

# *Harmonized to Seamless Geology*

*Sompob Wongsomsak*

**Information Section**

**Mineral Resources Information Center**



# Outline

- ❑ Background
- ❑ Concepts
- ❑ Related factors
- ❑ Data sources
- ❑ Implementations
- ❑ Achievements

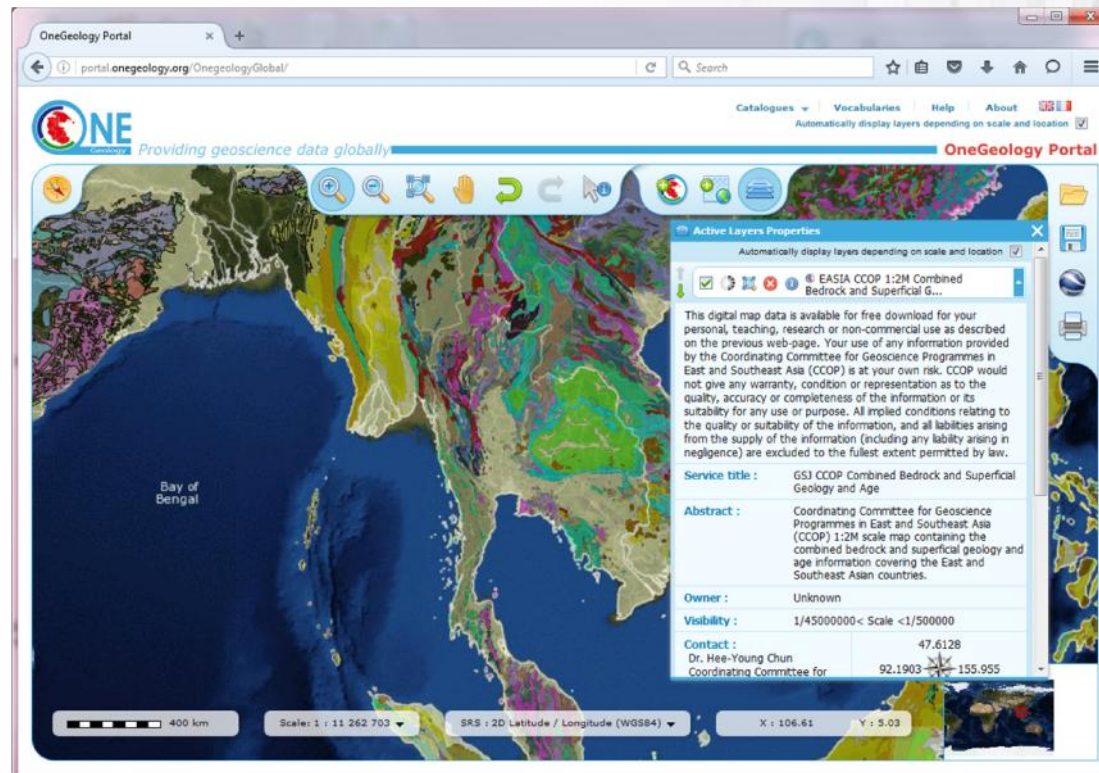




# Background

□ 2008

- Celebration of IYPE
- CCOP joined to promote the OneGeology portal
- 2M geological map of East and Southeast Asia was shared via WMS.

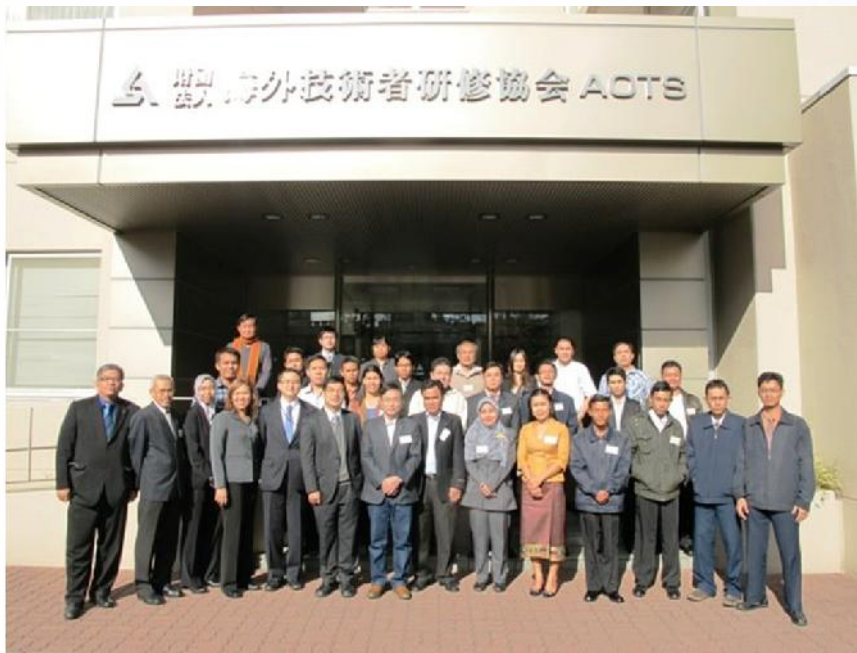




# Background

□ 2010-12

- GSJ supported ASOMM to improve and update AMDIS.
- Technical transfer to established standard WMS and WFS was done.

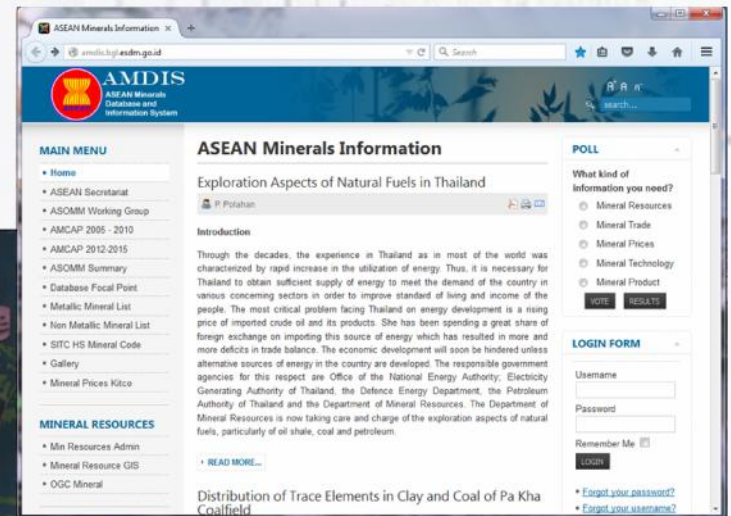




# Background

□ 2013

- GSJ persuaded DMR submitting project to ASOMM WG and ASOMM.
- CCOP was invited to hold the ASEAN HGP.
- AMDIS portal was officially opened during the 13<sup>th</sup> ASOMM, Bali.





