

Hollings Marine Lab Dedicated in Charleston, S.C.

—By Donna McCaskill

VIPs from Washington, D.C., and throughout South Carolina converged on Charleston Dec. 21 to dedicate the Hollings Marine Laboratory and to honor its namesake, U.S. Sen. Ernest F. "Fritz" Hollings, Jr., of South Carolina.

The laboratory won't open until the spring, but when it does, the 78,000-square-foot facility will bring together some of the brightest scientific minds under one roof to research problems in health and the marine environment. It is one of the first facilities in the world to combine health and environmental research in the same building.

"The Hollings lab will be a state-of-the-art facility that will support the interdisciplinary approach of linking marine and human health," said Secretary of Commerce Norman Mineta. "It will yield new insights into the marine environment as well as develop the means to help us use our ocean resources more sustainably."

Mineta anticipates that the lab will become the center of disease control for the ocean.

In addition to Mineta, other dignitaries took the podium to praise Sen. Hollings and express their enthusiasm for the new lab. The speakers included South Carolina Gov. James H. Hodges, NOAA Administrator D. James Baker and the acting director of

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Baker Era at NOAA Comes to a Close

—By Dane Konop

D. James Baker has led NOAA for nearly eight years, longer than any previous administrator. That tenure will end at noon on Saturday, Jan. 20, when his resignation and those of other Clinton political appointees will be officially accepted by incoming President George W. Bush.

During Baker's tenure, NOAA matured as an agency, following through on the legislative and scientific groundwork laid by previous administrations—completing the Weather Service modernization, merging civilian and military environmental satellites and issuing the first accurate El Niño forecast, among other successes.

In interviews with the *NOAA Report* in October and again on Dec. 27, Baker reminisced about his years as administrator, looked at the future of NOAA, including the transition to the new administration, and revealed his own plans.

"It's been a very good time to be administrator of NOAA," Baker said. He is particularly proud of the growth of the NOAA budget, which has nearly doubled during his tenure. Baker attributes this largely to having a strategic plan tied to the budget.

"I've always said NOAA was a \$4-billion agency stuffed into a \$2-billion budget. When I came in," Baker said, "the budget was about \$1.8 billion.

"As I leave now it's over \$3 billion,

and a large part of that is because we have a strategic plan and an organized approach to dealing with our budget issues. That allows us to go to the Hill and say, 'We know what we are doing. We have a plan. This all fits together.' I think that's a large piece of why we've been successful in the budget process," he said.

"On the fisheries side, we've actually begun to recover a number of fisheries stocks. I'm very pleased about that—putting into place conservation measures and closed

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Ronald Bell/DOC
NOAA Administrator D. James Baker.

Hollings Lab

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NOAA's National Ocean Service, Margaret Davidson.

The \$23-million laboratory will house approximately 125 researchers from five federal and state agencies, including NOAA, the National Institute of Standards and Technology, the South Carolina Department of Natural Resources, the Medical University of South Carolina and the University of Charleston.

Mineta and Hodges praised Hollings for his three decades of protecting the resources of the coast and ocean.

Hollings said his concern about the health of the ocean over the years stemmed from the fact that it "covers seven-tenths of the earth's surface and is totally ignored."

The 45-minute program was held under a large tent on the site of the new lab, which is about 50 percent complete. The impressive building, which is flanked by the marsh and a man-made moat, towered behind the speakers.

During the ceremony, Hollings received a plaque, a glass brick inscribed with his name and a picture of the building, and a watercolor painting of what the completed building will look like.

Guests received a smaller copy of the painting. A dedication brick that will be used in the building's construction also was displayed.

After the ceremony, guests mingled for almost two hours, enjoying the company, the food and the hot apple cider that was served.

The mayor of Charleston also attended the event, as did several state legislators, staff from the participating organizations and agency heads from other environmental groups in the area.

Afterwards, Baker visited the NOAA Coastal Services Center. ☺

NOAA Ship Gets Innovative Wind Sensor

—By Barbara McGehan

Bold, fast, novel, innovative. Is this the government we're talking about?

