

# NOAA WEEK

A UNITED STATES  
DEPARTMENT OF  
COMMERCE  
PUBLICATION



April 2, 1971  
Volume 2  
Number 13

U.S. DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration

## NOAA Will Attempt To Relieve Florida Drought In Joint Federal-State Cloud Seeding Experiment

The State of Florida and ERL's Experimental Meteorology Laboratory have begun an unusual cooperative cloud-seeding experiment aimed at relieving the area's severe drought. This experimental attempt to make up partially a deficit of more than three million acre-feet of water in south and central Florida will last about two months. According to the Central and Southern Florida Flood Control District (FCD), whose mission is water management for the region, the major water storage areas were two to three feet below their scheduled levels as of mid-March. Normal March rainfall in southern and central Florida is about 2.5 inches. Last year, the region received 10 to 18 inches of rain and only 0.2 and 0.5 inch fell during the first 16 days of March 1971. Water rationing has been ordered by Fort Lauderdale authorities, and the U.S. Army Corps of Engineers has notified private and commercial boat users that the Cross-Florida Okeechobee Waterway is below the 12.5 foot navigable level between Stuart on the Atlantic coast and Fort Myers on the Gulf coast. When it became obvious in late 1970 that the situation was critical, former Florida Governor Claude R. Kirk, Jr., asked NOAA to help alleviate the water shortage by renewing its cloud-seeding experiments in the spring of 1971. Florida's present Governor, Reubin O'D. Askew endorsed Governor Kirk's request.

Under the direction of Dr. Joanne Simpson, the Experimental Meteorology Laboratory will undertake to increase rainfall by seeding tropical cumulus clouds over a 4,800-square-mile target area taking in the Kissimmee Basin and part of St. John's Basin just north of Lake Okeechobee. Kissimmee Basin water drains into the lake.

On seeding days, Drs. Joanne Simpson and William L. Woodley, also of EML, hope to inject silver iodide into as many as 16 clustered clouds. Through the National Weather Service radar facilities at Tampa and Daytona Beach, the EML scientists will attempt to follow the movement of the seeded areas within the general mass of clouds. A network of 141 rain gages, 85 of them provided by and all of them monitored by FCD, will record rainfall data in the target area. The radars and rainfall gages will be the prime analytical tools in determining the success of the experiment.

Dr. Woodley emphasizes that there are significant unknowns in this experiment. He and Dr. Simpson believe that only under the proper atmospheric conditions can dynamic seeding increase rainfall. One uncertainty is how many days in April and May will qualify for seeding. Under ideal conditions, 27 out of the 61 days would meet the experimental criteria. But the variability from year to year is great and unpredictable. In 1970, only four to six days would have been suitable for seeding to promote cloud mergers. Another uncertainty is the amount of additional rain that will fall due to seeding. The 1970 cloud merger experiment was promising, but the number of seeding days was too small for any scientifically supportable conclusions or estimates for the present project. "Under the most ideal weather conditions," says Dr. Woodley, "we will be able to help alleviate the water shortage. It is unlikely, however, that our efforts alone will break the drought. A good naturally rainy period will be required to fill the reservoirs."

