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## **Vietnam Progress Report: Status and Priorities**

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# Outline

- ✧ **Overview**
- ✧ **Seismic networks and tide gauges**
- ✧ **National Seismic Hazard map**
- ✧ **Ongoing activities**



# VIETNAM CENTRE FOR EITW

**The Earthquake Information and Tsunami Warning Centre under Institute of Geophysics was established since 2007.**



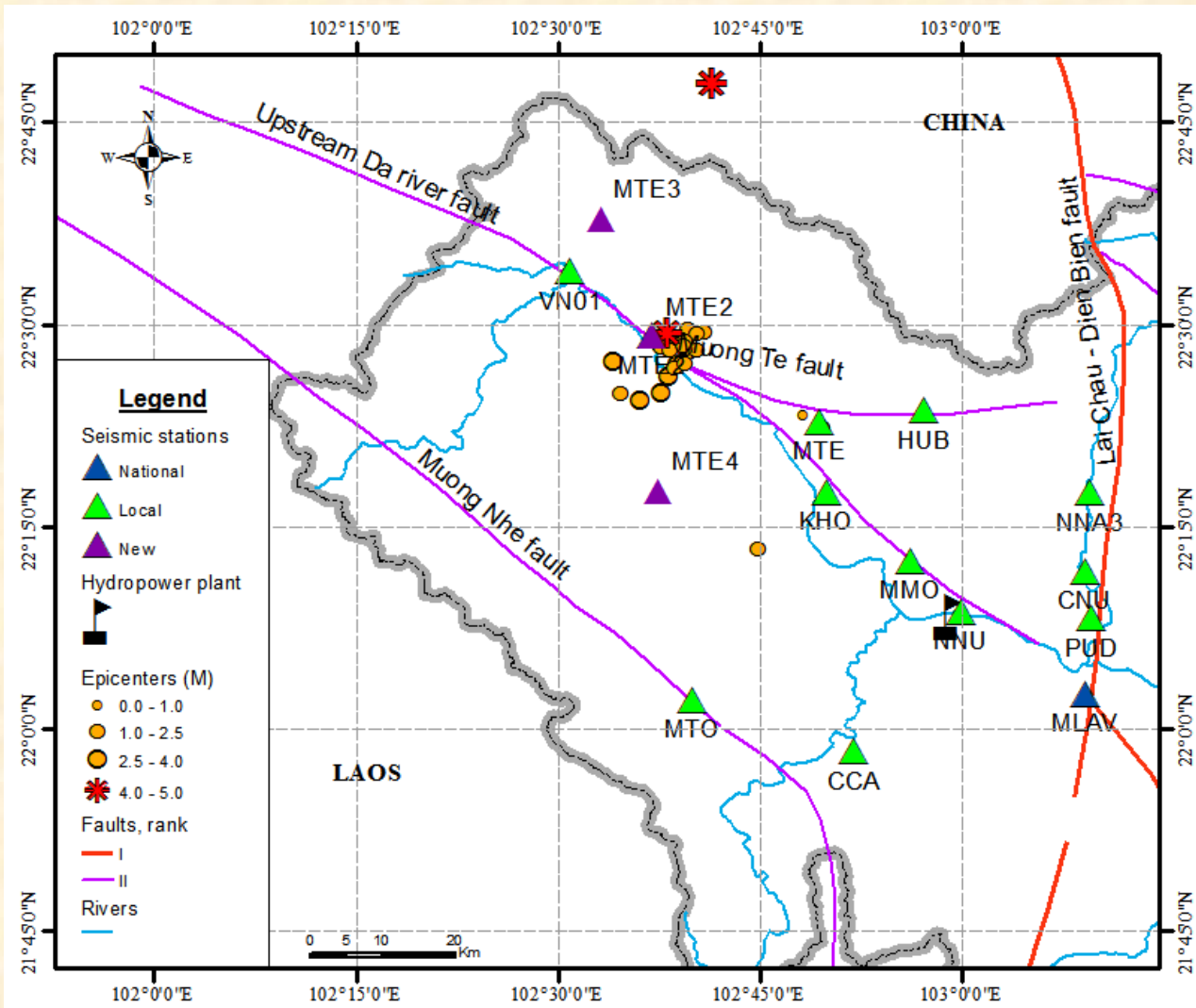
# Vietnam Seismic Network (VSN)

- The VSN consists of 31 broadband seismometers.
- About 50 temporary seismic stations have been deploying for monitoring seismic activity of HPP or conducting seismic research at local scales





# Temporary Seismic Network



-Deployed new seismic stations after the  $M = 4.9$  earthquake of June 16, 2020.

