NOAA REPORT

Vol. I, No. 5 | SPECIAL HURRICANE ANDREW EDITION | September 1992

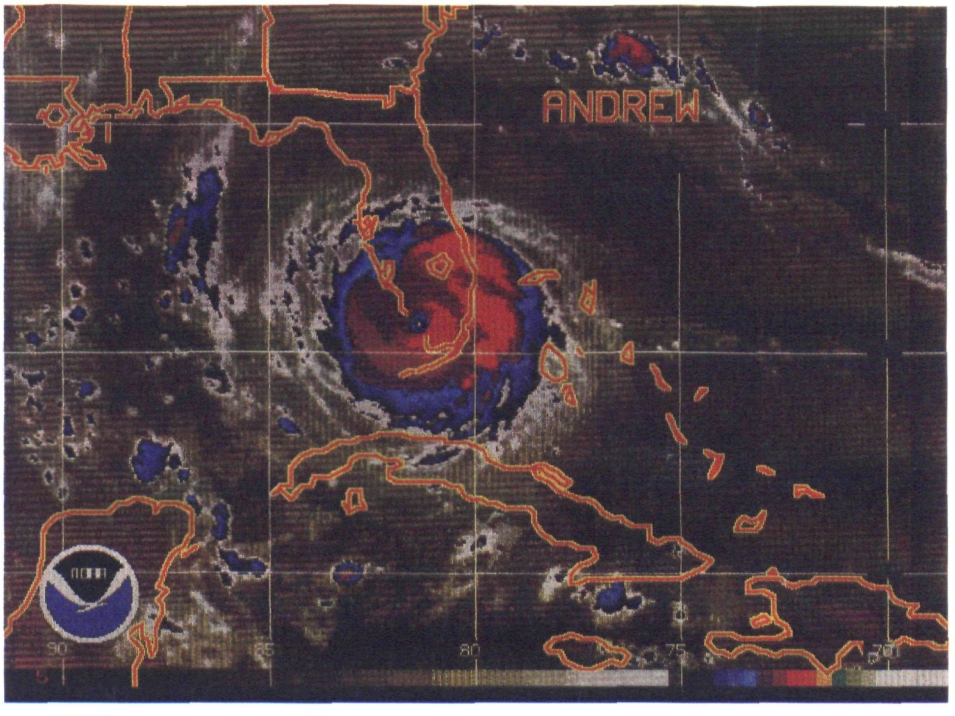
NEWS BRIEFS

Egyptian Hydrologists: Three Egyptian engineers have arrived for eight months of extensive training at NWS's Office of Hydrology. They will receive training in hydrology, river forecasting and the use of the Nile River Forecast system. The training is part of NWS's Nile Monitoring, Forecasting and Simulation Project, which will provide Egypt with expert personnel as well as top computer systems.

El Niño Makes for Good Sport Fishing: This year's El Niño hasn't only affected weather patterns by warming coastal waters five degrees F.—it may also be responsible for excellent sport fishing for several tropical species in southern California. Sport catches of yellowfin tuna and dorado there have already exceeded all-time species records, and bluefin tuna and yellowtail catches have also been high. Angling success has also been unusually high in waters inshore of the Channel Islands, with catches of yellowfin tuna reported as close as five miles off the Los Angeles coast.

Alleged Seal Shooter Snared: The captain of the fishing vessel **Lucky Marie** has been fined $40,000 for allegedly shooting sea lions and harbor seals in Monterey Bay. Dead and wounded sea lions and seals had been found in the Bay since June, and autopsies suggested the animals had been feeding on squid before being shot. Monterey Bay's squid fishery operates between midnight and dawn, and NMFS enforcement agents began a nighttime surveillance of the area. NMFS agents

continued on page 4



NOAA geostationary satellite view of Hurricane Andrew as it left southern Florida on August 24, heading to landfall on the Louisiana Gulf coast.

NOAA Hailed As Bright Spot Amidst Andrew's Fury

The exemplary performance of NOAA's National Weather Service—along with an unprecedented exhibition of the capabilities of NEXRAD Doppler radar—may have saved countless lives as Hurricane Andrew slammed into the Florida and Louisiana coasts late last month.

