



# noaa week

## National Weather Service Launches Skywarn '75

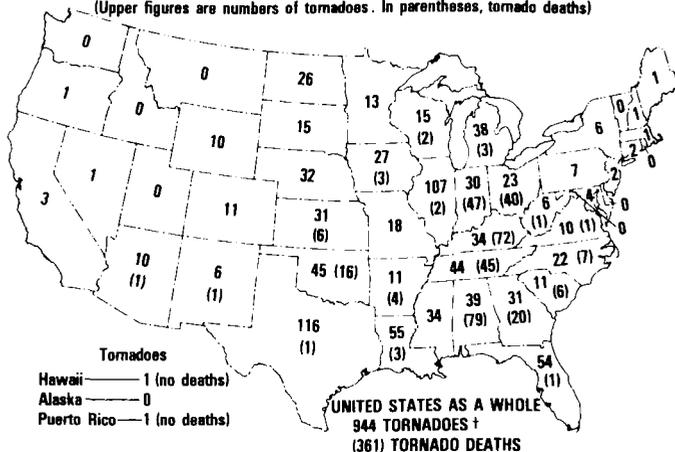
### Nine Persons Appointed To NACOA

President Ford has announced the appointment of nine persons as members of the National Advisory Committee on Oceans and Atmosphere. They are:

- Thomas Lloyd Kimball, of McLean, Va., Executive Director of the National Wildlife Federation, who was appointed for the remainder of a term expiring Oct. 18, 1976. He succeeds Dr. Thomas Clingan, who resigned.
- Dr. William J. Hargis, Jr., of Gloucester, Point, Va., Director of the Virginia Institute of Marine Science in Gloucester Point, who was reappointed. Dr. Hargis was designated by the President as Chairman of the Committee.
- Dr. Donald Lynn McKernan, of Redmond, Wash., Professor in the Institute of Marine Studies at the University of Washington in Seattle. He succeeds Dr. Charles L. Drake, whose term expired. The President also designated Dr. McKernan as Vice Chairman of the Committee.
- Charles A. Black of Woodside, Calif., President of the Mardela Corporation of Burlingame, Calif. He succeeds Thomas A. Fulham, whose term expired.
- Mame Arthur Dubs, of New Canaan, Conn., Director of Ocean Resources, Kennecott Copper Corporation of New York. He succeeds Charles F. Baird, whose term expired.
- Dr. Helmut E. Landsberg, of Camp Springs, Md., Professor in the Institute for Fluid Dynamics at the University of Maryland. He succeeds Brig. Gen. Joseph J. George, USAF retired, whose term expired. Dr. Landsberg was the Director of the Environmental Data Service in 1965-1966, and from 1954-1965 was Director of the National Weather Service Office of Climatology.
- Dr. Grover E. Murray, of Lubbock, Tex., President of Texas Tech University in Lubbock. He succeeds Dr. Wayne [Name], whose term expired.
- Dr. William E. Nierenberg, of La Jolla, Calif., Director of

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944 TORNADOES IN 1974 - 2ND HIGHEST ON RECORD\*  
(Upper figures are numbers of tornadoes. In parentheses, tornado deaths)



\* All-time high for tornadoes was 1,108, set in 1973. All-time high for tornado deaths, 794, was set in 1925 (figures for 1974 may change slightly when the final tally is made).  
† State-by-state totals add to 955 tornadoes, because 11 tornadoes crossed state borders.



### ERL Investigates "Supernova" Storms For Key to Tropical Weather Picture

Nocturnal storms that grow so explosively they are called "supernovas," after the bright, giant stage of a collapsing star, appear to be key figures in the tropical weather picture being assembled by NOAA.

The storms were discovered during the international Global Atmospheric Research Program Atlantic Tropical Experiment, which investigated the ocean area and atmosphere west of Dakar, Senegal, last summer.

The storms may play an important role in exchanges of energy between the sunheated ocean and the atmosphere - exchanges that profoundly influence weather around the world.

The familiar night rain maximum of the tropics, generally held to be caused by a reversal of the sea breeze, is probably related to supernova thunderstorms.

And the disturbances may provide a missing link between alternating waves of high and low pressure in the tropical belt of prevailing easterly (westward-blowing) winds and the development of some waves into hurri-

canes.

