

Fieldwork

## Looking for a Needle in a Haystack— Search for Missing Instruments Yields Valuable New Data

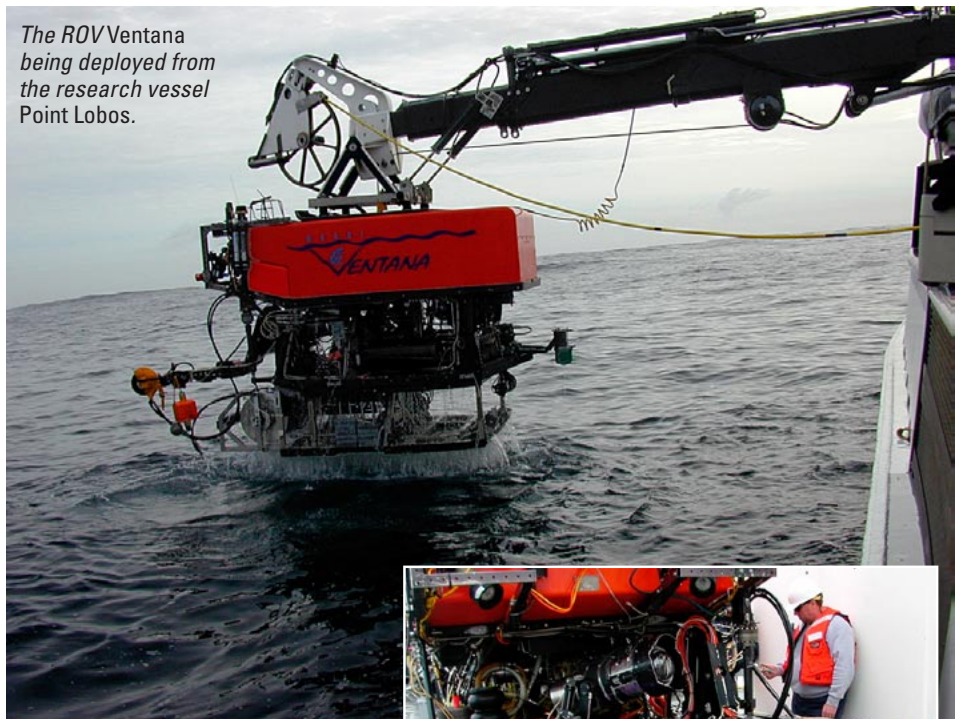
By Jingping Xu

A search for U.S. Geological Survey (USGS) instruments missing in Monterey Canyon failed to recover the instruments but gathered valuable new data about the canyon bottom.

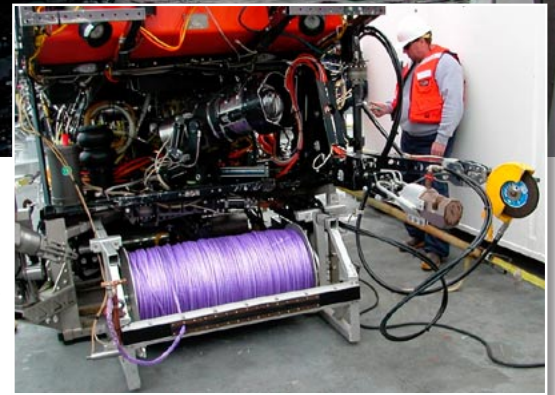
The missing instruments were part of three deep-sea moorings deployed in the canyon by the USGS from December 2002 to November 2003 (see article in *Sound Waves*, February 2004). Instruments recovered from all three moorings, at 820-, 1,010-, and 1,450-m water depth, have provided direct field measurements, for the first time ever in turbidity-current research, of four turbidity currents. The nearbottom instrument packages on two moorings were not recovered because of a parted wire (on the 820-m mooring) and a malfunctioning acoustic release (on the 1,010-m mooring).

Each package included a sediment trap, a transmissometer, and a Microcat CTD (conductivity-temperature-depth sensor). We have waited for opportunities to recover these two packages, not only for the expensive instruments but also for the data they contain, which would give us more insights into the patterns of near-bed temperatures and suspended-sediment concentrations within turbidity currents. Fortunately, we didn't have to wait long for such an opportunity. **Charlie Paull**, our Monterey Bay Aquarium Research Institute (MBARI) collaborator, offered two days of ship time, using MBARI's research vessel *Point Lobos* and remotely operated vehicle (ROV) *Ventana* to search for the missing instrument packages.

