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# UNESCO/IOC Tsunami Ready Recognition Programme

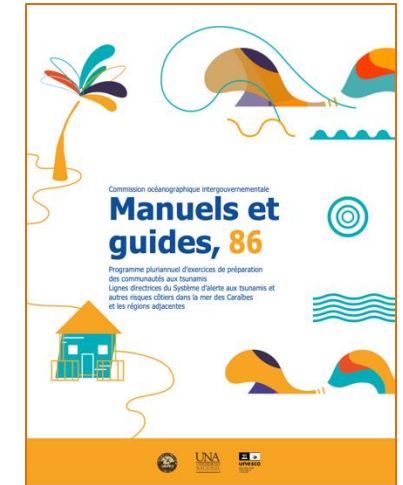
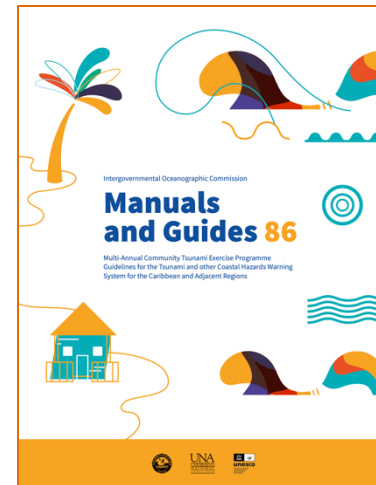
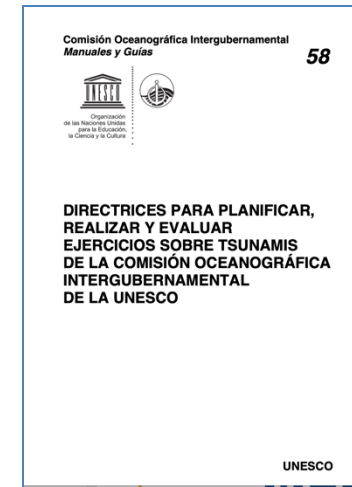
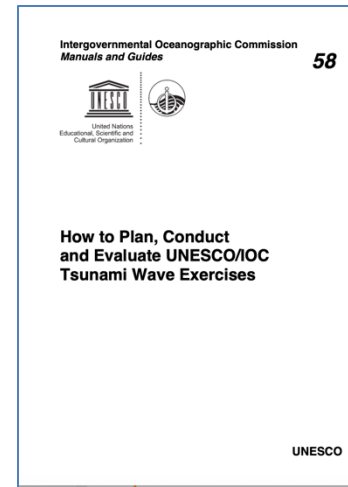
## PREP-5. Exercises IOC Manual and Guides

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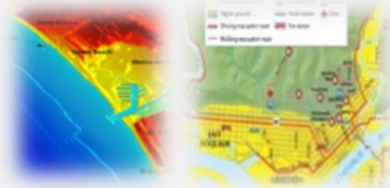
# References – IOC Manual and Guides



- **How to Plan, Conduct and Evaluate UNESCO/IOC Tsunami Wave Exercises**  
(IOC MG 58, 2013)
- **Multi-Annual Community Tsunami Exercise Programme Guidelines for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions**  
(IOC MG 86, 2021)

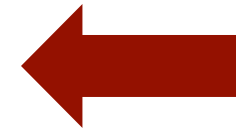


# Tsunami Ready Indicators



## UNESCO IOC TSUNAMI READY INDICATORS

I ASSESSMENT (ASSESS)	
1	ASSESS-1. Tsunami hazard zones are mapped and designated
2	ASSESS-2. The number of people at risk in the tsunami hazard zone is estimated
3	ASSESS-3. Economic, infrastructural, political, and social resources are identified
II PREPAREDNESS (PREP)	
4	PREP-1. Easily understood tsunami evacuation maps are approved
5	PREP-2. Tsunami information is publicly displayed
6	PREP-2. Outreach and public awareness and education resources are available and distributed
7	PREP-3. Outreach or educational activities <u>are held at least three times a year</u>
8	PREP-4. A community tsunami exercise is conducted at least every two years
III RESPONSE (RESP)	
9	RESP-1. A community tsunami emergency response plan (ERP) is approved
10	RESP-2. The capacity to manage emergency response operations during a tsunami is in place
11	RESP-3. Redundant and reliable means to timely receive 24-hour official tsunami alerts are in place
12	RESP-4. Redundant and reliable means to timely disseminate 24-hour official tsunami alerts to the public are in place



