



# *Indonesia*

## Webinar: Lessons Learnt during Exercise IOWave 2025

16 - 17 December 2025

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# Scenarios Exercised



**BMKG**



**B N P B**



**BADAN INFORMASI  
GEOSPASIAL**



**KOMDIGO**



**METRO TV**



Sunda Trench (25 Sept, **M9.0**)



Makran Trench (15 Oct, **M9.0**)



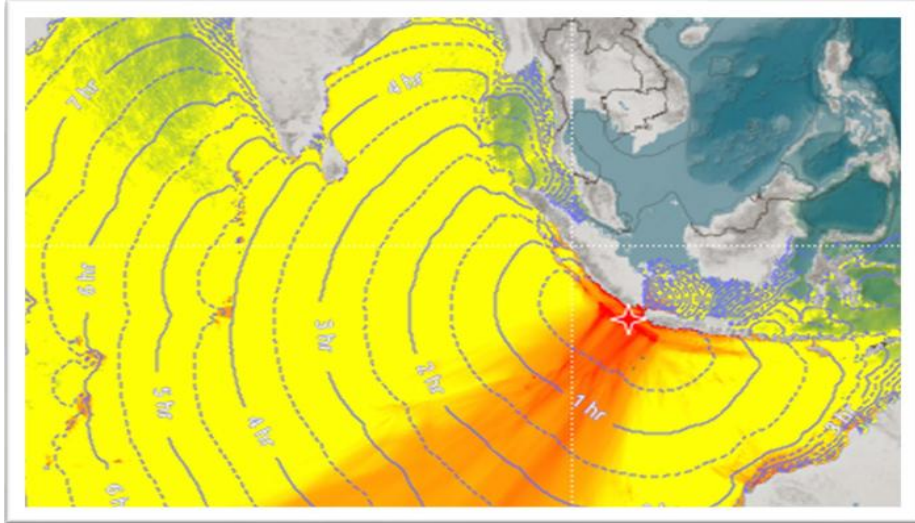
Fani Maore Volcano (25 Oct)



Sumatra Trench (05 Nov, **M9.2**)

# Scenarios Exercised

## Sunda Trench (M9.0)



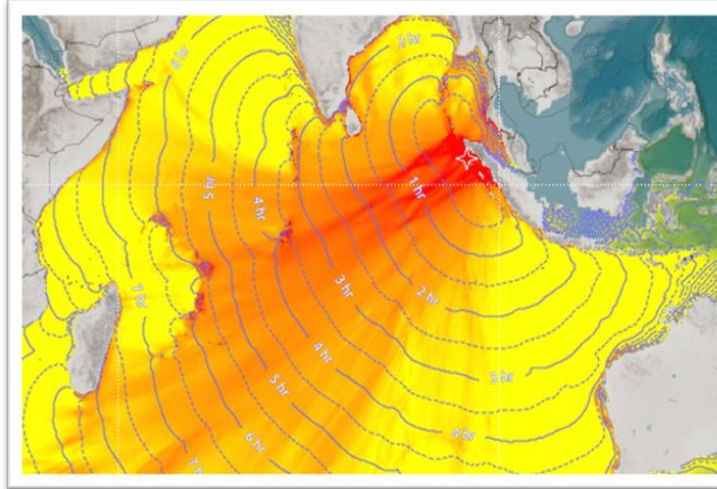
BMKG Backup system in Bali conducts Sunda Trench Scenario