On February 19, a team consisting of **Jingping Xu** (USGS), **Charlie Paull** and



*The ROV Ventana being deployed from the research vessel Point Lobos.*



*The ROV Ventana on the deck of the Point Lobos (at right). The purple rope is special (and expensive) Plasma 12 Strand line (7/16-inch diameter) that has a breaking strength of 21,000 lb. The three hydraulic arms of the ROV are visible in the photograph, with a cable cutter and a grinder fitted onto the two left arms. The plan was to (1) send the ROV down to the canyon floor at the mooring site; (2) search and find the missing instrument package; (3) cut the chain or cable, if necessary, using the cable cutter or grinder; (4) hook the Plasma 12 Strand line to the package; (5) bring the line to the Point Lobos on the surface; and (6) pull the package aboard the Point Lobos.*

**Rendy Keaton** (MBARI), and **Marla Stone** and **Keith Wyckoff** (Naval Postgraduate School) departed from Moss Landing, CA, on the *Point Lobos* for a "search and rescue" mission. The *Point*

*Lobos* is known for its notorious "rock 'n' roll" in rough weather, and the 14-second, 2- to 3-m swells didn't help. A Dramamine pill a day helped keep the breakfast

*(Instruments continued on page 2)*

## Sound Waves

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## Submission Guidelines

**Deadline:** The deadline for news items and publication lists for the May issue of *Sound Waves* is Wednesday, April 14.

**Publications:** When new publications or products are released, please notify the editor with a full reference and a bulleted summary or description.

**Images:** Please submit all images at publication size (column, 2-column, or page width). Resolution of 200 to 300 dpi (dots per inch) is best. Adobe Illustrator® files or EPS files work well with vector files (such as graphs or diagrams). TIFF and JPEG files work well with raster files (photographs or rasterized vector files).

Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

## U.S. Geological Survey Earth Science Information Sources:

Need to find natural-science data or information? Visit the USGS Frequently Asked Questions (FAQ's) at URL <http://ask.usgs.gov/faqs.html>

Can't find the answer to your question on the Web? Call **1-888-ASK-USGS**

Want to e-mail your question to the USGS? Send it to this address: [ask@usgs.gov](mailto:ask@usgs.gov)

## Fieldwork, continued

(Instruments continued from page 1)



*A log partly buried in sand on the canyon floor.*

down, but that was one of the worst boat rides I've ever taken in my 10-plus years of going to sea!

We went first to the 1,010-m mooring site, where the acoustic release on the missing instrument package had been contacted in November 2003 during the first recovery effort. Although the acoustic release indicated that it had let go, it failed to come free, and the package had to be left behind. During that effort in November, an accurate position was triangulated, and we decided during February's search to send the ROV directly down to the determined position. It took the ROV about 45 minutes to dive approximately 1,000 m before it safely landed on the canyon floor. For the next few hours, the ROV searched an area of several tens of square kilometers.

Because visibility at the bottom of the canyon was poor, we often had to rely on the ROV's sonar to look for evidence of the instruments. Some nongeologic targets showed up on the sonar image, but when the pilot maneuvered the ROV to reach these targets for a closer look, they all turned out to be something else: a large log, a clump of bamboo, a tire, and a big mudstone boulder that appeared to have fresh breaks. In one case, we saw a curled, dark, ropelike object on the floor, which very much resembled the black-jacketed wire used on the mooring. As soon as the pilot picked it up, using the ROV's hydraulic arm, it broke into pieces—it turned out to be a strand of sea grass. The canyon floor was mostly covered with soft, fine sediment, but we also saw gravel beds in bars and strips.

During all these hours, **Marla** was ranging on the acoustic release with an Edgetech deckbox—sending an acoustic

signal to the acoustic release, receiving a response, and using the elapsed time to calculate distance from the ship to the acoustic release. Even though the ranging showed that the ship and ROV were very near to the acoustic release (**Marla** said the deckset could hear the acoustic release loud and clear), we couldn't see any target on the ROV's sonar or video images. The coded response from the acoustic release indicated that it was released and tilted (that is, in a horizontal position).

Unable to find the target, we suspected that the release and instrument package had been either buried or moved by another turbidity current. At about 1:00 p.m., we decided to pull the ROV onboard and conduct another triangulation to see whether the package had moved since November. We were able to "pinpoint" an area the size of half a football field (60 by 80 m) where the acoustic release appeared to be. This new location was only about 40 m from the site identified in November, and it had been searched during the ROV dive. Nevertheless, we decided to conduct a second ROV dive the next day, to go over the area once more. On the way back to the harbor for the night, we stopped at the 820-m mooring site. **Marla** attempted to contact the acoustic release at that site, but there was no response.

