

# Geoscientist Finds Surprise Hidden in the Pacific

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UT Dallas geoscientist Dr. Robert J. Stern and former master's student Neil Basu were part of a research team that discovered and studied an extinct underwater volcano near the southern Mariana islands, near Guam, in the western Pacific Ocean.

The volcano lies more than 300 meters below the ocean surface and contains a large volcanic depression, or caldera, that is comparable in size to better-known examples Krakatoa (Indonesia) and Crater Lake, Ore.

It was named "West Rota Volcano" because of its proximity to the island of Rota in the U.S. Commonwealth of the Northern Mariana Islands. The results of the research were published in a recent edition of the scientific journal *The Island Arc*.

"We knew there was submarine volcano there since the early 1980s, but we didn't know that it had a huge caldera," Stern said.

"It was really exciting to explore the caldera walls with modern ROV technology."

Datings techniques indicate that the volcano began growing more than 300,000 years ago and that the climactic, caldera-forming eruption occurred 37,000-51,000 years ago.

Stern and Basu, now with Pioneer NRC, worked with US and Japanese

scientists during three research cruises aboard U.S. and Japanese research vessels that studied the volcano between 2001 and 2005.

The research team used modern shipboard sonar swath-mapping techniques to map the volcano and tethered seafloor robots known as ROVs to examine and sample the volcano.

The research team also discovered significant mineralization in the caldera walls.

“Finding the massive sulfide deposits was an added bonus,” Stern said.

Source: University of Texas at Dallas

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