Absolutely!

NOAA researchers are used to creative problem solving, as can be seen in the newest weather instrument developed by a team from NOAA's Environmental Technology Laboratory in Boulder, Colo.

Perched aboard NOAA's research vessel *Ronald H. Brown*, a radically new shipboard wind sensor developed by the team has been sending back continuous wind information to provide scientists with valuable weather and climate data.

"This is the first wind profiler to be permanently installed aboard a research ship," said M. J. Post, chief of the laboratory's technology transfer group. "NOAA now has an important new wind sensor that will really help researchers in their study of air-sea interactions, and also provide critically needed wind

measurements off shore. This technology will help us to improve NOAA forecasts of severe coastal weather."

Usually installed on land, wind profilers are Doppler radars that are pointed upward to measure winds and temperature up to heights of several kilometers. The data they collect are used for weather forecasts, climate models, aviation weather and other meteorological needs. To accommodate the unique conditions found on a ship, the lab's tech transfer team extensively redesigned a 915-MHz wind profiler.

The *Brown* profiler not only had to withstand rough seas, but sea spray and extreme temperatures as well. The redesign took several years of work.

"Previous designs were bulky, required moving parts to stabilize the antenna from ship motion and

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Scott McLaughlin/NOAA

Project engineer Dan Law (left) and electronic technician Sergio Pezoa install radiating elements onto a frame to make the phased-array antenna that electronically compensates for ship motion when measuring winds at sea aboard the NOAA Ship *Ron Brown*.

"Aqua School" Collaborates on Bay Scallop Research

—By Anthony Calabrese

Howling winds didn't stop NOAA deputy under secretary Scott Gudes and high school aquaculture students from Bridgeport, Conn., when they got together Dec. 12 to work on a bay scallop research project in Long Island Sound.

Bay scallops once thrived in the sound. But the stocks are now depleted, and there currently is little commercial scalloping.

Students and teachers at the Bridgeport Regional Vocational Aquaculture High School have been collaborating with scientists from the NOAA Fisheries Laboratory in Milford since 1997 to explore practical and ecologically sound methods for culturing bay scallops

that could be used to enhance wild stocks and for commercial production in aquaculture farms.

Gudes and Rebecca Allee of the Fisheries Service were scheduled to go to sea with the students, but 50-mph winds kept the high school's 50-foot research training vessel *Catherine Moore* at the dock.

Instead, Gudes and the students measured and counted scallops that were later deployed in cages at sea.

NOAA Fisheries scientists James Widman, Joseph Choromanski, Sheila Stiles and David Vellieux instructed the students on proper scientific research procedures and worked with Gudes and the students to prepare the scallops for placement in cages.

The Bridgeport "aqua school" is the only regional vocational school of this type in the country devoted to aquaculture science and marine trades. The school offers instruction in marine pathology, chemistry,

meteorology and aquaculture of finfish and shellfish.

Students at the school can also study boat engine repair, marine electronics, boat design and construction, marine restoration, commercial fishing and vessel operations.

"This is really impressive how these students are involved in aquaculture and marine trade," Gudes said during the visit. "I wish I could have had the opportunity to attend a school like this."

The school is also unique in that it has established a cooperative agreement with Shanghai Fisheries University in the People's Republic of China, and has had visiting scientists from China working with students at the school.

NOAA Sea Grant also has played a prominent role in this arrangement by providing various means of support and working with the school to set up the program. ☺

Wind Sensor

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displayed degraded performance due to extraneous signals from the sea surface," Post said.

"Sea clutter was a significant problem, since it affected the scientific value of wind measurements in the lower atmosphere where important air-sea interactions, such as the recent El Niño and La Niña events, occur."

The team came up with a bold, new antenna—a phased array antenna that included over 90 separate elements lined up in a hexagonal pattern.

