunami inundation mapping and the mapping product it self

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# Objectives and Implementation Strategy of Tsunami-WG

- According to the slide “Sentinel Asia Tsunami WG” (attached), co-chair explained overview of Tsunami WG.
- The WG was established for international relationship and as to be international hub on the effort to improve Tsunami disaster management in Asia-pacific region.
- At the next meeting, WG members to make a presentation about Tsunami disaster response protocol of each country.
- A making plan of success stories is quite important. We need to integrate computational and satellite-based technologies, implement and transfer. That’s why in next JPTM, a training course will be taken place.
- Web based information sharing is one of the final goal.
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## Discussion on the contribution and inputs from Tsunami Working Group toward the achievement of Sentinel Asia Step 3

- In the web-con, Tsunami WG members made a fruitful discussion.
  - Tsunami forecast system developed by Prof. Koshimura can be delivered to tsunami WG members through the capacity building during the meeting in Taiwan.
  - WG members in Taiwan was very interested in Tsunami forecast system. They have a super computer. This might be a show-case of application of WG solution to Sentinel Asia members.
  - Some of the WG members will join and give a presentation at JPTM to corroborate with members.
  - Project initiated by Prof. Koshimura can be shared with members on how the integration of computational methodology of tsunami and satellite data analysis can advance the damage estimation in order to have better support and analysis during the emergency response phase.

# Capacity building

- Date:
  - 22 January 2018
- Topics: Tsunami and Geomatics Applications for Disaster Risk Reduction Training under the Tsunami-WG Sentinel Asia
- Participants: ~20 member
- Output: Tsunami impacts estimation and evaluation method were transferred to Tsunami-WG member

