

NOAA REPORT



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COSPAS-SARSAT Saves 4 in California, Hawaii

NOAA's satellite search-and-rescue system helped save four fishermen in two separate incidents last month.

Two fishermen from Hawaii were rescued last month when they activated their Emergency Position Indicating Radio Beacon (EPIRB) 120 miles northwest of Kauai.

When their 35-foot vessel, *Iwalani*, began taking on water, the fishermen activated their

406 MHz EPIRB and a signal was sent to an international search and rescue satellite system known as COSPAS-SARSAT, or satellite-aided search and rescue, operated by NOAA. The signal was relayed to a ground receiving station,



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They'll Play Anything But Canned Tuna:

An acoustic device used to keep whales away from fishing gear may also prevent harbor porpoises from becoming entangled in fishing nets and drowning, according to a preliminary NOAA-funded study. In the study, done by New Hampshire Sea Grant, nets were outfitted with the device—small metal balls with battery-operated noisemakers inside—and were checked by NMFS observers for 60 days. While nets without the devices had ten incidents of porpoises entangling themselves, the nets with the acoustical devices had none.

NEWS BRIEFS

NESDIS Checks Out Storms for NWS: NESDIS provided four satellite precipitation estimates to the National Weather Service for a severe winter storm that affected much of the western U.S. from December 28th through the 31st. The storm produced heavy rains—two to five inches in some areas—thunderstorms with hail and funnel clouds, and heavy snow with accumulations of up to five feet. Winds of 100 knots were also reported.

Changes in the Tuna Embargo: The importation of tuna caught by Panamanian vessels in the eastern tropical Pacific into the U.S. has been stopped, NMFS officials said, because that country has failed to prohibit the intentional encircling of marine mammals, such as dolphins, by its purse seine vessels. Similar tuna imports from Colombia, Mexico

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Volcanos, El Niño Affected 1992 U.S., Global Climate

Natural events like the Mt. Pinatubo eruption in the Philippines and the El Niño episode in the Pacific Ocean had a major impact on U.S. and global climates in 1992, NOAA scientists reported in a press conference last month.

The record warm winter of 1991-92 over the United States and much of North America is associated with a long-lived El Niño/Southern Oscillation (ENSO) episode which peaked during the late spring. ENSO events have also contributed to global warming in recent years.

A cooling effect on the Earth's climate occurred last year caused by an aerosol cloud generated from the eruption of Mt. Pinatubo in June

1991. By the spring of 1992, the stratospheric cloud (above 15,000 meters) had spread from the tropics well into the Northern Hemisphere. **Smaller Volcano Also Contributed**

A smaller volcano, Chile's Mt. Hudson, which erupted in August 1991, also contributed to the aerosol cloud, especially in the Southern Hemisphere. As the aerosol cloud spread throughout the Northern

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Volcanos, El Niño Affected '92 Climate

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Hemisphere during a time of increasing solar radiation, temperatures responded by falling rather dramatically over much of the Northern Hemisphere.

During 1992, volcanic aerosols in

the stratosphere may have further depleted ozone concentrations. In the springtime, ozone values in the Antarctic stratosphere were the lowest ever observed, and the area of the ozone hole larger than ever recorded. **It Never Rains in California...Not!**

One of the major U.S. weather stories of the year was the soaking that California received. Storms from

October through the end of the year brought 115 percent of its normal statewide precipitation, and gave the drought-weary state a near-normal year—the 42nd wettest—of rain and snow. While it wasn't enough to end the state's long-term drought, 1992 did break a string of five consecutive years where precipitation levels fell way below normal. □

COSPAS-SARSAT Rescues Four Fishermen in Pacific

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processed, and then sent to NOAA's U.S. Mission Control Center in Suitland, Md.

The control center forwarded the message to a Coast Guard Rescue Coordination Center, which dis-

patched a C-130 from Air Station Barbers Point. The C-130 dropped two pumps and a life raft to the vessel, and the Coast Guard Cutter *Washington* escorted the vessel to port. **Saved Off Santa Cruz Island**

SARSAT also helped save two fishermen from Santa Barbara, Calif.,

recently when they activated their EPIRB near Santa Cruz Island, Calif.