**Major Warning:** 51 cities

**Warning:** 68 cities

Participated by 27 cities

## Sumatra Trench (M9.2)



**Major Warning:** 33 cities

**Warning:** 52 cities

Participated by 50 cities



BMKG as the TSP for Makran and Fani Maore Scenario



BMKG Headquarter conducts Sumatra Trench Scenario



## Exercise Participants

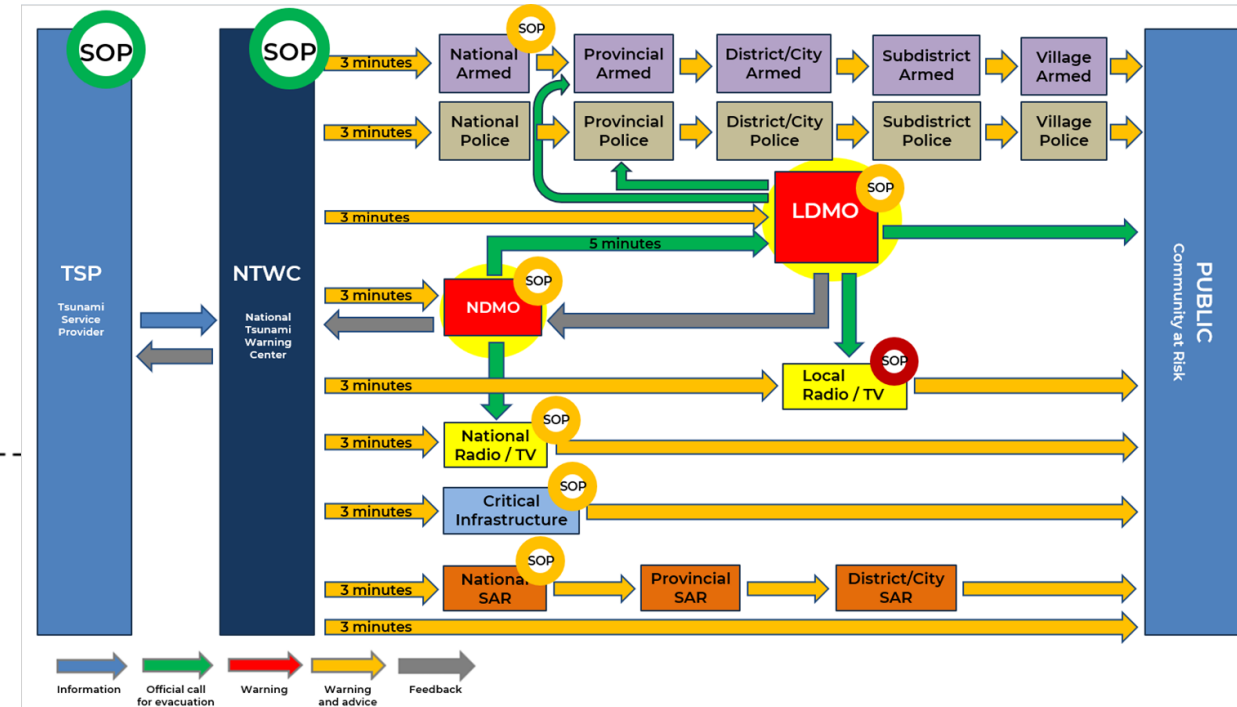
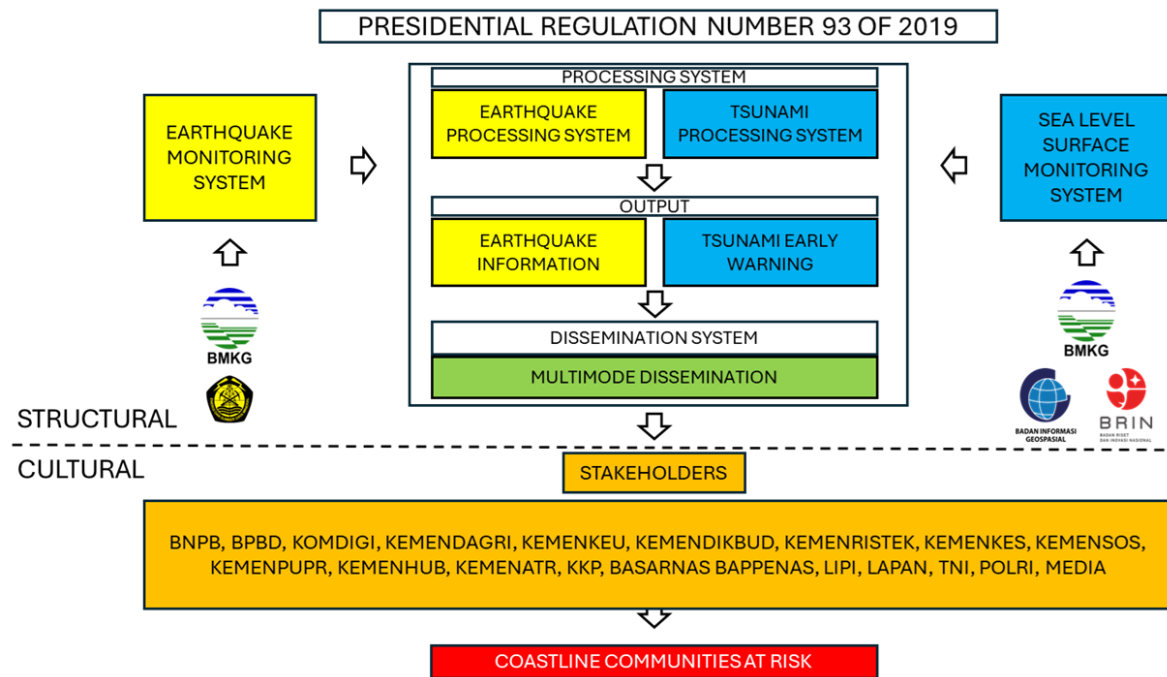


