

NOAA WORLD



Highlighting the achievements of NOAA people around the world

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Commerce Secretary Locke Hosts 2009 Hurricane Season Outlook Event

Secretary Locke exiting a NOAA P-3 'Hurricane Hunter' aircraft at a press event held May 21 at Washington's Reagan National Airport to announce NOAA's initial outlook for the 2009 hurricane season.

Photo credit: NOAA



Message in a Bottle Connects NOAA's Albatross IV to Azores Resident

Shelley Dawicki,
NOAA Fisheries Service and
Genevieve Contey,
NOAA Office of Communications



The last thing Agostinho Costa Lima probably expected to find washed up on the shore of his remote island of Corvo was a message-filled bottle.

Romance novels and a Kevin Costner movie aside, it's not every day a stranger finds a long-lost message in a bottle. In Lima's case, he found one of 32 bottles tossed over the side of the now decommissioned NOAA research vessel *Albatross IV* during its final research cruise off the New England coast last November.

The recycled wine bottle had traveled thousands of miles without breaking to Corvo, part of the Azores islands in the middle of the Atlantic Ocean.

An *Albatross IV* postcard, curled up inside, documented when and where the bottles were dropped; it also provided a return address for its potential retriever.

The lucky finder responded in kind with his own message — a handwritten note that came back to Linda Despres, the vessel's chief scientist via the mail. Lima also included two picture postcards from Corvo.

"Just writing to let you know your bottle with the message was found on March 23 at 9:00 am," wrote Lima, a Corvo resident who works at the island's town hall.

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NOAA Has Its 'Day' on Capitol Hill

Tim Bagley, NOAA Office of Legislative Affairs and Ed Levy, NOAA Office of Communications

"NOAA Knows Climate" was the theme of the third annual NOAA Day on Capitol Hill (May 20), where more than 150 congressional staff and other guests, including nine members of Congress, had a unique opportunity to learn more about NOAA's mission, its services, and its focus on climate change.

NOAA exhibited a number of displays from various line and staff offices in the Rayburn House Office Building, as NOAA experts and three members of Congress hosted a parallel series of briefings in the Cannon House Office Building addressing a wide range of climate-related issues.

Andrew Allegra of NOAA Satellites' National Oceanographic Data Center was on hand to discuss the center's valuable data sets that are used in climate change research. According to Allegra, some of the information — particularly long data sets related to ocean temperatures — dates back to the 1700s.

Ron Gird of the National Weather Service's Awareness Branch reported that NWS has distributed approximately 300,000 NOAA Weather Radios to schools and universities across the country. NWS is also considering other venues such as community centers, hospitals and organizations that sponsor large public events. Gird said that the public is very interested in the issue of climate change.

Jon Swallow of NOAA Corps talked about the Corps' climate-related work in installing and repairing ocean buoys and performing coral reef research, among other activities.

Dan Pisut of NOAA Satellites' Center for Satellite Applications and Research demonstrated the "Magic Planet," a smaller version of NOAA's animated "Science on a Sphere" that is used to display a variety of Earth science data.

Pisut showed how satellites can document the diminishing concentrations of Arctic sea ice, especially the alarmingly low levels in recent years.

A smaller version of NOAA Ocean Service's "Ocean



Po Chi Fung (OAR CFO Congressional Analysis and Relations Division) and Rochelle Plutchak (OAR Communications) speak with NOAA Deputy Administrator Mary Glackin about climate-related laptop simulations exhibited at the third annual NOAA Day on Capitol Hill (May 20). Photo credit: Derek Parks, NOAA.

Today Kiosk," a popular attraction at the Smithsonian National Museum of Natural History's new Sant Ocean Hall, was also on site.

NOAA Administrator Dr. Jane Lubchenco, along with four Congress members, spoke at a reception that evening in the Rayburn Building that was sponsored by *Friends of NOAA*, a coalition of organizations and businesses that support the agency's mission and programs. Dr. Lubchenco said that NOAA sits "at the center of key issues of significant import for the nation," specifically climate change.

"A priority focus for me this year is on the climate science and services that the nation needs and that NOAA currently provides," said Dr. Lubchenco. "The climate challenge before us is real. Through sustained federal and extramural partnerships and collaboration, the nation has realized significant progress in our understanding of climate change. From concerns about droughts and sea level rise to changes in the chemistry of the ocean, there is a real hunger for more and better information. NOAA is equipped and ready to work with its partners to keep providing this information."

NOAA WORLD

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Message in a Bottle

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The bottles were thrown overboard by each scientist and crew member aboard the *Albatross IV* when the vessel was furthest from land and as close as it would come to the Gulf Stream. In addition to an *Albatross IV* postcard, each bottle contained a group photo with a personal message on the back recalling a favorite shipboard experience or, in some cases, a musing on what made the vessel so



Agostinho Costa Lima, a resident of the island of Corvo in the Azores, found one of 32 message-filled bottles thrown over the side of the *Albatross IV*. He is pictured with the bottle's contents: an *Albatross IV* postcard and group photo of the scientists and crew members onboard during the ship's final research mission last November.

