



**Asia-Pacific
Economic Cooperation**

2017/SOM3/EPWG/028

Agenda Item: 13.7

Abnormal Behavior of Storm and Tropical Cyclones That Hit Viet Nam

Purpose: Information
Submitted by: Viet Nam



**12th Emergency Preparedness Working Group
Meeting
Ho Chi Minh City, Viet Nam
21-22 August 2017**

CENTRAL COMMITTEE FOR NATURAL DISASTER PREVENTION AND CONTROL



REPORT

ABNORMAL DISASTER SITUATION AND EMERGENCY RESPONSE ACTIVITIES

Ho Chi Minh city, August 2017

CONTENTS

- 1** CONTEXT
- 2** ABNORMAL DISASTER SITUATION
- 3** DISASTER RESPONSE CLASSIFICATION
- 4** EMERGENCY RESPONSE ACTIVITIES
- 5** SOME ISSUES FOR DISCUSSION



I. CONTEXT

Context

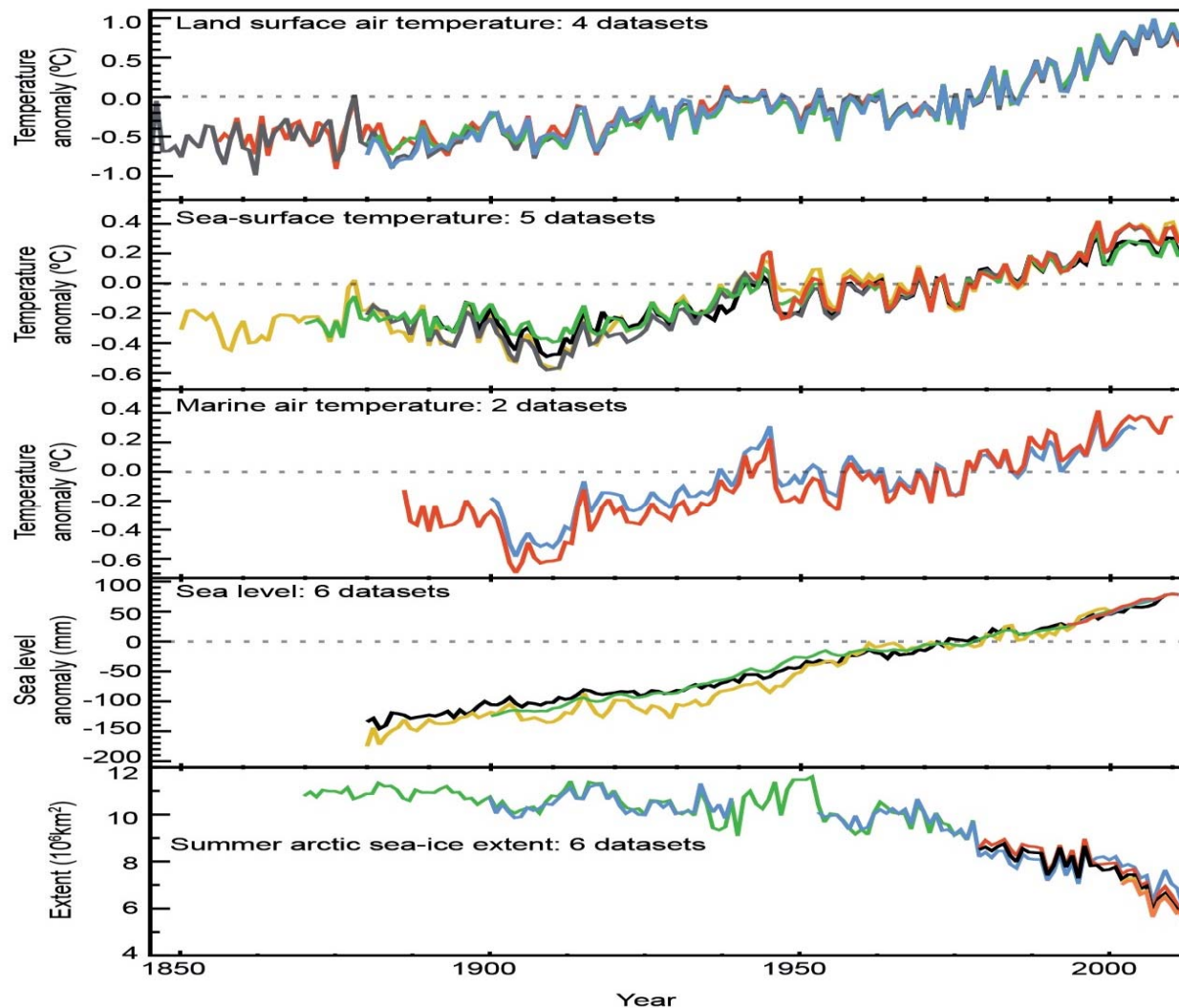
- Vietnam is one of the countries most affected by natural disasters and climate change (in 2016, 20/21 type of disaster has appeared, excluding tsunami)
- Natural disasters, especially storms, floods and droughts, are increasing in intensity, frequency, causing great loss of life and damage to the economy. In the last 20 years, about 10,800 people were killed/missing by natural disasters; Average annual loss is about 20,000 billion VND (1-1.5% of GDP)
- Impacts from the adverse effects of socio-economic development:
- The construction of technical infrastructure, industrial zones, urban areas have not fully considered the impact of natural disasters.
- Over-exploitation of upstream water resources
- High requirement to ensure safety against natural disasters with a country with relatively large population size and developing economy of our country.





