

NOAA REPORT



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Coastal Economy, Environment Focus of Conference:

Improving and protecting both the economy and the environment of coastal areas was the focus of an international conference cosponsored by NOAA in Boston last month. "Coastal Zone '97" focused on the history and future of sustainable development, maintaining economically and environmentally healthy coastal areas, preventing and responding to oil spills, and preparing for and recovering from natural hazards such as hurricanes and shoreline erosion.

Worms on Ice: A team of university scientists using a mini submarine on a NOAA-funded research cruise has discovered, photographed and sampled

News Briefs

what appears to be a new species of centipede-like worms living on and within mounds of methane ice on the floor of the Gulf of Mexico, about 150 miles south of New Orleans. Although scientists had hypothesized that bacteria might colonize ice mounds, called gas hydrates, this is the first time animals have been found living in the mounds.

Atlantic Swordfish Quotas, Southern Stock Definition Proposed: NMFS has proposed Atlantic swordfish quotas for the next three years and will be seeking comment on the proposals. The fisheries service also proposes to define the South Atlantic swordfish stock separately from the northern stock, and set a separate 1997 quota for that stock.



On the *Ronald H. Brown* at the ship's commissioning are (left to right) Commerce Secretary William Daley, Sen. Ernest Hollings, NOAA Administrator D. James Baker, OAR director Elbert "Joe" Friday, Alma Brown, Tracy Brown, and the *Brown's* commanding officer Cmdr. David Peterson.

Charleston Ceremony Honors Late Secretary's Memory

NOAA Ship *Ronald H. Brown* Joins Research Fleet

Hot summer weather did little to dampen the attendance and enthusiasm of dignitaries and guests at the July 19 commissioning ceremony in Charleston, S.C., that officially welcomed NOAA's first newly built oceanographic research ship in 17 years—the *Ronald H. Brown*—into the NOAA fleet.

The commissioning ceremony, a maritime tradition dating back 222 years to the beginning of the American revolutionary war, also honored the memory of the late Secretary of Commerce Ronald H. Brown, for whom the ship is named.

As part of the ceremony, Commerce Secretary William M. Daley, the

highest ranking Administration official, ordered NOAA Corps Rear Admiral John C. Albright, director of the Pacific and Atlantic Marine Centers, to place the ship in commission. "As authorized by the President of the United States, I hereby direct that the United States National Oceanic and Atmospheric Administration ship *Ronald H. Brown* be placed in commission. May God bless and guide this research ship and all who sail on her."

The day's master of ceremonies, Cmdr. Paul Pegnato, ordered the colors to be hoisted and band to "sound off." While the Marine Corps Band from Parris Island Recruit

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Utah Forecasters Keep the Public Safe During Statewide Celebrations

On July 22, hundreds of modern-day pioneers descended through Emigration Pass near Salt Lake City. They had one eye toward the clouds and the other on the trail ahead.

They learned first-hand how rapidly the weather changes. For the past three months, the wagon train participants journeyed from Nebraska to Utah.

“The weather was probably the most authentic part of the trip,” said Brian Hill, the wagon train’s chief executive officer. “Like our ancestors 150 years ago, we experienced intense winds, dust and thunder storms. We even had a tornado watch. We checked the skies each morning but they often changed by day’s end.”

Hill said wagon train members would occasionally gather weather information via the Internet on solar-powered laptop computers. People along the route also relayed weather reports. “The uncertainty of what the weather would be like was very real.”

