

Enhancement of Earthquake and Volcano Monitoring and Utilization of Disaster Information in the Philippines: Part 2

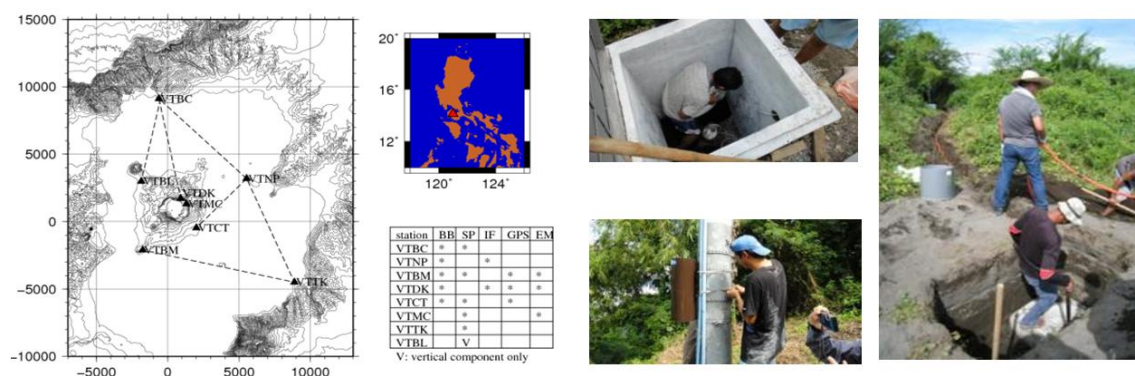
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We started a five year (2010-2014) project of Enhancing Earthquake and Volcano Monitoring Capabilities and Promoting Effective Utilization of the Disaster Information in the Philippines, under SATREPS (Science and Technology Research Partnership for Sustainable Development) program. In this project we (1) install broadband seismometers, seismic intensity meters, and an automated source analysis system to promptly estimate ground shaking and damage, (2) evaluate earthquake generation potential by GPS measurements and geological survey, (3) install broadband seismometers, infrasonic sensors, GPS receivers and electro-magnetic sensors at Taal and Mayon volcanoes, and (4) develop an earthquake-volcano disaster information portal site and promote its effective utilizations.

In the first Japanese fiscal year (JFY 2010), we carried out (A) installation of broadband and strong motion sensors at five VSAT seismic stations (Virac, Lubang, Guimaras, Bataraza, Pagadian) and the source inversion system (SWIFT) to PHIVOLCS in Manila, (B) development of a prototype software of real time seismic intensity measurement and its test operation in PHIVOLCS, (C) GPS campaign observation in Mindanao and analysis of existing data, and GPS continuous observations in Mindanao (Butuan, Tandag). We installed (D) five broadband seismic, two infrasonic, three GPS, and three electro-magnetic sensors and their telemetry at Taal volcano. We carried out (E) comparative shaking experiment of non-engineered concrete hollow block (CHB) masonry houses using a large-scale shaking table of NIED, Tsukuba. CHB is most common building material of residential houses in the Philippines. We also invited PHIVOLCS staff members to Japan for learning the current status of earthquake and volcano monitoring in Japan, and we held a project workshop in Manila.

In JFY2011, we will carry out installation of broadband and strong motion sensors at five more VSAT stations, continuous operation of SWIFT inversion system, test installation and operation of the intensity meter network in Metro Manila, campaign and continuous GPS measurements for evaluating earthquake generation potential, and integrated seismic, GPS, and EM monitoring of Taal volcano. We also plan to make survey and experiments for developing simple seismic diagnosis of residential houses and evaluation of vulnerability of towns, and designing a Web portal site of earthquake and volcano disaster information.



Keywords: Philippines, earthquake, GPS, volcano, monitoring, disaster information