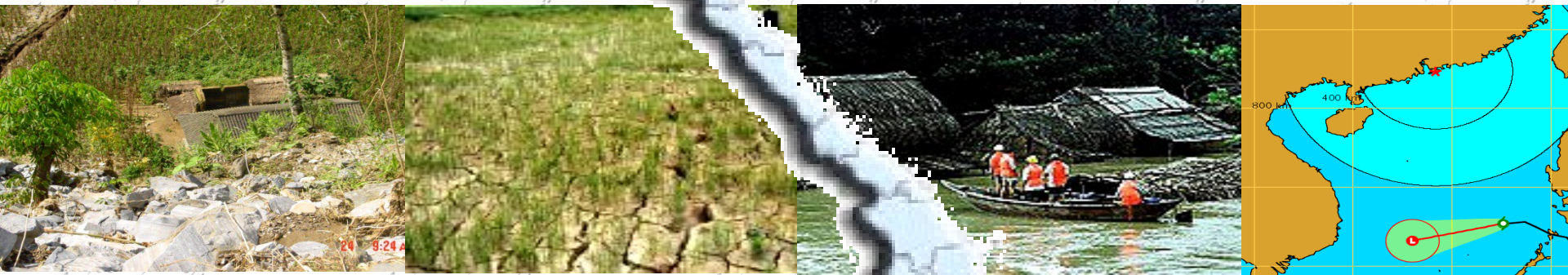


~~F AGRICULTURE AND RURAL DEVELOPM~~



NATURAL DISASTERS IN VIETNAM

Dr. VU KIEN TRUNG

**Department of Dyke Management and Flood Storm Control -
MARD**

VIET NAM



Việt Nam is located in Southeast Asia, with 333.000 km² of the Natural Area and 3200km of coastline.

Population: 88 million

Population density: 263 capitas/km²

Urban population: 27 %

Rural population: 73 %

High

Flood, inundation

Storm

Flashflood

Whirlwind

Drought

Medium

Hail rain

Landslide

Forest fire

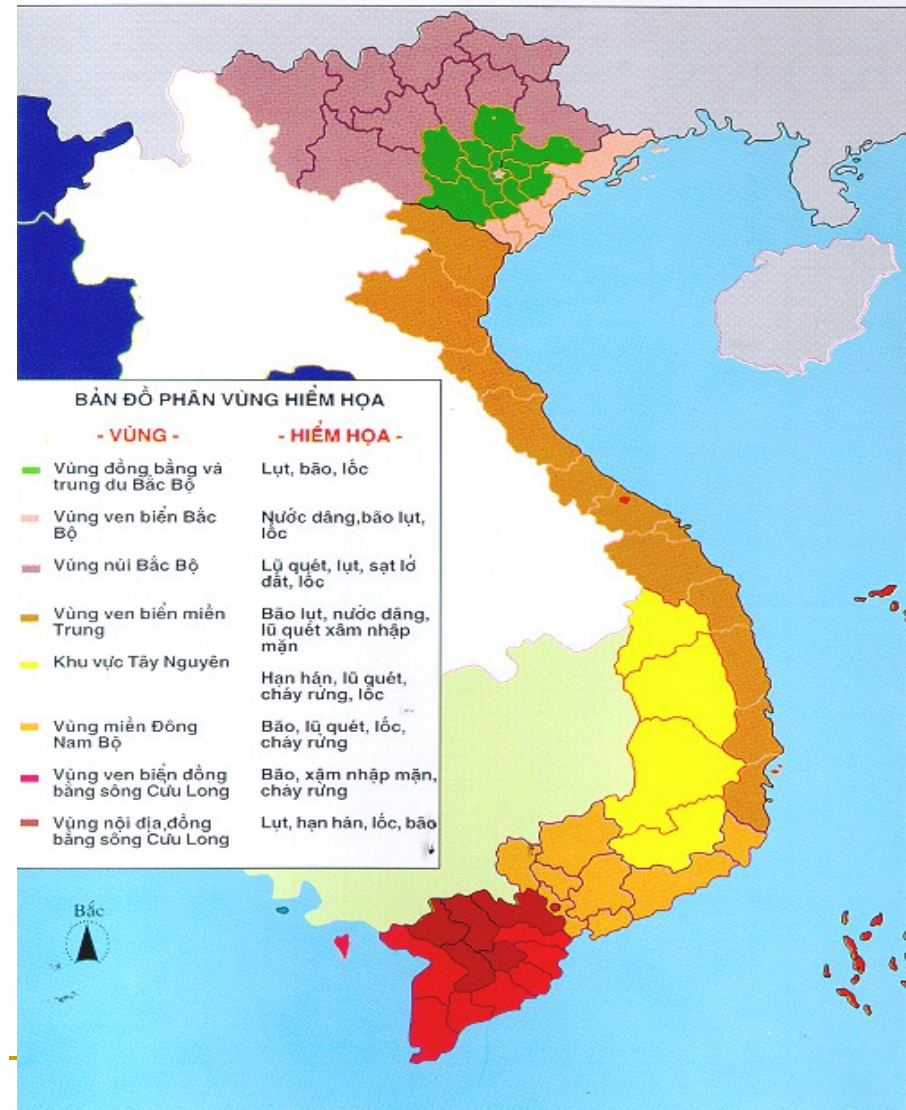
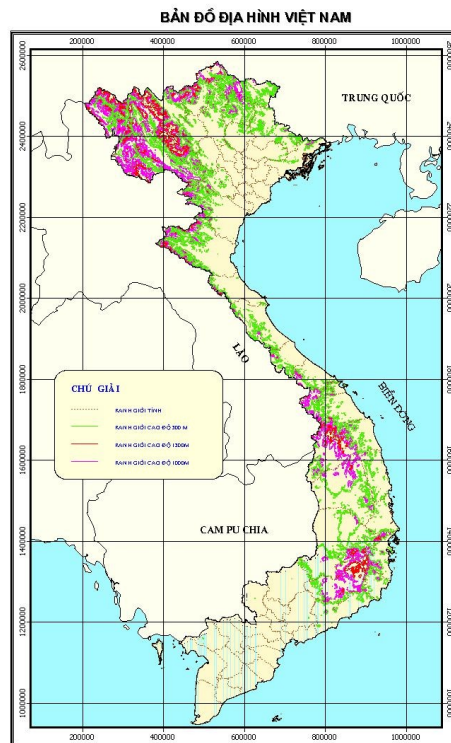
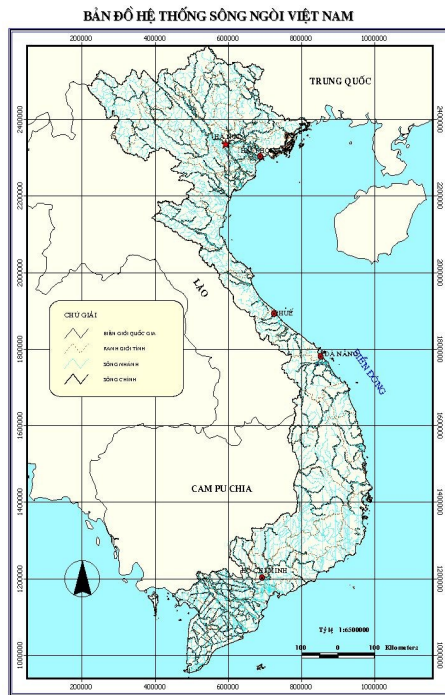
Salinity intrusion