## Many States Earthquake-Prone, Historical Investigation Reveals

A study by NOAA seismologists reveals that earthquakes as severe or stronger than that which rocked Southern California on Feb. 9 could occur in other populous states in the conterminous U.S. The National Earthquake Information Center noted 20 instances in which strong earthquakes took place outside California and Alaska, the two states where a majority of earthquakes are felt, during the last three centuries. On the basis of a study of all reported earthquakes felt in the conterminous United States, dating to 1663, seismologists at the National Ocean Survey have concluded that there are 16 states or portions of states in which "major destructive earthquakes" may occur or which could be affected by major shocks near their borders. These states are California, Nevada, Washington, Montana, Wyoming, Utah, Missouri, Tennessee, Arkansas, Mississippi, South Carolina, New York, Maine, Vermont, New Hampshire, and Massachusetts. The remaining areas of the conterminous United States, with a few exceptions, have a "reasonable expectancy" of minor or moderate damage from earthquakes, on the basis of past seismic activity. Three earthquakes occurred in 1811 and 1812 and were centered near New Madrid, Mo. They are regarded by seismologists as among the great earthquakes of known history. Another major earthquake occurred in 1886 and was centered 15 miles from Charleston, S.C. It caused 60 fatalities. Some notable earthquakes have occurred in the St. Lawrence River area. A 1663 tremor was apparently felt throughout all of eastern Canada and northeastern United States. A 1925 tremor which originated in the same region was probably felt by more people than any previous shock in the United States, from eastern Canada south to Virginia, and west to the Mississippi River. Other major earthquakes over the past 300 years (excluding California and Alaska) and the states in which they were centered include: 1915, Nevada; 1921, Utah; 1925, Montana; 1931, Texas; 1934, Utah; 1935, Montana; 1959, Montana; and 1965, Washington. In addition to the major earthquakes, NEIC has compiled a record of 757 less severe earthquakes during the past three centuries in the conterminous U.S. which resulted in some damage and, in some cases, fatalities.

## NOIC Director Addresses Oceanographers in France



At OCEANEXPO held in Bordeaux, France, Gilbert Jaffe (left), Director of the National Oceanographic Instrumentation Center (NOIC), announced to leading oceanographers of the world that NOIC would expand its program to include the evaluation and calibration of foreign manufactured oceanographic instruments and equipment. While this phase of the NOIC program will be limited by resources, it is an important step toward international cooperation. This new undertaking, the evaluation of foreign oceanographic instruments, will increase the scope of the Center's activities to benefit not only the United States' national effort, but international interests as well. At this International Congress on the Exploitation of the Oceans, Mr. Jaffe also presented a paper entitled "National Oceanographic Instrumentation Center," which described the significant role of the Center, and the need for international cooperation in oceanographic programs. Mr. Jaffe described the Center as the focal point within the United States for knowledge of technology related to the testing, evaluation, and calibration of sensing systems for ocean use.

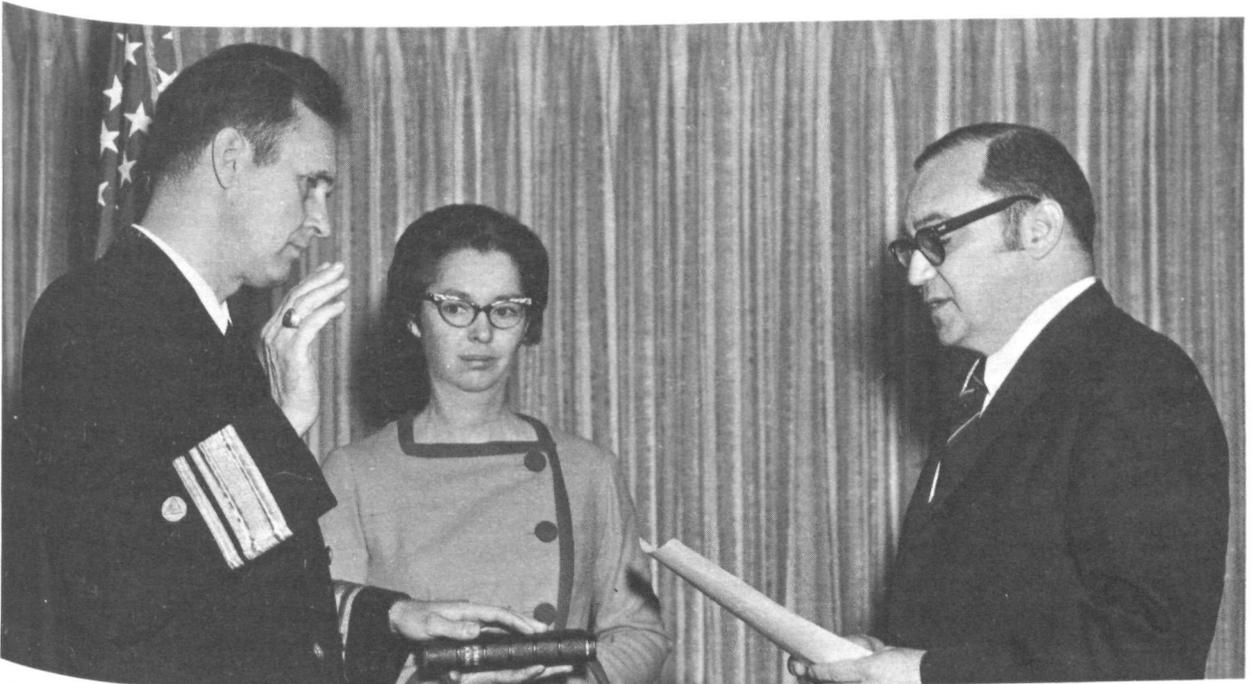
## Rice Joins NMFS La Jolla Center Staff

