

NOAA WORLD



Highlighting the achievements of NOAA people around the world

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Solomon, Ride Help Teachers Make Climate Science ‘Cool’

Jana Goldman
Office of Communications
NOAA Research

Seen from space, our atmosphere is a thin blue line surrounding our planet. That thin blue line also surrounds the careers of two internationally known scientists -- Sally Ride and Susan Solomon.

Ride, the first American woman in space, and Solomon, a NOAA senior scientist who discovered the cause of the Antarctic ozone hole, teamed up to encourage educators to teach about climate.

Both were keynote speakers at “Earth Then, Earth Now: Our Changing Climate,” the Sally Ride Science™ educators conference presented at NOAA’s Science Center in Silver Spring. The conference drew more than 280 educators from across the country in late July.

In addition to NOAA, other conference sponsors included

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NOAA Participates in the 11th International Coral Reef Symposium

Maria Barry, NOAA National Ocean Service



Vice Admiral Lautenbacher gave plenary remarks at the International Coral Reef Symposium on July 10.
Photo credit: Michael Hopkins/Gerlinde Photography.

NOAA continues to play a strong leadership role in the International Year of the Reef 2008. On July 7-11, the 11th International Coral Reef Symposium took place in Ft. Lauderdale, Fla. The symposium, held every four years, brings together hundreds of natural scientists, resource managers, conservationists, economists, educators, and resource users to exchange and discuss the latest scientific knowledge about coral reefs worldwide.

NOAA co-sponsored the event and approximately 120 NOAA staff contributed to the meeting. In addition, more than 2,500 coral reef scientists from the United States and abroad participated.

NOAA Administrator Lautenbacher provided plenary remarks about the NOAA Coral Reef Conservation Program's leadership and commitment to coral reef research and conservation. Deputy Assistant Secretary Tim Keeney participated in the opening ceremonies promoting IYOR 2008 and the important role scientists play in communicating the issues and inspiring action.

NOAA released the *State of Coral Reef Ecosystems of the United States and Freely Associated States*, a detailed report on the health of coral reef ecosystems

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NOAA WORLD

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Additional stories, news, photos, videos and other information resources, continuously updated, can be found at the NOAA WORLD website:

www.noaaworld.noaa.gov

We welcome your comments and suggestions to make NOAA WORLD more useful. Please email our editors at noaaworld@noaaworld.noaa.gov.

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“Dam Cam” to Capture Removal of New Hampshire’s Merrimack Village Dam

Monica Allen, NOAA Fisheries Service

For more than 260 years, the Merrimack Village Dam helped power saw mills, a gristmill, and a shoe factory, and provided water for a chemical factory. No longer powering industry and scheduled for demolition the dam has one last role to play -- that of movie star.

Since removal work began July 22, 2008, on the Merrimack Village Dam, NOAA -- in partnership with the Conservation Law Foundation and Gomez and Sullivan Engineering -- has broadcast its first ever “Dam Cam,” a wireless stream of photos and time-lapse video that will document the entire removal of the dam. Viewers are able to watch as backhoes and bulldozers jackhammer and remove the dam’s concrete wall, and restore a free-flowing Souhegan River, a major tributary to the Merrimack River. Using technologies provided by EarthCam, Inc., the removal photos are captured every 10 minutes, with a time-lapse film that will continue through

Before

**July 16, 2008:
Merrimack
Village Dam
before
demolition.**

Photo credit:
NOAA, Conservation
Law Foundation,
EarthCam and
Gomez and Sullivan
Engineering.



After

**August 15,
2008:
Demolition
nearly complete.**

Photo credit:
NOAA, Conservation
Law Foundation,
EarthCam and
Gomez and Sullivan
Engineering.