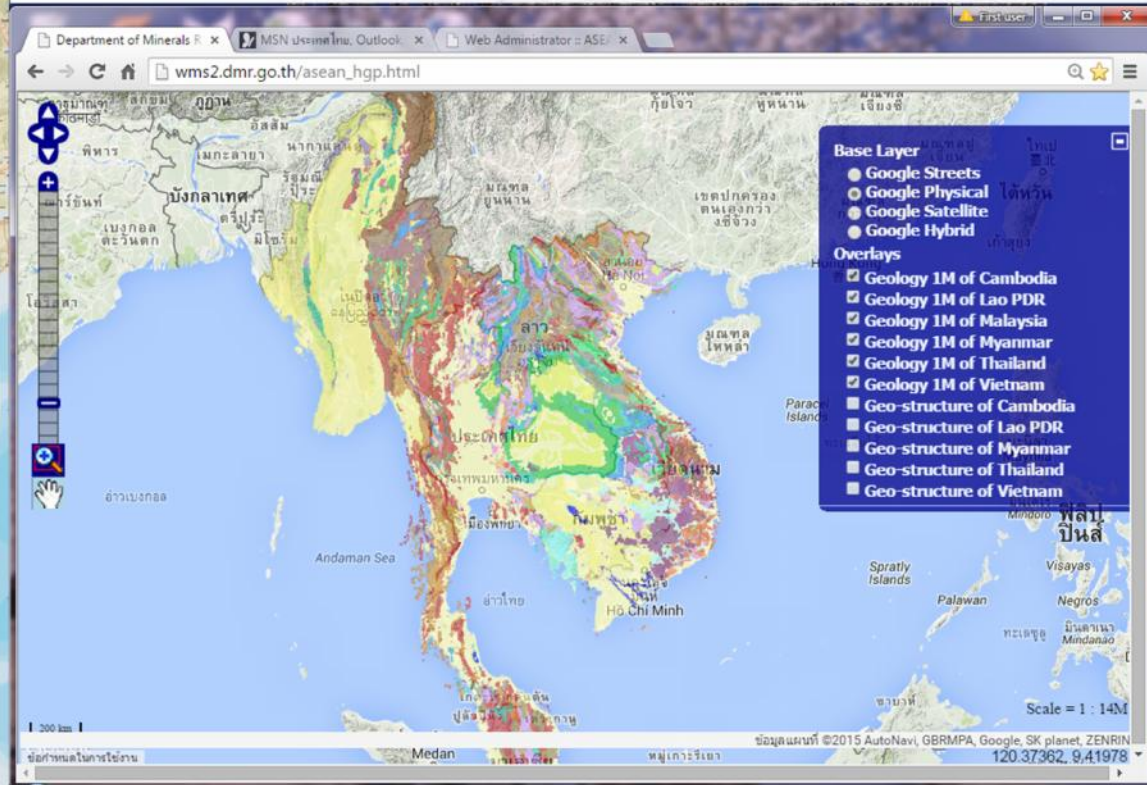
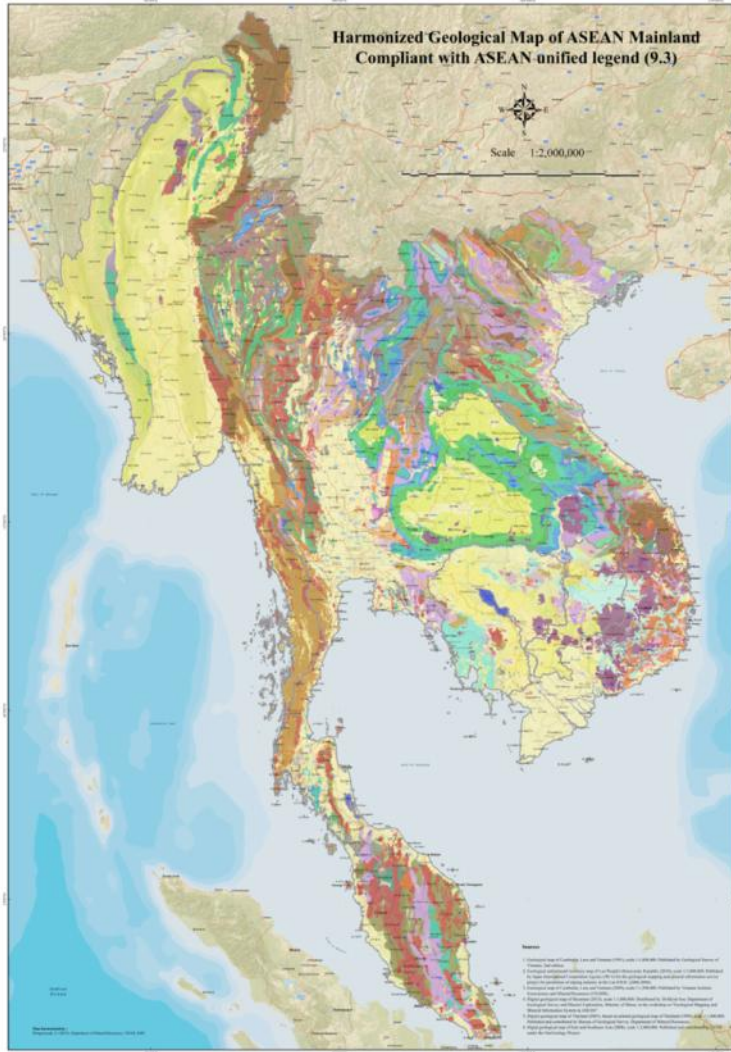
# Background

## ❑ 2014

- ASEAN HGP was proposed to CCOP work plan at the 62<sup>th</sup> SC meeting, Chiang Mai.
- ASEAN HGP had launched in July at CCOP head office.









# Concepts

## ❑ Compilation

- The action or process of producing something by assembling information **collected** from other sources.

## ❑ Harmonization

- Harmonization is an attempt to **eliminate** major differences and **create** minimum requirements or standards.

## ❑ Seamless

- Merging disparate maps by the **stitching** of geological data along map boundaries and **harmonization** of stratigraphic naming conventions into a single consistent format.



# Technical comparison

## Compilation

- Long term (6-10 years)
- Analog works
- Difficult to revise
- Modified a lot
- Get new information
- Not easy to understand

## Harmonization

- Short term (few years)
- Digital Works
- Easy to revise
- Minimum revision
- Keep original information
- Easy to understand

# Factors concerned with harmonization

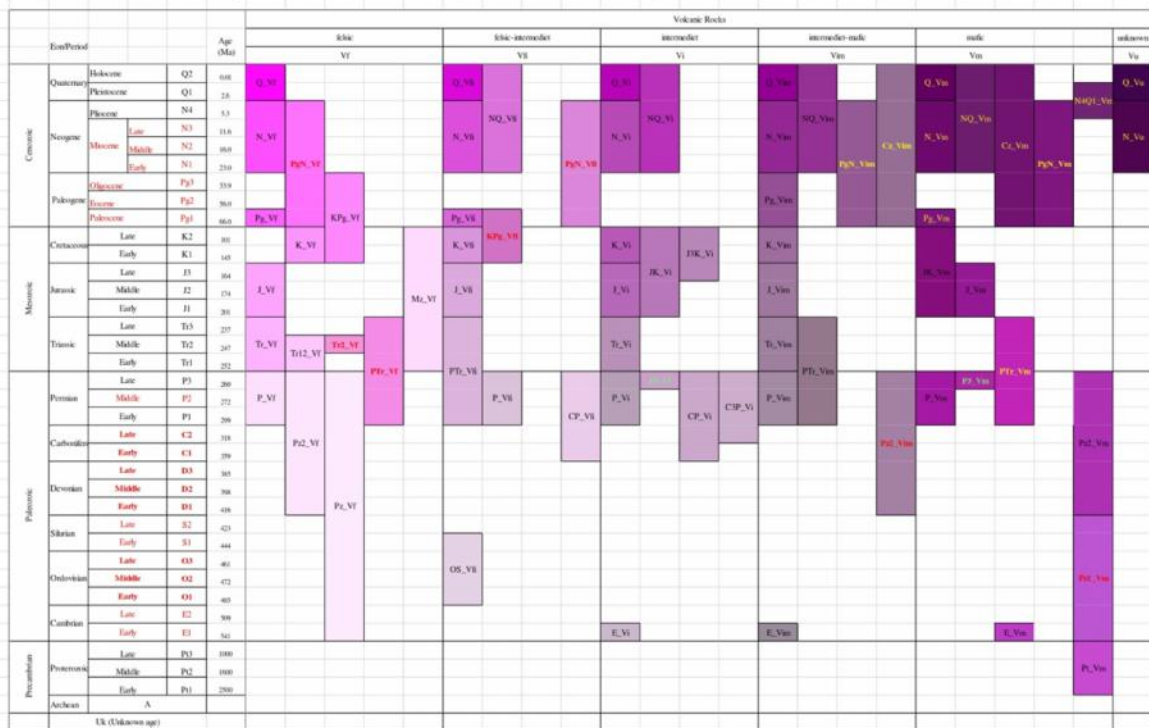


## ❑ Geologic age

- Using only Period and Epoch.
- Unknown age.

