CLICK HERE TO KNOW MORE

DEPARTMENT OF SURVEY AND MAPPING OF VIETNAM

GEOSPATIAL DATA FOR MANAGEMENT AND DEVELOPMENT

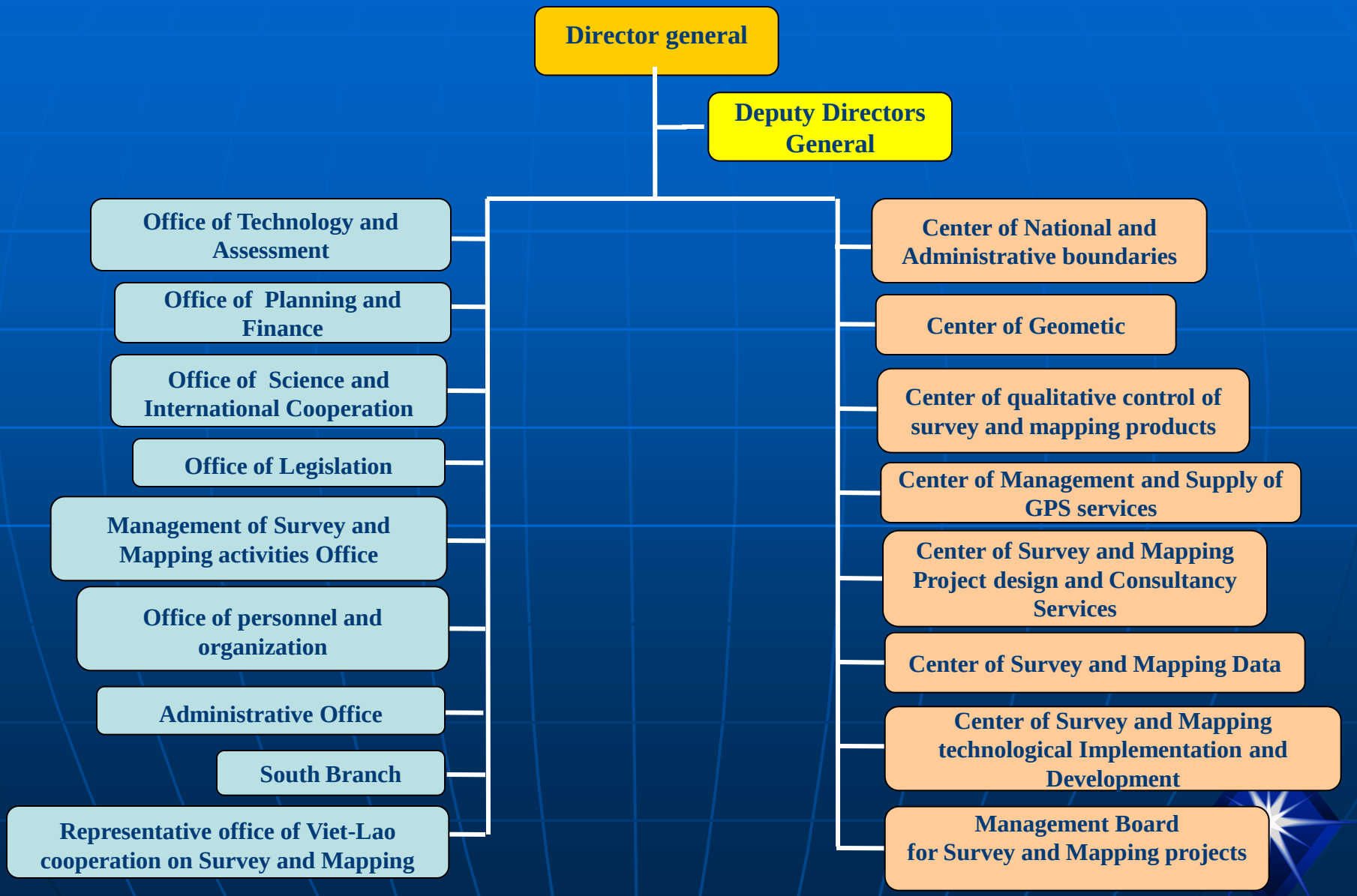
By: Vu Tien Quang
Viet Nam

DEPARTMENT OF SURVEY AND MAPPING OF VIETNAM

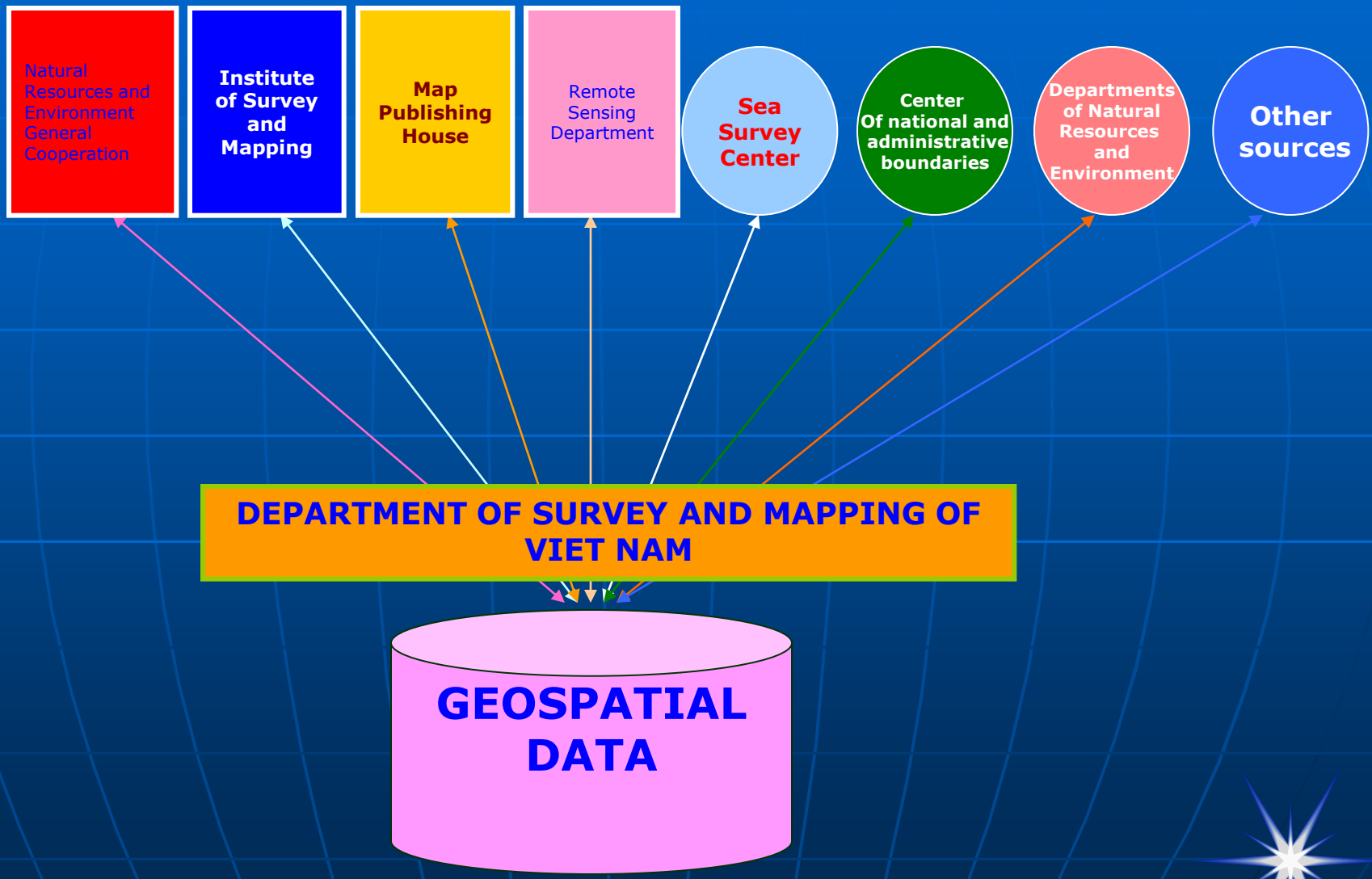
Department of Survey and Mapping of Vietnam (established on 14 December 1959) is the National Mapping Organization of Vietnam belong to the Ministry of Natural Resources and Environment (MONRE), performing the function to help Minister of MONRE in unity State management over survey and mapping activities; Managing basic geodetic survey; Organizing basic survey and mapping in inland and territorial water of Viet Nam.

