

Taiwan seismic network status and plans for seismic monitoring cooperation with countries surrounding the South China Sea

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Outline

- Background for Taiwan Broadband Array
- Previous Experiments in Taiwan
- Current Deployments (Taiwan, Vietnam)
- Plan for South China Sea Seismic Network



BATS

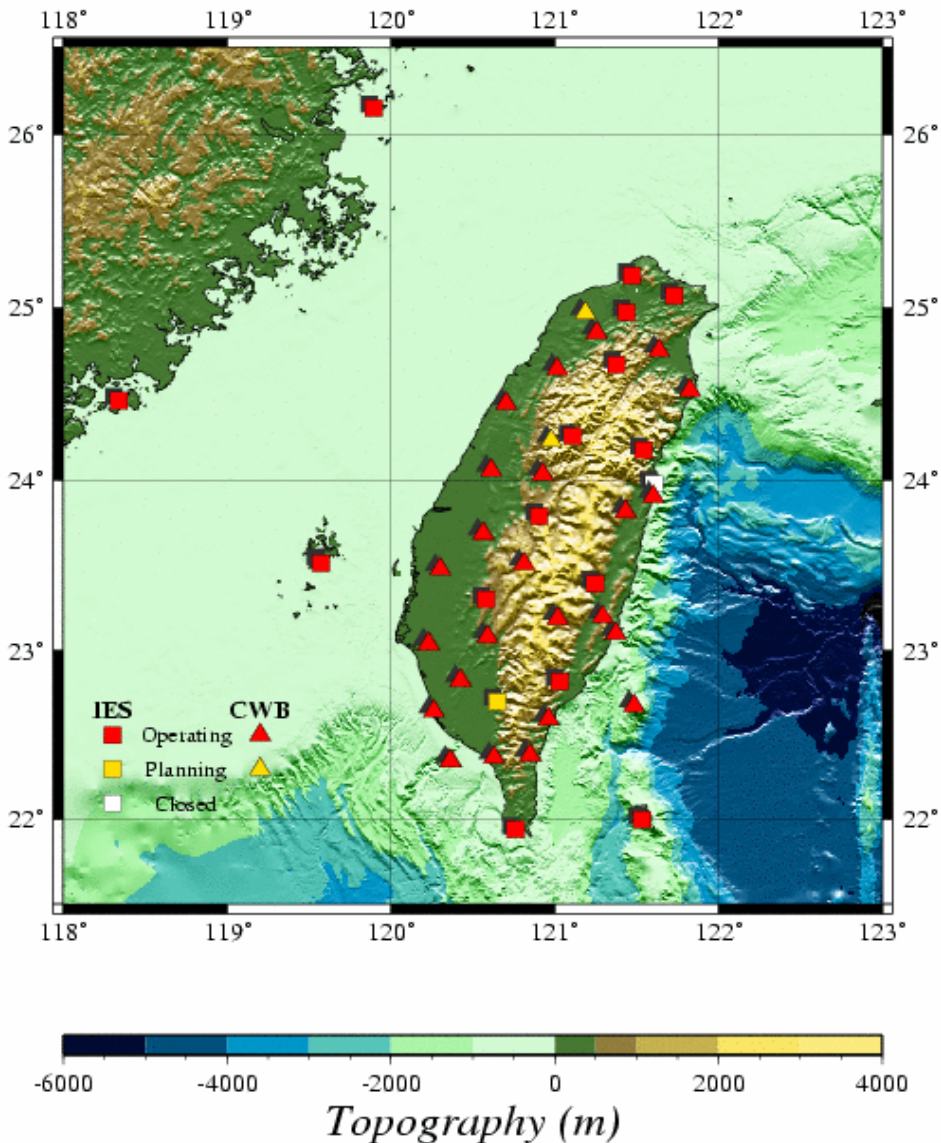
Broadband Array in Taiwan for Seismology

Mission:

to monitor regional seismicity and seismic hazard reduction

to provide high quality data for scientific research

20 IES stations (backbone)
+
30 CWB stations(new)





Broadband

- Existing
- Planning
- Closed

Strong Motion

- ▲ Existing
- ▲ Planning
- ▲ Closed

Short Period

- Existing
- Planning
- Closed

GPS

- Existing
- Planning
- Closed

Strainmeter

- ▬ Existing
- ▬ Planning
- ▬ Closed

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Pointer 18°42'44.38" N 121°41'28.06" E