Days before the storm hit, as it tracked east-northeast towards the southern tip of Florida, some top National Hurricane Center officials and forecasters from Coral Gables, Fl.—directly in Andrew's path—were dispatched to the National Meteorological Center in Camp Springs, Md., outside Washington. Among those left in Coral Gables to hold the fort against Andrew was Dr. Robert

continued on page 2

How to Help

Homes of many NOAA employees in Florida and the Gulf coast were hit hard by Hurricane Andrew. NOAA has already begun to send aid to Andrew's victims. For information on what you can do to help your fellow NOAA employees, see page 3. ❐

HURRICANE ANDREW

Melbourne Doppler Radar Spots Andrew from 180 Miles Away

continued from page 1

Sheets, NHC director.

From the safety of suburban Washington, NHC forecasters were able to be a backup should the storm knock out the Coral Gables forecasting office.

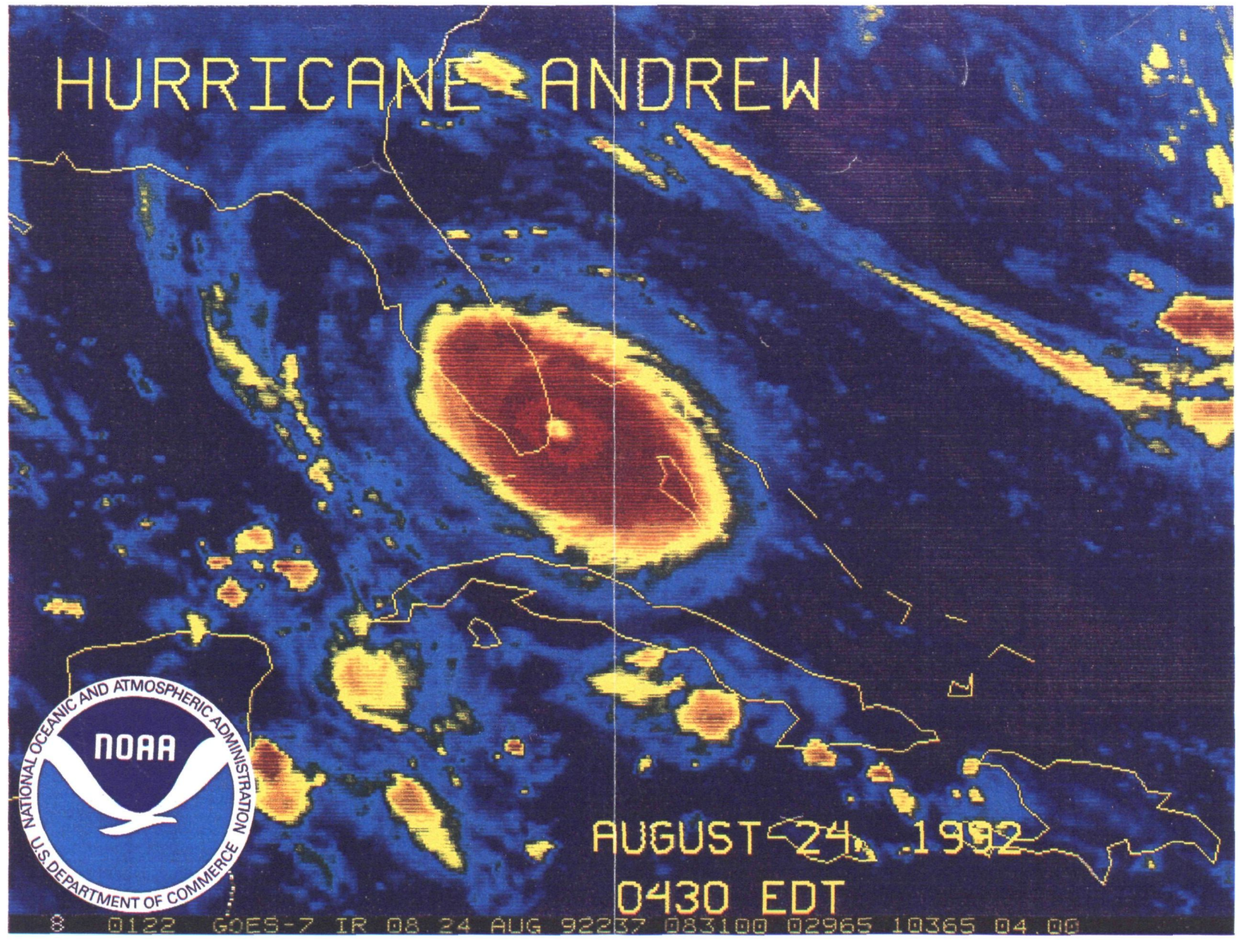
But the storms 165-mile an hour winds knocked out the NHC's radar antenna and satellite dishes, leaving the main hurricane forecasting office in the country without many of the tools it needed to do its job. That's when they were able to tap into the Melbourne, Fla., Doppler radar station, as well as local TV weather radar, to track the hurricane and predict its course.

