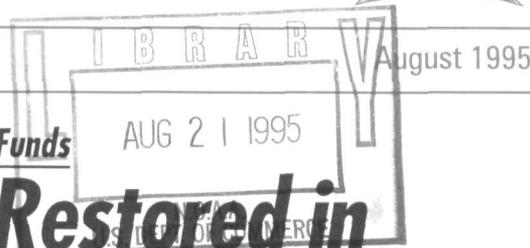


NOAA REPORT



Vol. IV, No. 7

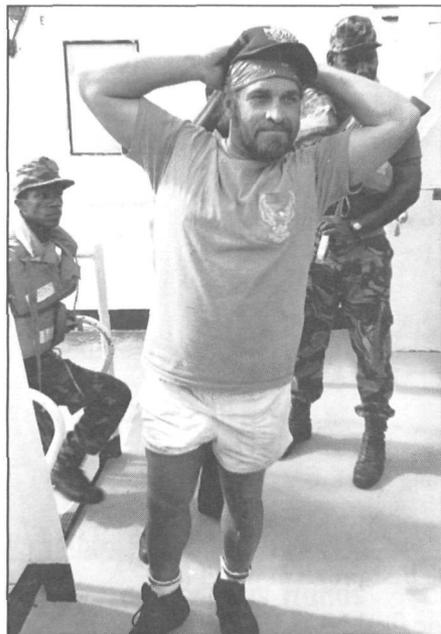


Observation Aircraft: A new and unique capability has been added to the NOAA aircraft fleet. A NOAA Twin Otter has been modified to carry air chemistry and turbulence instrumentation, so that accurate measurements of atmospheric turbulent

News Briefs

fluxes can be made. The aircraft is being used in the Southern Oxidant Study in Nashville. The fluxes presently being measured are of heat, momentum, water vapor, carbon dioxide, and ozone. ☺

Baldrige Crewmen Captured at Sea!



Yes, that's Dan Yore, a crewman on the NOAA Ship *Malcolm Baldrige*, captured by the Seychelles Coast Guard in a search for contraband...well, a search for cardboard tuna fish, anyway. See page 3.

Appropriations Vote Returns Funds

\$24 Million Restored in House Budget Battle

NOAA has come out of the House of Representatives appropriations process with a few victories. While some programs were recommended for deep cuts by the House, others saw increases, and some saw funds restored which had been cut previously.

"The House appropriations process has shown that there is bipartisan support for NOAA and our activities," said D. James Baker, NOAA administrator. "While the cuts in the House bill will hurt, seeing the funds restored to some of our projects which had been initially slated for much lower budget levels is heartening."

One of the major NOAA victories came on July 26, when the House voted unanimously to restore \$36

million cut from the fiscal year 1996 NOAA appropriation for oceans and Great Lakes and fisheries programs.

To offset the increases, the House approved a \$12 million reduction for Fleet Modernization (the Committee had approved \$20 million while the Administration had requested \$23.3 million).

The NOAA budget was voted on as part of the Commerce Department funding package included in H.R. 2076, which also includes funding for the Departments of Justice and State.

Democrats, Republicans in Agreement

The bipartisan agreement was reached after Rep. Alan Mollohan (D-WV),

continued on page 4

Clinton Will Veto DOC Ax, Brown Tells Senate Panel

When Commerce Secretary Ron Brown appeared before the Senate Governmental Affairs Committee last month, he did not mince words.

"[The President] has authorized me to tell you, in simple and direct terms," Brown told the senators, "that he will veto any legislation that dismantles the Department of Commerce."

In his testimony before the Committee, Brown further criticized the plan, Senate bill S. 929, the Department of Commerce Dismantling Act, saying it would "decimate NOAA's environmental stewardship by scattering functions among the Departments of the Interior, Transportation, Agriculture, and Defense, and by eliminating

continued on page 4

Diversity Plan Moving Towards Finalization

The 25-member NOAA Diversity Council is moving towards finalizing the agency's Diversity Action Plan, which is scheduled to be presented at the next Council meeting in September.

NOAA's commitment to ensuring that diversity is an integral part of the way it conducts business is reflected in the three major goals of its diversity plan:

- to build diversity into the NOAA workplace;
- to recruit for the 21st century; and
- to recognize diversity in service to the public.