Streaming ||||| 100%

Eye alt 2599.23 km



BATS

Broadband Array in Taiwan for Seismology

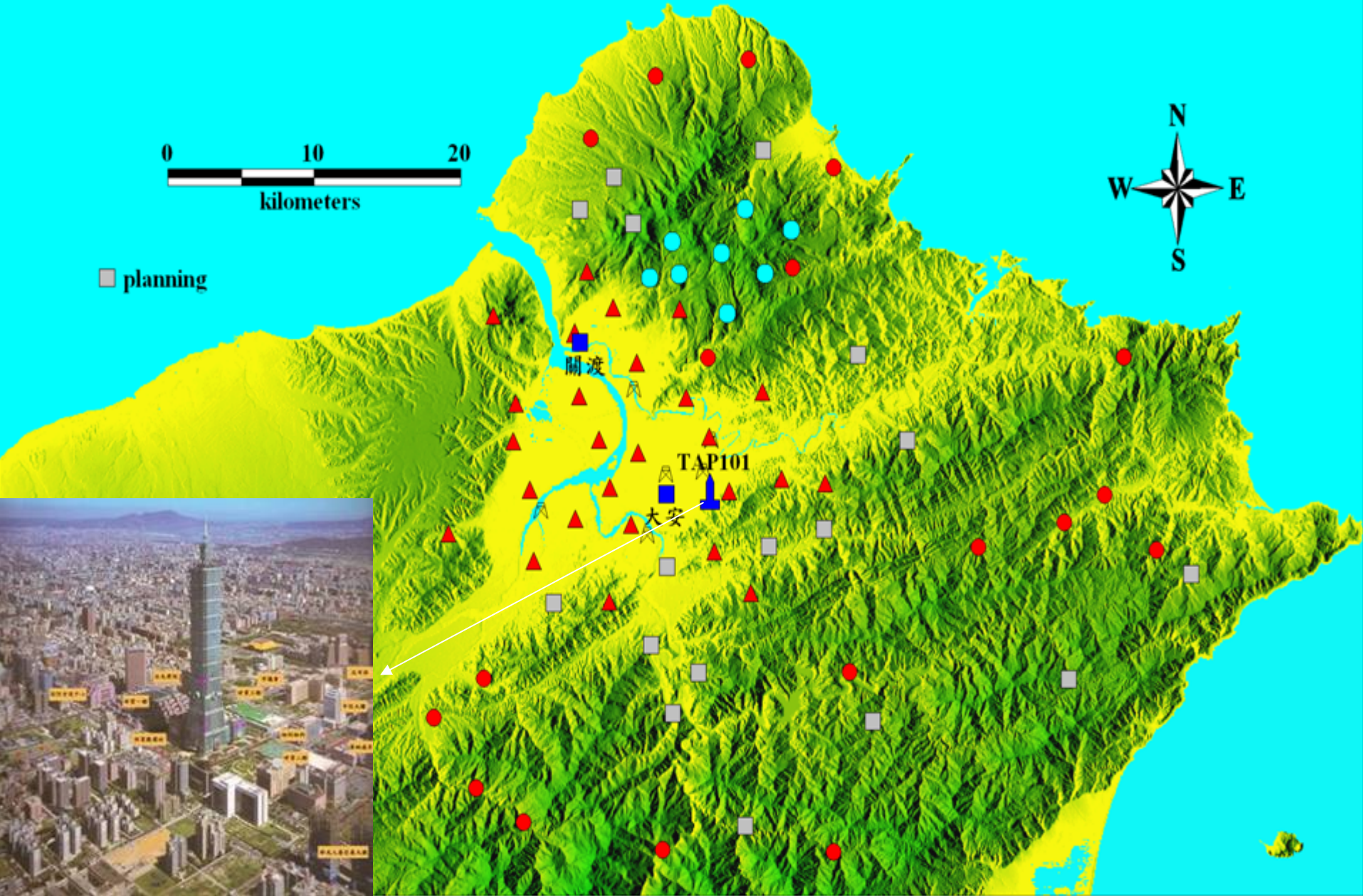
BATS included

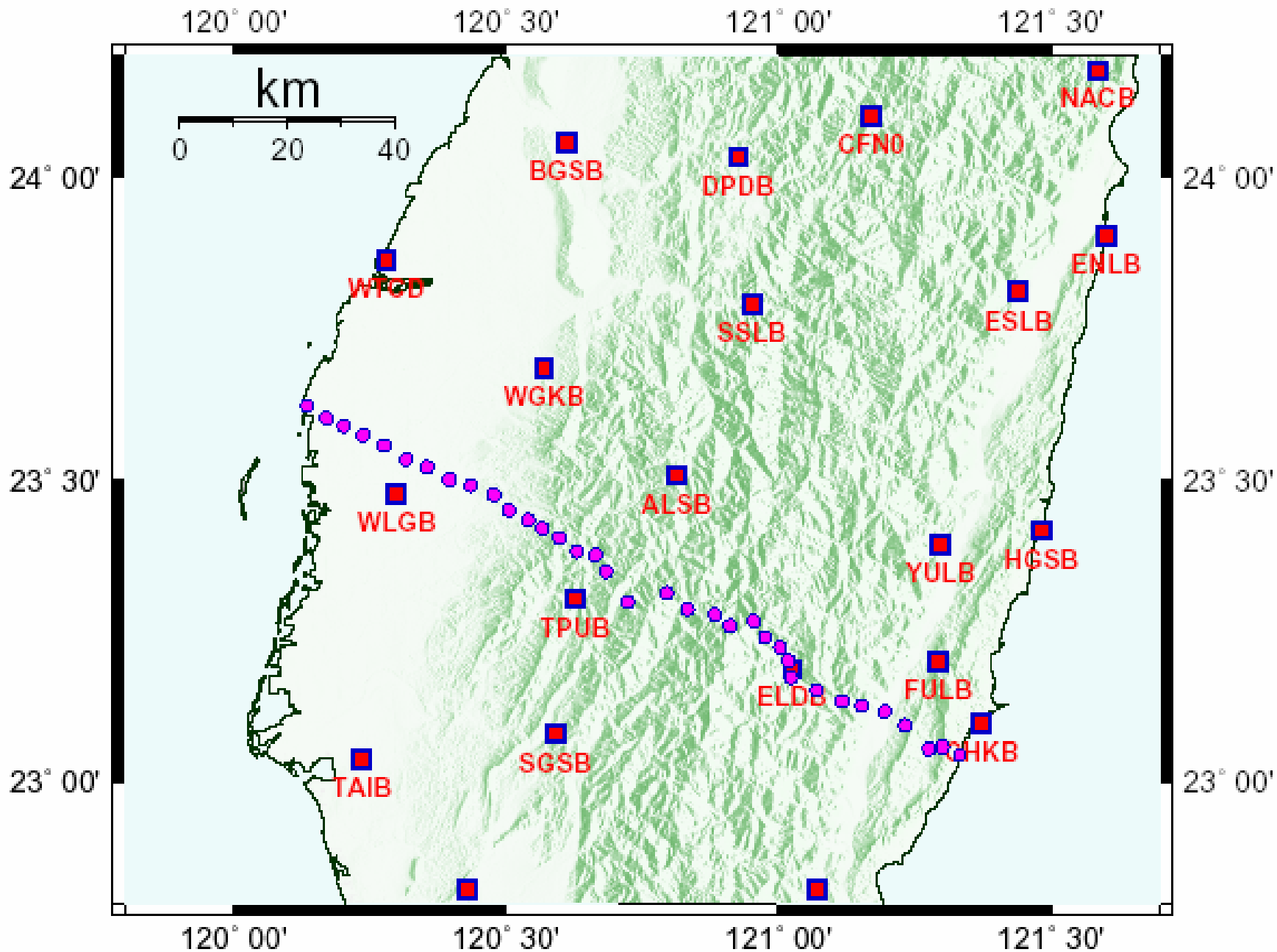
Portable Seismic Arrays

Purposes:

- To construct a 3-D model (crust and upper mantle) beneath Taiwan
- To revised this model to serve studies of tectonics and seismic hazard mitigation
- Search for new permanent station