Low

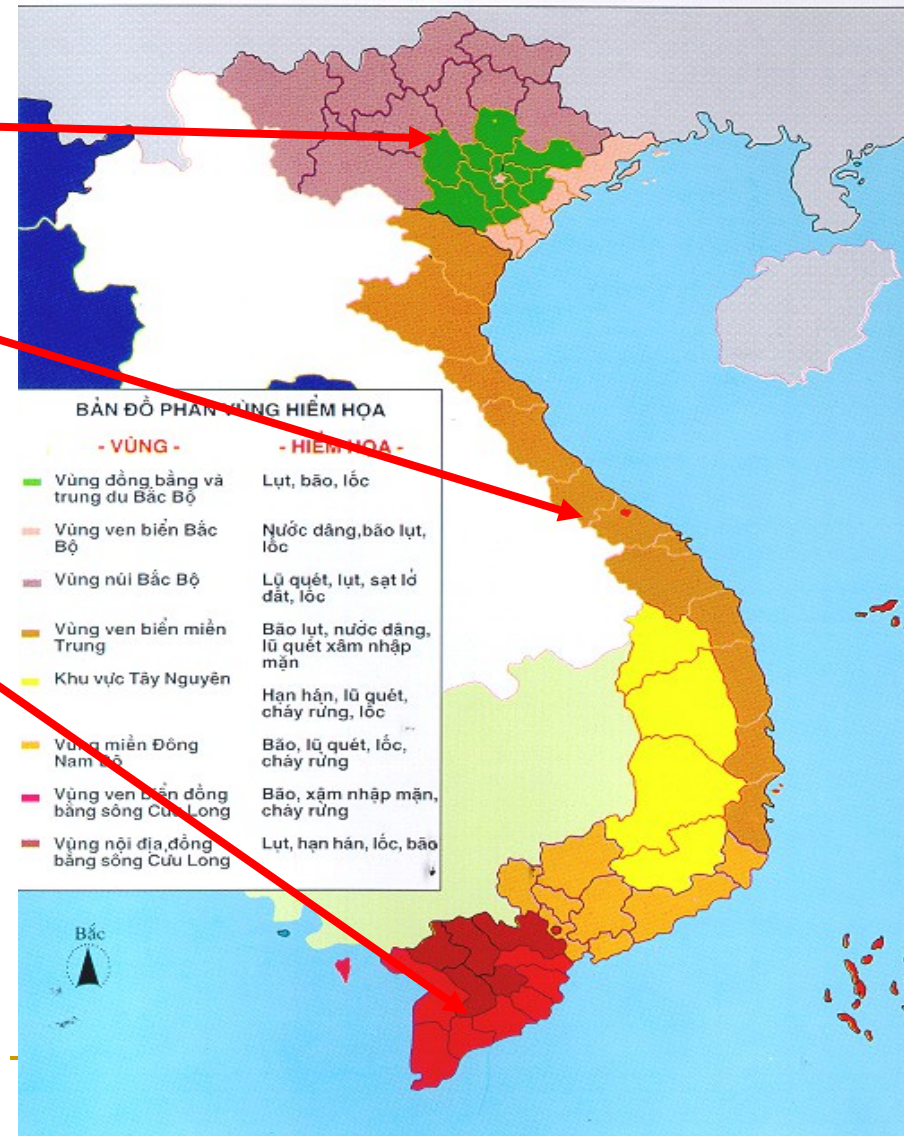
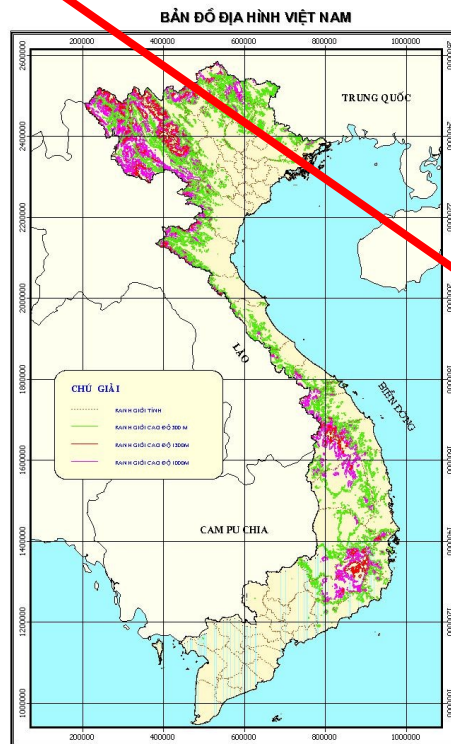
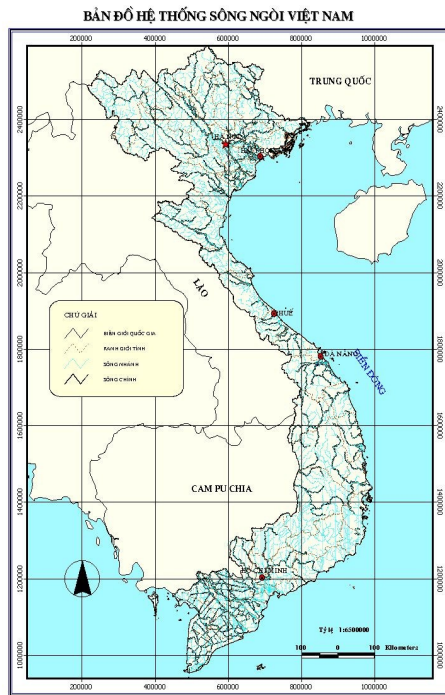
Earthquake

