

Oceanographers image the discovery of the deepest explosive eruption on the sea floor (w/ Video)

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The Jason remotely-operated vehicle (ROV) samples fluid at an eruptive area near the summit of the West Mata Volcano, May 2009. The fluid sampling “wand” is approximately three feet long. (Image courtesy of NSF, NOAA, and WHOI Advanced Imaging and Visualization Lab)

Oceanographers using the remotely operated vehicle (ROV) Jason discovered and recorded the first video and still images of a deep-sea volcano actively erupting molten lava on the seafloor.

Jason, designed and operated by the Woods Hole Oceanographic Institution for the National Deep Submergence Facility, utilized a prototype, high-definition still and video camera to capture the powerful event nearly 4,000 feet below the surface of the Pacific Ocean, in an area bounded by Fiji, Tonga and Samoa.

"I felt immense satisfaction at being able to bring [the science team] the virtual presence that Jason provides," says Jason expedition leader Albert Collasius, who remotely piloted the ROV over the seafloor. "There were fifteen exuberant scientists in the control van who all felt like they hit a home run. "

"In terms of understanding how the volcano is erupting, the high frame rate lets you stop the motion and look to see what is happening," said Resing. "You can see the processes better."

The National Science Foundation funded the installation of the camera system for this expedition. The system is being tested in advance of a permanent upgrade in 2010 to the cameras on Jason as well as the manned submersible Alvin. Maryann Keith, of WHOI's AIVL, Shank, and other scientists operated the camera system with the assistance of the Jason team during the expedition.

In addition to the benefits to science, the cameras will serve the added purpose of giving the public more access to seafloor discoveries.

"Seeing an eruption in high definition video for the first time really brings it home for all of us, when we can see for ourselves the very exciting things happening on our planet, that we know so little about," Embley said.

Provided by Woods Hole Oceanographic Institution

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