DEPARTMENT OF SURVEY AND MAPPING OF VIETNAM

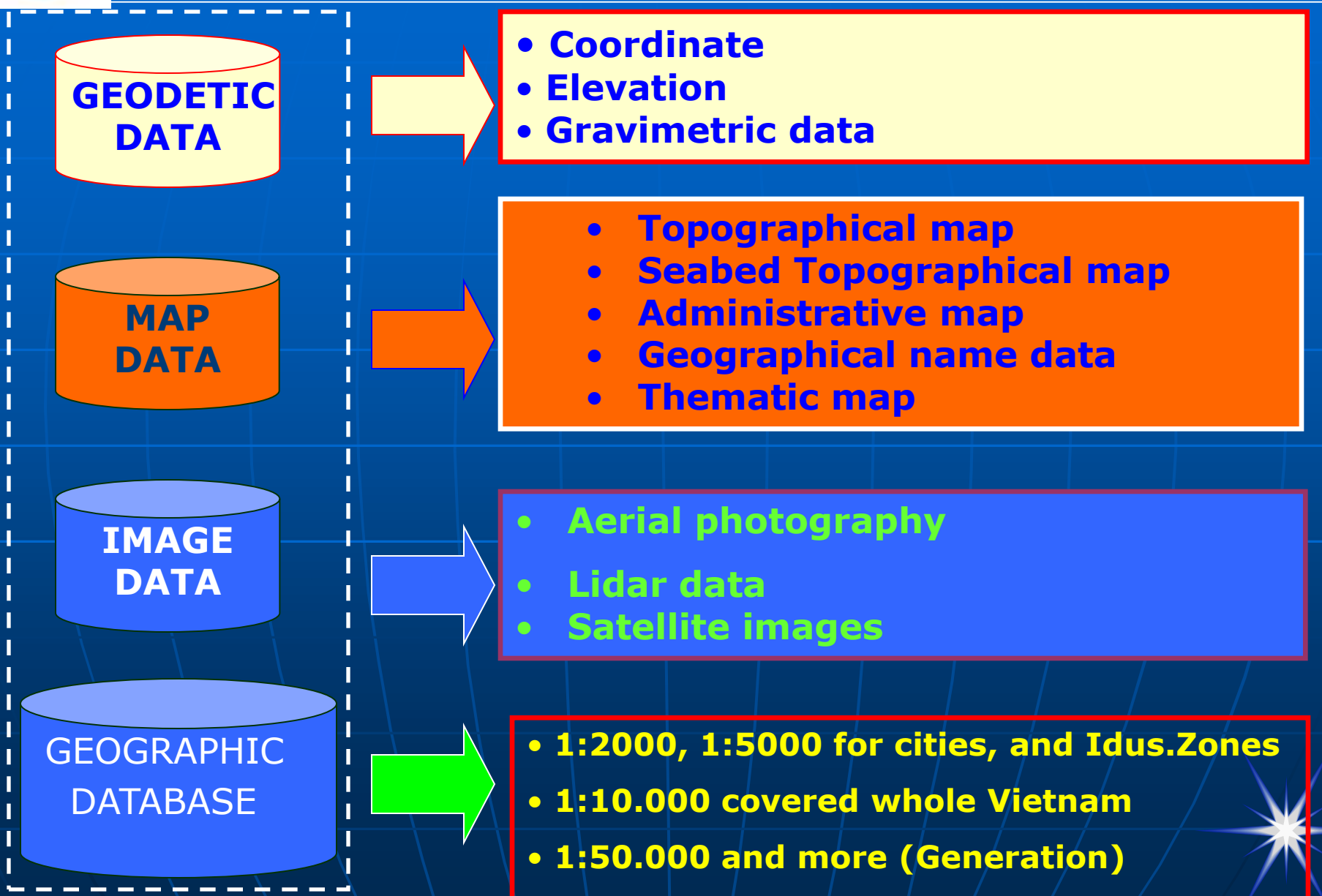
Organizational structure



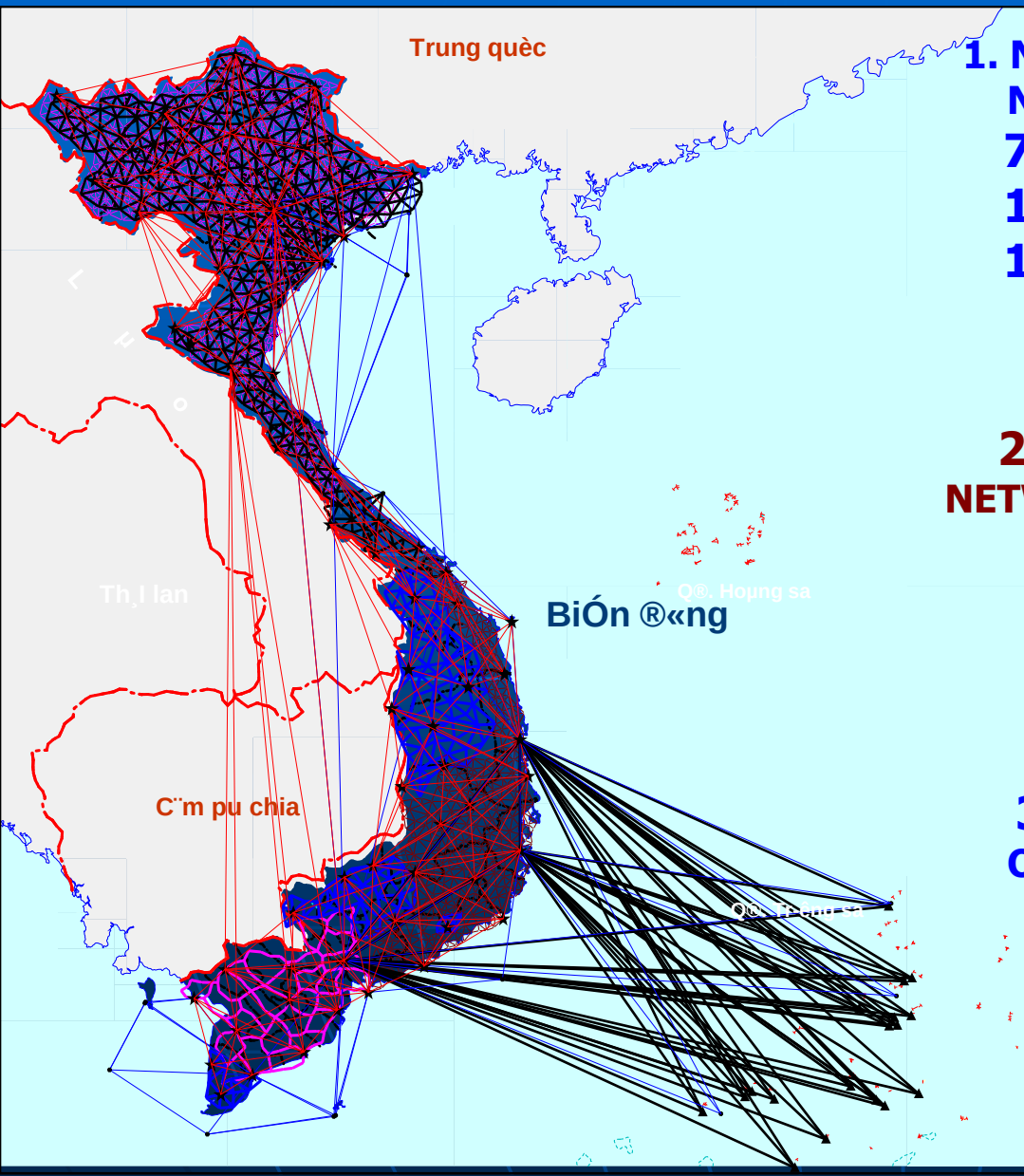
GEOSPATIAL DATA RESOURSES



GEOSPATIAL DATA



GEODETIC DATA



1. NATIONAL COORDINATE CONTROL NETWORK

71 Points of 0 order

1.665 Points of I,II order

12.658 of III order

2. NATIONAL ELEVATION CONTROL NETWORK