According to Dr. Helmut K. Weickmann, Director of the Environmental Research Laboratories' Atmospheric Physics and Chemistry Laboratory in Boulder, Colo., the search for what turned out to be the fast-growing thunderstorms came from the efforts of GATE scientists to reconcile the atmosphere they encountered west of the African continent with what meteorological "conventional wisdom" had led them to expect.

The Intertropical Convergence Zone is a meteorological equatorial zone where the atmospheric systems of the northern and southern hemispheres meet. Until GATE, scientists believed the convection, or vertical motion, associated with this meeting was much stronger than it turned out to be. The question then was: where is the missing violence in this system?

At least a partial answer came from Dr. Weickmann's close study of one of the new tools applied to GATE, the hourly infrared images beamed earthward

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The year 1974 produced the most devastating outbreak of tornadoes ever recorded anywhere in the world, according to National Weather Service meteorologists, who this week launched their annual SKYWARN campaign.

"If ever there was a year underscoring the value of advance preparedness against tornadoes, last year was it," said NWS Director Dr. George P. Cressman. He said the outbreak of 148 tornadoes in 13 states on April 3 and 4 was unprecedented in number, combined strength, and total path length. "The toll of about 300 dead was agonizingly high," he said, "but not the highest on record. That was set on March 18, 1925, when a single tornado ripped through parts of Missouri, Illinois and Indiana, killing 689 people. I'm sure many lives were saved last April because of improvements in our knowledge of how best to cope with these killer storms."

Each year the NWS launches SKYWARN before the peak of the tornado season to encourage community leaders to prepare for the violent funnel-shaped whirlwinds. Among recommendations are to fill out ranks of volunteer storm spotters, improve communications systems, and remind citizenry of ways to shield themselves from a tornado's explosive effect.

"Because tornadoes are so sudden in onset, it is essential to have a well-rehearsed plan for quick action when a tornado is reported bearing down," said Dr. Cressman. "There is no question that such plans save lives."

NWS officials point out that despite radar, satellites, and other sophisticated instruments, they must depend on a vast number of volunteer observers to make the SKYWARN alerting system work. The human eye is still the only reliable means of detecting tornadoes.

The alerting system has two phases: a tornado watch, which tells that atmospheric conditions are ripe for tornadoes to form, and a tornado warning, which tells that a tornado actually has been spotted or indicated by radar.

Most sightings of the ominous, funnel-shaped clouds are made by volunteer spotters, who pass

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## Oregon Awarded CZM Grant

NOAA has awarded a grant totaling \$158,811 to help Oregon complete development of a program for managing its coastal zone. Under terms of the Coastal Zone Management Act of 1972, Oregon will provide an additional \$79,406 in matching State funds.

Last March Oregon received a NOAA grant of \$250,132 to develop a plan for protecting its coastline.

Governor Robert W. Straub has designated the Department of Land Conservation and Development to administer the second-year grant, according to a proposal submitted to the Office of Coastal Zone Management. A major portion of the grant will be allocated to the Oregon Coastal Conservation and Development Commission to assist in developing the coastal management plan.

Robert W. Knecht, NOAA Assistant Administrator for Coastal Zone Management, said Oregon will use the second-year grant to complete development of its coastal management program for final approval by the State Legislature and the U.S. Secretary of Commerce.

By law, the Oregon program is being developed in cooperation with citizens groups and various government agencies whose activities directly affect the state's coast. Public comments on the program will be solicited through a series of public hearings and informal meetings, according to state plans.

## Skywarn '75 Launched

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the word to official warning centers. This vital work is performed by thousands of public-spirited citizens organized into spotter networks. One aspect of SKYWARN is to recruit and train more spotters where needed.

The Weather Service urges officials in schools, hospitals, factories, and large apartment complexes to develop special preparedness plans. A booklet telling how to set up an effective program is available to community and other leaders from the NWS Community Preparedness Office, in Silver Spring, Md.

An especially important part of SKYWARN is its attempt to explain what each individual can do to protect himself and his family, since no one is entirely safe from these deadly storms.

## Chart Improvement Program To Include On-The-Spot Investigations in Port Areas

From now until April, the NOAA Ships Peirce and Davidson will be conducting on-the-spot investigations in major coastal areas as part of a new program to improve and up-date NOAA nautical charts and other marine publications.