- **Sunda Trench** scenario on 25 September:
  - BMKG, BNPB, SAR,
  - 30 LDMOs,
  - 11 TR Communities, 11 Local Communities,
  - 12 local BMKG Offices,
  - 2 National Media, 1 Local Media ,
  - 23 Local Governments,
  - Schools, University,
  - Critical Infrastructures and private sector
 Participated with **4.767 participants** from 9 Provinces.

- **Sumatra Trench** scenario on 5 November:
  - BMKG, BNPB, SAR, BIG, Ministry of Communication and Digital Information
  - 63 LDMOs,
  - 5 TR Communities, 2 Local Communities
  - 13 Local BMKG Offices,
  - 3 Medias
  - 11 Local Governments,
  - National Army, Police, SAR,
  - Schools
  - Private sector
 Participated with **201.852 participants** from 14 Provinces.



# National Tsunami Warning & Mitigation System



The Warning Chain involves:

1. TSP (BMKG)
2. NTWC (BMKG)
3. NDMO (BNPB)
4. National SAR (BASARNAS)
5. LDMO (BPBD Province and District)
6. Local SAR
7. ARMY and POLICE
8. Media (National and Local)
9. Critical Infrastructure (Airport, Port, industrial zone)

# Support to Communities to Get Prepared

Indonesia has implemented various initiatives to support at-risk communities in improving tsunami preparedness. These include the **Tsunami Ready Community** programme promoted by UNESCO-IOC and implemented nationally, as well as several complementary national initiatives such as the **Earthquake and Tsunami Field School (SLG)** by BMKG, **Disaster Resilient Villages (Destana)** and **Disaster Resilient Families (Katana)** by BNPB, and **Disaster Preparedness Villages (KSB)** by the Ministry of Social Affairs.

As of 2025, Indonesia has achieved significant progress, with **22 coastal communities having received Tsunami Ready recognition**. In addition, **8 communities are currently being proposed for international recognition under the UNESCO-IOC Tsunami Ready Programme**, while **3 communities are in the process of national-level recognition**. This progress reflects strong collaboration among national agencies, local governments, and communities, and demonstrates Indonesia's ongoing commitment to enhancing tsunami preparedness and resilience in at-risk coastal areas.



Tsunami Ready Community Recognized by UNESCO-IOC



Tsunami Ready Community proposed to UNESCO-IOC and NTRB

# National Organisation of Exercise IOWave25



## A. Planning and Preparation

- Pre-IOWave coordination meetings were conducted with BMKG Geophysics Station, observers, BPBDs, and relevant stakeholders to harmonize scenarios, roles, and expected outputs.

## B. Exercise Type and Scheme

- Type of exercise was Table-Top Exercise, Communication Test, Evacuation Drill, Functional Exercise, and Full Scale Exercise.
- The exercise is held with hybrid scheme, Online (Zoom Meeting and YouTube Live) and Offline.

## C. Core Warning System Participation

- BMKG conducted a test of the backup system in Bali to disseminate a tsunami early warning test for the Sunda Trench scenario.
- BMKG as the TSP participated on all of the scenario including Makran Trench and Fani Maore Volcano.
- BMKG Headquarter as the main facilitator delivered scenario and inject (Sumatra Trench) directly.