While focused on the NOAA overall diversity plan, the Diversity Council, established and chaired by NOAA Deputy Under Secretary Diana Josephson, is also reviewing the diversity plan of each line, program, and staff office.

"We want to make sure that the Department of Commerce's seven 'core diversity elements,' which are

already incorporated into NOAA's overall plan, are also included in the plans of line, program, and staff offices," said Carolyn Kroon, the Diversity Program Manager. Those core elements are:

- Inclusion—valuing all employees for their contributions.
- Opportunity—creating and broadening job opportunities.
- Comprehensiveness—consideration of diversity in all aspects of the Department's work.
- Accessibility—transparent, fair, and timely processing of complaints.
- Training—in both diversity policies and conflict resolution.
- Management—including diversity as part of an employee's performance plan.
- Evaluation and Communication—establishment of a Diversity Council to monitor and implement policies and programs.

At the June Council meeting, five groups that had been formed within

the Council to review diversity plans received from NOAA offices reported back on problems or gaps found in the plans, as well as innovative ideas that could be included in the overall NOAA Diversity Action Plan.

These ideas included developing a "diversity partnership" with other agencies; developing a NOAA-wide policy on diversity issues, such as NOAA Environmental Justice Strategy, the National Environmental Policy Act, and bilingual products; and establishing an electronic diversity hotline for employees to provide feedback on diversity action items.

Other suggestions from the NOAA offices included requiring diversity training for all managers every two years and using incumbent minority employees more frequently to assist with minority recruitment.

A working group was formed at the June Council meeting to review recommendations from the four diversity workshops that have been held over the past two years focusing on women, African Americans, Asian Americans/Pacific Islanders and American Indians/Alaskan Natives, and Hispanics. The group reported its findings at the July Council meeting to ensure that these recommendations are incorporated into NOAA's Diversity Action Plan.

Recommendations from the fifth and final diversity workshop "Rising to Excellence, from Disability to Empowerment," to be held in November, will also be integrated into the overall NOAA plan. The Diversity Council is supporting the creative efforts of the planners of this final workshop in keeping costs low during a time of diminished resources while providing the best program possible.

The final NOAA Diversity Action Plan is scheduled to be presented at the next Diversity Council meeting in September.

—Janet Amber ☺

Murphy Dedicated to Education and Diversity

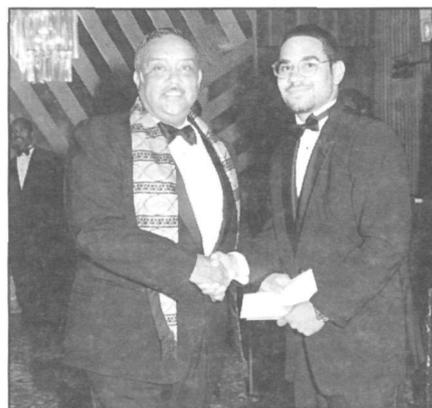
NCEP Staffer Gives Back to the Community

George Murphy has a philosophy about education—a little encouragement and guidance for minority youth can help secure the diverse workplace of the future, while creating a pool of successful, educated professionals. It is this philosophy that underlies his dedication to expanding career opportunities and encouraging advancement for minorities, extending beyond his responsibilities as director of the National Centers for Environmental Prediction's Central Operations division.

Murphy's commitment to the educational advancement of youth surfaced soon after he graduated from college. After working for RCA as a computer programmer, Murphy became a high school math and physics teacher in Hickory, N.C. He credits this experience as being one of the most influential in leading him to his current

involvement with African American youth in Prince George's County.

"Being a teacher really showed me the
continued on page 8



George Murphy (left) presenting a scholarship to Joseph Feagan, a graduate of Gwynn Park High School, Prince George's County, Md., on behalf of Alpha Phi Alpha.

Well, Sort of...

Baldrige Seized off African Coast!

The soldiers climbed aboard the NOAA Ship *Malcolm Baldrige* stealthily, and climbed the jacob's ladder leading up to the ship's quarter deck. Dressed in fatigues and carrying AK-47 machine guns, they spread out on the weather decks and secured the bridge. After an hour of searching and questioning the captain, the mission was over. They had found the ship's stash of contraband.

Two cardboard tuna fish and a neatly carved wooden gun.