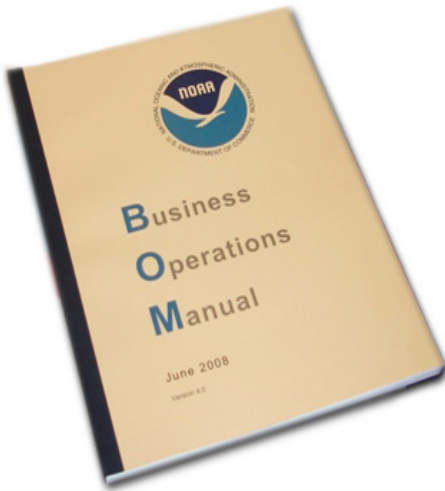


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NOAA Operations Manual Updated

Scott Kuester, NOAA Office of Program Planning and Integration (PPI)

NOAA employees often feel a sense of pride and ownership in the agency. For those who feel this way and want to know more about NOAA, an updated "owner's manual" is hot off the presses.



The NOAA Business Operations Manual was written to provide a single organizational and management reference guide for employees. The success of the NOAA mission depends upon a high level of performance by its personnel. Performance can be impaired if NOAA employees are unfamiliar with the organization's function, management

structure, and business procedures.

"Our agency can be overwhelming for newcomers," said Susan Kennedy, PPI's Deputy Director of Strategic Planning, who edited the manual. "This book is a single source, essentially explaining how NOAA functions. Heading into a transition with a new administration, we hope this will serve as a guidebook for the new team".

The BOM provides NOAA employees with an overview of the NOAA Functional Model; organizational structure; management practices; Planning, Programming, Budgeting, and Execution System; Support Services; and Management of Resources. This update includes significantly more information on NOAA's Regional Collaboration effort, strategic planning requirements, and major project management.

NOAA employees, especially those who play a role in the PPBES, are encouraged to use the BOM as a reference. The BOM is written to provide new NOAA employees an overview of the tools needed to ensure the delivery of the highest quality NOAA products and services. Information on where to locate additional detail is included in specific sections for those needing more guidance.

The BOM is updated annually -- or more often if necessary -- and consolidates a large amount of information from NOAA websites, briefings and other sources into a single reference manual.

To view the BOM, please visit:
http://www.ppi.noaa.gov/PPI_Capabilities/Documents/BOM.pdf.

Dam Cam

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August 30. After the dam removal is complete, the camera will continue to capture footage for the following five months as the river heals.

"Merrimack residents and people around the world will have the opportunity to watch the river as it transforms back to its natural free-flowing state," said Eric Hutchins of the NOAA Restoration Center. "From your laptop at home, you'll be able to see years of planning and preparation come to life, and watch as the river repairs itself."

The Merrimack Village Dam was one of a series of dams originally constructed in the 1730s to power industry in New Hampshire. Today, the dam is no longer in use and presents a public safety hazard liability for its owner. When the removal is complete, it will restore fish passage to more than 14 miles of the Souhegan River all the way to Milford, N.H., providing extensive habitat for river herring, Atlantic salmon, American shad, and American eel. Removal of the dam is also expected to provide an excellent stretch of Class III whitewater for canoeing and kayaking enthusiasts.

The Merrimack Dam removal is part of NOAA's Open Rivers Initiative, a national effort to restore the historic river habitat of migratory fish and other species that travel between ocean-coastal and upstream freshwater areas. Projects include removing derelict dams, culverts, and other river barriers. Through the Open Rivers Initiative, NOAA outlines specific consensus steps developed by expert scientists, engineers, biologists and local residents working together. Merrimack Village Dam is one of NOAA's largest and most challenging Open Rivers projects to date.

The dam removal is now streaming on the NOAA Restoration Center's Web site at http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/damcam.html. Users will be able to watch progress on the removal, as well as the river's recovery process, for the next six months.

Visit NOAA WORLD
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additional stories,
photos, videos
and more ...

www.noaaworld.noaa.gov



NOAA Presents Award to High School Student for Study of a Coral Reef in the Red Sea

John McLaughlin, NOAA Office of Education

NOAA recently announced the winner of the "Taking the Pulse of the Planet" award offered as part of the 2008 Intel International Science and Engineering Fair. Zaki Daniel Moustafa won the award for his project entitled "Resilience/Survivorship of a Red Sea Fringing Coral Reef under Extreme Environmental Conditions: A Four-Year Study". Zaki is a senior at A.W. Dreyfoos High School of the Arts in West Palm Beach, Fla.

