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DISASTER RISK MANAGEMENT IN VIETNAM

OPPORTUNITIES, CHALLENGES, MEASURES AND OBJECTIVES

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Kobe - January

- ✓ **DISASTERS IN VIETNAM**
- ✓ **OPPORTUNITIES AND CHALLENGES**
- ✓ **KEY INDICATIVE MEASURES AND OBJECTIVES**
- ✓ **MY TOPIC**



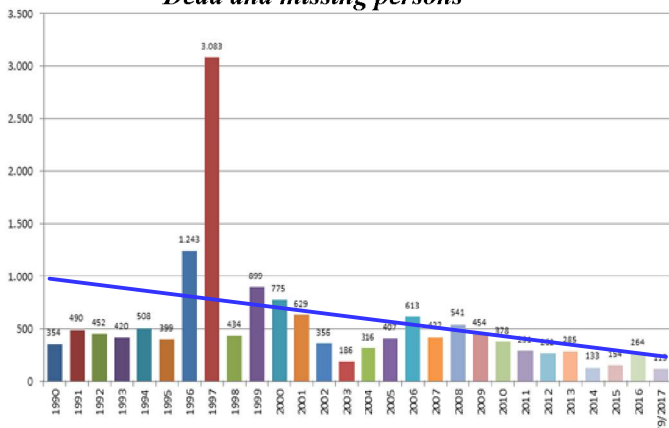
DISASTERS IN VIETNAM

1. Background

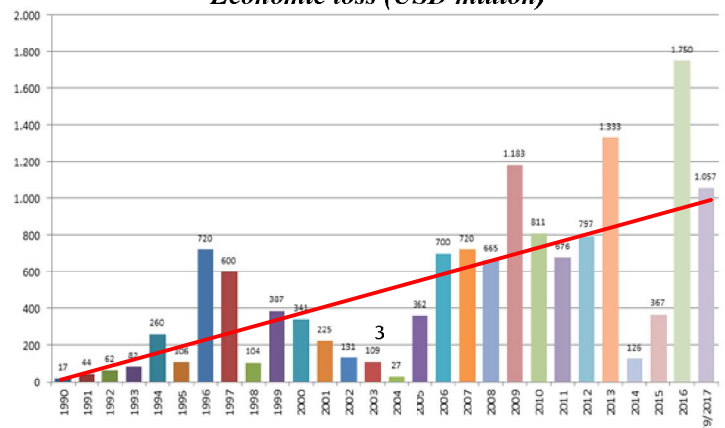
- Vietnam is one of the countries worst affected by natural disasters and climate changes (there were 20/21 types of disasters in 2016, with exception of tsunami)
- Natural disasters, in particular storms, floods, droughts, flash floods and landslides are increasing in intensity and frequency, causing severe human and economic losses: Over the past 20 years, disasters caused 10,800 dead and missing persons, and an economic loss to the GDP of: 28,000 billion (1÷1.5% of GDP)



Dead and missing persons



Economic loss (USD million)



TYPICAL REGIONAL DISASTERS

REGION 1: NORTHERN MOUNTAINOUS

Flashfloods, landslides, damaging cold, snow, frosts and heavy rains

Flashfloods and landslides in Aug. 2017 in Son La, Yen Bai, Dien Bien, Lai Chau caused 44 dead and missing persons and an economic loss of VND 1,190 billion (~52 million USD).

REGION 3: MOUNTAINOUS AREAS IN NORTHERN AND CENTRAL CENTRAL REGION

Heating, flashfloods, landslides and damaging cold.

Flashfloods in Sept. 2002 in Ha Tinh caused 53 dead and missing cases, 111 injuries.

REGION 6: THE CENTRAL HIGHLANDS, MOUNTAINOUS AREAS IN SOUTHERN CENTRAL REGION, SOUTHEAST REGION

Heating, drought, floods, flashfloods, landslides and inundation.

Drought in 2015 – 2016 caused water shortage in 115,000 households, and damages to 15,000 ha non-productive land, 28,000 ha of paddy fields, and 140,000 perennial trees.

REGION 7: MEKONG DELTA

Typhoon, flood, inundation, tidal flooding, storm surging, drought, saline intrusion, coastal and river erosion, whirlwind, tornadoes and thunderbolts.