Dale W. Rice, wildlife biologist from the NMFS Marine Mammal Biological Laboratory in Seattle, has been transferred to the scientific staff at the NMFS Fishery-Oceanography Center in La Jolla, California. Working with biologists and biometricians in the Center's population dynamics program, Mr. Rice will continue U.S. whale research directed toward an understanding of the life history, population dynamics and ecology of the gray whale, sperm whale, and other whale stocks in the eastern North Pacific.

## Rear Admirals Jones and Nygren Sworn Into Office



Left to right: R. Admiral Jones, Mrs. Jones, and Dr. White

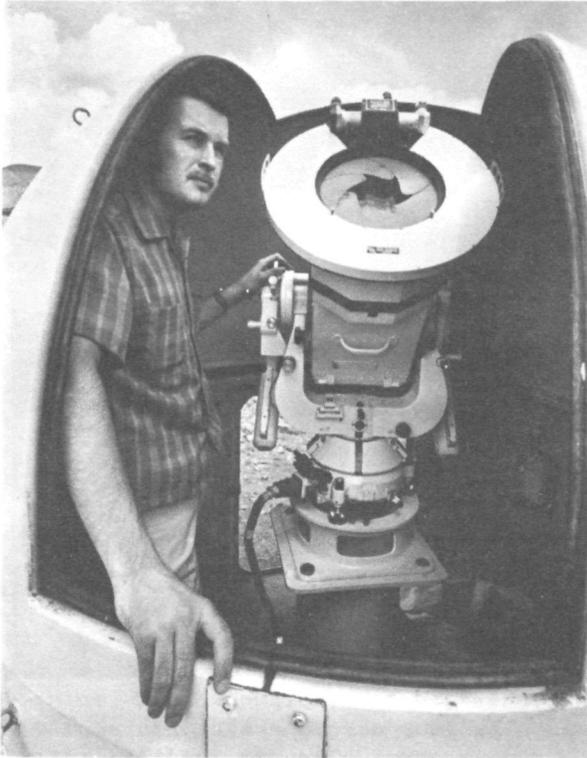


Left to right: R. Admiral Nygren, Mrs. Nygren, and Dr. White.

Rear Admiral Don A. Jones was sworn in as Director of the National Ocean Survey, and Rear Admiral Harley D. Nygren took

office as Director of the NOAA Corps in a ceremony, March 23. Dr. Robert M. White, NOAA Administrator, officiated.

## Four-Year Measurement of Earth Is Completed



Larry Hothem adjusts a 400-millimeter camera used to photograph the satellite Pageos.

(Photo by Albuquerque Tribune)

The most accurate measurement ever made for determining the size and shape of the earth, including all the continents-- a four-year program involving 32 nations-- has now been completed. The program was carried out, in cooperation with foreign nations, by NOAA, NASA, and the Department of Defense. The program involved the use of as many as 17 camera systems and teams employing satellite triangulation. Under this program, simultaneous photographs were made at night by two or more teams, spaced approximately 2500 miles apart, of the sun-illuminated PAGEOS satellite in a near polar, circular orbit approximately 2500 miles above the earth. In addition to determining the size and shape of the earth with a preciseness never before achieved, the program will result, once the data are analyzed, in the establishment of a worldwide geodetic network which will tie together most of the world's major datums. A datum is a mathematical base which enables surveyors to define precise horizontal and vertical positions on earth. The data amassed by the satellite triangulation teams, together with

measured distances, will provide a more accurate knowledge of earth parameters for the solution of modern geodetic problems and for meeting the requirements of modern astronomy and space research.