## ❑ Lithology

- Basic classification
- 4 major groups;
  - Sedimentary rocks.
  - Metamorphic rocks; high, intermediate and low grade.
  - Volcanic rocks; felsic, felsic-intermediate, intermediate, intermediate-basic, and basic.
  - Plutonic rocks; felsic, felsic-intermediate, intermediate, intermediate-basic, basic, and ultrabasic.
  - Unknown composition



Uk (Unknown age)



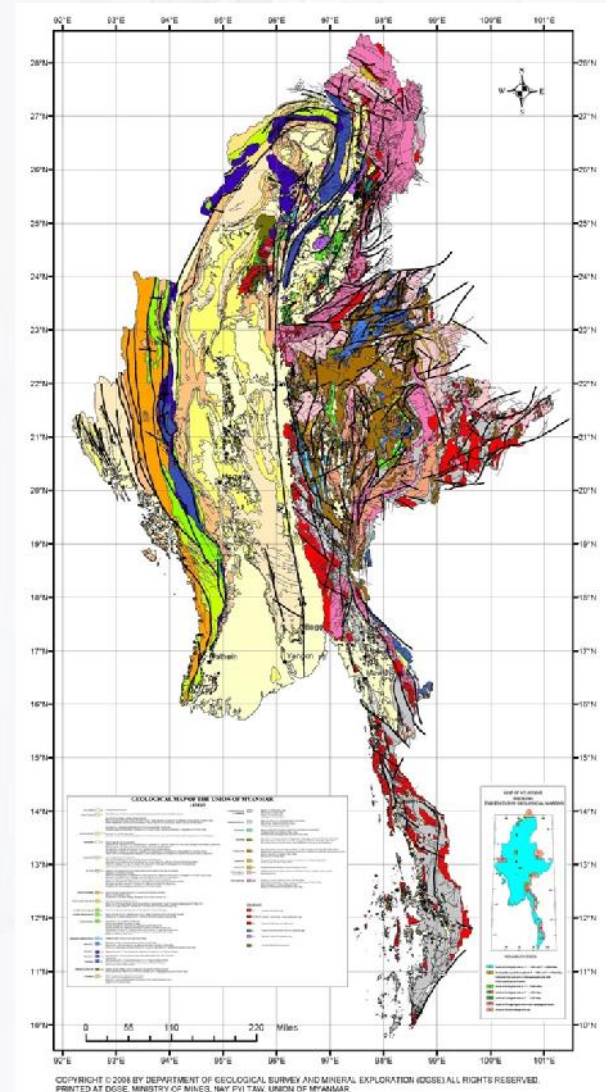


# Data sources

□ Working members share information and maps as followed;

➤ Myanmar

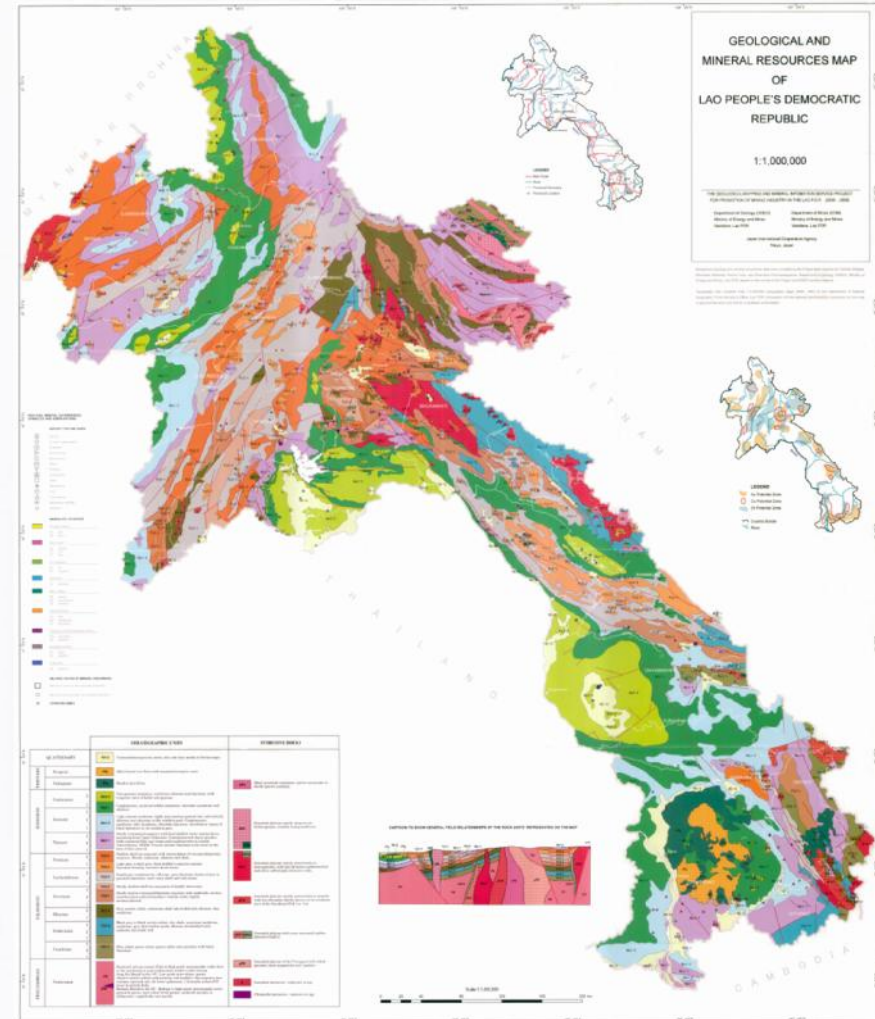
- Digital format, published in 2008.
- GCS, Indian 1954.



# Data sources



- Lao PDR.
  - Digital format, published in 2008.
  - Scale 1:1,000,000
  - GCS, WGS 1984.



# Data sources



## ➤ Thailand

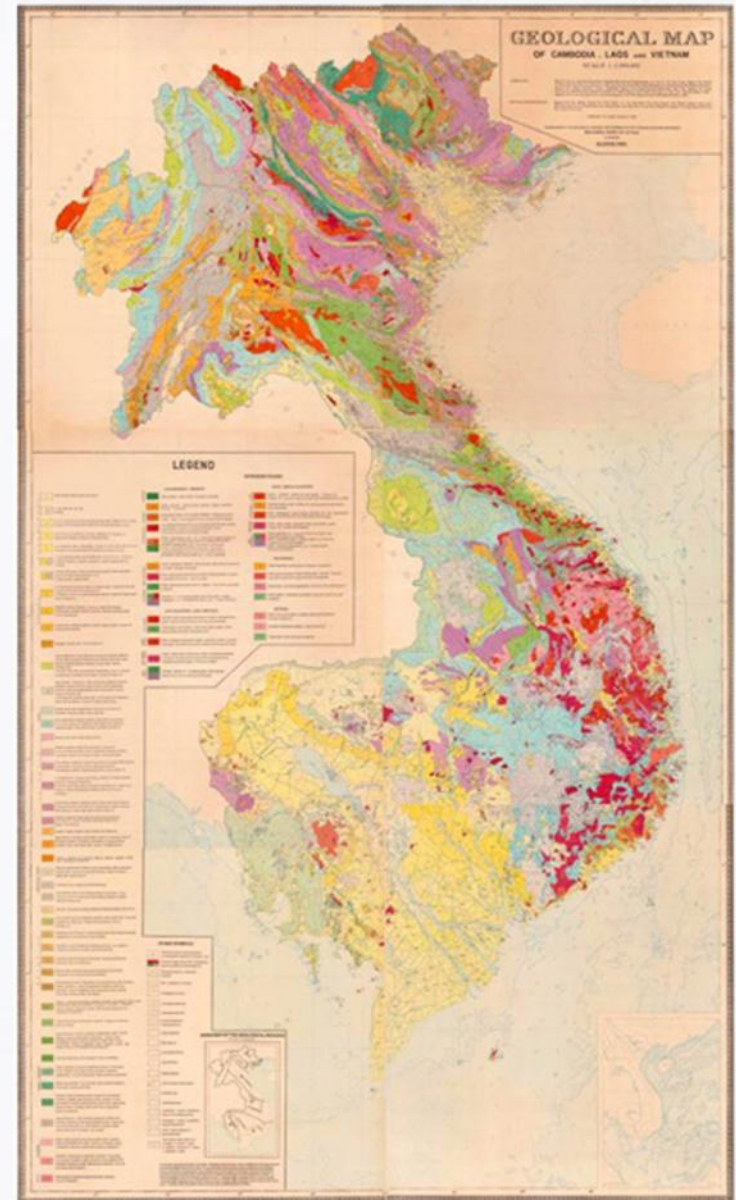
- Digital format, published in 1999.
- Scale 1:1,000,000
- PCS, Indian 1975, Zone 47N.



# Data sources



- Cambodia and Vietnam
  - Scanned image, published in 1991.
  - Scale 1:1,000,000





# Implementations

## ❑ Standard framework of implementation

### ➤ Coordinate system

- GCS, WGS 1984.

### ➤ Digital data

- Shapefile.
- Clean topology.
- Transform to base map,
- Independent polygons.
- Not allow blank attributes, especially in key fields.