I. CONTEXT

Expression of Climate change and Sea level rise at global level



Land surface air temperature increased
(From 1900 – 2013 increase 1°C)

Sea-surface temperature increased
(From 1900 – 2013 increase 0,5°C)

Marine air temperature increased
(From 1900 – 2013 increase 0,5°C)

Sea level increased
(From 1900 – 2013 increase 20 cm)

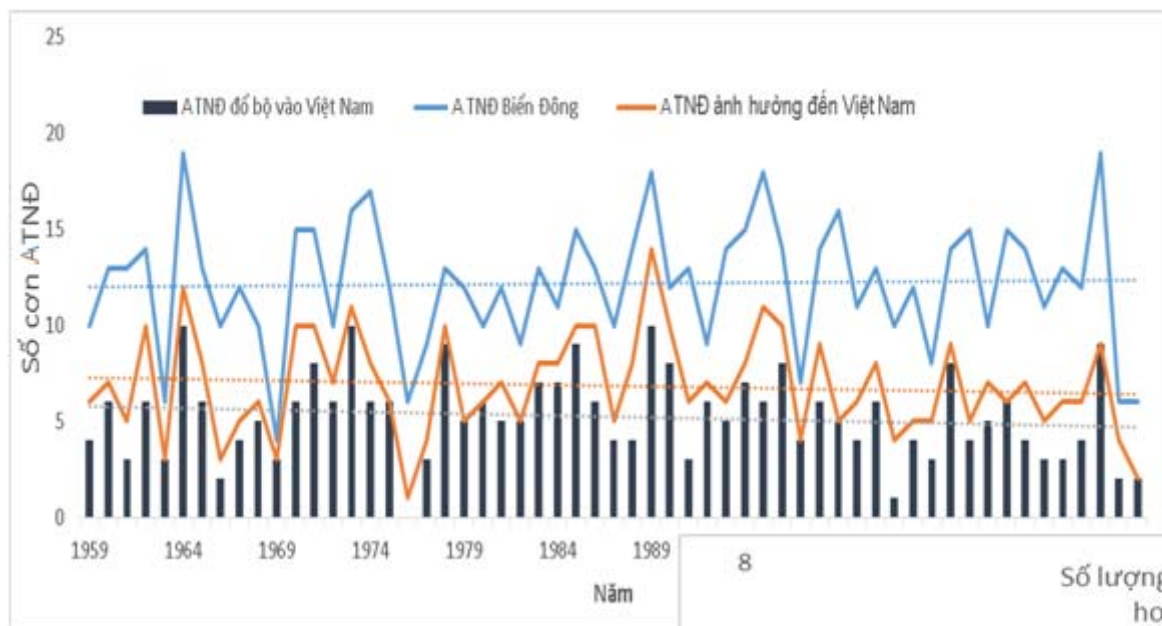
Summer arctic sea-ice extent
(From 1900 – 2013 extend 4 millions km²)