# NATIONAL SEA LEVEL NETWORK

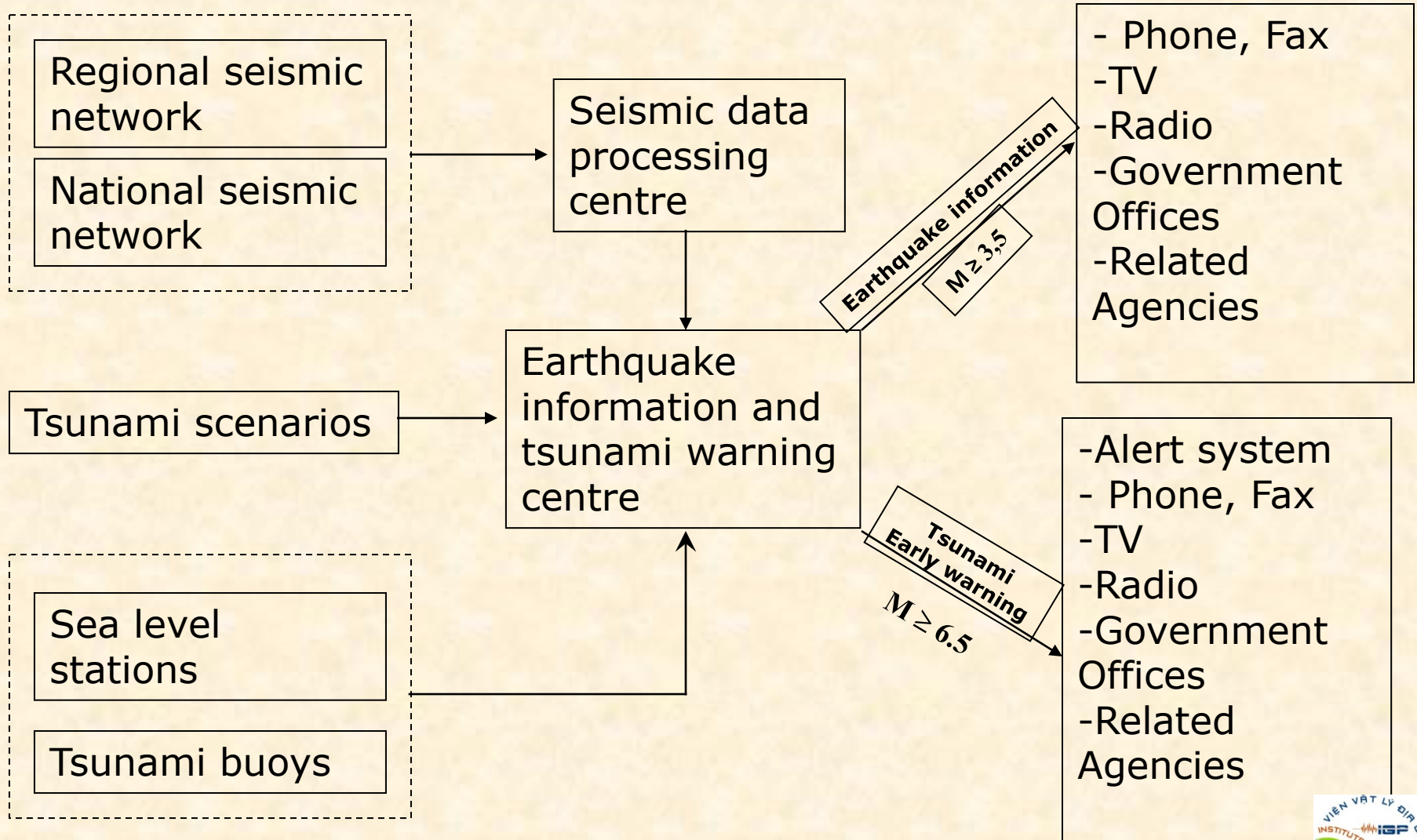
SƠ ĐỒ HIỆN TRẠNG MẠNG LƯỚI TRẠM KHÍ TƯỢNG HẢI VẠN



