



UNESCO/IOC – NOAA ITIC Training Program (ITP)  
END-TO-END TSUNAMI EARLY WARNING SYSTEMS  
AND THE PACIFIC TSUNAMI WARNING CENTER (PTWC) ENHANCED PRODUCTS  
Training Workshop on Strengthening Tsunami Warning and Emergency Response and the development of Standard Operating Procedures

# Local-Source Tsunami Response Best Practice (ICG/PTWS-XXVIII, 2019)

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# 1.0 Local-Source Tsunami Priorities

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- **Self Evacuation** – Key to Surviving Local Tsunamis with very short lead times
- **Official Warnings **Supplementary** to Natural Warnings** – Official warnings reinforce self-evacuations & assist **all-clear** decisions
- **Official warning systems** – Must have fast and simple warning chains, conservative, pre-scripted products, don't delay

## 2.0 Warning Types

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- **Natural** – Strong ground shaking and/or rapidly receding sea-level, NZ  
“long, strong, get gone”
- **Official** – Issued by TSPs and/or NTWCs
  - Designed to reinforce natural warnings
  - Released within 10 minutes
  - Be Conservative
  - Regular warning updates, cancellation
  - All Clear – what it is, how it is communicated
  - Multi-media, redundant
  - Consistent (same alert, same mechanism)
- **Unofficial** – Word-of-mouth, Social Media

## 3.0 Public Awareness and Education

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- **Effective, comprehensive and Continuous Public Education Programs** – what to expect from official warning, how to recognize and respond to natural warnings
- **Exercises** – Local, Regional, National
- **Debriefings and post-event public response analysis** – learn and improve locally and internationally, SOPs
- **Communication Tests**

## 4.0 Detection and Characterization

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- **Ground Shaking** – Strength and Intensity/Duration. Proxy but depends on source location and person feeling
- **Magnitude Threshold Tables** – Agree before. Follow during actual event. Conservative
- **Refine With more Information** – Procedures should be in place as to how updates are managed and communicated
- **Regular SOP Training and Exercising**

## 5.0 For Future Consideration

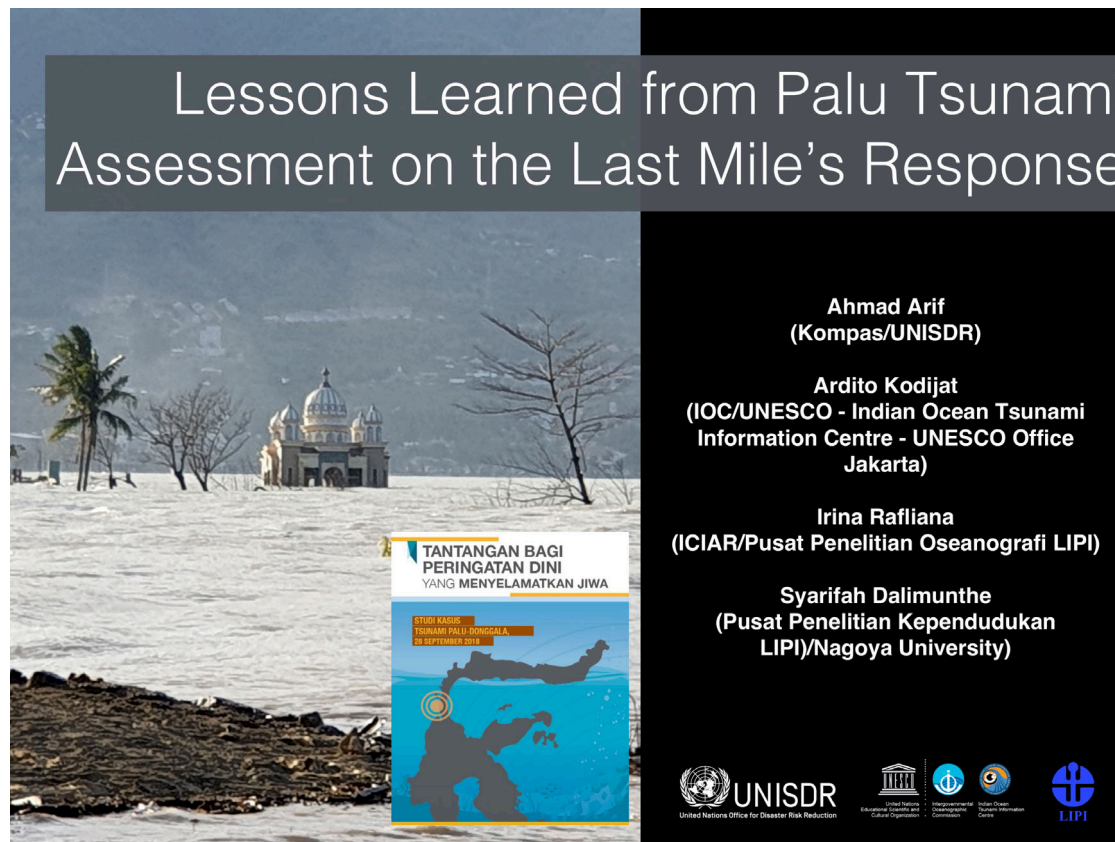
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- **Inclusion of False Alarms in 3.0** – need to maintain confidence and ensure proactive action
- **Dealing with non-tectonic events** (landslides, volcanoes) **or slow earthquakes** (long shaking, not abrupt, but large tsunami)
- **Refinement of definition of Natural Warnings**
- **Recommendations on communications channels.**

# Local Response

## 2018 Palu Earthquake and Tsunami

Lessons Learned from Palu Tsunami  
Assessment on the Last Mile's Response



The image shows a flooded area with a mosque in the background. In the foreground, there is a book cover with the title "TANTANGAN BAGI PERINGATAN DINI YANG MENYELAMATKAN JIWA" and a map of Indonesia. The book cover also includes the text "STUDI KASUS TSUNAMI PALU-DONGGALA 18 SEPTEMBER 2018".

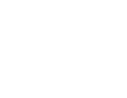
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# Thank You

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