

NOAA REPORT



Vol. IV, No. 1

January / February 1995

Comparison of UV Measurements Will Improve Forecasts: A recently completed field test will help environmental scientists worldwide more accurately measure ground-level changes in damaging ultraviolet radiation from the sun. In the week-long test, scientists compared simultaneous UV measurements on Table Mountain Mesa, 10 miles north of Boulder, Colo. Data from the comparison will provide a reference base for UV monitoring networks established by EPA, Department of Agriculture and NOAA.

While most UV radiation from the sun is absorbed by the protective ozone layer in the upper atmosphere, some UV does reach the Earth's surface. Scientists and the public are concerned that more UV

NEWS BRIEFS

radiation will reach the Earth's surface due to human-induced depletion of the Earth's stratospheric ozone shield, particularly affecting the middle latitudes where most people live.

Development of Electronic Charts Underway: NOS's Nautical Charting Division has signed an agreement for developing electronic nautical charts and other related products.

NOS and the contractor, BSB Electronic Charts, will cooperatively research and develop electronic nautical charts and other electronic products such as nautical chart data, systems and software. The project's goal is to make the entire suite of nautical charts available in digital form. This will allow public access to digital charts while leaving the risk of commercialization to the private sector.

Fish Facts by Fax: NMFS has begun a Fax-On-Demand service to provide the public with reports on fishing and seafood
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Warnings to Cover Northern Alabama

Weather Radio Opens at '94 Alabama Tornado Site

The northern Alabama counties hardest hit by last year's Palm Sunday tornado will now be covered by NOAA Weather Radio.

A new weather radio transmitter in Fort Payne, Ala., the first of four to be erected in Alabama, was activated in January. Dedication ceremonies took place in the Masonic Lodge in the town of Piedmont, where survivors of the March 27, 1994 Palm Sunday tornado that killed 20 at the Goshen United Methodist Church now gather for Sunday services.

The new transmitter is in keeping with Vice President Al Gore's initiative to expand such coverage. The new Fort Payne transmitter will significantly increase weather radio broadcast coverage of severe

weather warnings for northern areas of the state.

'As Common as Smoke Detectors': Gore

Following the Palm Sunday tornado disaster, the Vice President announced his intention to bring 95 percent of the national population under the NOAA Weather Radio umbrella, making the radios as common in homes as smoke detectors.

When complete, the expanded network will add approximately 300 radio transmitters to the 400 now in place nationwide. The new Fort Payne transmitter will broadcast warnings to northeast Alabama and adjacent counties

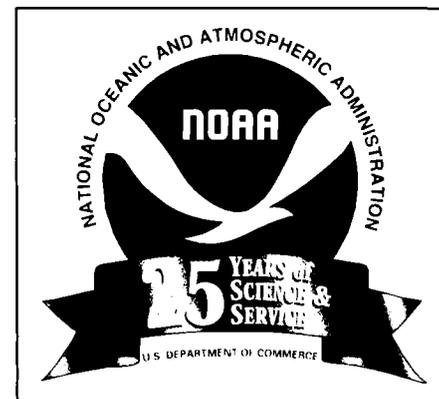
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New Logo for Anniversary Honors '25 Years of Science and Service'

NOAA turns 25 years old in 1995, and you'll see celebrations of this significant anniversary throughout the year, with an emphasis on Earth Day in April.

In the meantime, NOAA has a new anniversary logo, just for this year (*see below*). It celebrates the "25 years of science and service" that the agency has brought to the Federal government and to the American people. Feel free to use it on stationery, stickers, reports—anywhere you use the standard logo. We're showing you a one-color version, but the logo also comes in the two familiar NOAA blues. For one-color and full-color copies of the new anniversary logo, contact NOAA Public Affairs, (202) 482-6090. We can also send you computerized versions of the logo, suitable for use in word processors and design programs, in either Windows or Macintosh formats.

Check each issue of *NOAA Report* for more about what promises to be an exciting year.



25 Years of Science, Service and Challenges

The beginning of a new year is always a special time. It gives each of us a chance to set new goals as well as review the progress we've made in the past year both personally and professionally. I look forward to 1995: there are many exciting opportunities on the horizon as we celebrate 25 years of science and service to the Nation. Yet, there are also many challenges.

I believe NOAA stands at a critical juncture in its history. The success of this agency over the past 25 years has been largely due to the dedication and devotion of the people who serve the public through the scientific, predictive and management mission of NOAA. People throughout the Nation are impacted by your efforts every day, though they may not always be aware of it.

That is why our efforts to reduce the size of government present us with the one of the most difficult choices we face.

D. JAMES BAKER



Responding to a recommendation of the National Performance Review, Congress passed the Federal Work Force Restructuring Act in 1994, which reduces the number of Federal employees by 272,900 by the year 1999. No government agencies are exempt, and NOAA's share of this effort is approximately 2,300 employees over the next five years.

Reductions Over Several Years

For 1995, our staffing targets cannot be met without a small reduction-in-force (RIF) for some offices. Fortunately, during negotiations with the Office of Management and Budget, we were able to win relief from reductions that would have required a large number of RIFs this year. Instead, we will work to achieve the reductions over several years, relying primarily on retirements, employment freezes, attrition and reassignments. It is my sincere hope that the reductions we can achieve through these management tools can totally eliminate, or at least significantly minimize, the need for further RIF activity.

I believe streamlining and building a more efficient agency are critical to the

Strongly Committed to Diversity Goals

NOAA's managers remain strongly committed to the goals of our diversity plan and especially to broadening the talent pool from which a new generation

I believe streamlining and building a more efficient agency are critical to the future of NOAA. We cannot succeed in the current...atmosphere unless we demonstrate that we are delivering services in the most cost-effective manner possible.

future of NOAA. We cannot succeed in the current political and fiscal atmosphere unless we demonstrate that we are delivering services in the most cost-effective manner possible.

The challenge is to achieve these reductions in a way that is fair and equitable to our employees and that strengthens rather than diminishes our ability to fulfill our mission. You have my promise that we are approaching streamlining efforts in as fair and equitable a manner as possible.

of scientists and environmental stewards might arise. We can and must think together creatively to determine how we can better serve the American people so the investment they make in this agency continues to pay off for them in the future.

As always, I welcome your thoughts and comments. The Internet address is column@hq.noaa.gov. The Banyan address is column@pa.noaa.gov. ☺

Solar Wind Satellite Data Will Improve Geomagnetic Storm Warnings

New solar wind gust measurements from the NASA Solar Wind spacecraft mean improved NOAA geomagnetic storm warnings, NOAA officials said.

The Wind satellite, which will make elliptical orbits between the Earth and sun, is one of a series of missions in NASA's International Solar Terrestrial Physics Program.

"Because the satellite will intercept solar wind streaming toward Earth, NOAA space weather forecasters will have about one hour advance notice to prepare warnings of geomagnetic storms—sharp fluctuations in the Earth's geomagnetic field that can have disastrous results," said Ronald Zwickl, chief of the NOAA Space Environment Center's Research and Development Division.

NOAA's Space Environment Center issues warnings to electric power utilities, geosynchronous satellite operators, communications companies and others affected by geomagnetic storms. Working with the U.S. Air Force space weather facility in Colorado Springs, Colo., the center will receive measurements of solar wind speed and density and magnetic field intensity and direction in real time a few hours each day from the Wind spacecraft.