They will evaluate the adequacy on existing charts of sounding data depicting water depths; conduct hydrographic surveys if important discrepancies are discovered; report to the National Ocean Survey's Office of Marine Surveys and Maps other areas requiring surveys; and conduct a "user analysis" of the agency's products.

To ascertain the consumer viewpoint, they will interview

local residents in the various port areas; hold open house for the public aboard the ships; and contact news media, groups such as recreational boaters, marinas and yacht clubs, fishermen and their associations, and personnel of the Navy, Coast Guard, Army Engineers, Coast Guard Auxiliaries and U.S. Power Squadrons, port authorities, pilot associations, shipping organizations, and city and county officials.

The Peirce, commanded by Commander Joseph W. Dropp, will work from Key West, Fla., up the Florida Keys, and the Davidson, under Commander Michael H. Fleming, will work on the California coast from San Diego to Santa Barbara.

## ERL Investigates "Supernova" Storms

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by SMS-1, the National Aeronautics and Space Administration's first Synchronous Meteorological Satellite, in geostationary orbit some 22,300 miles above the equatorial Atlantic.

On the SMS-1 infrared images Dr. Weickmann found small, bright-white dots of developing thunderstorm anvils, which formed during the night, not during the day "as well-behaved thunderstorms should." These systems grew rapidly, expanding from areas of hundreds of square miles to areas of thousands of square miles in an hour or two; but by each day's forenoon, the violent storms had already begun to decay into actionless layered cloud systems.

Cloud physics measurements taken by Dr. Weickmann and his colleagues from the NOAA laboratory aboard several aircraft in the GATE squadron—the Soviet Ilyushin 18C, NASA's Convair 990, and a DC-6 from NOAA's Research Flight Facility—

indicated that the large storms are linked to peculiarities in the tropical Atlantic's hydrologic cycle (the movement of water and its cargo of latent heat energy into, through, and out of the atmosphere).

"We found," Dr. Weickmann says, "very large counts of ice nuclei, the small particles on which atmospheric water freezes, but very low counts of cloud condensation nuclei, on which water vapor condenses to form clouds. This suggests that the clouds become rained out before the water even reaches the atmosphere's freezing level. What little water content is lifted beyond this level is effectively seeded or even overseeded to produce large cirrus anvils."

"The high ice-nuclei counts off Africa also suggest that deliberate attempts to improve rainfall with cloud-seeding techniques, which add artificial ice nuclei to the natural 'population,' would not be successful."

## Employees Association Offers Business Cards

NOAA Directive Manual 68-18 dated 7-21-72, outlines the purpose, authority, format and procurement of business cards for use in an official capacity by NOAA employees. The cards, which must be purchased at the employee's expense, may be ordered from the NOAA Employees Association. Prices are: \$3.75 per hundred plus \$1.25 for each additional 100 cards requested with the initial order. (100-\$3.75; 200-\$5.00; 300-\$6.25, etc.) Checks should be made payable to NOAA Employees Association and sent to Michael J. DiLeo, NOAA-NWS W331, World Weather Building, Room 410, Washington, D.C. 20233.

## NMFS Scientists Observe Herring Spawning Grounds

Herring spawning grounds have been located and observed by National Marine Fisheries Service scientists during recent diving explorations in the Gulf of Maine northeast of Cape Ann, Mass. Dr. Richard A. Cooper, chief of the exploration party and a scientist at the NMFS Northeast Fisheries Center, Woods Hole-Narragansett, said this is the first time they were able to observe in detail herring spawning grounds.

Scientists believe observation of these spawning grounds will give them an insight into the reasons for declines in herring populations and may assist them in determining what can be done to increase future populations.

The dives were a continuation of activities in a five-year study to learn more about herring spawning.

Dr. Cooper and his staff were assisted by personnel from the Naval Undersea Center, San Diego; Army Corps of Engineers; and NOAA's Manned Undersea Science and Technology office.

## NACOA Members Named

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Scripps Institution of Oceanography in La Jolla, who was reappointed.

—Dr. John Wilder Tukey, Princeton, N.J., Professor in the Department of Mathematics at Princeton University in Princeton. He succeeds Dr. Thomas F. Malone, whose term expired.