# PREP-5. A community tsunami exercise is conducted at least every two years

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- Conducting tsunami exercises is **important to test the warning system and the evacuation plan to verify that it is operating effectively** and ensure that the **community understands** what actions have to be taken when a warning is issued.
- Exercising also provides the opportunity to **review the evacuation plan and fine tune** it. More can be learnt from putting the plan into action and finding any gaps or weak points
- There are **five types of exercise** ranging in complexity, time to organise and cost:  
Orientation workshops, Tabletop exercises, Drills, Functional exercises, Full scale exercises

# PREP-5. A community tsunami exercise is conducted at least every two years

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- **Full scale exercises** represent the **culmination of a progressive exercise programme** and should not be attempted without first conducting at least a tabletop and a functional exercise
- **Detailed planning is vital** to the success of any exercise, particularly when the public is involved, and a **risk assessment should be conducted before engaging** the public in evacuation drills
- **Exercise evaluation** is an important component of exercising to observe, record and report on the conduct of the exercise - **what went right, what went wrong, what lessons were learned** and **what changes** should be made to the evacuation plan

# PREP-5. Community tsunami exercise



Cedeño, Honduras - 2017

# TSUNAMI DRILL AT LAVENA VILLAGE SUCCESSFUL

## Lavena, Taveuni, Fiji, 2019

16/10/2019



Villagers of Lavena in Taveuni successfully carried out a live simulation of a tsunami drill this morning as part of the national disaster awareness.

About 350 villagers consisting of men, women, children and the elderly participated in a first ever tsunami drill to be undertaken in a rural community in Fiji.

Turaga ni koro(Village head) Petero Waisea, said the village disaster response committee had drawn up a plan for disaster evacuation and the simulation exercise spearheaded by the National Disaster Management office, as part of the national disaster awareness exercise this year presented them with an opportunity to test themselves.

About 130 students from Lavena Primary school including pre-schoolers were also part of the exercise which required them to assemble on the village ground and to run as quickly as they can into the hills above the village compound. The hill is estimated to be around 200 meters above the village grounds.

Acting Director NDMO Litiana Bainimarama said Lavena village was one of the villages badly affected in the height of TC Winston in 2016 and most of the village houses were either blown away or destroyed extensively.

“So the exercise is a significant one in the sense of preparedness because Lavena village location is considered vulnerable because their reef is close to the village shores and they can experience any kind of storm surge or even tsunami at any time, ” Ms Bainimarama said.

“As such, the NDMO has provided capacity building for the village including a structure approach, a village disaster committee and a standard operating procedure for the school.”

**“As such, the NDMO has provided capacity building for the village including a structure approach, a village disaster committee and a standard operating procedure for the school.”**



# EXERCISES

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- ❑ Why, What, How
- ❑ Exercises Types





# Why Exercise? Goals and Purpose

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## □ Goals

- Improve overall readiness during *peacetime*
- Identify, evaluate, improve organizational weaknesses / gaps in Plans, Policies, SOPs, Communications, Interagency Coordination

## □ Purpose

- Evaluate ability of agency or system to respond to local, regional, ocean-wide tsunamis.
- Test communications, review SOPs, promote Emergency Preparedness.
- Exercises carried out w/i agency, amongst several agencies, or by all stakeholders.

