



ADRC Tsunami Seminar
Practical Tsunami Countermeasures
in
THAILAND

15 June 2022

ACM. Somneuk Swatteuk
NATIONAL DISASTER WARNING CENTER

26 December 2004 Tsunami

Time 07.58 am.

Dec 26, 2004

Location

Northern Sumatra

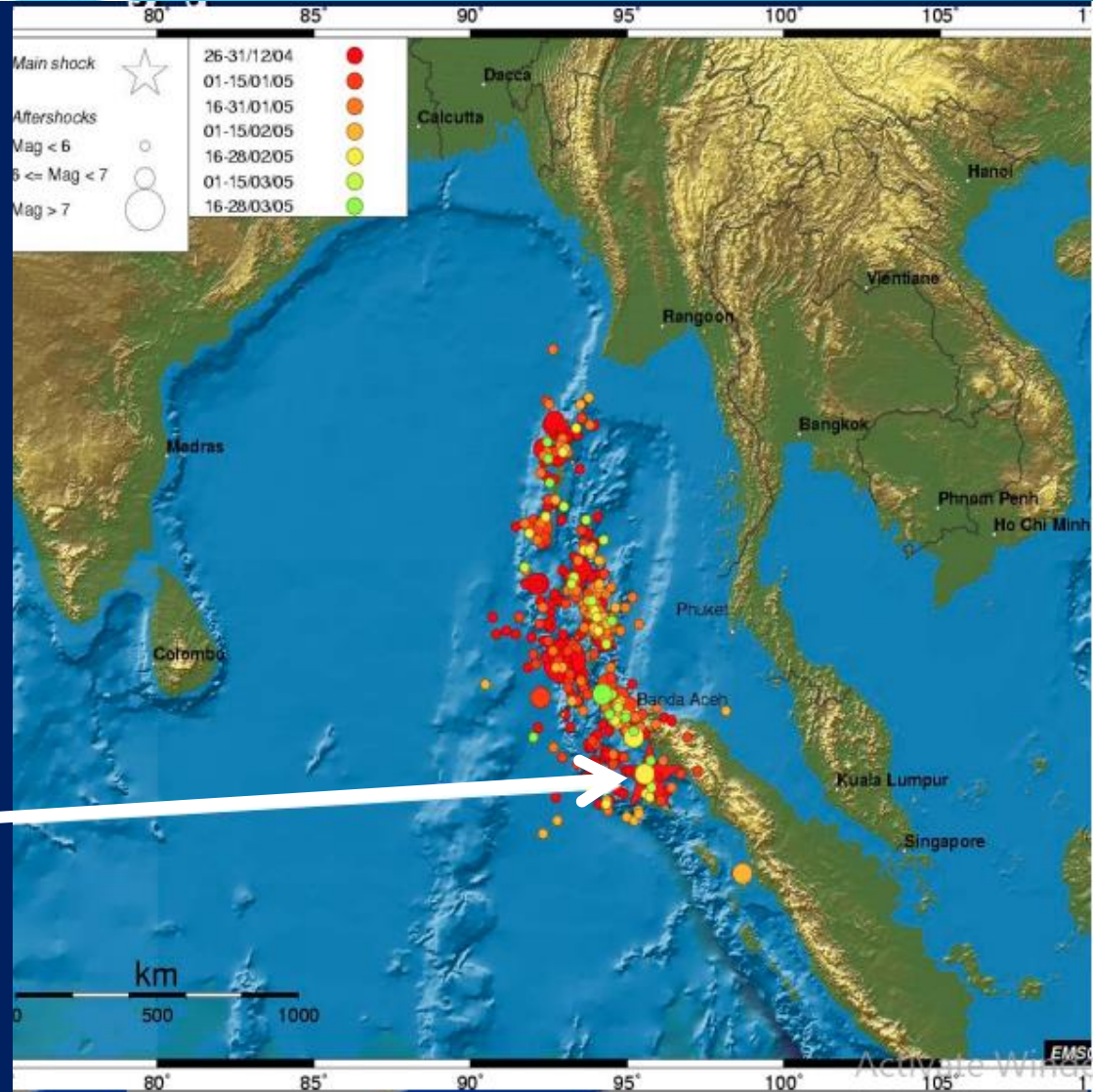
Indonesia

Magnitude

Earthquake Magnitude 9.3

Wide Spread Impact

Indian Ocean Countries



Timeline of NDWC

11 Jan 2005

Appointment of the Committee for the Development of an Early Warning System.