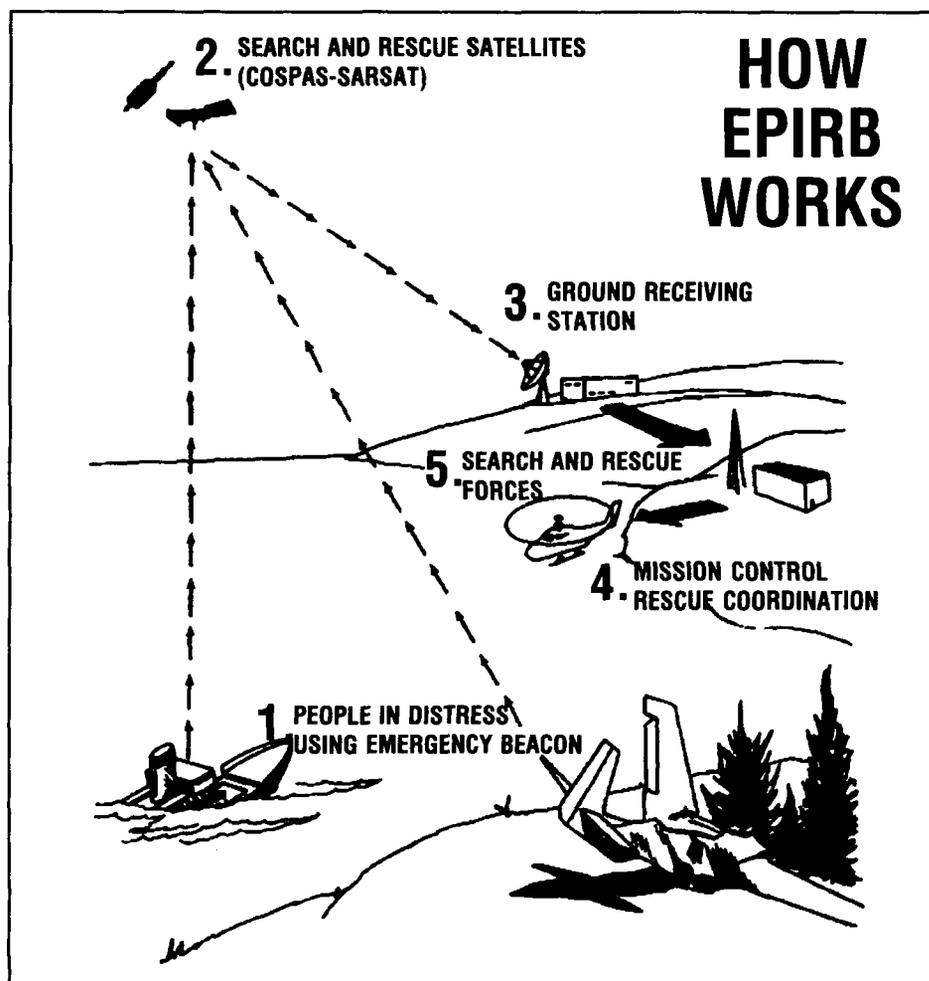
When their 24-foot fishing vessel, *Honest Ab*, ran aground and broke into pieces, the fishermen activated their 406 MHz EPIRB. The EPIRB signal was picked up by a NOAA geostationary satellite, GOES-7. Similar to the Hawaii rescue, the signal was relayed to a ground receiving station, processed, and then sent to Mission Control.

Helicopter from Los Angeles

The Center again forwarded the message to a Coast Guard Rescue Coordination Center, which dispatched an H-65 helicopter from Air Station Los Angeles. The helicopter hoisted the two men to safety. The detection by a geostationary satellite, along with EPIRB registration, allowed the Coast Guard to respond promptly.

The COSPAS-SARSAT program uses NOAA environmental satellites, Russian satellites and a network of earth stations to pick up distress signals from pilots or mariners who have crashed or become shipwrecked.

The program was formed as a joint effort by the United States, Canada, France and the former Soviet Union. The first satellite was launched by the Soviet Union in 1982, followed by additional Soviet and U.S. satellites. Today there are six operational satellites involved in the program: NOAA-9, -10, and -11, and COSPAS-4, -5, and -6. □





PETER RONA

U.S. and American scientists take a topside break aboard the Yokosuka, the mother ship to the Shinkai 6500, in the background.

U.S., Japanese Scientists Go Deep, Don't Hit Bottom in Diving Mini-Sub

A team of U.S. and Japanese government and university scientists recently completed a three-month series of submersible dives, co-sponsored by NOAA, to one of the deepest parts of the ocean in one of the world's deepest diving scientific subs.

Diving in the *Shinkai 6500*, a state-of-the-art, three-seater mini sub that can reach depths of 20,000 feet, the researchers observed and studied volcanic "hot springs" in the world's deepest underwater canyon, the Mariana Trench off Japan.

The dives were sponsored by NOAA's Office of Oceanic and Atmospheric Research in Silver Spring, Md., and the Japan Marine Science and Technology Center in Yokosuka, Japan, which operates the *Shinkai 6500*.

'Some of the Best' Scientists

"This project put some of the best American and Japanese deep ocean scientists in the world's most technologically advanced manned submersible, and took them to the deepest area of the world ocean to answer some of the most intriguing questions about hydrothermal vents and the little understood colonies of life that they support," said Gregory Stone, NOAA marine biologist and one of the coordinators of the project. Stone was also the first American to dive in the *Shinkai 6500* in an earlier project.

The American researchers included Dr. Peter Rona of NOAA's Atlantic Oceanographic and Meteorological Laboratory in Miami, Fla., and scientists from Rutgers University, the University of Hawaii and Indiana University.