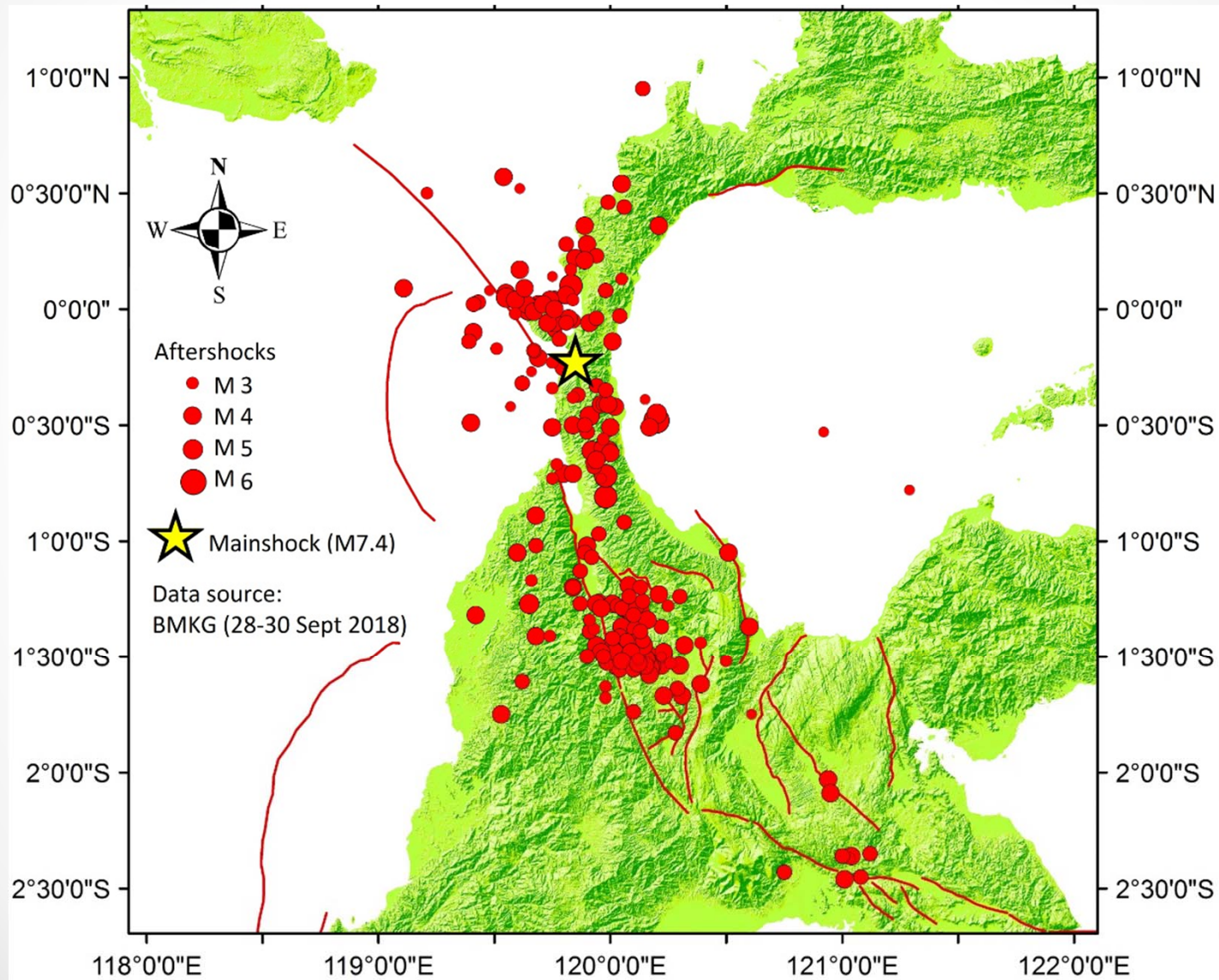


TUNAMI-CODE  
**Tohoku University's Numerical Analysis Model  
for Investigation of Tsunami**

Shunichi KOSHIMURA  
koshimura@irides.tohoku.ac.jp  
International Research Institute of Disaster Science, Tohoku University