Industrial accident

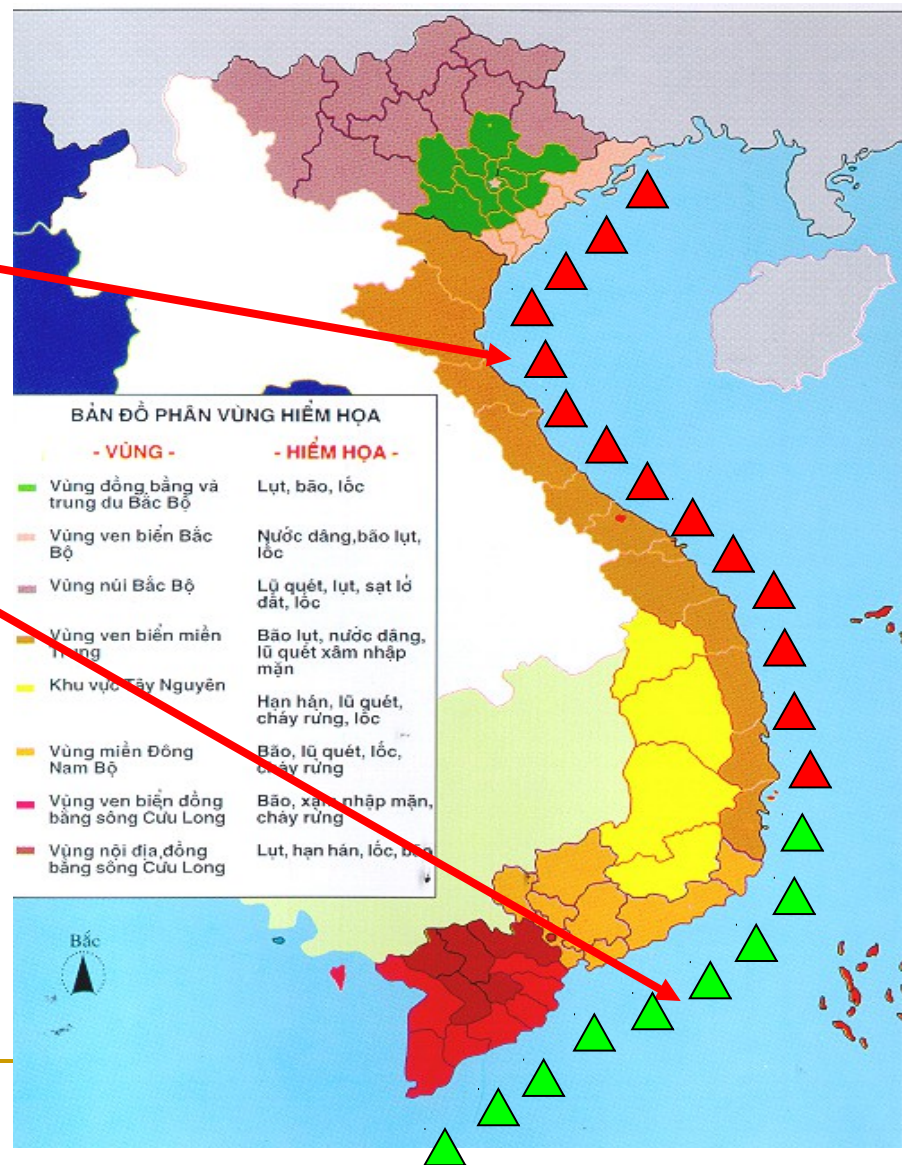
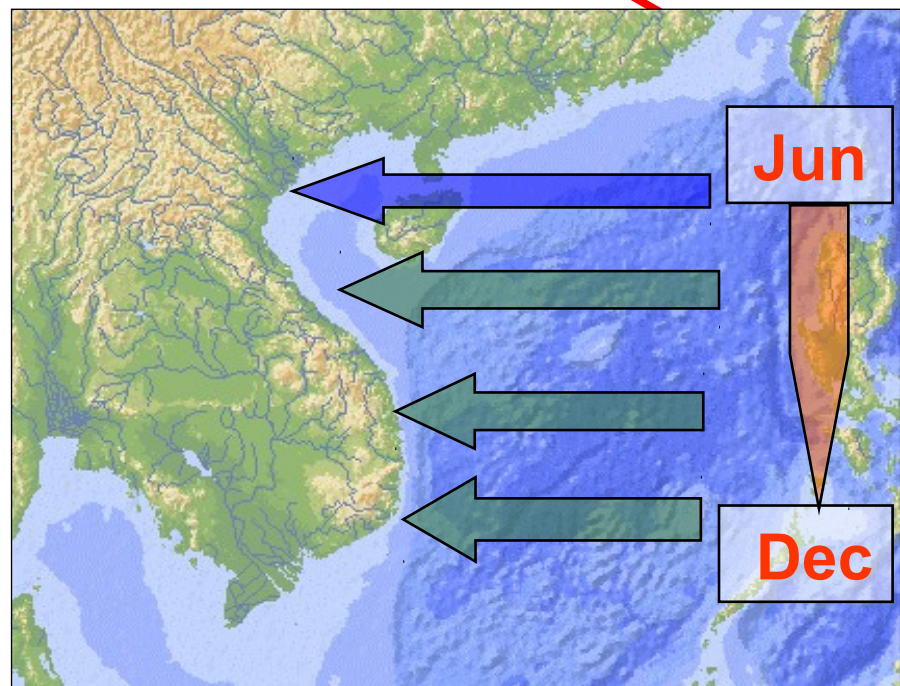
Frost