Zaki's project represented unique and important research directly relevant to NOAA science. The project featured a four-year study to assess the health of a fringing coral reef in the northern Red Sea. This study included: photo and video surveys, and a variety of water quality measurements.

A year into the study a shipping port was constructed a few kilometers to the north of the reef, and during the second year an oil spill occurred less than a kilometer from the reef. The study documented signs of decreased coral health and a decline in fish abundance. In addition to his ISEF project, Zaki has presented the findings of the study at professional conferences.

The ISEF is the preeminent science fair for pre-college students from around the world. Student finalists who compete at the ISEF have gone through a rigorous and sequential competition to qualify and have won an all-expense paid trip to the event.

Dr. Sharman has more than 30 years of experience with science fairs and served as the lead judge for the team.

This is the fourth year that the "Taking the Pulse of the Planet" award, which is sponsored by NOAA's Office of

Education, has been offered at Intel ISEF. Last year's winner, John Turner, performed a summer internship at NOAA's National Weather Service Forecast Office in Tallahassee, Fla., and is currently majoring in Meteorology at Florida State University.



2008 NOAA Award Winner Zaki Daniel Moustafa pictured with his project at the Intel ISEF. Photo credit: John McLaughlin, NOAA.

Balloons Over Tennessee

George Mathews, National Weather Service

Mixing height forecasts are needed to help avoid "smoking out" a community. The mixing height is the height of the atmosphere at which smoke will lose its buoyancy and stop rising. This data is critical to forestry and land management agencies when they conduct prescribed burns.

NOAA National Weather Service offices in Knoxville and Morristown, Tenn. recently worked on a project with NOAA Research (OAR). They conducted twice-daily weather balloon launches to verify their mixing height forecasts.

Accurate forecasting of the mixing heights helps assure prescribed burns by forestry and land management agencies will only be carried out on acceptable days when the smoke can be safely dispersed, said George Mathews, Meteorologist-in-Charge of the Morristown NWS Office. "We forecast mixing heights every day, but until now we've never been able to get direct verification. It's great to get accurate and immediate feedback."

Mixing heights, where pollutants and smoke tend to linger, can vary from one hundred to several thousand feet, depending on the time of day. A reliable prediction of mixing heights is also critical to an accurate assessment of local air quality conditions and the generation of air quality forecasts.

The Knoxville WFO launched weather balloons twice daily between May 5 and 7, while the Morristown WFO launched balloons twice daily throughout the week of July 21.

NWS and OAR offices have already scheduled additional launches in September or October. Preparations are also under way for a high wind study in the foothills of the Appalachian Mountains next winter.

NOAA Ship Delaware II Undergoes a Unique Change of Command

Ensign Jonathan R. Heesch, NOAA Operations Officer
NOAA Ship Albatross IV

Captain Stephen Wagner, master of NOAA ship *Albatross IV*, took command of NOAA Ship *Delaware II* on June 11 from CDR Richard Wingrove, NOAA, during a ceremony at the Northeast Fisheries Science Center in Woods Hole, Mass. This was a special change of command as it marks the first time that someone has had command of both ships at the same time.

"The *Delaware II* plays a critical role in acquiring long-term series data for the Northeast Fisheries Science Center," said RADM Jonathan W. Bailey, director of the NOAA's Commissioned Officer Corps and NOAA's Office of Marine and Aviation Operations. "I commend CDR Richard Wingrove for his excellent tour of duty and look forward to the continuation of excellence from Master Stephen Wagner."