NOAA space weather forecasters will be looking for evidence of solar wind gusts, which feed into the Earth's own magnetic field, causing the northern and southern lights in the polar regions and sharp fluctuations in the geomagnetic field in the Earth's upper atmosphere. These fluctuations can interfere with geosynchro-

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NOAA-14 Sends First Photos

Polar Orbiter Launched

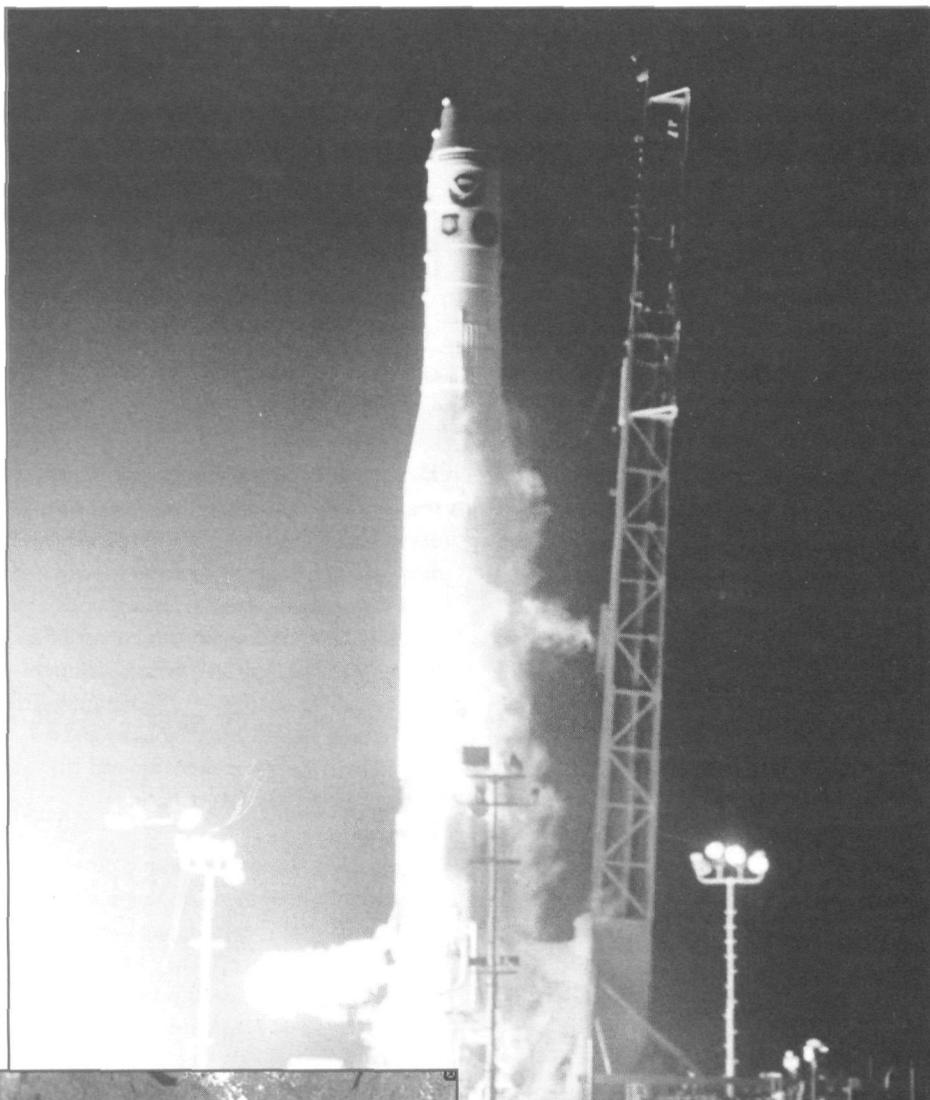
NOAA-J, now known in orbit as NOAA-14, has sent back its first photos.

The Nation's newest environmental satellite used for weather forecasting and atmospheric research was launched in late December from Vandenberg Air Force Base, Calif.

NOAA-14 will provide information about the Earth's oceans and atmosphere, including location and size of severe storms; temperatures of the atmosphere, sea and land; the size of the ozone hole; and the location and amount of dust from volcanoes, which can cause hazards to airplanes. The spacecraft will circle the Earth every 102 minutes from a distance of 541 statute miles.

NOAA-14 carries seven scientific instruments, two of which are for search and rescue, and a data collection system.

NOAA currently operates two polar-orbiting satellites, NOAA-11 and NOAA-12. NOAA-14 will replace



NOAA-11, which was launched in 1988. NOAA-13, launched in August 1993, suffered a power failure 12 days after launch, and all attempts to command the spacecraft have been unsuccessful.

The NOAA-J spacecraft was built by Martin Marietta/Astro Space, Princeton, N.J. NASA's Goddard Space Flight Center, Greenbelt, Md., is responsible for the construction, integration and launch of the satellite. Operational control of the spacecraft moves to NOAA after it is checked out in orbit. ☺

En route to becoming NOAA-14, NOAA-J blasted off from California's Vandenberg Air Force Base in late December (above). Its first photo, that day (left), was of the New England and Mid-Atlantic region. Easily visible are Long Island, the Hudson River, Long Island Sound, New Jersey, New York's Finger Lakes, Lake Erie, and the Chesapeake Bay. White areas are snow.

FOCUS ON...

El Niño Research and the World Economy

Panels Focus on Research Applications, Sustainable Development

Making the transition from researching the El Niño weather phenomenon to applying that research in the global community has been the focus of recent symposia co-sponsored by NOAA and the World Bank.

At a symposium held at the World Bank Group, global implications of El Niño and demonstrated prediction capabilities were reviewed, highlighting the need for countries around the world to set up applications centers for this information.

D. James Baker, NOAA Administrator, and Ismail Serageldin, the World Bank's Vice President for Environmentally Sustainable Development, made opening remarks.

On the symposium panel were J. Michael Hall, Director, Office of Global Programs, NOAA; Mark A. Cane of Columbia University; Maxx Dillely of the Office of U.S. Foreign Disaster Assistance; and Paul Epstein of the Harvard School of Public Health.

most predictable.

With advances in modeling now enabling the prediction of the onset of El Niño up to one year in advance, climatologists want to share such predictions with economists, health professionals, and government policy-makers around the globe to help them avert national disasters.

As Hall noted, "Economic development, the development of new scientific techniques, and [health issues] are at a point of convergence." This, he continued, makes a closer relationship between the World Bank and NOAA desirable.

Averting Disaster

The key to averting the disastrous effects of climate variability, explained Hall, is to be proactive; therefore,

With advances in modeling now enabling the prediction of the onset of El Niño up to one year in advance, climatologists want to share such predictions with economists, health professionals, and government policy-makers around the globe to help them avert national disasters.

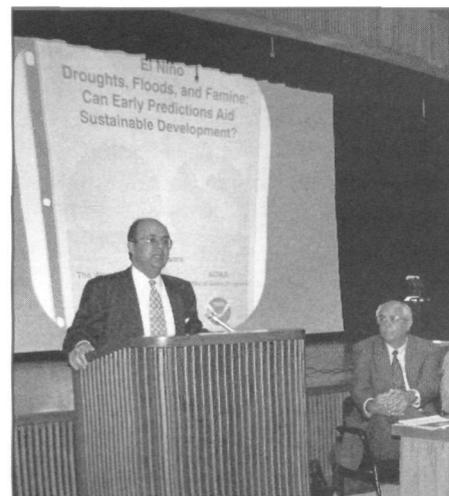
Interplay of Atmospheric Phenomena

El Niño is an interplay of atmospheric pressure, sea surface temperature, and winds in the equatorial Pacific that has global economic and health consequences, ranging from droughts in Australia, Indonesia, and Northeastern Brazil to decreased crop production in Southern Africa to floods in Peru and Ecuador to the spread of cholera in Asia.

Fortunately, the world's regions most severely affected by El Niño are also the

prediction must be made an integral part of policy and development. He stressed that each country will have to develop an infrastructure that tailors global information to regional forecasts and socioeconomic factors.

Dillely noted that individual nations need to establish a link between El Niño forecasts and early preparedness actions. Such actions might include creating flood warning systems for evacuating people from coasts to inland areas; making policy



Symposium co-host Ismail Serageldin, World Bank (at podium), and panelist J. Michael Hall, NOAA Office of Global Programs (seated).

decisions, such as not selling off grain reserves because of predicted grain losses due to predicted drought; preparing drought relief resources; and adjusting crop varieties, water resources, acreage, and timing of planting as needed.

Hall cited Peru as an example of a country that has successfully applied El Niño predictions, thus making El Niño a manageable economic fluctuation. A major Peruvian adjustment has been the planting of rice, a wet crop, rather than corn, a dry crop, during El Niño warm phases.

Hall said that the United States is leading a multinational effort to set up a prediction program to feed into worldwide applications centers.

Organize Countries: Hall

"The issue is how to best organize countries to deal with a particular problem," said Hall. "This process must,

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of course, recognize that there has been national ownership [of applications systems]."

El Niño research applications were highlighted again on December 20, when Hall briefed staff of the Agribusiness Department of the International Finance Corporation, a member of the World Bank Group, on implications for agricultural production, especially in the southern hemisphere.

And on January 18 in Dallas, at the American Meteorological Society's annual conference, NOAA's Climate Analysis Center launched a new series of climate prediction products and presented an updated El Niño advisory. The back-to-back El Niño events now being observed

have not occurred since the turn of the century.