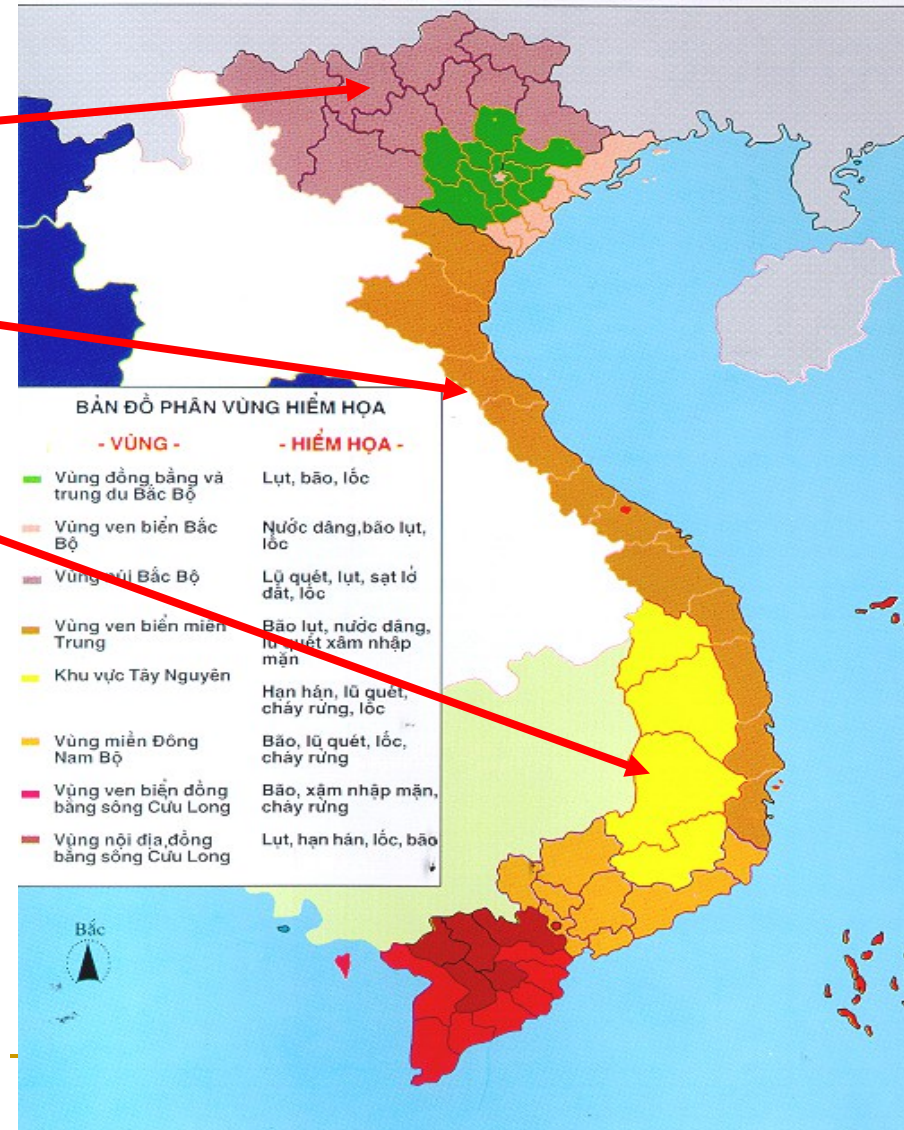
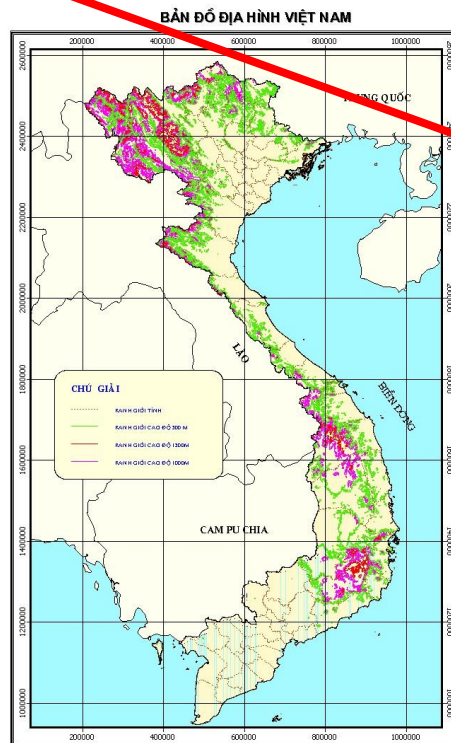
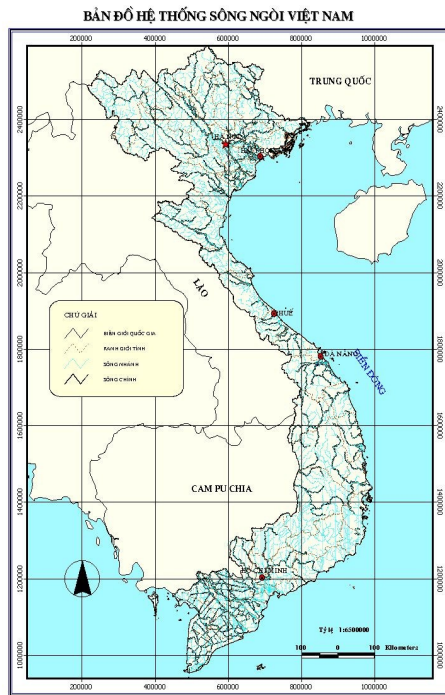
High	Medium	Low
Flood, inundation	Hail rain	Earthquake
Storm	Landslide	Industrial accident
Flashflood	Forest fire	Frost
Whirlwind	Salinity intrusion	
Drought		