30 May 2005

NDWC was officially opened and under the Prime Minister's Office.

2009

Cancellation of the Prime Minister's regulations governing the administration of the National Disaster Prevention and Regulation Act of 2005 (No. 2). Using Act 2007 the National Disaster Warning Center was an agency under the Ministry of ICT.

2007

2009

2016-2017

2005

Tsunami

26 Dec 2004

8 April 2005

Appointment of Sub-Committee on National Disaster Warning Center Administration.

2007

NDWC Was moved under office of The Ministry of information and communication technology MICT

16 Sep 2016

The Improvement Ministries (No. 17) Act 2016, Section 18 and 19 to transfer the National Disaster Warning Center. To the Department of Disaster Prevention and Mitigation, Ministry of Interior.

Department of Disaster Prevention and Mitigation (DDPM)

2002 : established DDPM and transferred duties concerning disaster prevention and mitigation that scattered in 5 other departments to DDPM

2004: Indian Ocean tsunami occurred, killing 5,395 Thais. Thailand realized there was no appropriate procedure in dealing with big scale disaster.

2007 : DPM Act came into force ,state that DDPM is a main in charge government agency to integrate and collaborate with relevant agencies in disaster management

Thailand Disaster Management System

Based on :

- 1. Disaster Prevention and Mitigation Act 2007**
- 2. National Plan on Disaster and Mitigation 2021-2027**

3. The National Committee on Disaster Prevention

and Mitigation : top policy making body.

- composed of disaster management related ministries, agencies and academia

- chaired by the Prime Minister

- DDPM is the Secretariat and executive arms



Disaster Management Strategies

- 1. Mainstreaming Disaster Risk Reduction into planning and development at all levels.**
- 2. Effective and integrated emergency management system.**
- 3. Sustainable disaster reconstruction and recovery with “Build Back Better”**
- 4. International Cooperation.**

DDPM Programs and activities

Before Disaster

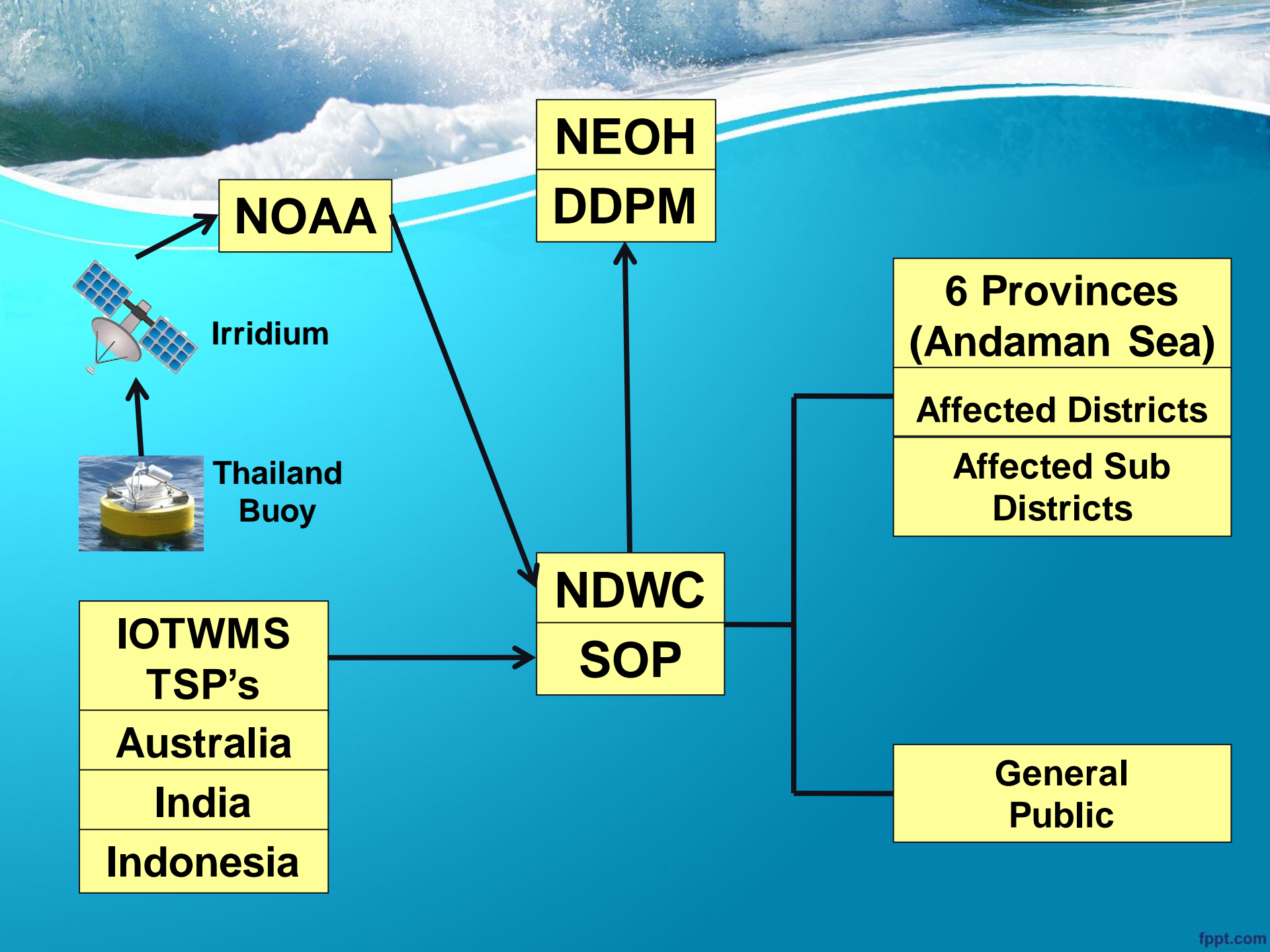
- **Community – Based Disaster Risk Management (CBDRM)**
- **Disaster Response Simulation Exercise**
- **Disaster risk education and awareness promotion**