Captain Wagner has been sailing on *Delaware II* and *Albatross IV*, both based in Woods Hole, for almost 30 years. He started his career as an able-bodied seaman on *Albatross IV* and worked his way up "the hawsepipe," as mariners say. He obtained his U.S. Coast Guard merchant mariner's license and served as a junior officer on various NOAA ships in the augmentation pool as a third officer. He was transferred to *Albatross IV* as the operations officer and then back to *Delaware II* as the executive officer.

Currently, his crews joke that instead of calling him Captain, they should call him Commodore Wagner -- a title the good captain quickly dismisses as presumptuous. This unique situation is possible because *Albatross IV* is inactive over the summer months while preparing for her final season on the longest running stratified bottom trawl survey in the world. Captain Wagner will be taking her out on this historic cruise in the fall while an augmenting commander will take *Delaware II*.

June 11 NOAA
change of com-
mand ceremony
at the Northeast
Fisheries
Science Center
in Woods Hole,
Massachusetts.

Photo credit:
NOAA



Louisiana Delivers the Message about Wetlands Restoration

Caren Madsen, NOAA Office of Communications



Fiddlin' for the wetlands: Cajun performer Amanda Shaw uses music to spread the message about the imperiled Louisiana wetlands.

Photo Credit: Caren Madsen, NOAA.

Louisiana is known for a culture rich in storytelling and Cajun lore. It is also known as a state that loses 25 square miles of coastal wetlands each year, adding up to more than a million acres in the past century.

NOAA is working with the state to raise awareness of this important problem and uses events like the recent National Conference of State Legislatures conference in New Orleans to highlight the extent of wetlands loss. Tour guides, local legislators, performers, and national experts speaking at NCSL addressed the theme of coastal wetlands restoration in a variety of forums throughout the week.

"Environmental education is a critical component of creating a sustainable coast," said Cheryl Brodnax, a NOAA marine habitat resource specialist in Baton Rouge, La. "In order to generate support for protecting marine resources, the public needs to understand what the issue is, and how it affects them."

Cajun fiddler Amanda Shaw, one of four musicians featured in the 2006 IMAX film, *Hurricane on the Bayou*, used her 18th birthday this month as a fundraiser for the non-profit foundation, Voice of the Wetlands. The film was shown at an NCSL children's day camp. Shaw announced the fundraiser at one of the NCSL 2008 Legislative Summit events.

Tables at the event were decorated with potted seedlings from the Louisiana State University (LSU) Coastal Roots Program, which originated in the LSU Sea Grant program in 2001 and has been supported by the NOAA Restoration Center through the years. A card attached to the plants explained that area elementary,

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Wetlands

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middle, and high school students grew them and will transplant them at partner sites in need of habitat restoration in the fall.

"Children will be the future stewards of our coasts," added Brodnax. "We have to look at every opportunity to reach out to them. There is a lot of value if you can educate adults (their parents) who are decision makers in their communities at the same time."

Two different wetlands tours were offered at the conference. Blackhawk helicopters flew legislators 200 miles over the bayou and Mississippi Delta for the official tour to emphasize the state's efforts to protect wetlands as a vital link to Louisiana's green infrastructure while supporting the offshore drilling industry. Later in the week, NCSL hosted tours through the Jean Lafitte Bayou so that legislators and their families could get a first-hand look at peaceful marshland teeming with alligators and blue herons.

Since 2000, NOAA's Community-based Restoration Program has worked with 47 partner organizations and about 2,500 volunteers throughout Louisiana to restore roughly 3,300 acres of coastal habitat. The NOAA Restoration Center has funded 35 Coastal Wetland Planning, Protection and Restoration Act (CWPPRA) projects and supported another 40 community-based restoration projects in the state. An outreach committee formed by the state and the five federal agencies implementing the CWPPRA and a campaign launched by the non-profit America's Wetlands Foundation have been active in environmental education programs throughout the state.

To read more about wetlands education in Louisiana, please visit: <http://www.lacoast.gov/watermarks/2008-06/watermarks-2008-06.pdf>.