(Source: 5th IPCC report, 2013)



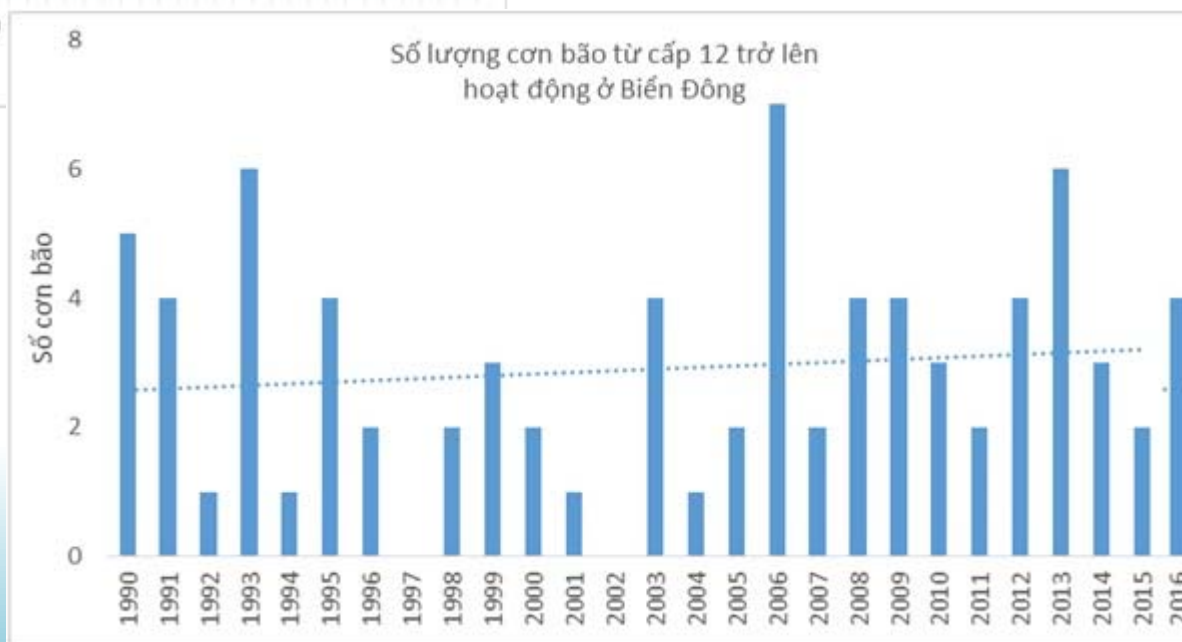
II. ABNORMAL DISASTER SITUATION

Expression of extreme disaster in Vietnam



❖ Increasing of strong storm

Storm (>level 12) hit to East sea of Vietnam:
In period 2004-2016 (44 storms) increase 1,3 times in compared with period 1990-2003 (35 storms)





II. ABNORMAL DISASTER SITUATION

Expression of extreme disaster in Vietnam

Unpredictable rain and unusually heavy rainfall occur more frequently

Unusual 4-day rainfall from 31/10 to 03/11/2008 in the Northern provinces is widespread 300-500mm, especially high rainfall in the delta reached the highest level in the monitoring data series such as Ha Dong 514mm; Lang 597mm (on 31/10).