Giant Tubeworms Scrutinized

The scientists were able to examine the hot springs, or hydrothermal vents, close up, as well as the giant tubeworms, crabs, mussels, and other organisms nourished by them to determine how these isolated colonies of organisms are able to spread and interact with others like them in the western Pacific. Other scientists searched for a possible underwater volcano near the trench to study the formation and alteration of the deep ocean mantle.

The Mariana Trench is the world's deepest seafloor depression, with depths measured to 37,800 feet, on the highly geologically active edge of the Pacific tectonic plate in the western Pacific.

—Dane Konop □

NMFS Research Wins Awards for Seattle Scientists

Two groups of Seattle-based NOAA scientists have received awards from NOAA's National Marine Fisheries Service for their outstanding research last month.

Dr. Roy Porter, Barbara Koury and George Kudo received the 1992 NOAA Technology Transfer Award for isolating the enzyme in Pacific whiting that causes the softness in the fish during storage and cooking (making it commercially less desirable), and for transferring this technology to the fishing industry. This demonstrates the application of the inhibitor under commercial conditions aboard factory trawlers.

This is the first license awarded to a Department of Commerce laboratory under the Technology Transfer Act of 1986.

Fatty Acids Fight Disease

Dr. Virginia Stout, Erich Gauglitz and Dr. William Nilsson received U.S. Patent Awards for developing a procedure for preparing uncontaminated omega-3 polyunsaturated fatty acids from fish oils for use in determining their benefits for treating cardiovascular and autoimmune or inflammatory diseases. Previous methods were unsuitable because of the unacceptable levels of toxic contaminants in the fatty acids.

The awards were presented by NMFS chief Dr. William Fox during a visit to Seattle.

—Hal Alabaster □

Dial-A-Storm?

Want to know if it's raining in Raleigh? Or if it's storming in Salem? If you've got a touch-tone phone, you can get official NOAA Weather Radio information nationwide by calling 1-900-884-NOAA (6622). Cost is 98 cents a minute. □

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and Venezuela are also prohibited. However, the embargo was lifted for the countries of Ecuador and Vanuatu through the end of 1993.

NOAA Ship Movements: The NOAA Ship *Oregon II* departed the NMFS laboratory in Pascagoula, Miss., last month to collect data on the abundance and distribution of marine mammals in the Gulf of Mexico. Also, the NOAA Ship *Delaware II* set sail from Woods Hole, Mass., last month on a larval herring and sand lance study in waters from Sandy Hook, N.J., to Cape Ann, including Massachusetts Bay and eastward over Georges Bank.

World Shrimp and Salmon Aquaculture Reports: An aquaculture study on world salmon and shrimp culture industries has been published by

NEWS BRIEFS

NMFS. Over the last two years, NMFS's Office of International Affairs has collected data from around the world to include in this five-part, 1,500-page report, a summary of previously published country reports. It addresses salmon and shrimp separately, and includes information on each species; existing farms and hatcheries; feeding practices; harvesting and processing methods; exports; research activities; environmental factors; and investment and joint ventures. Copies of the reports can be obtained from the Commerce Department's National Technical Information Service by calling (703) 487-4650 and requesting "World Salmon Culture" (PB93-134617/GBA) or "World Shrimp Culture" (PB93-134625/GBA).

Magazine Features NOAA: The lead article in the January issue of *Scientific American* includes three NOAA/NESDIS color images of satellite-derived sea-surface temperatures taken during 1990 over the Gulf of Mexico and the Caribbean. □

Albritton Cited for Ozone Studies

Dr. Daniel L. Albritton, Director of NOAA's Aeronomy Laboratory in Boulder, was honored earlier this month at the American Meteorology Society's annual awards banquet in Anaheim, Calif.

Albritton shared the organization's Special Award "for notable efforts in organizing and conducting international assessments in ozone depletion and global change" with Dr. Robert T. Watson of NASA.

The two scientists also will share the Scientific Freedom and Responsibility Award to be presented by the American Association for the Advancement of Science (AAAS) at its annual meeting in Boston on February 15.

The AAAS award honors Albritton and Watson for "leadership in organizing research on stratospheric

ozone destruction and in responsibly conveying this knowledge to the international negotiations designed to protect the earth's vital ozone shield." **Two Agencies Working Together**

The NOAA and NASA scientists have worked as a team in providing scientific advice to U.S. and United Nations representatives involved in developing international agreements to control the manufacture and emissions of ozone-destroying substances. They also have been active in developing plans for U.S. global climate change research.

Together they have planned and supervised a number of scientific studies in the Antarctic and Arctic, examining ozone destruction there.

Albritton has been director of the Aeronomy Laboratory since 1984. He joined the laboratory as a research physicist in 1967 after receiving a Ph.D. degree in physics from Georgia Institute of Technology, where he also earned B.S. and M.S. degrees.

—Bill Brennan □



Stan Eames 1917-1993

Stan Eames, former director and deputy director of NOAA Public Affairs, died on January 17 in Gaithersburg, Md. His spirit, friendliness and good humor will be missed by the many people in NOAA and the Department of Commerce who worked with him over his years here, and especially those on this staff who knew him, who worked with him, and who respected him greatly. □

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