We returned to the 1,010-m site the next morning for the second ROV dive. The pilot virtually "mowed the lawn" with the ROV, examining overlapping strips of sea floor in the targeted area. There was one exciting moment when we saw a linear target on the sonar image. As the ROV approached the target, we saw a thin, straight object lying on the canyon floor whose length (about 2 m) and size made it look similar to the stainless-steel rod (called the "strongback") of the instrument package. But no sooner had I shouted, "We got it!" than the ROV's hydraulic arm picked it up, and it turned out to be a wood stick.

Several more sonar targets were found and visited, but they all turned out to be something else. We became convinced that the package must have been buried in the sediment. If nongeologic features, such as

(Instruments continued on page 3)

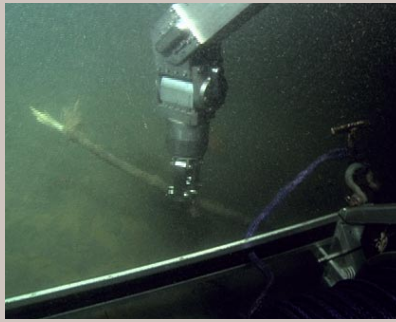


## Fieldwork, continued

(Instruments continued from page 2)

a wood stick and a large flounder, as well as geologic features, such as the boundary between a rippled bed and a flat bed, could all generate strong sonar signals, the stainless-steel strongback, along with the anchors, the chains, and the release, must have shown even stronger sonar signals if they had been lying on the surface of the canyon floor. With great disappointment, we called off the search. **Marla** disabled the acoustic release to conserve battery power, in hopes that it will be still alive if we come back in the future, and we moved on to the 820-m mooring site.

The prospect of finding the instrument package at the 820-m site was even smaller than at the 1,010-m site, because the shallower site's acoustic release had never responded to signals from the surface. Therefore, the main mission of this dive was to browse the canyon floor for any interesting geologic features. As the pilot drove the ROV down the canyon, we saw several fresh-cut ledges parallel to the north canyon wall. At the toe of one of these 1.5-m-high ledges, a slab



*This linear object (in photograph on top) was so much like the stainless-steel rod on our missing instrument package, in both the sonar and video images, that we thought we had it, but the object turned out to be another false target (a wood stick, bottom photograph).*

of clay (0.5 by 0.5 m) was lying on the floor. Several cracks were visible on the surface of the clay slab, and the material was soft enough to be penetrated by a leg of the ROV. **Charlie** conjectured that it was a big slab of soft mudstone which fell from somewhere (for example, the canyon wall) and broke into pieces when it landed. The ROV dive at this site lasted only about 30 minutes.

Although we were unable to find the missing instrument package at either mooring site, the ROV dives were nonetheless scientifically fruitful. Most interesting are the observations of several geologic features, including gravel beds, sand ripples, cobbles and slabs of mudstone, clay balls, and fresh-cut ledges. In the coming months, scientists from all three institutions will be busy digesting the tons of photographs, videotapes, and navigational data to better understand the relations between these geologic features and the turbidity currents observed from the mooring instruments. ❄️

## Studying Submarine Ground Water in Rhode Island Under Arctic Conditions

By John Bratton

Scientists from U.S. Geological Survey (USGS) offices in Massachusetts and Connecticut, along with a graduate student from the University of Rhode Island (URI), spent a chilly day in January on the

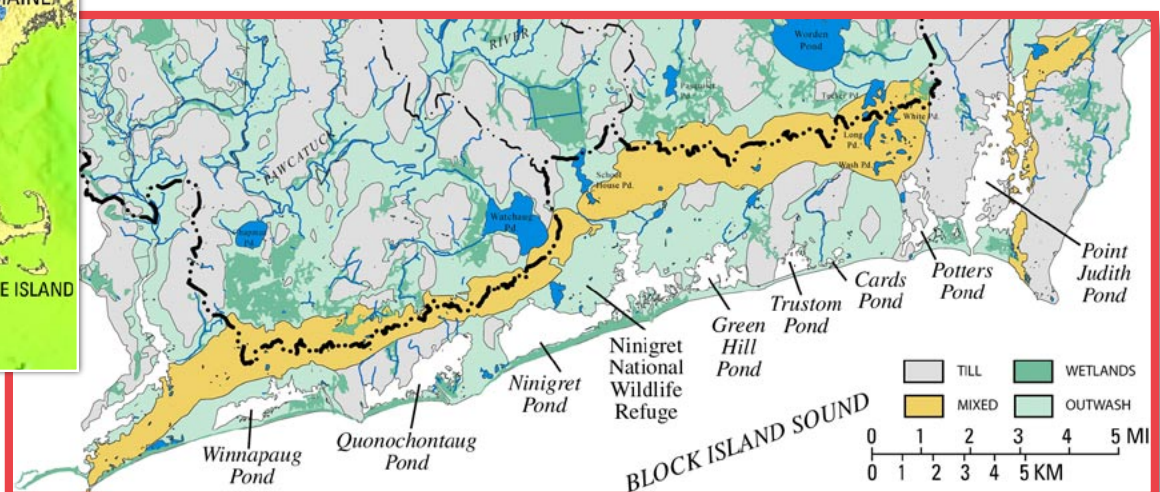
waters of the Ninigret Pond estuary in Rhode Island collecting electrical-resistivity and shallow seismic-reflection data. The work was performed as the pilot phase of an effort to constrain the coastal boundary between fresh and salty ground