# What to Exercise – What to Test?

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## □ **TWC:**

- “Upstream” process
- Coordination and information flow (type, content, timeline) with NDMO
- Iterative process (warning, update, cancellation)

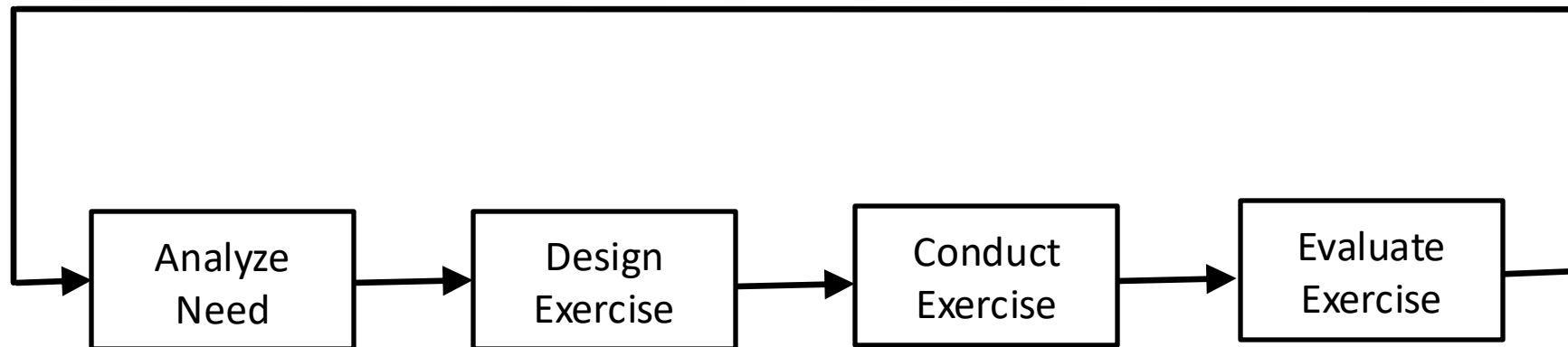
## □ **TER:**

- NDMO/EOC receipt, interpret, decide, notify
- Notify Responders, Decision-makers, Public
- Recommend Public Safety Action
- Implement / coordinate Action
- Inform on ‘All-Clear’ for safe return
- Initiate Search-and-Rescue, etc.

# Exercise Philosophy

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- ❑ Exercises need to be part of an Agency's Master Plan for Readiness
  - Overall strategy (national /agency)
  - Established policies, laws, regulations
  - Supported by training, exercise, and evaluation



# Training, Exercise, and Evaluation Schedule (regular)

Training, Exercise, and Evaluation Schedule 20XX												
Agency	1st Qtr			2nd Qtr			3rd Qtr			4th Qtr		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Agency 1		Drill			Functional			Functional		Full scale		
Agency 2	Tabletop		Drill		Drill		Functional					
Agency 3		Seminar		Tabletop		Drill		Tabletop		Drill		
Agency 4	Seminar		Seminar		Tabletop		Tabletop		Drill		Drill	

Communications	Warning Center	First Responders
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# Designing an Exercise

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- Determine **Scope**
- Establish exercise **Planning Teams**
- Establish **Timelines and Meetings**
- Define exercise **Aim and Objectives**
- Define **Key Performance Indicators**
- Define **Evaluation** procedures
- Develop **Scenario**
- Develop **Master Scenario Events List (MSEL)**

# Designing an Exercise - Objectives

## SMART - clear, concise, performance-focused

<b>'SMART' Guidelines for Useful Objectives</b>	
<b>Guideline</b>	<b>Description</b>
<b>Specific</b>	Objectives should specify what they want to achieve – i.e. what results is the agency looking for?
<b>Measurable</b>	How will the objective be measured? The objective should set the level of performance, so that results are observable, and you can identify when the objective has been achieved. Depending on the objective, it can set a quantifiable standard or it can simply be stated in a way so that people can agree on whether they succeeded.
<b>Achievable</b>	The objective should not be too difficult to achieve. For example, achieving it should be within the resources that the agency would reasonably be expected to commit to in a real event.
<b>Realistic</b>	The objective should present a realistic expectation for the situation. Even though an objective might be achievable, it might not be realistic for the exercise.
<b>Task oriented or time driven</b>	The objective should focus on a behaviour or procedure. With respect to exercise design, each objective should focus on an individual function. Objectives should also be time driven stating when something should be completed by.