Established by Public Law 92-125 of August 16, 1971, NACOA conducts a continuing review of the progress of the Nation's marine and atmospheric science and service programs, and advises the Secretary of Commerce with respect to NOAA. It submits a comprehensive report to the President and the Congress by June 30 each year setting forth an overall assessment of the status of the Nation's marine and atmospheric activity.

next week's  
best fish buys

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According to the NMFS National Fishery Education Center in Chicago, the best fish buys for the next week or so are likely to be pollock and smelt along the Northeast Seaboard; sea bass and fluke in the Middle Atlantic States, including the D.C. area; mullet and Spanish mackerel in the Southeast and along the Gulf Coast; fresh smelt and squid in the Midwest; kippered halibut and true cod filets in the Northwest; and butterfish and snow crab in the Southwest.

**noaa week**

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Catherine S. Cawley, Editor  
Anna V. Felzer, Art Director

# EDS Receives Unique Storm, Hurricane Data

Shell Oil Company, Houston, Tex., acting on behalf of eight petroleum firms, has donated to NOAA oceanographic and meteorological data on major storms and hurricanes striking the Gulf of Mexico over a 3-year period.

The data were collected at a cost exceeding one million dollars in a cooperative petroleum industry effort called the Oceanographic Data Gathering Program. Participants in the study, headed by Shell, included Chevron Oil Field Research Company, Exxon Production Research Company, Amoco Production Company, Gulf Oil Company, Texaco Incorporated, Mobil Research and Development Corporation, and CAGC (Continental Oil Company, Atlantic Richfield Oil Company, Getty Oil Company, and Cities Service Oil Company).

Data on wave height, wind speed and direction, and barometric pressure were taken at six offshore drilling and production platforms spaced along 260 miles of the Louisiana coastline. The data comprise 252 analog magnetic tapes covering a 31-month period and are available through the Environmental Data Service. Data tapes are available for a major storm of February 1969; Hurricane Camille, August 1969; Tropical Depression, September-October 1969; Hurricane Laurie, October 1969; Hurricane Celia, August 1970; and tropical storm Felice, September 1970. A limited number of printed reports are also available on a first-come, first-served basis, for some of the storms, including Hurricane Camille. When these are gone, microfilm copies will be provided at cost.

The data on Camille comprise one of the most comprehensive sets of oceanographic and meteorological information available for such an extreme weather event and should prove invaluable for basic research and offshore engineering applications. Shell has provided a listing of all tapes, giving the completeness of data recorded per sensor. A literary summary of tapes containing storm and hurricane periods is also available, providing a readable account of pre- and post-storm events. Written summaries for specific time periods of other tapes will also be provided on an ad-hoc basis.

The cost of providing duplicate tapes will be about \$136 per tape. Each tape will be accompanied by available calibration and other information necessary to interpret the data. In addition, a compressed time-scale strip chart is available for each tape for an additional \$10. Further information is available from EDS.

# Reactivated Discoverer and Surveyor To Conduct Energy-Related Studies



Capt. Upham



Comdr. Speer



Capt. MacDonald



Comdr. Brown

The NOAA Ships Discoverer and Surveyor, which were deactivated in 1973, are now being restored to duty. In April, the Discoverer, which will be based at Miami, Fla., will conduct oceanographic studies on the continental shelf related to the search for new sources of energy. Her Commanding Officer will be Capt. Clinton D. Upham, who received a Commerce Bronze Medal for his work in his last assignment as manager of the National Ocean Survey's program to develop an automated system for the production of nautical charts. Comdr. Raymond L. Speer, whose most recent assignment has been with the Environmental Research Laboratories' Research Flight Facility in Miami, Fla., will be the ship's

Executive Officer; and Lt. Comdr. Jimmy A. Lyons, who was previously the NOS Liaison Officer with ERL's Atlantic Oceanographic and Meteorological Laboratories in Miami, will be her Operations Officer.

Capt. Kenneth A. MacDonald will be the Commanding Officer of the Seattle, Wash.-based Surveyor, which in April will also conduct oceanographic studies related to the search for new sources of energy—but off the Pacific coast. Captain MacDonald for the past 30 months has been the Director of the NOS' Lake Survey Center in Detroit, Mich.

The ship's Executive Officer will be Comdr. James P. Brown, Jr., who for the past two years has been Chief of the Marine Requirements Coordination Group in the NOS Office of Marine Surveys and Maps in Rockville, Md. Her Operations Officer will be Lt. Comdr. Glen R. Schaefer, who recently completed graduate study at the University of Wisconsin and who served earlier as a junior officer aboard the ship.