El Niño and Sustainable Development

El Niño was again in the spotlight at a January 19 World Bank presentation on sustainable development, with NOAA hosting the World Bank. In his introduction to Serageldin, Baker noted that they had first met at the October symposium on El Niño forecasting.

"This has been real interesting for us," said Baker, "because we now have the ability to do some significant forecasts on El Niño, [a phenomenon] which turns out to have huge impacts: on tropical countries and their growing seasons; on the temperature in the North Pacific and the salmon returns, which are way down because of warmer water; and on the rainfall we're getting in California this

past year."

He added, "The El Niño is not responsible for the Japanese earthquake, as far as we know, but it has been proposed that underwater volcanoes could be the cause of El Niño."

Impact of Climate on Resources

Baker concluded, "El Niño forecasting is an important topic, and it's one that also ties together the things that we do in NOAA and the things that we do across the Department as we look at the impact of climate on sustainable resources and the impacts on communities and the way we do international trade."

Serageldin discussed the World Bank's numerous activities around the globe promoting environmentally

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Can California Blame El Niño for the Floods? Perhaps...

Yes, say experts from the National Weather Service, a Pacific warming trend probably did contribute to the massive floods now drowning much of California.

According to Vernon Kousky of the weather service's National Meteorological Center, that Pacific warming trend, known as El Niño, added considerable moisture to the normal jet streams that target northern and central California.

"The El Niño isn't the only reason, but it certainly set the stage for floods," Kousky said.

'More Moisture Than Normal'

"The weather patterns in this area are quite variable, with intense rain and then long dry spells," he added. "Because of El Niño, the strong jet streams contained much more moisture than normal."

Fishermen of Ecuador and Peru coined the term El Niño, a Spanish word meaning "the Christ Child," to refer to a warm ocean current that typically appears around Christmas. These warm spells, depicted by rising sea temperatures, change the weather patterns along the 5,000-mile equatorial Pacific.

"We definitely see a pattern between exceptionally wet seasons in California and El Niños," Kousky said.

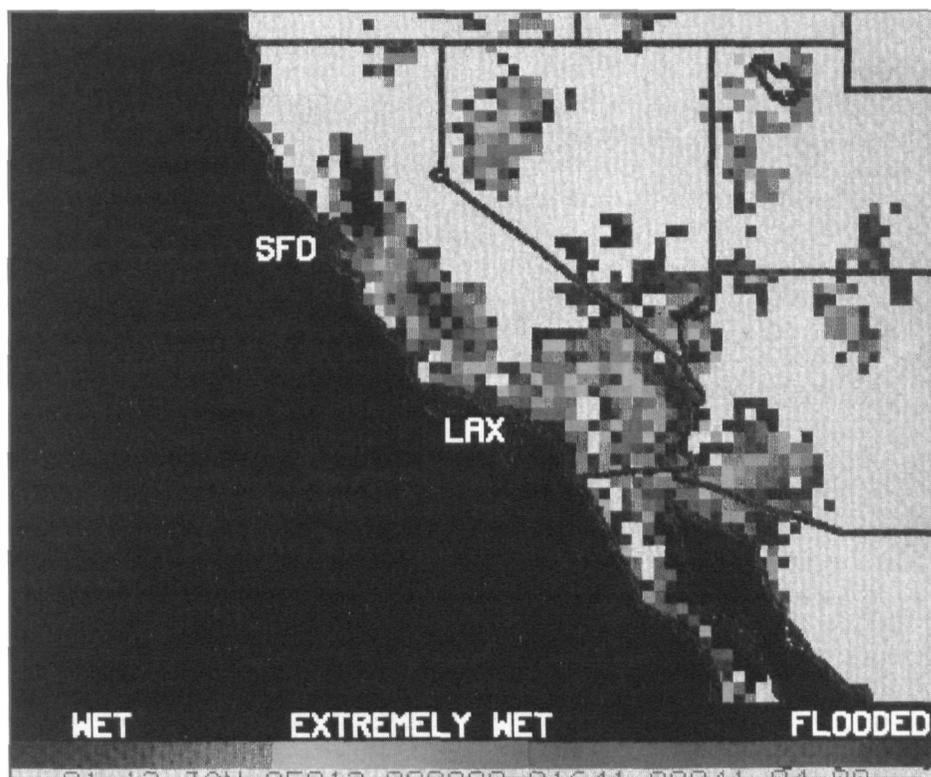
\$8 Billion World Loss in '82-83

During the winter season of 1982-83,

for example, a particularly strong El Niño contributed to an \$8 billion loss to the world economy. In the U.S. alone, the warming trend caused widespread flooding across the southern states while northern ski resort owners lost business from the lack of snow.

Scientists, governments, and homeowners are all still assessing the damage to homes, businesses, and the nation's economy from this year's California flood and its star, the 1994-95 El Niño.

—Elleen Kane



This microwave satellite image of the soil wetness of California, taken on January 11, shows the effects of the floods to which El Niño may have contributed.



Ismail Serageldin, the World Bank's Vice President for Environmentally Sustainable Development (left) and NOAA Administrator D. James Baker (right) at the January World Bank presentation.

A Guide for the Perplexed

Everything You Always Wanted to Know About El Niño (But Were Afraid to Ask)

The first publication describing the El Niño weather phenomenon written for the general public has just been released in a collaboration between NOAA and the University Corporation for Atmospheric Research (UCAR).

Chock-full with multi-color computer graphics, the publication, *El Niño and Climate Prediction*, contains the latest information available on the El Niño weather phenomenon. It describes the characteristics of El Niño, its effects on people, animals and plants, and the past and present efforts of scientists and governments to understand and predict it.

A Wonderful Education Tool: Baker

"*El Niño and Climate Prediction* is a wonderful tool for educating the public about this weather phenomenon that has far-reaching economic implications," said NOAA Administrator D. James Baker. "Ideally, it will become an integral part of educational curricula not just nationwide, but around the world." El Niño is a disruption in the normal interplay of wind and water in the tropical Pacific that can affect local ecosystems and human lives all over the globe. It is second only to the change of the seasons in its impact on world climate and a much greater challenge to predict. El Niño forecasts are invaluable, particularly for developing countries of the tropics, where economies based on food production are highly sensitive to climate fluctuations.

El Niño and Climate Prediction is the third publication in the award-winning *Reports to the Nation On Our Changing Planet* series. The first publication in the series, *The Climate System*, won the Society for Technical Communication Best of Show Award in 1992.

Editor's Note: Single copies of *El Niño and Climate Prediction* may be obtained from John Kermond, NOAA Office of Global Programs, at (301) 427-2089 ext. 22. Requests for multiple copies should be addressed to the University Corporation for Atmospheric Research, Office for Interdisciplinary Earth Studies, P.O. Box 3000, Boulder, CO 80307-3000; phone (303) 497-2692; fax (303) 497-2699; Internet: oies@ncar.ucar.edu. ☺

Focus on El Niño

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sustainable development.

"Sustainable development is very much about people—about giving people access to clean air, clean water, and fertile soils," Serageldin said. "Because this is not happening, we have to change our attitude about the management of natural resources."

'Nature of the Development Has to Change'

"At the Bank, we are very much pro-growth and pro-development," he continued, "but the nature of the development has to change. And that's where the challenge comes—of not producing less, but differently."

Serageldin recently edited the book, *Making Development Sustainable: From Concepts to Action*, which addresses the

'The El Niño is not responsible for the Japanese earthquake...' said Baker, *'but...underwater volcanoes could be the cause of El Niño.'*

conceptual, methodological and practical challenges of promoting environmentally sustainable development.

In examining the unique relationship between the Department of Commerce and sustainable development, Baker said, "The interesting thing about sustainable development is that we have both sides of it, in a way that no other Department has. We have the development aspect—promoting economic growth and jobs and community development—and we have the environmental side, where we are trying to ensure sustainable fisheries and protect our coasts. So everything we do, from weather forecasting to fisheries, has an impact here."

—Janet Amber ☺

Long Range Forecasts Offer Glimpse of Future

Recognizing that many segments of the economy could benefit from better information about the climate affecting the United States, climate prediction experts of the weather service's Climate Analysis Center have developed a series of 90-day forecasts that offer an outlook of up to one year.

Along with the new product, called the *Climate Outlook*, comes a new way of reaching out to users of climate data. Regional Climate Centers across the country have hosted six user workshops showcasing a new, long-range climate prediction product first issued mid-January. The workshops were conducted in coordination with the weather service's National Meteorological Center, parent of the Climate Analysis Center.

The workshops focused on the private sector and offered an advance look at this new suite of climate prediction products.