Seismic Observations in Northern Taiwan





T06

T601

T602

T603

T604

T605

T606

T607

T608

T609

WLTB

LI0B

SANB

TDCB

NT06

YHNB

NT03

NNSB

NT05

NT01

NT07

NT08

NT02

NT04

NT09

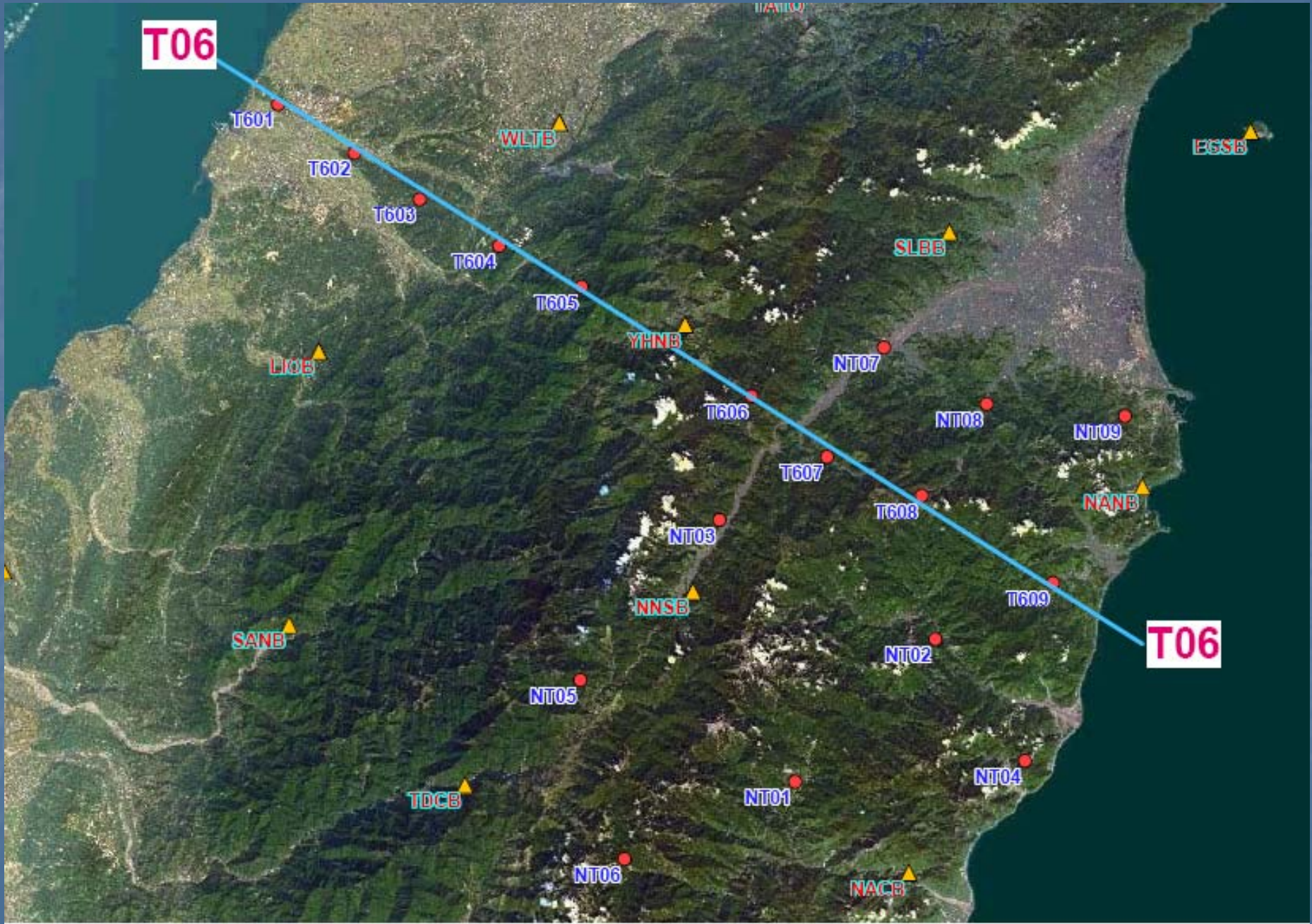
NANB

SLBB

EGSB

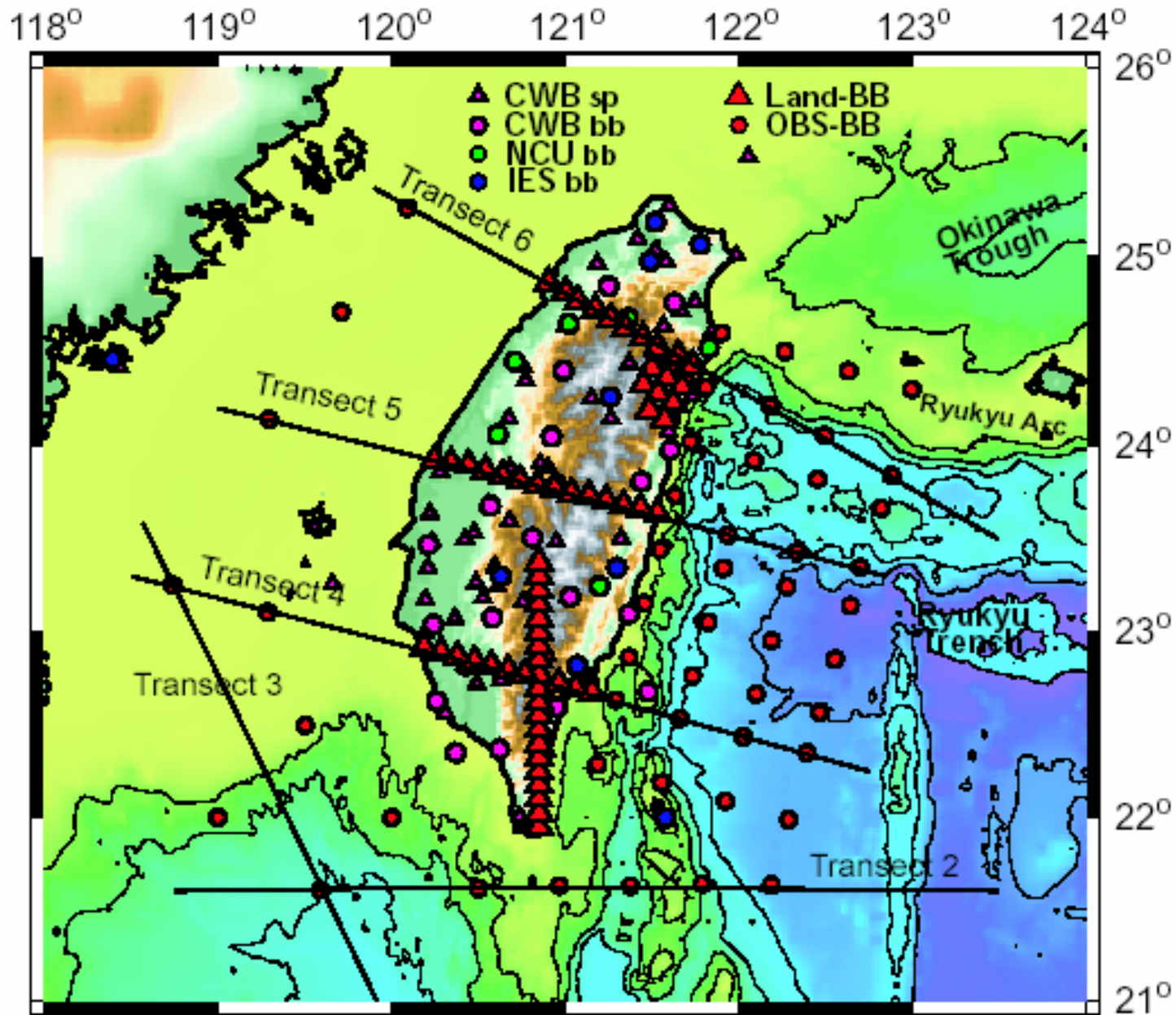
NACB

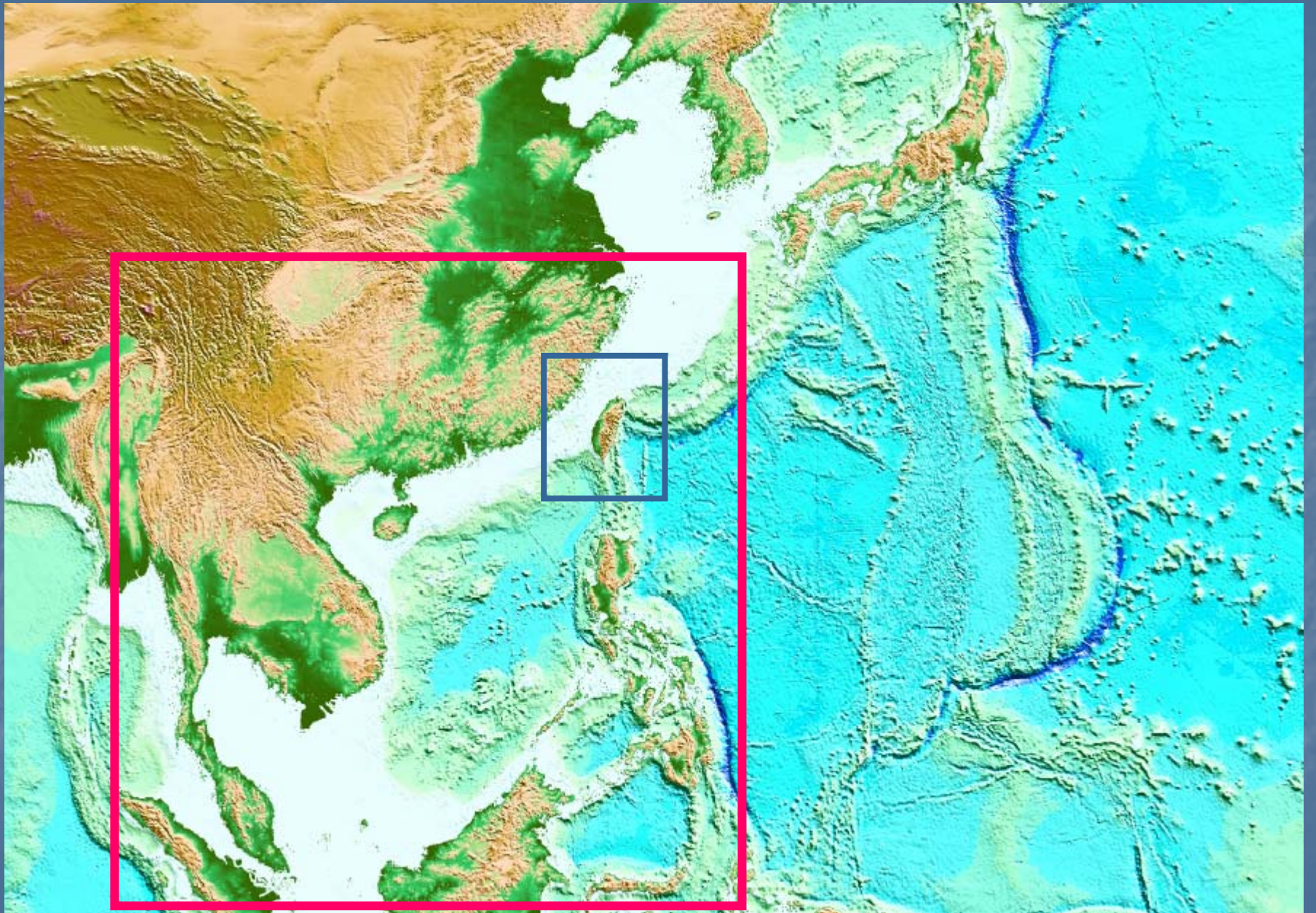
T06



NSF CD-TAIWAN PROJECT "TAIGER"