Then everyone smiled, shook hands and posed for pictures.

It was all part of a training exercise which had the *Baldrige* masquerade as a rogue fishing vessel, helping out U.S. Navy's Seal Team 5 off the Seychelles Islands, where the Team had been training the Seychelles Coast Guard in proper boarding procedures. Illegal fishing has increased recently in the 200-nautical mile limit of the Seychelles exclusive economic zone (EEZ). The Seals had trained the



The rogue crew of the NOAA Ship *Malcolm Baldrige* with their captors from the Seychelles Coast Guard pose with their contraband...two cardboard tuna fish. Yellowfin tuna, to be exact.

Seychelles Coast Guard on the boarding procedures to be used on many different types of vessels. Boarding the *Baldrige*, the largest vessel they had worked with, was their final exam. Lieutenant Laurencine, Captain of the Seychelles Coast Guard Vessel *Andromache*, directed the boarding from the bridge of his vessel.

Captain Craig S. Nelson, commanding officer of the *Baldrige*, took part in the training exercise at the request of Lieutenant Rutherford, Commanding Officer of the Navy Seals Team, based in San Diego, California.

The Seychelles is a group of 115 islands covering an area of 453 square kilometers. This archipelago lies in the Indian Ocean approximately 600 nautical miles northeast of Madagascar. It has been called "the Forgotten Eden" because of its long pristine sand beaches, indigenous flora and fauna, and beautiful coral reefs.

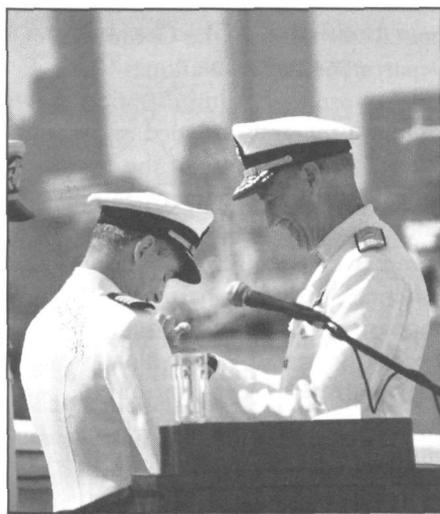
The *Baldrige* crew also brought a bit of America to the islands as they celebrated Independence Day on one of those beaches in typical American style. With the barbecue grill going full blast and plenty of cool drinks, the American flag was raised as a crowd of tourists and locals joined in

the celebration.

During their stay in the Seychelles, the *Baldrige* provided logistical support for a team of four climate researchers from the Scripps Institution of Oceanography in San Diego and the Lamont Doherty Earth Observatory in New York. The study was conducted by taking core samples from the massive *Porites* species—a type of coral which has been known to grow to greater than eight meters in diameter. The corals reflect the temperature, salinity, and other variables in the environment around them.

By measuring the ratios of oxygen and carbon isotopes in the coral, the scientists reconstruct the climate history of the surrounding region. By sampling corals from different islands of the Seychelles, the scientists will produce a climate history of the region. The corals grow roughly one centimeter a year, so a five-meter coral would be roughly 500 years old. Such a record would shed new information on monsoons, El Niños, and climatic variability that will eventually help in predicting global warming and sea level rise.

—Mark W. Wetzler
Ensign, NOAA Corps



Discoverer Changes Hands

Rear Admiral John C. Albright (right), director of NOAA's Pacific Marine Center, welcomes Capt. Stephen Manzo to the command of the NOAA Ship *Discoverer*. Manzo took command of the ship from Capt. Michael McCallister, who had been its commanding officer since 1993.

Focus On...

Capitol Hill Budget Battles

continued from page 1

the ranking Democrat on the Commerce, Justice, State and Related Agencies Subcommittee of the House Appropriations Committee had filed an amendment to restore \$62.2 million in cuts.