During Disaster

- **Disaster Early Warning System**
- **One Tambon One Rescue (OTOS)**
- **Emergency Response Team**

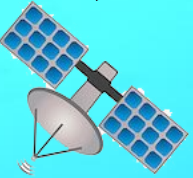
After Disaster

- **The Disaster Emergency Relief Fund**
- **Post Disaster Need Assessment (PDNA)**
- **Build Back Better**

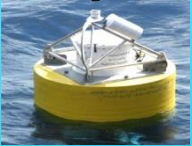


NOAA

**NEOH
DDPM**



Iridium



**Thailand
Buoy**

**IOTWMS
TSP's**
Australia
India
Indonesia

**NDWC
SOP**

**6 Provinces
(Andaman Sea)**
Affected Districts
**Affected Sub
Districts**

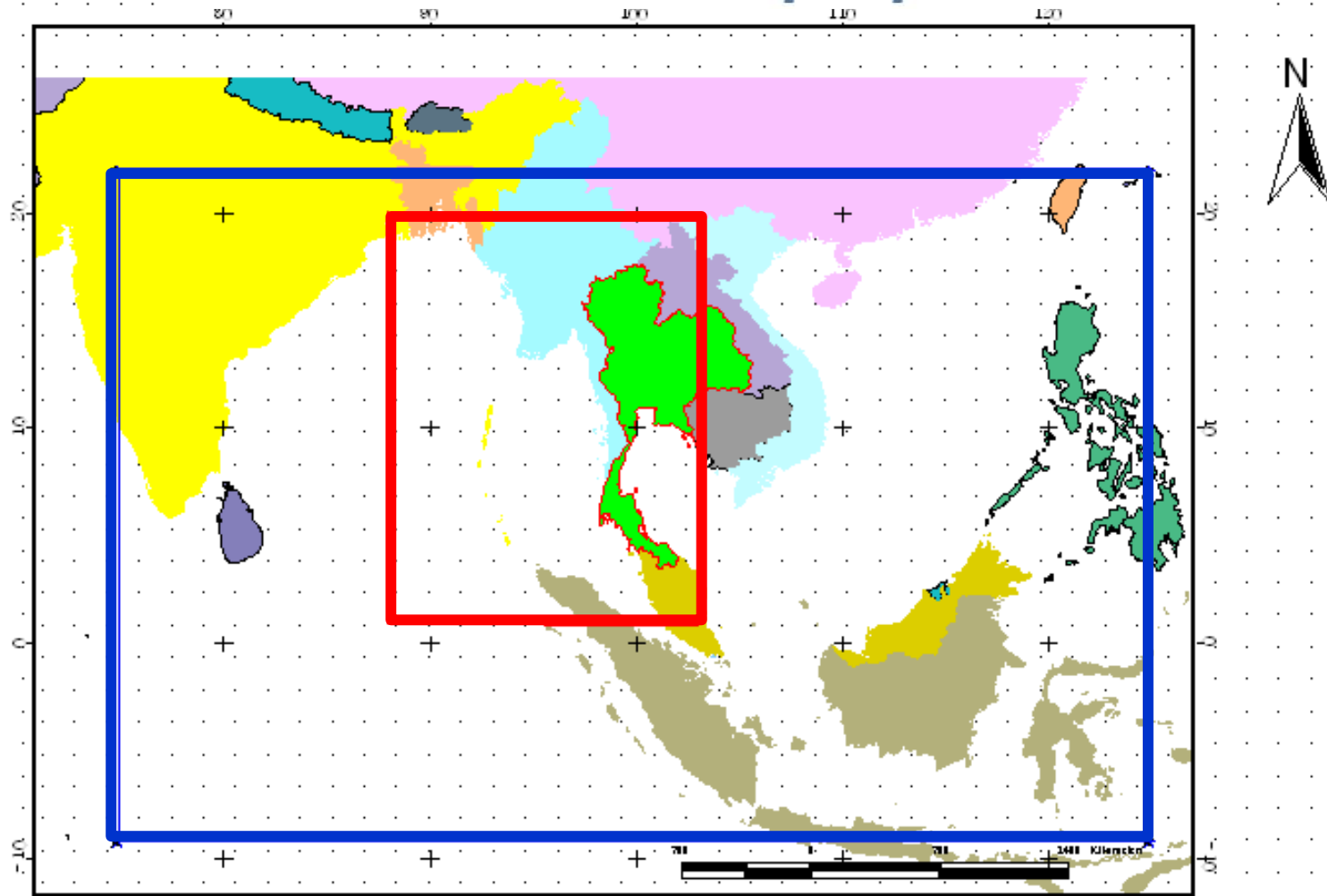
**General
Public**

Equipment and Tools

- **Hotline (12 Numbers)**
- **SMS**
- **FAX (16 Ports)**
- **Email**
- **BAS (Broadcast Alert System) to Digital TV**
- **Warning Tower System**
- **Government Radio Station (Central and local)**
- **Call Center 1784**
- **Social Network**
- **Application**

Operational Processes

Seismic awareness zones of Thailand tsunami preparedness



พื้นที่

1.Red

2.Blue

3.Out of Blue

88 องศาตะวันออก, ถึง 103 องศาตะวันออก

75 องศาตะวันออก, ถึง 125 องศาตะวันออก

Operational Processes Criteria

Zone 1: Red Box (3°N – 23°N and 88°E – 103°E)