Over a two-year period, a team of experts from the laboratory worked on this next generation wind profiler, which included electronic rather than mechanical motion compensation and new signal processing. But it was a challenge to design an instrument

that could take measurements aboard a ship that might be pitching in a storm, and still have that instrument remain stable.

"It's like trying to take a photo on a moving platform," engineer Dan Law said. "You have to hold the camera steady, and at the same time keep the lens open."

In August, after many months of work, the scientists and engineers loaded the instrument aboard a trailer, bungee corded a plastic tarp over it and drove the unique instrument from Boulder to Seattle.

They had just five days to install the wind profiler before the NOAA Ship *Brown* was scheduled to sail for Alaska. "We weren't sure what would happen," says Law. "This was the final installation, and there were many things that could have interfered with a successful outcome."

Happily, none of those materialized. The team installed the instrument, the ship sailed across Puget Sound and the system was turned on. During a stormy voyage to Alaska, it collected data unattended for three weeks.

On the return trip from Dutch Harbor, Alaska, to San Diego in September and October, scientists joined the ship.

"They released balloons and ran some simple experiments, and the profiler worked perfectly," says Law.

"This significant leap in wind profiler technology has reached well beyond its deployment on the *Ronald H. Brown* and its ability to support all subsequent scientific missions on board," Post said. "It opens doors for scientists to more accurately probe the atmosphere and detect its structure, both on land and at sea." ☺

Focus On...

A Valedictory from

Administrator D. James Baker

This will be my last message as NOAA administrator to the NOAA family.

I'd like to thank everyone for what has been a wonderful experience. From the first moment when Commerce Secretary Ron Brown called to tell me that I had the job to the memo from White House chief of staff John Podesta asking for my end-of-term resignation, I've enjoyed my intense interaction with headquarters staff, the field offices and our many constituents.

But I know that whatever we accomplish, it's a joint effort. Each of us, whether in operations, research or finance and administrative support, contributes to the success of the agency's programs. And the support of the Secretary of Commerce, of the White House and of the Congress for our issues has been a critical part of that success. Thank you all.

I've especially enjoyed my close collaboration with my initial team, Doug Hall, Diana Josephson, Kathy Sullivan and Susan Fruchter, who stayed the entire time; all of these took a corporate view and were dedicated to the success of the agency. The strategic planning framework put in place in the beginning has served us all well. And I and NOAA have been served well with excellent office directors and assistant administrators. I want to especially single out Ned

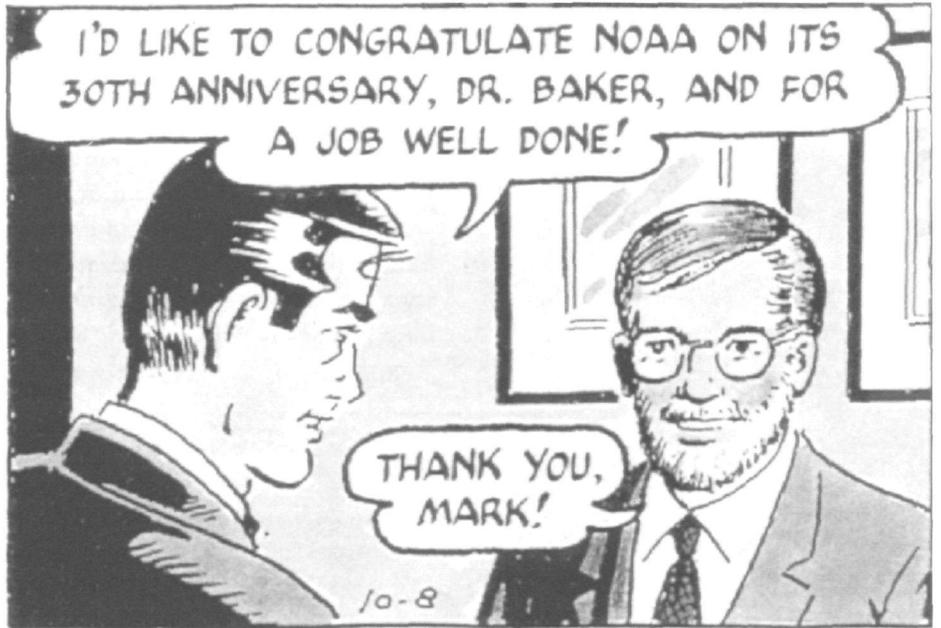
Ostenso and Nancy Foster. Each provided leadership for the agency and uncensored advice that was invaluable to me; each is now, unhappily, no longer with us. Their achievements will continue to be recognized. I would particularly like to thank Pat Thorne, whose administrative skills and continual good humor and cheery smile has made life easier for all of us. With that leadership, NOAA will be served well into the future.