18 Original Points

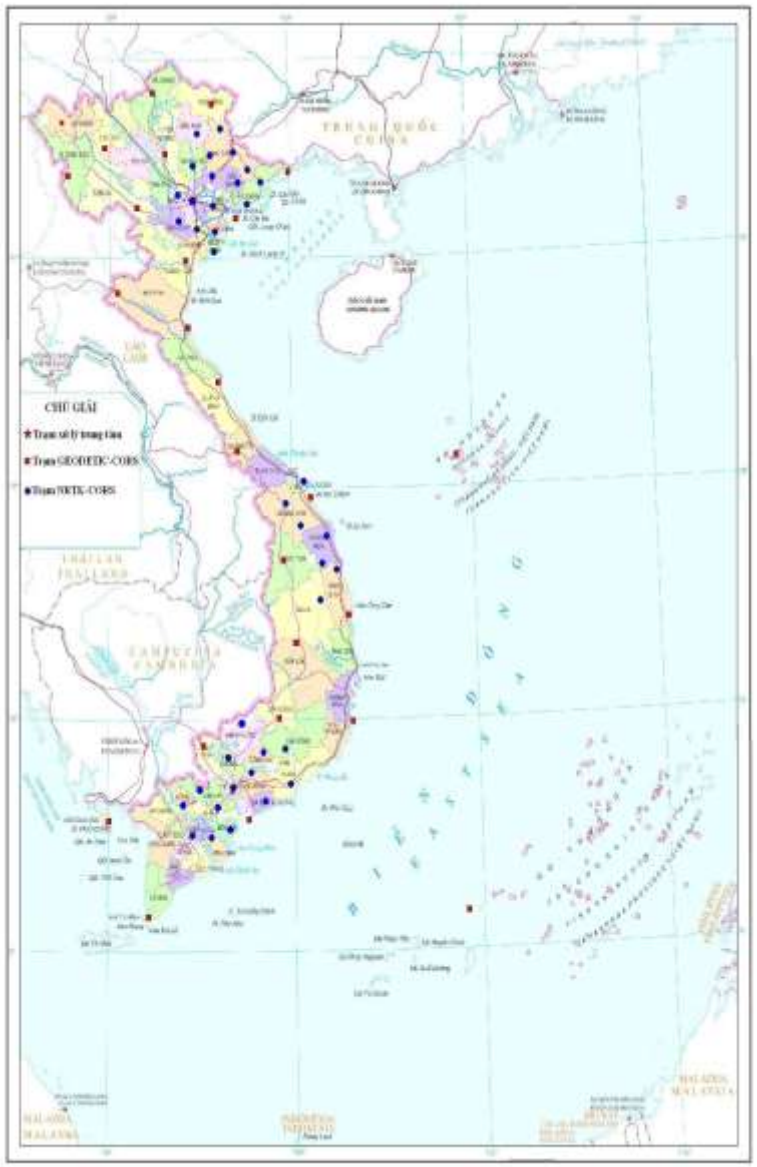
1.181 Points of I order

1.100 Points of II order

4.640 Points of III order

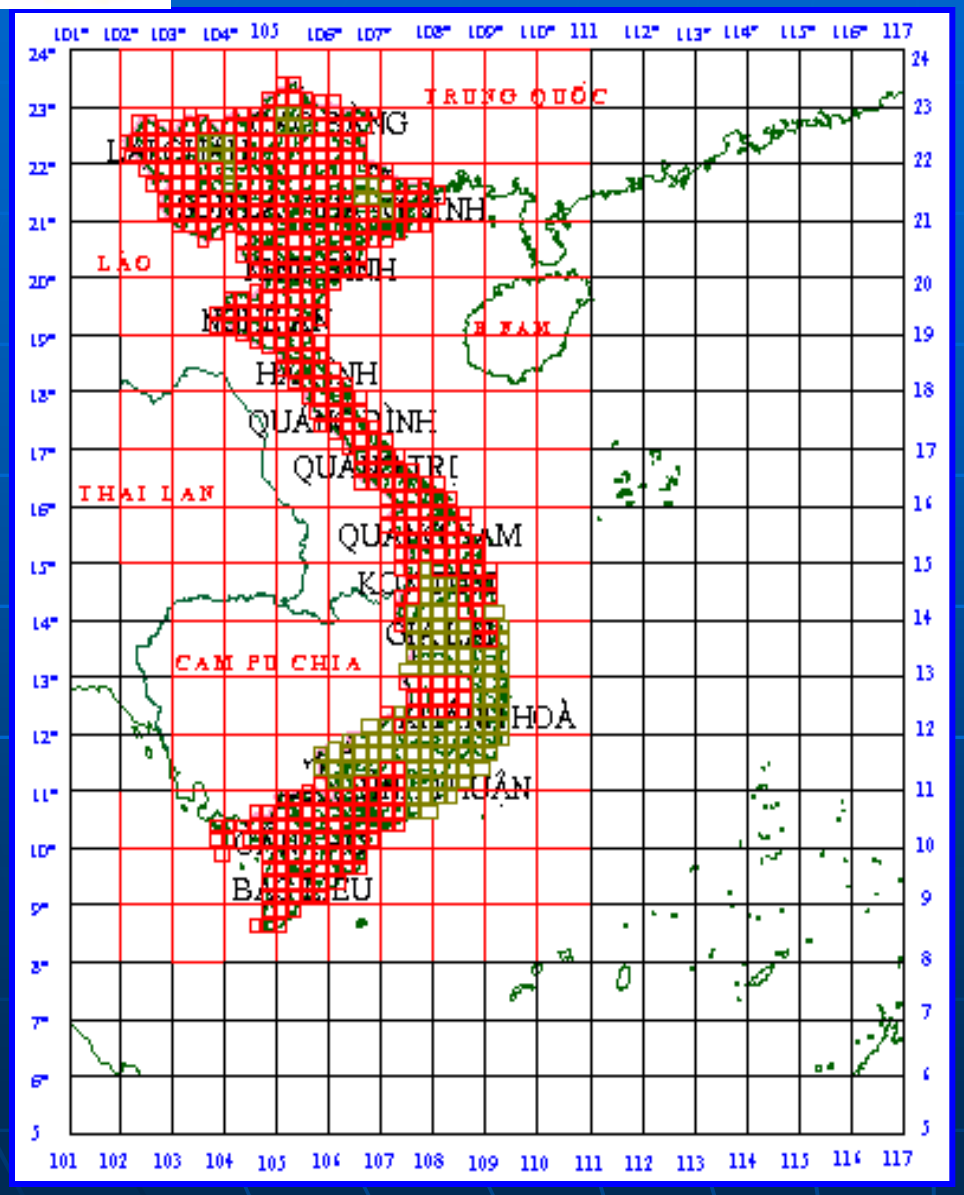
3. NATIONAL GRAVIMETRIC NETWORK OF I, II, III ORDERS, WHOLE VIETNAM

GNSS CORS AND NRTK STATIONS



- 12 Existing CORS stations
- 14 New Geodetic CORS Stations and 38 NRTK Station will be built up soon