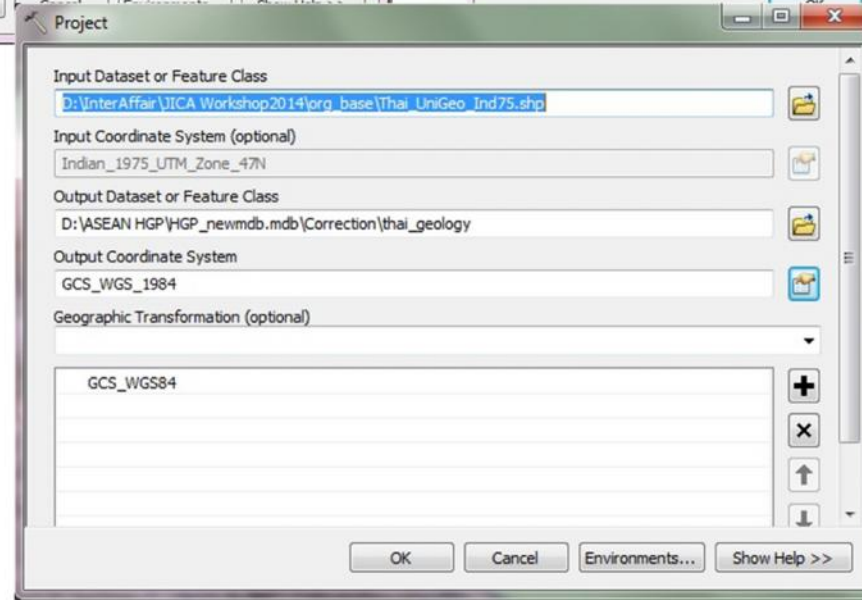
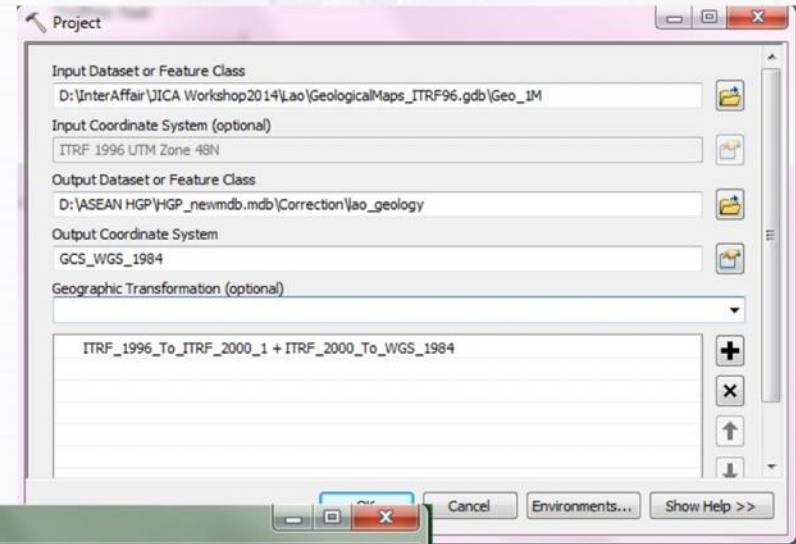
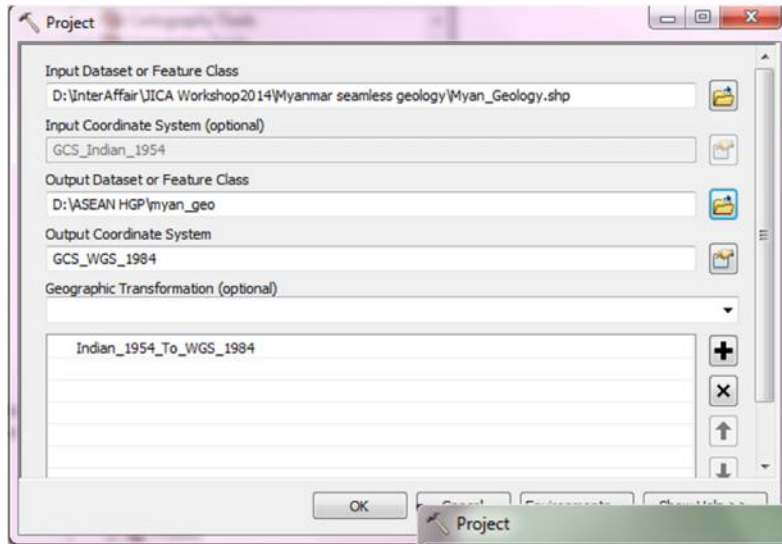
### ➤ Presentation

- No political boundary in hardcopy.
- Existing political boundary in public dissemination can apply for WMS.



# Implementations

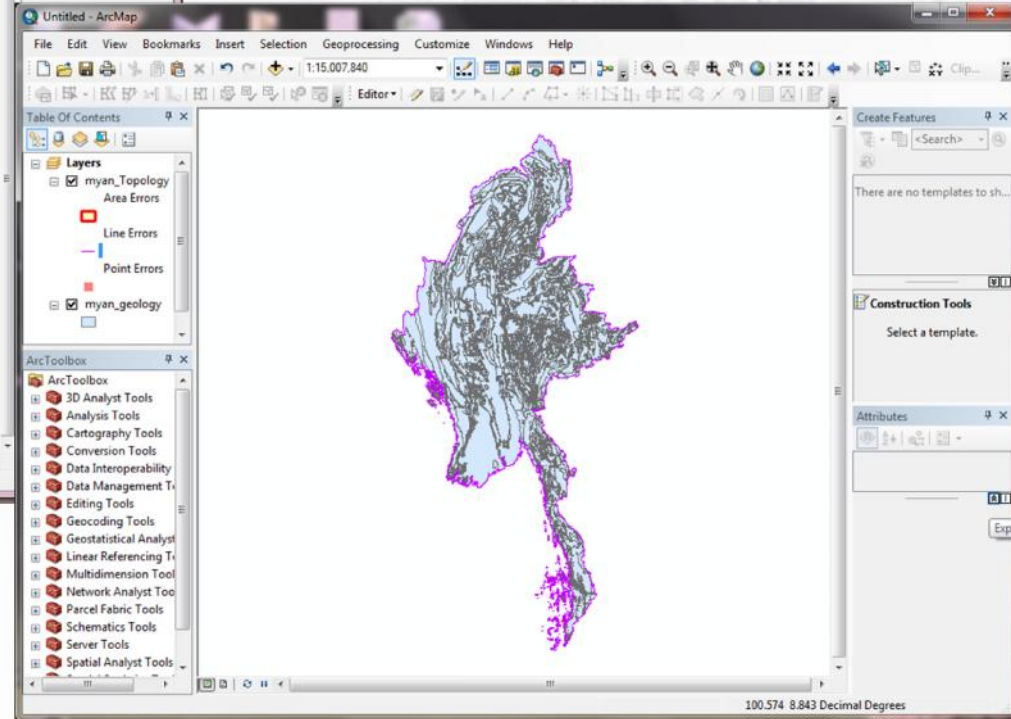
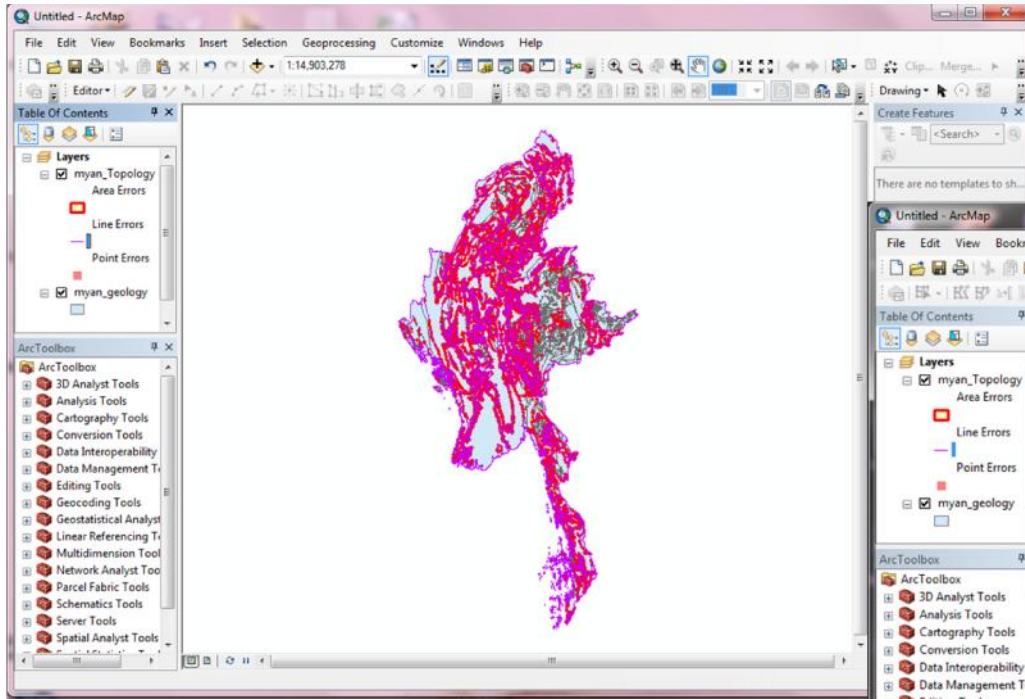
## ❑ Projected coordinate system