For NOAA, the whole is definitely more than the sum of its parts; by integrating strategically, we have continued and improved our delivery of services, laid the groundwork for new scientific discoveries and achieved more efficient management. What we do is more important than ever before, and the public is aware of that. Society is on the cusp of history now. Never in the past thousand years has the world seen such rapid growth of population, stress on natural resources and changes in economic and social structure. The work of NOAA has shown how economics and the environment are connected; what society does now will determine the course of the next thousand years. NOAA is pivotal now, and you all should be proud to have been part of an agency that has so many successes and such a bright future.

Good luck to all of you!



Ronald Bell/DOC



Jack Elrod

Top left: Baker is interviewed by CNN senior correspondent Bernard Shaw.

Top right: Baker meets Mark Trail.

Middle: Baker in Antarctica.

Bottom right: The Bakers welcome the Hollings to a NOAA Fish Fry.

Bottom left: Baker and others greet the First Family during OpSail 2000.



Jerry Marty/NSF



Josef Schrabal



Iris Harris/DOC

Baker Era at NOAA

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areas that have really worked," Baker said.

"We've reduced the backlog on mapping and charting and worked to make the civilian Global Positioning System more accessible so that people can use it," he said.

Baker is proud of the new ships and aircraft procured for the agency during his watch. "I'm also proud of our management improvements. We got a clear audit for the first time," he said.

"The oceanographic side of the budget is one of the things I'm most proud of," Baker said. "We really have put the O back in NOAA. That was one of the things that Sen.

Hollings pushed.

"If you look at the budgets of

Fisheries and NOS, they are approximately equal to the budgets of the Weather Service and NESDIS. There is a very good balance, with OAR in between serving both. That has never been the case before, and in fact Fisheries is now the largest line organization in terms of budget, which is really quite amazing," he said.

"Each of the line organizations has grown. Some have not grown as much as they would like, such as OAR, where we still have a problem getting base funding for research. And that's one of the issues the new administration is going to have to take on."

Baker concedes it helps to serve a full two terms, something he did not count on happening.

"When you take a political job, you're crazy if you don't assume that you will be out after four years. Our strategic plan and our budget plan were all aimed at trying to accomplish our initial ideas over four years.



Dane Konop/NOAA

Administrator Baker (far right) leads Secretary of Commerce Norman Mineta (left) on a tour of Weather Service offices on the Silver Spring (Md.) Metro Center campus.

"It was only towards the end of the first term that it became clear that Bill Clinton was going to win reelection and that we would have eight years and a chance to really carry out some longer term plans," he said. Baker also credits his close relationship with Vice President Gore, who supported his bid to become administrator.

In early 1993, Baker was rumored to be a leading candidate for the job of NOAA administrator. Just prior to a meeting of the Washington, D.C., chapter of the American Meteorological Society at which he was scheduled to be the featured speaker, Baker announced

he would not be able to speak as he was "on my way to interview for the NOAA administrator job," a self-revelation that some in the audience found refreshingly frank and others found quite cheeky.

Baker admits, "I had very good support from the beginning for the job. Since I had interviewed for the administrator job earlier in the '80s, I'd had a long standing interest in NOAA and I stayed close to NOAA issues.

