

Giant Undersea Volcanoes Found Off Antarctica

Richard A. Lovett, National Geographic News, 7-16-11

A chain of giant, undersea volcanoes has been found off Antarctica, scientists say.

All told a dozen previously unknown peaks were discovered beneath the waves—some up to 10,000 feet (3,000 meters) tall, according to the British Antarctic Survey.

The volcanoes were found near the U.K. territories of the South Georgia Islands and South Sandwich Islands during a monthlong mapping expedition, which used multibeam sonar to fill in a 370-mile (600-kilometer) by 90-mile (150-kilometer) gap in existing seabed maps.

"It was amazing finding them," said Phil Leat, a geologist volcanologist with the survey. "There were so many of these volcanoes we had no idea about."

Mount Fuji-Size Volcanoes Unexpected

The scientists were expecting to find volcanoes. For one thing, the South Sandwich Islands are actively volcanic. For another, in 1962, a passing British naval vessel found large patches of floating pumice that could only have come from an underwater eruption.

But the researchers didn't expect to find volcanoes the size of Japan's Mount Fuji.

The volcanoes' immensity sometimes made the researchers' work at sea a bit scary. Two of the features rise within 225 feet (70 meters) of the surface—one in an area where existing charts showed only deep water.

"You can see the surface rising up beneath you, and you don't know how high this thing is going to be," Leat said. "You inch forward."

"But it's also very exciting, because you are discovering not just a volcano nobody knew about but a huge one."

Undersea Volcanoes May Harbor New Species

Scientifically, the find is important because just as volcanoes can collapse on land, producing giant landslides—as Mount St. Helens did—they can also collapse undersea, producing tsunamis.

The new volcanoes are of no particular threat, since "no one lives in the South Sandwich Islands," Leat said. But they do provide a new opportunity to study how volcanoes cause tsunamis.

Also important is the fact that the still active volcanoes have hydrothermal vents that provide unique habitats for life, some of which might be analogous to organisms that might survive around hot springs on other worlds, such as Jupiter's Europa.

In addition, the volcanoes' rocky slopes provide excellent habitat for fish and other marine organisms.

"They're almost like coral reefs," Leat said.

"There's no coral, but they are habitats for life. When we've looked in these areas before, we've found new species."