A compromise was struck to restore additional funding for these programs:

- ❑ \$20 million for the National Marine Fisheries Service (the Administration had requested \$315 million; the Committee included \$231 million);
- ❑ \$4 million for the Great Lakes Environmental Research Laboratory in Ann Arbor, Mich., which is operated by NOAA's Office of Oceanic and Atmospheric Research (the Administration had requested \$4.6 million for the laboratory, but the Committee had ended all funding);
- ❑ \$5 million for the Coastal Ocean Program (the Administration had requested \$18.5 million, while the Committee had cut all funding for this program);
- ❑ \$5 million for the Coastal Zone Management Act grants (the Administration had requested \$46.6 million; the Committee had approved \$36 million);
- ❑ \$2 million for the Marine Sanctuary program. Rep. Sam Farr (D-CA) and Rep. Andrea Seastrand (R-CA) succeeded in restoring the funds to the Sanctuary program. Rep. Farr represents the area surrounding the Monterey Bay National Marine Sanctuary and Rep. Seastrand the area adjacent to the Channel Islands National Marine Sanctuary, off of Santa Barbara.

The compromise agreement to restore NOAA funds was cheered immediately by twelve House members, representing both political parties and major coastal and Great Lakes areas from Hawaii to Massachusetts.

Fleet Modernization Cuts

The \$12 million reduction in the fleet modernization program was hailed by House Science Committee Chairman Rep. Robert Walker (R-PA). He said the Science Committee had already approved authorizing language directing NOAA to privatize its research fleet and phase out the NOAA Corps over a three-year period.

The compromise agreement was cheered immediately by twelve House members representing both political parties and major coastal and Great Lakes areas from Hawaii to Massachusetts.

Coastal Zone Management Lauded

Typical of comments were those voiced by Rep. Rosa DeLauro (D-CT), who said the Coastal Zone

Clinton Would Veto DOC Dismantling Act

continued from page 1

important research and fishery programs."

During the testimony, Brown gave examples of Commerce successes, calling them "a solid record of achievement."

In one section, Brown focused on Sustainable Development and NOAA's role in it. "The Department of Commerce is where business and environmental issues intersect," he noted, "and the classic debate on the use of natural resources transformed into a 'win-win' situation for the environment and the economy."

Brown cited a number of NOAA sustainable development programs as successes:

"In recognition that economic growth must go hand-in-hand with environ-

mental stewardship, the Commerce Department and its National Oceanic and Atmospheric Administration conduct programs designed to provide a better understanding of the connections between environmental health, economics, and national security. Commerce's emphasis on "Sustainable Fisheries," including particular emphasis on emergency situations in the Northeast and Pacific Northwest, is saving fisheries and confronting short-term economic dislocation, while boosting long-term economic growth...

Seaweed as Export 'Cash Crop'

"Commerce's activities help create sustainable economic opportunity in the multi-billion-dollar marine-fisheries industry. NOAA funding of New England fishermen, for example, has helped them establish an aquaculture cooperative that cultivates nori

Management program has helped restore 1,500 acres of Long Island Sound tidal wetlands and create recreational shoreline on the Connecticut side of the Sound.

Other members speaking out in favor of the compromise included Rep. Curt Weldon (R-PA), a Science Committee Member, who said he only wished that the compromise could have gone further in helping NOAA's ocean research accounts; Rep. Wayne Gilchrest (R-MD); Rep. Lynn Rivers (D-MI); Rep. Anna Eschoo (D-CA); Rep. David Bonior (D-MI); Rep. Steven LaTourette (R-OH); Rep. Sam Farr (D-CA); Rep. Gerry Studds (D-MA), ranking Democrat on the

Fisheries, Wildlife and Oceans Subcommittee of House Resources; and Rep. Lynn Woolsey (D-CA).

Rep. Seastrand, another conservative California Republican freshman, described NOAA's ocean programs as "valuable...and cost-effective."

Also, Rep. Scott Klug (R-WI) and Rep. Mark Foley (R-FL) were successful in amending the bill to reduce by 28 the number of commissioned officers in the NOAA Corps. He said the amendment was consistent with the \$12 million reduction in the fleet

modernization budget already agreed to by the House.

Both representatives also amended the bill to prohibit use of Federal funds for NOAA fleet modernization unless those funds are used to contract with the private sector.

The Senate Appropriations Committee is expected to begin its work on the bill in September, after the Congressional August recess.

—Jerry Slaff and Howard Marks ☺

seaweed as a cash crop, resulting in \$30 million in annual exports.

"Commerce protects life and property and helps to predict and ameliorate man-made causes of longer-term climate change by improving environmental monitoring, prediction and assessment. NOAA weather research and monitoring has resulted in improvements that enhance the accuracy of hurricane track models. These models have reduced the size of the warning area, resulting in savings of \$1 million for each mile of coastline that is not needlessly evacuated.

