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Three Named To Key Posts At NMFS Hdqs.

Appointments to three key positions created in the recent reorganization of the National Marine Fisheries Service have been announced.

Winfred Meibohm, formerly Staff Assistant to NMFS Director Robert W. Schoning, has been named Associate Director, charged with supervising the day-to-day operations, executing policy decisions, and allocating NMFS resources.

Dr. Brian Rothschild has been appointed Director of the Office of Policy Development and Long Range Planning. This office will coordinate policy development; develop theories, techniques, and procedures to achieve fisheries management to protect fisheries stocks; and predict the impact of complex fisheries decisions.

Kenneth Goodwin becomes Director of the Office of Program Planning, Budget, and Evaluation which will advise the Director on the selection of goals, objectives, and measures of accomplishment and coordinate the

(Continued on page 3)

Appeals Court Upholds Ban On Porpoise

The Ninth Circuit Court of Appeals in San Francisco has upheld the National Marine Fisheries Service ban against killing porpoise during yellowfin tuna purse seine fishing operations. The three-judge panel's decision came November 10. The court action prevents tuna fishing boats from "setting on" porpoise to catch the tuna associated with them.

The NMFS ban was scheduled to take effect October 22 when the quota of 78,000 porpoise that could be killed by tuna fishermen was reached. On October 21, the District Court in San Diego issued a temporary restraining order against the ban as the result of a suit filed by the tuna industry. Later the District Court refused to grant a preliminary injunction against the ban, but extended the restraining order through November 5 to allow the Ninth Circuit Court of Appeals time to consider the tuna industry's appeal.

Scientist's Development Gives Turbulence Alarm

Earl L. Heacock Is New Director Of NESS Office

Earl L. Heacock, for the past six years a key figure in the European meteorological satellite program, has been named Director of the Office of Systems Integration at the National Environmental Satellite Service.

Mr. Heacock will have responsibility for activities involving both polar-orbiting and geostationary environmental satellite systems, as well as a systems planning group.

His appointment to NOAA represents a return to familiar surroundings for Heacock. From 1962 through 1969 he was with the Satellite Service as head of its Electronics Branch in Suitland, Md. During that period his unit provided electronic support for development of instruments for use in meteorological satellites.

A NOAA scientist has developed a method which could give airplane pilots up to 12 minutes' warning of turbulence ahead.

In tests aboard a flying astronomical observatory, Dr. Peter Kuhn of ERL, has used an infrared radiometer—which measures water vapor by the radiation it emits—to predict turbulence with a reliability of 81 percent.

Clear air turbulence is thought to result from wave motions in the atmosphere, in shape much like those that break on the sea shore. By experimenting with different infrared wavelengths, Dr. Kuhn has been able to detect the breaking waves more than 60 miles (100 kilometers) ahead of the plane.

Kuhn discovered a connection between water vapor and turbulence while making water vapor measurements aboard a National Aeronautics and Space Administration research aircraft last year.

Water vapor in the atmosphere emits infrared radiation, and Kuhn was measuring that quantity to help NASA scientists determine how much of the radiation they were investigating was from astronomical objects and how much from the earth's atmosphere.

He noticed that sudden, drastic changes in the amount of water vapor were often followed within a few minutes by turbulence. To see if these fluctuations might be a reliable indicator of turbulence, the NOAA scientist compared his water vapor readings with those from an instrument that had been installed on the plane to make accurate measurements of turbulence, and found a relationship.

Since that time, Kuhn has continued his investigation, with a forward looking radiometer installed in the plane's main wheel well.

In 45 encounters with clear air turbulence, the radiometer provided advance warning of from four to twelve minutes in 41 cases, while giving only six false alarms. Kuhn thinks it ultimately may be possible to predict the severity of the turbulence.



Cdr. Carpenter

Cdr. John W. Carpenter has been appointed Commanding Officer of the NOAA Ship Whiting. The 163-foot, 760-ton hydrographic survey vessel conducts nautical charting surveys in coastal waters. The \$1.8 million vessel is based in Norfolk, Va., and carries a normal complement of 36 officers and crew.