(TAIwan Integrated GEodynamics Research (2006-2009))










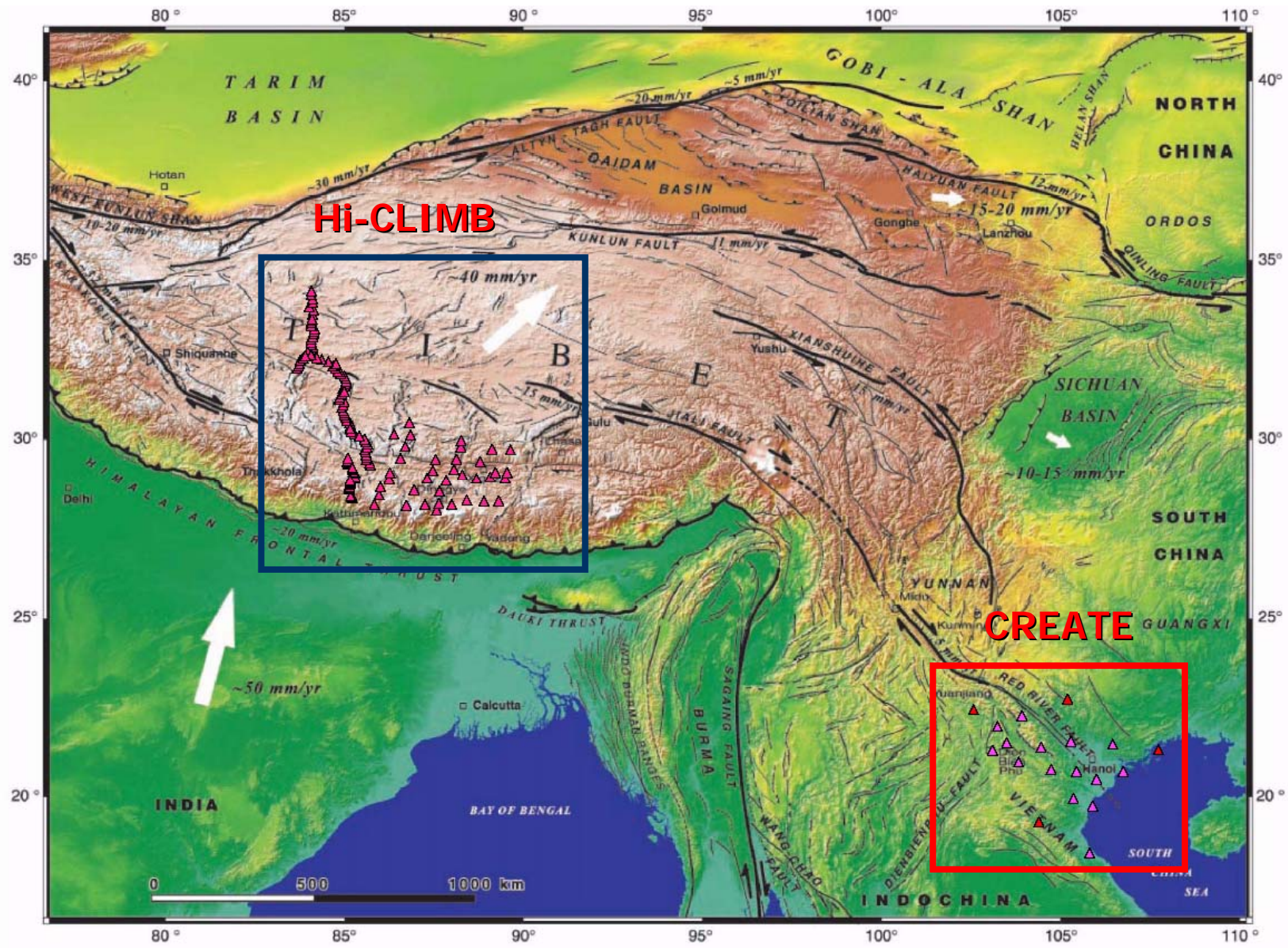
Data Logger – Q330

Vendor	Quanterra/Kinometrics
Dynamic Range	132-135 dB
Capacity (with Baler)	20Gb
Power	<0.6 W avg. 12VDC 3-Ch <0.8 W avg. 12VDC 6-Ch
Temperature	-20~50°C