# Implementations

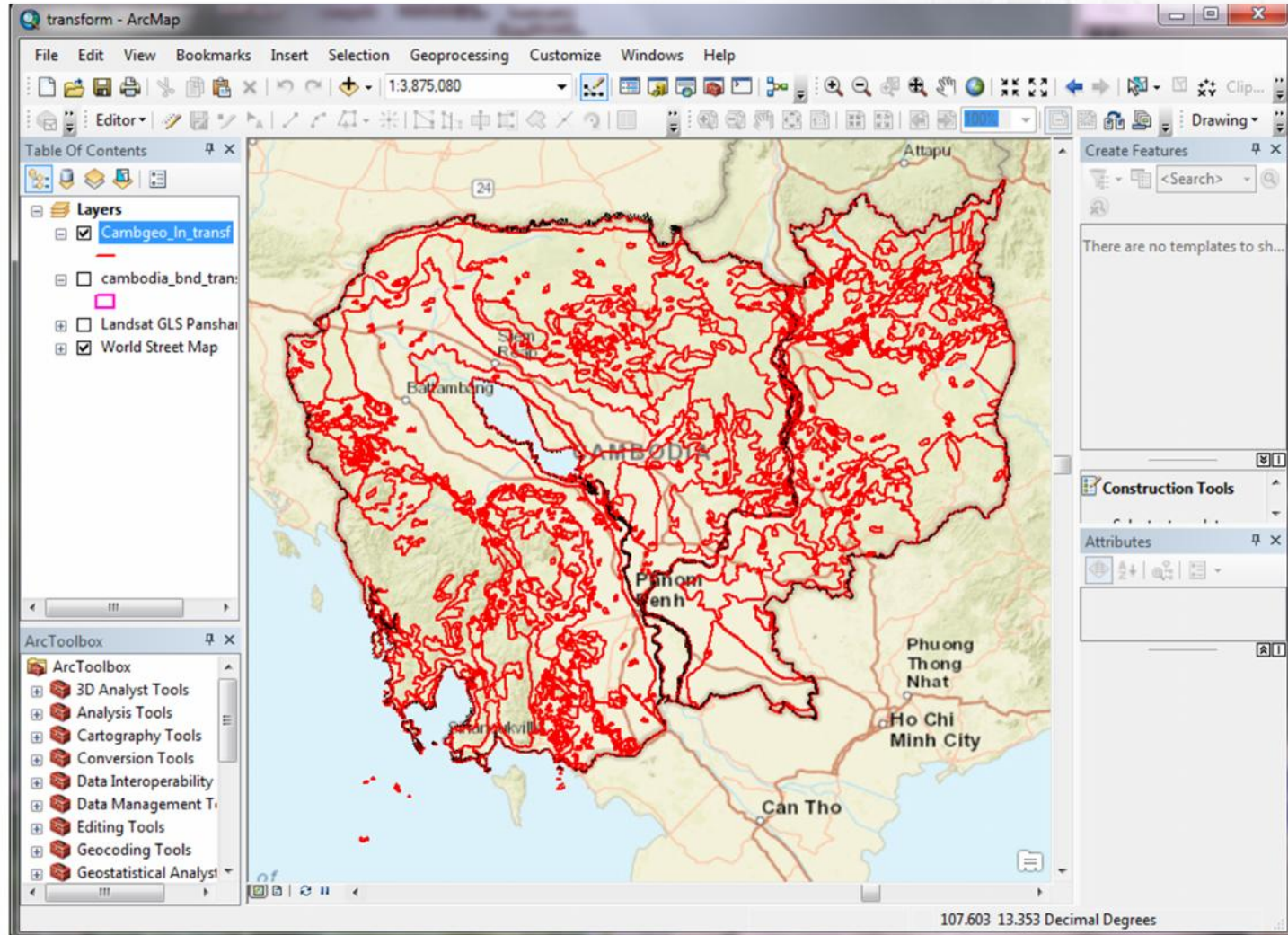
## ☐ Clean topology





# Implementations

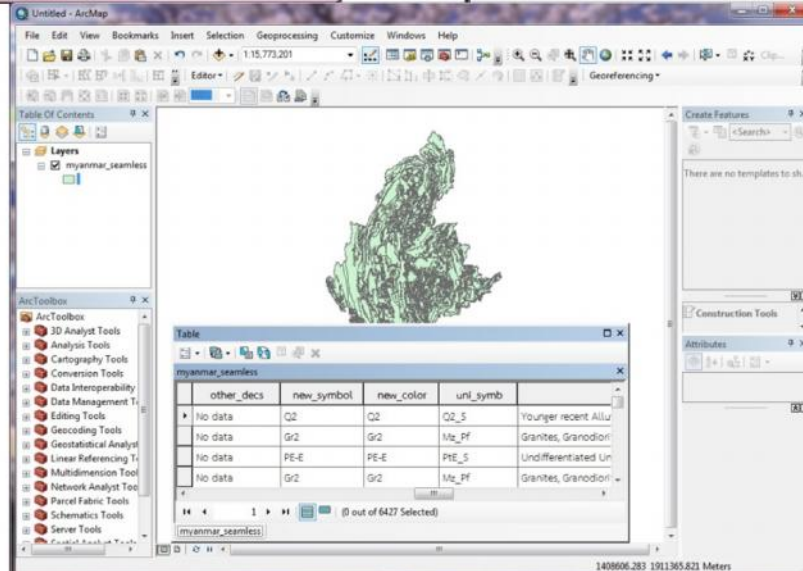
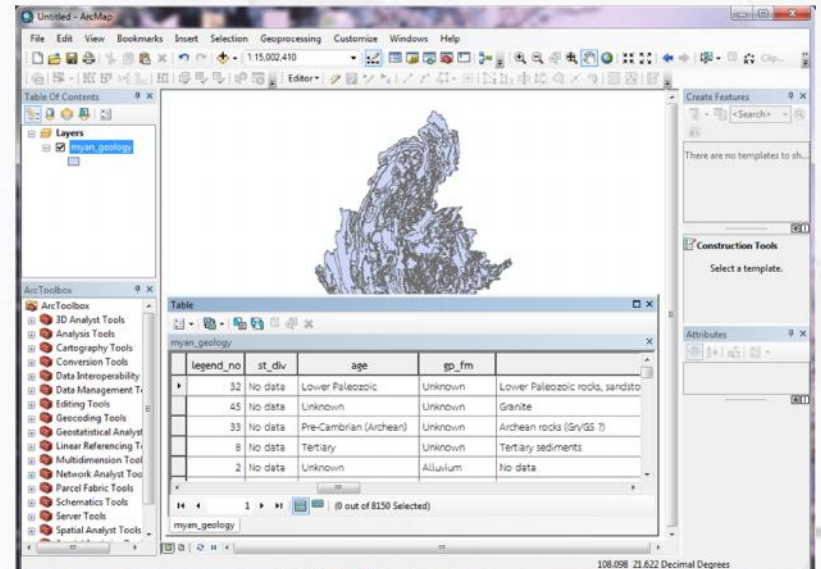
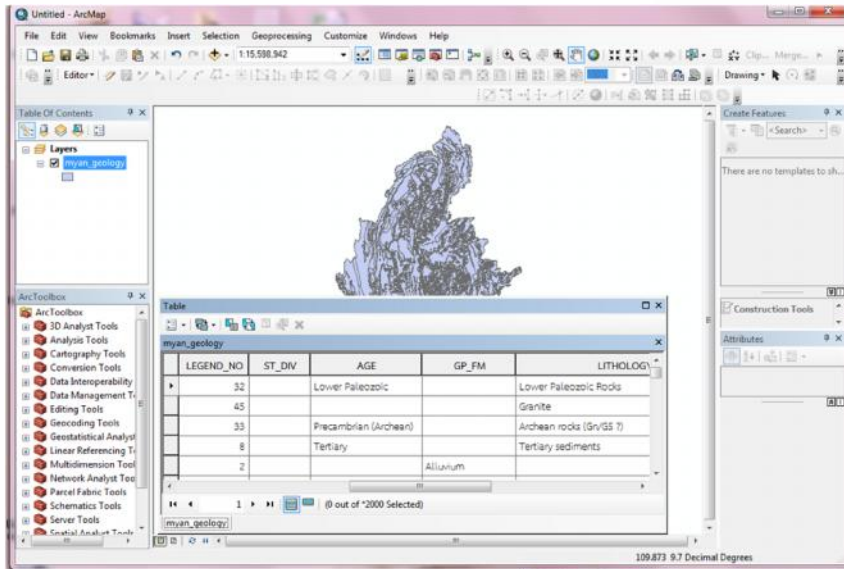
- ❑ Transform to base map.