Flooding in Hanoi

Heavy rainfall record in 08 days (23/7-04/8 in Northern area, especially Cua Ong station with total rainfall of 1.557mm)



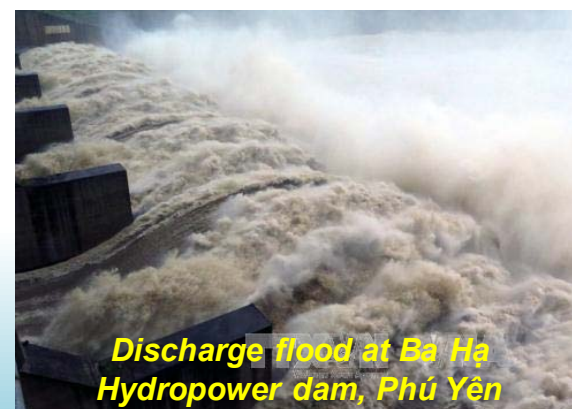
Flooding in Hoanh Bò, Q.Ninh

5 day-period rainfall (13-18/10/2016), extreme rainfall at Mai Hôa (Quảng Bình) 949mm; Hà Tĩnh 932mm.



Flooding in Đông Hói, Q.Binh

7 day-period rainfall (30/10-07/11/2016) with very high rainfall in the Central and Highlands region, especially in Ha Tinh, Binh Dinh, Q.Nam, B. Dinh, Phu Yen, Khanh Hoa, Dak Lak, which popular 300-600mm, in Phu Lam (Phu Yen) 1.022mm



Discharge flood at Ba Hạ Hydropower dam, Phú Yên



II. ABNORMAL DISASTER SITUATION

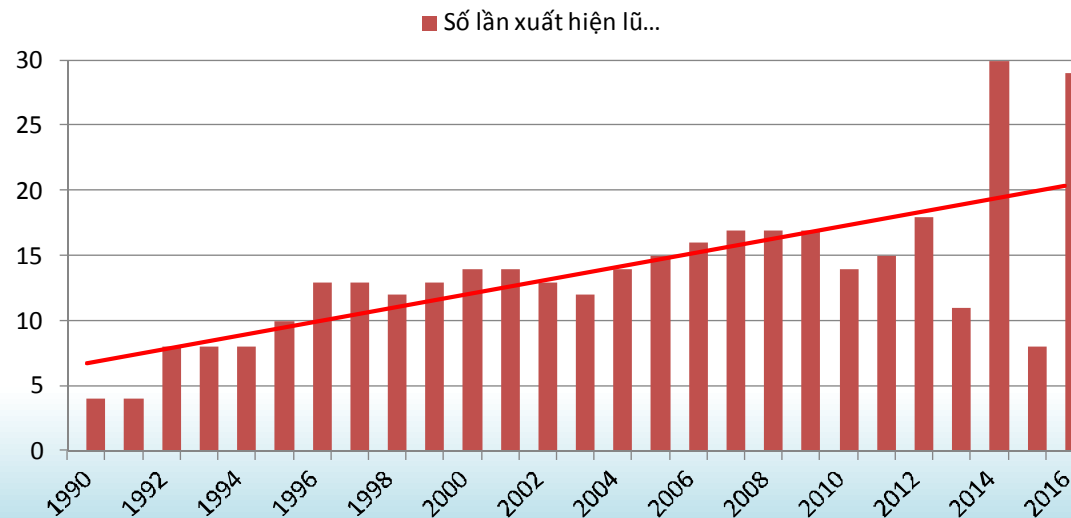
Expression of extreme disaster in Vietnam

Flash flood

Increasing trend: period 2004-2016 (210 times) increase 1,5 times in compared with period 1990-2013 (142 times)