TOPOGRAPHIC MAP



. 1:2000, 1:5000 covered cities and industrial zone (printed and digital)

. 1:10.000 covered mainland (printed and digital)

. 1:50.000, 1:100.000, 250.000, and 500.000 covered mainland (printed and digital)

. Sea-bed map scale 1:10.000 and 1:50.000 covered inshore of whole Vietnam coast (printed and digital)

THEMATIC MAP

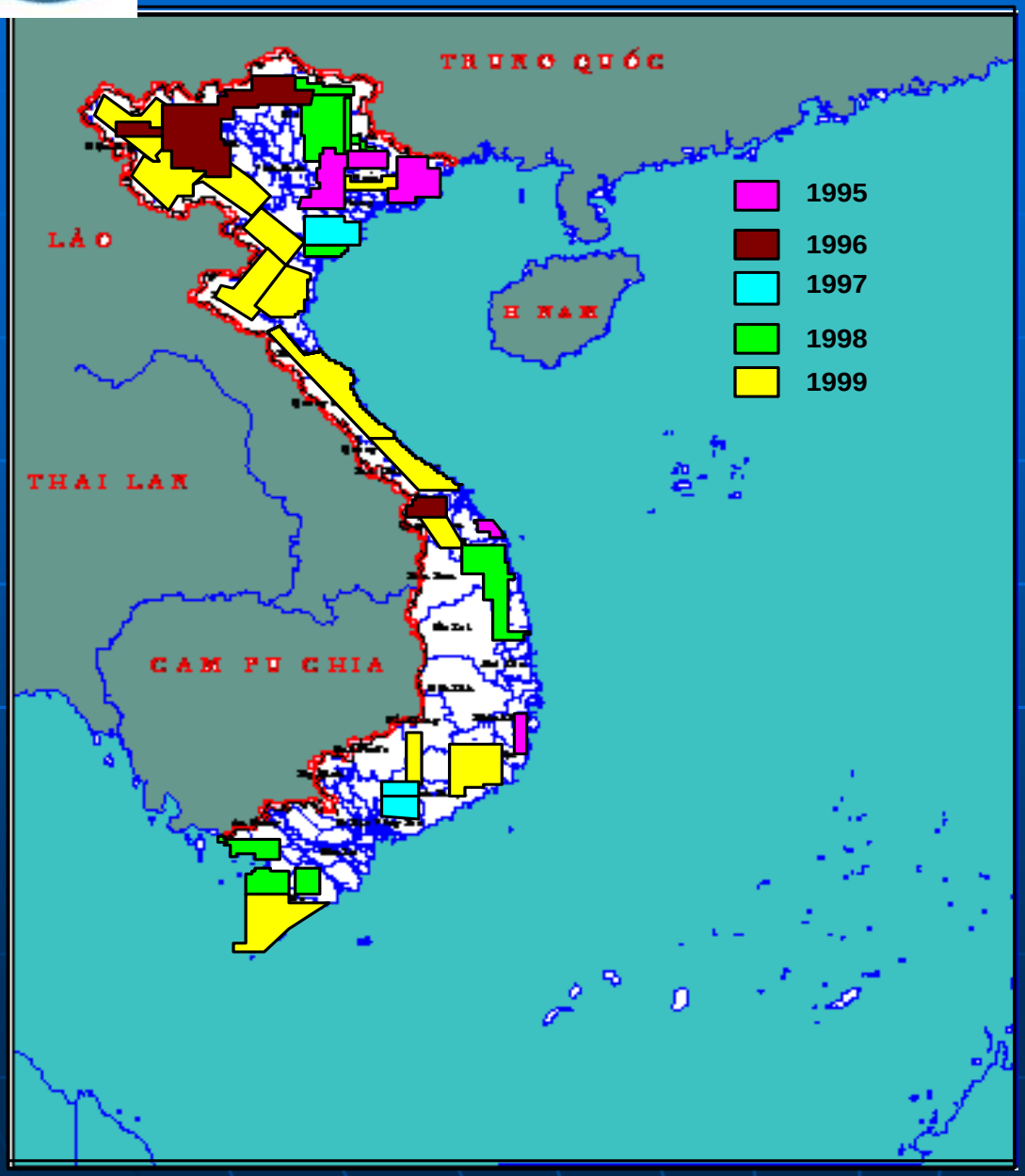
MÔ HÌNH SỐ ĐỘ CAO ĐẢO PHÚ QUỐC (PHẦN ĐẤT LIỀN)

MÔ HÌNH SỐ ĐỘ CAO NÚI BÀ ĐEN (TÂY NINH)