Photo credit: With permission from Agostinho Lima.

special to them.

In a few bottles, crew members included some unusual "extras" as part of the bounty: a knitted item, a menu, chopsticks, and even earplugs. (Unlike in the movies, however, no love letters were penned.)

"We all assembled on the back deck ... the Captain threw the first bottle and then there was a group throw," wrote Despres, chief scientist for the *Albatross IV*'s last cruise, in a log she kept during the voyage. "Interestingly, all of the bottles were still grouped together [in the water] prior to us moving on to the next station."

After receiving Lima's letter, Despres sent back a FedEx package containing a thank-you note, an *Albatross IV* hat, and a commemorative program from the ship's decommissioning ceremony. In her letter, she asked Lima to reply with a photo of the bottle's message so she could identify which crew member's bottle he had found.

As luck would have it, the package got stuck in Portugal due to an incomplete address — which might be hard to fathom given that Corvo Island has only about 450 residents.

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Message in a Bottle

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Despres, determined to have Lima send the photo sooner than later, consulted some of her colleagues for advice. One of them referred her to Rui Prieto, a visiting scientist working at Woods Hole who happened to be from the island of Faial, also in the Azores. When Prieto heard the story, he was beside himself: during one of his past visits to Corvo he had *actually met* Lima. Prieto also had a friend in Corvo who would meet Lima, take a photo of him and the bottle's contents, and e-mail it back. The e-mail arrived May 17.

Upon receiving the photo, Despres immediately contacted Christopher Legault, a research biologist with the Northeast Fisheries Science Center, to tell him it was *his bottle* that had been found.

In a plot twist that brings to mind "six degrees of separation," Legault was stunned for another reason entirely: Prieto had been at his house last summer for a get-together.

"It's just unbelievable," says Despres. "Rui Prieto not only knows the man who *found* the bottle, but also the man who *tossed* the bottle. This whole story makes the memories I have of my 36 years on the *Albatross IV* that much more special."

To learn more about the colorful 46-year legacy of the *Albatross IV*, please visit:

http://www.nefsc.noaa.gov/press_release/2008/News/NR0829/index.html.



A group photo of the scientists and crew aboard the *Albatross IV* during its final research voyage last November. The photo and a postcard of the ship were inserted into bottles thrown overboard during a special ceremony to commemorate the vessel's decommissioning.

Photo credit: NOAA.



The 187-foot *Albatross IV* made its last scientific cruise in November 2008. Photo credit: Shelley Dawicki, NOAA.



2009 NOAA RESTORATION DAY

There's Still Time to Volunteer

To participate in the Maryland event, please contact Tonya Kane (Tonya.Kane@noaa.gov) by June 3.

For the Virginia event, please contact Andrew Larkin (Andrew.W.Larkin@noaa.gov) also by June 3.

Up Close: Hugh Cobb of National Hurricane Center's TAFB

Dennis Feltgen, National Hurricane Center

You might not know it, but Hugh Cobb is a very busy man.

As the branch chief of the Tropical Analysis and Forecast Branch (TAFB) in Miami, Hugh Cobb leads a group of highly trained meteorologists working behind-the-scenes supporting the hurricane specialist unit at the National Hurricane Center (NHC).

During peak hurricane season, Cobb and his team — who specialize in marine meteorology, tropical meteorology, satellite imagery interpretation, and tropical weather analysis — are on call 24 hours a day, seven days a week. An integral part of the NHC, the branch performs forecasting, outreach, and support functions.

Cobb recently took some time to shed more light on the TAFB and his experience in leading the unit:

Q: How did you become interested in meteorology?

A: As a kid, I lived in Kansas for a while; my dad was in the Navy, so we moved around a lot. I saw a tornado there in 1968 and ever since then I have been fascinated with weather. Even at 8 years old, I already knew that I wanted to be a meteorologist. When we moved to Norfolk, Va., I became interested in hurricanes. Even though there was not much hurricane activity in the 1970s, especially along the East Coast, I always wanted to work at the Hurricane Center.

Q: How did you work your way into the NHC?

A: I took the long way around. After receiving my bachelor's degree in meteorology in 1984 from Old Dominion University, I worked as an intern with NOAA in Camp Springs, Md., focusing on tropical meteorology. As an intern, I got to train at the Hurricane Center during the 1989 landfall of Hurricane Hugo. I was there for an entire week; I arrived when Hugo hit Puerto Rico and left the day after it hit Charleston, S.C. It was during that week that I met Max Mayfield (the former head of the NHC) and established connections that helped me get hired the following year.

Q: What were you hired to do at the NHC?

A: First, I worked as a forecaster for three and a half years at the Tropical Satellite Analysis and Forecast Branch, the predecessor to what's now the TAFB. From there I went to the Wakefield, Va., weather forecast office for six years working as a science and operations officer. When I returned to NHC, I was first a lead forecaster for TAFB.

Q: Tell us more about work the TAFB does.

