



# NOAA REPORT

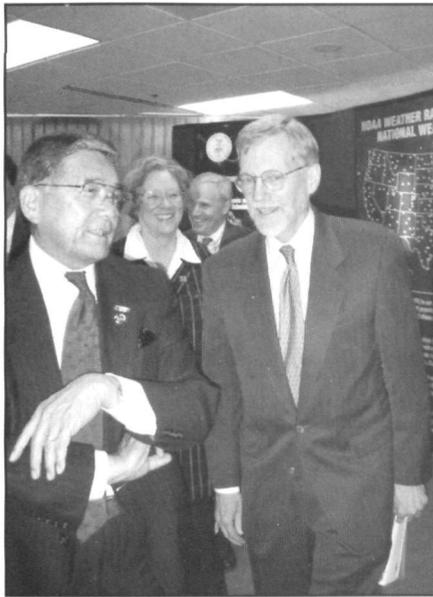
Vol. IX, no. 8

[www.publicaffairs.noaa.gov/nr](http://www.publicaffairs.noaa.gov/nr)

DEC 5 2001

August 2000

## Secretary Mineta Visits NOAA in Silver Spring, Md.



Dane Konop/NOAA

Administrator Baker leads Commerce Secretary Mineta (left) on a tour of NOAA facilities in Silver Spring, Md.

—By Dane Konop

Just days after being overwhelmingly confirmed by the Senate and sworn in by Vice President Gore, new Secretary of Commerce Norman Y. Mineta visited NOAA's Silver Spring Metro Center campus Aug. 2 to address employees, meet with NOAA officials and tour facilities.

In introducing the new Secretary at a standing-room-only town hall meeting in the center auditorium, NOAA Administrator D. James Baker said Mineta "brings a combination of talents and expertise to the job of Secretary of Commerce which is unprecedented."

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The NOAA Ship Rude led the tall ships into New York harbor July 3.

Prentiss Lund/NOAA

## Rude Leads OpSail 2K Ships

—By Connie Barclay

NOAA Administrator D. James Baker peered closely through the binoculars. He lowered them and squinted against the sun to identify the distant ships. "I'm pretty sure that's one of the ships we're leading in," he said.

Baker, other NOAA officials and guests had joined the officers and crew of the NOAA ship *Rude* July 3

to participate in the International Naval Review and Operation Sail 2000 in New York.

*Rude*, the smallest hydrographic survey vessel in NOAA's fleet, flew its flags proudly as it led the tall ships through the haze into the harbor on July 3.

"It is such an honor to be included in the presidential re-

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Courtesy of Josef Schrabal  
President Clinton and the First Family are welcomed aboard the U.S.S. John F. Kennedy in New York Harbor July 4 by NOAA Administrator D. James Baker and other officials.



Michael O'Hargan/NOAA

NOAA employees and volunteers staffed marine product exhibits at OpSail2000 in Norfolk, Va., including (left to right) Nori Shoji, Sandy Panton, Penny Levine, Magarita O'Hargan, John Oliver and Matt O'Hargan.

## Rude at OpSail 2000

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view," said Lt. Cdr. James S. Verlaque, *Rude's* commanding officer. "My crew is delighted to represent NOAA."

Baker was joined on *Rude* by Rear Adm. Evelyn J. Fields, director of Marine and Aviation Operations, Capt. Ted Lillestolen, deputy assistant administrator for the National Ocean Service, Capt. Sam Debow, chief of the Hydrographic Survey Division, and three members of the news media to witness the largest maritime event of its kind in history.

"Isn't this incredible?" Baker said to Lillestolen. "I feel so fortunate to be a part of this historic event."

One of only several noncombatant ships involved in the presidential review and best known for locating downed TWA flight 800 and John F. Kennedy, Jr.'s, aircraft, *Rude* sped through the water at full speed, as guests gathered on the bow to take photos and search the

horizon for the Statue of Liberty.

President Clinton's participation in the naval review of vessels drew not only national and international media attention, but also extraordinary security measures. Helicopters flew overhead, while Secret Service agents were ever present on land and on the water, sending mists of cool water onto the faces of *Rude's* passengers as their security boats sped past. Navy vessels sailed by on all sides.

The CBS reporter onboard clutched his notepad and pen as he hurried from bow to stern to catch a glimpse of the excitement, which he said he could feel in the air.