Predictions Beyond Previous Ranges

The *Climate Outlook* will offer predictions far beyond the previous outlook range, which was limited to the next 90 days. Each *Climate Outlook* will be issued two weeks in advance of its start date. Previous outlooks were issued with a lead time of only one to two days before their effective dates. The longer lead time should benefit users including commo-

ties brokers, farmers, power utility companies and other weather-dependent industries that make business decisions based on weather conditions.

"These new products offer a new opportunity for the private sector to utilize long-range climate predictions for new and existing clients," said David Rodenhuis, director of the Climate Analysis Center. "The workshops are a new tool we're using to engage our customers."

The workshops, conducted in Nevada, Louisiana, Nebraska, Illinois,

South Carolina and New York followed the vision of the NOAA Strategic Plan "...to deliver reliable seasonal-to-interannual climate forecasts...that will enable informed decisions on economic development..."

Between 50 and 120 participants attended each workshop representing industries such as consulting meteorologists, media representatives, and users in state and Federal field offices. Special topics and applications such as agriculture, hydrology, energy management, and public presentation were discussed.

Available On Internet

The *Climate Outlook* will be widely available through electronic information services. Live demonstrations helped

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Under Wraps, or Why is This Man Laughing?

Commerce Secretary Ron Brown surprised Rep. Robert S. Walker (R-Pa.), new head of the House of Representatives Science Committee, with a framed picture taken from a NOAA polar satellite at the first hearing for the 104th Congress of the House of Representatives' Committee on Science. The subject of the hearing was the revolutionary impact science and technology can have on the future.

workshop attendees learn how to access forecast products electronically. The Internet address on the Climate Analysis Center's World Wide Web Home Page is <http://nic.fb4.noaa.gov>.

The Regional Climate Centers serve as clearinghouses for questions about the new long-lead *Climate Outlooks*. As partners with the Climate Analysis Center, the RCCs are the focal point for climate services, along with state and Federal field offices for agriculture, natural resources and water supplies. To stimulate the use of climate information, the RCCs collaborate with private meteorologists and regional industry to learn the climate sensitivity of each economic sector.

—Ranee Exler

Spaceflight Meteorology Group Plays Behind-the-Scenes Role

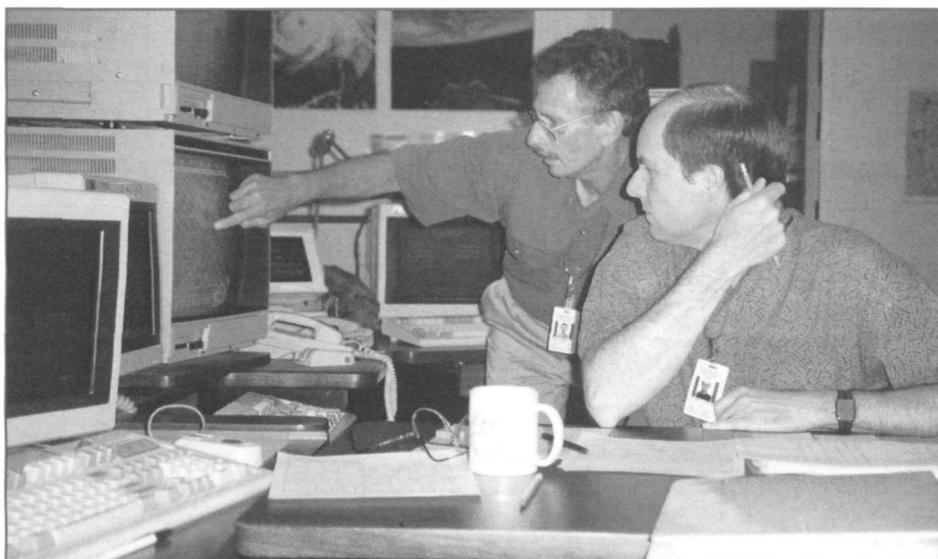
NWS Forecasts Safe Launch for Space Shuttle

As the world watches NASA's space shuttle prepare for lift-off, a group of NOAA's National Weather Service meteorologists in Houston, Texas, diligently works behind the scenes to ensure safe launching and landing conditions for the astronauts.

Two days before lift-off, meteorologists in the Spaceflight Meteorology Group begin working around-the-clock, tracking and analyzing weather conditions to provide up-to-the-minute forecasts to NASA's Mission Management Team.

NASA's flight director and flight control team analyze all aspects of a shuttle descent for abort landings. The weather plays an important role in that decision. While U.S. Air Force meteorologists at Kennedy Space Center forecast the weather for launch time, the spaceflight meteorologists at Johnson Space Center forecast the weather for abort landings, which can occur moments after lift-off. According to Frank Brody, chief of the group, NASA officials will not give a "go" for launch if the National Weather Service forecasts for abort landings are "no go."

Two days before launch, NASA staffers dart in and out of the group's operational area asking for the latest scoop on the weather.



NWS meteorologists Richard Lafosse (seated) and Wayne Baggett prepare a forecast for the shuttle team.

abort landings of the shuttle soon after launch.

Tim Garner, who completed his first mission as lead forecaster in July for the longest mission to date—14 days, 17 hours for the International Microgravity Laboratory, mission STS-65—received praise from National Weather Service and NASA managers for his on-target forecasting during the mission.

The morning of lift-off, rain showers

His forecast was correct to the minute.

Performance

NASA reserves the honor of hanging a commemorative plaque on a wall in the mission control center for the team, usually within NASA, which has accomplished the "impossible" during a mission.

NASA has given this honor to the Spaceflight Meteorology Group twice for exemplary forecasting.

"We ask these guys to do the impossible, and they deliver," says Jeff Bantle, a NASA flight director.

In 1991, Chuck Morrill, lead forecaster for space shuttle flight STS-43, earned the meteorology group the honor by accurately forecasting weather at the Kennedy Space Center for the first space shuttle landing having the Cape as the primary landing site. NASA officials scrutinized his forecast for the five days leading to landing, but the weather proved his "go" forecast to be accurate.

In 1989, Sokol, lead forecaster for the space shuttle Atlantis mission STS-34, accurately forecasted poor weather conditions at the end of the mission and suggested an early landing. Three hours before scheduled landing, Sokol safely

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"We do a lot of informal briefings on the side...walk-in briefings...hallway briefings..." says Steve Sokol, a forecaster for the meteorology group. "Everyone wants an update."

The Spaceflight Meteorology Group has six lead forecasters who rotate as designated mission lead forecasters. They forecast for landing sites in the continental United States and transoceanic abort landing sites during shuttle missions.

The group's first objective is to forecast weather conditions for possible

surrounded the Cape. The spaceflight meteorologists diligently tracked the showers and analyzed observed weather at the Cape. Under scrutiny from mission control, Garner closely examined his forecast. Based on his evaluation of satellite and radar data and his support team's input, Garner predicted the showers would move out of the restricted area in time for a possible abort landing. When he briefed NASA's flight director that morning, he gave a "go" for the weather.

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directed the astronauts through a clearing in the fog and high winds surrounding Edwards Air Force Base, Calif. This on-target forecast earned the spaceflight meteorologists their first plaque-hanging.

Operations

Behind the scenes, support meteorologists design and tailor programs and graphics for a powerful computer system that ingests data, generates forecasts and creates electronic graphic displays.

According to Gene Norman, a Unisys contractor, the supporting meteorologists are a "bridge between technology and information" that the forecasters need.

During missions support, meteorologists help forecasters by analyzing meteorological data and compiling presentations with accompanying weather maps for the NASA family.

After a space shuttle successfully launches, Spaceflight Meteorology Group forecasters no longer fret about an abort landing scenario and begin "on-orbit" support.

On-orbit support is much calmer. This support starts when the space shuttle enters outer space, approximately 70

miles above the Earth and eight minutes after lift-off.

The group's surveillance now cuts back from 24 to 17 hours. Both a lead forecaster and a support meteorologist monitor weather conditions at U.S. and foreign emergency landing sites in case the space shuttle is forced to an emergency abort landing. The forecasters continue to give daily briefings to the NASA Mission Management Team.

Landing

The Spaceflight Meteorology Group's grand finale is the end of mission landing.

"This is where the forecasters really earn their money," says Brody.

The meteorologists begin gearing up for the end of mission forecast five to six days in advance.

According to Brody, the lead forecasters work under much pressure at the end of mission landing and undergo intense cross-examination from NASA's mission control. Once a space shuttle enters the Earth's atmosphere, there is no turning back.