A: The hurricane specialist unit receives a lot of media attention, but the TAFB is more behind the scenes. We



Hugh Cobb, branch chief of Tropical Analysis and Forecast Branch (TAFB) in Miami.

Photo credit: NOAA.

provide critical support to the hurricane specialist unit during the peak of the season.

For instance, many folks probably don't know that our branch provides the satellite intensity estimates that help forecast tropical storm/cyclone tracks and rainfall amounts. We may not be up front writing advisories, but when a tropical cyclone is east of the Windward Islands [southern Caribbean closest to South America], one of the few intensity estimates hurricane specialists receive comes from our unit.

Q: What other kind of forecasts does the TAFB issue?

A: We also provide marine weather forecasts for a very large portion of the tropical Atlantic, the tropical East Pacific, and the South Pacific. We produce more than 100 graphical products a day, as well as high seas marine forecasts, offshore waters marine forecasts, tropical weather discussions, and *surface weather analyses* [maps plotting variables such as sea level temperature, pressure and cloud cover]. We also coordinate with other centers to create one of our most useful products — a unified surface analysis — which is essentially a combined summary of several other surface analyses.

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NOAA Glider Expected To Be First to Cross Atlantic

Jennie Lyons, NOAA National Ocean Service

A bright-yellow submarine glider, launched into the cold waters off the New Jersey shore this spring, is on a 3,834-mile mission to assess exactly what lies beneath.

The 7-foot-long “Scarlet Knight” glider — named for the popular Rutgers University mascot — is expected to be the first underwater vehicle to cross the Atlantic Ocean. This historic undertaking is a joint effort of the NOAA-led Integrated Ocean Observing System (IOOS), New Brunswick, N.J.-based Rutgers University and other regional partners.

If the Scarlet Knight can safely cross the Atlantic, it can be used with other ocean-observing systems to fill in data gaps that exist for global deep-water exploration. The IOOS glider program will continuously collect important data, providing scientists a fuller picture about the state of our oceans, coastal waters, and the Great Lakes.

“The launching is tremendously exciting because there is just so much that we don’t really know about what happens in the oceans,” said NOAA Administrator Jane Lubchenco in an Associated Press interview. “The capacity to fly through the ocean, across the Atlantic, taking data about temperature, salinity and other properties of the water gives us keen insight into what’s happening down there.”

The glider dives repeatedly to collect ocean and coastal data including temperature, salinity, and density. This makes it possible to predict what is likely to be living in those waters.

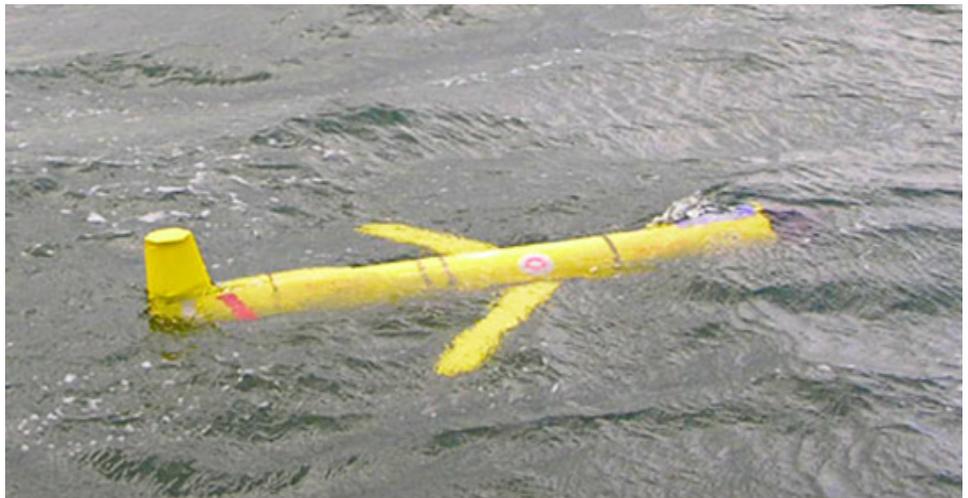
Scientists also can program the glider to send data as often as they choose at any point during in glider’s journey.

That journey began 30 miles off the New Jersey coast on April 27, 2009. From there, the vehicle will surf currents to the Gulf Stream, travel south of Halifax, Nova Scotia, and across the Mid-Atlantic Ridge before reaching Europe this fall. Ultimately, the insights gained from glider missions will better inform decisions about marine safety, the economy, and the environment.