Flash flood, landslide in Lao Cai, 2016



Nặm Păm Bridge in Sơn La was broken by flash flood from 03-06 Aug 2017



II. ABNORMAL DISASTER SITUATION

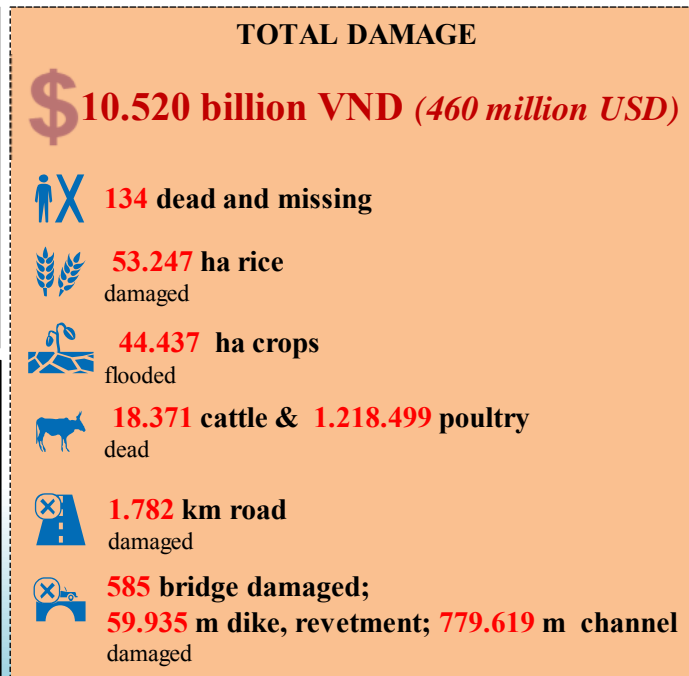
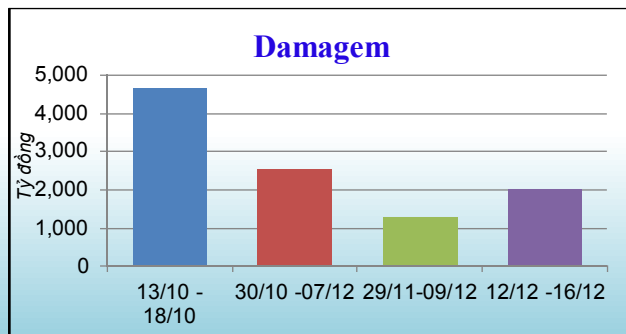
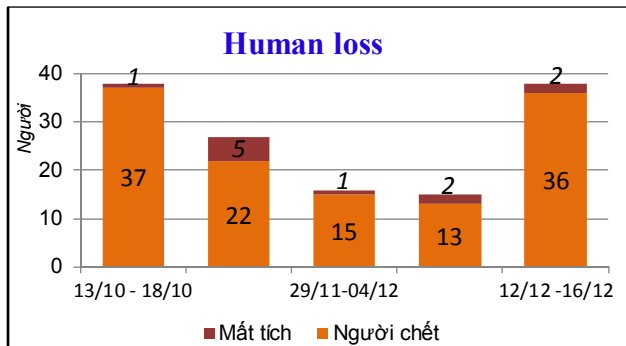
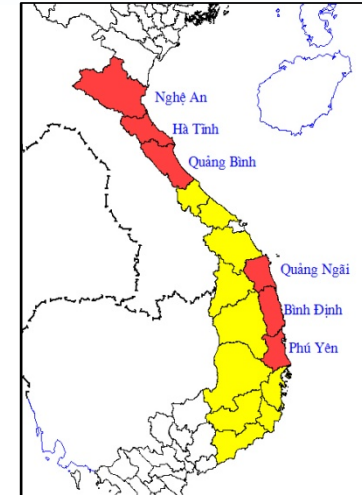
Severe floods in the central region from October to December 2016

- Since mid October to December 2016, there have been 5 big floods in 18 Central provinces (13 coastal Central provinces and 5 Central Highlands ones). In which 6 seriously affected provinces: Nghệ An, Hà Tĩnh, Quảng Bình, Quảng Ngãi, Bình Định, Phú Yên.

- Total rainfall (about 2 months) on average reached 1.500-2.500mm, particularly heavy rains in some areas such as Trà My (Quảng Nam) 2.611mm, Minh Long (Quảng Ngãi) 2.729mm, An Hòa (Bình Định) 2.417mm.

Many rivers reached approximately historical level, such as in Vệ river, Kôn river, Ba river.

Severe flooding in all provinces from Nghe An to Binh Thuan, many roads were separated by flooding and landslides, production stalled, people's lives in the disaster areas were extremely difficult, and serious losses.