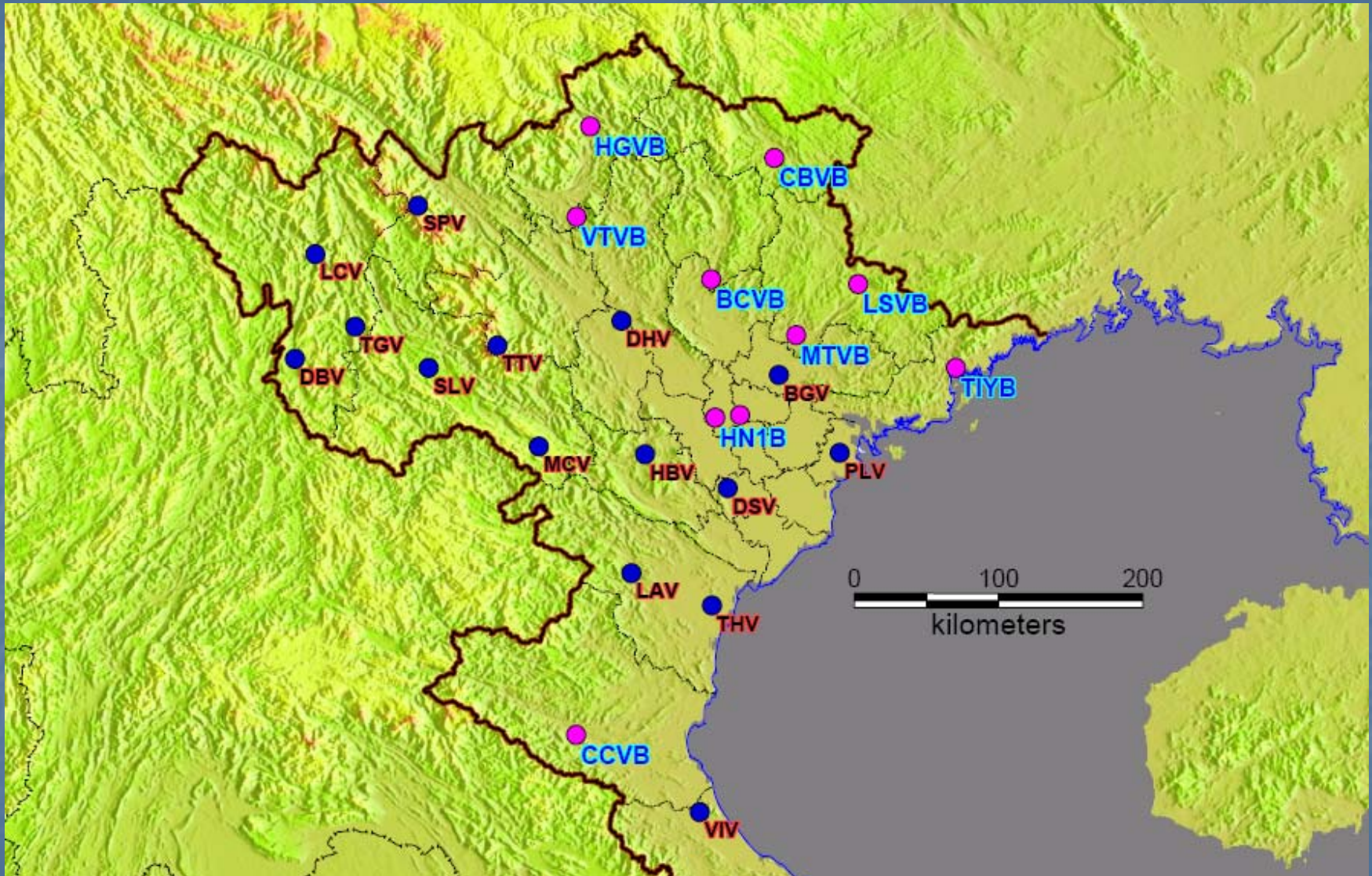


Portable Array Seismometers

	<p>STS-2</p> <p>PDF sheet</p> <p>Web page</p>	<p>G. Streckeisen AG Dättlikonerstrasse 5 CH8422 - Pfungen - Switzerland</p>	<p>3-comp</p>	<p>50 Hz - 120 s</p>
	<p>Trillium 40</p> <p>PDF sheet</p> <p>Web page</p>	<p> <small>SEISMOLOGICAL INSTRUMENTS</small></p> <p>Nanometrics Inc. 250 Herzberg Road Kanata, Ontario, K2K 2A1 Canada</p>	<p>3-comp</p>	<p>50 Hz - 40 s</p>
	<p>Trillium 120</p> <p>PDF sheet</p> <p>Web page</p>	<p> <small>SEISMOLOGICAL INSTRUMENTS</small></p> <p>Nanometrics Inc. 250 Herzberg Road Kanata, Ontario, K2K 2A1 Canada</p>	<p>3-comp</p>	<p>50 Hz - 120 s</p>