High	Medium	Low
Flood, inundation	Hail rain	Earthquake
Storm	Landslide	Industrial accident
Flashflood	Forest fire	Frost
Whirlwind	Salinity intrusion	
Drought		



High	Medium	Low
Flood, inundation	Hail rain	Earthquake
Storm	Landslide	Industrial accident
Flashflood	Forest fire	Frost
Whirlwind	Salinity intrusion	
Drought		



Typhoon



Cat Hai, Hai Phong –Damrey typhoon, 7/2005



Da nang, Xangsane typhoon, 10/2006

Flood



Flood in the central of VietNam

Fast Flood



Inundation



Inundation in Quang Binh, Ha Noi



Drought



Drought in Long An

Salinity intrusion



Salinity intrusion in Bac Lieu

Flood



Fast Flood



Whirl wind



Whirl wind in Ba To, Quang Ngai



Land slide

Land slide in Nui Thanh, Quang Nam

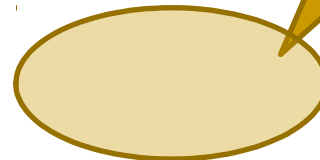
No of
people

Linda
storm

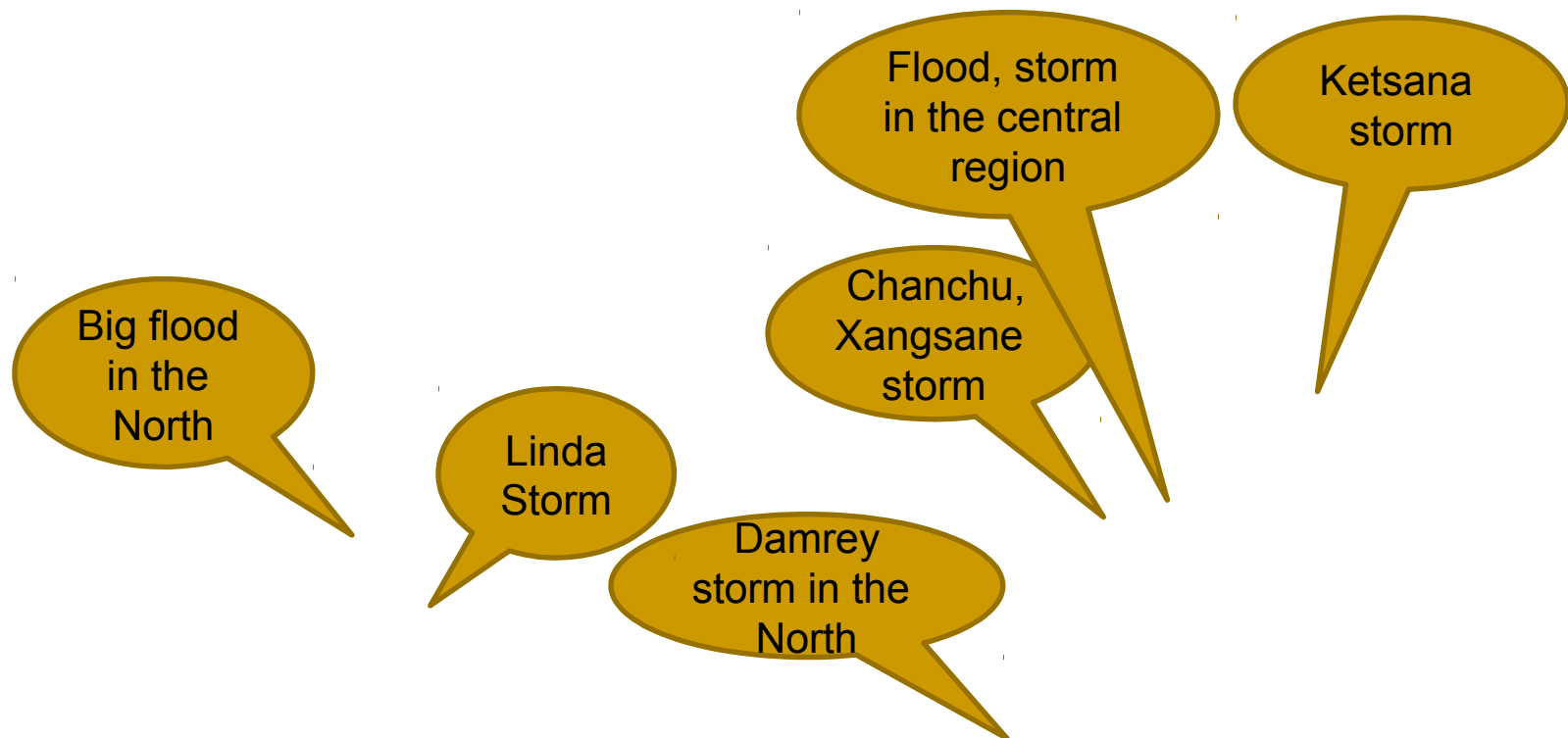
Big flood
in the
Red river
delta

Historical
flood in the
Central region

Big flood
in
Mekong
River
Delta



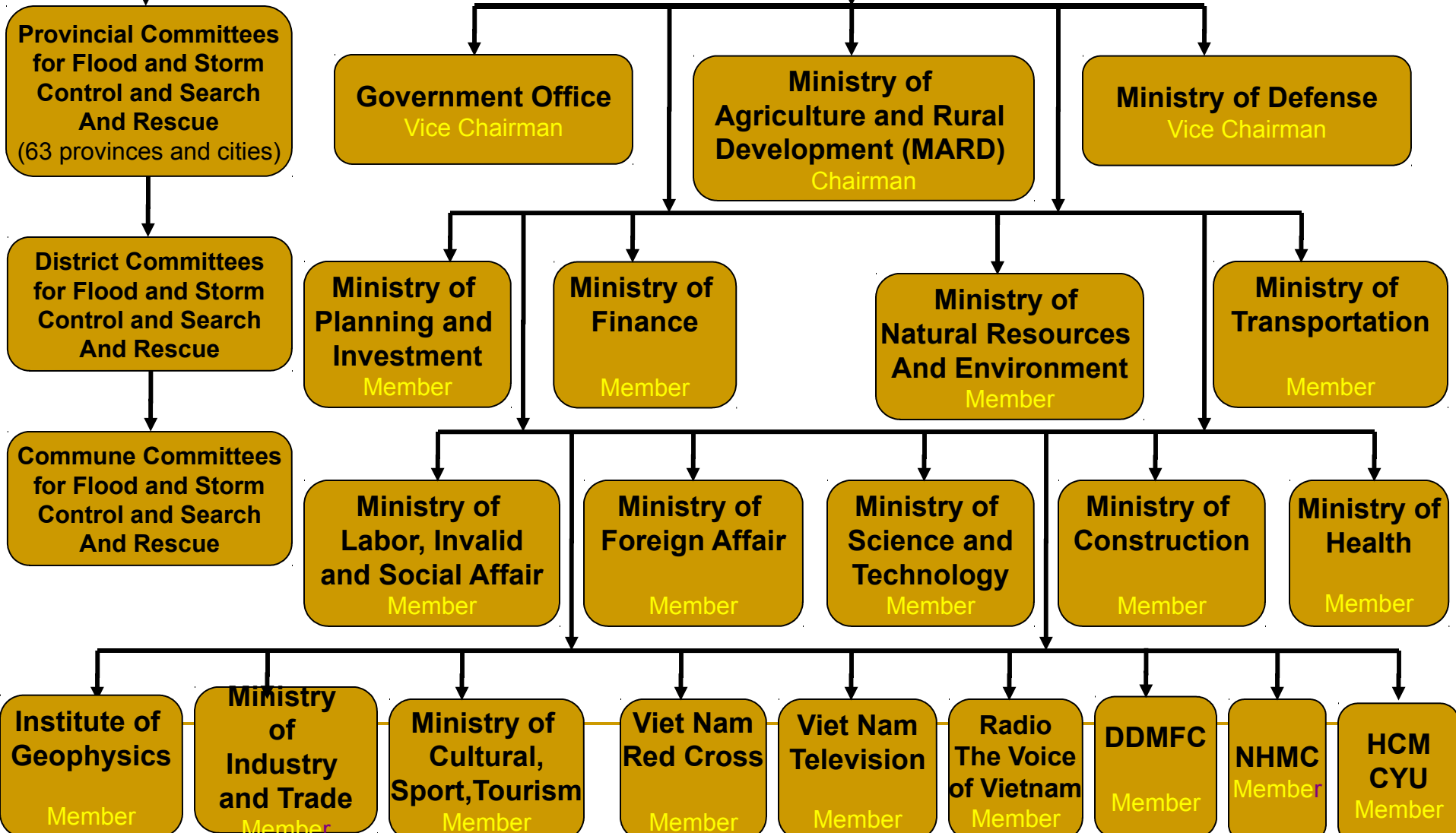
Million
USD



Year

GOVERNMENT

Central Steering Committee for Flood and Storm Control - Vietnam (CCFSC)



3. Disaster Response Mechanism in

Country

**Solutions for The Northern plains and the North Central: “
Prevent flood thoroughly”**

Enhance flood-prevention capacity for river dyke system

Continue constructing reservoir system

Improve the flood discharge capacity for river bed

Implement programs such as restoring and upgrading
sea dykes, plantation of watershed forest and protective forest

**Solutions for The Central Coast, Eastern South and Islands:
“Proactive in prevention, avoidance and adaptation to
develop”**

Land use plan: residential, industrial and tourism areas

Shift crops and animal husbandry structure

Promote research and suggest solutions on preventing
the river mouth area extension, enhancing flood discharge and
combining with water traffic

Strengthen and upgrade dykes, preserve natural sand
dune; build reservoirs, afforest and; build parking space for boats
and ships

3. Disaster Response Mechanism in

Country The Mekong River Delta: “Live together with floods”

- Planning to control flood

- Construction of residential clusters and infrastructure for the population to flood resistance

- Proactively take advantage of floods

- Enhance international cooperation with countries in Mekong basin