An officer of the NOAA



NOAA Ship Whiting

Corps, Cdr. Carpenter served on the Whiting in 1970-71 as Executive Officer. He has seen service aboard the Peirce, and the Surveyor; has been chief of three geodetic field parties; and, was the first commissioned officer to serve as Chief of the Operations Division of the NGS.



Mr. Heacock

In Heacock's most recent post with the European Space Agency headquartered in Toulouse, France, he held technical, financial, and management responsibility for the development, manufacture and placing in orbit of the METEOSAT, a geostationary meteorological satellite similar to NOAA's geostationary spacecraft, GOES.

Prior to that, he was with the European Space Research Organization in Noordwijk, Holland, in charge of feasibility studies for a variety of meteorological satellites and their payloads.

personnel perspective

Current Vacancies in NOAA

To insure that NOAA employees are aware of job possibilities throughout the agency, a list of current NOAA-wide vacancies is published below. Employees interested in any of the listed vacancies

should contact their servicing personnel office for information on where to apply.

Announcement Number	Position Title	Grade	MLC	Location	Issue Date	Closing Date
77-2 (Amended)	Office Services Manager	GS-9	HDQS	Suitland, Md.	10-14-76	11-14-76
76-11	Photographer	GS-8	NESS	Suitland, Md.	11-8-76	11-15-76
77-4	Personnel Assistant	GS-9	HDQS	Rockville, Md.	11-8-76	11-15-76
77-10	Computer Operator	GS-9	HDQS	Suitland, Md.	11-8-76	11-15-76
77-13	Engineering Tech.	GS-11	NESS	Suitland, Md.	11-8-76	11-15-76
77-12	Computer Tech.	GS-5	NWS	Silver Spring, Md.	11-10-76	11-17-76
77-14	Clerk (Typist)	GS-4	HDQS	Rockville, Md.	11-11-76	11-18-76
77-16	Secretary (Stenography)	GS-7	NESS	Suitland, Md.	11-11-76	11-18-76
43-77	Meteorological Tech.	GS-9	NWS	Bismarck, N. Dak.	11-5-76	11-19-76
46-77	Meteorologist (Part-time)	GS-13	ERL	Research Triangle Park, N.C.	11-5-76	11-19-76
48-77	Administrative Services Officer	GS-13	HDQS	Rockville, Md.	11-8-76	11-22-76
50-77	Hydrologist	GS-12	NWS	Jackson, Miss.	11-8-76	11-22-76
51-77	Meteorological Tech.	GS-9	NWS	Volens, Va.	11-8-76	11-22-76
52-77	Supv. Meteorologist	GS-11	NWS	Volens, Va.	11-8-76	11-22-76
53-77	Meteorologist	GS-13	NWS	Garden City, N.Y.	11-8-76	11-22-76
55-77	Supv. Fishery Biologist	GS-13	NMFS	Seattle, Wash.	11-10-76	11-24-76
56-77	Computer Specialist	GS-11	NMFS	Tiburon, Calif.	11-10-76	11-24-76
62-77	Meteorological Tech.	GS-9	NWS	Barrow, Alaska	11-10-76	11-24-76
63-77	Engineering Tech.	GS-9	NWS	Kansas City, Mo.	11-10-76	11-24-76
64-77	Meteorological Tech.	GS-10	NWS	Fargo, N. Dak.	11-10-76	11-24-76
66-77	Industry Economist	GS-13	NMFS	La Jolla, Calif.	11-10-76	11-24-76
76-180 (Re-opened)	Clerk Stenographer	GS-5	NOS	Riverdale, Md.	11-10-76	11-24-76
66-77	Meteorological Tech.	GS-9	NWS	Alpena, Mich.	11-11-76	11-25-76
67-77	Meteorological Tech.	GS-10	NWS	Grand Rapids, Mich.	11-11-76	11-25-76
68-77	Meteorologist	GS-12	NWS	Bismarck, N. Dak.	11-11-76	11-25-76
69-77	Meteorologist	GS-12	NWS	Milwaukee, Wis.	11-11-76	11-25-76
70-77	Hydrologist	GS-13	NWS	Slidell, La.	11-11-76	11-25-76
73-77	Electronics Engineer	GS-12	NESS	Suitland, Md.	11-11-76	11-25-76
74-77	Physical Scientist	GS-12	NESS	Suitland, Md.	11-11-76	11-25-76
44-77 (Amended)	General Engineer	GS-12	NASO	Seattle, Wash.	11-5-76	11-26-76
45-77	Computer Systems Analyst	GS-14	NWS	Silver Spring, Md.	11-5-76	11-26-76
49-77	Physical Scientist	GS-13	NWS	Camp Springs, Md.	11-8-76	11-30-76
54-77	Supv. Librarian/Technical Information Spec.	GS-12	EDS	Miami, Fla.	11-8-76	11-30-76
57-77	Oceanographer	GS-12	ERL	Seattle, Wash.	11-10-76	12-1-76
58-77	Physical Scientist	GS-13	ERL	Ann Arbor, Mich.	11-10-76	12-1-76
61-77	Employee Development Specialist (Part-time)	GS-11	ERL	Boulder, Colo.	11-10-76	12-1-76
65-77	Meteorologist	GS-13	NWS	Silver Spring, Md.	11-10-76	12-1-76
71-77	Oceanographer	GS-14	ERL	Miami, Fla.	11-11-76	12-3-76
72-77	Fisheries Management Regional Resource Specialist	GS-14	HDQS	Rockville, Md.	11-11-76	12-3-76
75-77	Fisheries Management Regional Resource Specialist	GS-15	HDQS	Rockville, Md.	11-11-76	12-3-76