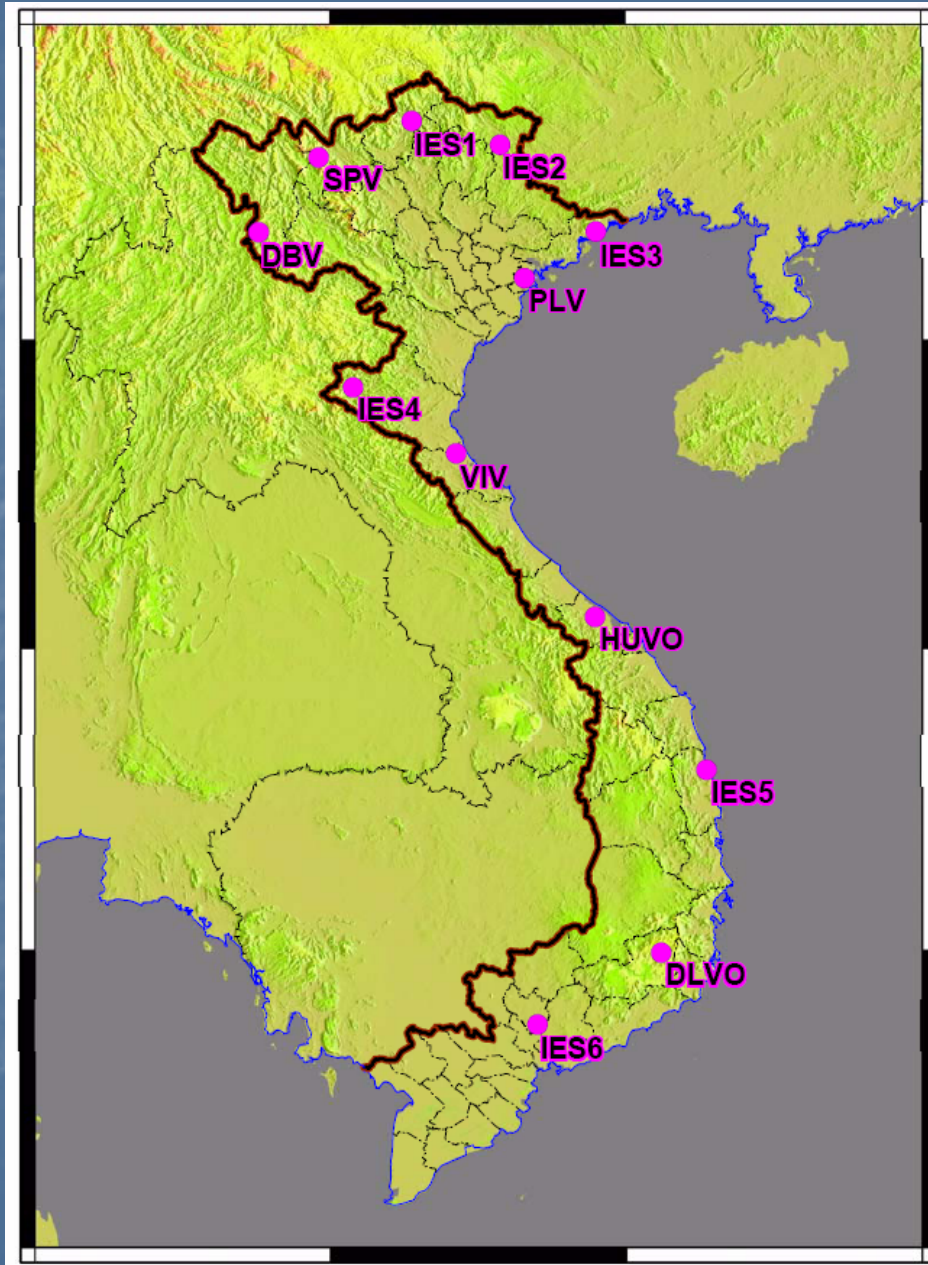
CREATE-IES2007



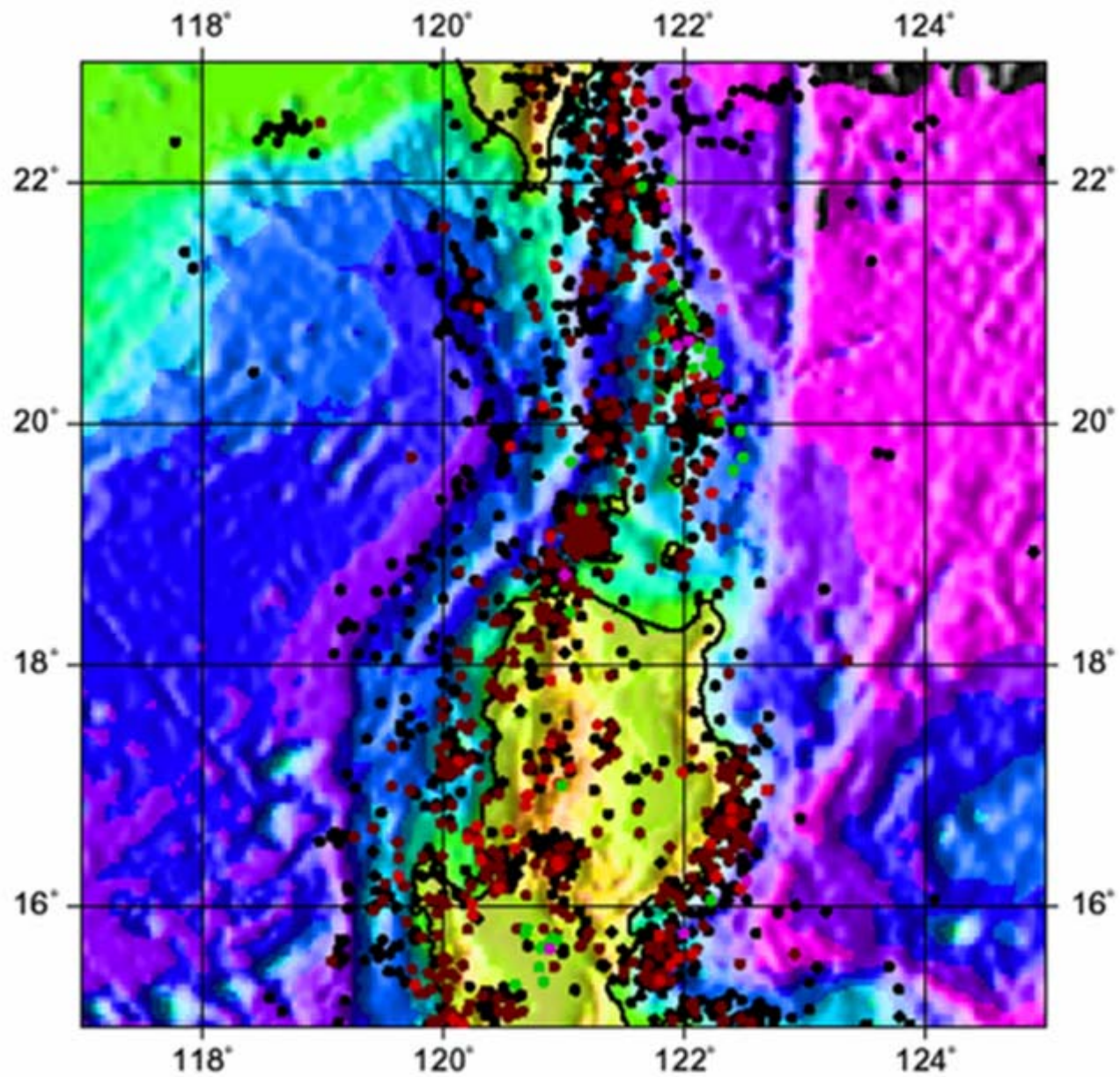
Station: CCVB (NEW)



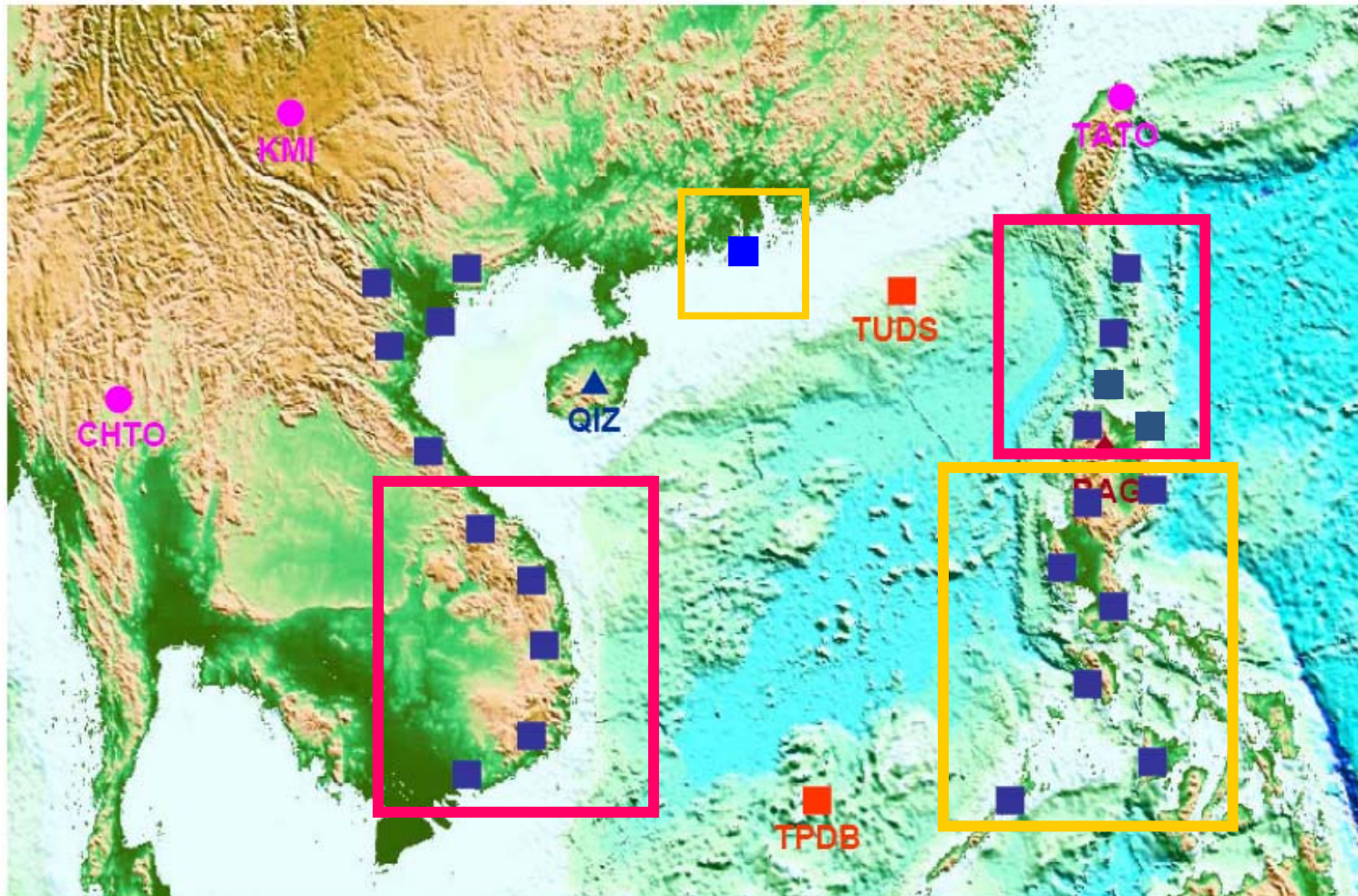
IES2008



Plan to
Permanent,
Real time



Possible Sites Surrounding South China Sea



TAIWAN

■ (new)