BẢN ĐỒ DU LỊCH

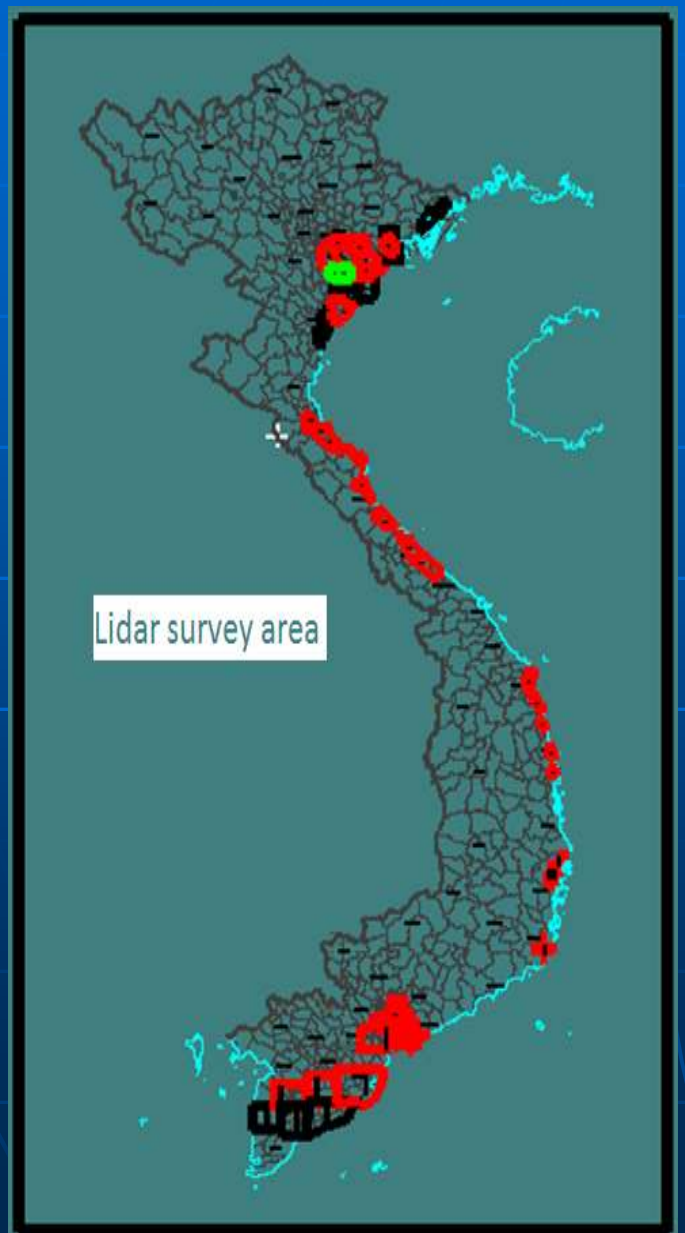
BẢN ĐỒ HÀNH CHÍNH

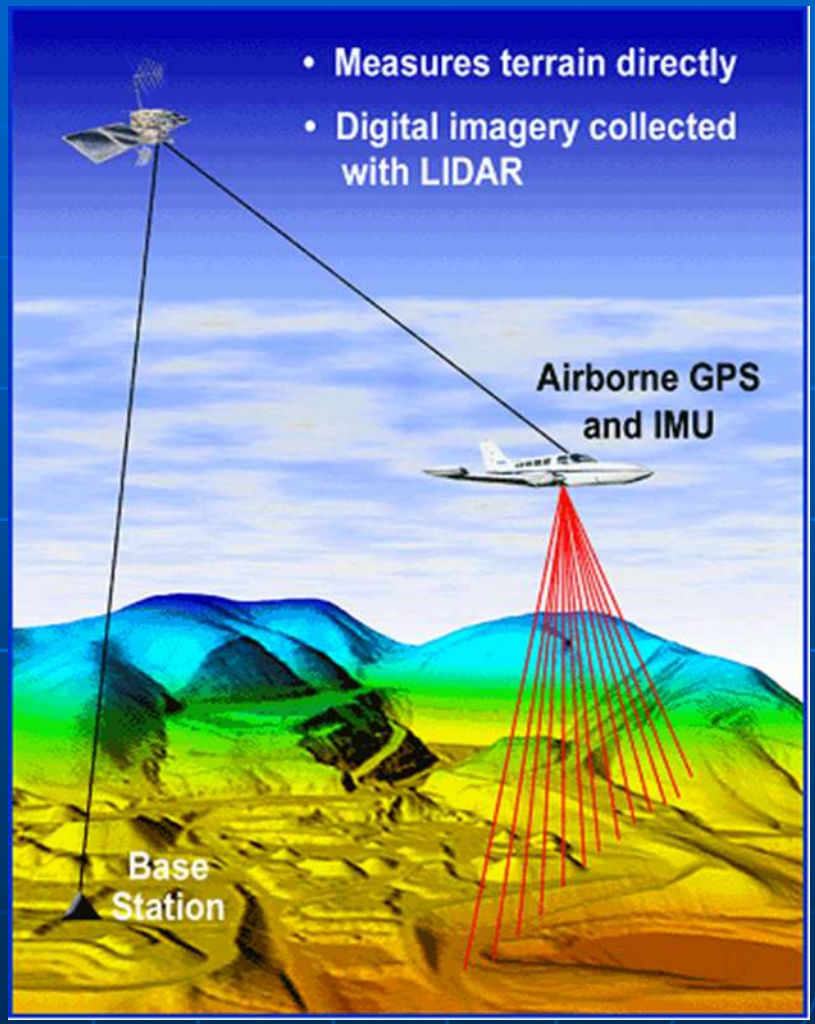
IMAGE DATA
CAPTURED FROM 1991 TO 2004



- Films and images Size 23x23cm Scales from 1:4.000 to 1:35.000
- Now Digital Camera's used for all projects

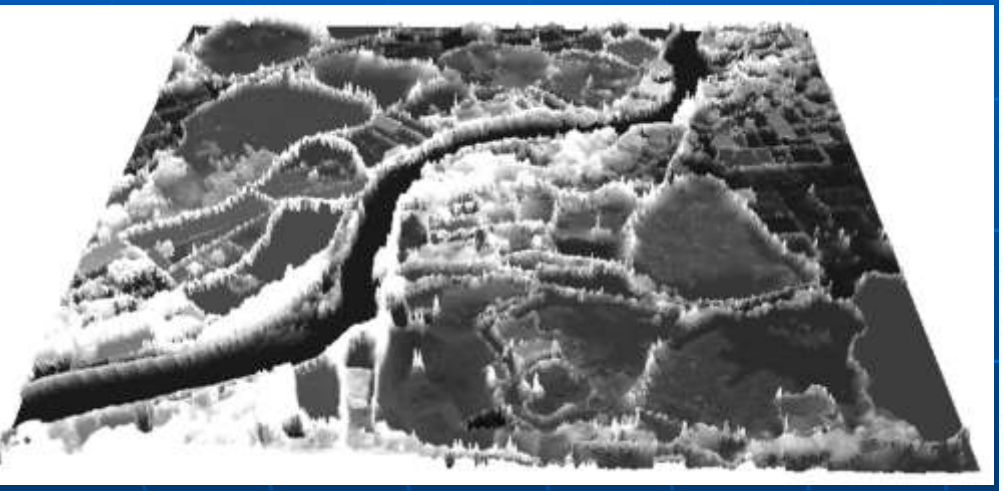
LIDAR DATA
APPLIED FROM 2008





LIDAR DATA

Digital Terrain Model and Ortho Picture

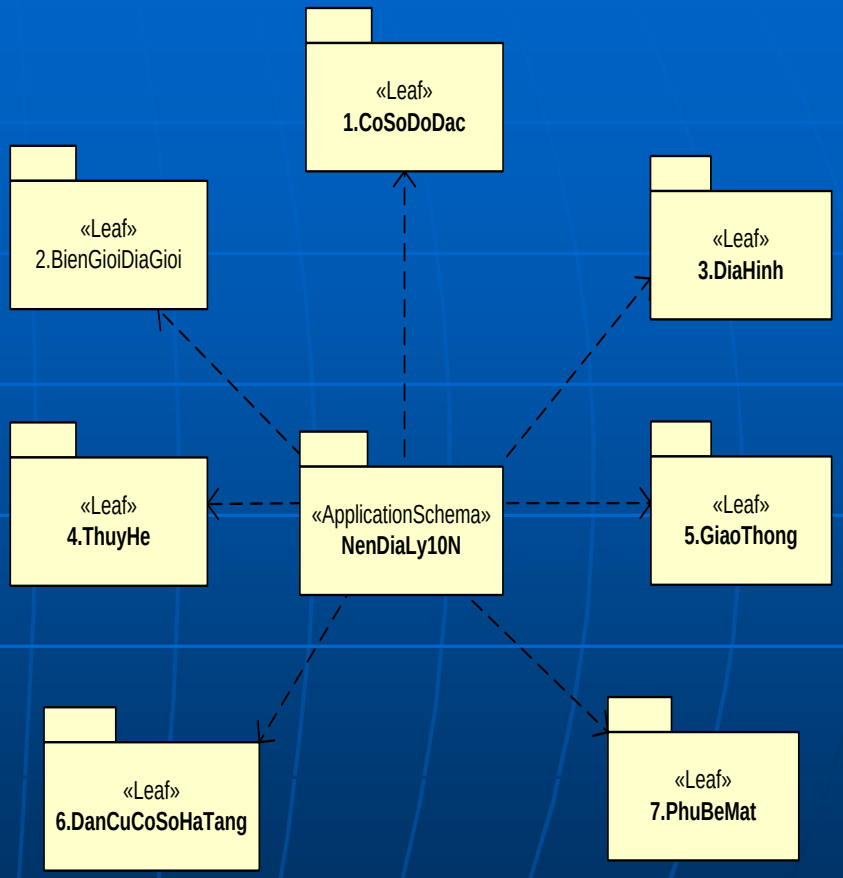


GEOGRAPHIC DATABASE

- Base on Standards conformed to International Standards

- Established from 2008 to 2013 for whole country

-Format: Geo-database use ArcGIS Application (ESRI.)