"By promoting the development of environmental technologies, Commerce creates high-quality jobs, builds the national civilian technology base, and provides the world with tools to protect the environment. For example, Hewlett-Packard and Riverside

Technology, Inc., have won contracts to furnish the hardware—based on technology development funded by NOAA—needed to operate the Water Resources Forecasting System in China.

Federal-State Coastal Partnerships

"NOAA's ocean and coastal management efforts have resulted in the development of estuarine research reserves, national marine sanctuaries and federally approved state coastal management programs. These management efforts successfully balance competing needs of resource protection and economic development.

Further, these efforts create appropriate Federal-state partnerships in ocean and coastal management.

"Commerce improves understanding of the environment and the influence of human activities on the environment so as to make cost-effective decisions that

are in keeping with sustainable development. For example, NOAA research is pointing towards more effective approaches to lowering the levels of surface level atmospheric ozone in some areas of the country. This chemical's presence in the lower atmosphere adversely affects human health, crop productivity, and forest health. This new understanding can save billions of dollars in losses in the commercial sector caused by misdirected regulatory actions. Additional large economic gains would result from the effective reduction of ozone's impacts on health, agriculture, and forestry."

Brown also noted that NOAA had "identified and instituted plans to consolidate, eliminate, or repeal obsolete and redundant...regulations that will reduce the NOAA regulations by nearly half."

—J.S. ☺

3 Damaged Habitats Coming Back to Life

Three coastal habitats, damaged by the release of hazardous materials, have been restored with help from NOAA's Damage Assessment and Restoration Program.

NOAA's natural resource damage assessment and restoration efforts are beginning to pay dividends at three different sites around the country: an oil spill site in New York Harbor; a Superfund site near Tacoma, Washington; and off the coast of the Florida Keys where two ships ran aground on coral reefs.

Arthur Kill, the site of the *Exxon Bayway* oil spill in 1990 off Staten Island in New York City, has been successfully restored as a productive coastal habitat. The City of New York Parks and Recreation Natural Resources Group was presented with an award on June 21, from the Municipal Art Society of New York, for the "exceptional contribution to the life of New York City" demonstrated by the improved waterways and restoration of wildlife preserves. Officials from NOAA, the Department of the Interior and the states of New Jersey and New York worked together to recover damages from polluters to support wetland acquisition and other restoration activities.

Commencement Bay

In Tacoma, Washington, groundbreaking ceremonies were held June 15 for the first restoration project under the Commencement Bay restoration effort. Located at the head of Tacoma's Middle Waterway in Puget Sound, this project will restore important salt marsh habitat and fish and wildlife populations severely degraded by the impact of hazardous releases over many decades through the cooperative efforts of Federal, state and tribal trustees and industry. Settlements reached to date between trustees and various parties responsible for injuries have provided \$12.7 million to support restoration activities.

Following injury to unique coral reef



ROBIN BERGFORS

*New York City Parks Natural Resources Group wetlands scientist Andrew Bergen is shown marking one of the monitoring plots four months after planting *Spartina alterniflora* seedlings. Approximately \$12 million has been recovered from responsible parties and is being used to replace the resources that were injured during the Exxon Bayway oil spill.*

habitat in the Florida Keys National Marine Sanctuary as a result of two ship groundings in 1989, restoration activities are underway this summer to remove unstable rubble and debris, recreate the reef framework and to replace the reef structure that was destroyed. NOAA recovered approximately \$2.75 million in restoration funds to rebuild two injured sections of the reef.

Wide Responsibilities

NOAA has a wide range of management and protection responsibilities for the Nation's marine and coastal resources. The Damage Assessment

and Restoration Program was established in 1990 to fulfill various public trust responsibilities assigned to NOAA under the Clean Water Act, the Comprehensive Environmental Response, Compensation, and Liability Act (more commonly known as Superfund), the Oil Pollution Act of 1990 and the National Marine Sanctuaries Act. The program's mission is to restore coastal and marine resources injured by oil spills, hazardous material releases or physical impacts, such as a grounded vessel. For more information, contact Ann Berger at (301) 713-3038, ext. 192.