Crystal Clear Radar

With the crystal clear images from the Doppler radar at Melbourne, Fl., 180 miles from the eye of the storm, NHC and Miami Weather Service Forecast Office (WSFO) staff were able to predict the storm's course under some of the most adverse weather conditions imaginable. The Doppler's highly detailed information enabled the Miami WSFO to issue precise local watches and warnings. In addition, the Melbourne Doppler helped NHC forecasters predict the most important part of a hurricane to the public—when the high winds and heavy rains would start, and when they would be over.

NHC forecasters issued watches and warnings with almost unprecedented lead times. A watch was issued 36 hours before landfall, and a warning 12 hours later. And their precise projections of when and where the hurricane would strike gave state and local emergency managers unforeseen ability to make plans and coordinate evacuation efforts, saving countless lives.

continued on page 3



A geostationary satellite image of Andrew approaching landfall south of Miami on August 24. Maximum sustained winds were 138 miles per hour here.

Hurricane Categories Explained

At its height, Hurricane Andrew was a category four hurricane—the second most dangerous kind—and threatened to become a category five. NOAA's hurricane forecasters use the Saffir-Simpson scale to measure the potential of a hurricane to create major disaster. The last category five hurricane to hit the U.S. was Hurricane Camille in 1969, which cut a swath through the Gulf Coast of Louisiana and Mississippi.

Category One—Winds 74-95 miles per hour or storm surge 4-5 feet above normal. No real damage to buildings, structures.

Category Two—Winds 96-110 miles per hour or storm surge 6-8 feet above normal. Some door, roofing material and window damage to buildings.

Category Three—Winds 111-130 miles per hour or storm surge 9-12 feet above normal. Some structural damage to small homes and utility buildings.

Category Four—Winds 131-155 miles per hour or storm surge 13-18 feet above normal. Extensive destruction, with complete destruction of some roofs on small homes.

Category Five—Winds greater than 155 miles per hour or storm surge greater than 18 feet above normal. Complete destruction of many homes and industrial buildings. ❐

continued from page 2

"Hurricane Andrew is the event that inaugurates the work of the WSR-88D [Doppler radar] in hurricane meteorology," said Dr. Elbert W. Friday, NWS assistant administrator.

Keystone of Modernization

The state of the art radar at Melbourne, the second Doppler to be installed nationally for the NWS, is a keystone of weather service modernization. When modernization is complete, more than 150 Doppler radars will operate in this country and at military bases overseas acquiring, processing and distributing high resolution data on hurricanes, tornadoes, flash floods and other storms to forecasters. ❐

Efforts Underway to Aid Homeless Florida Staffers

By now, we've all seen the horrifying pictures of the destruction and misery Hurricane Andrew left in its wake. But you may not realize the extent of the damage to NOAA employees, and their homes and families, let alone NOAA facilities in Florida and the Gulf coast.

Thankfully, there is a way for NOAA employees to help their colleagues. The NOAA Voluntary Action Committee—a private charitable organization of NOAA employees—has agreed to get immediate short-term help to the NOAA employees in the area.