Saline intrusion in 2015 caused water shortages in 342,000 households, and damages to 216,000 ha of paddy rice.

REGION 2: NORTHERN PLAIN REGION AND NORTHERN CENTRAL REGION

Flood, typhoons, inundation, drought, saline intrusion, damaging cold and heavy rains.

Flood in 1945 broke 79 pieces of dyke, inundating 160,000 ha of productive land. Flood in 1971 broke 16 dyke points, inundating 200,000 ha of productive land.

REGION 4: CENTRAL COASTAL REGION

Heavy flooding, inundation, superstorms, water surging, saline intrusion, coastal and river erosion, heavy rains.

Flood in 2016 caused 134 deaths, inundated 1,200 houses.

REGION 5: MAJOR URBAN AREAS

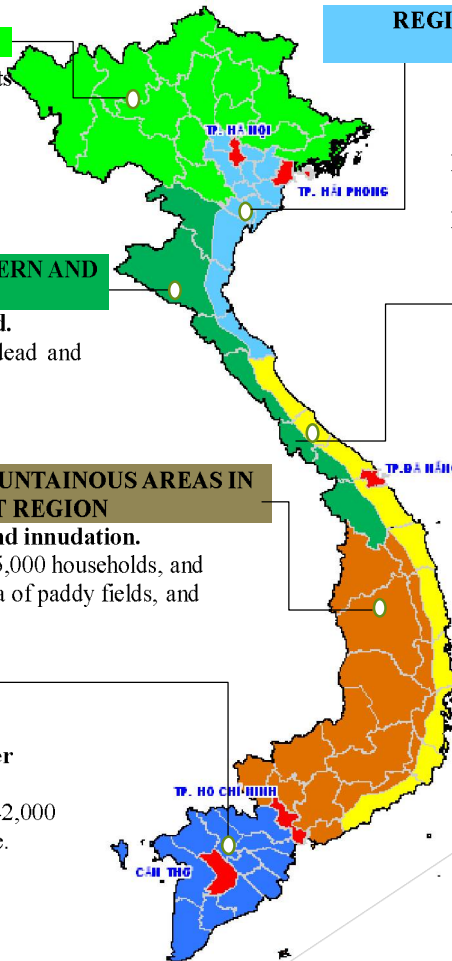
Inundation due to heavy rains and floods, tidal waves, heavy storms and whirlwinds and tornadoes.

Inundation in 2008 caused 22 deaths and an economic loss of VND 3,000 billion

REGION 8: ISLANDS

Storms and superstorms

Storm Chanchu in 2006 sunk 13 ships, 5 ships were lost, causing 266 dead and missing persons.



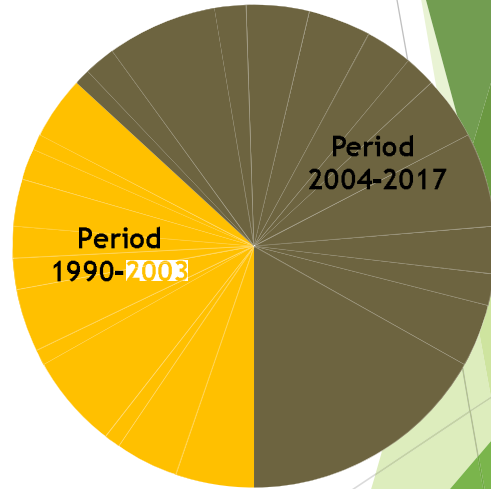


EXTREME EVENTS

Storms at level 12 or above in the East Sea of Vietnam are trending up

In period 2004-2017 (60 events), increasing by **1.71 times** from that in period 1990-2003 (35 events) Special, there were 16 storms in 2017

Total number of storms of level 12 and above



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EXTREME EVENTS

Out of season rains and flooding and extraordinary rains are increasing in frequency