## Nygren Approves Uniform Change

You may soon notice a change in the uniforms worn to work by NOAA Corps officers. Instead of white shirts, they may now wear with their service dress blue uniforms standard long-sleeved U.S. Air Force officers' light blue uniform shirts with collar devices. The service dress blue uniform with white shirt is still prescribed for more formal occasions.

Rear Admiral Harley D. Nygren, Director of the NOAA Corps, recently approved this change because in the average office or work environment officers usually remove their uniform jackets and often become unidentifiable as to status or rank.

## Flemming Awards

Another previous Flemming Award winner among NOAA personnel, in addition to those mentioned in the last issue of NOAA WEEK, is Dr. Wilmot N. Hess, Director of the Environmental Research Laboratories. Dr. Hess received a 1965 Fleming Award while he was with the National Aeronautics and Space Administration.

# Fur Seal Hearing Held

The National Marine Fisheries Service held a public hearing in Washington, D.C., on February 26, to discuss comments on a draft environmental impact statement concerning the Interim Convention on Conservation of North Pacific fur seals.

The Marine Mammal Protection Act of 1972 requires the Secretary of Commerce, in consultation with the Secretary of State, to study those provisions of the Act pertaining to North Pacific fur seals, along with the provisions of the Convention, to determine what modifications, if any, should be made to either the Convention or the Act, or both, in order to make the Convention and the Act consistent with each other.

The present Convention, as amended, will continue in force until October 1975, and thereafter, until a new or revised Fur Seal Convention between the parties is adopted, or until October 1976, whichever comes earlier. Representatives of the member governments of Japan, Canada, U.S.S.R., and the U.S. will meet to initiate the renegotiation of the Convention beginning March 17, immediately following the annual meeting of the Fur Seal Commission in Washington, D.C. The U.S. intends to negotiate a new Convention which will essentially continue the present management arrangements and which will amend the Convention's management objectives in order to provide for the maintenance of the health and stability of the marine ecosystem and in other ways bring the language of the Convention into conformity with the Marine Mammal Protection Act of 1972.

The Draft Environmental Impact Statement was prepared because it was determined that renegotiating the Interim Convention would constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969.

The public record will remain open for 15 days following the hearing so that additional comments may be submitted.

A Final Environmental Impact Statement will be prepared after the Convention's negotiations have been completed, but prior to ratification of any agreement by the United States.

## Michigan Not on DST

Those dealing with NOAA elements in Michigan should take note of the fact that Michigan did not go on Daylight Saving Time with the rest of the Nation on February 23. It will go on DST on April 27.

## San Juan Aero Chart Covers Virgin Islands

The National Ocean Survey has announced that the San Juan (Puerto Rico) Local Aeronautical Chart has been enlarged to include the Virgin Islands.

Renamed the Puerto Rico-Virgin Islands Local Aeronautical Chart, the redesigned chart now covers 185 miles east and west, compared to the old chart's 115-mile coverage. By means of a small inset to the west, it also picks up another small island, stretching the chart an additional 25 miles westward.

The new chart is also folded in the standard five-by-ten-inch fold, which is smaller and more manageable than the old chart.

# notes about people



Comdr. Townsend



Mr. Brett



Dr. Jetton



Comdr. Alderman



Lt. Comdr. Dernberger



Mr. Schnabel



Mr. Marcus



Capt. Posey

Cdr. Charles K. Townsend has been appointed Commanding Officer of the NOAA Ship Rainier. He was previously Executive Officer of the Oceanographer and earlier served aboard the Pioneer and Cowie and commanded the Peirce.

Jack Brett is the new Administrative Officer for the National Ocean Survey's Lake Survey Center. He was formerly Chief of LSC's Budget and Accounting Branch. He has also assumed the duties of the LSC Safety Officer, replacing Walter A. Carpus, who has handled the duties for several years and who now will be able to devote all of his time to serving as Editor of the Great Lakes Pilot.

Dr. Harris B. Stewart, Jr., Director of the Environmental Research Laboratories' Atlantic Oceanographic and Meteorological Laboratories in Miami, Fla., has been elected vice-president of the International Oceanographic Foundation.