## D. Information Dissemination

- There are 7 tsunami bulletins (PDT-1, PDT-2, PDT-3.1, PDT-3.2, PDT-3.3, PDT-3.4, PDT-4) that disseminate via SMS, email and WRS New Generation.

## E. Response and Evaluation

- All scenarios / injects was responded by all executors directly by action or metacard.
- Facilitators were deployed to various locations to support implementation, enrich scenarios based on local context, and document observations for evaluation purposes.
- The exercise was used to evaluate tsunami ready indicators namely the indicators of Tsunami Ready evacuation map and the plan, receiving warning, and distributing information.

## F. Participant Scope

- For this exercise, there are 16 Tsunami Ready communities whose participated and there are several communities that have not yet implemented the Tsunami Ready Program but have taken the initiative to participate in the IOWave25 exercise.
- Exercise was involved by several critical infrastructures (Nusawiru Airport) and private sector such as PT. Krakatau Sarana Property, PT. Putera Pacitan Indonesia Sejahtera, PT. Solusi Bangun Andalas, and Bencoolen Mall.

# Lessons Learnt

## A. System and Infrastructure Performance

- The backup system's in Bali capacity is already on par with that of the headquarters.
- The WRS New Generation proved to be the most effective and reliable dissemination channel during the drill.
- Optimized local networking by using SMS blast is needed.
- Some areas experienced internet access problems which made it difficult to coordinate and provide tsunami early warnings.

## B. System Development Recommendations

- In the next exercise, it would be better to involve the Earthquake Early Warning System which is currently being developed in Indonesia.
- Need to find more alternative communication modes for communication test.

## C. Stakeholder and Collaboration

- Need to involve more stakeholders on the next exercise (such as: network providers).

## D. Operational Procedures (SOPs)

- Due to the need for tsunami certainty, some areas have SOPs for activating sirens based on updated bulletins (bulletin 2), not the first bulletin sent by NTWC.

## E. Scenario and Simulation Design

- Some locations require the use of the most appropriate scenarios. This allows participants flexibility and increases enthusiasm.

# Images



Evacuation drill at Nusawiru Airport



Evacuation drill at PT. Solusi Bangun Andalas



Evacuation Drill at PT. PPIS



Communication tests by the national police and army.



Communication Test by National Search and Rescue



TTX at the Langkat Regency mayor's office



Evacuation drill at TRC Tirtohargo Village



Evacuation drill at Padang



Evacuation drill at Padang



TTX at Pesisir Barat Regency



Functional Exercise at BMKG Headquarters



Functional Exercise at BMKG Headquarters



Zoom Meeting and Youtube Live



Zoom Meeting and Youtube Live

**Webinar: Lessons Learnt during Exercise IOWave 2025**

# Media Publications



## BMKG Pimpin Latihan Tsunami IOWave25, Uji Skenario Gempa Dahsyat M9.2 di Utara Sumatra

05 November 2025 • Dwi Herlambang • Berita Utama



## Pemkab Padang Pariaman Ikuti IOWave 2025, Langkah Mitigasi Menghadapi Tsunami

by Redaksi • 8 November 2025 • in -PADANG PARIAMAN • Reading Time: 2min read



Pemkab Padang Pariaman Ikuti IOWave 2025, Langkah Mitigasi Menghadapi Tsunami. (Dok. Kominfo Padang Pariaman)

## Indonesia Uji Kesiapsiagaan Hadapi Tsunami: BMKG Pimpin IOWAVE, Simulasikan Gempa M9,0 Selat Sunda

26 September 2025 • Dwi Herlambang • Berita Utama



## BMKG Simulasikan Gempa Magnitudo 9.0 di Selat Sunda, Tampilkan 4 Skenario IOWAVE 2025

Minggu 28/09/2025, 13:41 WIB  
Reporter: Ruslan | Editor: Ruslan



BMKG simulasi kesiapsiagaan menghadapi gempa magnitudo 9.0 di Selat Sunda. BMKG

## BMKG Bali Gelar IOWave 2025 Wujudkan Siaga Tsunami

Oleh: Oscar Robert Cahyono • Editor: Ni Nyoman Kasih • 06 Nov 2025 • 15:08 • Denpasar



# THANK YOU