Send your check or money order, payable to "NOVAC—Hurricane Andrew Relief" to:

NOVAC
DOC/NOAA
6010 Executive Boulevard
Rockville, Md. 20852

NOVAC Relief Fund coordinators in the Washington area include:

- ✔ **Nana Dayo-Otekunrin**; SSMC-2, Rm. 5347, Silver Spring
- ✔ **John Love**; FB4, Rm. 1016, Suitland
- ✔ **Nicole Gibson**; WSC-1, Rm. 103, Rockville
- ✔ **Denise Johnson**; 5230 HCHB, Washington

And private NOAA efforts abound. Employees at the National Meteorological Center in Camp Springs, Md., collected food and clothing late last month for NOAA

continued on page 4

continued from page 1

reported hearing shots throughout the night of July 6 coming from the vicinity of the **Lucky Marie**. The next morning, NMFS agents boarded the ship and seized a rifle. The **Lucky Marie**'s captain is expected to ask for a hearing.

Students All Wet: A NOAA-sponsored program at the University of Connecticut let top high school students make dives aboard the Johnson Sea Link II submersible this year. The Aquanaut Program brought 12 students from each of eight high schools together for lectures at the University's Avery Point campus, readying them for voyages aboard the research vessel **Seaward Johnson**, and the dives. The students will analyze the sediment and water samples collected during the dives at their high schools this year, and efforts are underway to publish the results in a scientific journal.

Dolphin Survey Cruise: The NOAA Corps vessels **David Starr Jordan** and **McArthur** have begun a 3-month survey of dolphin populations in the eastern tropical Pacific Ocean. Scientists from NMFS's Southwest Fisheries Science Center, accompanied by three Mexican observers, will estimate the abundance of central common dolphins, a species of concern in this tuna fishery. The survey supports the Marine Mammal Protection Act and a June 1992 resolution by members of the Inter-American Tropical tuna Commission requiring that the incidental kill of dolphins during a tuna catch not exceed two percent of the stock size.

Command Change for Mt. Mitchell: Back from the Persian Gulf, the NOAA ship Mt. Mitchell is changing commanding officers. Commander David McFarland Jr. relieved Capt. Richard Permenter in an August 17 ceremony. ❐

NEWS BRIEFS

NMFS Proposal to Protect Mammals

A newly proposed NMFS rule will prohibit people, vessels and aircraft from approaching marine mammals too closely, to provide greater protection for whales and dolphins.

"The proposed rule is designed to protect whales and dolphins from well-meaning people who want to see them up-close, but don't realize they may be disturbing the animals," said William W. Fox, NOAA's assistant administrator for fisheries. "We don't expect the regulations to affect the whale watching industry."

The regulations proposed by NMFS would prohibit aircraft from approaching whales and dolphins closer than 1,000 feet, and vessels or people from approaching whales closer than 100 yards and dolphins closer than 50 yards.

A similar rule has been in effect in Hawaii for humpback whales since 1987. ❐

Help for NOAA Staff

continued from page 3

employees and had it flown down to the NOAA hangar in Miami through an agreement with the Navy. "We had piles of food and clothing lining the lobby of the World Weather Building, all the way out to the parking lot," said Laura Dotson, who helped with the effort. ❐

South Pole Stratosphere Monitoring Intensifies as Ozone Hole Sets to Open

As the annual ozone hole opens up over Antarctica, NOAA has more than doubled its South Pole ozone monitoring efforts there.

Scientists at NOAA's South Pole observatory have begun launching balloon-borne instruments, called ozonesondes, that monitor ozone concentrations every three days. Normally, they are launched once a week.

This intensified monitoring will continue through October, covering the Southern Hemisphere's springtime months when the annual ozone hole appears, said Samuel J. Oltmans of NOAA's Climate Monitoring and Diagnostic Laboratory in Boulder, Co.

In September, the return of sunlight to the Antarctic kicks off a cycle of chemical reactions which result in severe ozone destruction at certain levels in the stratosphere over the area. This usually lasts through October. Man-made chlorofluorocarbons (CFCs) play a primary role in the process.

In addition, this year scientists will be looking for what impact the eruption of Mt. Pinatubo last year may have on ozone concentrations, Oltmans said.

The particles given off by the erupting volcano may modify the strength, timing and duration of the Antarctic ozone hole, according to Oltmans and David Hofmann, a NOAA senior scientist. This may cause ozone destruction in the lower atmosphere, an earlier appearance of the ozone hole, or its longer duration, they speculate. ❐

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National Oceanic and Atmospheric Administration

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