Depth: Magnitudes	Hypocenter	
	< 100 km	> 100 km
5.0 - 6.5 Richter	Do not generate tsunami Reporting	Do not generate tsunami Reporting
6.6 – 7.7 Richter	Potential to generate tsunami Watching (tracking more information)	Potential to generate tsunami Watching (tracking more information)
> 7.8 Richter	High tsunami potential Warning	Tsunami potential Watching (tracking more information)

Zone 2: Blue Box (75°S – 25°N and 75°E – 125°E)

Depth: Magnitudes	Hypocenter	
	< 100 km	> 100 km
5.7 - 7.0 Richter	Do not generate tsunami Reporting (tracking more information)	Do not generate tsunami Reporting
> 7.1 Richter	Potential to generate tsunami Watching (tracking more information)	Potential to generate tsunami Watching (tracking more information)
	If no tsunami occurs, then status changed to Warning	If a tsunami occurs, then status changed to Warning

Zone 3: Other areas not included in the Red and Blue Boxes

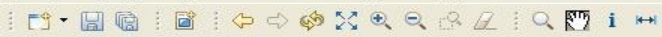
Depth: Magnitudes	Hypocenter	
	< 100 km	> 100 km
> 7.0 Richter	Have no impact on Thailand Reporting	Have no impact on Thailand Reporting