NASA officials prefer the astronauts to land at Kennedy Space Center. If the forecasts call for poor landing conditions at the Cape, NASA's flight director may

call off the landing and reschedule for the following day.

The flight director for space shuttle flight STS-65 did just that.

Garner forecasted rain showers and possible thunderstorms at Cape Canaveral for July 22, causing the flight director to postpone landing for 24 hours.

The following morning Garner's forecast called for acceptable weather. Though low clouds surrounded the Cape, Garner believed the conditions were of no real concern and gave a "go" forecast for landing.

As the sun rose, weather observers at the Cape spotted low-lying ground fog that was slightly denser than expected. The flight director told Garner to reassess his forecast and report back to NASA's mission control in six minutes.

Garner stuck with his "go" forecast, the flight director gave a "go" for entry, and at 6:38 a.m. EDT, the astronauts safely descended to the Cape with no visibility restrictions.

Though space shuttle landings are the meteorology group's forte, it provides forecasts for Johnson Space Center of severe weather approaching the Center all year long. The meteorologists also prepare pilot weather briefings for astronauts flying training aircraft around the country.

During the launch countdown of space shuttle flight STS-65, local thunderstorms approached the Center. So, in addition to forecasting abort landing sites, the group had to get word to Johnson Space Center officials of the inclement weather.

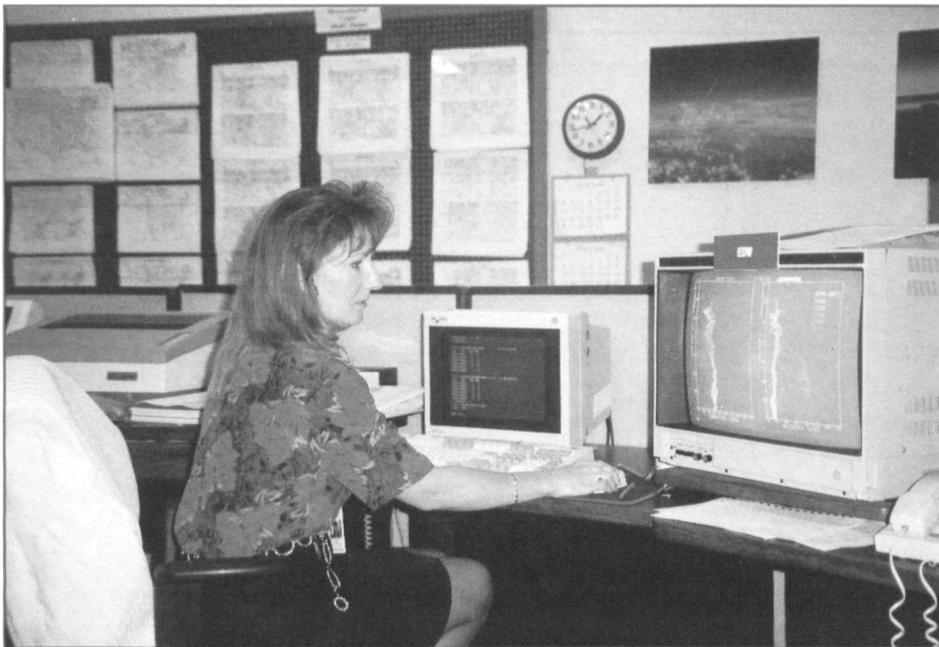
Most of the meteorologists in the group say they like being involved with the shuttle program.

"It's intriguing," says Doris Rotzoll, a meteorologist in the Techniques Development Unit, "and being a part of the whole process is exciting."

As STS-65 successfully landed on July 23, emotion filled the operational area. Garner and his support staff were congratulated on a job well done.

Says Garner of all the attention, "I just want to do my job."

—Kimberly Comba 



NWS meteorologist Doris Rotzoll

New Network Center a Model for Others

A new facility now gives NOAA, for the first time, a state-of-the-art network management system for the Silver Spring Metro Center network.

The new Network Operations Center (NOC) is meant to be a model for such facilities in other parts of the agency. It is managed by NOAA and staffed 12 hours a day, five days a week, by a contractor. The NOC monitors and controls the high-speed network that connects the Silver Spring buildings to each other. The NOC also monitors devices directly attached to the network, as well as the shared data communications lines going out from Silver Spring. This includes the Metropolitan Area Network, covering the Washington, D.C. area, that was installed by the Office of Administration last year and is being expanded in 1995.

The NOC was created by NOAA's Systems Division for the Silver Spring Campus Networking Council, which represents all the offices occupying the Silver Spring buildings. It is cooperatively funded by those organizations in order to fulfill the mission-critical, scientific, and



Deputy Under Secretary Diana Josephson (foreground, left) cuts the ribbon to open the new NOAA Network Operations Center. Standing to her left is Frank DiGialleonardo, director of the Information Systems and Finance Office.

engineering network requirements of NOAA offices and programs.

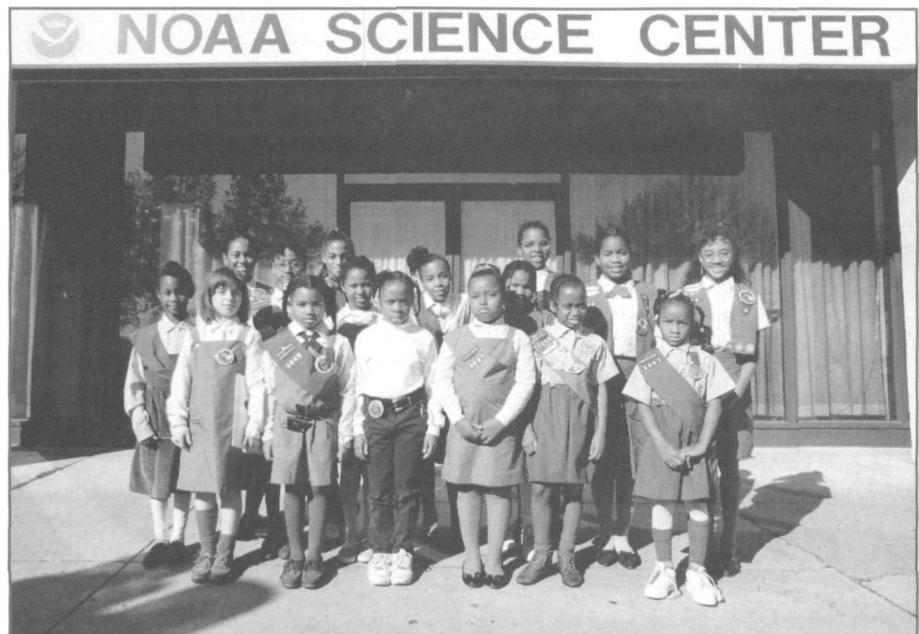
Critical Network Management Tools

Rob Swisher, chief of the Systems Development Branch, noted during the ceremony, "as NOAA organizations rely more heavily on networks and the campus

backbone, management information and network management tools become increasingly critical to the operations of these organizations and their ability to fulfill their mission."

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Girl Scout Troops Visit NOAA



NOAA welcomed two Girl Scout troops recently. Girl Scout Brownie Troop 3057 and Girl Scout Junior Troop 990, Mitchellville, Md., (right) toured a number of facilities in Camp Springs, Md., while some members of Girl Scout Cadet Troop 585, Gaithersburg, Md., spent the day at National Weather Service headquarters in Silver Spring, Md. as part of "Career Directions Day" (left).

Now a Home for Marine Life

Monitor Marks 20th Year as Sanctuary

The USS *Monitor* has now made history twice—in 1862, when it fought in the first battle between ironclad warships, and in January as the first National Marine Sanctuary to celebrate its 20th anniversary.

The *Monitor* went into the history books on March 9, 1862, in Hampton Roads, Va., when it fought the CSS *Virginia* (formerly the USS *Merrimack*) in the first battle between ironclad warships. The *Monitor* sank just 10 months later in a violent storm off Cape Hatteras, N.C.

Completed in 100 Days

The *Monitor* was designed by Swedish-American engineer and inventor John Ericsson in response to reports that the Confederates were building the ironclad *Virginia*. Completed in approximately 100 days, the *Monitor's* novel design included a revolving gun turret and placed all living spaces and the engineering space below the water line. It was the forerunner of the modern battleship, and its success in the engagement with the larger, more heavily armed *Virginia* marked a dramatic change in the way naval warfare was waged. Wooden warships gave way to fully steam-powered ships of iron.