# Designing an Exercise - Media

- **Take advantage of Media**
  - Involve Media as part of Exercise (real or simulated).  
Exercise Public Information SOP
  - Use Exercise to increase tsunami awareness
- **Ensure local media is aware of exercise well before start date**



# Exercise Evaluation



## □ Purpose

- Identify improvements
- Determine if objectives were achieved

## □ Key evaluation points:

- Does staff have written SOP to follow?
- Does staff have templates/pre-scripted communication to speed / standardize comm?
- Were stakeholders educated on their roles, expectations, and required/expected actions?

## □ Evaluation through debriefing

Hot debrief –  
immediately after

Cold debrief - w/in 4  
weeks after

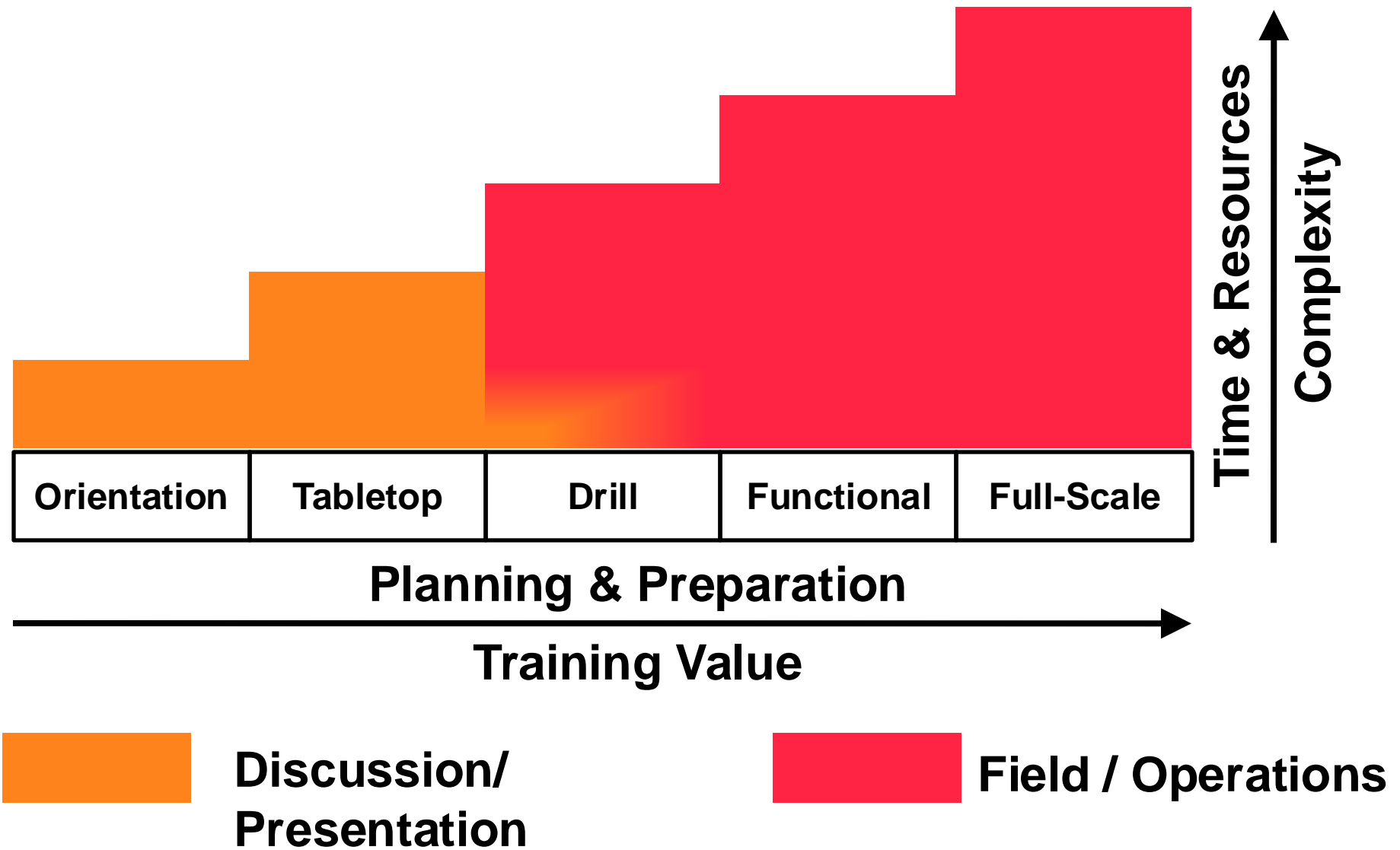


# 5 Types of Exercise

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- **Type #1: “Orientation” Workshop**
- **Type #2: “Drill”**
- **Type #3: “Tabletop Exercise”**
- **Type #4: “Functional Exercise”**
- **Type #5: “Full-Scale Exercise”**

# Exercises – Planning, Complexity



# Type #1: “Orientation” Workshop

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- ❑ Simple Orientation Workshop lays **foundation for comprehensive exercise** programme
- ❑ Provides **overview of authorities, strategies**, plans, policies, procedure, protocols, resources and ideas.
- ❑ **Brings together organizations** in developing emergency response planning, problem solving, SOP’ s, and resource integration.
- ❑ **Good starting point for organizations** that are developing or making major changes to their plans and procedures.

# Type #2: “Drill”

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- ❑ Drills **involve emergency response** of single organizations, facilities, or agencies.
- ❑ Drills **involve review and testing of single operation or function in single agency** (i.e. internal communications and/or field activities).
- ❑ **Performance is in isolation** and subset of full-scale.