Operational Processes

Evaluation

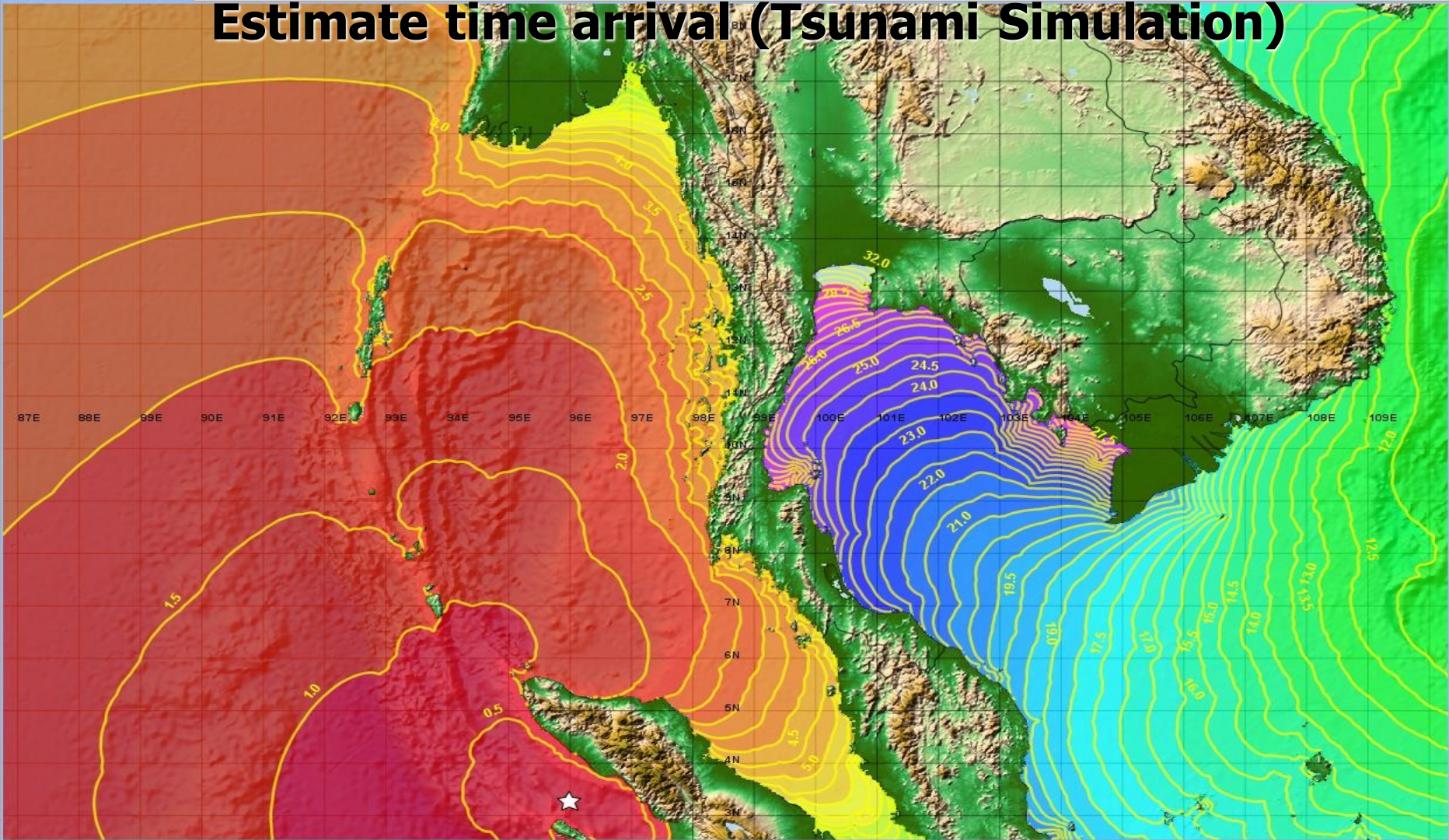
TsuDig: WDC-MGG Historical Tsunami GIS

File Edit Navigation Tsunami Travel Times Window Help

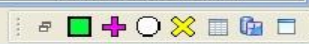


*Pacific-Centered Map 1

Estimate time arrival (Tsunami Simulation)



1:7,860,395 96.489, 3.11, -1154m



Operational Processes

Evaluation

WinITDB - [ITDB1]

File Area Select Map Earthquakes Tsunami Warning Source Isochans Topo Shading Bathymetry Window Help