—Hollis Hope ☺

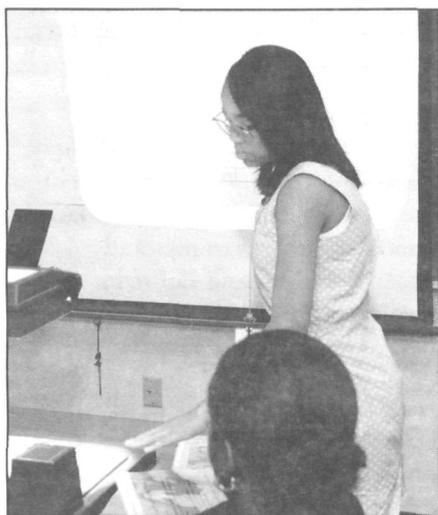
Joint Habitat Study Begins

A multi-agency, multi-disciplinary research cruise, jointly sponsored by NOAA's National Undersea Research Center at the University of Connecticut, Stellwagen Bank National Marine Sanctuary, and the U.S. Geological Survey got underway on July 20 to collect data on the role of variability of sea floor habitats on the distribution of fishes and their prey.

A remotely operated vehicle will be used to survey fish abundance and habitat associations, while traditional shipboard sampling will collect infauna and demersal zooplankton. The data produced by this survey will be compared to similar data collected last year. It will also be used to address the effects of an increased fishing effort on nearshore fishing grounds caused by offshore closures, such as Georges Bank. ☺

CZ 95 Leads to Debates for Coastal Experts

We need a new breed of ecosystem manager—one with backbone and guts,” argued Bill Matuszeski of the Environmental Protection Agency’s Chesapeake Bay Program Office before a crowd of scientists, engineers, government officials, academicians, and interested citizens. “Effective management of coastal ecosystems needs to be environmentally sound, affordable and politically acceptable.”



Bianca Howell describes how she analyzes files for Coastwatch’s Validation System, which monitors the quality of sea surface temperature products.

Matuszeski’s debate was one of three central sessions spotlighted at Coastal Zone 95 in Tampa, Fla., last month. More than 800 coastal experts from around the world gathered for the unique forum—the ninth in a biennial series that began in 1979—to debate issues of economic growth and environmental stewardship in the oceans and along the world’s coasts.

CZ 95 explored three of this decade’s



Anthony Martin, working in NESDIS’s Office of Research and Applications, explains how he uses the Satellite Research Laboratory’s zonal average method to estimate infrared radiation.

most pressing coastal issues: ecosystem management, the human dimension of coastal protection and building partnerships to solve coastal problems. Each day, the conference focused on one of these themes, with the morning plenary sessions tackling the proverbial “big picture” and the afternoon concurrent sessions taking a detailed look at problems and solutions.

In answering the question, “Can coastal ecosystems be managed?” the keynote speaker, Donald Boesch of the University of Maryland’s Center for Estuarine and Environmental Studies, concluded that an ecosystem itself—nature—cannot be; only human activities can be managed. He asserted that human activities, such as resource use and environmental protection and restoration, as well as economic and social factors, must be managed as ecosystem elements.

The following day, legal experts debated the implications of the new takings laws. Although the group reached no conclusions, the debate proved lively. John Humbach of Pace University Law School summarized the session by noting that property rights advocates are energized by economic self-interest and hold a strong belief that “what’s mine is mine”; on the other side, he saw people who believe Americans should take care of the country’s environment so that future generations can use it, too.

The final day highlighted the importance of building partnerships to manage the world’s coasts. According to panelists, partnerships are forged only when potential partners are willing to take risks and address qualitative rather than quantitative change.

Sponsors of the symposium included NOAA and Texas A&M University, as well as other governmental agencies and nonprofit organizations.

Tapes of the conference sessions are available by calling (813) 345-8288.

Students Practice for the Big One

Ten outstanding high school students in NOAA’s 1995 District of Columbia Metropolitan Consortium for Minorities in Science and Engineering (METCON) program met last month at the World Weather Building in Camp Springs, Md., to give short presentations of their work and to tour NESDIS’s Synoptic Analysis Branch.

Funded by several government agencies and administered by Howard University, the METCON program is designed to provide eight-week work/learning experiences for top-level minority students in science and engineering. The program also gives Federal agencies an opportunity to look at potential employees.