Carpoolers Should Check Their Automobile Insurance Coverage

Employees interested in joining carpoolers should review their insurance coverage of the people with whom they will be riding.

Many drivers don't carry enough insurance to pay damage costs resulting from a multi-injury accident. If a driver without adequate liability insurance caused an accident that injured several people, he or she might be sued. Carpooling has increased the likelihood of an accident injuring several persons.

One insurance company recommends that the minimum liability coverage should be \$100,000 for one injury and \$300,000 for all injuries incurred in an accident. The minimum medical payment coverage should be \$2,000 for each person injured in an accident. This coverage is well worth the slight increase in cost. This company

also recommends that carpoolers keep a record of their mileage since a reduction in the number of miles driven could reduce the cost of their insurance.

Drivers should be aware that operating a carpool for profit might nullify their regular insurance, since their automobile would be considered a public conveyance. However, most insurance companies would allow a fee covering the fuel plus a small amount for wear and tear on the automobile. Carpool drivers should not report amounts received from fellow passengers as income on their tax returns unless the amounts received exceed their expenses. Also, the cost of operating carpoolers is not a deductible item for tax purposes.

Updating Career Records

Semi-annually, NOAA employees in career management programs for specific occupational fields should review their activities and update or make changes in their Form CD-253, "Career Program Qualification Record," which is maintained in their servicing personnel office. These changes should reflect such things as additional training, education, awards, community activities, duties, responsibilities, geographic availability, and revised career goals. This can be effected by submitting, in duplicate, a completed Form CD-254, "Career Program Qualification Record Supplement," to the appropriate personnel office. The specific career fields which are applicable are: Personnel Administration, Financial Management, Procurement, Economics, Library Science, Electronics Technician, Cartographer, and Hydrologist.

Maintaining current information related to the occupational and personal development of each employee is essential to the proper functioning of these career management programs. It is possible that some employees in the career management programs may not be considered for job opportunities because their Qualification Records are not up to date. Many experiences inside and outside the Federal service, formal and informal, contribute to the growth and qualifications of NOAA employees. These experiences, in addition to normal position duties, should be evaluated and recorded by the employee, deemed appropriate. Form CD-254 and information can be obtained from each servicing personnel office.