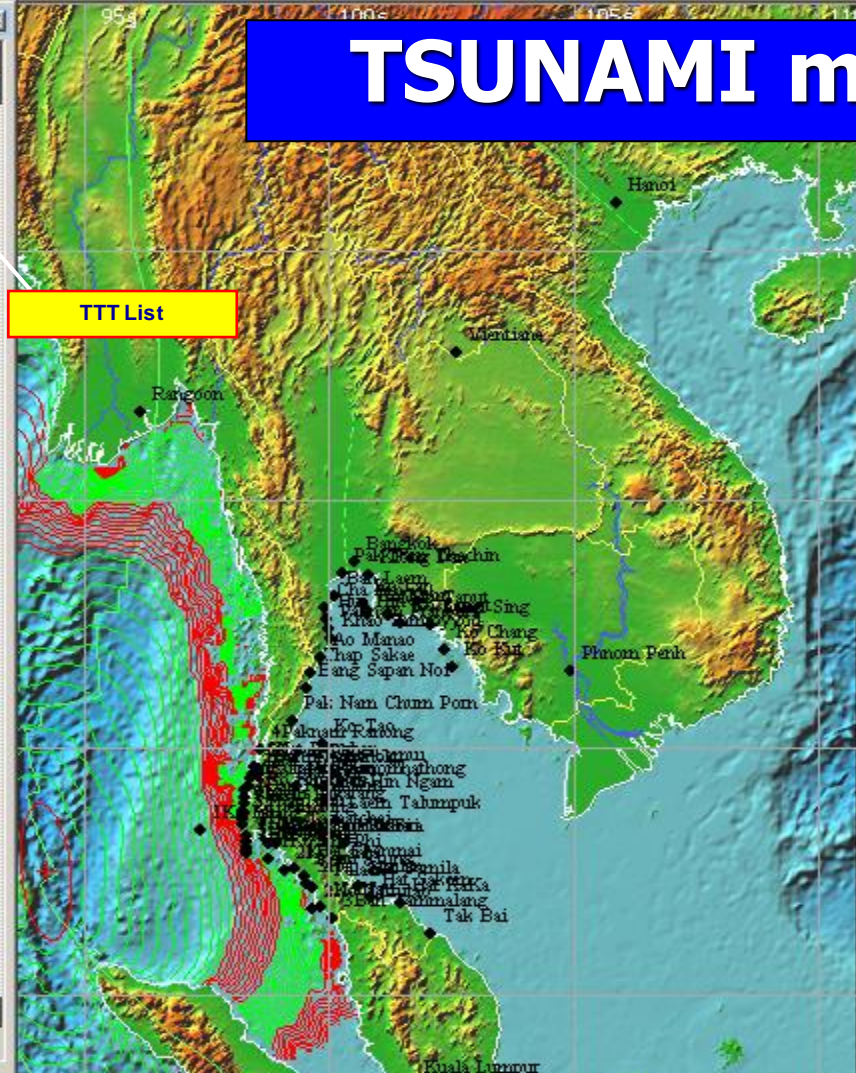


Coastal Points

Area Name	Site Name	Lat	Lon	Time
2PHANG NGA	1Ko Miang	8.33	97.38	00:53:26
3PHUKET	1Hat Karon	7.85	98.29	01:39:10
3PHUKET	2Hat Patong	7.90	98.30	01:41:01
3PHUKET	5Bangtao	7.98	98.29	01:41:01
3PHUKET	3Ban Tachatchai	8.20	98.30	01:51:36
3PHUKET	4Naiyang	8.11	98.31	01:54:11
2PHANG NGA	2Theimaung	8.45	98.24	01:58:17
2PHANG NGA	3Thaplamu	8.57	98.23	01:58:17
4KRABI	2Ko Lanta	7.52	99.10	02:10:44
4KRABI	1Ko Phi Phi	7.74	98.77	02:16:45
2PHANG NGA	6Kuraburi	9.22	98.33	02:17:17
2PHANG NGA	5Ko Prathong	9.15	98.26	02:21:03
2PHANG NGA	8Khao Lak	8.68	98.26	02:23:25
2PHANG NGA	4Ko Khonkao	8.99	98.26	02:24:07
2PHANG NGA	9Laem Pakarang	8.73	98.23	02:24:23
4KRABI	3Hat Noparatthara	8.04	98.77	02:26:32
4KRABI	4Paknam Krabi	8.05	98.92	02:26:32
5STRANG	2Kan Trung	7.40	99.50	02:29:57
1RANONG	2Hat Prapas	9.36	98.40	02:34:31
1RANONG	1Ban Thalaenok	9.47	98.44	02:39:37
5STRANG	3Hat Somlan	7.25	99.52	02:51:00
5STRANG	1Hat Chanmai	7.55	99.30	02:57:26
1RANONG	3Laem Phota	9.56	98.56	03:00:26
1RANONG	5Hat Bangben	9.60	98.47	03:00:26
7Chum Porn	Pak Nam Chum Porn	10.52	99.24	03:06:07
5STRANG	4Palaen	7.15	99.67	03:08:00
Burma	Rangoon	16.78	96.15	03:08:16
2PHANG NGA	7Ban Namkaem	8.86	98.27	03:14:35
6SATUN	1LaNgu	6.78	99.81	03:19:03
6SATUN	2Ko Tatrutao	6.73	99.65	03:19:03
1RANONG	4Paknam Ranong	9.94	98.61	03:31:07