water in the area for a regional groundwater-flow model under development. The team's efforts were hampered by ice, high winds, a stiff steering mechanism, and a

(Submarine Ground Water continued on page 4)



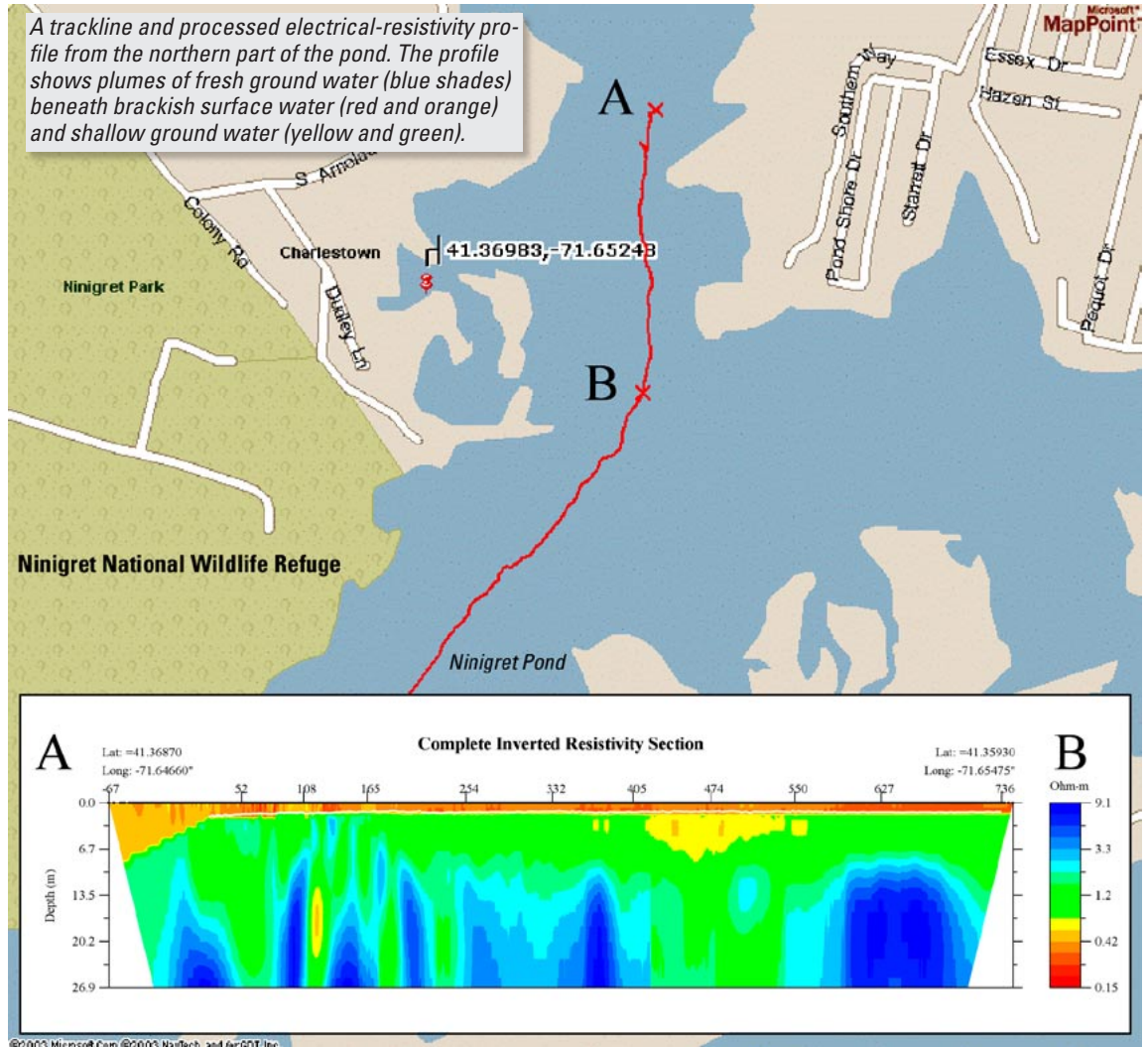
*The saltpond area of southern Rhode Island and generalized surficial geology.*