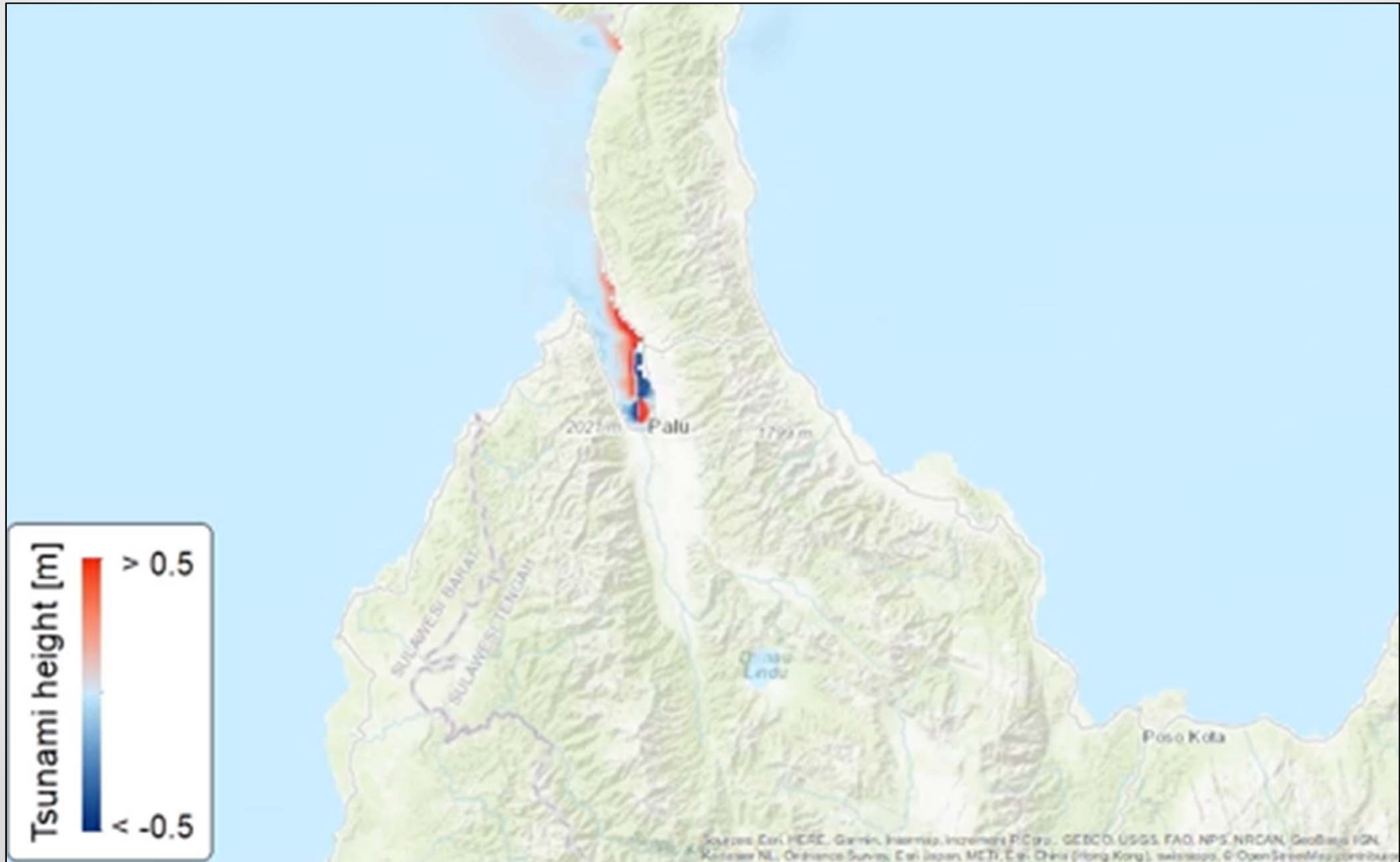
2018

# Case event: Palu, Indonesia Tsunami





# Case event: Palu, Indonesia