The worldwide program was carried out largely by the United States, which furnished as many as 15 of the 17 camera teams. West Germany supplied two teams and the United Kingdom one team that operated worldwide, while Australia furnished two teams and South Africa one team which operated in their countries. NASA provided overall management responsibility for the program, which began in 1966 with the launch of the balloon satellite PAGEOS as an integral part of the National Geodetic Satellite Program. The Topographic Command of the Army Corps of Engineers had the primary responsibility for logistics. It furnished four field observation teams. The National Ocean Survey exercised the technical responsibility for data acquisition, reduction and analysis of results. It also provided training for all personnel and prepared operational manuals. Twelve observational teams were also supplied by the agency. Twenty-four nations cooperated in the field observations by authorizing the camera teams to operate within their borders and territories. Captain Lawrence W. Swanson was program manager within NOAA for this cooperative effort to determine the size and shape of the earth. The final computations of the data are scheduled to be completed by June 30, 1972.

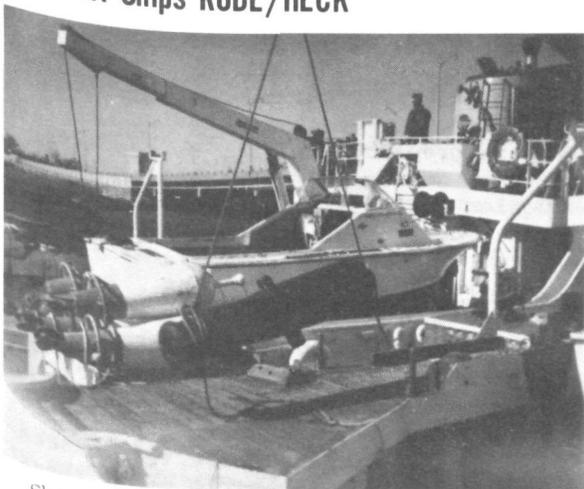
### NOAA Men Author Chapters In Book on Marine Exploration

Two chapters of a new book, "Man and the Sea," published by the Natural History Press of New York, were taken from issues of the Environmental Data Service's "Mariners Weather Log." One, entitled "Tsunami and the Seismic Sea Wave Warning System," was written by Bernard D. Zetler, Acting Director of the NOAA Physical Oceanography Laboratory, Miami; the other, "Seaquakes: Shakers of Ships," was by Lt. Frank P. Rossi, a member of the NOAA Corps and a former editor of the weather log. The book, edited by Professor Bernard L. Gordon of Northeastern University, contains 71 chapters representing classic accounts of marine exploration.

## Des Moines Station Produces Warning Messages for the Deaf

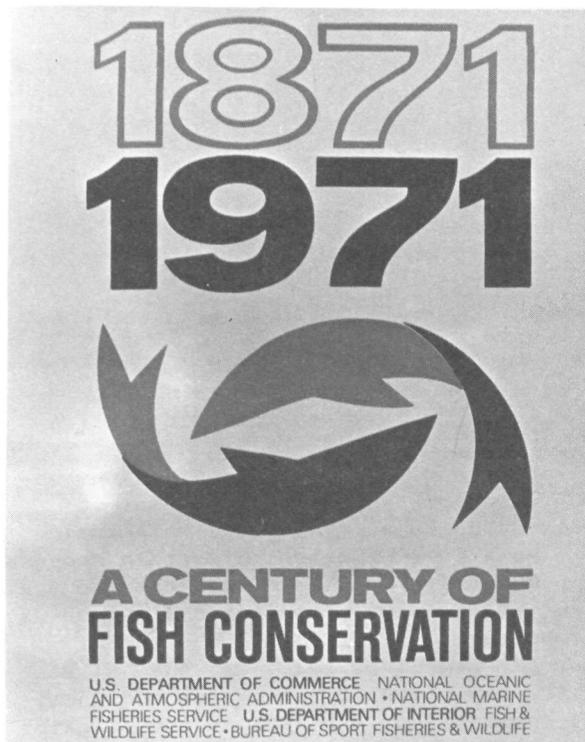
Station WHO-TV in Des Moines, Iowa, recently announced a new programming service to the deaf. Harold Gibson, meteorologist in charge, Des Moines, assisted in preparing a series of ten tapes which are designed to give tornado watches and warnings to deaf persons. Four of the tapes will state graphically and in sign language that a tornado watch has been issued affecting the northwest, northeast, southwest, or southeast sections of Iowa. A fifth tape will indicate that a tornado watch includes the Des Moines area. In a similar manner, five other tapes have been prepared which indicate that a tornado warning has been issued by the National Weather Service for these same areas. Mr. Gibson anticipates no problem with the watch areas, however, he thinks the large warning areas may pose a problem, since it is practically impossible for the TV station to make enough tapes to cover all eventualities. The NWS in Iowa will be assisting WHO-TV this spring and summer in monitoring the programs.