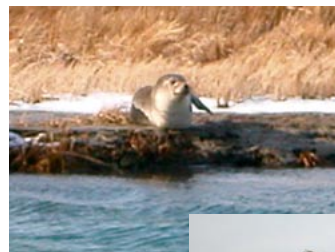
**Fieldwork, continued**

(Submarine Ground Water continued from page 3)

snow squall. After processing the data the next day, however (indoors), it became clear that the data collected were excellent and provided significant new information for planning future phases of the project. Previous work by a young **Bill Dillon** (USGS, Woods Hole, MA, emeritus) published 34 years ago laid the foundation for interpretation of the new data. Participants in the January operation included **John Masterson** and **Rob Breault** (USGS, Northborough, MA), **Eric White** (USGS, Storrs, CT), **Andrea Hougham** and **Brad Moran** (URI's Graduate School of Oceanography), and **John Crusius** and **John Bratton** (USGS, Woods Hole, MA). Additional surveys in Rhode Island, including collection of data on the ocean side of the barrier beach, are planned for later this spring. ❄️



The research vessel Haeni breaks thin ice during a transit to more open water before beginning the surveys.



A seal hauled out on the salt marsh along the inlet to Ninigret Pond is curious about the activities of the USGS team.

**John Crusius** (orange suit) and **Eric White** prepare gear and vessel for launching in the extreme cold. The resistivity streamer is on the ground, and the yellow seismic towfish is on the left.→





## Patent Awarded to USGS Scientists for Underwater Microscope System

U.S. Geological Survey (USGS) scientists **Henry Chezar** and **David Rubin** have been awarded U.S. patent 6,680,795 for their Underwater Microscope System, also known as the “Eyeball.” Dated January 20, 2004, the patent abstract reads “An apparatus and a method are provided for capturing and analyzing video images of sediment from the bottom of a body of water such as a river or sea. The apparatus includes a video imager with a close-up focus of lens adapted to collect images of sediment at the bottom of the body of

water. A waterproof housing surrounds the video imager. The video images are analyzed using any appropriate algorithm to determine grain size.”

As noted by **Dave Rubin** in a recent article in the *Journal of Sedimentary Research* (v. 74, no. 1), using the Eyeball for grain-size analysis has several advantages over using traditional laboratory techniques: it is 100 times faster, it is ideal for sampling surficial sediment (the part that interacts with a flow), it can determine vertical profiles in grain size on a scale

finer than can be sampled physically, and it can be used in the field to provide near-real-time grain-size analysis.

The system is described in an article by **Hank Chezar** in the June 2001 issue of *Sound Waves* (at URL <http://soundwaves.usgs.gov/2001/06/research.html>) and in the full text of the patent (go to URL <http://patft.uspto.gov/>, click on “Patent Number Search,” and enter the number “6,680,795”).✳

## Outreach

### Sally Ride Science Festival Draws Girls to Science and Math

By **Jennifer Rosser**

A lady astronaut wearing a blue jumpsuit decorated with prestigious badges excited the crowd, like a movie star walking down the red carpet. Her mission: to introduce as many young girls as possible to math-, science-, and engineering-related careers. “Our future lies with today’s kids and tomorrow’s space exploration,” said **Sally Ride**, America’s first woman astronaut.

Approximately 600 girls in grades 5 through 8, their interested parents, and educators participated in “Reach for the Stars” at the Sally Ride Science Festival held January 24 at Brevard Community College’s Cocoa Campus in Cocoa, FL. The keynote speech, delivered by **Ride**, aimed to energize a new generation of American girls to explore careers in math, science, and engineering. Participants also enjoyed a street fair and attended Discovery Work-

shops. The girls could choose 2 career-day workshops from a list of 22. The U.S. Geological Survey (USGS) participated in the festival with a booth next to NASA’s exhibit. A total of 20 organizations hosted booths during the street-fair segment of the festival, each in support of the advancement of women in science and math.