11/2008
Hanoi
597 mm/day



8/2015
Quang Ninh
1,557mm



10/2016
Quang Binh
Ha Tinh



11/2016
Phu Yen



EXTREME EVENTS

Indication of extreme disaster events in

Droughts

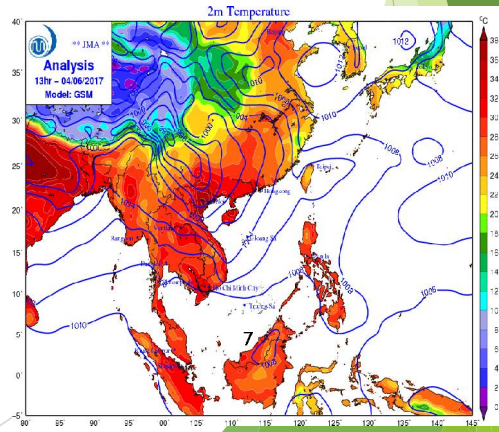
Year 2009-2010	Southern Central region
2010-2011	The Central Highlands
2014-2016	



Heating

Year 2015: In areas of Northwestern and Central regions, the temperature reached 42 degrees in as long as 40 days.

Year 2017: In areas of Northern region, the temperature rose to 42.5 degrees, in 4 days history: 38.7 degrees in year 1994



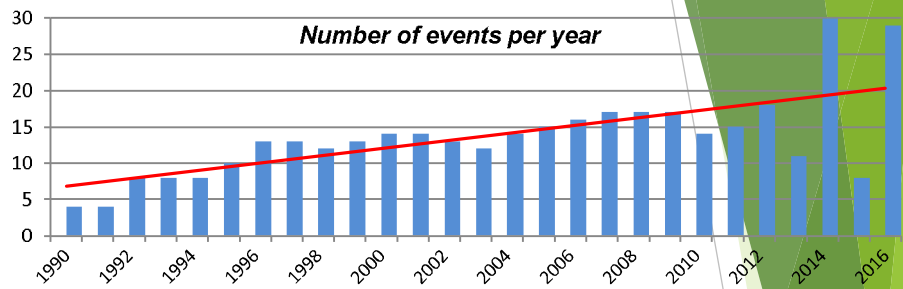
EXTREME EVENTS

Indication of extreme disaster events in

Flashfloods

Trending up:

- 1990: 4 events
- 2000, 2010: 14 events
- 2016: 29



2013 flashflood in Lao



Flashfloods and landslides on 02-03/8/2017 in Son La, Yen Bai, Dien Bien, Lai Chau



EXTREME EVENTS

River and coastal erosions

Since 2010, erosion has been speeding up and become more severe, with significant socio-economic implications,

At the time being, there are:

- **In total:** 2,057 points/2,969 km.

+ River bank: 1,857 points /2,227 km.

+ Coastal bank: 200 points/469 km.

Of which:

- **Northern region:** 562 points /470 km.

+ River bank : 528 points/444 km.

+ Coastal bank : 34 points/26 km.

- **Central region:** 817 points/1,279 km.

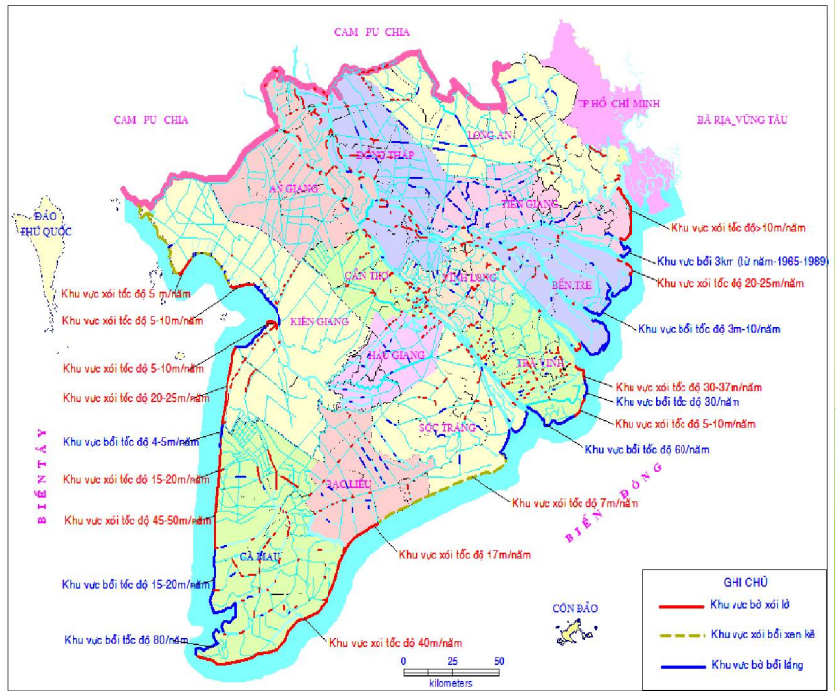
+ River bank : 720 points/1,127 km.