# Implementations

- ❑ Filled up key attributes



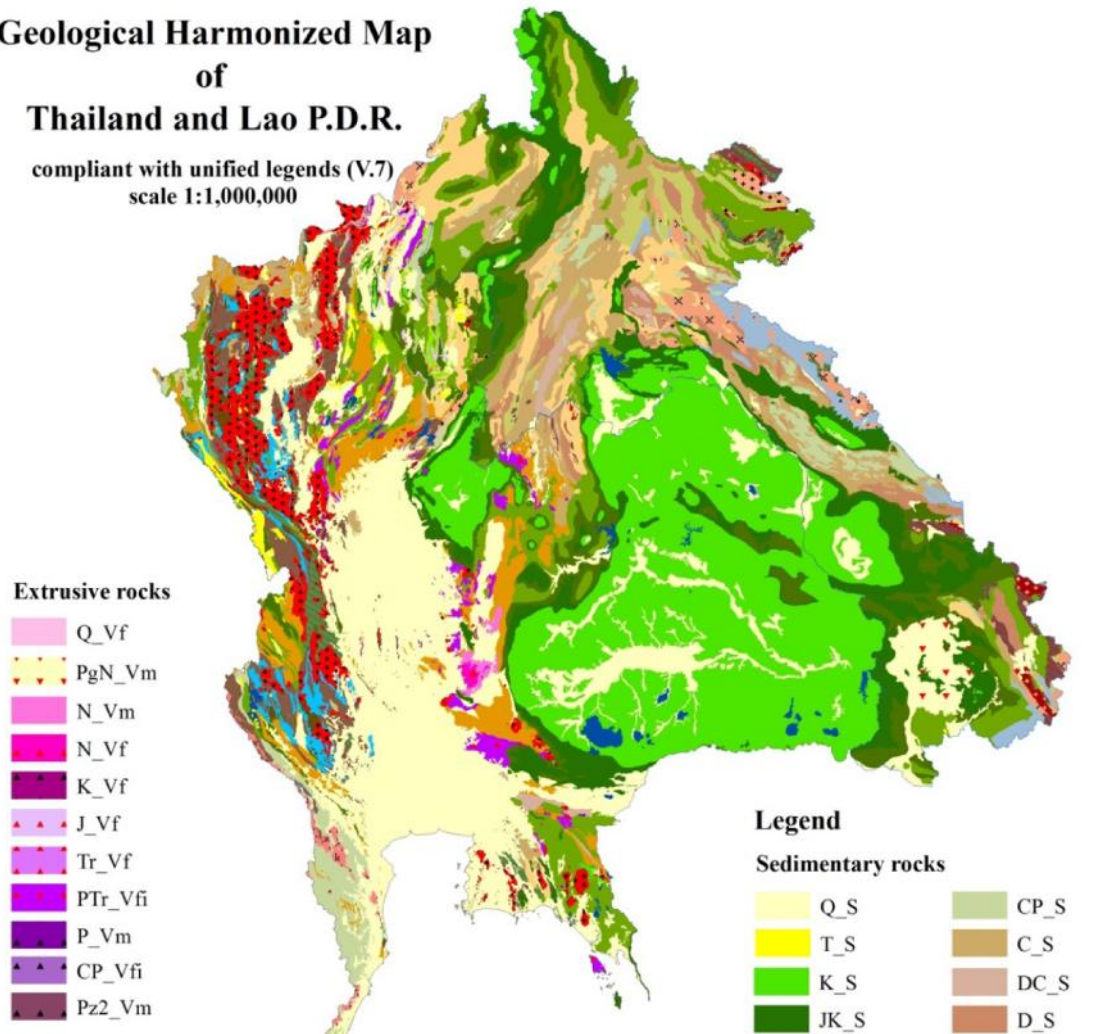
# Achievements



- ❑ 1<sup>st</sup> draft created at CCOP head office during kick-off session

## Geological Harmonized Map of Thailand and Lao P.D.R.

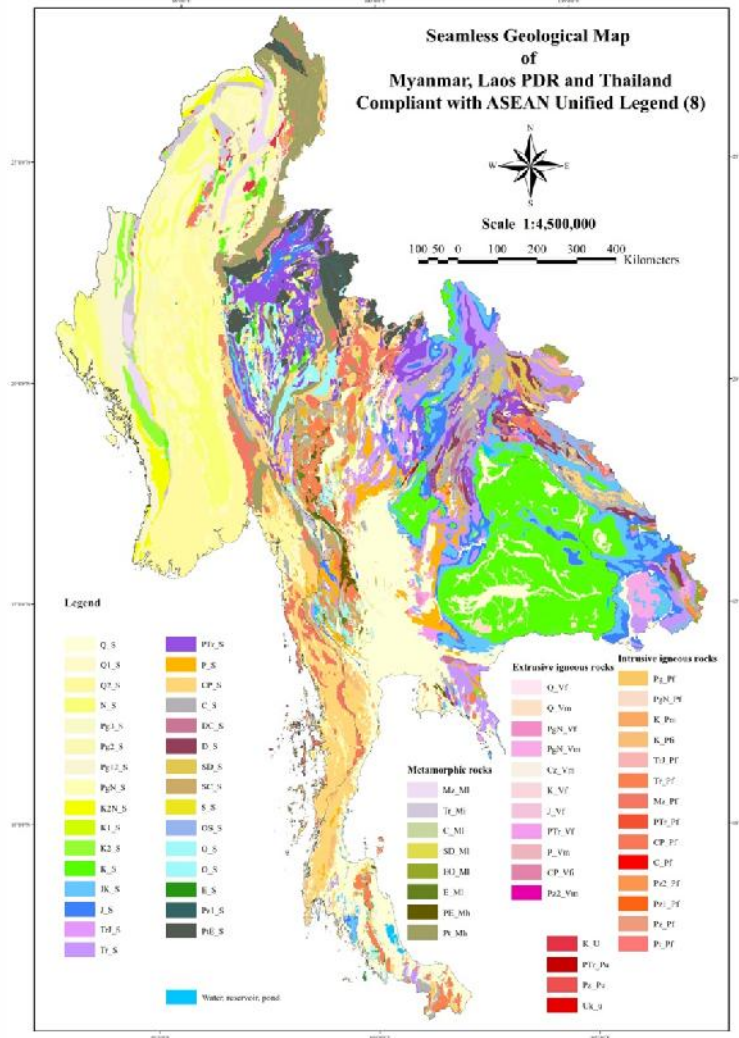
compliant with unified legends (V.7)  
scale 1:1,000,000