The 70,000-member nonprofit organization is dedicated to educating the public on the importance of the ocean and for over 20 years has published "Sea Frontiers," a popular magazine of marine science.

M. Karl Jugel, Operations Research Analyst in NOAA's Office of Marine Resources in Rockville, Md., was named the Outstanding Young Man of 1974 by the Bowie, Md., Jaycees. This Distinguished Service Award is presented annually to the man between 18 and 35 who has given the most meritorious service to his family, his church, and his community.



Mr. Jugel

Dr. Eldon V. Jetton, who has served as head of the National Weather Service Forecast Office in Little Rock, Ark., since 1971, has been selected as Meteorologist in Charge of the WSFO at New Orleans, La. He succeeds W.C. Conner, who has retired.

Comdr. Richard E. Alderman has been appointed Commanding Officer of the NOAA Ship Fairweather. He was assigned previously to the NOAA Office of International Affairs.

Dr. Robert A. Clark, Associate Director of the National Weather Service for Hydrology, has been named by Dr. Robert M. White, NOAA Administrator, to the advisory U.S. National Committee for the International Hydrological Program (IHP). The committee is under the chairmanship of the Geological Survey, and designated by the State Department as the United States agency responsible for leadership in the scientific and technical aspects of the IHP under the aegis of UNESCO. Dr. Clark will help ensure coordination between UNESCO and WMO hydrological activities.



LYNN L. MEANS (left) RECENTLY WAS PRESENTED A DEPARTMENT OF COMMERCE BRONZE MEDAL by Dr. John W. Townsend, Jr., NOAA's Associate Administrator, "in recognition of and appreciation for over 36 years of extremely competent performance within and dedicated service to the Weather Bureau, ESSA and NOAA." Mr. Means, now retired, as a Physical Scientist in the Office of Environmental Monitoring and Prediction, most recently had helped write and integrate major portions of the U.S. Climate Program Plan for submission to the Domestic Council.

Lt. Comdr. Paul M. Dernberger has moved up from Navigation Officer to Operations Officer of the Miami-based NOAA Ship Researcher. He was previously assigned to the National Weather Service at the National Meteorological Center in Suitland, Md.

Jack J. Schnabel, who has been in charge of the Abilene, Tex., Weather Service Office since 1972, has been selected to head the Jacksonville, Fla., WSO. He will replace Hurtis Smith, who is transferring to the Richmond, Va., WSO.

Dr. Jack C. Parker has been named program manager for fisheries and mariculture research at Texas A&M University's Center for Marine Resources. Formerly coordinator of A&M's Sea Grant-supported shrimp mariculture projects, he will continue as project leader of mariculture work conducted by the Agricultural Extension Service. Significant progress toward commercially feasible shrimp mariculture has been made since the project's beginnings in 1968, the year of A&M's first Sea Grant support.

Sidney O. Marcus, Jr., of the Environmental Data Service's National Oceanographic Data Center, has replaced Dr. Woodrow C. Jacobs (former Director of EDS) as the editor of the English translation of the Russian journal, *Okeanologia*. The journal contains articles on all disciplines of marine sciences written by many of the U.S.S.R.'s most distinguished scientists. For about 10 years, Mr. Marcus has been an associate editor of the English translation, which is published six times per year by the American Geophysical Union.

Captain Lavon L. Posey has been named Special Assistant for Programs and Requirements of the National Ocean Survey's Office of Marine Surveys and Maps in Rockville, Md. He was previously Commanding Officer of the NOAA Ship Researcher.

Lt. Comdr. James M. Wintermyre has succeeded Comdr. James P. Brown, Jr., as Chief of the Marine Requirements Coordination Group in the NOS Office of Marine Surveys and Maps in Rockville, Md. Lt. Comdr. Wintermyre was previously assigned as a Special Assistant to the Chief of the NOS Marine Chart Division.

Linda Roubik has received the Cornell University Award for Ingenuity in Sciences and Mathematics. She spent last summer as an assistant to Dr. James



Miss Roubik

Thomas, Eco-systems Investigations, at the National Marine Fisheries Service Middle Atlantic Coastal Fisheries Center Sandy Hook Laboratory in Highlands, N.J. Her research project concerned sea bottom oxygen consumption in marine environments surrounding Sandy Hook.



# **National Oceanic and Atmospheric Administration**

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