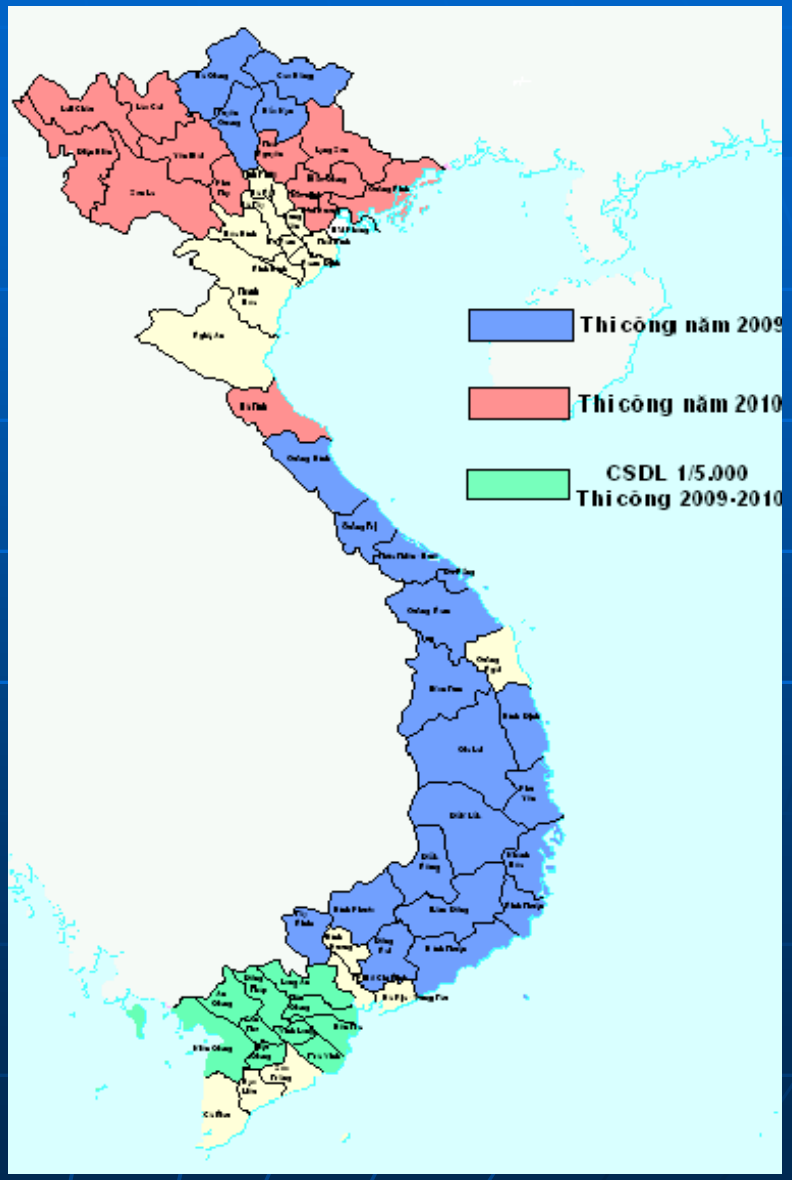


GEOGRAPHIC DATABASE

Geographic Fundamental Database

- *Established on primary*
  scale 1:2.000 or 1:5000 for cities or industrial zones; Scale 1:10.000 for rural areas with Digital Elevation Model (DEM)

- *Then generated to secondary*
  Scale 1:50.000 and more for whole country



GEOSPATIAL DATA – STORAGE AND DELIVERY

1. Hard copy
   - Store in special rooms
   - Format: CDs, DVDs, Microfilm…

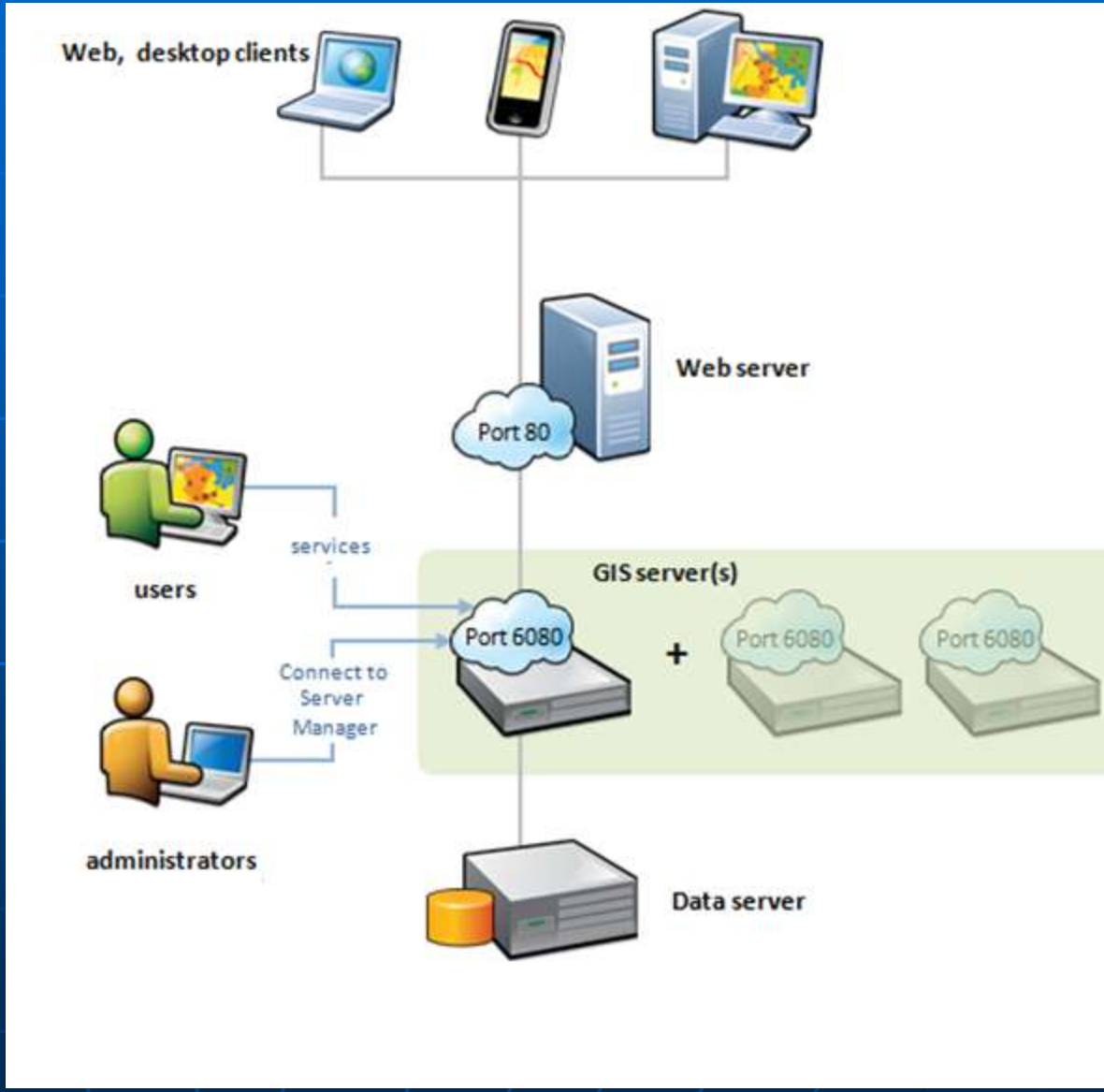
2. Soft copy
   - Store in SAN (Storage Area Network)