Tsunami



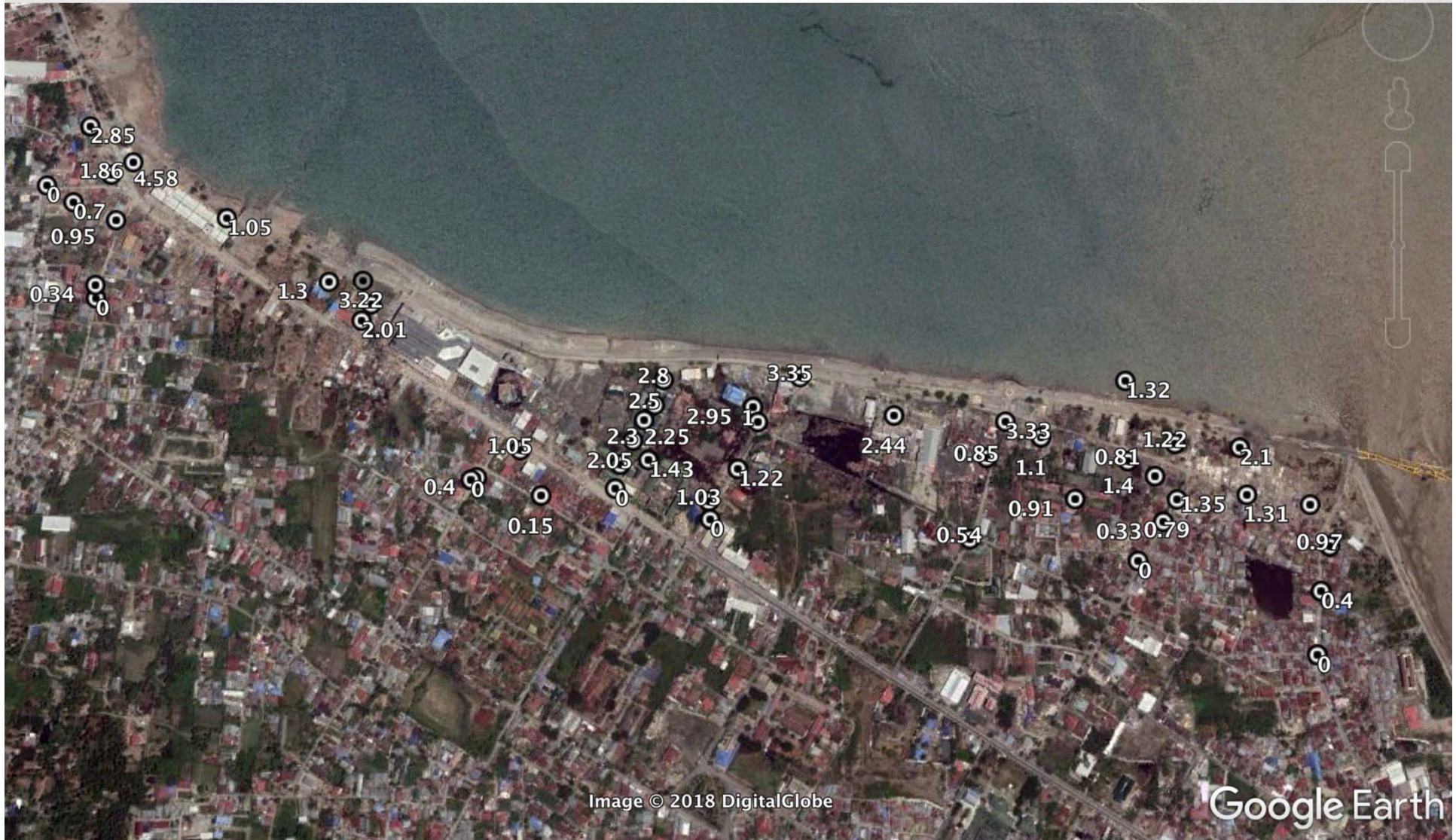
# Case event: Palu, Indonesia Tsunami | SA Tsunami WG