SeaFest 2008

Capt. Rick Brown (Ret.), NOAA Fisheries Service
Ken Hall, Oregon State University
Vicky Krikelas, NOAA Fisheries Service

Several NOAA line offices and a host of partners recently took part in Seafest 2008. Seafest is an annual event held at Oregon State University's (OSU) Hatfield Marine Science Center in Newport, Ore., which educates the public about marine and coastal ecosystems through interactions with scientists and hands-on exhibits. Seafest promotes environmental literacy through hands-on interactive displays of the breadth of science activities conducted at the Hatfield campus.



This one-NOAA event involved dozens of participants from NOAA offices including the Office of Oceanic and Atmospheric Research, the Office of Marine and Aviation Operations, the Weather Service, and NOAA Fisheries' Northwest Fisheries Science Center (NWFSC), Alaska Fisheries Science Center, and Office of Law Enforcement.

This year's theme, *Ocean frontiers: on the crest of discovery*, drew nearly 5,000 participants to the bayside marine laboratory complex. Visitors explored touch pools, aquarium displays, and a variety of special exhibits in the Sea Grant Visitor Center and Science Zone, with many kid-friendly activities including tidepool walks, fish printing, and shore crab races.

The popular Science Zone was held inside NOAA's Captain R. Barry Fisher Building. NWFSC scientists coordinated fish ageing demonstrations using otoliths (ear bones); showed participants how to collect scientific data about salmon; highlighted the West Coast Groundfish Observer Program, showcased the NOAA Fisheries' FishWatch consumer seafood website; and staffed an interactive Oceans and Human Health display to illustrate the human connection to the oceans, among many other activities.

Seafest was jointly hosted by NOAA, OSU, the Oregon Department of Fish and Wildlife, the U.S. Department of Agriculture, the U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service.

Coral Reef Symposium

(continued from page 1)

where NOAA supports monitoring efforts. Finally, NOAA staff gave more than 80 oral and poster presentations, coordinated symposium sessions, planned and led field trips, and hosted a NOAA seminar and panel discussion on the new direction of the NOAA CRCP.

NOAA's exhibit featured products and services of the CRCP, as well as information from the local reefs of the Florida Keys National Marine Sanctuary. Displays featured images of coral reef ecosystems and the highly popular Caribbean and Indo-Pacific Reef Species identification posters. Three kiosks allowed for Internet access to key Web sites, online products, and videos. Staff members from the CRCP's participating offices were available to provide information to hundreds of symposium participants and members of the public that stopped by to gather materials and ask questions.

The symposium also provided an excellent platform to spread the word and educate the public in the U.S. and around the globe about NOAA's efforts to restore and manage coral reef ecosystems. News about NOAA, the release of the *State of Coral Reef Ecosystems of the United States and Freely Associated States: 2008*, and the efforts of the Coral Reef Conservation Program reaches more than 400 media outlets, including Time Magazine, USA Today and ABC News.



EXCLUSIVE!

Julie Bedford from NOAA World sat down with Granma from NOAA Fisheries' WeirdFins and got her secret recipe on how to cook up a gourmet Podcast.

Tune into NOAA World online to hear this delightful Podcast!

Audio webcast in MP3 format - IPOD device not required. Transcript provided.

NOAA Releases Third Assessment of State of U.S. Coral Reef Ecosystems

Alicia Clarke, NOAA National Ocean Service

The recent release of NOAA's *The State of Coral Reef Ecosystems of the United States and Pacific Freely Associated States: 2008* sounded the alarm on the deteriorating state of the nation's coral reef ecosystems, nearly half of which are now considered to be in "poor" or "fair" condition.