"When Al Gore, who was then senator, was interested in satellites and the release of classified data, I worked with him to try to make some of those things happen. When Gore became vice president, I said I would be interested in having the job of NOAA administrator if it could be worked out. So

we were able to work all the politics and in 1993 I was nominated by the president and confirmed by the Senate in May 1993. I've had the job since then."

When asked what attributes make a good administrator, Baker says, "I think you have to have a deep curiosity about how things work. That's something I've always had. It's been fun for me to do that. The more you know, the better job you do. But you can't let your knowledge overwhelm you and get in the way of being decisive," he says.

"Any new administrator of
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Baker Era at NOAA

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NOAA really has to have a good background in the subjects that we deal with," Baker said. "This is, I think, a well known thing for the Defense Department, for example. When you bring in someone there, you always bring in someone with a deep knowledge of defense issues. The same is true for an agency like NOAA," he said.

"It's critical for NOAA to be visible and to find as many ways as possible to get our message out to the media, to the newspapers, to television, and to get as many of our people as possible out doing that," Baker said. "We've accomplished a lot. But, in fact, there's much more that needs to be done. I think it's important for the new administrator to be the translator for the subject matter that we have," he said.

Baker admits a few disappointments as administrator.

"One of the things I wanted to do when I became administrator was to visit every NOAA site and have some contact with most NOAA employees. And I haven't really been able to do that. Even after seven plus years it's been difficult to get out to the 375 NOAA sites around the country."

He says he is also disappointed in the level of interagency cooperation.

Interagency cooperation is difficult, he says, and "agencies tend not to cooperate. We have even in NOAA a difficulty making our line organizations cooperate as much as they should. We try to bring groups together; to me this is necessary for progress. We have a committee on environment and natural resources that I co-chair with the White House and we try to bring agencies together to make that happen. But more could be done in terms of agreeing on

budgets and programs."

Baker is reminded that upon taking over the helm of NOAA in 1993, he had told the *NOAA Report* he believed sustainable development would replace military preparedness as the paradigm of the 21st century.

Now that we are actually on the cusp of the new millennium, how confident is he of his prediction?

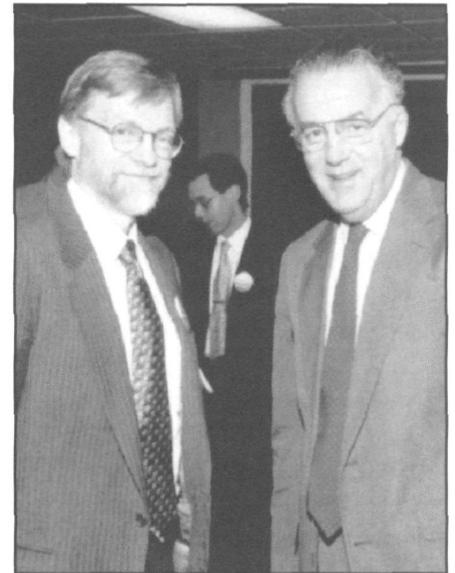
"It's more true than ever," Baker said. "We're seeing an increased stress on the environment because of increased population and people living in harm's way. We know that we have to maintain a balance between development and environment if we are going to go into the 21st century and have a sustainable economy. This I think is more true than ever before."

"I think it's important for the new administrator to be the translator for the subject matter that we have."
—Administrator D. James Baker

What does Baker foresee for the future of society?

"On the one hand, I think we will have greatly improved weather forecasting because of rapid advances in technology. Anyone who tries to predict the future always underestimates what technology can do. My guess is you're going to have instant weather forecasts on your wrist watch available and accurate," he said.

"Ten years from now we are going to see unequivocally the impacts of global warming and carbon dioxide in the atmosphere. This is something that is already starting to peek out of the noise. Ten years from now, it's going to be there. And we will hope that we will have done something about it at that point—both in technology and policy," he said.



Ronald Bell/DOC
 Administrator Baker (left) hosts Sen. Paul Sarbanes during the opening of NOAA's Silver Spring Metro Center.