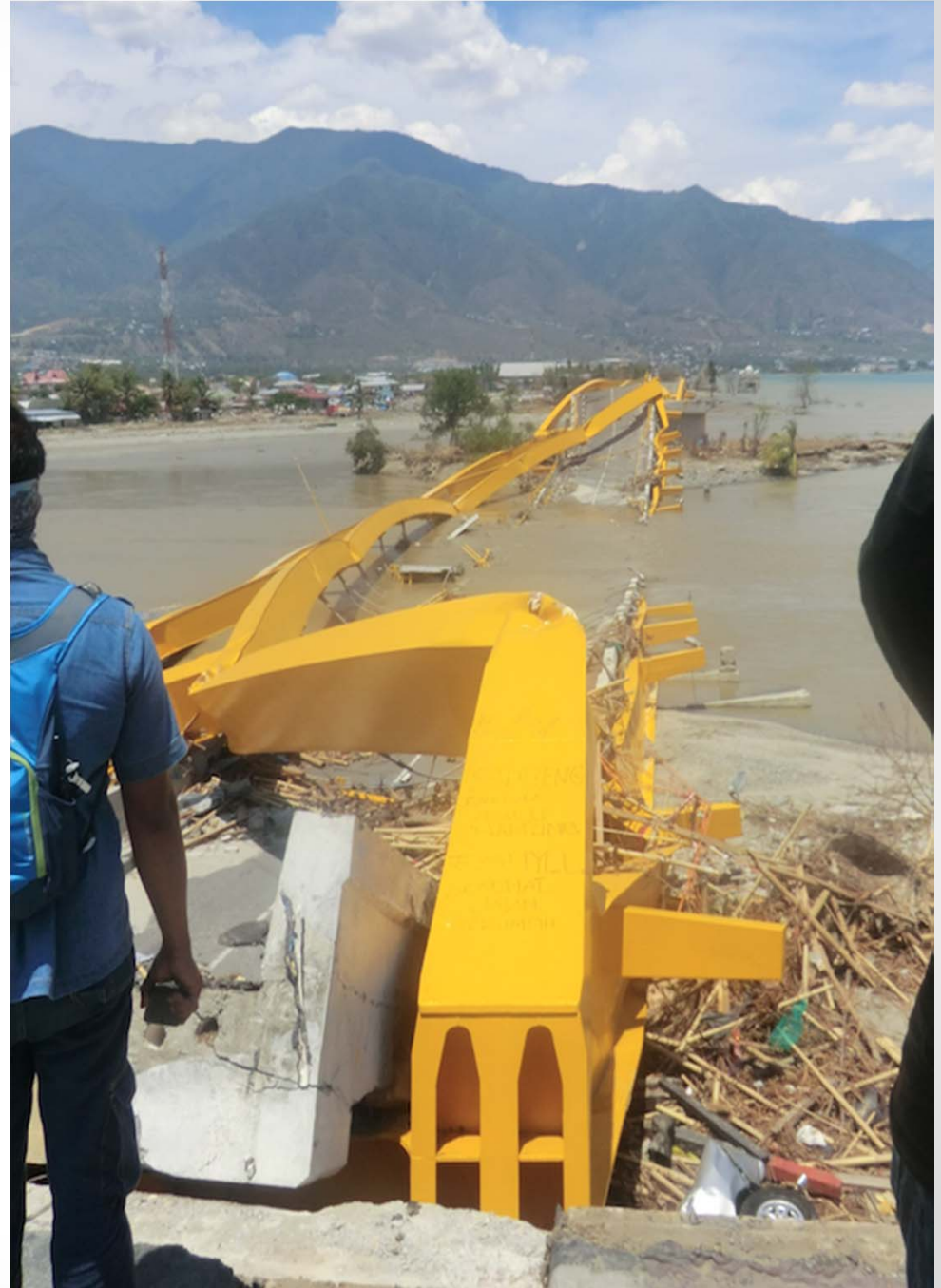
20-23 Oct 2018

emergency observation for mapping  
impact in disaster response



# Case event: Palu, Indonesia Tsunami





# Distinguishing the cause of the damage: Earthquake or tsunami?