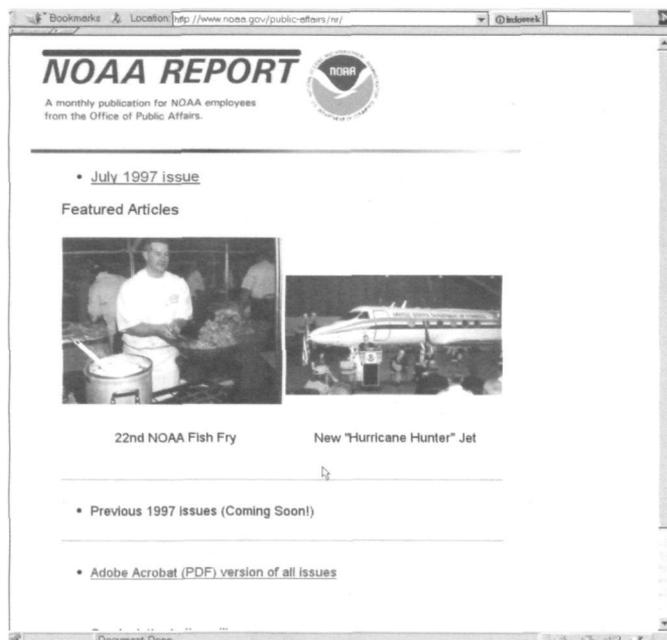
Meanwhile, more than 50,000 people cheered at the group’s arrival site and commemorated the Days of ‘47 Pioneer Sesquicentennial. Event organizers depended on the National Weather Service forecasts to make critical decisions about crowd safety and other behind-the-scene logistics.

“Protecting the lives and property of people is our mission. Our forecasts are used by state officials and the public every day” said Bill Alder, meteorologist in charge.

According to Tom Potter, director, NWS Western Region, “People across this Nation rely on the accurate NWS public forecasts and warnings. Whether they’re planning for safe community events or family activities, we help ensure the public’s safety. Our modernized equipment and use of the latest meteorological science give the public better forecasts every day.”

Utah Governor Mike Leavitt’s staff asked about one of the approaching storms. “We tracked it using Doppler weather radar and gave precise information on the location and probable timing of the storm. Everyone was safe and dry,” said Alder proudly.

—Marilu Trainor ☺



We're On Line!

Beginning with this issue, you can read your copy of NOAA Report on-line.

While NOAA Report has always been available on the Internet in the Adobe Acrobat format—which packages all the text and photos in each issue into one easy-to-read file—you can now read us on the web each month at <http://www.noaa.gov/public-affairs/nr>.

Usually, the on-line version will be available before the printed copy hits your desk, by the first week of the month.

We'll continue to produce the

Acrobat version each month as well.

The new NOAA Report web site also makes it easier to send us your comments about stories you've read, and ideas for stories you'd like to see.

And NOAA Report's web site is available from both your office and your home, through any on-line Internet service and any web browser. It's designed to be fast from our computers to yours, too.

So surf over to our new site, <http://www.noaa.gov/public-affairs/nr>, and tell us what you think. ☺

NWS Marks Final NEXRAD Dome Raising

The National Weather Service marked a major milestone in its \$4.5 billion modernization and restructuring program on June 27 when the protective radome for the Northern Indiana forecast office was placed atop the radar tower near North Webster, Indiana.

Environmental Mentors Needed

Want to do your share to help high school students get involved in environmental science? The Environmentors Project is looking for environmental professionals to serve as mentors for Washington area high school students interested in environmental science.

The program focuses on students from groups traditionally under-represented in the environmental field.

No particular expertise on the part of the mentors is necessary. Mentors are matched with select students based on shared interests. With the encouragement and guidance of mentors, students design and implement individual or group environmental science or community service projects. The program culminates in a science fair where the Environmentors Project and local sponsors award nominal scholarship grants to the students with the most accomplished projects.

Donna Wieting, with NMFS, was a mentor last year and called it "a rewarding experience."

"I intend to volunteer again this coming semester," Wieting added. "It's a great way for NOAA to participate in the lives of Washington youths and to bring marine and atmospheric sciences to minority students."

For more information, contact Patrick Naehu, Environmentors Project Manager, at (202) 347-3533. ☺

This is the final WSR-88D radar to be installed as part of the modernization.