+ Coastal bank : 97 points/152 km.

- **Southern region:** 678 points /947 km.

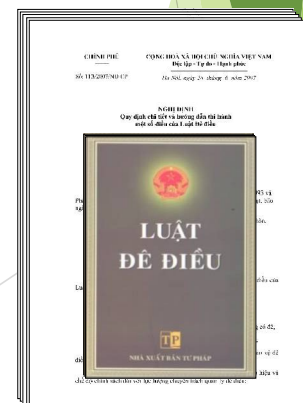
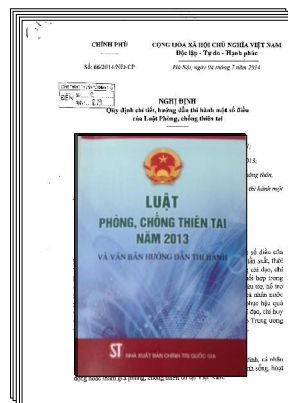
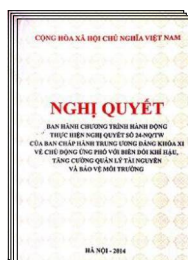
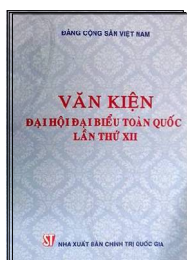
+ River bank : 609 points/657km.

+ Coastal bank : 67 points/291km



OPPORTUNITIES

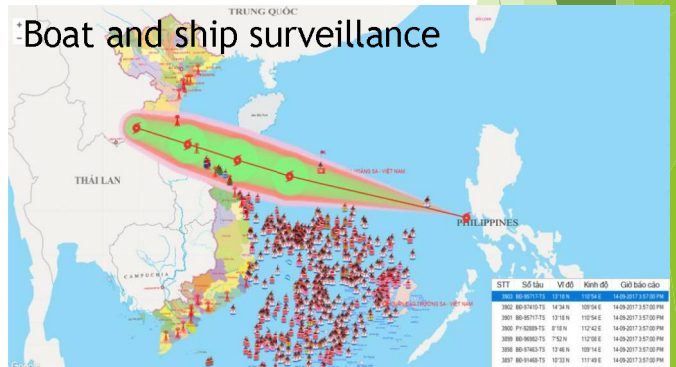
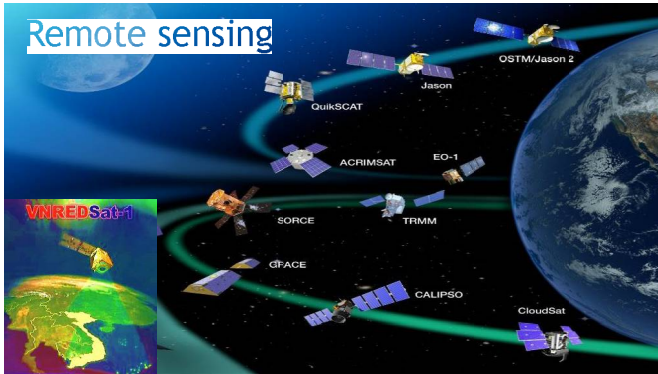
1. Disaster prevention and control are receiving due attention and guidance from the **Party and the State**. Party Resolutions and Guidance introduce a number of major political guidance on disaster prevention and control.
2. **The legal and regulatory framework** is consistently established for disaster prevention and control nationwide: The Law on Disaster Prevention and Control, and regulatory guidelines, the National Strategy on Disaster Prevention and