## 19th Century Cannon Retrieved By NOAA Ships RUDE/HECK



Shown above is the cannon salvaged from the wreck of an armed sailing vessel, possibly a Union Civil War revenue cutter or a Confederate blockade runner, lying on the deck of the NOAA Ship RUDE, an NOS wire drag ship. The wreck of the 19th century vessel was found off Virginia Beach, Va., while the ship was dragging Atlantic coastal waters for navigational hazards. (See NOAA WEEK dated March 19 for additional information.)

## Poster Commemorates Fisheries Centennial



Shown above is the poster designed by NOAA's Visual Services Branch to commemorate the National Marine Fisheries Service's Centennial that is being celebrated throughout 1971. The poster will be displayed at fishery installations throughout the United States.

## NOAA Employee Check Distribution To Be Made by Treasury Department

Employee net salary checks hereafter will be mailed by the Treasury Department rather than by NOAA. Beginning with the biweekly checks dated April 14, the semi-monthly commissioned officers checks dated April 15, and the wage marine employees checks dated April 12, the Treasury Department will mail salary checks directly to designated agents. Designated agents will be specified by position title (section level or above) as prescribed by the Treasury Department. There will be no change in the procedure involving employees who have elected to have their salary checks mailed to the bank. The Treasury Department already provides this service. The Employee's Statement of Earnings and Leave will continue to be distributed by NOAA.

## N.J. and Pa. Institutions Get Sea Grants for Research

Sea Grants totaling \$383,700 have been awarded by NOAA for research on marine pharmacology and on submersible probes. \$203,000 has been awarded to the Stevens Institute of Technology, Hoboken, N. J., for studies of the chemistry of natural marine products that indicate some pharmacological activity. \$180,700 went to Lehigh University, Bethlehem, Pa., for continuing studies of probes used from submersibles to determine geotechnical properties of the sea floor. In each case, the grantee institution will match at least one half of the NOAA grant with funds from non-Federal sources.

Stevens Institute of Technology scientists will use their Sea Grant to try to extract useful compounds from various marine organisms. They will attempt to isolate and identify various antibiotics that have been reported in certain sponges. They will also work with lobsters and sea worms, to extract pure chemical compounds, determine their structure, and see if they are useful to man. Dr. Ajay K. Bose of the Department of Chemistry and Chemical Engineering is principal investigator for the project.

Lehigh University investigators will refine and use two new probes to obtain measurements from submersibles, and will continue conceptual design and development. Now beginning the second year of a three-year NOAA Sea Grant project, they will continue cooperation with Lockheed Ocean Laboratory, San Diego, in developing probes with the submersible DEEP QUEST, for joint studies of sea floor soil mechanics in the San Diego trough. Principal investigators of the Lehigh project are Dr. James M. Parks and Dr. Adrian F. Richards of Lehigh's Center for Marine and Environmental Studies.