CBS news producer Dan Dubno smiled to himself as he too rushed from one side of the ship to the other. He grabbed his cell phone and frantically called his wife. "Honey, you wouldn't believe where I am now and what I'm seeing and what I'm feeling," he said. "This is the United States at it's best. It's so exciting."

Leading an armada of ships into the New York harbor was only one segment of the celebration activities for *Rude* and its crew of eleven.

During the long weekend, the ship hosted a media open house, did interviews with several local media in New York City, lined up to be inspected by President Clinton and hosted open houses for the public.

In one highlight of the weekend for the crew of *Rude*, First Lady Hillary Rodham Clinton and daughter Chelsea told Administrator Baker they had seen and heard a lot about *Rude* and had learned quite a bit about its unique mission and accomplishments.

On the morning of July 4, President Clinton sailed slowly past *Rude* in one of the naval vessels as part of the formal review of ships.

*Rude's* officers stood at attention, as Lt. Cdr. Verlaque saluted the President.

Civilian crew members stood along the rail at the stern of the ship as flags flew overhead and helicopters hovered in the sky nearby.

No one said a word. Everyone just stood for the brief minutes that would be etched in their memories. It had all come down to this one moment.

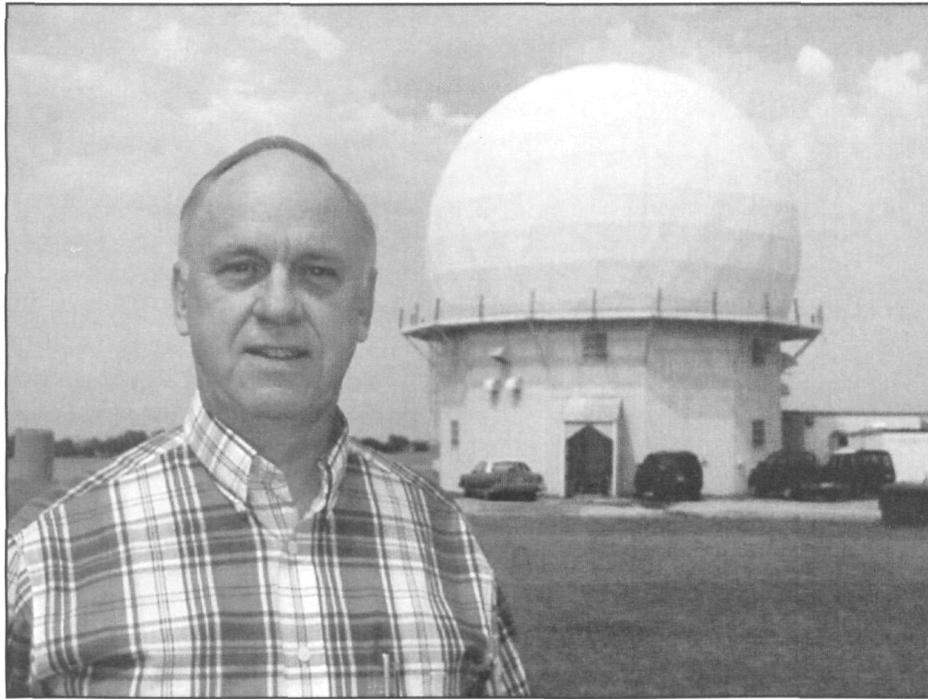
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*More than 150 tall ships and classic sailing vessels, nearly three dozen naval warships and more than 50,000 spectator craft participated in Operation Sail 2000, the largest maritime event of its kind in history.*

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Throughout the July 4th weekend, *Rude* and its crew were a big hit in New York City. On July 6 alone, more than 600 people toured the ship and picked up NOAA literature. Crew members shook hundreds of hands, posed for

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Keli Tarp/NOAA

Research meteorologist Rodger Brown and others used the test radar installation at the National Severe Storms Laboratory (pictured) to develop modern Doppler radar.

## Rodger Brown: Developing Doppler Radar

—By Keli Tarp

*This is the eighth in a series of profiles of men and women who have been NOAA employees since NOAA was established in 1970.*

On NOAA's first day nearly 30 years ago, research meteorologist Rodger Brown started working at the National Severe Storms Laboratory in Norman, Okla. His job was to help develop and test the use of Doppler radar to detect and track severe storms.

Over the years, Brown has continued to be a part of the development of what we now know as the WSR-88D, or NEXRAD Doppler radar. When he began at the lab, he was part of a new program to test the use of a 10-centimeter Doppler radar, which was put together from an old DEW line radar and is still located next to the lab, although it hasn't been used in years.

