THE ARK

**July 20, 2016** | $1.50

**TIBURON · BELVEDERE · STRAWBERRY**

**Named among the nation's best small weekly newspapers**

*2014-2016 General Excellence finalists, National Newspaper Association*

Volume 44, Issue 29 | thearknewspaper.com

# Romberg partners with Smithsonian in global coastal research network

**By GRETCHEN LANG**
*glang@thearknewspaper.com*

What do eelgrass in Richardson Bay and coral in Belize have in common? Both are helping scientists keep an eye on the health of coastal marine environments around the world.

Scientists at the Romberg Tiburon Center for Environmental Studies are joining a global initiative, sponsored by the Smithsonian Institution, to study marine life in shallow-water environments like Richardson Bay, where people and marine life most often come into contact.

In June, the bay became the latest outpost in Smithsonian's MarineGEO, or Global Earth Observatory, a worldwide network of data-collection points that will help scientists compare and contrast coastal marine environments and determine how the plants and animals living there are coping with development and climate change.

At the same time, Romberg, San Francisco State University's marine biology research station, has become the network's first and only West Coast partner. Others are located in Maryland, Florida, Panama, Belize and Hawaii.

"It is super exciting for us to collaborate in something bigger than ourselves," says San Francisco State biology professor Kathy Boyer, whose students are participating in the project. "This kind of network allows a better understanding of how our system (in Richardson Bay) works."

In June, six scientists from the Smithsonian Environmental Research Center's fish and invertebrate ecology lab joined Boyer and eight of her students, sampling water, eelgrass and animals in seven different locations in Richardson Bay along with a few sites in the larger San Francisco Bay.

They used a sonar device to track fish, including leopard sharks and bat rays, and took core samples of bottom sediment to study invertebrates, Boyer said. Scientists used something called a squid pop — basically squid on a stick — to attract predators and measure how active they are in the area.

Scientists will return in a year to repeat the measurements and see how they compare, Boyer says.

Directed by the Smithsonian's Tennenbaum Marine Observatories Network, MarineGEO is a network of scientific outposts in which biologists are taking standardized measurements in shallow coastal ecosystems. These environments are not as well studied as the open ocean, according to the group's website, but are critical for understanding how marine life is coping with climate change and growing population.

The initiative is modeled on Smithsonian's ForestGEO, a network of 63 observation stations around the world that monitor the health and survival of 6 million trees.

Tennenbaum network Director Emmett Duffy says he hopes to have 20 or more research sites within the next 10 years, where scientists will take standardized observations and do experiments to build a database on coastal ocean communities and how they're changing.

MARINEGEO / TWITTER.COM/SIMARINEGEO

**Researchers with the Marine Global Earth Observatory, directed by the Smithsonian Institution's Tennenbaum Marine Observatory Network, work in the field on San Francisco Bay with researchers from the Romberg Tiburon Center for Environmental Studies. Romberg is the Smithsonian's first West Coast partner in an expanding global network studying and comparing coastal environments.**

While there are other research networks that cover the open ocean this is the first, he said, to look at coastal ecosystems.

"That's where the biodiversity is concentrated and that's where the people are concentrated, and that's where they interact the most," he said in a phone interview from Maryland.

Duffy said that San Francisco Bay is a natural location for the network, because it is the largest estuary on the West Coast and is highly urbanized.

Romberg was a natural collaborator for the project, he added.

"(Romberg) is a very active ecological community," he said. "They've been working on these same issues for a long time. They are a great partner for us."

Romberg's director, Karina Nielsen, said the center was tapped as a partner in the network because scientists, including San Francisco State biologists and the San Francisco Bay National Estuarine Research Reserve, have been actively studying the area for many years and had already amassed a good amount of scientific data on the plants, animals and water conditions in the Bay.

Also, Nielsen said, it was natural to want to compare data to the largest estuary on the East Coast, Chesapeake Bay, where Smithsonian is headquartered.

Last year, San Francisco State's president, Leslie Wong, and Smithsonian administrators signed a memorandum of understanding pledging to work together and share data from the project.

Nielsen said the agreement offered many benefits to Romberg and its scientists, especially to the young San Francisco State graduate students who are getting to work with world-class marine biologists.

Further, it connects the center to databases and scientists working on similar research around the world.

"We're thrilled to be part of this," Nielsen said. "This is what we want, to leverage our location to build partnerships, to create the space and place to feed these extraordinary collaborations."

So far, however, Smithsonian does not support Romberg's scientists financially, Nielsen said. Scientists are writing grant proposals and hope to secure funding from the National Science Foundation and the Coastal Conservancy, among other sources, she said. In the meantime, the Romberg scientists are volunteering their time.

"We need some momentum," said Boyer, the biology professor. "We're telling everyone, 'We are doing this exciting program for the first time on the West Coast. But we can't sustain it year after year without funding.'"

*Contributing writer Gretchen Lang of Belvedere covers the environment. She spent 15 years abroad writing for newspapers including the Boston Globe and the International Herald Tribune.*