Drawn from Washington, D.C., metro area high schools, NOAA’s 1995 METCON students are working in offices and in laboratories throughout NOAA on projects exposing them to the day-to-day activities of scientists and engineers.

July’s presentations served as practice for speeches the students will make at Howard University. A select few will them speak at METCON’s Summer Program Closing Banquet.

After their presentations, the students took an up-close-and-personal tour of the Synoptic Analysis Branch, where branch chief James Lynch showed them how to track hurricanes by computer.

—Janet Amber ☺

—Dee Garner ☺



A model of the new Albany weather service office

New Albany NWS Office Planned

National Weather Service personnel joined business leaders, local elected dignitaries, and State University of New York at Albany officials recently to break ground for the school's massive 75,000-square foot research center, which will house the modernized Albany Weather Forecast Office.

The Center for Environmental Sciences and Technology Management will cost \$12 million and is expected to provide an economic boon to the Capital Region as it becomes a focal point for high technology and research.

Federal-Academic Partnership

"The research center is an outstanding example of the academic community

coming together with the Federal government to provide hands-on experience and real-life research opportunities for the university," said NWS Eastern Region Director John Forsing at the ground-breaking event. "We are also very excited about the access our meteorologists will have to such a fine research institution."

Currently located at the Albany County Airport, the new Weather Forecast Office, expected to be completed in 1997, will be served by a WSR-88D Doppler weather radar build in nearby Berne, N.Y., as part of the Weather Service's nationwide modernization effort.

Cutting Edge Technologies

"We could not develop a better arrangement to fulfill our mission of protecting life and property through advanced weather warnings and forecasts," said Roland Loffredo, Meteorologist in Charge of the Albany office. "The university is at the cutting edge of technology and the Weather Service is at the cutting edge of meteorology."

—Bob Chartuk ☺

Scholarships Give Young People 'a Chance to Succeed'

continued from page 2

value of education," said Murphy. "I want to help build a solid foundation of a good education so that young people will have a chance to succeed."

Murphy dedicates a portion of his time to visiting schools in the county and speaking to groups of students about careers in the National Weather Service. He stresses the importance of math and physics in meteorology and computer science, and he hopes to reveal a spectrum of career opportunities to the students. Beyond visiting schools, Murphy has also been involved with various programs over the years which work with youths one-on-one to improve math and science skills, develop study techniques, and improve grades.

Most recently, Murphy was instrumental in awarding \$10,500 in scholarship money to five Prince George's County, Md., high school graduates through the

Alpha Phi Alpha fraternity, the oldest fraternity established by and for African American men. The fraternity chose each student based on scholastic achievements, participation in extracurricular activities and an evaluated need for financial support. As president of the fraternity, Murphy spent many hours fund-raising for the scholarship program.

Murphy gives credit to the many weather service volunteers who also give time and energy to equal employment opportunity educational programs.

"Many employees at the weather service dedicate their time to visiting schools, judging science fairs and serving as mentors to aspiring students," said Murphy. "We have a history of helping."

Murphy began working for the National Centers for Environmental Prediction in 1985 as a supervisory computer analyst. He became NCEP's

Central Operations division director in April 1994.

—Kim Comba ☺

NOAA Report is a monthly publication for NOAA employees from the Office of Public and Constituent Affairs, Washington. Address comments to:

Editor

NOAA Report

Office of Public and Constituent Affairs
14th St. & Constitution Ave. NW
Room 6013 HCHB

Washington, DC 20230-0001

202-482-6090 (*voice*)

202-482-3154 (*fax*)

Banyan E-Mail: jerrys@pa@noaa

Internet: jslaff@hq.noaa.gov

CompuServe: 70762,3151

Lori Arguelles ... Director, Office of Public & Constituent Affairs

Jerry Slaff Editor

Janet Amber Associate Editor

National Oceanic and Atmospheric Administration

ERRATA NOTICE

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages

Faded or light ink

Binding intrudes into the text

This has been a co-operative project between the NOAA Central Library and the Climate Database Modernization Program, National Climate Data Center (NCDC). To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or Library.Reference@noaa.gov

HOV Services
Imaging Contractor
12200 Kiln Court
Beltsville, MD 20704-1387
July 23, 2010