Brown, working with other scientists and technicians, analyzed the data collected by the radar to

see what he could learn. One of the team's early successes occurred when the Norman radar captured images of a tornado near Union City, Okla. When analyzing that data, he and the other scientists discovered the tornado's unique radar signature.

"We saw something that looked like noise or bad data, but then we discovered it was consistent at different heights," Brown said. "It coincided with the tornado's damage track and we realized we were looking at the tornado itself."

This discovery of a tornado's signature, velocity readings adjacent to each other showing winds going in opposite directions, fueled the development of Doppler radar.

Brown's applied research today still concerns that radar, developing better scanning strategies and interpreting radar signatures. He looks forward to working with the new technology being developed today, including dual-polarization  
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## NOAA Co-Sponsors Va. Summer Camp

—By Patricia Viets

Thanks to NOAA, some private sector partners and the efforts of one NOAA employee, 18 sixth-grade students from Accomack County, Va., on the Delmarva Peninsula attended a two-week summer enrichment camp at the University of Maryland Eastern Shore. There the students learned principles of physics and engineering by using computers and participating in hands-on experiments.

Eveline Cropper, a federal program officer who works at NOAA's Command and Data Acquisition Station at Wallops, Va., has provided the leadership and momentum for the program, coordinating a group of volunteers who assist students with their homework and provide tutoring in various subjects. That project, known as HELP, the Horntown Educational Learning Project, is a co-sponsor of the summer camp, along with the University of Maryland Eastern Shore and the Accomack County School System.

Miss Eveline, as the students call her, conceived of the idea of a summer enrichment camp while working with HELP. She took the initiative to contact officials from NOAA, the University of Maryland Eastern Shore and Accomack County to make the camp a reality. Thanks to her efforts, and the sponsors' support, the camp was held July 10-21.

The daily instruction was provided by Debra Merrill and Linda Wright, middle-school teachers with the Accomack County School System, with guidance from the faculty of the university's Department of Engineering and Aviation Sciences.  
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# Focus On...

## NOAA's Great Lakes Research Laboratory

—By Chad Boutin

The Great Lakes Environmental Research Laboratory in Ann Arbor, Mich., is one of NOAA's main outposts in the region, with nearly 100 employees.

### Lake Michigan EEGLE

One of the laboratory's major field programs is the Episodic Events Great Lakes Experiment, begun in 1997, to fully observe and understand a massive plume of sediment which is stirred up in the early part of each year along the southern shore of Lake Michigan.

Laboratory researchers were among the first to realize the plume's potential impact on plant and animal life in the lake, and helped organize the 41 scientists from 17 institutions working on EEGLE, which is jointly funded by NOAA, the National Science Foundation and the Environmental Protection Agency.



Tom Jobengen/NOAA

Henry Vanderploeg measures water clarity in Lake Michigan during EEGLE.

This year the plume appeared in April, and laboratory scientists made two simultaneous cruises aboard the research vessels *Shenehon* and *Lake Guardian* to observe plankton blooms and collect water samples.

Not all the fieldwork was done aboard ship, however. For the first time in Great Lakes history, a shore-based array of radar was used to keep track of surface currents and waves.

Keeping track of subsurface currents and sediment deposits still requires the use of underwater sensor arrays, which must be deployed and retrieved periodically. The laboratory's research vessel *Shenehon* this summer gathered data from 46 of these instruments scattered about the lake floor.

### Zebra Mussel Invasion

A major threat facing the entire Great Lakes system is the zebra mussel, a European native that invaded the Great Lakes several years ago, most likely transported via ballast water from oceangoing ships traveling up the St. Lawrence Seaway. These hardy mollusks grow in particularly crowded colonies on nearly any flat surface, including each other. They have very nearly wiped out the native mussel population and clog water intake pipes for cities around the lakes region. Laboratory researchers have led the way in finding ways to mitigate zebra mussel impact, but the problem won't easily go away.