Solutions for Mountainous areas and Central Highlands:

“Proactively prevent natural disasters ”

- Define and map areas highly prone to flash floods, landslides

- Establish warning and communication systems

- Strengthen the international cooperation in natural disasters forecasting, warning

Solutions for Offshore areas : “Proactively prevent and response”

- Establish a management system of ships and boats operating at sea

- Establish communication system

- Strengthen the cooperation with other countries and border localities in region

4. The Way Forward

Action plan for implementing National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020:

Non-structural measures:

- The program on improvement of legislation and policies
 - The program on consolidation of organizational structures
 - The programme to make and review plannings
 - The programs on strengthening of disaster warning and forecast capacities
 - The programs on community awareness raising
 - **The programs on forestation and protection of upstream forests**
 - The program on strengthening of disaster management capacities and science and technology application
-

4. The Way Forward

Structural measures

- The programme to review, upgrade and newly build natural disaster prevention, response and mitigation structures matching the designed standards and each region's disaster characteristics.
 - The programme to construct reservoirs and establish operation procedures of reservoirs to effectively explore water resources and regulate water levels for downstream areas to respond to flood and drought.
 - The programme to expand flood discharge openings of bridges and sluices along road and railroad systems.
 - The programme to construct erosion prevention structures
 - The programme to enhance dyke systems, to upgrade sluices underneath the dykes, and to harden surface of dykes of grade 3 upward.
 - The programme to construct storm shelters for boats and ships.
 - The programme to construct residential clusters for flood and storm avoidance.
-

5.Obstacles ahead

With climate change and rising sea levels and changing more and more extreme and unpredictable, Vietnam is facing many challenges. International organizations such as the World Bank, ADB, Japan, the United States has supported the economic part, current techniques but needs of Vietnam still large.