Monk Seal Is Now Protected by Government

The Hawaiian monk seal, in danger of becoming extinct, has been placed on the endangered species list, according to Robert W. Schoning, Director of the National Marine Fisheries Service, and Lynn A. Greewalt, Director of the U.S. Fish and Wildlife Service.

The listing, which designates the Hawaiian monk seal (*Monachus schauinslandi*) as an endangered species throughout its range, is issued under the authority of the Endangered Species Act of 1973.

Found throughout the Hawaiian Archipelago, the Hawaiian monk seal breeds only on the islands of the Leeward Chain, including French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef, Midway Atoll, and Kure Atoll.

A status review undertaken by NMFS reflects the rarity of the species, the high mortality in pups, the relatively low reproductive rate, and indications of population decline and harassment.

The Hawaiian monk seal recently was classified as depleted under the Marine Mammal Protection Act of 1972, but it is believed that by listing the seal as endangered, a higher level of protection may be afforded the animal and its habitat.

In related action, NOAA and the Fish and Wildlife Service have proposed that the totoaba, a marine finfish found only in Mexican waters, be placed on the endangered list.

The United States has been the principal export market for this fish, which is popular in Southern California restaurants.

Scientists from NMFS, the Smithsonian Institution, the University of Arizona, and elsewhere contributed to the totoaba status review which led to the determination that the totoaba should be listed as an endangered species in support of protective measures taken by Mexico.

Key Posts

(Continued from page 1)

development of program plans and budgets to meet objectives. The office will perform and coordinate program analyses, reviews, and evaluations required for program emphasis and resource allocation decisions.

Mr. Meibohn retired from the Air Force in 1968, with 27 years service, taught Political Science at Elon College in North Carolina, and joined NMFS as Staff Assistant to the Director in 1972.

Dr. Rothschild previously was the Center Director of NMFS's Southwest Fisheries Center in La Jolla, Calif. He has served in numerous positions in NMFS and the Bureau of Commercial Fisheries and was a Professor of Fisheries at the University of Washington.

Mr. Goodwin previously served as the Chief, Plans and Policy Development Staff. He has held numerous positions in the Federal Government and in private business, transferring to NMFS in 1972 from the Federal Communications Commission.

Weather Service Makes Three New MIC Appointments

New Meteorologists in Charge have been appointed at three facilities in the National Weather Service's Western Region.

Joseph Ganser has taken charge of the Reno, Nev., Weather Service Forecast Office.

Mr. Ganser, formerly Principal Assistant at the office, replaces Dr. Arthur Hull who transferred to a similar position in Seattle.

Mr. Ganser's earlier assignments in the Weather Service have been in Sacramento, Seattle, San Francisco, and as Meteorologist in Charge of the former Weather Service Office in Reno from 1965 to 1974.

Bert L. Nelson is the new Meteorologist in Charge of the Billings, Mont., Weather Service Office. Mr. Nelson replaces Lloyd Heavner, who transferred recently to a similar position in Missoula, Mont.

Mr. Nelson had been working as a forecaster in Anchorage, Alaska. Earlier assignments in the National Weather Service were in Reno and San Francisco.

James W. Steiner, Principal Assistant at Weather Service Office, Fresno, Calif., for the past twelve years, has been selected for the position of Meteorologist in Charge, at the Weather Service Office, San Diego. Mr. Steiner replaces Claire Jensen, who recently was promoted to the position of Principal Assistant at the Weather Service Forecast Office, Phoenix, Ariz.

Ecological Studies Of Alaskan Waters Continued by ERL

NOAA has awarded supplemental contract funds to Oregon State University and Western Washington State College to continue studies being conducted by the Environmental Research Laboratories as a portion of the Bureau of Land Management's Outer Continental Shelf Environmental Assessment Program.

These studies seek to determine the probable ecological impacts of oil exploration and development activities on Alaska's outer continental shelf.

