

# **The Status of Portable Taiwan Broadband Seismic Array and Its Possible Contribution to Seismological Research in the South China Sea**

Bor-Shouh Huang<sup>1</sup>, Chun-Chi Liu<sup>1</sup>, Yue-Gau Chen<sup>2</sup>, Le Tu Son<sup>3</sup>,  
Wen-Tzong Liang<sup>1</sup> and Wen-Gee Huang<sup>1</sup>

1. Institute of Earth Sciences, Academia Sinica, Taipei, Taiwan

2. Department of Geosciences, National Taiwan University

3. Institute of Geophysics, Vietnamese Academy of Sciences and Technology, Hanoi, Vietnam

## **Abstract**

More than 50 broadband seismic instruments are currently operated by Institute of Earth Sciences (IES), Academia Sinica to study the earth deep interior and seismic hazards. It was part of the Broadband Array in Taiwan for Seismology (BATS) and designed to deploy within Taiwan and its surrounding islands in the past. However, it is currently encouraged by the National Science Council, Taiwan (NSC) and Academia Sinica to distribute abroad for international cooperation and extension of the study topics. Currently, 25 stations are deployed in northern Vietnam and planned to distribute to southern Vietnam in near future (Figure 1 and 2) to study the geodynamic evolution of the Red river fracture zone and its deep structures. Each Taiwan portable station consists a Quanterra Q330 digitizer and Kinometrics Baler-14 connected to Streckeisen STS-2 or Nanometrics Trillium broadband seismometers. Instruments deployed in Vietnam began on the end of 2005 and planned to continue about 2 years. After then, those instruments will be searching to distribute in the whole Vietnam region to observe seismic waves to study the deep structure of the South China Sea. In our planning, after both projects, some high quality stations may be left as permanent stations and added continuous GPS observations, and instruments to be maintained and operated by the Institute of Geophysics, Vietnamese Academy of Sciences and Technology under international cooperation. We also plan to cooperate with Philippine Institute of Volcanology and Seismology (PHIVOLCS) to deploy instruments in Philippines. Furthermore, we have experienced to deploy two stations on small islands within South China Sea and easily to reoccupy both sites (Figure 2). Those stations can be contributed as part of join seismic network. Recently, Taiwan portable seismic array has been found to construct satellite real-time data transmission system for data collection. In near future, we should have ability to contribute data from stations on remote sites.



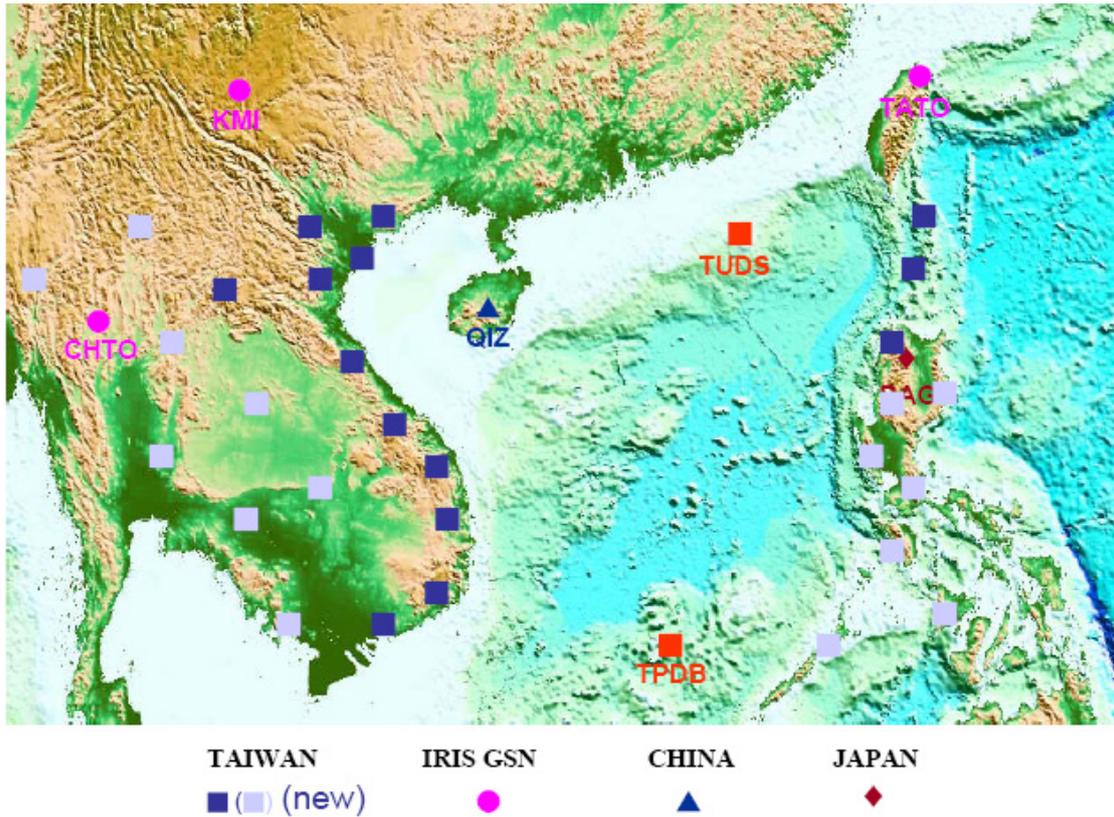


Figure 2. Planned Taiwan portable array surrounding the South China Sea. Square symbols with red color represent two existed BATS stations. Symbols with blue color represent the planned stations which will be deployed in the near future. Symbols with gray color represent the planned satellite transmission stations.