- Energy and water resources are still weak and lacking.
- Application of science and technology, especially new technology, early warning technology, satellite communications technology is still limited.
- Challenges of the disaster prevention in Vietnam
- Pressure from social-economic development and population growth
- Public awareness on disaster prevention in many areas
- Management Cooperation in Vietnam

5. Research and Project

JAPAN:

- ☐ Early warning system (forecasting, monitoring, simulation, dissemination): JAXA, ADB
- ☐ Integrated flood planning in centre of Vietnam (phase 1, 2): JICA
- ☐ MOU signing between MARD and MLIT: disaster prevention and mitigation
- ☐ Structure measures: water resources management

ASEAN member states (JAI fund, others):

- ☐ AADMER: ASEAN Agreement on disaster management and emergency response (2005)
- ☐ AHA: ASEAN Humanitarian Assistant Centre

UNDP: PDC, Hawaii university

- ☐ Early warning system for flooding in centre of VN

Netherland and Japan:

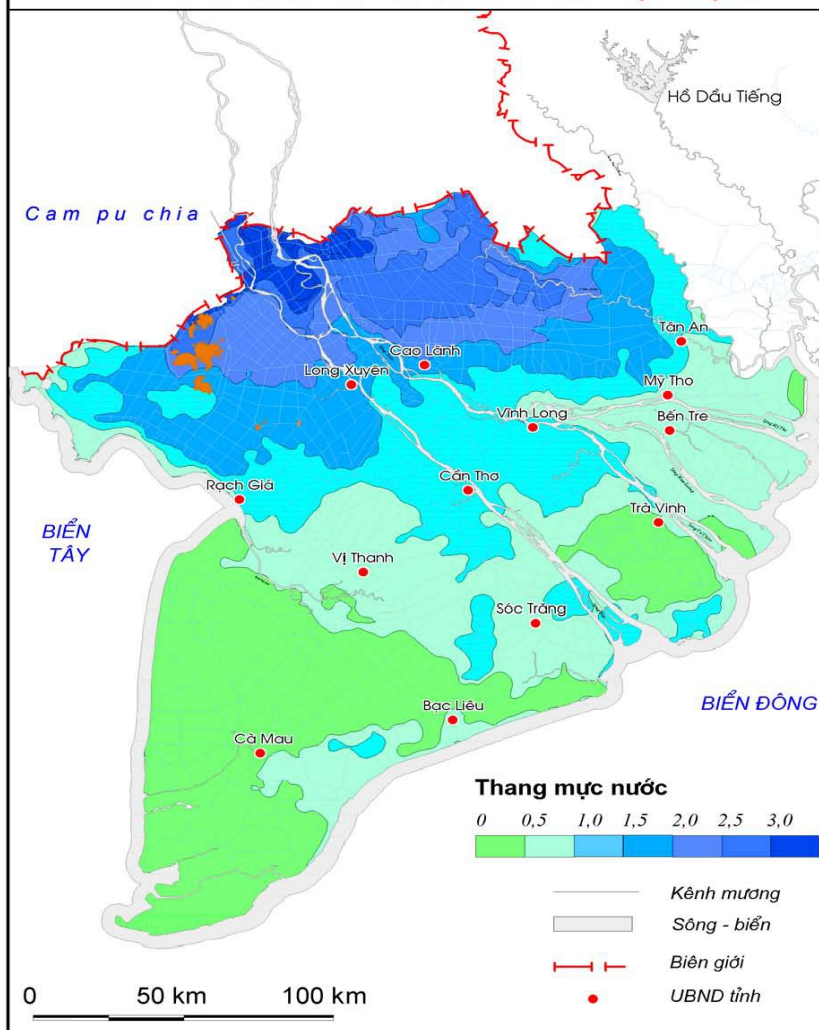
- ☐ Comprehensive master planning for Mekong river delta for VN
- ☐ Inundation response for HCM city