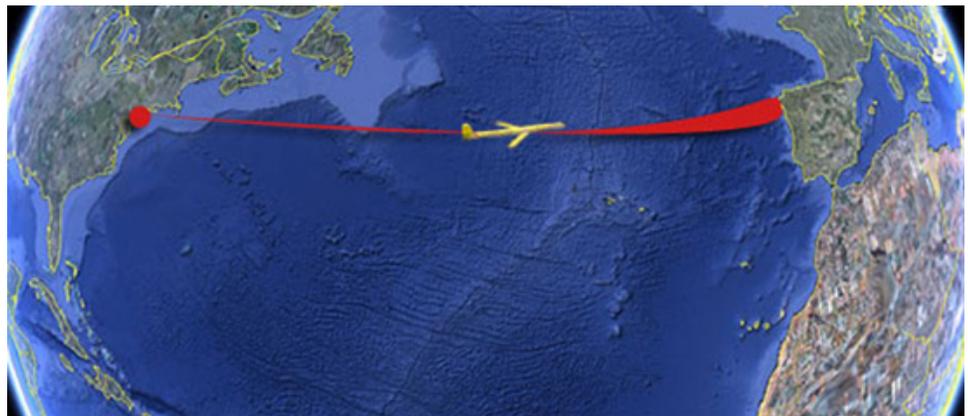
High-tech Subaquatic Flight

Directed by radio messages from Rutgers researchers, the unmanned glider can dive down to more than 650 feet and resurface using a battery-powered buoyancy pump. Fuel is not required — the glider is propelled by ocean currents and uses a rudder to steer its course. A satellite phone mounted in its tail calls in data to the Rutgers lab every few hours.

Made of aluminum with carbon-composite wings, the glider is coated with a special material that prevents algae, scum and barnacles from attaching to its outer surface. The growth of marine and plant life on the glider’s exterior could impose a “drag” on the vessel, slowing it significantly.



The Scarlet Knight glider makes its way off the coast of New Jersey.
Photo credit: Rutgers University.



A map showing the Scarlet Knight’s intended route across the Atlantic to Europe. Photo credit: Rutgers University.

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When the Grunion Run, Citizen Scientists Keep One Step Ahead

Laura Hoberecht, NOAA Fisheries Public Affairs

They observe quietly from the night shadows along the water's edge, spying on an elaborate age-old mating ritual.

They are the "Grunion Greeters," a volunteer corps of citizen scientists working with researchers from Pepperdine University and NOAA's National Marine Fisheries Service to track the secret lives of grunion, the unique marine fish that spawn at night on the beaches of southern California.

With silvery backs glistening in the moonlight, 7-inch-long adult grunion come ashore to reproduce in the spring. During extreme tides, females ride the surf to land high up on the beach and lay eggs in the sand. The males follow, wrapping around females to fertilize eggs, before the aquatic "paramours" return to the water. Grunion eggs incubate onshore for approximately two weeks until the next high tide when they hatch and the baby fish head out to sea.

"We really don't have a good handle on all the locations that are frequented by grunion or their overall numbers," said Bob Hoffman, NOAA Fisheries assistant regional administrator for habitat conservation in California. "This volunteer effort gives us a broader understanding about the status of these unusual fish."

Grunion Greeters grew out of a concern for the effects of beach grooming practices on grunion eggs incubating in the sands of San Diego's beaches. In 2002, Karen Martin, a professor of biology at Pepperdine University, decided to carry out a scientific study to determine where exactly the grunion were spawning. A large number of observers were needed because spawning can occur on numerous beaches during the same *tidal cycle* (the period between high and low tides).

Melissa Studer, a marine conservationist and director of the Grunion Greeter program, then organized a workshop to train volunteers in observation and data collection techniques. That first year (2002), the Grunion Greeter program deployed 100 citizen scientists to "run" with the grunion. The program has since expanded along the California coastline as far north as the San Francisco Bay Area. This year, more than 500 Grunion Greeters have been trained.

"The Grunion Greeters program is a great way for citizens interested in their natural surroundings to actively participate in marine research," said Martin. "It also provides scientists with data necessary to understand this fish that is distinctively associated with Southern California."

Volunteers stand watch at designated sites to collect data during the peak spawning months of April and May. They primarily assess the strength of the grunion run (which ranges from no fish spawning to thousands of fish spawning for an hour or longer) and record the time the run occurred.

Greeters also note weather conditions and the presence of grunion predators. According to Studer, "Everything feeds on these fish, especially birds and marine mammals. I even had a shark come right up to my feet during one run."

Although they are not required to do so, Grunion Greeters also act as unofficial wardens to protect the fish. Primarily harvested as bait, grunions cannot be caught during the critical peak spawning months of April and May. If poachers are spotted, the volunteers will often confront offenders.

"Usually people just don't know about the law and once the biology behind it is explained, they are eager to comply," said Studer. "Sometimes, they are even interested in becoming Grunion Greeters themselves."

The Grunion Greeters project, primarily funded by NOAA Fisheries for the last two years, has had a positive influence on the species. Current grunion runs are stronger than any observed since 2002. Data collected by the Greeters will also contribute to future habitat restoration and beach modification projects.

You can find out when the California grunion will run by visiting California's Department of Fish and Game at <http://www.dfg.ca.gov/marine/gruschd.asp>. To learn how to become a Grunion Greeter, check out Pepperdine University's Grunion.org Web site at <http://www.grunion.org>.



Two Grunion Greeters closely observe a group of grunion spawning on the beach at night.