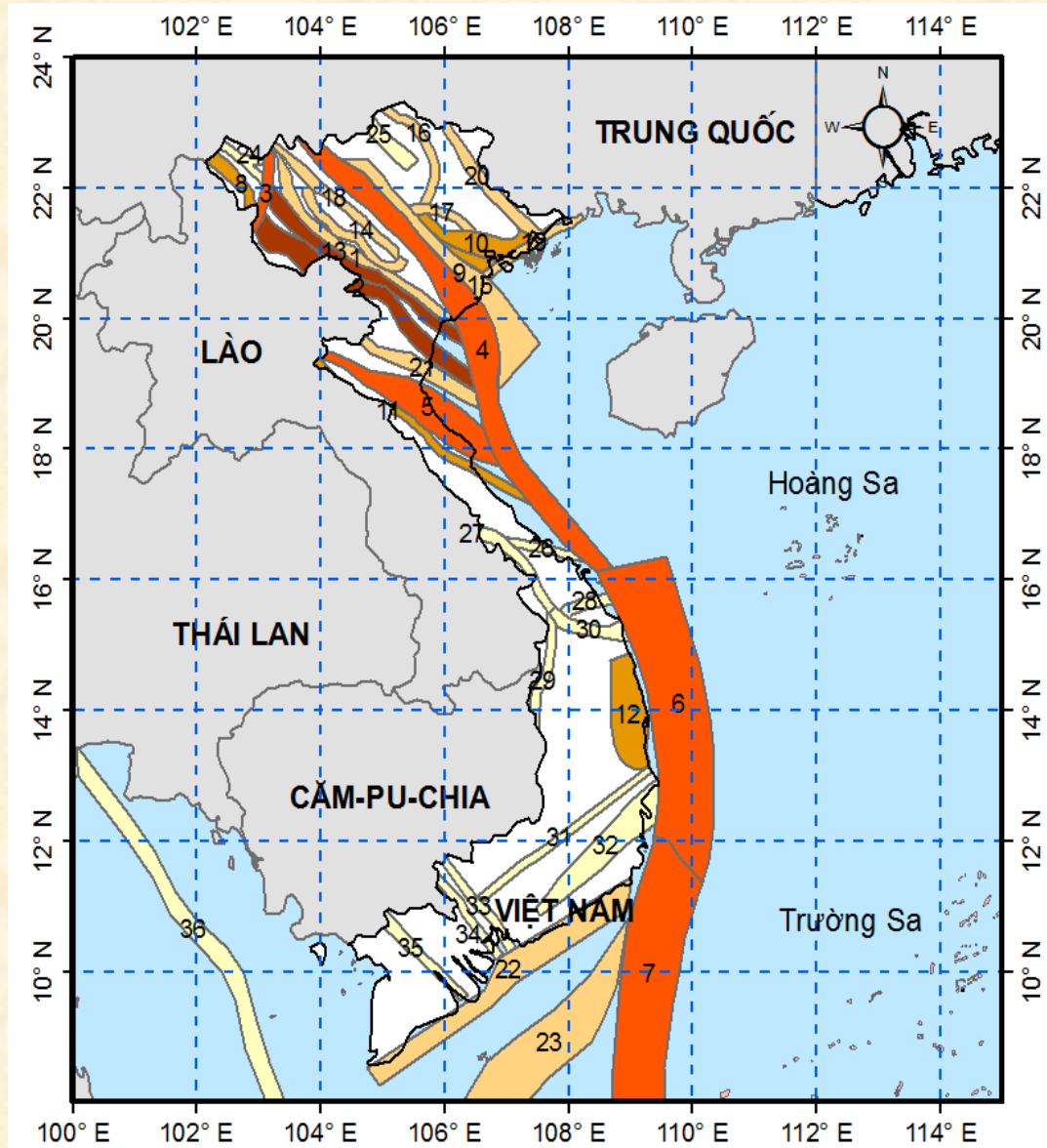
TT	Station name	Longitude, E	Latitude, N	Province	Location	Sea level measurement
1	Cửa Ông	107°21'	21°01'	Quảng Ninh	Coastal	NA
2	Cô Tô	107°46'	20°59'	Quảng Ninh	Island	NA
3	Bãi Cháy	107°04'	20°57'	Quảng Ninh	Coastal	NA
4	Hòn Dấu	106°48'	20°40'	Hải Phòng	Island	Upgraded 2008-2009
5	Bạch Long Vĩ	107°43'	20°08'	Hải Phòng	Island	Upgraded 2008-2009
6	Sầm Sơn	105°54'	19°45'	Thanh Hoá	Island	NA
7	Hòn Ngư	105°46'	18°48'	Nghệ An	Island	
8	Cồn Cỏ	107°22'	17°10'	Quảng Trị	Island	NA
9	Sơn Trà	108°13'	16°06'	Quảng Nam	Coastal	NA
10	Quy Nhơn	109°15'	13°46'	Bình Định	Coastal	NA
11	Phú Quý	108°56'	10°31'	Phan Thiết	Island	
12	Trường Sa	111°55'	8°39'	Khánh Hoà	Island	
13	Vũng Tàu	107°04'	10°20'	Bà Rịa - Vũng Tàu	Coastal	
14	Côn Đảo	106°36'	8°41'	Bà Rịa - Vũng Tàu	Island	NA
15	DK1-7	110°37'	8°01'	Bà Rịa - Vũng Tàu	Floating	NA
16	Phù Quốc	103°58'	10°13'	Kiên Giang	Island	NA
17	Thổ Chu	103°28'	9°17'	Kiên Giang	Island	
18	Sông Từ Tây	114°20'	11°20'	Khánh Hòa	Island	NA