WB, ADB, GIZ, USAID, others



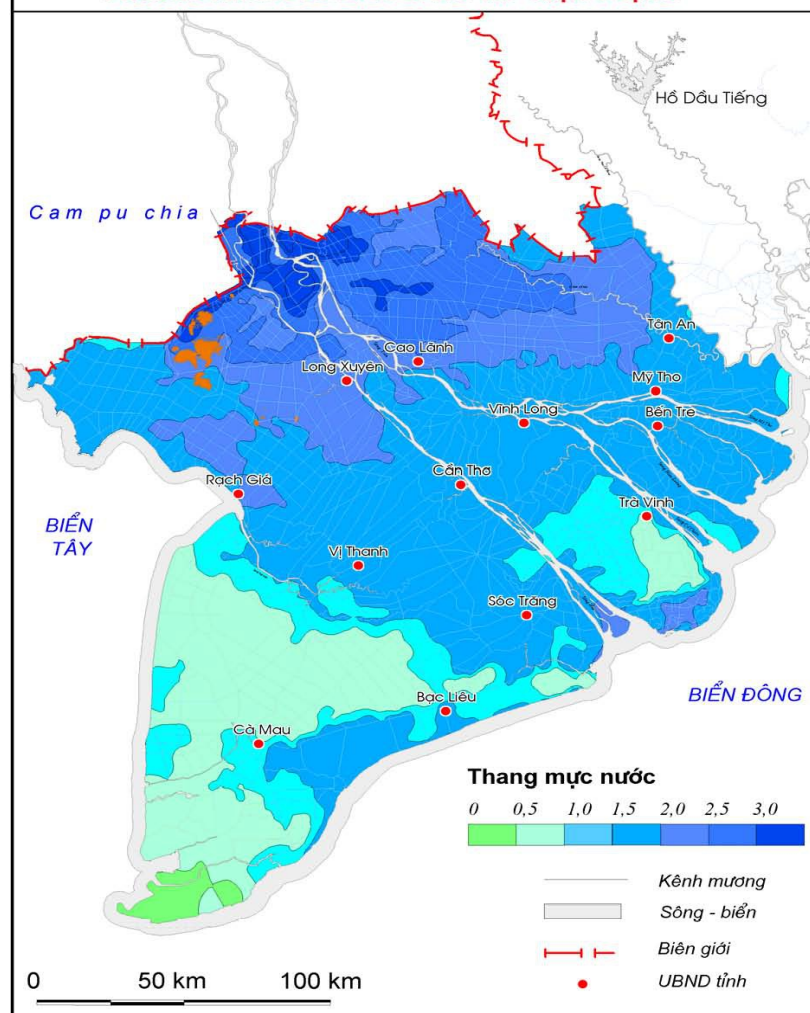
BẢN ĐỒ ĐỘ SÂU NGẬP MAX TRONG MÙA LŨ

PHƯƠNG ÁN : CHƯA CÓ NƯỚC BIỂN DÂNG - HIỆN TRẠNG

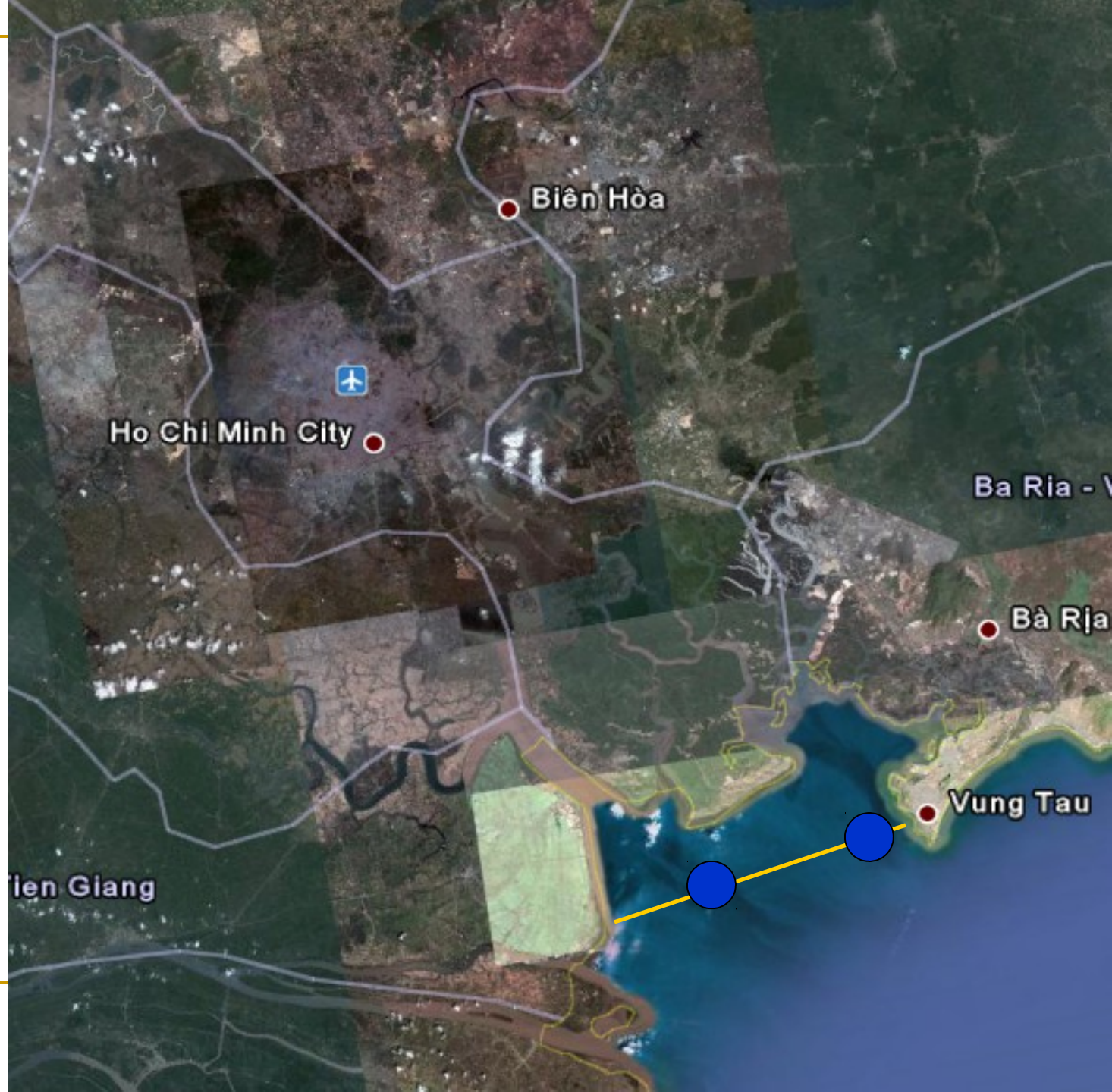


BẢN ĐỒ ĐỘ SÂU NGẬP MAX TRONG MÙA LŨ

PHƯƠNG ÁN : NƯỚC BIỂN DÂNG 1M - HIỆN TRẠNG



Research for master planning against CC



GREAT SUPPORT FROM UN ORGANIZATIONS, FOREIGN GOVERNMENTS, BANKS, NGOS AND DONORS



Thank for your Attention