Photo credit: Jennifer Flannery,
Grunion Greeters.

New NOAA Children's Book Highlights Teacher's Adventure on the High Seas

Fourth Edition Marks Book Series Finale

Julie Bedford, NOAA Office of Communications

"Let's go fishing" are words teacher Jacob Tanenbaum loves to hear. He discovered, however, that an ocean-bound expedition on one of NOAA's newest and most technically advanced research vessels, was different from any other fishing trip he'd taken.

For two weeks last October, Tanenbaum was aboard the *Henry B. Bigelow*, hauling in massive fishing nets and other gear, and working alongside NOAA scientists to survey fish and other marine life off the East Coast.

Tanenbaum's fantastic voyage from Boston to the coral reefs of the Florida Keys was recently brought to life on the printed page. The elementary school technology teacher's adventure is the subject of NOAA's new children's book "Teacher at Sea: Mr. Tanenbaum Explores Atlantic Fisheries on the NOAA Ship Henry B. Bigelow."

Tanenbaum teaches in the Southern Orangetown (N.Y.) school district north of New York City. The book is NOAA's fourth (and last) installment of the Teacher at Sea book series that has reached more than 50,000 students and teachers to date. The fourth book spotlights the need for healthy fisheries and marine ecosystems.

"I can't think of any better way for a teacher to share their educational experience than by having his story retold in a children's book," said co-author Diane Stanitski, a university professor and NOAA Teacher at Sea alumna.

Stanitski, who serves as a consultant for NOAA, co-authored the book with NOAA Corps Commander John Adler. The book was illustrated by Bruce Cowden, chief boatswain of the NOAA oceanographic research vessel, *Ronald H. Brown*. Both Stanitski and Cowden worked on the first three Teacher at Sea books, which focused on ocean and atmospheric research, hurricane research, and hydrographic surveys.

NOAA's Teacher at Sea program allows kindergarten through college-level teachers an opportunity to experience NOAA's exciting, cutting-edge research. The teachers live and work alongside NOAA scientists and

researchers a few weeks each year — and then take that experience back to their classrooms. More than 500 teachers, representing 49 states and 4 countries have



From middle row, left: New York teacher Jacob Tanenbaum, NOAA Under Secretary Dr. Jane Lubchenco, and Chief Boatswain Bruce Cowden for the *Ronald H. Brown* with students from Tanenbaum's fourth-grade class at the May 14 Capitol Hill event that recognized the latest Teacher at Sea children's book. Photo credit: NOAA.

participated in the program since it began in 1990.

During the journey, Tanenbaum communicated with his students by e-mail. He and ship scientists also held a video conference about NOAA's Conservation Program. Tanenbaum collected a variety of sea specimens and photos to share upon his return to school. Tanenbaum said that he and his students "learned some astonishing facts about fish and other marine organisms, the way they are surveyed, and their significance to our lives."

NOAA Administrator Jane Lubchenco, Rep. Eliot Engel (D-NY), Rep. Tim Holden (D-PA) and other dignitaries attended a special reception May 14 on Capitol Hill in celebration of the new book. The under secretary presented Chief Boatswain Cowden with a plaque acknowledging his lead role in and steadfast dedication to illustrating and producing all four of the Teacher at Sea books. Dr. Lubchenco also thanked Tanenbaum for his

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New NOAA Teacher at Sea Book

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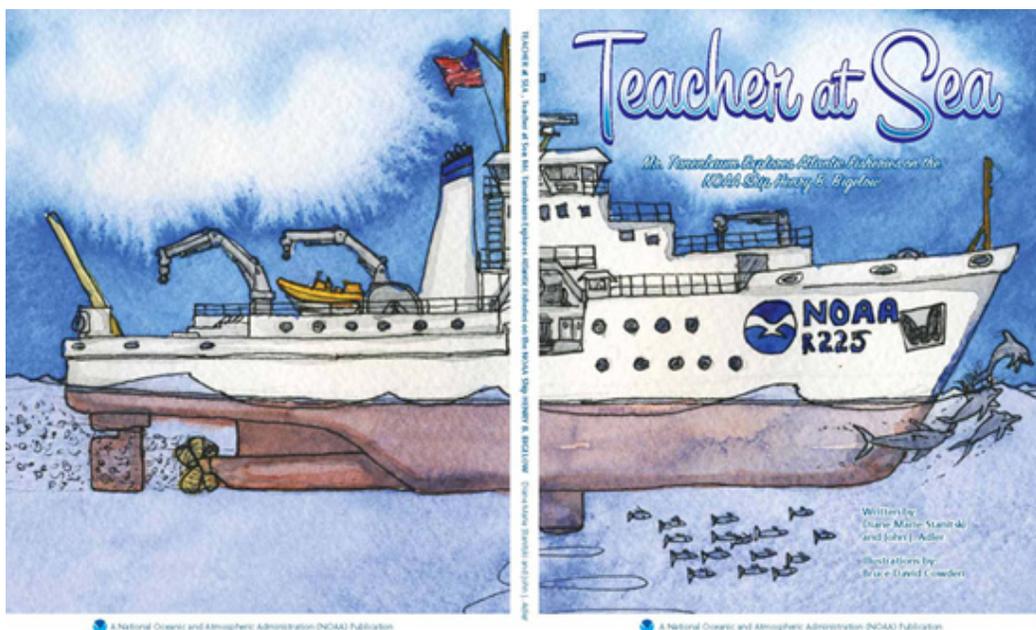
hard work on the ship by presenting him with a NOAA hard hat required of all crew members — a nod to the agency's "No. 1 priority" of safety at sea.