# Case event: Palu, Indonesia Tsunami

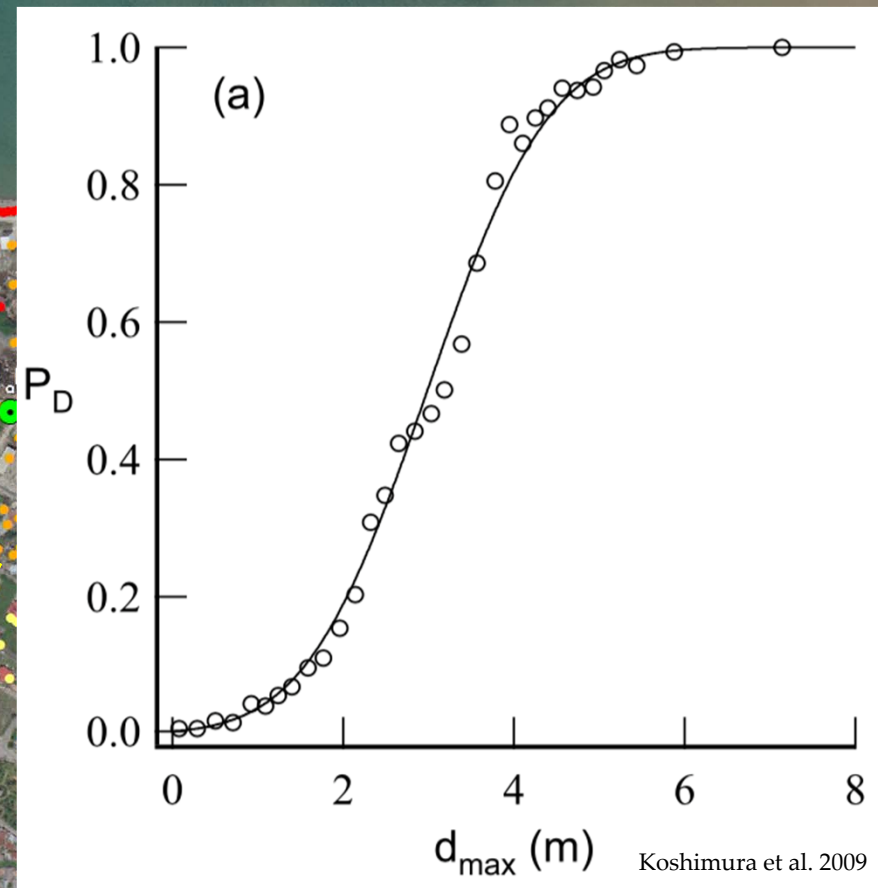
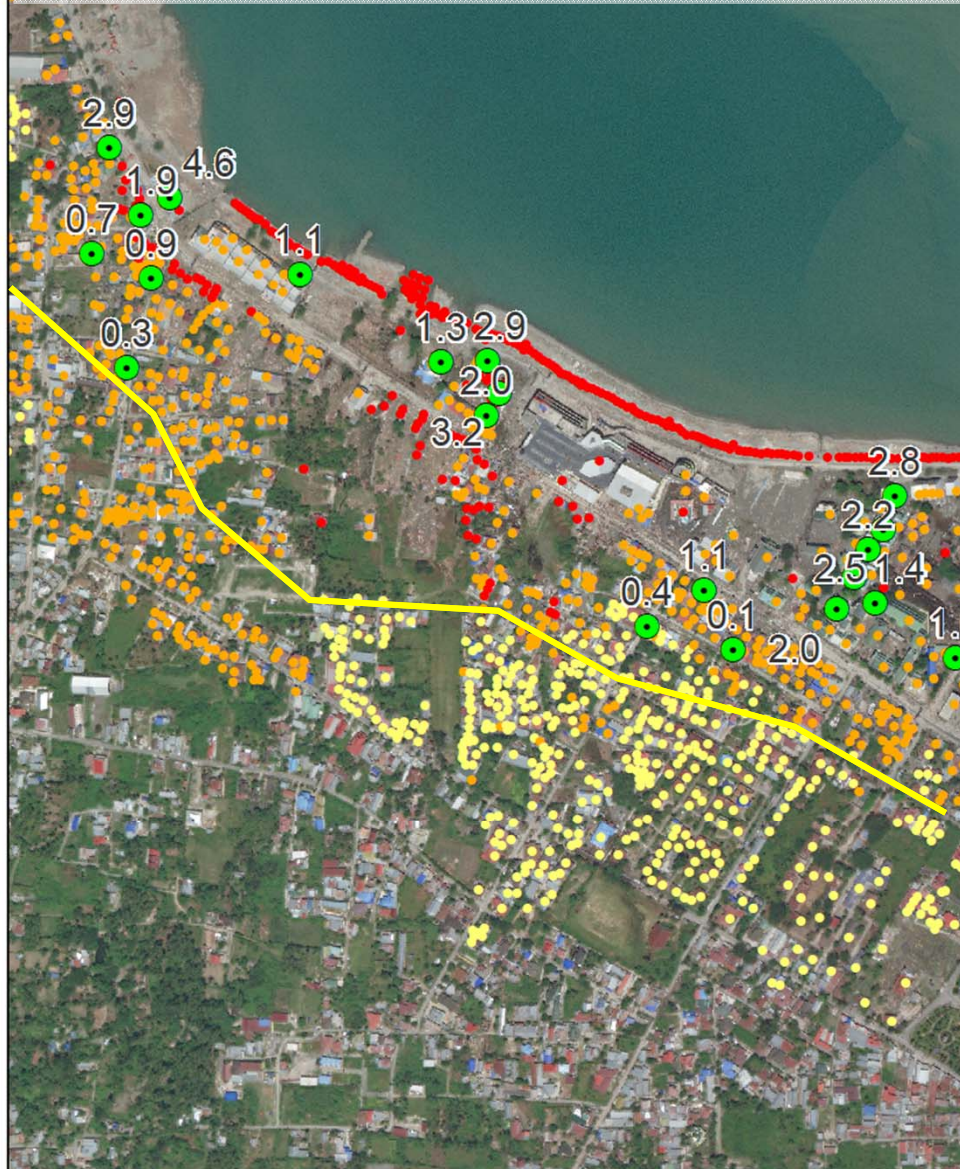
Making plan of using archive data for disaster response and recovery