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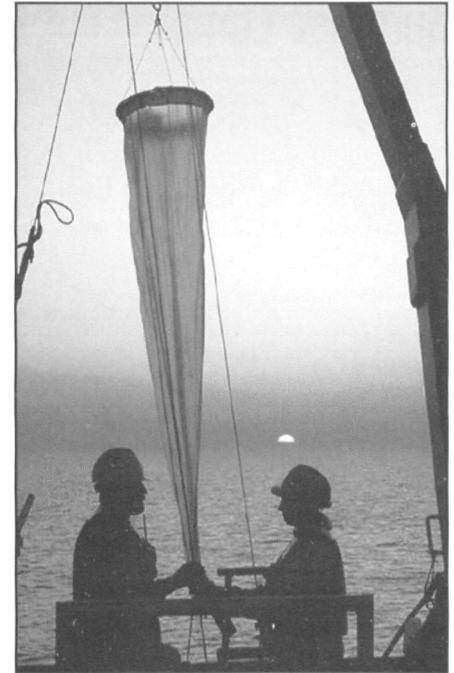
Margaret Lansing/NOAA

*Shenehon*, GLERL's primary research vessel, is based at the Lake Michigan Field Station in Muskegon, Mich.



Gary Fabmenstiel/NOAA

*In addition to gathering data on over 110 sailing days per year, the 65-foot research vessel Shenehon and the Great Lakes Field Station often host groups of high school and university students for outings and mini-courses, including these students from the University of Michigan.*



Andy Windelman/NOAA

*Research doesn't stop when the sun sets.*

## Lakes Face Low Water Levels

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No less important than threats to fish in the Great Lakes is the water itself, which seems to be disappearing. Over the last three years, Lakes Michigan and Huron

have dropped about 40 inches, causing problems for commercial shippers and pleasure boaters alike.

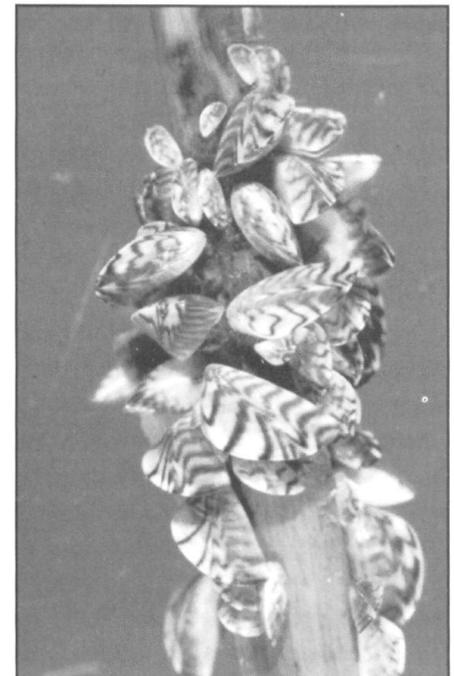
Recent cool temperatures and substantial rainfall have slowed the drop slightly, but the problem has reinvigorated interest in the lakes as indicators of climate change.

Understanding the natural resources of the Great Lakes is the key to maintaining a strong regional economy and a healthy environment—the ultimate goal of NOAA's Great Lakes research. ☺



Sondra Miller/U. of Iowa

*The research vessel Lake Guardian, which is operated by the Environmental Protection Agency in close cooperation with NOAA's research vessel Shenehon, visits Chicago.*



Simon van Mechelen/U. of Amsterdam

*Zebra mussels have invaded the Great Lakes from European waters, attaching themselves to virtually every underwater structure and out-competing native species.*

## Summer Camp

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Gurbax Singh, professor of physics and director and acting chair of the Department of Engineering and Aviation Sciences, oversaw the program. One of the projects he led involved the use of computers to demonstrate Newton's three laws of motion.

In another activity led by Abhijit Nagchaudhuri, associate professor of mechanical engineering and co-director of the program, students learned to design and build a bridge that would

support its own weight, as well as the weight of traffic. Once a design was decided in the computer lab, the

students went to the next phase by building model bridges with craft sticks. Some of their designs even made the local evening news.

During the second week of the camp, the partners along with the students, teachers, professors and NOAA officials were treated to a program emceed by Gary Davis, director of systems development for the National Environmental Satellite, Data and Information Service. The program featured presentations by deputy under secretary Scott Gudes, Office of Marine and Aviation Operations director Rear Adm. Evelyn Fields and sponsors of the camp. In addition to the students from the summer camp, 600 students from the Accomack County School System also attended the session.

Gudes polled the audience to see who was interested in flying airplanes, flying into hurricanes, driving ships, predicting weather, studying El Niño and the many

other facets of NOAA's missions. Gudes promised to return to the campus in a few years to follow the students' development and to recruit as well.

Fields told the students that she was also there to recruit them. She stressed the importance of reading, math, science, engineering and technology and described why these subjects are important in careers ranging from scientists to pilots to engineers.