Tanenbaum's fourth-grade students, their parents, and the school principal were also present. The students spoke about a lobster experiment they did in Tanenbaum's class. Afterward, 13 had decided they would like a career in research, more than twice as many as beforehand. One fourth-grader remarked that her initial view of scientists as "dull, kid-hating and humorless workaholics" changed to people who "joke, have adventures in far-off places, and get to do cool experiments."

"Our NOAA Teacher at Sea alumni return to the classroom engaged and excited about

teaching their students how NOAA's research plays a role in stewardship of our environment," said Dr. Lubchenco. "Having spent time at sea myself, I can tell you that the type of work that Jacob and our scientists were doing wasn't easy — and can be quite smelly. Our ships operate 24 hours a day, seven days a week, and the scientists, officers, and crew work difficult, labor-intensive shifts to collect the data we need to make wise decisions about our oceans."

Teachers may request a free copy of the book by e-mailing noaa-outreach@noaa.gov. PDFs of the entire series of Teacher at Sea children's books are available at: <http://teacheratsea.noaa.gov/books/index.html>.



NOAA's "Teacher at Sea: Mr. Tanenbaum Explores Atlantic Fisheries on the NOAA Ship *Henry B. Bigelow*," (cover shown) is the fourth and last children's book in the Teacher at Sea series. Graphic credit: NOAA.

NOAA Glider

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Turning a Corner in Ocean Exploration

The mission's success will mark an important milestone in advancing ocean observation and exploration. Because gliders are often used with satellite imagery, radar systems, and sea-floor and buoy-mounted sensors, scientists can correlate all the findings to get a more detailed view of a particular ocean area.

"When we measure the ocean we need to do that in total," said Zdenka Willis, NOAA IOOS program director. "Satellites overhead are critical for information on wide swaths of the ocean on the surface. Buoys give us both surface measurements and information on the *water column* [area between the water surface and ocean floor] below, but for just one location. The glider, however, allows us to measure the ocean column from top to bottom continuously as it travels, at relatively low cost."

The engineering feat of crossing an ocean may transform how gliders can sample the world's waters, allowing them to collect observations on significantly longer journeys.

"We're constructing a vast, three-dimensional jigsaw puzzle," Dr. Lubchenco told the Associated Press. "We have bits and pieces of the puzzle and we're building out from that." The NOAA administrator added that every track the glider makes provides data to construct a more meaningful and dynamic picture of the world. "We have only just begun to tap the potential that is here on Planet Ocean," she said.

Syndicated Comic Strip Helps Launch New National System of MPAs

Kara Schwenke, NOAA Office of Ocean and Coastal Resource Management

Somewhere in a lagoon near the fictional Kapupu Island in the North Pacific, a great white shark named Sherman is planning his next meal. And, thanks to the healthy and sustainable marine environment he calls home, Sherman has a delicious variety from which to choose.

Sherman, his wife Megan, and an assortment of his other marine friends and foes, are all characters in “Sherman’s Lagoon” — a nationally and globally syndicated comic strip created by cartoonist Jim Toomey.

Toomey recently lent his pen to help promote the new National System of Marine Protected Areas (MPAs), a joint effort between the Department of Commerce and the Department of the Interior. Working with staff from NOAA’s Marine Protected Area Center, Toomey created the National System Sherman’s Lagoon Poster, an engaging cartoon highlighting the system’s three goals: natural heritage, cultural heritage, and sustainable production.

According to its creator, the cartoon — which runs in more than 150 newspapers each day — features “a dimwitted shark named Sherman, his sea turtle sidekick, and an assortment of other coral reef critters who team up to battle the encroachment of civilization on their remote tropical paradise.”

“Because ‘Sherman’s Lagoon’ is such a widely recognized cartoon, this poster will appeal to audiences of all ages, as well as to those who may not be familiar with this important new effort,” said Kara Schwenke, outreach and communications coordinator for NOAA’s MPA Center.

If “Sherman’s Lagoon” were real, chances are it would be a marine protected area (MPA). MPAs offer valuable natural or cultural assets that are provided greater protection than the surrounding waters. They include areas such as deep-water habitats, estuaries, inter-tidal zones, fish spawning grounds and the Great Lakes.

The MPA designation system is among the most important tools available for managing the nation’s ocean resources. The United States has more than 1,700 MPAs established by federal, state, territorial, and local governments to protect ecosystems, conserve cultural resources and sustain fisheries.