Local professional women organized the workshops and briefed the girls on topics that included aquaculture, astronomy, aviation, biology, chemistry, civil engineering, computer-information technology, graphic design, mathematics, oceanography, plant pathology, rocket science, structural engineering, and veterinary medicine. Currently, 8 of the 10 fastest-growing occupations in America are related to science, math, or technology.

The Sally Ride Science Festivals target girls of middle-school age because figures



**Sally Ride**, America’s first woman astronaut, visits with **Jennifer Rosser** (USGS, St. Petersburg, FL) at the Sally Ride Science Festival held at Brevard Community College on January 24.

from the National Center for Education Statistics reveal that approximately the same number of girls as boys in the 4th grade enjoy math and science, yet boys in the 8th grade are twice as likely to be interested in math and science than girls of the same age.✳

### Gathering Highlights Appreciation for Florida’s Natural Beauty

By **Jennifer Rosser**

The U.S. Geological Survey (USGS) was one of several organizations invited to display at the Annual Joint Holiday Meeting of the Pinellas Chapter of the Florida Native Plant Society and the St. Petersburg Audubon Society, held on December 3, 2003.

Elementary- and middle-school students visiting the USGS booth were eager to collect satellite-image posters of the Tampa Bay community, various publications, and other educational materials. Supplies at the meeting were limited, and so five individuals visited the USGS

office in St. Petersburg, FL, on a later date to collect educational handouts and posters. Students were also interested in finding resources, ideas, and help for upcoming science-fair projects.

*(Gathering continued on page 6)*

## Outreach, continued

(Gathering continued from page 5)

A highlight of the joint meeting was guest speaker **Jeff Ripple**, landscape photographer and natural-history author, who left an audience of about 120 people in awe as he shared his lifetime of experiences exploring some of the few remaining wild places in Florida. **Ripple** accompanied his slide photographs with the nighttime sounds of frogs croaking and crickets chirping, and with precise words to describe the subtleties of the natural landscape.

In addition to the USGS, organizations represented at the meeting included the Clearwater Audubon Society, the Clearwater Marine Aquarium, the Pier Aquarium, the Pinellas Chapter of the North American Butterfly Association, the South Cross Bayou Water Reclamation

Facility, the Frog Listening Network, the Gopher Tortoise Council, the Florida Master Naturalist Program, the Florida Marine Research Institute, the Tampa Bay Estuary Program, the Florida Exotic Pest Plant Council, Florida Yards and Neighborhoods, the Friends of Boyd Hill Nature Park, the Friends of Brooker Creek Preserve, Moccasin Lake Nature Park, the Pinellas County School District, Pinellas County Environmental Management, Trail of Lost Tribes, Inc., and the Florida Frontiers/Native Earth Cultural Center, Inc. ❁



*Jennifer Rosser staffs the USGS booth at the Annual Joint Holiday Meeting of the Pinellas Chapter of the Florida Native Plant Society and the St. Petersburg Audubon Society.*

## Meetings

# Multiagency Environmental Indicators Meeting in New Hampshire—The Sequel

By John Bratton

The Northeast Coastal Indicators Workshop (NCIW) was held on January 6-8, 2004, at the New England Center on the campus of the University of New Hampshire, Durham. Approximately 70 regional environmental professionals from Federal, State, provincial, local, and non-governmental organizations participated. Representatives from the U.S. Geological Survey (USGS) included **Susan Russell-Robinson** (Reston, VA), **Hilary Neckles** and **Blaine Kopp** (Augusta, ME), and **John Bratton** (Woods Hole, MA). The workshop was funded by the U.S. Environmental Protection Agency (EPA), with support from the National Oceanic and Atmospheric Administration (NOAA), the Gulf of Maine Ocean Observing System (GoMOOS), the Gulf of Maine Council on the Marine Environment, the Maine State Planning Office's Coastal Program, the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET), the Alliance for Coastal Technologies (ACT), and Battelle. The primary organizer was **Barry Burgan** (EPA),

with significant input from **David Keeley** (Maine State Planning Office), **Carlton Hunt** (Battelle), and a steering committee of 18 additional members.

This workshop grew out of an earlier meeting, the Atlantic Northeast Coastal Monitoring Summit, that took place in December 2002 at the same location. The primary task of the recent workshop was for breakout groups to prepare lists of appropriate indicators related to six key issues in the region: fisheries, coastal development, eutrophication, contaminants, climate change, and aquatic habitat. The steering committee developed the following vision and goal for the region and the workshop:

- Vision for the region—a sustainable Northwest Atlantic ecosystem that ensures environmental integrity and that supports and is supported by economically viable, healthy human communities.
- Goal for the indicators workshop—consensus on a list of key indicators focusing on the six major issues

identified above, for which regional data will be compiled and tracked to indicate changing trends in ecosystem integrity throughout the region.