"It is a priority of mine to show kids that with the proper education, they can go as far as their

motivation and drive will take them," Fields said.

The next day the students were taken to the movie "The Perfect Storm," which reinforced what they heard

from Fields.

On the last day of the camp, the students witnessed the launching of a blimp equipped with a video camera and transmitter. They saw the pictures taken from above at about 500 feet on the television monitor on the ground. The blimp launching was conducted by several engineering majors at the university.

The summer camp was a huge success, according to officials from NOAA, Accomack County, HELP and the university.

Cropper's vision is to continue the program and to follow the progress of the students. "We all benefit when our students pursue careers in math, science, engineering and technology," she said.

"The selfless efforts of Eveline Cropper are exactly the type of high-impact outreach in the community that NOAA is proud to support," Gudes said. "She is truly one of NOAA's shining stars!" ☺

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## OpSail 2000

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numerous photos, gave countless tours of the ship and answered endless questions.

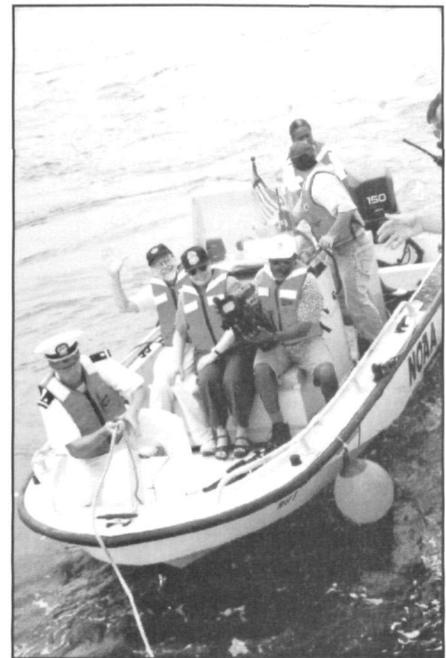
On the morning of July 7, *Rude* field operations officer Kevin Slover squinted at the sun as he stood at attention beside the flagpole on the bow of the ship. As he turned to raise the flag, a small cluster of New Yorkers on the dock stood with their hands shielding their eyes from the sun.

One little girl put her hand on her heart and stared intensely at Slover as he raised the American flag.

Suddenly *Rude's* engines whirled to life and it slowly moved away from the dock, through the harbor and past the tall ships that somehow made it seem even smaller.

*Rude* sounded its horn as it plowed through the water toward the rising sun.

The little girl on the dock lowered her hand and waved goodbye. ☺



Connie Barclay/NOAA  
Administrator Baker and guests come alongside the NOAA Ship *Rude* at OpSail 2000 in New York harbor.

## Mineta

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Baker cited Mineta's experience as mayor of San Jose, Calif., from 1971-75, as a congressman representing Silicon Valley from 1975-96 and most recently as a senior vice president at Lockheed Martin.

After thanking Baker for welcoming him to the Department and wishing everyone at NOAA a happy thirtieth anniversary, Mineta confessed a "sharp learning curve" in understanding Commerce Department agencies. Despite there being only six months remaining in the Clinton Administration, Mineta said, "There's no question I know what my job is. Though it may seem like a short period of time, my important job is to make sure that we keep the economy growing."

As to NOAA's mission, Mineta said that in meetings even before the Senate confirmation process formally began, Senators impressed upon him the importance of fisheries.

Mineta later said, "I told them I'm going to tattoo F I S H across my forehead so that when I brush my teeth and shave every morning, I'm going to see fish." To much laughter, he added, "I know some of you will want N W S across there or oceanic or whatever, but I promised them the four letter word—fish."

"Rebuilding fisheries is going to be an important priority. But in all matters I want to make sure that we continue to focus our best science on managing our coastal and marine resources," Mineta said. "I want to emphasize best science. I understand that what we do is an element of science, it's an element of politics and an element of our management of people and budget. But I want everything really to be started with good science," he said.

## NOAA Ship Whiting Hosts Russian Children on July 4



*James Stricker/NOAA*

*Independence Day brought a meeting of Russians and Americans aboard the NOAA Ship Whiting, as the ship hosted eight school-aged Russian children, their adult interpreter and six American host families during a brief inport period at the Marine Operations Center-Atlantic in Norfolk, Va. The children were on a three-week visit in Chesapeake, Va., through the Russian Children's Initiative Program of Epworth United Methodist Church in Norfolk.*

Citing his background representing Silicon Valley in the Congress, Mineta stressed the importance of technology and e-commerce to keeping the economy growing, and said he is personally committed to making sure that the benefits of the economic boom reach all Americans. "I want to transition the phrase 'digital divide' into 'digital inclusion,'" he said.