II. ABNORMAL DISASTER SITUATION

Expression of extreme disaster in Vietnam

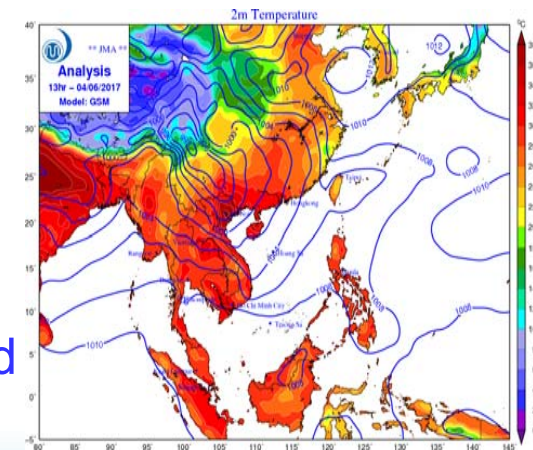
Drought

- ❖ Drought occurs more frequently. Dry season 2009-2010, 2010-2011, **2015-2016** severe drought appeared in the north part of the South Central Region, Central Highlands and Southern Region.
- ❖ Severe droughts and dehydration occur during the dry seasons of 2010-2011. The water level, flow and volume of water stored in reservoirs reached lowest level in history.



Hot weather

- ❖ In 2015, there are new records: The longest period of hot days in the mountains in the North West of Central Vietnam (35 - 40 days, starting from May 14th to June 15th, 2015). With a value above 42°C.
- ❖ In 2017, from 02-05/6, in northern provinces hot appeared on a large scale, many places reached historic levels: Ha Dong 42.5 °C (04/6); Lang (Hanoi) 41.8 °C (4/6) - The old record is 40.8 °C in 2015; Bac Giang is 40.5 °C (3 & 4/6) old record was 38.7 °C in 1994





II. ABNORMAL DISASTER SITUATION

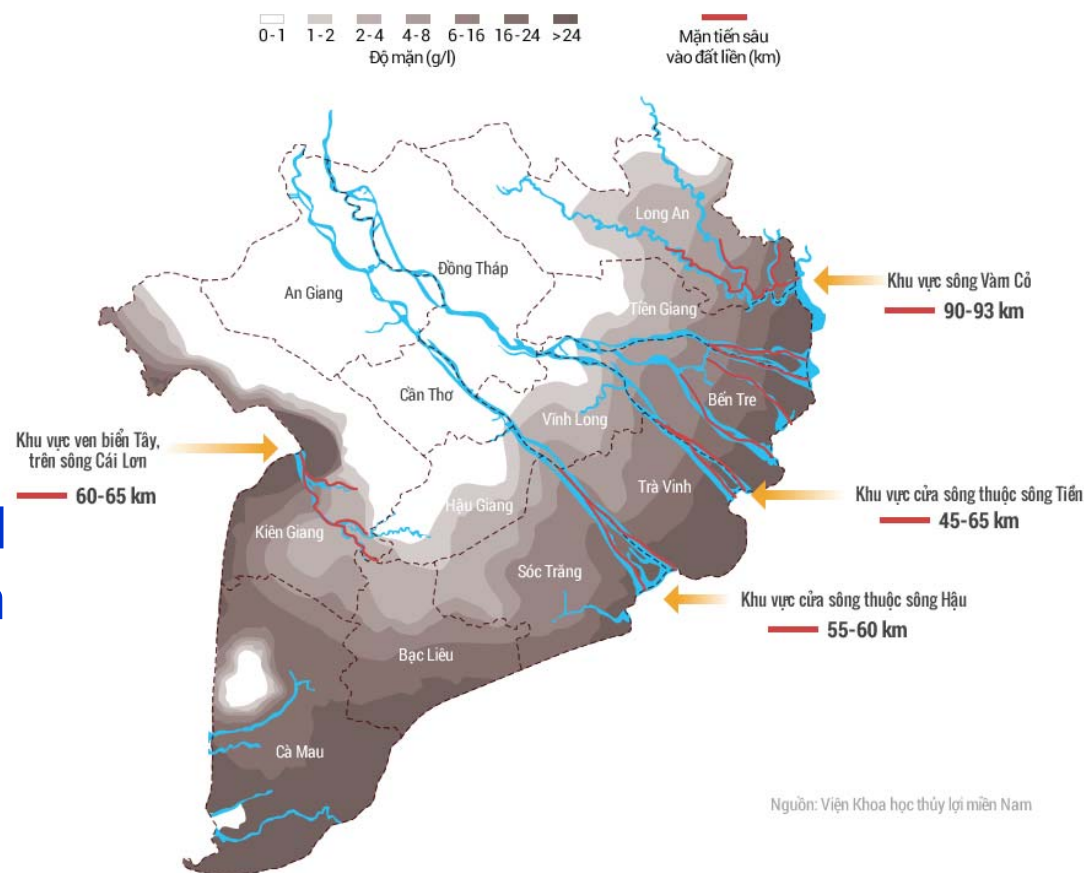
Expression of extreme disaster in Vietnam