“Until the establishment of the national system, there has not been an overarching mechanism to help MPAs across all levels of government work together toward common goals,” said Joseph Uravitch, director of NOAA’s MPA Center. “This demonstrates our willingness and ability to work together to conserve our common marine heritage for future generations.”

NOAA Administrator Jane Lubchenco, Toomey, and MPA stakeholders participated in an April 22 ceremony to announce the charter members of the national system. After the ceremony, the National System “Sherman’s Lagoon” poster was unveiled and autographed by Dr. Lubchenco and other dignitaries in attendance.



NOAA Under Secretary Jane Lubchenco poses with “Sherman’s Lagoon” creator Jim Toomey and the poster he created for the new National System of Marine Protected Areas.

Photo credit: Kara Schwenke, NOAA OCRM.

ESRL Puts World of Weather in Scouts' Hands

Annie Reiser, OAR Earth System Research Laboratory

If you had heard the rolling booms emanating from the El Paso County Fairgrounds in Calhan, Colo., one weekend in late April, you would have thought a storm front had come in.

Something large and noisy *had* made landfall there, but it wasn't a thunderstorm. It was a group of nearly 200 local Boy Scouts armed with "thunder tubes" supplied by NOAA's Earth System Research Laboratory.

The tubes — cylindrical contraptions that simulate thunder when shaken — were handed out by ESRL scientist Andy Loughe as part of NOAA's educational outreach effort at the scouts' annual spring "camporee." This year's theme: science and technology.

A long-time instructor for the scouting weather merit badge, Loughe distributed the thunder tubes to raise awareness of lightning safety, something of particular importance for the Boy Scouts who often encounter thunderstorms. He also educated the scouts on weather concepts and safety through engaging, hands-on experiments focused on debunking common weather-related myths and misconceptions.

"We couched the scouts' whole learning experience in terms of scientific experimentation and hypothesis development and testing," said Loughe.

For example, Loughe first demonstrated how high and low pressure affect inflated objects by using balloons and fluffy marshmallows placed in a clear, acrylic chamber. He then used a vacuum pump to remove air inside the jar, simulating a drop in atmospheric pressure. When asked to vote on what was likely to happen, most scouts hypothesized that the balloons and marshmallows would

shrink — to their surprise, they did just the opposite. The objects inflated in size, especially the balloon, due to less air compressing their surfaces.



Andy Loughe from NOAA's Earth System Research Laboratory demonstrates cloud science to a group of eager Boy Scouts.

Photo credit: Shannon Loughe.

Loughe also conducted cloud experiments to show how high and low pressures affect the development (or not) of small clouds. Using an air compressor to apply varying levels of pressure, he combined small amounts of *condensation nuclei* (tiny dust particles to which water vapor clings) and water (to create water vapor) in a bell-shaped glass jar. Depending on the amount of heat and

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Hugh Cobb

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Q: What new products are you working on now?

A: We've made tremendous strides in producing gridded marine forecasts [maps overlaid with grids that allow forecasters to zero in on specific locations]. Private entities are producing similar products, but they use prepackaged model data. We're going to provide value-added forecaster input to the model data. It will also be interactive: forecasters will pull down these Web-based grids with the information fields they want to customize their own 'route' forecasts.

Q: What's the most satisfying part of the job?

A: The fact that we make a difference in many people's lives. I feel very strongly about the mission of the unit, and I'm very proud of both the work we do and the services we provide. For example, boaters, coastal residents, and public and private sector industries make critical decisions based on our forecasts. Also, our storm intensity estimates are invaluable to hurricane specialists, in lieu of aircraft reconnaissance data.

Congratulations to June's Employee and Team Member of the Month

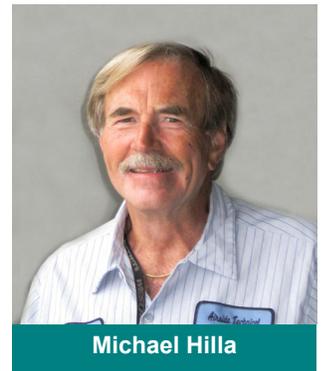
Bonita Nelson (Employee of the Month), a biologist with the Alaska Fisheries Science Center, is the driving force behind an annual cycle of outstanding outreach events at the center, setting a high standard for educational outreach. In the last few months, Bonita has spearheaded an enormously successful regional science fair at the local high school; hosted Alaska native students from Dillingham, Alaska; and coordinated a month-long excursion by all the local kindergarten, home-schooled, and sixth grade students to the Juneau NOAA laboratories.

Her work culminates each May with Seaweek, a short course for up to 1,200 elementary school students. By adding a series of hands-on activities to the aquarium and touch tank exhibits, Bonita transformed a once routine series of field trips into a set of compelling and kinetic learning experiences that teachers have lauded as truly creative ways to reach students and that students eagerly anticipate.



