

For volcanologists worldwide, a new digital home for all things volcano

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(PhysOrg.com) -- Volcanologists now have their own online network: VHub.org, which promotes collaboration among volcano researchers and community partners by providing a place to share everything from eruption data to ash cloud simulations.

The website, created by the University at Buffalo's volcanology group, represents an innovative approach to facilitating partnerships around the world. Funding for the project comes from the National Science Foundation (NSF).

On VHub, visitors can access a volcano resource warehouse that houses educational materials, data from past studies, and even [computer simulations](#) for modeling eruptions and [ash cloud](#) movement. Registered users can join online research groups, where members can share news and documents through discussion boards, digital archives and email lists.

So far, about 630 users have registered on VHub -- a sizeable chunk of the worldwide volcanology community, said Greg Valentine, the UB researcher leading the VHub project. The site launched in 2010.

"VHub is growing, and the momentum's definitely building," Valentine said. "To have 630 registered users is actually quite amazing, because there may be only 2,000 or 3,000 volcanologists in the world."

VHub's [target audience](#) includes scientists, educators and government

officials -- anyone who is studying volcanoes or working to reduce the harm of eruptions. One goal of the forum is to put new tools developed by volcanologists into the hands of government agencies and observatories that protect communities from volcanic hazards.

"Some volcano observatories are literally just a person with binoculars in a shack," said Valentine, a geology professor who heads UB's Center for Geohazards Studies. "What we're trying to do is make advanced [simulation tools](#) developed at universities accessible even for observatories that don't have extensive resources."

Simulations available on VHub include Titan2D, which was developed at UB and models volcanic avalanches and [pyroclastic flows](#), and TEPHRA2, which was developed at the University of South Florida and models ash plume movements.

VHub also gives experts studying volcanoes an easy way to stay in touch. One registered user is Karoly Nemeth, a senior research officer in the Volcanic Risk Solutions research group at New Zealand's Massey University.

Nemeth studies the eruptive mechanism of monogenetic volcanoes, and helps coordinate the International Association of Volcanology and Chemistry of the Earth's Interior's (IAVCEI) Commission on Monogenetic Volcanism. After hearing about VHub through volcanologists including Valentine, Nemeth logged on and discovered, to his surprise, that the site was extremely user-friendly.

"Instead of being a static website, it is truly user-driven," said Nemeth, who saw potential for using VHub not only to bring more visibility to his research, but to connect with other volcanologists in a meaningful way.

Toward that end, he started a VHub group that serves as the official

website for the IAVCEI Commission on Monogenetic Volcanism. Through the group, which now has 50 members, Nemeth posts information and data that researchers in the field can use.

"I was under pressure to find a host website for the commission and tried many ways to have our website be user-friendly, and then VHub provided the perfect solution," Nemeth said. "I highly recommend it for other commission and/or expert groups in volcanology."

Nemeth says while VHub is still fairly new, the site could have a big impact on volcanology in coming years. He has received positive feedback about his communications on VHub, and he hopes that the site will become a place where important scientific discussions are triggered.

UB's main partners on building VHub include the University of South Florida and Michigan Technological University. Representatives of universities, government agencies and observatories around the world have contributed ideas and advice as the site has developed.

More information: About VHub: vhub.org/about

Provided by University at Buffalo

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