OPPORTUNITIES

3. Scientific and technological breakthroughs and applicability in disaster prevention



OPPORTUNITIES

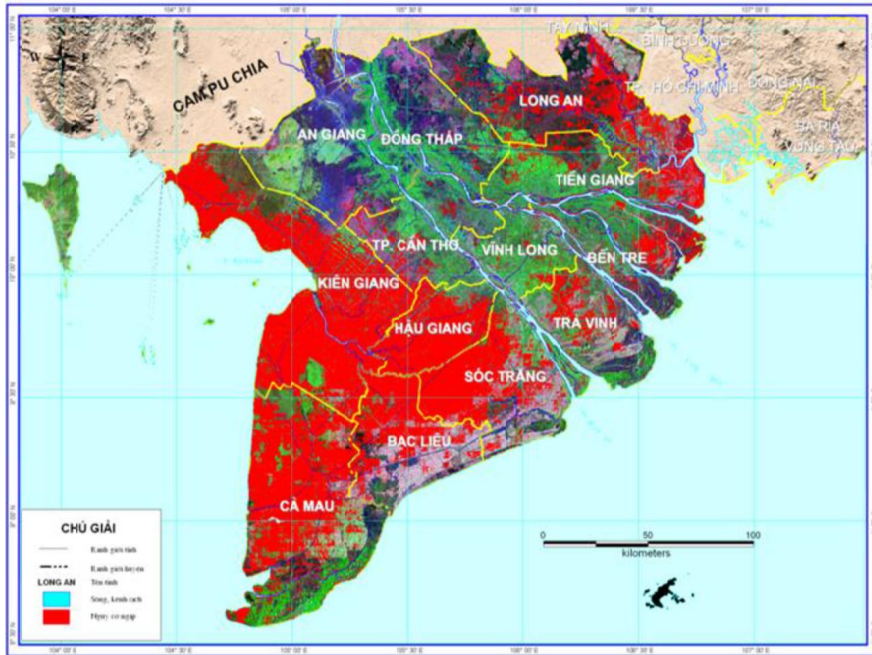
4. Vietnam is integrating intensively and extensively into many international and regional fora as well as practical and effective activities in disaster





CHALLENGES

1. **The climate change** continues to be a challenge, with increasing extreme and extraordinary disasters, in terms of intensity, space, time and irregularity.



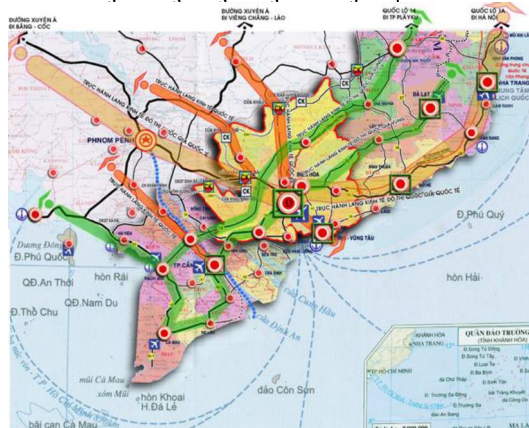
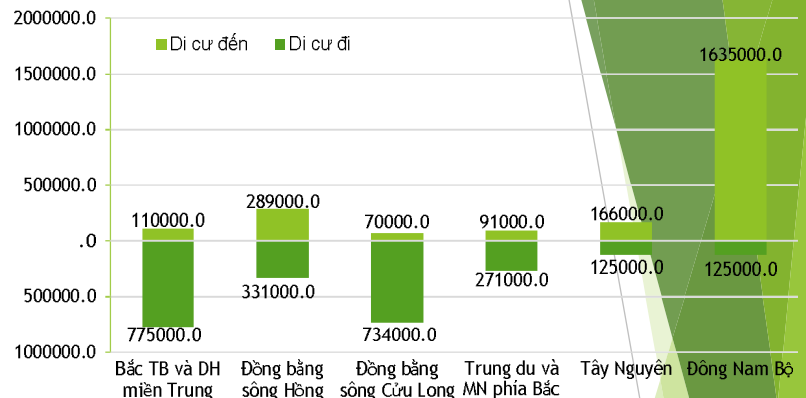
The coverage of inundation when the sea level rises 100 cm₁₃ (5th IPCC report, 2013)