High tides, saline intrusion

-The water level due to high tide in the Southern region tends to be higher than previous years

-In the dry season, saline intrusion appeared earlier and deeper in the Southern region with high frequency and intensity in 2009, 2011, 2013, 2014, 2015 and 2016.

Xâm nhập mặn tại đồng bằng sông Cửu Long



Saline intrusion situation in March 2016 in Mekong Delta

(Source: Southern Academy for Water Resources, 2016)



III. DISASTER RESPONSE CLASSIFICATION

Disaster Risk Classification

No	Type of Disaster	Disaster Risk level				
		1	2	3	4	5
1	Storm, tropical depression			X	X	X
2	Cyclone, lighting, hail	X	X			
3	Heavy rainfall	X	X	X		
4	Hot weather	X	X	X		
5	Drought	X	X	X	X	
6	Frosty, rime	X	X	X		
7	Fog	X	X	X		
8	Flood, inundation	X	X	X	X	X
9	Flash flood	X	X	X		
10	Landslide, land subsidence due to flood	X	X			
11	Saline intrusion	X	X			
12	Strong winds on the sea	X	X	X		
13	Earthquake	X	X	X	X	X
14	Tsunami			X		X



III. DISASTER RESPONSE CLASSIFICATION

RESPONSIBILITY BY DISASTER RISK LEVEL

- ❖ Level 1: Chair of People's Committee, Chair of Committee for Disaster Prevention and Search & Rescue at commune and district level mobilize resource to response disaster
- ❖ Level 2: Chair of People's Committee, Chair of Committee for Disaster Prevention and Search & Rescue at provincial level mobilize resource to response disaster
- ❖ Level 3: Chair of Central Committee for Disaster Prevention and Control directs Ministries/sectors/localities implement disaster response activities
- ❖ Level 4: The Prime Minister directs Ministries/sectors/localities implement disaster response activities
- ❖ Level 5: The Prime Minister asks the State President to declare a state of emergency



IV. EMERGENCY RESPONSE ACTIVITIES

Heavy rainfall, flash flood in 04 provinces: Son La, Yen Bai, Dien Bien, Lai Chau (01-06/8/2017)

- In the first seven months of the year, the northern mountainous areas experienced continuous heavy rains, with average rainfall ranging from 900-1.400mm, some places reaching over 2.000mm.
- From 01-06/08/2017, heavy rainfall happened in the north mountainous provinces some places had very heavy rain. The total amount of rainfall ranging from 150-250mm:

Mường Tè (Lai Châu)	252 mm
Tà Tông (Lai Châu)	269 mm
Nà Hù (Lai Châu)	244 mm
Mường Lay (Điện Biên)	217 mm
Tạ Bú (Sơn La)	219 mm
Mường Trai (Sơn La)	216 mm
Cẩm Ân (Yên Bái)	318 mm
Khau Phạ (Yên Bái)	283 mm
Ngòi Thia (Yên Bái)	234 mm
Tam Đảo (Vĩnh Phúc)	245 mm



Heavy rainfall station (from 01-06/8/2017)