- ❑ **Limited public** may or may not be conducted.



# Schools Drills

- Annual – Every school in evacuation zone
- Drill is Evacuation only
- Coordinated by Ministry of Education, in cooperation with Emergency Management Agency (DMO)



# SNAM Drills

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- ❑ Conducted daily.
- ❑ Only SHOA staff involved.
- ❑ Communication and team response test.



# Type #3: “Tabletop Exercise”

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- ❑ **Involves senior staff members of govt /non-govt organizations in large room. Informal, slow-paced.**
- ❑ **Assess plans, policies, procedures.**
- ❑ **Exercise Controller (moderator) introduces tsunami scenario via written message, telephone or radio call, or other means. Exercise problems and activities (injects) further introduced.**
- ❑ **Participants examine / resolve problems, and discuss their actions based on their SOPs.**
- ❑ **Participants conduct discussions, resolution agreed upon, then summarized by group.**

# Table Top Exercises

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2008-2010, UNESCAP - IOC/ITIC  
Strengthening TWC and TER SOP Project  
East Africa Training, Tanzania  
Regional IOTWS, SE Asia  
Country - Pakistan, Vietnam, Philippines, Indonesia





# Type #4: “Functional Exercise”

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- Designed to **test individual functions, multiple activities within a function**, or interdependent groups of functions among various agencies.
- **Organizations test their SOP’ s** using real time simulation tsunami bulletins.
- Tests **command and control activities at locations** such as emergency command centres, command posts, master communications centres, etc.
- Test **SOP’s and internal / external communications** with other organizations.

# Functional Live Exercise - Thailand, 2007

- ❑ Functional NDWC alerts (SMS, sirens)
- ❑ 6 provinces, 24 schools. 30,000 persons evacuate in 20 minutes
- ❑ Observers, Media