Former NWS Director and current OAR Assistant Administrator Elbert W. "Joe" Friday joined a crowd of about 90 participants and spectators in a ceremony to mark the event, doing so on his last day as NWS director. "I've put a lot of effort and a lot of years into the modernization," Friday told the audience, "and it's gratifying to see the radome being placed while still on my watch."

While construction crews in other radar locations had to battle rain or high winds, the weather cooperated beautifully for the North Webster ceremony and dome placement. With the temperature in the mid 80s, a clear sky and light winds, the

crane operator and crew completed installing the dome in about 15 minutes. Broadcast and print media from all across northern Indiana recorded the event on film and videotape.

The Northern Indiana WSR-88D is scheduled to go into operation in early September, with construction of the new Weather Forecast Office building to begin in November. Its staff will operate temporarily out of two mobile homes located next to the construction site until the forecast office is completed in late 1998. The Northern Indiana office will assume warning responsibility for 37 counties in Indiana, Michigan and Ohio after the radar is commissioned.

—Pat Slattery ☺



A crane lifts the protective radome onto the final NEXRAD weather radar installation, in North Webster, Indiana.

Focus On...

The Commissioning of the *Ronald H. Brown*

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Depot played the National Anthem, the color guard from the Charleston Air Force Base raised the American flag, Commerce Secretary's flag, and commissioning pennant. The *Brown* was then officially placed into government service under the command of NOAA Corps Cmdr. David Peterson, who read his orders and directed the first watch to be set and log entry to be made.

PAYING TRIBUTE

Keynote speaker Senator Ernest Hollings; Mrs. Alma Brown, the late secretary's widow and ship's sponsor; NOAA Administrator Dr. D. James Baker; Rear Admiral William Stubblefield, director of the Office of NOAA Corps Operations; and Navy General Counsel Stephen Honigman joined Secretary Daley in paying tribute to Ron Brown and celebrating completion of the state-of-the-art national asset that bears his name.

"I know that Ron, if he was here today, would be just thrilled with this," Mrs. Brown said. "I know he's watching this and enjoying it."

"Secretary Brown had a unique ability to relate to Americans from all walks of life – from all ethnic groups, from all economic backgrounds," said Senator Hollings, who spoke at great length about the achievements of his close friend, the late Commerce Secretary. Senator Hollings'



The Brown has state-of-the-art instrumentation.

strong support in Congress of NOAA's mission and fleet made construction of Brown's namesake possible. The Senator's name is engraved on the keel of the ship, along with Senator Trent Lott's and Secretary Brown's.

The commissioning ceremony was held at the *Brown's* home port in Charleston. About 400 guests attended the ceremony and subsequent reception, and had an opportunity to tour the ship and visit the NOAA exhibits. Later the same day, the ship also hosted public tours for about 150 people.

MISSION TO THE PACIFIC

Dr. Elbert "Joe" Friday Jr., director of the Office of Oceanic and Atmospheric Research; Dr. Eddie Bernard, director of the OAR's Pacific Marine Environmental Laboratory; Dr. Sandra Yuter of the University of Washington, who is chief scientist of the *Brown's* first mission; and other scientists briefed the news media on the capabilities of the ship and on

the upcoming mission to measure the three-dimensional structure of clouds and precipitation in the eastern tropical Pacific Ocean, a region that has a strong, but not accurately measured, influence on global weather patterns.

In addition to its state-of-the-art oceanographic sampling capabilities, the 274-ft. *Brown* has instrumentation to study the atmosphere, including a Doppler radar for a better understanding of storm dynamics at sea. This combined atmospheric and oceanographic sampling capability makes the ship unique in the world's research fleet. Scientists aboard the vessel will study global climate change and other critical environmental issues, across the world's oceans.

According to Rear Adm. Stubblefield, who commands the NOAA fleet, "The *Brown* marks a real milestone in conducting oceanographic and atmospheric research. But what makes the *Brown* unique is that it goes beyond oceanographic sampling to simultaneous atmospheric sampling as well. This capability opens up possibilities that never existed before for understanding the interactions of the oceans and atmosphere that profoundly affect both global climate and the marine environment."