CHALLENGES

2. The impacts of socio-economic development

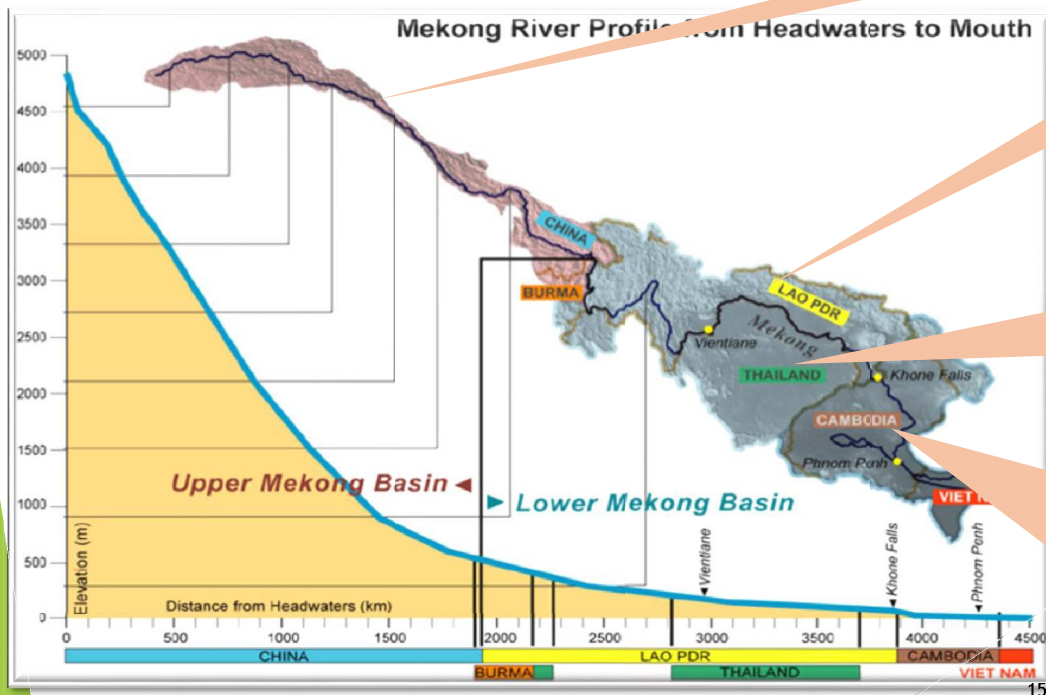
- Rapidly growing population and economy, with increasing needs to be secured from disasters.
- Disaster prevention and control are not well integrated in to socio-economic activities; which increases exposures and





CHALLENGES

3. Upstream water use



- CHINA**
- Hydropower
 - Water transfer
 - Industry

- PDR LAOS**
- Hydropower
 - Irrigation/ agriculture

- THAILAND**
- Irrigation/ agriculture
 - Water transfer
 - Hydropower
 - Industry

- CAMBODIA**
- Irrigation/ agriculture
 - Girdle shaped dyke
 - Hydropower
 - Flood sewage
 - Tonle Sap lake interventions
 - Fishery
 - Industry
 - Population



KEY INDICATIVE MEASURES

1. Strengthen State administrative and regulatory capacity and oversight of disaster prevention and control at all levels
 - Improve the system of legal and regulatory documents, policies, strategies and plans.
 - Strengthen the apparatus, building capacity in the oversight and execution of disaster prevention and control.
 - Develop and operate the National, Regional and Local Disaster Responsiveness Commanding Centers





KEY INDICATIVE MEASURES

2. Strengthen capacity of the system of disaster prevention and control structures
 - Strengthen and upgrade river dykes for climate change resilience.
 - Upgrade and repair irrigation reservoirs.
 - Build storm shelters for ships and boats.
 - Build and make arrangements for the implementation of the Overall Program on Prevention and Control of Flashflood and Landslides in Mountainous Provinces.
 - Develop and make arrangements for the implementation of the Overall Program on Disaster Prevention and Control in the Central Region.
 - Develop and make arrangements for the implementation of the Overall Program on Disaster Prevention and Control in the



KEY INDICATIVE MEASURES

2. Strengthen capacity of the system of disaster prevention and control structures
 - Develop and Implement the Project on the Prevention and Control of River and Coastal Erosion and Integrated Coastal Area Management.
 - Complete the plantation of upstream protection forests and coastal protection mangroves.
 - Develop and implement integrated disaster risk management projects in river basins.
 - Conduct diagnostic studies and identification of complicated disaster risks.
 - Implement community based disaster risk management.
 - Develop the specialized hydrometeorological observation networks for disaster prevention and control; the disaster prevention and control work observation and monitoring system.
 - Develop and implement the projects on installation of disaster early warning



KEY INDICATIVE MEASURES

3. Strengthen disaster forecasting and warning
 - Review and develop zoning of disaster risks and calibration of disaster risk levels.
 - Improve and modernize the network of hydrometeorological observation networks for earthquakes and tsunami.
 - Develop the network of towers for multiple disaster warning services in combination with local radio broadcasting services
 - Improve the quality of disaster forecasting and warning.