# Achievements

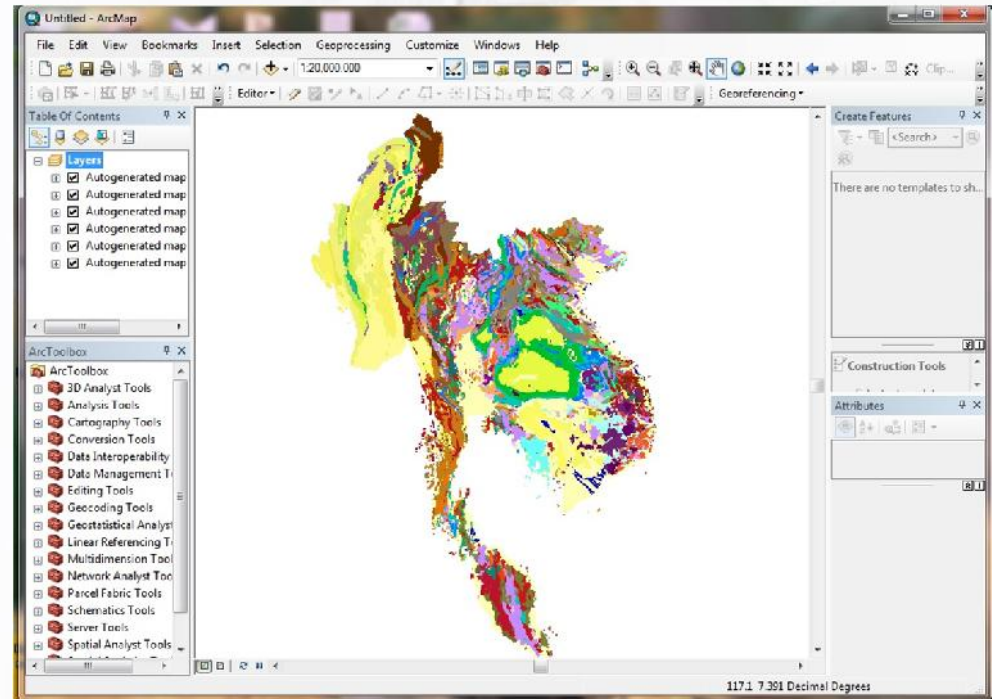
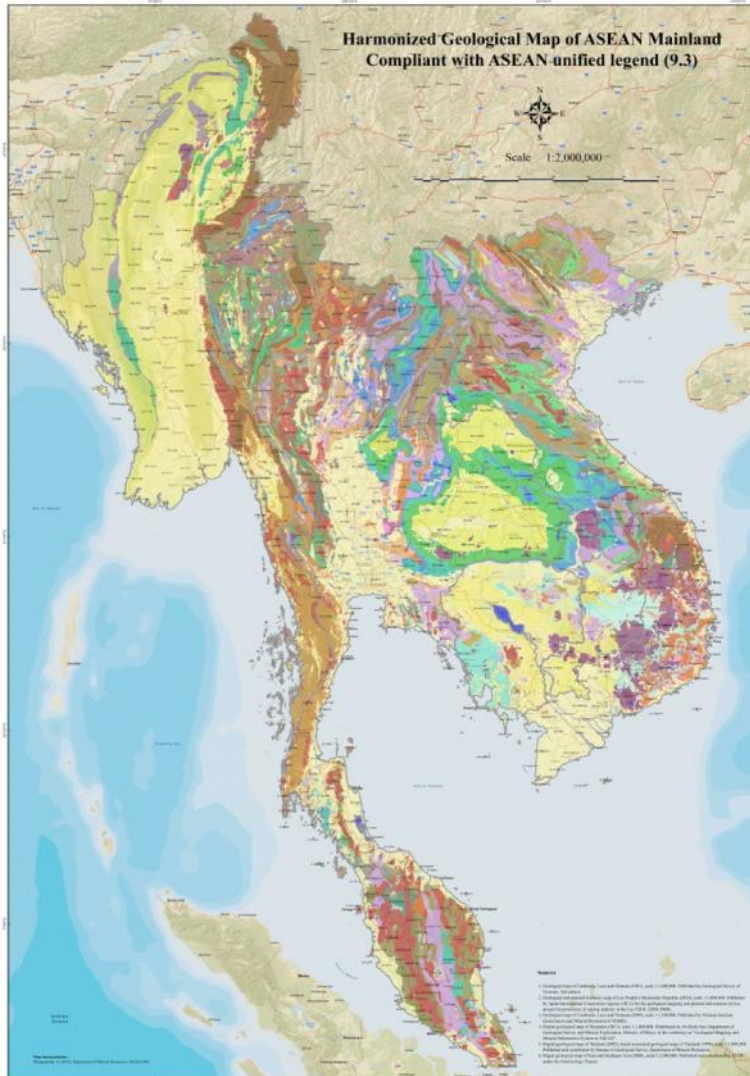
- ❑ 2<sup>st</sup> draft created at Tsukuba, August 2014





# Achievements

- ❑ 3<sup>rd</sup> draft presented at the 64<sup>th</sup> SC meeting at Krabi, March 2015

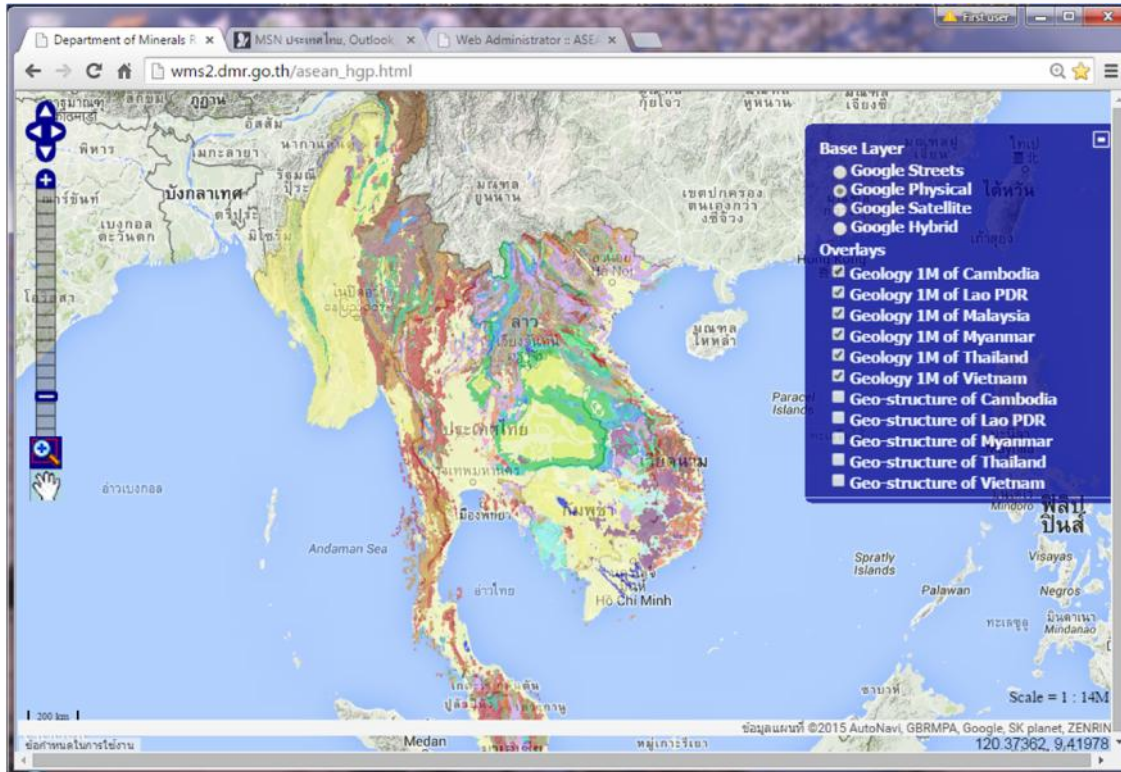


WMS on ArcGIS



# Achievements

- ❑ 3<sup>rd</sup> draft presented at the 64<sup>th</sup> SC meeting at Krabi, March 2015



[http://wms2.dmr.go.th/aasean\\_hgp.html](http://wms2.dmr.go.th/aasean_hgp.html)