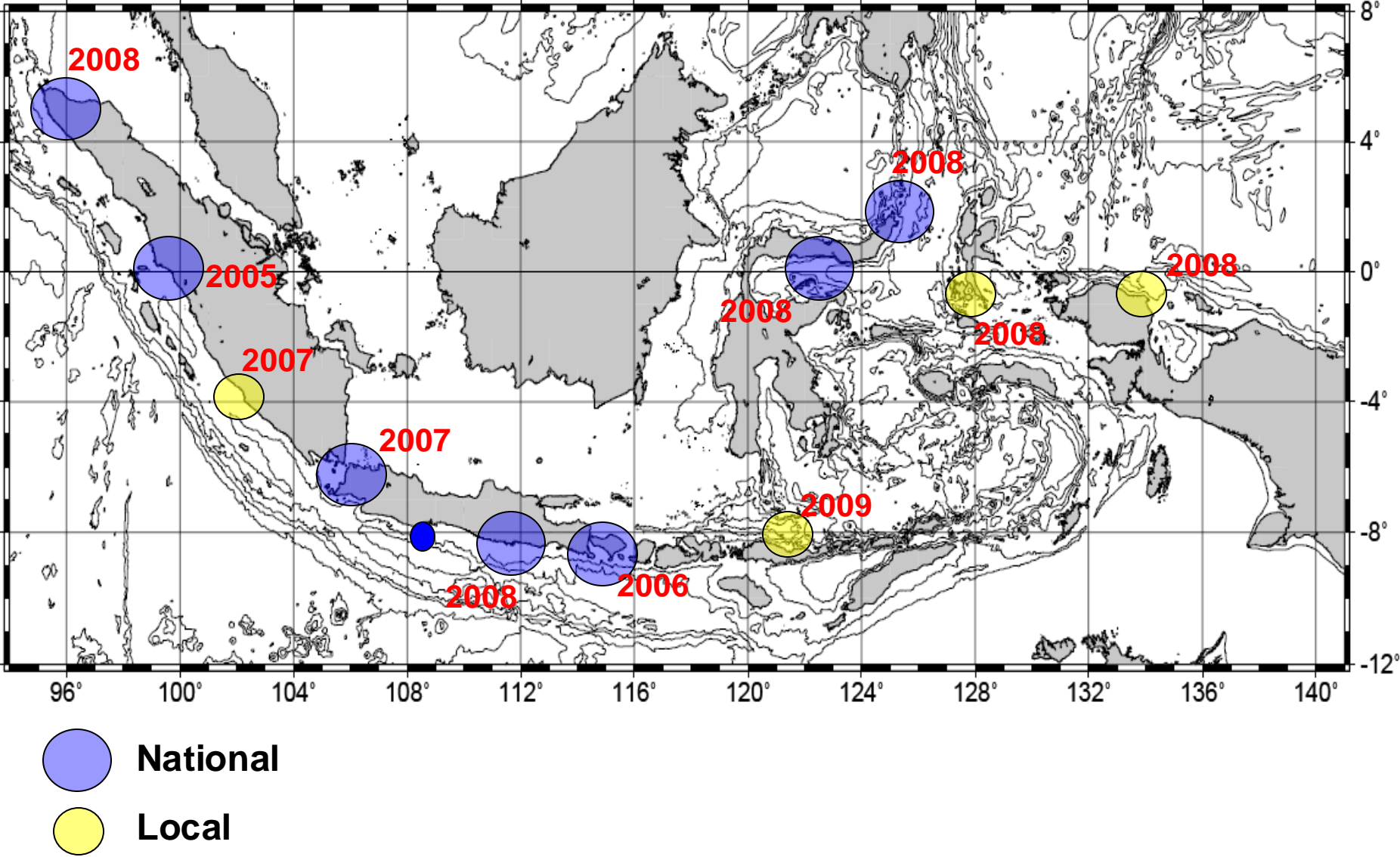


# Type #5: “Full-Scale Exercise”

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- ❑ **Climax of progressive exercise programme.**
- ❑ **Involves multiple layers of government (national, provincial, local)**
- ❑ **Involves actual field mobilization and deployment of response personnel.**
- ❑ **All local command centres activated.**
- ❑ **Tests all aspects of emergency response.**
- ❑ **Demonstrates interagency cooperation.**
- ❑ **Largest, costliest, most complex type.**
- ❑ **May or may not include public evacuations.**

# Tsunami Exercises – Indonesia, 2006-09



# Exercise Plan

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- **Identify target area of the Exercise**
- **Training of the Participants / Workshops,**
- **Exercise of Table, Campaign Mediática,**
- **Preparation of Evacuation Routes, Assembly Points, Safe zones**
- **Table Top Exercise, Large-scale, Functional Exercise With Evacuation**

# Role of Evaluation

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- ❑ Goal is to **improve response times, procedures, and processes.**
- ❑ **Capture SOP strengths and weaknesses**
- ❑ **Identify corrective action and suggestions**
- ❑ **Not intended to evaluate individual performance.**





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