## NMFS, NWS Regional Staffs Confer

Administrative personnel from the National Marine Fisheries Service's Northeast Region located at Gloucester, Mass., were recently hosted by the National Weather Service's Eastern Region in New York. NMFS representatives attending were: Carl D'Epiro, Assistant Regional Director for Administration; Mrs. Agnes Kelly, Budget and Accounting Officer; Robert Cannon, Procurement and General Services Officer; Charles Tsaffaras, Personnel Officer; and John Kirby, Accounting Officer.

## Dr. Alldredge in England For IUGG Planning Sessions



Dr. Leroy R. Alldredge, Director of ERL's Earth Sciences Laboratories, is attending planning sessions for the 15th General Assembly of the International Union of Geodesy and Geophysics (IUGG), to be held in Moscow next August. As International Secretary for the International Association of Geomagnetism and Aeronomy (IAGA) of the IUGG, Dr. Alldredge will confer with IAGA Commission Chairmen in Newcastle-Upon-Tyne and Herstmonceux, England, about papers to be presented at the General Assembly, and planning in Moscow for IAGA's part of the Assembly. Dr. Alldredge will return to Boulder on April 10.

## Annual Climate Summaries Distributed

The Environmental Data Service's National Climatic Center, Asheville, N.C., has completed the printing and distribution of all 289 of the "Local Climatological Data Annual Summaries with Comparative Data" for first-order stations. For the second year in succession, these data were prepared entirely by computer. This year, additional streamlining of production procedures resulted in an estimated reduction in cost of 20 percent.

## Count of Gray Whales Completed

Following the annual count of migrating gray whales, NMFS estimates the total gray whale population, including an allowance for those missed during periods of poor visibility, and those that passed during the night, at about 10 or 11 thousand. NMFS Director Philip M. Roedel said that the population appears to be essentially stable, since the annual counts have remained about the same for the past four years. Working from Yankee Point, near Monterey, California, NMFS whale counters Robert Strawn and Stephen Treacy tallied a total of 3,325 moving south past the checkpoint during daylight hours.

## Line Forecasters Advisory Conference Ends



Forecasters representing the six National Weather Service Regions and the National Meteorological Center met at NWS headquarters for the Second Line Forecasters Advisory Conference, Mar. 18-23. During meetings with Dr. George P. Cressman, NWS Director, and headquarters staff, they reviewed and discussed plans, programs, and policies within the National Weather Service related to career development and field operations. The basic theme for this year's conference was "Weather Services to the Public: New Programs and Improvement of Current Prac-

tices. On the last day of the conference, the forecasters held a private session with Dr. Cressman to discuss specific problems and to offer recommendations. Shown, left to right: Robert Vasek, Honolulu; Milo Radulovich, Sacramento; Clifton Green, LFAC Chairman, Oklahoma City; Dr. Cressman, Director, NWS; Roy McCarter, NMC; Ronald Hunt, Indianapolis; Ruben Schulz, Anchorage; and William Drebert, Boston. Not shown: Gregory S. Richter, NWS headquarters; and Burton Kirschner, Program Coordinator, NWS headquarters.

### Three NOS Officials To Participate In Symposium on Satellites and Geodesy

The National Ocean Survey is a cosponsor of the Third Symposium on the Use of Artificial Satellites for Geodesy to be held at the Dupont Plaza Hotel, Washington, D.C., Apr. 15-17. The Symposium is being held concurrently with the spring meeting of the American Geophysical Union. The two previous symposia on this topic were held in 1962 in Washington, D.C., and in 1965 at Athens, Greece. The first day will be devoted to geometric geodesy, the second to physical, and the third to extraterrestrial and special topics in satellite geodesy. A reciprocal arrangement will be in effect whereby those registered at the Symposium will be able to attend the technical sessions of the American Geophysical Union meeting. Dr. Hellmut Schmid, Director of the Geodetic Research and Development Laboratory, NOS, will chair one of the sessions; Foster Morrison will present a paper; and B. Chovitz is on the organizing committee of the Symposium.