Michael Hilla (Team Member of the Month), a mechanic with NOAA's Aircraft Operations Center at MacDill Air Force Base in Florida, continually exceeds expectations and goes above and beyond his contractual duties. Since his arrival in October 2008, Mike has proven he can fix anything. He has repaired and restored approximately \$30,000 worth of ground support equipment that previously had not been maintained. This figure may not seem large compared with other projects, but ground support equipment is crucial to the successful operation of 14 aircraft, ranging from light aircraft to heavy WP-3D Orion hurricane hunters and Gulfstream IV hurricane surveillance planes.

Hilla's customer service skills are exceptional, and he takes ownership and great pride in his job. This shows itself not just in the equipment that he is directly responsible for maintaining, but in the quality of other equipment at the center as well.



Scouts

(continued from page 11)

pressure conditions within the jar, vapor clouds would form or eventually disperse.

The Boy Scouts saw for themselves that as air warms due to increased air pressure, it is capable of holding more water vapor and therefore produces fewer clouds. When air cools, clouds form more easily. They also were amazed to learn that low atmospheric pressure is associated with poor weather, not high pressure.

"Seeing that 'ah-ha' moment was especially cool," said Loughe. "If you can demonstrate the flaws in these mistaken hypotheses, it's easier for kids to internalize their own observations. This is active learning, not just rote memorization of facts."

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- Earth Day Cleanup in Seattle
- NOAA Sparks U.S.-Canadian Dialogue on Endangered Killer Whales
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- Did You Know...?

NOAA Fish Fry: An Annual Tradition Continues June 10

Julie Bedford, NOAA Office of Communications and Bob Hansen, NOAA Office of Education

Pan seared, farm-raised halibut from open ocean cages; wild Alaskan sockeye salmon with seaweed garnish and Asian glaze; grilled tilapia; clam strips; crab cakes; and even fried alligator — these are just a few of the culinary delights NOAA staff and their guests enjoy during NOAA's Annual Fish Fry, being held this year on June 10.

NOAA's Fish Fry celebrates recreational and commercial fisheries and promotes fish as a safe and healthy food choice. It also promotes NOAA's mission of wise stewardship and sustainable fisheries.

Now in its 34th year, the concept behind NOAA's not-for-profit Fish Fry has remained much the same — yet its venue, look and feel have changed significantly over the years. The event is held each June in Washington, D.C., typically coinciding with National Fishing and Boating Week and Capitol Hill Ocean Week.

The first NOAA Fish Fry started as a small casual fishing trip organized by NOAA employees and Congressional staff members on the Chesapeake Bay. According to Paul Friday and Dallas Miner — two former NOAA employees onboard that day — whatever they caught was prepared, cooked and eaten that evening. Little did they know a tradition had been born.

"The Fish Fry was such a great way to thank NOAA staff and our friends on the Hill for all their hard work, we decided to do it again the next year ... and the next ... and as word spread it just kept growing," said Miner.

"As the years progressed, it became a larger 'picnic' event held on the grounds behind the National Naval Medical Center in Bethesda, Md.," said Friday. "I can still remember the smiles on people's faces when they first tasted underutilized fish species such as tilapia and monkfish. However, I also remember when we served what I like to call 'cat dogs' — hot dogs made with fish — that didn't go over quite as well."

About 15 years ago, the event moved to the Department of Commerce's Herbert C. Hoover Building, with its tree-shaded courtyards, cafeteria, and adjacent National Aquarium, where it is still held today. Attendance has grown to more than 1,000 in recent years.

Miner notes that event co-sponsors have included the American Sportfishing Association, the Center for Marine Conservation, and now the National Fish and Wildlife Foundation.

"For a number of years it was referred to as 'Friday's Fish Fry' because Paul Friday was the principal coordinator," said NOAA Office of Education's Bob Hansen. "Since then, a handful of others have coordinated the event, including Pete Allen and myself. Now NOAA Ocean Service's Tim Tomastik has taken the reins."

"The Fish Fry is much larger and more complicated than it was in the early days," said Tomastik. "Even though I start planning the event in January, we still find ourselves



working on it right up until the doors open the day of the event."

As they eat and mingle, guests are treated to live music and a variety of seafood dishes prepared by more than a dozen guest chefs.

"Guest chiefs really add a regional flare to the event since they come from as far away as Hawaii, Alaska, Maine, Louisiana, and many points in between," said Friday. "NOAA employees also appear as guest chefs. NOAA Ocean Service's Darrell McElhaney has made his now famous seafood gumbo every year since 1982."

"The passion and dedication of the NOAA community and its partners never ceases to amaze me," said Friday. "I have so many fond memories of the NOAA Fish Fry and I look forward to many more."

This year's Fish Fry will be held Wednesday, June 10, from 6-9 p.m. at Commerce headquarters (the Hoover Building) in Washington. Credit card purchases can be made by calling 301-496-6061 or 301-402-6482. Tickets can also be purchased in Silver Spring at the NOAA Store (SSMC2-ground level), in Washington from Bob Hansen (HCHB room 6863), or in Suitland from Kay Collins (NSOF room 1161).