"We are also going to see huge impacts between environment and coastal development because the world is moving to more and more coastal mega cities. These are where people want to live. This is something that is going to become more important. My guess is that you're going to see NOAA double its budget once again because its issues are so important," Baker said.

As to the near-term future of NOAA in the new Bush administration, Baker said his office has been working closely with the Commerce Department transition office, which is headed by Ted Kassinger.

On NOAA issues, Baker said, "The three people who are going to be working with Kassinger are Richard Russell from the House Science Committee, Everett Eisenstat, who is on Congressman Colby's staff, and James Derderian from the House Commerce Committee. There's an office in the Hoover building, right around the corner from my office," Baker said.

"Under Sue Fruchter's leadership, we put together a very nice *continued on page 8*

The following NOAA employees received Department of Commerce bronze medals from the DOC Office of Administration Dec. 14 in the H. C. Hoover Building in Washington, D.C.: **Don Mast, Laura Cook, Catherine Marzin, James Sargent, Rick Roberts, Ira Grossman, Hank Kordek and Debra Pickerign.**

News Briefs

Ants Leetma is the new director of the Geophysical Fluid Dynamics Laboratory in Princeton, N.J. He relieves long-time director **Jerry Mahlman**, who retired from federal service. Leetma has been the director of the National Weather Service's Climate Prediction Center and the lead climate forecaster in the United States for more than three years.

A research vessel has been named in honor of NOAA employee **Thomas McIlwain** by the University of Southern Mississippi in recognition of his 18 years of service at the university's Gulf Coast Research Laboratory in Ocean Springs, Miss. McIlwain, a former director of the lab, now serves as a liaison to the Gulf of Mexico Fishery Management Council and on the NOAA Aquaculture Task Force. The 55-foot *R/V Tom McIlwain* will serve as a research platform for the laboratory's scientists and as a floating classroom for college students and elementary and secondary school teachers.

Baker Era at NOAA

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transition team book, which has the organization of NOAA, the issues that will be faced by the new secretary in the first couple of months, the budget and descriptions of what each of the line offices does, done in a very clear fashion so that he will have a good sense of what NOAA is all about.

"Another thing I gave them was the 30th anniversary video, because that gives you a very good sense of the agency, what it's all about. The transition book, the NOAA business report and the video—that's probably as much as one person can assimilate anyway," Baker said.

"I think the recent \$3-billion budget and the fact that money was added to our budget over the president's request shows there is bipartisan agreement that NOAA issues are important to the Congress and the public because people are beginning to see that the environment is an integral part of their lives," he said. "These are issues that are going to get more important. We will continue to see this independent of which party is leading. I am very bullish on the future of NOAA as an agency," Baker said.

"The other thing I'm very encouraged about is that the new secretary is very close to the president-elect. They have been long-time friends. This to me is one of the key things, because that means the department will be treated well in the overall scheme of things, that Commerce issues will get a good hearing.

"We found the same thing when Ron Brown was appointed secretary of commerce. This was very helpful to us in getting started because every time we had an issue, we knew that if we had to, we could get directly to the president," Baker said.

As to his own future, Baker said, "I've done the academic, non-profit, government side of things. One of the things I would like to do now in my new life is to spend some time transferring the environmental lessons that we have learned so well in the United States to other countries.

"We have really put together a very good system for protecting the environment and providing increasing standards of living for everyone," Baker said.

"Economic growth together with environmental protection is something on the whole I think we do a pretty good job of. But there are many lessons that we learned which need to be transferred to the developing countries. And one of the things that I'd like to do is spend at least part of my time working with developing countries, helping them learn and use the lessons that we learned. That helps them leap frog some of the lessons and allows them to avoid some of the problems we've had," Baker said.

In the short term, Baker said, "My plan is to do pretty much like the president—that is, take off for awhile, try to decompress from the busy schedule that I've had and think about what would be a logical step for me to take."

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