Following the loss of the *Monitor* at sea, interest in locating the ironclad warrior remained high through the middle of this century. Finally, in August 1973, the wreck of the *Monitor* was discovered lying in 230 feet of water 16 miles off Cape Hatteras, North Carolina. It lies upside down with the port stern resting upon the displaced turret, which is also upside down.

Marine Life Habitat

The wreck now provides a habitat for a variety of marine life including amberjack, manta rays, barracuda, corals and sea anemones. Access to the *Monitor* has been limited to research; a permit must be obtained from NOAA before the research begins. Last year, however, NOAA issued a special-use permit that made it possible for three teams of divers to make non-research dives to the *Monitor*. 🐠



The USS *Monitor* (foreground) fights the CSS *Virginia* (formerly the *Merrimack*) in this sketch. The *Monitor* celebrated its 20th year as a NOAA National Marine Sanctuary this January.

Alabama Weather Radio Site Opens

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in Georgia and Tennessee.

"This is a real grass-roots effort that would not be possible without public-private partnerships," said NWS chief Elbert W. Friday Jr. "Because of the commitment from these organizations, we will be able to get timely warnings out to these communities that haven't been covered by NOAA Weather Radio before."

In conjunction with the transmitter dedication, private business groups donated weather and CB radios to schools, churches and other public sites. Funding for this project is provided by a special appropriation from the Alabama legislature with matching funds from the Federal Emergency Management Agency (FEMA).

"Without the radios themselves, the people of Alabama would not be able to receive the warnings issued by the new transmitter," Friday explained. "We are grateful to the groups donating this lifesaving equipment."

The NOAA Weather Radio network is a rapid means of getting National

Weather Service information about impending severe weather or other dangerous situations directly to the public. In addition, NOAA Weather Radio is becoming an all-hazards broadcast system that will provide information on earthquakes and hazardous material spills, as well as post-disaster information including the location of relief centers and shelters.

Other Alabama Sites

The other Alabama expansion sites include the Guin area in Marion County, the Jackson area in Clarke and Washington Counties, and the Auburn area. Sites to be upgraded include Mt. Cheaha, Huntsville, Birmingham, Florence, Montgomery, Tuscaloosa, Demopolis, Dozier and Texasville.

NOAA, FEMA and the Department of Agriculture's Rural Utility Service comprise the Federal partnership formed to expand the network. Several state organizations and private-sector organizations also made significant contributions to the new transmitter expansion in Alabama. 🐠

Commerce Gold and Silver, NOAA Bronze and Administrator's Awards Given

We salute the many NOAA employees who earned the Commerce Department's Gold and Silver Medals and NOAA's Bronze Medal and Administrator's Award this year. Congratulations to all on your outstanding achievements!

GOLD MEDAL

Gary K. Davis, NESDIS Office of Satellite Operations Control Center, for his leadership in the geostationary operational environmental satellite program.

Mark P. Ablondi, NOAA Corps, General Counsel Damage Assessment and Restoration Center Northwest, for saving the life of a fellow crew member under hazardous conditions.

Judith L. Layne, Matthew N. Ofthus, Jon M. Knox, and Lisa K. Glover, NOAA Corps' Ship Discoverer, for their heroic roles in saving the life of a NOAA employee who lost a leg in a shark attack.

Warren T. Dewhurst, NOS Coast and Geodetic Survey, for developing a major program to stimulate wide-reaching opportunities between the U.S. and Russia in the earth sciences and related fields.

Christopher G. Fox, OAR Pacific Marine Environmental Lab, for radically advancing the Nation's ability to conduct environmental research that will lead to new discoveries about the oceans.

SILVER MEDAL

Akkihebbal R. Ravishankara, OAR Aeronomy Laboratory, for his scientific contributions to the understanding of important phenomena in atmospheric chemistry.

Robert A. Maddox, OAR National Severe Storms Laboratory, for research leadership that resulted in improvements in NOAA's ability to provide severe weather warnings and forecasting for the nation.

Thomas L. Thompson and Richard H. Winkler, OAR Aeronomy Laboratory, for their major contributions

to engineering and development of scientific hardware and software used in airborne studies of stratospheric ozone depletion.

Dennis H. McCarthy, NWS Weather Service Forecast Office- Southern Region, for major contributions ensuring the continued success of the modernization of the National Weather Service.

Ralph A. Petersen, NWS Office of Meteorology, for his accomplishments in preparing NWS forecasters to effectively use the new tools available to them as a result of the modernization and associated restructuring of the NWS.

George F. Smith and Donna I. Page, NWS Hydrologic Research Laboratory, for revolutionizing operational river forecasting and flood warning by development and field implementation of the NWSFRS Interactive Forecast Program.

Herbert W. Kaufman, NMFS Office of Protected Resources, for his accomplishments in developing and implementing the Marine Mammal Exemption Program.

Selina M. Nauman, NOS Office of Ocean and Earth Sciences, Ice Analysis Branch, for her interagency leadership in protecting public safety and minimizing the economic impact of the 1994 Chesapeake Bay freeze-up.

Hsing Hua Shih, James J. Sprenke, Jerald M. Peterson, and Thomas N. Mero, NOS Office of Ocean & Earth Sciences, Ocean Systems Development Group, for their technological achievement in developing a portable water level measurement system to support NOAA hydrographic and photogrammetric missions.

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Customer Service Awards

Three of the seven Commerce Department divisions honored for excellence in Customer Service were from NOAA. Here's a rundown on their accomplishments:

Cutting Red Tape: National Geodetic Survey (NGS), National Ocean Service.

For GUSTOES (Geodetic User Services Transaction, Order, and Extraction System), a computerized system to make it easier for NGS employees to answer requests for geodetic data and related information from the public.

GUSTOES keeps track of customer and product sales information, making it easy to produce management and product reports. GUSTOES has enabled NGS to serve its customers efficiently and effectively.

Putting the Customer First: Space Environment Laboratory (SEL), Office of Oceanic and Atmospheric

Research.

With an eye towards improving responsiveness to customers, SEL created an internal Customer Focus Group, whose job it is to constantly review and suggest improvements to the service it provides. As a result of this focus, SEL designed a Customer Service Plan, which includes surveying customers on a regular basis, sending a quarterly newsletter to users, identifying secondary customers, and distributing data in novel and useful ways.

Empowering Employees: Office of Administration, Central Administrative Support Center, National Logistics Support Center.

For increased on-time delivery service and accuracy after conversion from a contractor to government staffing. Innovations include cross-training of employees, unique warehouse storage design, and automated feedback for customers. ☺

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Lawrence F. Simoneaux, James M. Herkelrath, and Steve C. Stringfellow, NOAA Corps' Pacific Marine Center, for providing shore-side logistical support and medical advice to the NOAA Ship *Discoverer* in the aftermath of a shark attack.

W. John Hussey, NESDIS Office of the Deputy Assistant Administrator for Satellites, for his major contributions to the GOES, NOAA Polar Satellite and Landsat Programs as Acting Deputy Assistant Administrator for Satellites.

Oscar R. Stone, Tom Vilov, Christopher M. Hayden, and James Purdom, NESDIS Satellite Operations Control Center/Software Branch, for their design, development and implementation of the ground systems and science support for the Nation's newest geostationary weather satellite.

Gregory W. Withee, Earl L. Heacock, Bruce H. Needham, Gregory A. Mandt, and Robert O. Masters, NESDIS Office of the Deputy Assistant Administrator, for their outstanding teamwork in achieving cost savings through convergence of the Nation's polar-orbiting meteorological satellites.

Susan J. McLean, Carla J. Moore, David M. Anderson, Eric A. Kihn, and Marcus O. Ertle, NESDIS National Geophysical Data Center, for pioneering and spreading throughout NOAA low-cost technology for customer access to environmental data using the Internet.

BRONZE MEDAL

Kellie Foster, Beverly Johnson, Robert Koch, Margaret Lorenz, Marta Mammack, Pamela Plotkin, Karen Salvini, Laurie Sullivan, Heather Weiner, and Robert Ziobro, NMFS Office of Protected Species, for outstanding creativity and initiative in the development and improvement of methods and operating procedures to further the protection of threatened and endangered salmon and sea turtle species covered by the Endangered Species Act.

Fredrick Beaudry, William Folsom, Milan Kravanja, Dennis Weidner, and Mark Wildman, NMFS Office of International Affairs, for outstanding contributions to the promotion of global management for living marine resources.