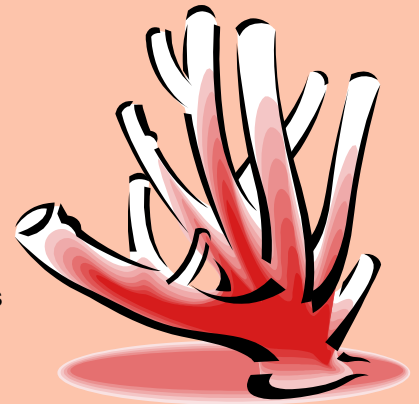
The report focuses on coral reef ecosystems in 15 jurisdictions stretching from the Gulf of Mexico to Micronesia. Regionally, coral reefs in the Atlantic/Caribbean are in worse condition than those in the Pacific, which are often far from densely populated areas. In fact, scientists and managers in the Pacific regions reported that roughly 69 percent of key coral reef ecosystem resources are in good or excellent condition, while in the Atlantic/Caribbean only 25 percent were categorized as such.

The report also describes the impacts of 13 major potential threats in each location. Since publication of NOAA's previous report in 2005, newly recognized threats, such as ocean acidification, have emerged while other threats have intensified. High threats include climate-related issues such as the 2005 regional mass coral bleaching and disease event, which reduced average live coral cover at monitoring sites in the U.S. Virgin Islands and Puerto Rico by about 50 percent. Stressors like coastal development, recreational and commercial fishing, tourism and recreational use, vessel damage, and marine debris are also significant threats.

Despite the flood of bad news, the report also highlights several efforts to conserve, manage, and protect these valuable ecosystems. These include: recent listing of two Caribbean corals under the Endangered Species Act; designation of marine protected areas like the Papahānaumokuākea Marine National Monument in the Northwestern Hawaiian Islands; banning the take of large fish and sharks in American Samoa; protection of fish spawning aggregations in the U.S. Virgin Islands and Puerto Rico; and increased outreach and education programs throughout the 15 jurisdictions.

NOAA's Center for Coastal Monitoring and Assessment, Biogeography Branch (part of the NOS National Centers for Coastal Ocean Science) prepared the report, with support from NOAA's Coral Reef Conservation Program.

Visit <http://ccma.nos.noaa.gov/stateofthereefs> to download a PDF version of the report or to request a print or CD copy.



'Cool' Science

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NASA, the National Science Teachers Association, the U.S Forest Service, the National Environmental Education Foundation, Northrop Grumman, Prince William Network, and the U.S. Dept. of Energy.

Twenty-five years ago, a young astronaut on her initial flight into space looked out the window of a space shuttle and saw the thin blue line for the first time.

"From this perspective, you can see how fragile it really is," said Ride. "In the 25 years since that flight, we know climate change is real and CO₂ (carbon dioxide) is building up."

A few years later, another young scientist would lead a scientific expedition to the South Pole to learn what was causing the loss of stratospheric ozone, which keeps harmful ultraviolet rays from reaching our planet.

Solomon discovered that a chemical reaction occurs when chlorofluorocarbons (CFCs), found in aerosols and refrigerants, reach clouds in the stratosphere. That reaction resulted in depletion, or loss, of ozone, causing the ozone "hole." In 2007, she gained additional recognition as the co-chair of Working Group 1 of the Nobel Peace Prize-winning Intergovernmental Panel on Climate Change.

Both women used the educators' conference to challenge teachers to encourage an interest in the sciences, much like how Americans responded when the first artificial satellite -- Russia's Sputnik -- was launched into space on Oct. 4, 1957.

"The public was well-informed about science," said Ride. "It was cool to be a scientist. It was cool to be an engineer. We need to make it cool again."

Solomon added, "Climate change challenges us to think beyond our own backyards and beyond our own generation."



Sally Ride and Susan Solomon

3 Ships

A cross section of NOAA missions came together on short notice to make possible a rare picture of converging NOAA ships. While underway near George's Bank about 80 miles east of Massachusetts, *Albatross IV* and *Henry B. Bigelow* were conducting paired towing. They were later joined by the *Delaware II*. Photo credit: Brenda Rone, NOAA.



Congratulations to August's Employee of the Month, Dave Zittel and Team Member of the Month, Liz English! Read more about Dave and Liz online at www.noaaworld.noaa.gov.