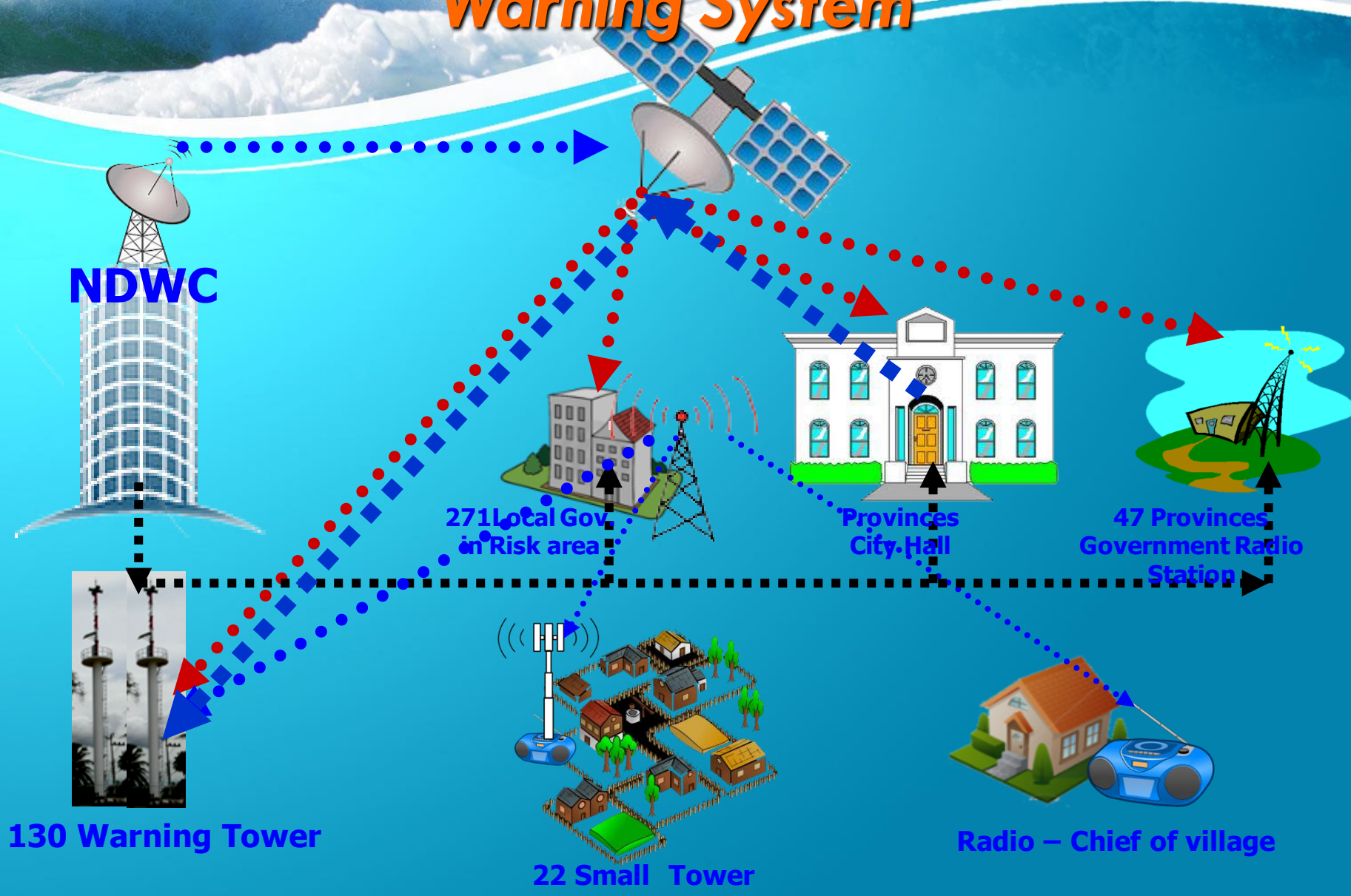
TTT List

TSUNAMI modeling



Save As... Print...