IV. EMERGENCY RESPONSE ACTIVITIES

Nậm Păm school – Son La province





IV. EMERGENCY RESPONSE ACTIVITIES

Hoc village



Huoi Lieng village





IV. EMERGENCY RESPONSE ACTIVITIES

Hua Nam village





IV. EMERGENCY RESPONSE ACTIVITIES

Damage caused by landslide, flash flood in
tại 04 tỉnh Sơn La, Yên Bái, Dien Bien, Lai
Chau (03-06/8/2017)

 **44 people**
dead and missing

 **239 house**
collapsed

 **398 households**
had to move

 **1.190 bil VNĐ**
(53 mil USD)



Flash flood in Mù Cang Chải, Yên Bái



Flash flood, landslide in Mường La, Sơn La



IV. EMERGENCY RESPONSE ACTIVITIES

1. Direction of national and local government

National level

- ❖ The Prime Minister issued the Official Telegraph No. 1311/CĐ-TTg dated 04/8/2017 to direct Ministries and localities to focus on coping with floods.
- ❖ The leaders of the Government, ministries and sectors directly inspected and directed overcoming the consequences of natural disasters and providing emergency support to provinces affected by flood, flash flood and landslide.

Local level

- ❖ The Provincial Committee for NDPC&SR actively took measures to cope with floods, flash floods, landslides, mobilize forces to search missing people, visit family of dead people, direct relocating houses in high risk areas, landslide treatment; clear soil and stone to ensure smooth traffic; help people to repair damaged houses, stabilize production, assess damage.



Deputy Prime Minister Trinh Dinh Dung directed overcoming the consequences of flash flood in Mu Cang Chai, Yen Bai



Minister - Chairman of Central Committee for NDPC to inspect the damage situation at Muong La, Son La



IV. EMERGENCY RESPONSE ACTIVITIES

2. Emergency response activities

Son La province

- ❖ Mobilize forces with a total of **2,500 people** and equipment, machinery involved in overcoming the consequences, search missing people.
- ❖ Arrange temporary shelter for **287 flood-washed households**.
- ❖ Receiving support 10.27 billion VND and other essential items: **25 tons of rice, nearly 10,000 barrels of noodles, 2,000 boxes** of clothes and many other items.
- ❖ Urgently make temporary bridges at Nam Pram Bridge for transporting materials and supplies for rescue work; overhaul the electricity, communications and clean water supply systems.



Yen Bai province

- ❖ Mobilize forces with a total of **2,100 people** and equipment, machinery involved in overcoming the consequences, search missing people.
- ❖ Moved **47 households/247 people** in landslide/flash flood areas to safety places.
- ❖ Receiving support 10,64 billion VND; **17,15 tons of rice and 5.165 boxes** of shrimp noodles, **1.488 bales of milk, 28 boxes of medicine, 500 m² of foam sheets, 200 sets of bunk beds**



IV. EMERGENCY RESPONSE ACTIVITIES

3. Support from international community

❖ The Central Committee for Natural Disaster Prevention and Control has received 30 tons of goods to support the northern mountainous provinces from AHA Centre, including:

- 600 family kit
- 3.000 hygiene kit
- 600 kitchen set
- 300 shelter repair kit
- 01 mobile storage unit
- 01 power generator 16 KVA

Total 150.000 USD





V. SOME ISSUES FOR DISCUSSION

Some issues that Vietnam hope to have cooperation and sharing experiences from the international community in response to flash floods and landslides:

- ❖ Technologies for landslide, flash flood forecasting and early warning
- ❖ Flash flood, landslide risk maps
- ❖ Planning, arrangement of population in vulnerable areas, ensuring sustainable socio-economic development and people's livelihoods.
- ❖ Disaster Preparedness, Response and Recovery Plan



THANK YOU!

**CENTRAL COMMITTEE FOR NATURAL DISASTER PREVENTION AND CONTROL
STEERING OFFICE**

ADDRESS: BLOCK A4, NO 2 NGOC HA, BA DINH, HA NOI
TEL: (84-4) 3733 5694 - FAX: (84-4) 3733 5701