In addition to the work of the breakout groups, significant speakers at the workshop included **U.S. Representative Tom Allen** (cochair of the House Oceans Caucus) as well as members of a senior management panel, including **Secretary Ellen Roy Herzfelder** (Massachusetts Department of Environmental Protection), **Faith Scattolon** (Fisheries and Oceans, Canada), **Priscilla Brooks** (Conservation Law Foundation), and **Rick Spinrad** (Assistant Administrator, NOAA's National Ocean Service).

Copies of all workshop briefing materials, participant lists, presentations, and results can be viewed or downloaded from the workshop Web site at URL <http://www.gulfofmaine.org/nciw/>. A guidance document produced from a similar USGS workshop held in January 2003 is available at URL <http://pubs.usgs.gov/of/2003/of03-405/of03-405.html>. ❁

## Tampa Bay Internet Training Workshop

By Jennifer Rosser

The U.S. Geological Survey (USGS)'s Gulf of Mexico Integrated Science Tampa Bay Study team held an Internet Training Workshop on January 29 at the Florida Marine Research Institute (FMRI) in St. Petersburg, FL. Geared toward managers and scientists, the workshop was designed to teach interested professionals how to use the Interactive Mapping System (IMS) and Digital Library on the USGS' Tampa Bay Study Web site (<http://gulfsci.usgs.gov/tampabay/>) in their management and research activities.

The IMS and Digital Library are Internet-based resources that allow the public to access data and information about Tampa Bay. For example, participants can analyze evidence of seagrass recovery in aerial photographs, using the tools available in the IMS. During workshop sessions, FMRI reviewed how to use their Tampa Bay imagery system (see URL <http://ocean.floridamarine.org/tbep/>). The course was unique because it required no

previous knowledge of Geographic Information System (GIS) science or software.

Two sessions were scheduled to accommodate as many people as possible, yet keep the groups small enough for easy interaction; each 3-hour session was limited to 12 participants. Both sessions filled quickly, and a waiting list formed. Because of the Internet workshop's popularity, another will be held in the near future.

Data and Information Management instructors included **Kathryn Smith** (USGS, St. Petersburg, FL), **Ravic Nijbroek** (Johnson Controls World Services, Inc., USGS National Wetlands Research Center, St. Petersburg Project Office), and **Tina Udouj** (FMRI). The task manager was **Jimmy Johnston** (USGS, Lafayette, LA).

Contributors to creation of the Internet tools were **Renee Koenig** (ETI Professionals Inc., USGS, St. Petersburg), **Christopher Cretini** (Johnson Controls World Services, Inc., USGS National Wetlands Research Center, Lafayette, LA),

and **Sumani Chimmula** (University of Louisiana, Lafayette, and USGS National Wetlands Research Center).

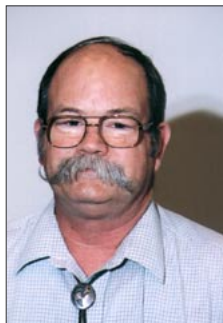
The scientific expertise of attendees ranged widely, from managers with little scientific background to members of the scientific communities of Hillsborough and Pinellas Counties. Participants came from such organizations as the Environmental Protection Commission of Hillsborough County, the Southwest Florida Water Management District, Pinellas County Environmental Management, the Florida Department of Environmental Protection, the U.S. Fish and Wildlife Conservation Commission, the National Oceanic and Atmospheric Administration, FMRI, and the University of South Florida's College of Marine Science. Also represented were the U.S. Army Corps of Engineers' New Orleans District, the University of Pennsylvania, HDR Engineering, Inc., and Lewis Environmental Services, Inc. ❁

## Awards

### Two USGS Scientists Selected as AGU Fellows in Ocean Sciences

U.S. Geological Survey (USGS) scientists **William R. Normark** and **Ronald S. Oremland** have been selected as Fellows of the American Geophysical Union (AGU)'s Ocean Sciences section.