The *Brown* is the culmination of years of intense effort on the part of

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NOAA Sponsors University Team**Ancient Climate Studied Atop Icy Volcano**

A team of scientists sponsored by NOAA, researching Earth's climate in ancient times, has obtained samples from a remote, ice-covered volcano in Bolivia that will provide information critical to the study of global climate change.

The scientists, led by Lonnie Thompson, a professor of geological science at Ohio State University, drilled into a 433-foot deep glacier that covers the top of 21,608-foot Mt. Sajama in a remote, high alpine area of Bolivia. They obtained ice cores for chemical and physical analyses that will provide a more extensive view of short-term climate variability in the South American Highlands. By looking at the information contained in ice records, scientists are able to unlock crucial clues to Earth's climate history.

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A team of NOAA-sponsored scientists used burros (above) to carry some of the equipment they needed for their experiments in global climate change atop Nevado Sajama, an inactive volcano in Bolivia.

Rude Visits U.N.'s 'Earth Summit +5'

The NOAA hydrographic survey ship *Rude*, which gained prominence last July when it made the first discovery of TWA Flight 800's underwater wreckage, participated in the United Nations' special "Earth Summit + Five" meeting in June—marking half a decade since the landmark 1992 conference on the environment held in Rio de Janeiro, Brazil.

More than 300 people from the U.N. event and three general public toured the ship over a three-day period. One of the highlights for the *Rude's* crew was a visit from Deputy Prime Minister John Prescott of the United Kingdom who, as a former mariner, enjoyed swapping sea stories and learning more about the *Rude's*

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*Students from New York City's Earth School learn all about ocean surveys and shipboard life from "stem to stern" courtesy of Lt. Joe Evjen of the *Rude*. The kids were among hundreds of visitors to the ship during the United Nations' "Earth Summit II" in New York in June.*

NOAA Hosts Presidential Classroom Scholars

Forty students from the Presidential Classroom for Young Americans program visited NOAA in Silver Spring, Md., part of a group of 350 students who attended a week-long special-focus program on Business, Labor and Public Policy.

Since 1968, the Presidential Classroom project has given the Nation's most promising high school students the opportunity to spend a week in Washington, observing the Federal government at work, witnessing the development of public policy, and exploring the roles of citizens and lawmakers in America.

NOAA Assistant Secretary Terry D. Garcia welcomed the students and provided them with an overview of the mission of NOAA and its major activities. He emphasized the important links between the Department of Commerce's mission—ensuring economic opportunity for all citizens by creating jobs and promoting long-term competitiveness—and NOAA's ability to provide a comprehensive understanding of the environment to the Nation's policymakers as they make important societal and economic decisions.

Dr. William H. Hooke, OAR's Weather program director, gave the keynote address about the economic impacts of natural disasters, and the role that NOAA plays in providing critical scientific and technical information for natural disaster hazard reduction.

Workshops were conducted by CDR David Minkel (NOS); Dr. Rebecca Lent (NMFS); LCDR Timothy Tisch (OAR); Dick Thigpen, Martha Yacoub, and Jeff Zimmerman (all NWS); and Peggy Garrett (OFA). Ida Hakkarinen (NWS), who has been a volunteer instructor with Presidential Classroom, coordinated the visit. ☺



NOAA Assistant Secretary Terry D. Garcia speaks to the Presidential Scholars as they visited the Silver Spring campus.

Survey Team's Preliminary Report on Red River Flooding Released

An interagency disaster survey team led by NOAA found that complex river characteristics and limitations in current National Weather Service flood forecast methods were the primary cause of changes in forecasts of the flood crest at Grand Forks, N.D., and East Grand Forks, Minn., as the record-setting flood crest approached the two cities during the April 1997 floods on the Red River of the North.