Warning System



NDWC

**271 Local Gov
in Risk area**

**Provinces
City Hall**

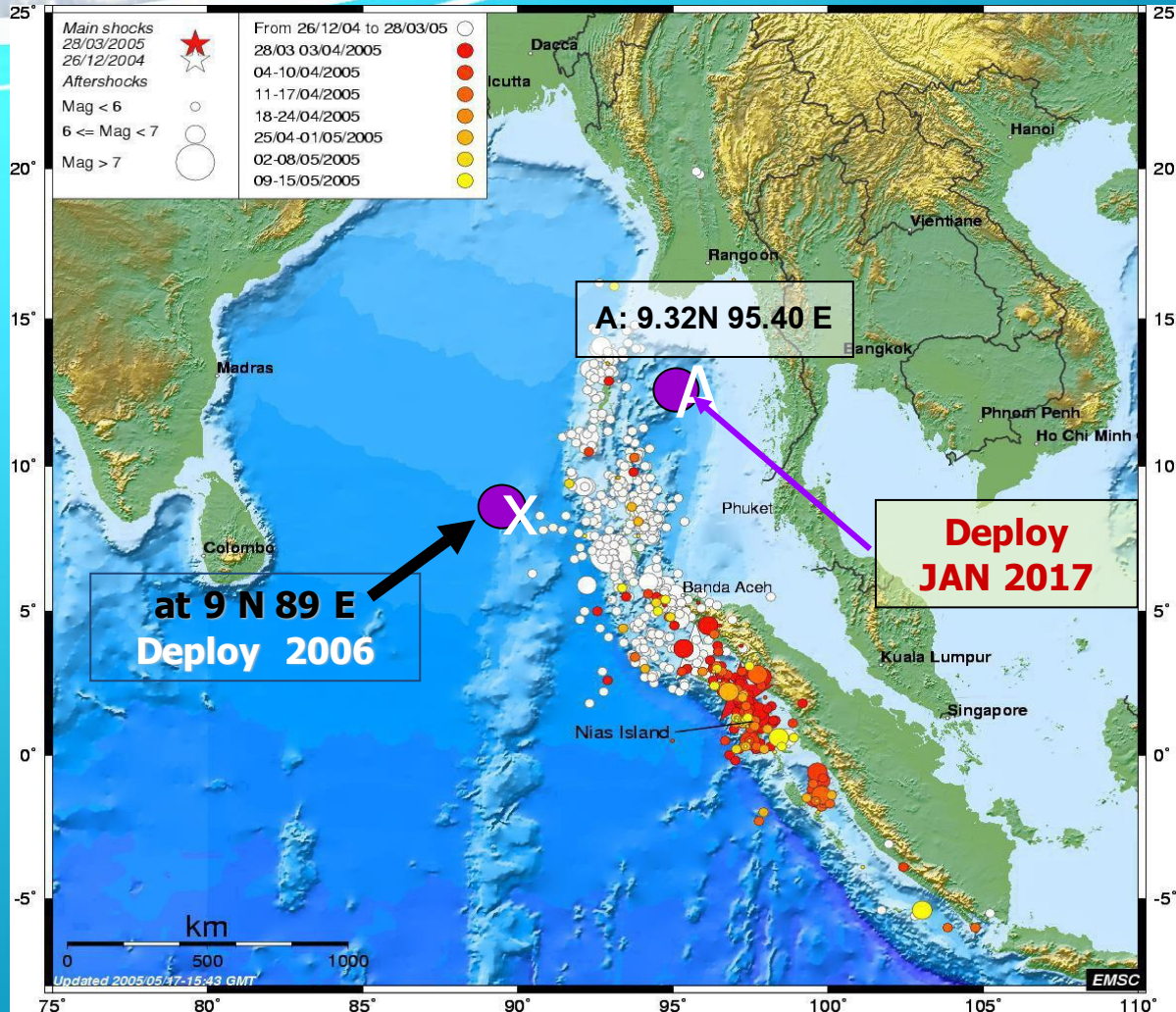
**47 Provinces
Government Radio
Station**

130 Warning Tower

22 Small Tower

Radio – Chief of village

Tsunami Buoy in Andaman Sea



Warning System

ช่องทางการเข้าถึง “การเตือนภัยพิบัติ” ของประชาชน

Radio



Warning Tower



TV



- Volunteer
- People Allied Network



-Website
-Social Media



- SMS
- Application





Thank You

National Disaster Warning Center

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