

Teen scuba divers enter scientific world

SCUBAnauts join scientists in exploring and researching the underwater world.

BY RITA FARLOW
Times Staff Writer

Imagine diving 6,000 feet under the ocean's surface in a submersible to bear witness as a new island is born.

Then climbing more than 13,700 feet to the summit of a million-year-old dormant volcano.

At the top, you're treated to an up-close look at the vast universe beyond, through one of the world's most powerful telescopes.

That's exactly what a group of scientists from the Tampa Bay area will do in October at Mauna Kea on Hawaii's Big Island. Operation: Deep Climb is the joint venture of an impressive gathering of scientists.

And some of them haven't even entered high school yet. It's all made possible by SCUBAnauts International, a science organization for 12- to 18-year-olds.

"Kids can look at us and be like 'I can do that too,'" said participant Savannah Manning, 14, of Tampa.

That's exactly the point, said U.S. Navy Capt. Dave Olson, one of the founders of SCUBAnauts International.

"The whole idea here is to inspire a new generation of 21st century explorers and promote scientific understanding of the universe and marine environment," Olson said.

The group hopes to expand within the next two years with assistance from NASA, which recently awarded it a \$340,000 grant to collect data that will help map areas of Tampa Bay.

The project will be led by Dr. Chris Moses of the Institute for Marine Remote Sensing at USF's College of Marine Science, and a team of scientists from the Florida Fish and Wildlife Conservation Commission and USF's College of Marine Science.

The project comes at a critical juncture in American science.

A 2005 U.S. Department of Education study showed that only 54 percent of high school seniors performed at or above the basic level in science in 2005. Fewer college students are choosing science majors, and a new National Science Foundation report found that the number of U.S. science and engineering articles in major peer-reviewed journals flattened in the 1990s.

The data gathered by the SCUBAnauts will be used by scientists in a variety of ways, including as validation of satel-



Photo courtesy of David Palandro

SCUBAnauts International member Collin Olson, son of founder Dave Olson, and James Garrison lay down a PVC quadrant. They will estimate the percent cover of coral inside the quadrant and map the coral reef.

lite imagery.

"It's just really cool to think that someone with NASA wants to support a little group of kids to do this stuff," said Mary Silk, 14, of St. Petersburg.

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Formerly known as SCUBA Scouts, the group was formed in 2001 by Olson and Walter Jaap, a longtime marine biologist now retired from the Florida Fish and Wildlife Research Institute in St. Petersburg.

There are more than 30 active divers from across the Tampa Bay area. Before their first dive, the kids are rigorously trained and certified in scuba diving. They must attend science classes and dry-run meetings before each dive.

"It's serious business. There's

an inherent risk to diving and we want to prevent any possible avenues for an accident," Olson said.

Under the guidance of Jaap, the group teamed up in 2002 with a Houston company that built the natural gas pipeline in Tampa Bay and the Gulf of Mexico.

The company had transplanted coral formations and sponges to limestone artificial reefs to mitigate damage from construction. The SCUBAnauts monitor several of the mitigation sites to assess the health of organisms living on the reefs.

"We take pictures and video record to be able to document the progress and growth on the rock," said Santannah Manning, Savannah's twin sister.

"It's great because the kids can actually see their data being used by real scientists," said Jen

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To learn more about SCUBAnauts or make a donation, call (727) 772-3314 or visit the Web page at www.scubanautsintl.org/.

Dupont, a doctoral student at USF's College of Marine Science.

The kids also perform yearly coral reef monitoring dives in the Florida Keys. They've visited the Eco-Discovery Center at the Florida Keys Natural Marine Sanctuary, where they learned how to clean corals waiting to be transplanted.

SCUBAnauts have also had the chance to board *Aquarius*, a submersible deep-sea habitat owned

by the National Oceanic and Atmospheric Administration.

Santannah Manning said she never knew she was capable of marine research. "In elementary school ... I was not a fan of science, but now all the great scientists have really opened it up for us and made it easy to understand."

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The Hawaii expedition is a collaboration between the SCUBAnauts, the Explorer's Club, NASA, NOAA, the Hawaii Undersea Research Laboratory and the U.S. Air Force.

The three-phase expedition will begin when the kids descend in submersibles to study undersea volcanic eruptions. Then, they'll study volcanic ecosystems as they climb to the W.M.

Keck Observatory on Mauna Kea, considered the world's tallest mountain. (Though the summit is 13,796 feet above sea level, another 20,000 feet of the volcano lies beneath the Pacific Ocean.)

There, they'll unfurl an expedition banner that will be flown into space by NASA astronaut Dom Gorie during a space shuttle mission in 2008. The kids will watch the launch and later speak to Gorie in space.

Olson said they hope to take as many as 20 kids on the trip, but are well short of the \$150,000 needed. The sea-land-space expedition is being billed as the first of its kind.

"It's pretty cool to think you might be the first person to see what you're seeing," Santannah Manning said.