"The same forecast techniques that produced very good predictions of flood stages on other portions of the Red River were not as effective for the Grand Forks-East Grand Forks area of the river," said Edward Johnson, co-leader of the NOAA survey and chief of the weather service's Hydrologic Operations Division. "Our models did not fully account for the submerged bridges and the very flat terrain downstream that backed up water in the town."

The survey team also suggests that the NWS needs to improve the

methods used to estimate and convey the uncertain nature of its flood forecasts and outlooks to officials and the public.

"Our discussions with NWS customers in the Red River valley indicated that there needs to be greater understanding of the meaning of long-range flood outlooks and short-range flood forecasts. We have to ensure that people clearly understand that river levels could be higher or lower than called for in the outlook and that our confidence grows as we issue forecasts and get closer to the event," Johnson said.

The survey team also noted that "the most promising method" for improving hydrologic forecasting is the Advanced Hydrologic Prediction System demonstrated on the Des Moines River Basin this past spring. The system combines long-range weather and climate forecasts with hydrologic models to produce long-range flood probabilities and probability-based flood inundation maps. ☺

Scientists Study Global Climate Change Atop Bolivian Volcano



Ice core drilling at the summit of the 6,540-meter tall Nevado Sajama. The ice they find contains important information of ancient climate. University of Massachusetts scientist Lonnie Thompson is at right, and Vladimir Mikhaleenko, from the Russian Academy of Science, operates the drill.

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The histories of the Bolivian ice cores will be integrated with those available from middle and high latitudes. These comparisons are essential to understanding the climate system. This information will also help extend back through millennia NOAA's long-term record of global climate change.

The research is funded by the NOAA Paleoclimatology program element of NOAA's Office of Global Programs.

The scientists arrived at the base of Sajama in June and set up camps: base camp at 15,840 feet and high camp at 18,480 feet. The three-day trip to the summit allowed time for adjust to the change in elevation between base camp and the summit. Drilling for ice cores on the 21,608-foot summit began on June 26.

"The cores are a storehouse of many environmental records," Thompson said. "Major volcanic ash layers

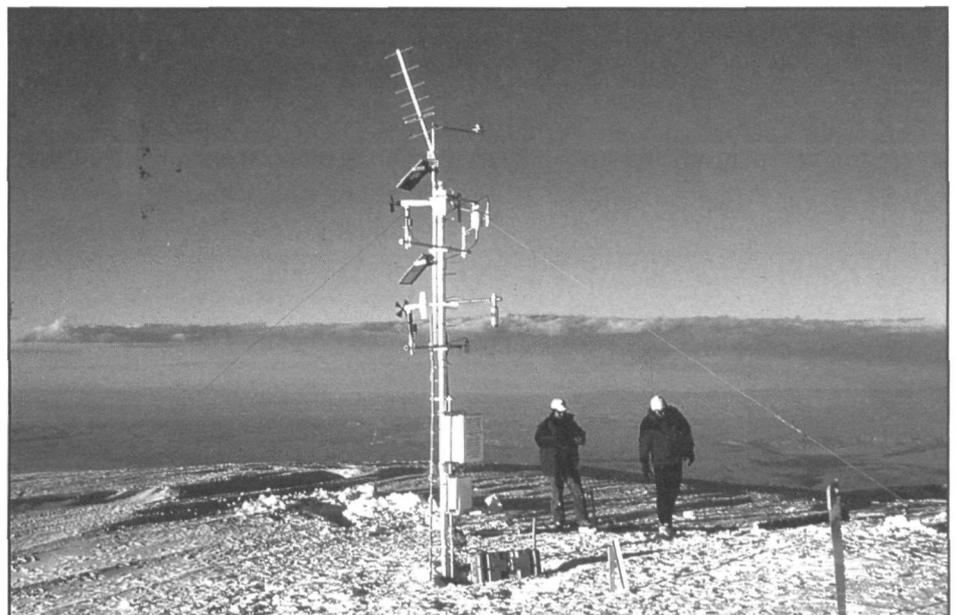
could be identified periodically throughout the cores along with other red and yellow dust layers. Both cores contain 30 meters of very clean ice near the bottom, which we speculate may date from the time when the ancient Lake Tauca covered

over 43,000 square kilometers of a high plateau at the end of the last glacial stage some 14,000 years ago.

