

# Scientists to explore Caribbean faults, volcanoes (Update)

October 3 2013, by Danica Coto

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The exploration vessel, the Nautilus, sits at the port in San Juan, Puerto Rico, Thursday, Oct. 3, 2013. The man whose research team discovered the Titanic shipwreck is now leading a mission that will set out Friday on the Nautilus using a remotely operated vehicle, or ROV, to explore the Septentrional and other faults and underwater formations along Puerto Rico, the U.S. Virgin Islands and the eastern Caribbean islands of Dominica and Montserrat. (AP Photo/Ricardo Arduengo). (AP Photo/Ricardo Arduengo)

The man whose research team discovered the Titanic shipwreck is now

leading a mission to investigate major faults and underwater volcanoes in the northern and eastern Caribbean to collect information that could help manage natural disasters.

Robert Ballard is overseeing 31 scientists who will set out Friday using remotely operated vehicles to explore the Septentrional and other faults and underwater formations around Puerto Rico, the U.S. Virgin Islands and the eastern Caribbean islands of Dominica and Montserrat.

The Septentrional fault lies along the border of the Caribbean and North American tectonic plates.

"It's a pretty serious thing we're looking at ... The Puerto Rico trench can generate very large and powerful earthquakes," Ballard told The Associated Press in a phone interview from Connecticut.

The first part of the expedition will focus on Puerto Rico's north coast, where an October 1918 earthquake of magnitude 7.2 killed 116 people and unleashed a tsunami. The researchers will explore an underwater landslide that they believe triggered the tsunami with 20-foot (6-meter) waves.

They also will use the vehicles to dive the Mona Rift that plunges to depths of 13,000 feet (4,000 meters) and analyze several faults, including the Septentrional, which ends in what scientists say is an unusual circular depression not seen in any other major strike-slip fault in the world.



Oceanographer Dwight Coleman talks with reporters during a guided tour on the exploration vessel, the Nautilus, in San Juan, Puerto Rico, Thursday, Oct. 3, 2013. The man whose research team discovered the Titanic shipwreck is now leading a mission that will set out Friday on the Nautilus using a remotely operated vehicle, or ROV, to explore the Septentrional and other faults and underwater formations along Puerto Rico, the U.S. Virgin Islands and the eastern Caribbean islands of Dominica and Montserrat. (AP Photo/Ricardo Arduengo)

"I've never seen something that ends so strangely," said Uri ten Brink, a geophysicist with the U.S. Geological Survey who is participating in the mission. "It's a little hole in the ground."

Ten Brink said it's the first time scientists will explore a portion of the Septentrional fault up close, noting that such research is expensive and complex.

"We really don't know what's down there in terms of how the fault

looks," he said.

The information collected will help seismologists understand what's happening along those faults and help them manage future natural disasters, said Dwight Coleman, oceanographer and leader of the expedition focusing on Puerto Rico and the U.S. Virgin Islands.



Roderick Macleod, chief of a Remotely operated vehicle, or ROV, talks with reporters at the exploration vessel, the Nautilus, during a guided tour in San Juan, Puerto Rico, Thursday, Oct. 3, 2013. The man whose research team discovered the Titanic shipwreck is now leading a mission that will set out Friday on the Nautilus using ROV's to explore the Septentrional and other faults and underwater formations along Puerto Rico, the U.S. Virgin Islands and the eastern Caribbean islands of Dominica and Montserrat. (AP Photo/Ricardo Arduengo)

Scientists also will study the organisms and seafloor of the Mona

Passage, which lies between Puerto Rico and the Dominican Republic and is one of several spots where Atlantic waters circulate into the Caribbean, becoming warmer and saltier.

The 211-foot (64-meter) exploration vessel, the Nautilus, will then travel to the neighboring U.S. Virgin Islands to try to pinpoint the origin of an October 1867 earthquake of magnitude 7.5 that unleashed tsunamis that struck St. Thomas and St. Croix.



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It then goes on to the eastern Caribbean islands of Montserrat and Dominica, which have had big volcanic eruptions.

Remotely operated vehicles also will probe unexplored submarine volcanoes and determine if they are active, as well as map an active underwater volcano just north of Grenada named Kick 'em Jenny that hasn't been explored in the past 10 years.

The \$3 million mission that begins in Puerto Rico and ends in Grenada is being funded through a partnership with agencies and organizations including the U.S. National Oceanic and Atmospheric Administration, National Geographic and the University of Rhode Island.

In late August, scientists aboard the Nautilus explored the deepest trough of the Caribbean Sea, located near the Cayman Islands.

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