IRIS GSN



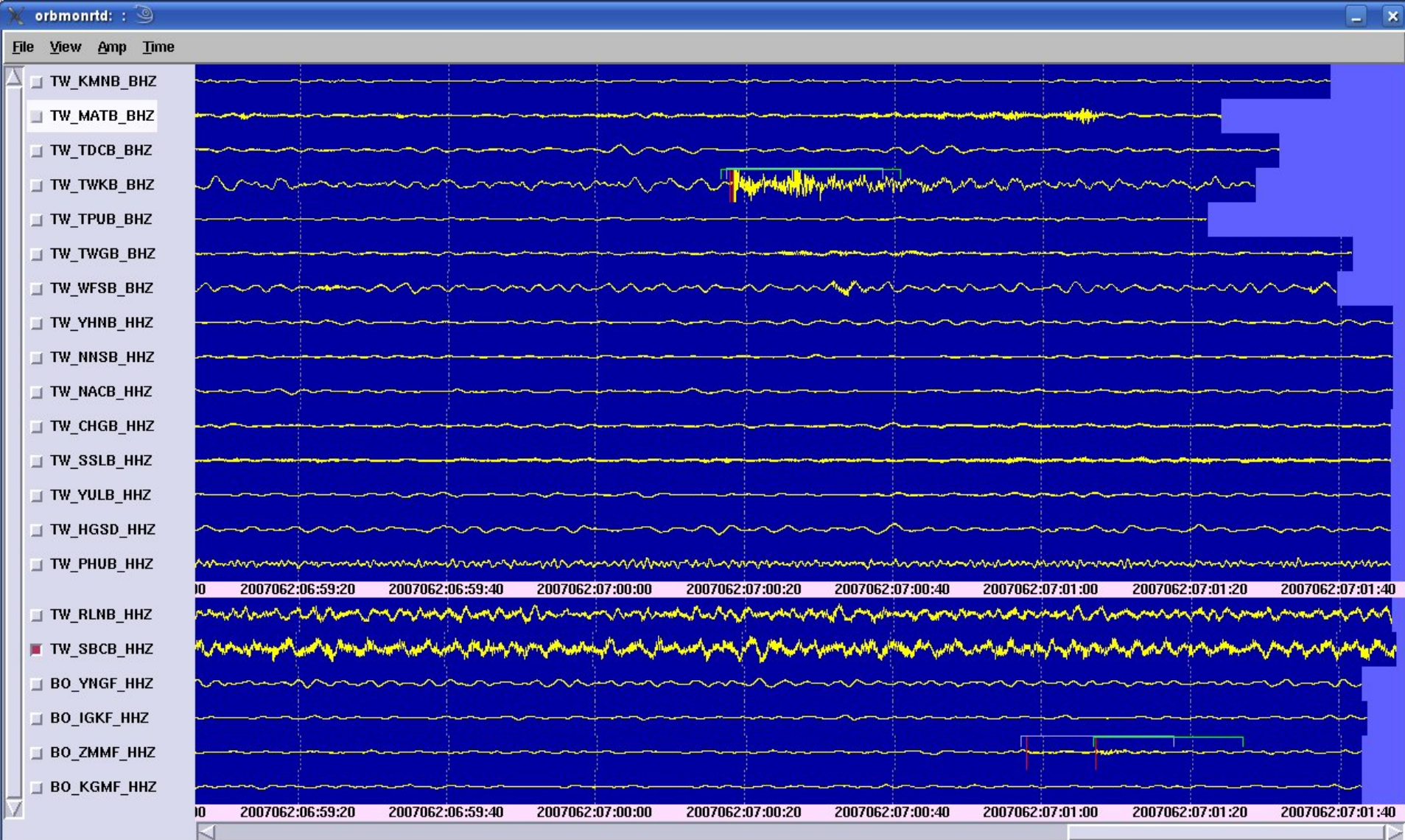
CHINA

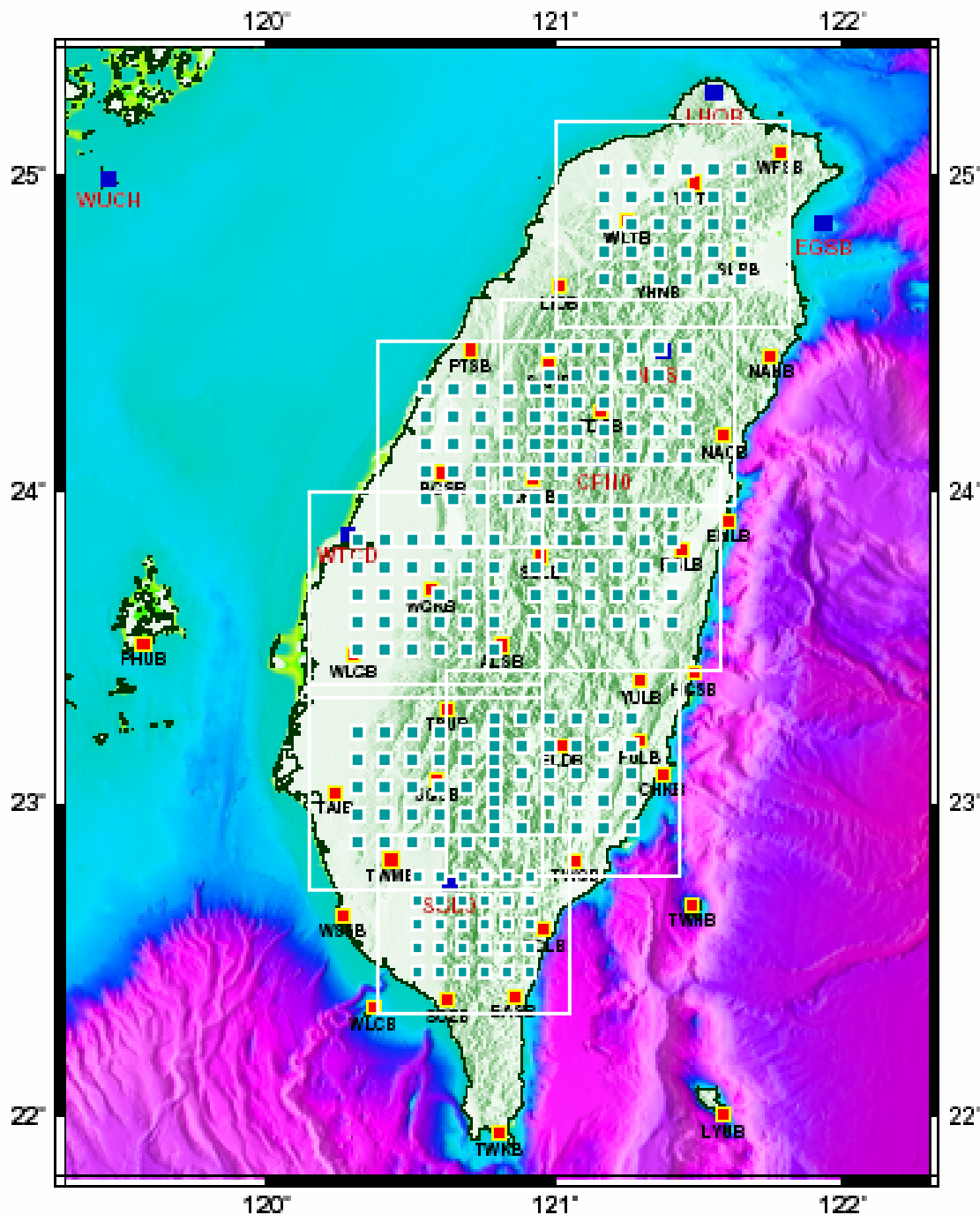


JAPAN



Virtual Network (INTERNET)