"Sajama is a polar-type glacier frozen to its bed, even though it is only 18 degrees south of the Equator," Thompson explained. "We believe it will contain more than 20,000 years of history for this part of the world where we know very little about the climate."

In addition to the scientists from Ohio State University, a team from the University of Massachusetts' Climatology Laboratory is supporting the project with automatic weather stations, one of which was installed last year. The stations record hourly air temperature, relative humidity, pressure, wind speed and direction, solar radiation, snow temperature, and snow accumulation at the ice coring site. The data are transmitted to a NOAA GOES satellite and downloaded in near real-time at the University of Massachusetts for processing.

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The world's highest satellite-linked weather station at the summit of Nevado Sajama. At the top is the satellite antenna, aimed at NOAA's GOES-East satellite.

Robotic Whales Looking for Volunteers

NOAA is being taken over by whales—and you can help them do it.

NOAA and Explore-It-All Science Center of Bethesda, Md. have joined

Rude in New York

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work. He also stressed the importance of marine issues and oceanic research at an impromptu press conference with British and U.S. media following his tour of the ship.

—Dan Dewell ☺

Climate Research Atop Volcano

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The stations will provide data for the duration of the three-year project, giving scientists a modern calibration data set to be compared with data obtained from the ice cores. The weather station team successfully completed its work on Sajama, and went on to install another satellite-linked station on Nevado del Illimani, Bolivia, on July 17, to support ice core drilling there.

—Pat Viets ☺

(Information about the project can be found on the World Wide Web at these addresses: <http://www.geo.umass.edu/climate/sajamalsaj97.html> and <http://polarmet.mps.ohio-state.edu/Icecore/Bolivia.html>.)

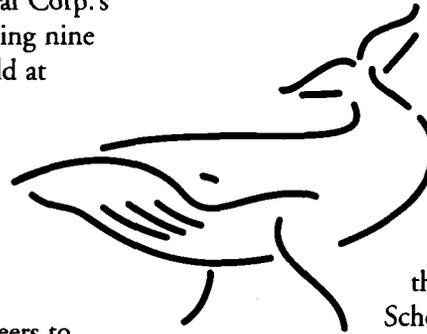
for a three-month exhibit of Dinamation International Corp.'s World of Whales, featuring nine robotic whales, to be held at NOAA's Silver Spring campus from September 27 through December 21.

Explore-It-All, a non-profit, hands-on science center, is seeking volunteers to staff the exhibit, and they're looking to NOAA for help.

Volunteers should be able to:

- commit to a at least two 4-hour shifts for each month the exhibit runs,
- facilitate the public's visits,
- handle ticket sales, and
- maintain computers.

Explore-It-All is also looking for a volunteer coordinator.



Explore-It-All Science Center has designed an educational program for elementary school children in parallel with the objectives of the Maryland School Performance

Program's math, science and writing curricula. The program is being offered to schools and after-school groups in the Washington DC region and will be open to the public.

Volunteer registration for NOAA employees is September 6, 1997 10:00 am-2:00 pm at Building 4's first floor conference room, 1301 East-West Highway, Silver Spring, Md. We will hold a training session during the week preceding the opening.

For more information, contact Karen Rubin-Hamilton or Lucy McFadden at 301-229-6877. ☺

Commissioning of the Brown

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the Office of NOAA Corps Operations' Fleet Replacement and Modernization Program and Atlantic Marine Center, NOAA's Systems Acquisition Office, and most recently, the *Brown's* officers and wage marine crew.

"Today's commissioning marks the beginning of the high point of my career," Cmdr. Peterson said. "I am honored to be first to command this remarkable new ship, and proud to serve with such an outstanding group of officers and crew."

—Jeanne Kouhestani ☺

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