### East Coast Fishing Was Good in 1970

It was a better year for fishermen from Maine to Virginia. NMFS Northeast Regional Director Russel T. Norris reports that total landings for the region during 1970 were 1.3 billion pounds--the highest level in five years. Value to fishermen was \$161 million, the second highest value on record. Mr. Norris said that major changes from the 1969 catch included a surprisingly good season for menhaden (an industrial fish) in the Chesapeake Bay, which brought an increase of 280 million pounds, for total landings of 505 million pounds; the haddock fishery dropped to 26.8 million pounds, 19 million pounds below 1969, and the lowest recorded for this species; and an increase of 12 million pounds in the surf clam fishery brought a record total of 61.6 million pounds. Leading the list in value were lobsters, at \$31.7 million, followed by flounders, at \$17.6 million, and oysters at \$14.5 million.

## Nine ERL Employees Receive Special Achievement Awards

Dr. Wilmot N. Hess, Director of the Environmental Research Laboratories, Boulder, Colo., has presented special achievement and sustained superior performance awards to nine employees. Special Achievement Awards went to Floyd R. Howerton, an electronic technician in the Instrumentation Group of ERL's Aeronomy Laboratory, and to Ralph Segman, who directs ERL's Public Affairs Office. Mr. Howerton was cited for exceptional engineering ability, motivation, completeness, and cooperation in interfacing a digital computer to a plasma physics correlation experiment. Mr. Segman was recognized for public relations work in connection with a cloud seeding project conducted last spring by the Atlantic Oceanographic and Meteorological Laboratories in Florida. A sustained superior performance award went to William R. McCallum, an undergraduate student at Colorado University who has worked as an operator/observer on the midnight shift at ERL's Space Disturbance Forecast Center since last June. Mr. McCallum was cited for his outstanding initiative, as well as his willingness and capability for self-instruction. A group sustained superior performance award went to four men in the Boulder Solar Observatory Group of the Space Disturbances Laboratory: meteorologist Joseph A. Sutorik; physicist Frank J. Recely, Jr.; math aide John E. Allen; and physical science aide Galen G. McFayden. The group's unprecedentedly complete photographic records of solar flares has led to worldwide recognition of the Boulder Observatory as a leading solar observatory. Two secretaries in the administrative section of the Space Disturbances Laboratory's Forecast Services, Renee D. Huber and E. Ann Abbott, received a joint sustained superior performance award for extending their area of responsibility beyond normal administrative matters and actively participating in the day-to-day operational data dissemination system, thus permitting additional tasks to be performed with no increase in personnel.

## Chief Swindell Awarded 30-Year Service Pin



Chief Survey Technician Oliver C. Swindell, of the NOAA Ship RESEARCHER, has received a 30-year length-of-service award. Chief Swindell joined the National Ocean Survey in 1940 aboard the old wire drag ships OGDEN and MITCHELL. He later served on the COWIE (with the exception of a four-month period aboard the GILBERT) for 20 years. Since then, he has served on the EXPLORER, as commanding officer of the SCOTT, HILGARD and WAINWRIGHT, RUDE, HECK, and RESEARCHER. Chief Swindell is flanked from left to right by Captain Steven L. Hollis, RESEARCHER commanding officer, and Rear Admiral Allen Powell, Director of the Atlantic Marine Center.

## NOAA Business Card Orders Being Accepted

Business cards are available again this year to NOAA employees who have received approval from heads of Management Control Centers. Cards bearing official U.S. Department of Commerce and NOAA emblems will be sold to employees for \$3.50 per 100, plus \$1.00 for each additional 100 cards requested with the initial order. Checks should be made payable to NOAA Employees Association. Direct orders and inquiries to: Henry Eichert, NOAA-NOS, C1422, Rockville, Md. 20852.

## Two Named to Credit Union Board

John M. Amstadt and Nicholas Sampogna have been named to the Department of Commerce Federal Credit Union's new Board of Directors.

# **National Oceanic and Atmospheric Administration**

## **ERRATA NOTICE**

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages

Faded or light ink

Binding intrudes into the text

This has been a co-operative project between the NOAA Central Library and the Climate Database Modernization Program, National Climate Data Center (NCDC). To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or [Library.Reference@noaa.gov](mailto:Library.Reference@noaa.gov)

HOV Services  
Imaging Contractor  
12200 Kiln Court  
Beltsville, MD 20704-1387  
July 23, 2010