GEOSPATIAL DATA MANAGEMENT

- 2008, Geodetic management system has been performed based on Client/Server model. Use ESRI technology, DBMS Oracle.
- 2011, Building the management system for geographic fundamental database
- 2013, Study and start portal providing data online

1. Geodetic Management System

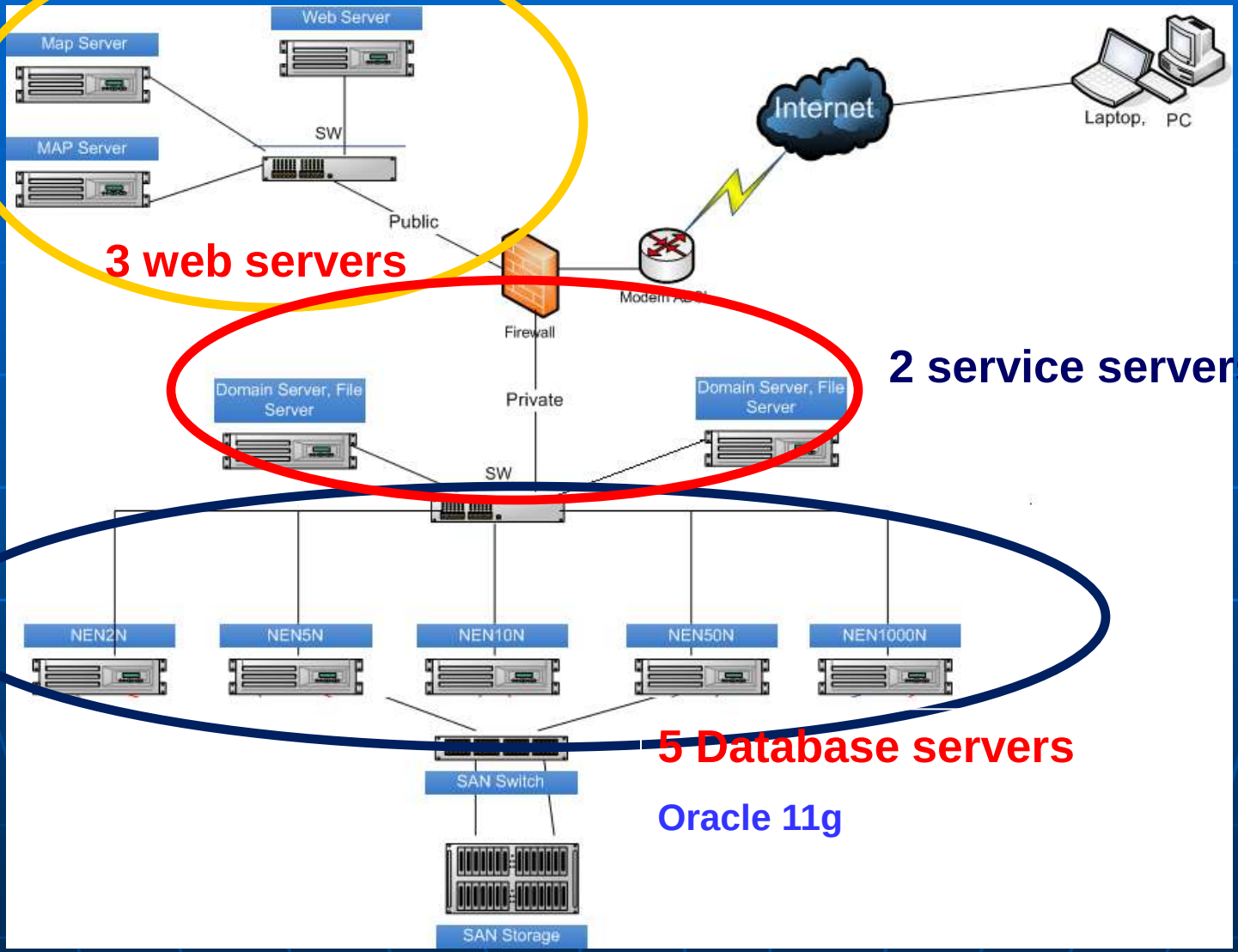
1. Client/Server Model
2. Work on LAN (Local Area Network)
3. Database: Oracle



2. Geographic Database Management System

- Database:
  - Store and manage geographic database for the whole country
  - Data at scales: 1:2000; 1:5000; 1:10.000; 1:50.000
  - All data of one scale in one database server
- Technology:
  - ArcSDE Geo-database
  - Oracle 11g