The weather

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KEY INDICATIVE MEASURES

4. Strengthen capacity in search and rescue



Rehearsal of safe flood release in Dakrong Hydropower Plant, 2016

- 5.



The campaign of swimming lessons for disaster prevention and control in Vinh Bao - 2017

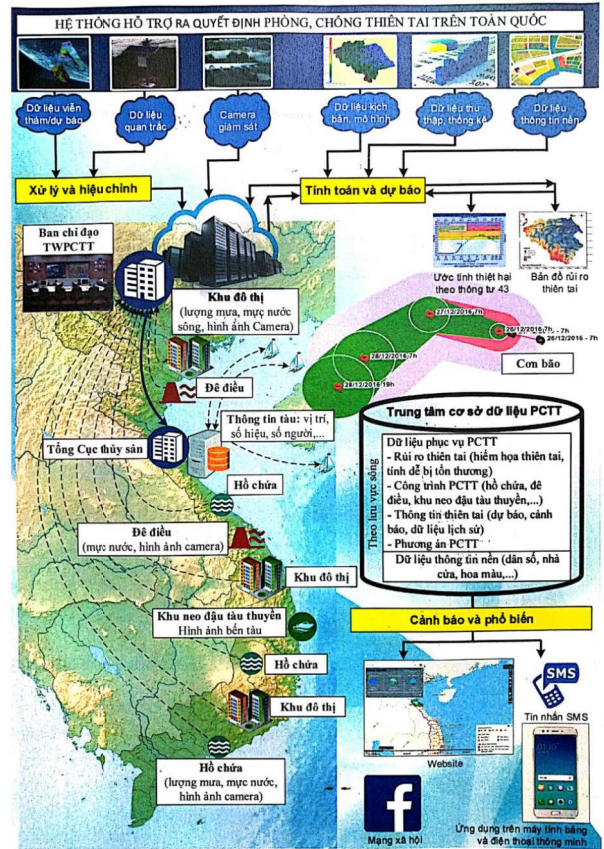
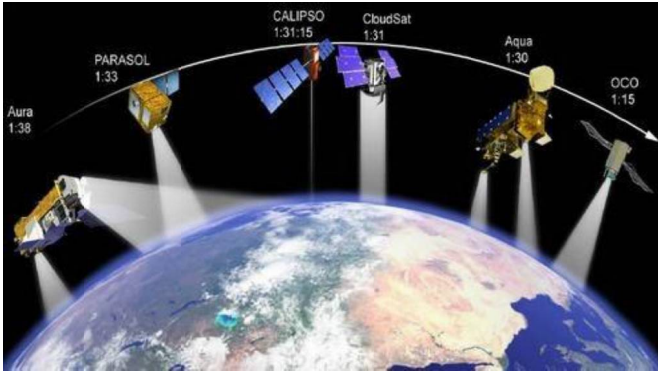


The campaign on disaster awareness raising in Cau Giay Upper-secondary School (Hanoi) - 2017



KEY INDICATIVE MEASURES

- Strengthen scientific and technological application and international cooperation



System to support decisions on disaster prevention and control



KEY INDICATIVE MEASURES

- Strengthen scientific and technological application and international cooperation



- Reinforce inspection, supervision and scrutiny



OBJECTIVES

By **2025**, basically be pro-active in disaster prevention and control and adaptive to the climate change, gradually develop a disaster-**resilient society**.



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MY RESEARCH TOPIC

As a Visiting Researcher at Asian Disaster Reduction Center my research topic will be

Flashfloods and landslides

How to pro-active in flashfloods and landslides prevention and control in Japan and Viet Nam?

- *Solution to pro-active prevention and control.*
- *Early warning in Japan (Measures).*
- *Application in Viet Nam.*

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THANK YOU FOR YOUR ATTENTION!

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