**Bill Normark** (Menlo Park, CA) was selected as a Fellow jointly in the Ocean Sciences and Tectonophysics sections, in recognition of his pioneering research on the formation and actions of turbidity currents, the creation and deposition of deep-sea turbidite and massive slide bodies, and the accumulation of hydrothermal mineral masses at midocean spreading centers. A member the Geologic Discipline's Western Coastal and Marine Geology team, **Bill** has long had an interest in high-energy geologic processes on the deep-ocean floor. **Bill** pioneered the application of high-resolution seismic-reflection technology to study the structure of deep-water submarine fans and the processes that



**William R. Normark**



**Ronald S. Oremland**

form them. He recognized far-traveled turbidity deposits in Escanaba Trough, on a spreading ridge off northern California, that record the periodic failure of ice dams that formed Pleistocene Lake Missoula on the upper Columbia River; these failures unleashed sediment-laden floods that roared down the Columbia River drainage and traveled 1,000 km underwater to the deep Pacific Basin. **Bill** played a leader-

ship role in studies of the Hawaiian Islands that confirmed the hypothesis of USGS scientist **Jim Moore** that in late Cenozoic time, gigantic landslides repeatedly thundered down the submerged flanks of the islands. **Bill** was also a frontier explorer in the discovery of hydrothermal-vent systems at midocean spreading ridges, and their associated massive mineral deposits and flanking biologic communities.

**Ron Oremland** (Menlo Park, CA) was selected as a Fellow jointly in the Ocean Sciences and Biogeosciences sections, in recognition of his fundamental contributions in geochemistry, atmospheric and environmental chemistry, and ecology, through his discoveries of novel pathways by which microbes metabolize environmentally significant metals and climate-relevant trace gases. A member of the Water Resources Discipline, **Ron**

(AGU Fellows continued on page 8)



## Awards, continued

(AGU Fellows continued from page 7)

embarked on microbiologic studies in the 1970s, examining the selenium problem in California's Central Valley. A natural component of the valley's soils, selenium accumulates to toxic levels in agricultural wastewaters after intensive irrigation and has contaminated many bodies of water. **Ron** has also conducted ground-breaking studies on the microbiology of arsenic cycling. In the course of his work on selenium and arsenic, he has isolated selenate- and arsenate-respiring microorganisms from such extreme environments as Mono Lake and the Dead Sea. **Ron's** work

bears directly on the management and preservation of water resources by providing basic information that can be used to develop strategies for bioremediation of water contaminated by toxic metals. **Ron** has also made important contributions to our understanding of the production and cycling of climate-relevant trace gases in aquatic ecosystems, including studies of methanogenic bacteria in marine sediment and the discovery of microbial pathways of degradation of methyl halides and other halocarbons, key agents of global warming and stratospheric ozone destruction.

**Ron, Bill**, and 39 other 2004 Fellows were selected on January 17, 2004, by the AGU Fellows Committee (the full list is available at URL <http://www.agu.org/inside/fellows04.html>). AGU members who are selected as Fellows have attained an acknowledged eminence in a branch of the geophysical sciences. The number of Fellows selected annually is limited to no more than 0.1 percent of the AGU membership. Congratulations to these distinguished scientists!✿

## Eric Geist Awarded AGU's Citation for Excellence in Refereeing

The American Geophysical Union (AGU) awarded U.S. Geological Survey (USGS) scientist **Eric Geist** its Editor's Citation for Excellence in Refereeing

"for outstanding service to the authors and readers of [the journal] *Geophysical Research Letters*." Presented in association with AGU's fall 2003 meeting, the

award acknowledges **Eric's** conscientious reviewing of submitted papers toward maintaining a high-quality standard for the journal.✿

## Staff and Center News

## Season of Giving—USGS Employees Donate Toys for Holiday Distribution

By Jennifer Rosser

Giving thanks for your blessings, being generous to others, and surrounding yourself with family, friends, and good food are just a few activities that make for a perfect holiday season. During November and December, we are asked to look inside ourselves and give to those who are less fortunate. U.S. Geological Survey (USGS) employees in Tampa and St. Petersburg, FL, did just that when they decided to collect unwrapped toys for children. **Lisa Robbins** (Director of the USGS' Center for Coastal and Watershed Studies [CCWS] in St. Petersburg) and **Jack Kindinger** (CCWS Deputy Director) presented the gifts to Florida **Congressman Bill Young** at his birthday party on December 12. **Congressman Young** had asked those attending his

birthday celebration to bring a toy to donate for a child, instead of a gift for him.

**Lisa** and **Jack** were extremely proud to present an entire box of gifts on behalf of the USGS, and would like to thank everyone who participated.✿



**Lisa Robbins** and **Jack Kindinger** display toys that were donated by USGS employees and presented to Florida **Congressman Bill Young** for distribution to needy children during the holiday season.



## Recently Published Articles

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