2. Geographic Database Management System

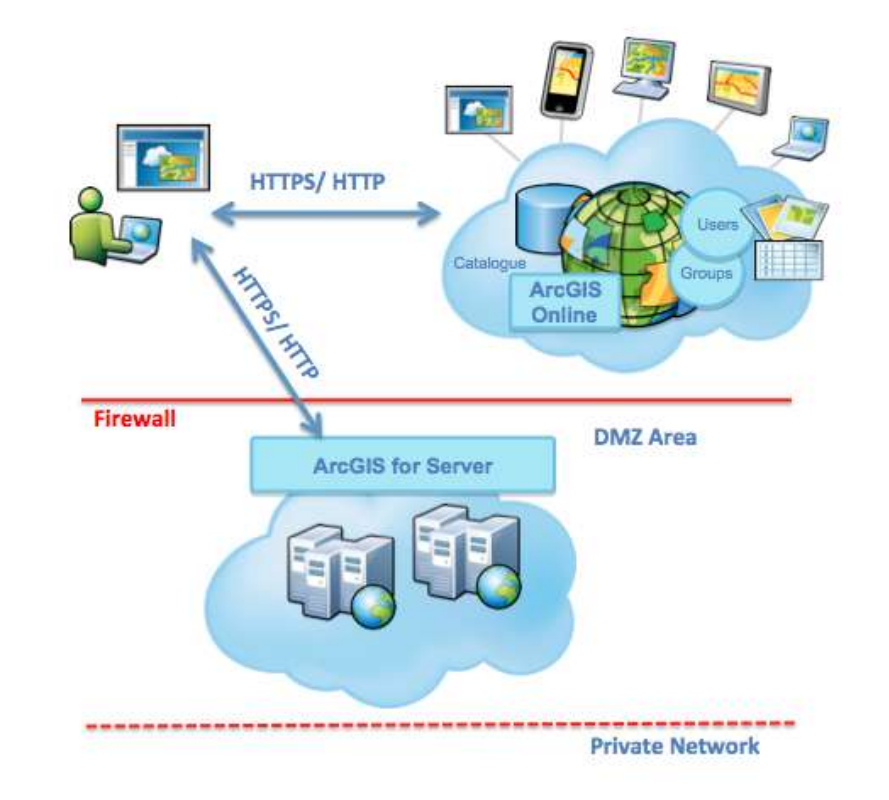


3. QUERY GEOSPATIAL DATA ONLINE

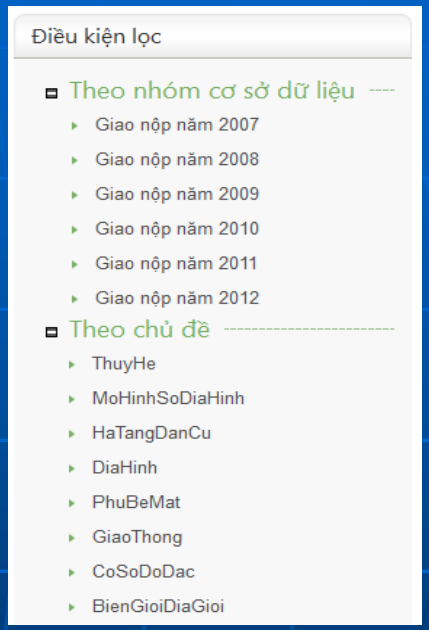
- Search information about spatial data

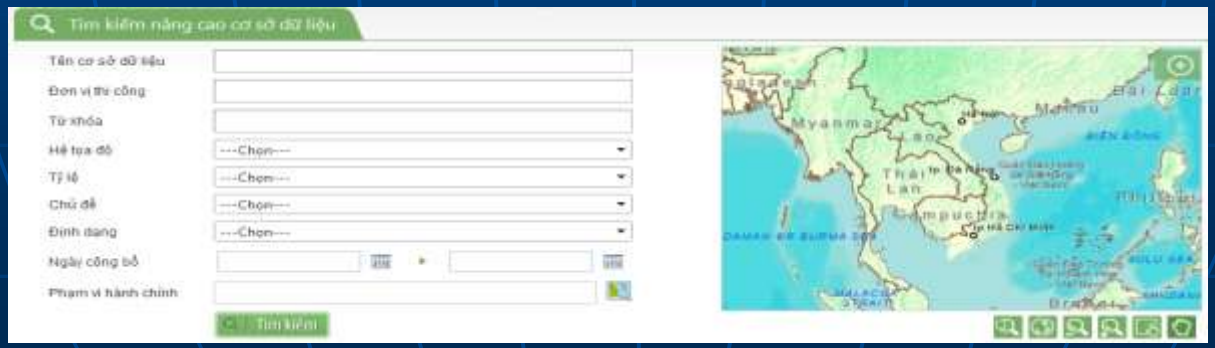
- Order or download free data

- Pay fee directly or online

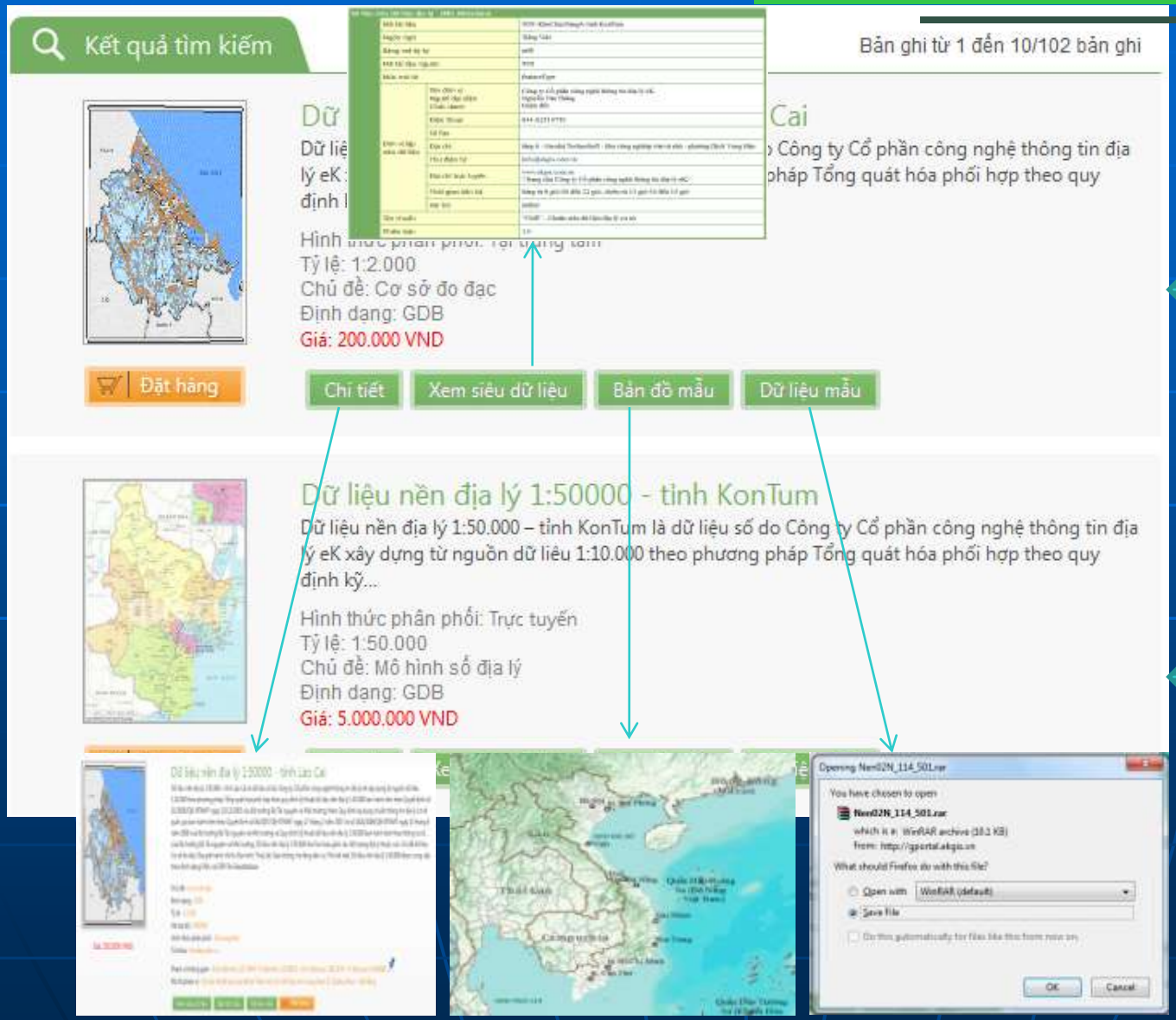


QUERY GEOSPATIAL DATA ONLINE





QUERY GEOSPATIAL DATA ONLINE



DELIVERY OF GEOSPATIAL DATA

1. Provide geodetic data, maps and geo-database to for planning and building thematic database at ministries

2. Provide geodetic data, maps and geo-database for planning and building thematic database in provinces

3. Provide geodetic data, maps and geo-database for Government development Projects

4. Provide geospatial data for response to natural disaster, climate change and sea level rise

5. Geodetic data, maps and geo-database are available for organizations

SOME ACTIVITIES FOCUSED FOR COMMING FUTURE

- **Build GNSS Dynamic Frame Network and NRTK (Network Real Time Kinematic) service**
- **Upgrade Geographic Database**
- **Perfect Geographic Information Standards**
- **Create new Survey and Mapping Specifications**
- **Build up National Spatial Data Infrastructure (NSDI)**

THANK YOU
FOR YOUR ATTENTION!