George Balazs and Samuel Pooley, NMFS Southwest Fisheries Science Center, for outstanding scientific achievements and leadership in the formulations of research programs vital to the survival of marine turtles in the North Pacific Ocean.

Thomas Azarovitz, NMFS Northeast Fisheries Science Center, Resource Survey Investigation Division, for outstanding leadership and ability to manage new assessment and management needs.

Patricia Ann Cook, NMFS Northwest and Alaska Fisheries Science Centers and Regional Offices, for setting and meeting high standards for library services available to fishery service facilities in the Northwest.

Linda A. Chaves, NMFS Northwest Region, Trade Services Division, for outstanding work in promoting and assisting the U.S. fishing industry.

Wendy L. Gabriel, NMFS Northeast Fisheries Science Center, Coastal and Estuarine Fishery Investigation Division, for outstanding leadership and management skills.

Terry Henwood, NMFS Southeast Region, for work on agency policy and procedures for endangered species.

Paula Johnson, NMFS Auke Bay Laboratory, for her high degree of initiative and creativity in introducing up-to-date library technology, such as CD-ROM and Internet access, to the laboratory's library.

Donald Moore, NMFS Southeast Region, for outstanding diligence and productivity in his efforts to protect estuarine and coastal marine habitats.

Steven A. Murawski, NMFS Northeast Fisheries Science Center, Population Dynamics Branch, for outstanding work in fishery population dynamics research, resulting in significant benefits to the Nation.

William F. Perrin, NMFS Southwest Fisheries Science Center, for outstanding research on the population biology of dolphins and other cetaceans, and for focusing world awareness on the need for their conservation.

Dorothy D. Roll, NMFS Southwest Region, Information Technology Service, for outstanding career contributions and expertise in computer technology.

J. Gary Smith, NMFS Northwest

Region, Regional Operations, for outstanding leadership in the conservation of the Nation's living marine resources.

Walton Campbell, Joyce Kinnard, and Joann Nault, NOS Ocean Products Branch, for the design and implementation of a new data compression technique, *QuikLook*, that provides quick and inexpensive access to environmental satellite data.

Steve Gittings and Christopher Ostrom, NOS Flower Garden Banks National Marine Sanctuary, for excellence in marine sanctuary management.

John Chase, Miranda Chin, Gerald Mader, Frank Marion, and Linda Nussear, NOS Advanced Technology Branch, for contributions to positioning technology and applications of the Global Positioning System.

Adriana Cantillo, NOS Office of Ocean Resources Conservation and Assessment, for outstanding service in developing NOAA's National Status and Trends quality assurance program and providing international leadership for use of reference materials.

Duane Timmons, NOS Coast and Geodetic Survey, Hydrographic Survey Division, for his development of an innovative and cost-saving technology for hydrographic surveys.

James D. Williams, NOS Geosciences Laboratory, for his contributions to the construction and operation of extremely high-precision observation stations in the United States, Australia, Brazil and South Africa.

Nautical Charting Research and Development Laboratory, NOS Nautical Charting Division, for the establishment and implementation of an operational shallow water multibeam survey system on the NOAA Ship *Rude*.

Aeronautical Charting Division, NOS Coast and Geodetic Survey, for assuming the responsibility for the public sale and distribution of Defense Mapping Agency navigational charts and related publications.

Vico Baer, Joseph Facundo, and I. Randy Racer, NWS Office of Systems Operations, in recognition of outstanding leadership in support of the NWS modernization systems transition.

Scott Dye, James Lehmann, and

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NOAA Employees Honored by Agency, DOC

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Richard Thigpen, NWS Office of Systems Development, for outstanding dedication and support to the NWS as team leaders in the implementation of the Automated Surface Observing System.

Michael Brown, Michelle de Tommaso, Carmyn Holzer, Robert Knibb, Janie Ma, Theodore Maisel, Dueward Patrick, Frederica Semones, Lawrence Tyminski and John Van Kuren, NWS Office of Systems Operations, for outstanding achievement in the development, testing and deployment of the Engineering Management Reporting System.

Frederick A. Keyes and Richard Wagenmaker, NWS Forecast Office, Detroit, Mich., for outstanding work in designing and creating a new public forecast program, *Flexzones*, a more accurate and user-friendly weather forecast, now in use at National Weather Service offices nationwide.

Allan Darling, James Fenix, Lloyd Irvin, Carl McCalla, Thomas Makle, and Albert Mongeon, NWS Office of Systems Operations, for outstanding support of national and international aviation flight operations.

Anthony G. Barnston, NWS National Meteorological Center, Climate Analysis Center, for applying the concepts of long-lead seasonal forecasting into an operational system which will form the basis of long-term seasonal weather forecasts.

William B. Facey, NWS National Meteorological Center, for outstanding support in relocating the National Weather Service Telecommunication Gateway to Silver Spring, Md.

Trina C. Heiser, NWS Forecast Office, Sterling, Va., for outstanding performance, ability and creativity in establishing standards of excellence for the transition of Cooperative Program Management into the operations of the modernized and restructured weather service.

Dorothy Johnson, NWS Western Region Headquarters, for outstanding work in managing all administrative aspects of the region.

Roger Kenyon, NWS Forecast Office, Indianapolis, Ind., for outstanding performance and exemplary leadership of the Cooperative Weather Observer Program in Indiana.

David Miskus, NWS National Meteorological Center, Climate Analysis Center, for sustained and dedicated delivery of critical climate and weather related information to a broad range of NWS and NOAA customers.

Allen F. Zahrai, NWS WSR-88D Operational Support Facility, for the design and implementation of the first remotely controlled polarimetric weather radar.

NWS Eastern Region Transition Team, NWS Eastern Region Headquarters, for its invaluable contribution to the modernization of the weather service.

WSR-88 Doppler Hotline Team, NWS Operational Support Facility, Field Support Section, for proactive support of users of the advanced weather radar network.

Birmingham, Ala., Weather Service Forecast Office, for weather warning service to the citizens of Alabama during the Palm Sunday tornado outbreak of March 27, 1994, prompting Vice President Gore's announcement of the expansion of the NOAA Weather Radio network.

National Preparedness Coalition Team, NWS Office of Meteorology, Warning and Forecast Branch, for outstanding work in creation of public-private partnerships among NOAA, the Federal Emergency Management Agency and the American Red Cross, resulting in the creation and distribution of millions of hazard awareness materials each year.

Missouri Basin River Forecast Center, NWS Central Region, for public service and flood forecasting that saved lives and prevented property damage during the Great Flood of 1993.

North Central River Forecast Center, NWS Central Region, for public service and flood forecasting that saved lives and property during the Great Flood of 1993.

NWS Forecast Office, Des Moines, Ia., for performance in issuing timely and

accurate hydrologic products during the 1993 flood in Iowa.

Regional Hydrologist Staff, NWS Central Region, for outstanding public service that helped save lives and prevent property damage during the Great Midwest Flood of 1993.

NWS Forecast Office, St. Louis, Mo., for outstanding work by the staff, issuing timely and accurate hydrologic products from June through August 1993 that resulted in saving lives and preventing property damage during the Great Flood of 1993.

Wayman Baker and John Derber, NWS National Meteorological Center, and **Henry Fleming** (posthumously) and **Mitchell Goldberg**, NESDIS Office of Research and Applications, for implementing procedures using satellite data to improve the forecast skills over the Northern Hemisphere by about three hours.

Reginald Lawrence, Eugene Legg, and Arlene Robinson, NESDIS Office of Satellite Data Processing and Distribution, for outstanding work in increasing the accessibility of NOAA environmental data.

Richard DeAngelis, NESDIS User Services Branch, for his outstanding service as editor of *Mariners Weather Log*.

Mary Hughes, NESDIS Office of Satellite Data Processing and Distribution, for outstanding contributions to NOAA educational programs, and developing and organizing a two-week satellite course now being evaluated by Morgan State University as an accredited course.

Kathy Meyers, NESDIS National Climatic Data Center, for her expertise and leadership in developing and implementing a computer system to process customer requests for environmental data.

Jonathan Overpeck, NESDIS National Geophysical Data Center, for establishing a program in paleoclimatology that has achieved international prominence, and for creating the first agency-wide program in the study of past climates and for establishing it as a core project of NOAA's Climate and Global

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Change Program.

Walter G. Planet, NESDIS Office of Research and Applications, for developing the capability to monitor global ozone levels from NOAA polar-orbiting environmental satellites.

Michael P. Weinreb, NESDIS Office of Research and Applications, for playing a major role in the preparations for the launch of the Nation's newest series of geostationary weather satellites, GOES 1-M.

