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Volcanic Disaster Mitigation Measures of G-EVER Volcanic Hazards Assessment Support System and Asia-Pacific Region Earthquake and Volcanic Hazards Information Mapping Project

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The G-EVER volcanic hazard assessment support system (http://volcano.g-ever1.org/) is developed based on eruption history, volcanic eruption database and numerical simulations (Takarada et al., 2014). The volcano hazard assessment support system can predict the area that may be affected by volcanic eruptions using numerical simulations. The system can also estimate volcanic hazard risks by overlaying the distributions of volcanic deposits on major roads, houses and evacuation areas using GIS enabled systems. It is implemented with user-friendly interface, which makes the system easy to use and accessible online. The Energy Cone and Titan2D simulations are available online on the system (Figure 1). The system can assess the potential risk for any volcano in the world using ASTER Global DEM (10m resolution DEM is used in Japan). Links to major volcanic databases such as Smithsonian, VOGRIPA, ASTER Satellite images, and Volcanoes of Japan are available on each volcano information pop-ups on the map. The updated Titan2D simulation system could be run using DEM data uploaded by the user and can download the simulation results. Tephra fall hazard simulation using Tephra2 is implemented on the system, recently. Therefore, ash fall assessment of potential risk for any volcanoes in the world is possible.

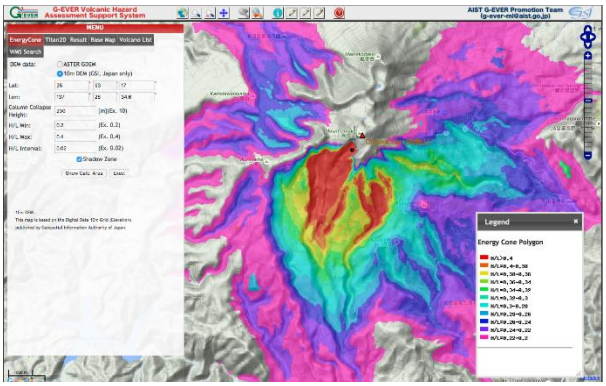
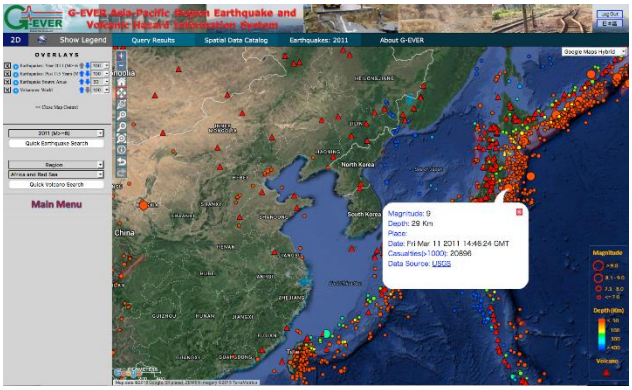


Figure 1: A simulation result using Energy Cone at Ontake volcano, Japan

The Asia-Pacific region earthquake and volcanic hazards mapping project aims to develop an advanced online hazard information system (http://ccop-geoinfo.org/G-EVER) that provides past and recent earthquake and volcanic hazards information online (Figure 2). The information system also planning to show tsunami inundation areas, active faults distributions, and hazard and risk maps. The online hazard information system provides useful information about earthquake and volcanic hazards in an interactive and user-friendly interface. Links to major earthquakes and volcanic eruptions databases are available in the system. This project will be implemented with the cooperation of major research institutes and organizations in the Asia-Pacific region such as the Center for Volcanology and Geological Hazard Mitigation (CVGHM) in Indonesia and Philippine Institute of Volcanology and Seismology (PHIVOLCS). The Indonesian Volcano Information System was developed through the joint efforts between the Geological Survey of Japan (GSJ) and CVGHM. Volcano type, eruption category, satellite image, hazard map, geological map, eruption



history, hazard history and reference of active volcanoes can be displayed on th e system.
Figure 2: G-EVER Asia-Pacific region earthquake and volcanic hazard information system

Reference:

[1] Takarada S et al. (2014) Episodes 37:321-328