"When I see technology coming along and then not reaching low income Americans, minorities, rural areas and inner cities," Mineta said, "then it seems to me we have a duty to do something about making sure that we don't leave people behind as these kinds of technologies are expanded. Because the truth is, even with all this prosperity, we are in fact seeing that not everybody has been helped."

His lifelong concern for the "under-served and under-repre-

sented," Mineta said, partly stemmed from his experience as a boy being interned in detention camps with his parents and 120,000 other Japanese-Americans in Washington, Oregon and California beginning May 29, 1942, and for the duration of World War II.

"So my job in the Department of Commerce," Mineta said, "is still going to be looking out for those who are left behind."

Addressing his audience of NOAA employees, Mineta concluded, "My door's open to all of you on how we can reach every community, every family, every American, so that we can make sure they are part of this remarkable economy."

Following the town hall meeting, Mineta and Baker met briefly with NOAA officials before touring Weather Service facilities on the Silver Spring campus. ☺



*Dane Konop/NOAA*

*New acting assistant administrator  
Margaret A. Davidson.*

**Margaret A. Davidson** is the new acting assistant administrator for the National Ocean Service. Davidson was director of NOAA's Coastal Services Center in Charleston, S.C. She joined NOAA in 1995 after working as executive director of the South Carolina Sea Grant Consortium.

## News Briefs

**Dennis H. McCarthy** is the new director for the National Weather Service's 14-state central region, after having served for ten years as meteorologist in charge of the Norman, Okla., forecast office.

**William Hogarth**, former head of the Fisheries Service southeast region, is the new NMFS deputy assistant administrator.

**Elizabeth Day** is the new leader of the education program for NOAA's National Sea Grant College Program. Day was an assistant program director at the National Science Foundation.

## Rodger Brown

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radar and a three-dimensional lightning mapper, to continue to better understand storms.

In fact, new technology, including the development and use of computers, has been the biggest change Brown has seen at the National Severe Storms Laboratory.

"When I first came here, we did everything in punch cards," Brown said. "Before the lab got our own respectable computer in the late 1970's, major work of processing data was done on computers somewhere else, including the FAA facility in Atlantic City and the NASA facility in Houston."

With a station wagon full of thousands of punch cards in drawers, severe storms lab researchers would drive more than eight hours to the Johnson Space Center to borrow NASA's computers, working at the only time they were available, on the night shift over the weekend.

Brown developed an interest in weather in junior high school during an earth science class. His mother thinks his interest was fate, he said, because he was born during a thunder snowstorm and grew up in the lake effect snowbelt of Lake Erie in New York.

Brown earned a Bachelor of Science degree in earth sciences from Antioch College in Yellow Springs, Ohio, in 1960. Two years later he earned a Master of Science degree in meteorology from the University of Chicago, where he studied with renowned meteorology researcher Ted Fujita. He earned a Ph.D. in meteorology from the University of Oklahoma in 1989.

Early in his career he held jobs at the Mount Washington Observatory in New Hampshire, the Blue Hill Meteorological Observatory in Milton, Mass., and the U.S.

Weather Bureau's Severe Local Storms Research Unit in Washington, D.C., precursor to the National Severe Storms Laboratory.

He also spent 13 months in Antarctica at Little America V during the International Geophysical Year in 1957-59, taking surface weather observations and sending up weather balloons from the largest scientific base in the Antarctic. A mountain in Antarctica is named after him because of his service there. Mount Rodger is a sharp peak, 1,410 meters high, at the northwest end of Collier Hills in the Heritage Range.

Through his early career, Brown said he had always known about and worked with radar, and coming to the lab was a natural step. The time spent there has been rewarding, he says.

"The past 30 years have gone by fast," he said. "It's been fun seeing the evolution in the use of Doppler radar from research to operational modes. And I enjoy continuing to help the NEXRAD Operational Support Facility improve operational capabilities."

In fact, even after a planned retirement in a few years, Brown anticipates he will continue to do severe storms research, if only on a part time basis. Because it's what he does. ☺

**The NOAA Report** is a monthly publication for NOAA employees from the Office of Public and Constituent Affairs, Washington, D.C.

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