# Achievements



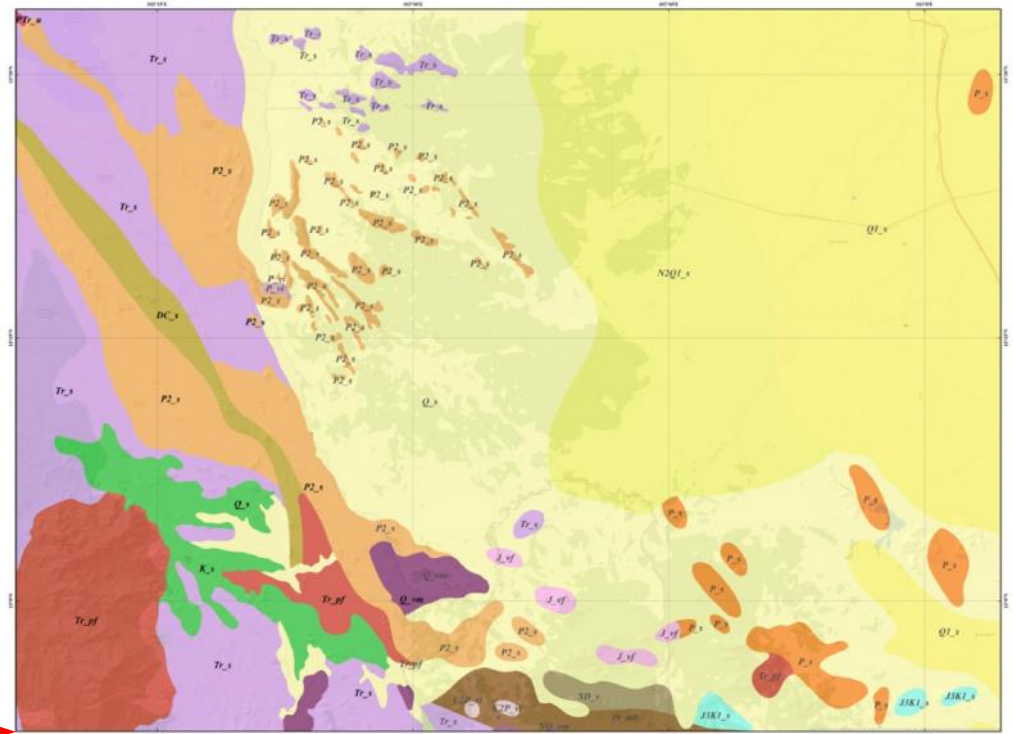
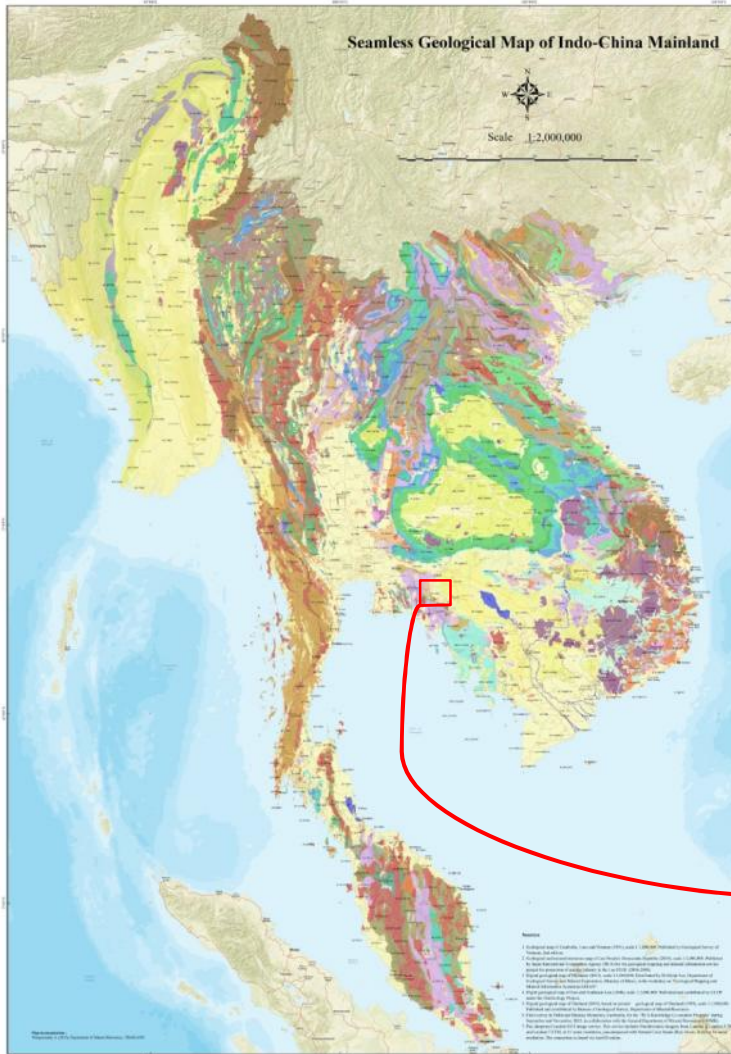
- ❑ JICA Knowledge Co-creation project gave a chance for next output.





# Achievements

- ❑ 4<sup>st</sup> draft presented at the 66<sup>th</sup> SC meeting at Siem Reap, March 2016

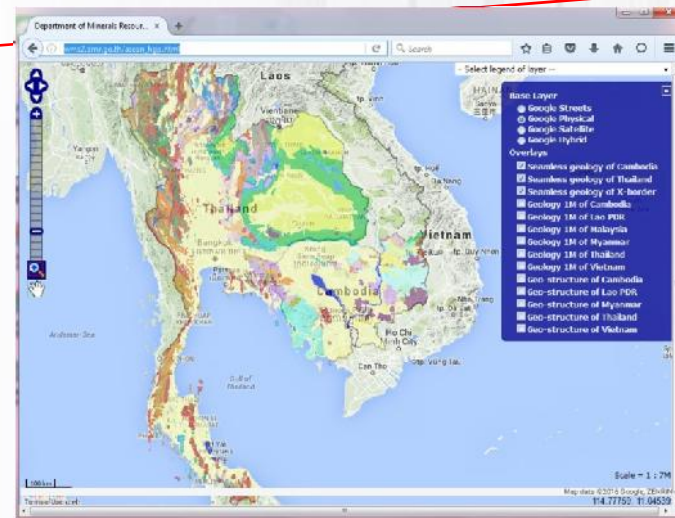
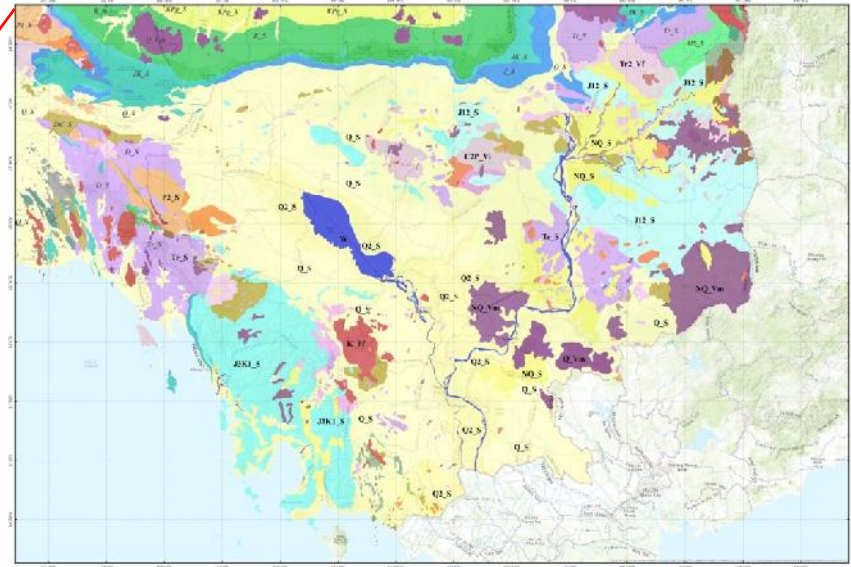
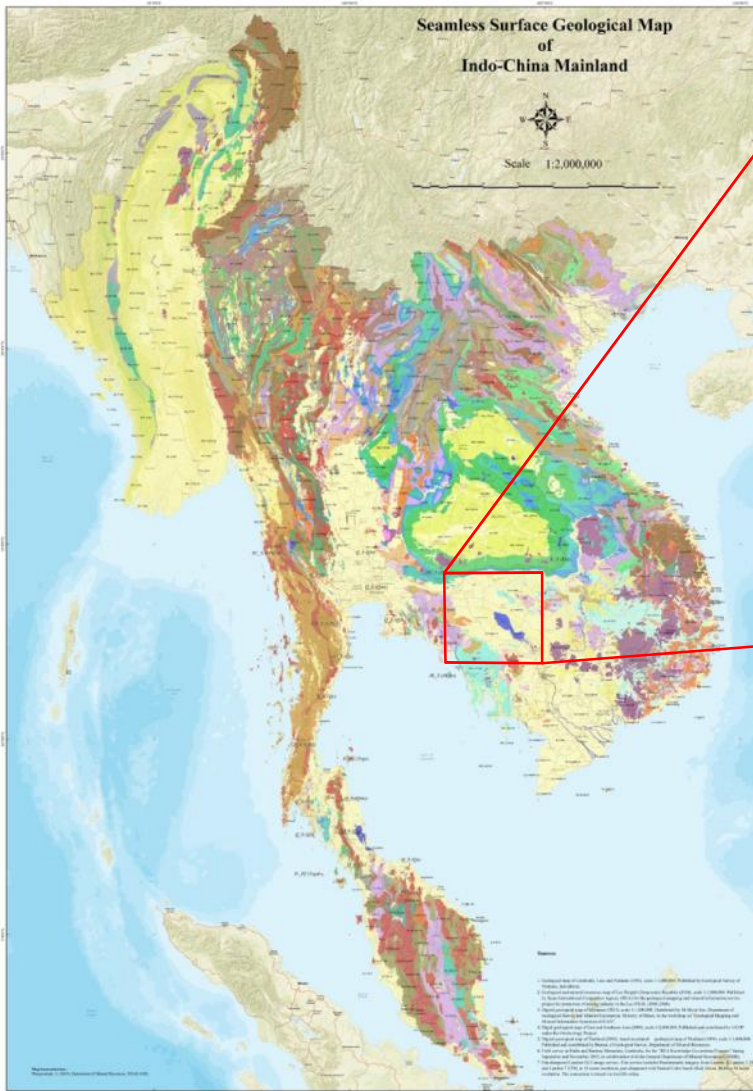


Outcrop map



# Achievements

- ❑ 5<sup>th</sup> draft derived from comments after the 66<sup>th</sup> SC meeting.



*Thank you  
for your attention*