## Field survey

- Flow depth measure

## Copernicus

- Destroyed
- Damaged
- Possibly damaged



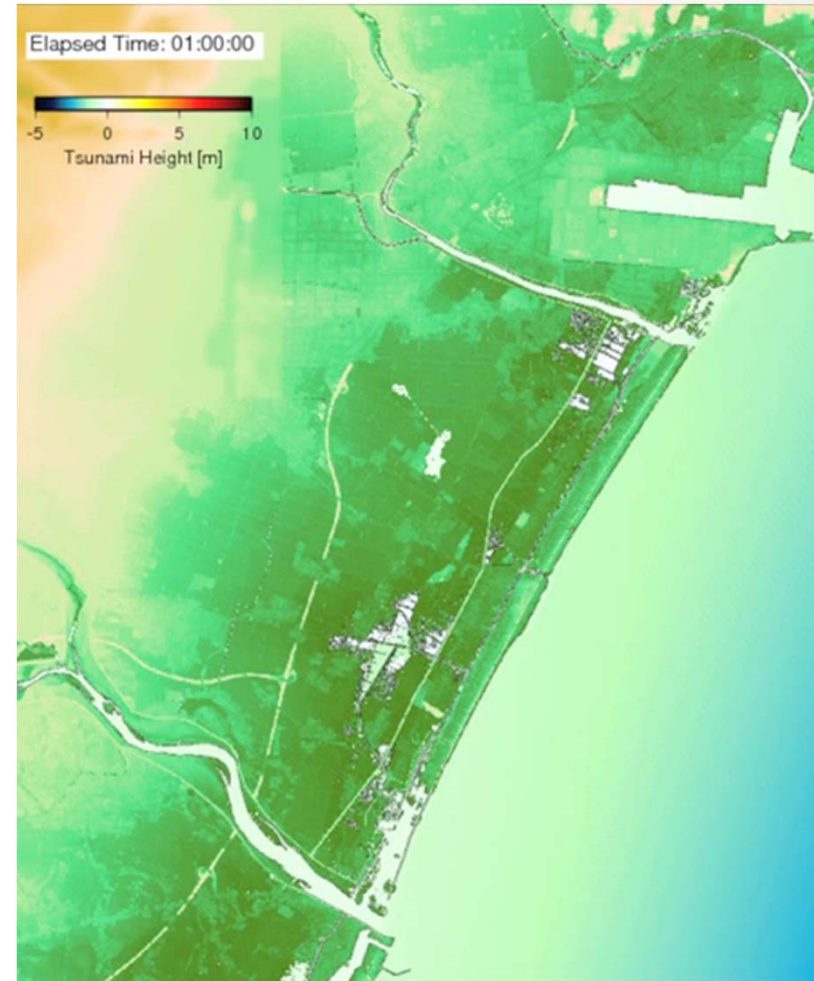
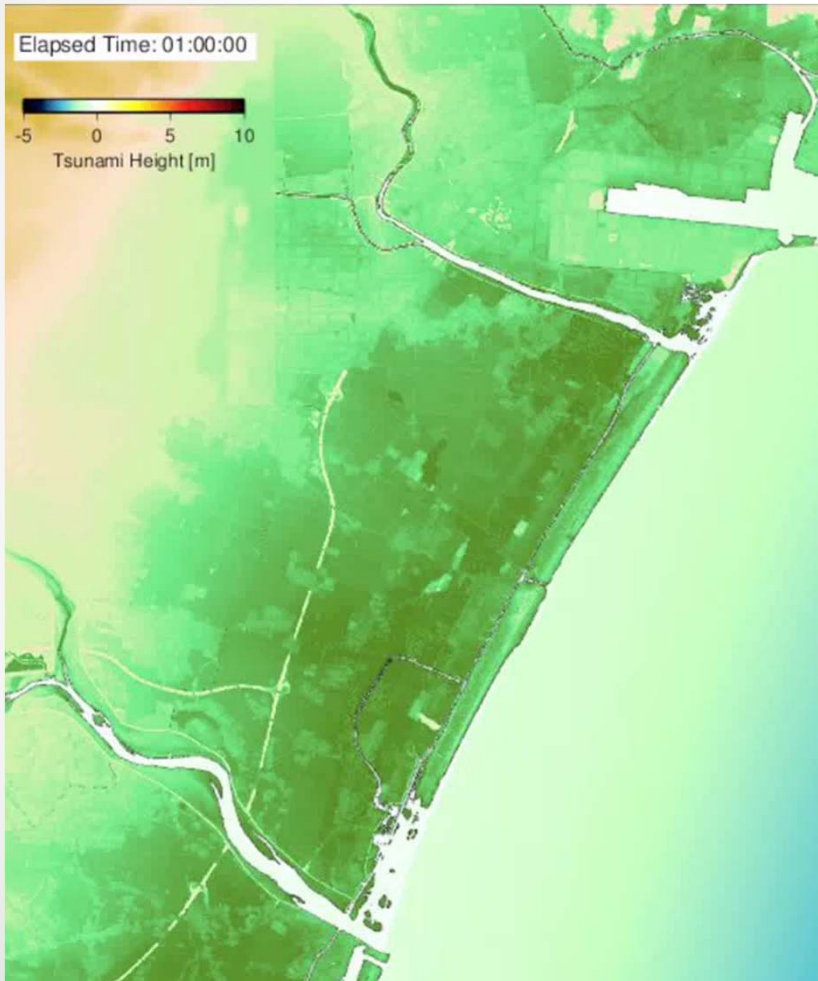
### To do list

- Set up information and knowledge portal
  - Tsunami WG website
  - Field data to improve accuracy of satellite-based damages assessment
- Establish a standardized methodology and guideline for tsunami inundation mapping and the mapping product it self

The research is continuing  
Thank you!



# Example on how the numerical method and fragility design the coastal land use



Example in Sendai City post the 2011 tsunami

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# Case event: Palu, Indonesia Tsunami

Example: Sendai City post 2011 Tsunami

## PLAN FOR A TSUNAMI-RESISTANT CITY

Sendai is considering refashioning its coastal area. A raised sea wall would block typical tsunamis and an elevated coastal road would protect against giant ones. A new law mandating zoning restrictions aims to lower the number of fatalities.