Distribution of National Hydro-meteorological network

# VIETNAM CENTRE FOR EITW

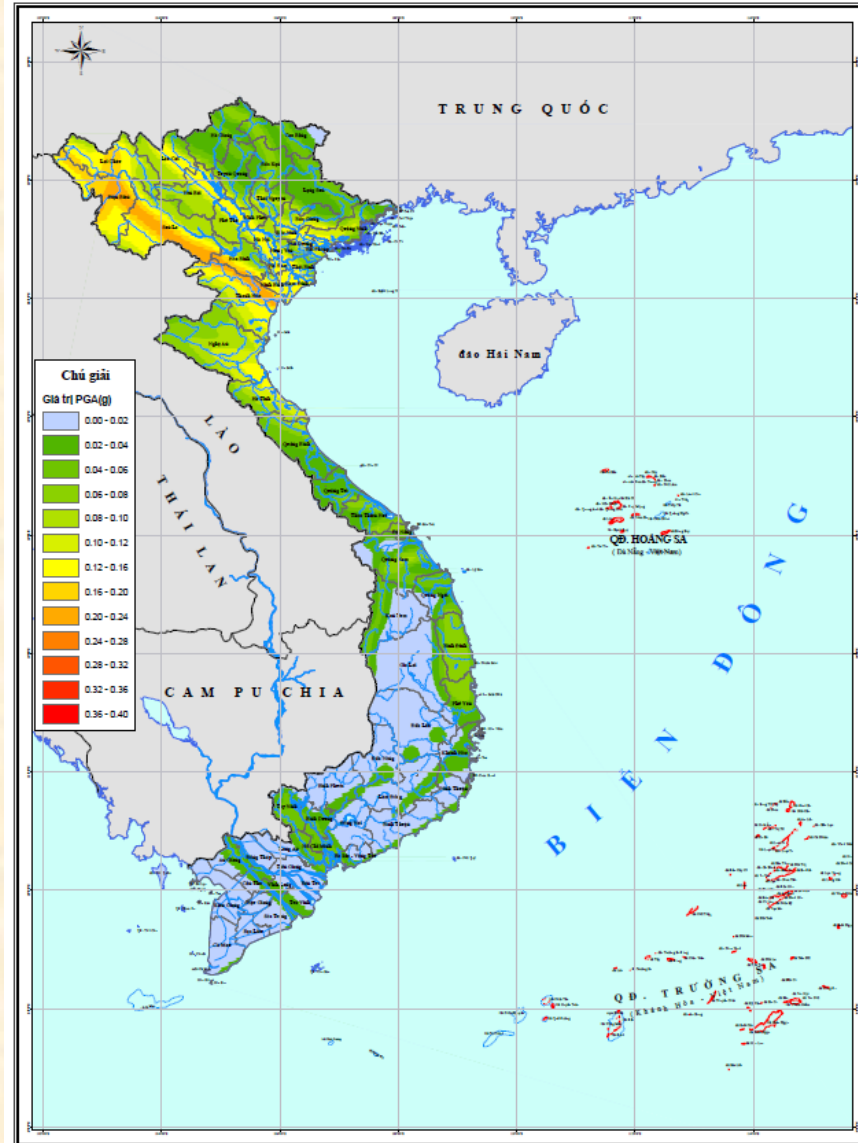


# Seismic sources





# National Seismic Hazard Map



PGA- 475 years return period

# Natural disaster risk scales

- Earthquake

<b>Earthquake Intensity scale (MSK-64)</b>	<b>Disaster scale</b>		
$\geq$ VIII	5		
VII - VIII	3	4	4
VI - VII	2	2	3
V - VI	1	1	1
	<b>Rural areas</b>	<b>Urban</b>	<b>Reservoirs, hydropower dams</b>

# Natural disaster risk scales

- Tsunami:

<b>Tsunami disaster scale</b>	<b>Wave height (m)</b>	<b>Tsunami intensity scale</b>
1	2.0	VI
2	4.0	VII–VIII
3	8.0	IX–X
4	16.0	XI
5	32.0	XII

# On going Activities

- To develop earthquake and tsunami risk reduction strategy at Country/community/local level
- To strengthening earthquake and tsunami preparedness for effective response at all levels
- To continue the operate seismic networks and tide gauges for tsunami early warning purpose.



**Thank you !**