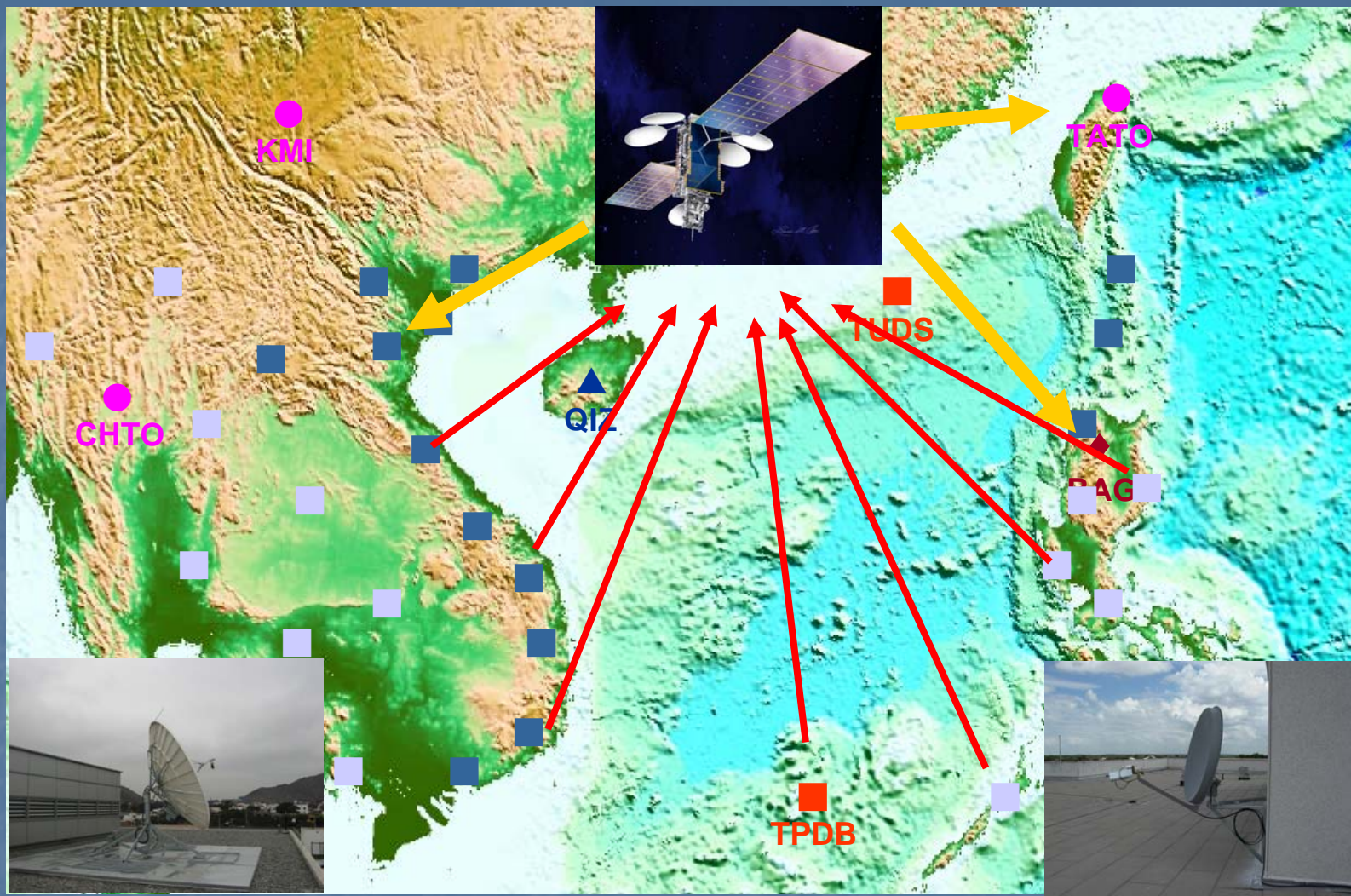
Satellite Transmission
(NSC Support)

Two receiver centers
(IES and NCU)

NSC 3 years funds
(instrument center)



Plan for South China Sea Seismic Network



TAIWAN

■ (■) (new)

IRIS GSN



CHINA



JAPAN



Data Management Center

Institute of Earth Sciences, Academia Sinica

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TEL: (+886) 2-2783-9910 ext. 522 FAX: (+886) 2-2783-9871
<http://dmc.earth.sinica.edu.tw> Email: dmc@earth.sinica.edu.tw

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Seismology *Geodesy*

Hydrology *Paleomagnetism*

Geochemistry *Structural Geology*

Physical Mineralogy *Tectonophysics*

Geophysics *Weather* 天氣

* *M9.0 West Coast of Northern Sumatra Earthquake* 2004/12/26 海嘯 Tsunami

Latest Results *On-going Projects*

Instrument Pool *Software*

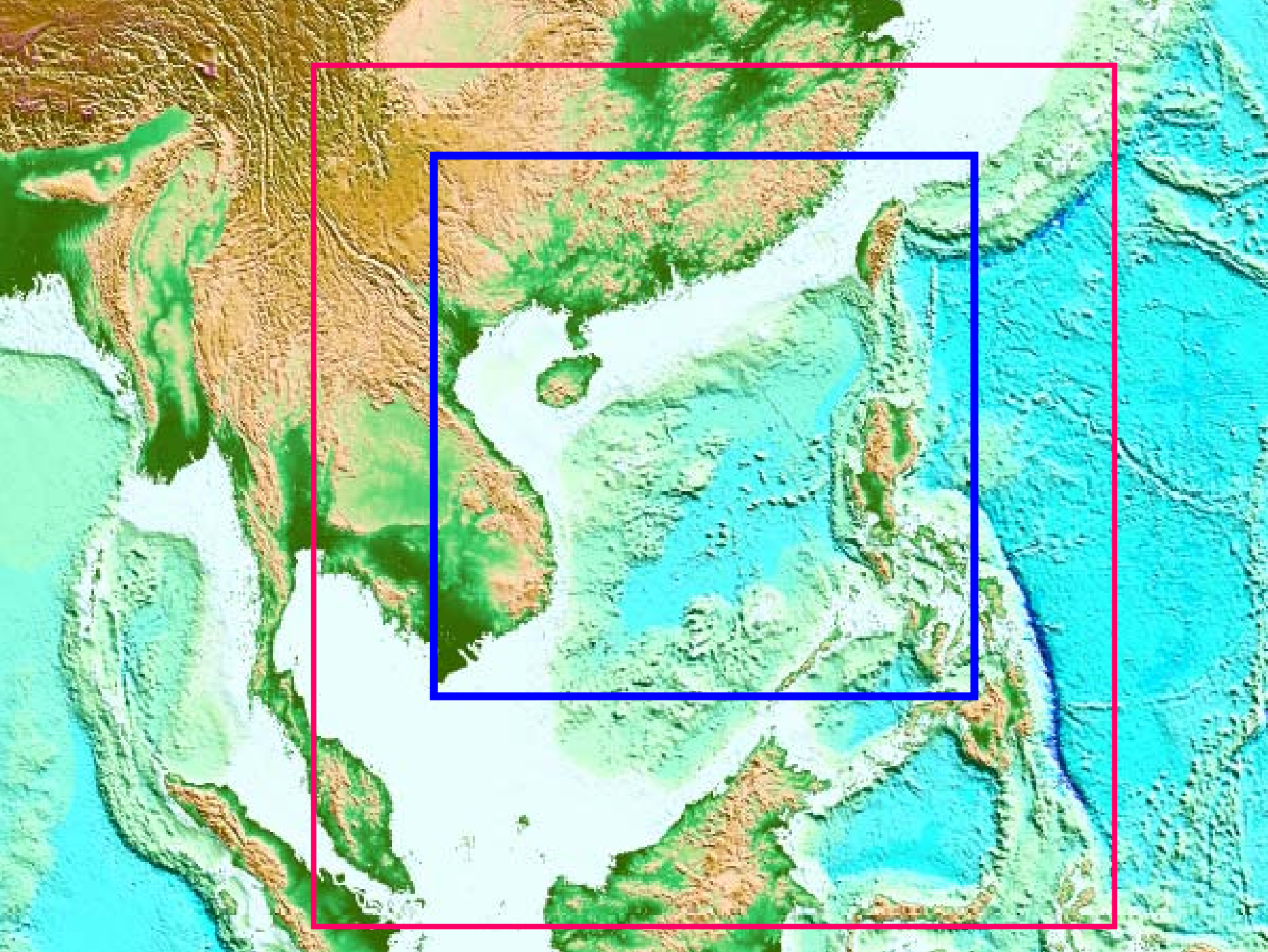
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Any questions, please mail to dmc@earth.sinica.edu.tw.

Last revised: *June 27, 2003*

Cooperations

- GPS TEC (yesterday last talk)
- FORMASAT-2 Satellite



A world map with a color gradient from blue to yellow. The text "Thank You!" is overlaid in the center in a red, italicized font.

Thank You!