Gennaro H. Crescenti, John Gaynor, Alan Huber, and John Streicher, OAR Air Resources Laboratory, for their roles as members of a joint NOAA-EPA environmental action team that assisted the Royal Thai government following a November-December 1992 air pollution emergency near the Mae Moh Power Plant in Thailand.

David P. Jorgensen, Thomas J. Matejka, and Bradley F. Smull, OAR National Severe Storms Laboratory, for contributions in designing and executing turboprop aircraft flight patterns that allowed two or more research aircraft to collect critical Doppler radar data during the Tropical Oceans-Global Atmosphere Coupled Ocean Atmosphere Response Experiment, from November 1992 to March 1993.

Robert N. Alvis, OAR Environmental Research Laboratories, Budget Services Office, for developing a computer-based financial management system for the laboratories.

Merri B. Richeson, OAR Environmental Technology Laboratory, for organizing a series of weekly secretarial meetings to improve administrative functions, for her role in creating a secretarial handbook, and for her extraordinary dedication and professionalism in managing the director's office.

Kenneth R. Jones, OAR Resource Management Staff, for suggested improvements in the NOAA and Commerce Department budget process, including a reinventing government suggestion that NOAA switch to "current services" budgeting, resulting in an estimated \$1.25 million savings in budget staff time.

Monica S. Rios, OAR Office of the

Director, for her exceptional commitment to promoting excellence in the Environmental Research Laboratories, including administering its Pre-College Employment Program.

Michael J. Falls, OAR Environmental Technology Laboratory, Ocean Remote Sensing Division, for a variety of innovative equal employment opportunity programs which he developed and led over the past year for NOAA's 11 Environmental Research Laboratories.

Clifton C. Pharr, NOAA Corps Ship *Oregon II*, for his quick action when he discovered that fire had broken out in the ship's engine room.

Robert Swisher and John Villamarette, Information Systems Division, for development of the first metropolitan area fiber-optic network in the Department of Commerce, linking NOAA buildings in Washington, Silver Spring and Germantown, Md.

Cynthia Freeman, Shirley Kick, Clara Magrum, and John Simons, Information Systems Division, Telecommunications and ADP Security Branch, for extraordinary effort during the move of employees into Silver Spring Metro Center buildings three and four.

Karen L. Evans, Human Resources Management, for serving as the NOAA Human Resources focal point for Strategic Planning, Reinventing Government, the National Performance Review, and all associated Commerce and OPM activities.

Noreen Kesecker, Human Resources Management, for her performance in the NOAA FY94 and FY95 Buyout programs.

ADMINISTRATOR'S AWARD

Paul Rago, NMFS Population Dynamics Branch, for outstanding work that has contributed to the development of national management schemes for Atlantic salmon, yellowtail flounder and, most recently, spiny dogfish.

George H. Darcy, NMFS regulations officer, for outstanding work to significantly reduce the escalating costs affiliated with submitting documents for publication in the *Federal Register*, and developing and applying procedures which are not only expected to save well over \$150,000 each year, but have improved efficiency and quality control.

Patricia A. Montanio, NMFS

Marine Mammal Division, for her leadership in the reauthorization of the Marine Mammal Protection Act and Endangered Species Act programs, along with her lead role in the implementation of amendments to the MMPA.

William G. Conner, NOS Office of Ocean Resources Conservation and Assessment, Damage Assessment Center, for outstanding technical leadership in NOAA's National Resource Damage Assessment Program.

Michael Dowgiallo, Coastal Ocean Program Office, for leading the NOAA effort to document the oceanographic effects of the 1993 Midwest flood.

Sam Albanese, NWS Forecast Office, Anchorage, and **Sharon Alden**, NWS Forecast Office, Fairbanks, for outstanding achievements in public service through the design, development and dissemination of new graphic fire weather products to support the state and Federal wildfire management agencies in Alaska.

William Brockman, NWS Office of Systems Operations, for defining deficiencies and resolving significant problems of the Automated Surface Observing System.

James Doherty, NWS Office of Systems Operations, for his outstanding management, design, development and deployment of the Congressional Weather Display System, which provides real-time weather information to members of Congress near the chamber floor.

Carolyn E. Gurney, NWS Forecast Office, Eugene, Ore., for outstanding work for the development of a special program to educate children about the mission of the National Weather Service.

Janice Lewis, NWS Office of Hydrology, for supervising and counseling students in NOAA Equal Employment Opportunity Outreach programs which enabled them to gain valuable experience in hydrology, computers and engineering.

Nina L. Jackson, NESDIS Office of Satellite Data Processing and Distribution, for outstanding work in promoting opportunities and programs for minorities in NOAA.

Robert L. Mairs, NESDIS Information Processing Division, for giving access to NOAA environmental satellite data to users around the world through the

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industry market conditions within minutes of issuance.

To use the new electronic service, call from a fax machine telephone to the NMFS fax server at (301) 713-1415, request mailbox 200, and select item 1. The latest reports will be listed there.

Some of the offerings include: *Daily Fulton Fish Market Prices, Daily New England Auction Results, Weekly New York Frozen Prices, Weekly New England Cold Storage, Weekly New England Auction Summary, Weekly Gulf Coast Shrimp Landings and Exvessel Prices, Weekly Fish Meal & Oil Prices, Weekly Canned Salmon Wholesale Prices, Monthly National Cold Storage, and Quarterly Fish Meal & Oil Production Report.*

Salmon Plan Drafted: NMFS has released a draft biological opinion requiring major changes in the way the Columbia

NEWS BRIEFS

River hydropower system is operated after concluding that current operations jeopardize the continued existence of endangered Columbia Basin salmon.

The biological opinion will require more water for moving salmon through the river system and a change in dam operations to increase survival rates of fish moving through the facilities.

The draft follows by a little more than a month approval of a salmon recovery plan by the Northwest Power Planning Council (NPPC), which also called for major changes in the hydropower system.

NMFS's Schaefer Honored: In recognition of more than three decades of dedicated fisheries conservation and management work, NMFS's Dick Schaefer was presented the Captain David H. Hart Award by the Atlantic States Marine Fisheries Commission. Schaefer is the first Federal employee to receive the award and its first living recipient. ☺

NOAA, Commerce Awards Given

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development of the Satellite Active Archive.

Facilities Management Division Team, Office of Administration, for outstanding performance in coordinating the resolution of the indoor air quality problems at NOAA's Silver Spring Metro Center building one.

Procurement Division Team, Central Administrative Support Center, for outstanding performance in the award of construction contracts and acquisition of furniture for the newly constructed weather service forecast offices throughout the country.

Human Resources Division Team, Mountain Administrative Support Center, for outstanding efforts in justifying and

winning agency and department approval for dual staffing of both current and future weather service offices during modernization.

Arthur Paterson, Office of International Affairs, for outstanding work in conceiving and leading a NOAA policy effort that resulted in the Federal inter-agency International Coral Reef Initiative, designed to foster U.S. domestic stewardship of coral reefs and international cooperation to protect and conserve these resources.

Karen Swanson-Woolf, Office of Legislative Affairs, for her leadership and perseverance in ensuring public and Congressional support for the advancement of the Civil Remote Sensing Program. ☺

Geomagnetic Storms

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nous satellites, disrupt radio communications, and induce slowly varying currents in power lines, pipelines and train tracks. A particularly severe geomagnetic storm in March 1989 caused millions of dollars in damage to power transmission equipment from eastern Canada to southern California and a nine-hour blackout for six million people in Quebec, Canada. ☺

Network Operations Center Opens

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As network management travels on its own local area network, it operates independently of the Silver Spring network it manages, not adding to the traffic on that network.

The NOC will also be the site of an Internet server provided by the NOAA Network Information Center (NIC) for the NOAA East Internet Region, and will provide domain name system services to NOAA offices in Silver Spring as well as some other locations.

'A Key to Sharing Resources'

According to John Villemarette, chief of the Systems Division, "proper management of the network and communications resources in Silver Spring can produce a more efficient and economical environmental sciences organization. The Silver Spring network is a key to sharing of scientific and engineering resources and knowledge within NOAA and the outside world. It is a fundamental vehicle for improving responsiveness to NOAA, outside clients, and other agencies."

Editor's note: If you have any questions about the NOC, please contact John Kyler, NOC Project Manager, at (301) 713-0600. ☺

NOAA Report is a monthly publication for NOAA employees from the NOAA Office of Public Affairs, Washington.

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July 23, 2010