Nearly a quarter of a million dollars in supplemental contract funds have been awarded to Western Washington State College in Bellingham. The \$244,473 will be used to continue research on marine plant and animal life along Alaska's northern shoreline.

An overall objective of the research is to characterize the habitats and ecological relationships of predominant plant and animal species along the shorelines of the Beaufort and Chuckchi Seas.

Continuing work begun in the summer of 1975, the Western Washington State College researchers will sample key sites from Point Barrow east to the Canadian border and southwest to Kotzebue and Cape Prince of Wales.

Results of the research will include distribution maps of Beaufort and Chuckchi Sea habitat types, and quantitative estimates of predominant marine populations and their nutritional and other ecological requirements. Data from the multi-year study will help scientists estimate the potential risks incurred to resident and migratory marine life from outer continental shelf oil and gas exploration and development.

Western Washington State College had previously received \$98,856 from NOAA.

Supplemental contract funds totaling \$247,172 were awarded to Oregon State University at Corvallis to continue research on the effects of oil spills on fish, shellfish, marine birds, and sea-floor organisms in Alaskan waters.

Oregon State University scientists will continue research on the acute and chronic effects of crude oil and other petroleum-associated chemicals on Dungeness crabs, fish-eating birds, shellfish, and various microorganisms in the Gulf of Alaska and the Beaufort Sea.

Studying the effects of potential oil spills on Dungeness crab larvae has particular economic significance for Alaska, which has harvested from 10 to 40 percent of the total catch from the Pacific coast in recent years.

Oregon State University had previously received \$300,734 from NOAA.

Undersea Lab Plans Started By Contractor

Study of preliminary design, cost, and schedule for an underwater laboratory system will be carried out by the Re-entry and Environmental Systems Division of General Electric Co., Philadelphia, Pa., under a \$67,950 fixed price contract recently awarded by NOAA.

The study will be based on preliminary system performance requirements established by NOAA for the OCEANLAB concept. OCEANLAB was conceived because the quest for offshore oil and gas, minerals, and fish stocks will require advanced U.S. capability for underwater research and exploration—capability that does not now exist.

The OCEANLAB system will include a capability for autonomous, self-propelled operations at a maximum depth of 1,640 feet (500 meters). It will also include a capability for being in place for up to 30 days at a single site on the bottom, and to accommodate up to 10 people.

Included in the G.E. study will be description and configuration, size, weight, and performance characteristics of possible vehicles, as well as a description of major functional elements such as laboratory and work space, life support, propulsion, navigation, power, and communications.

The contractor will make a final report to NOAA on Dec. 10, 1976.

Two States, NMFS Sign Agreements

Cooperative agreements to inspect fish and fishery products in Tennessee and in Arkansas were signed recently by State and NOAA officials.

The voluntary, fee-for-service program encourages and assists the fish industry in improving and maintaining the quality and safety of its products through inspection and standardization procedures usually carried out by Federal inspectors.

These agreements permit existing State food inspectors to be trained and cross-licensed by the National Marine Fisheries Service so they can perform inspections of fishery plants and products on the NMFS behalf within their respective States. The cross-licensing approach makes inspection services more readily available to the trade and more inspected products available to consumers.

Other States are expected to sign similar cooperative agreements so that more USDC inspected products will be available to consumers.

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Catherine S. Cawley, Editor
Warren W. Buck, Jr., Art Director

Model of Great Lakes Shows Possible Pollution Results

Efforts to halt the rampant algae growth caused by phosphorus pollution in the Great Lakes may be effective by 1985, but western Lake Erie will never be as "clean" as other lakes.

These are among the predictions of a mathematical model developed at NOAA's Great Lakes Environmental Research Laboratory. The model, still being refined by Steven Chapra of the Ann Arbor, Mich., laboratory, is a set of equations describing the behavior of phosphorus in the Great Lakes which the scientist believes can be used to aid in planning pollution abatement programs.

Increases in the nutrient phosphorus—largely from human sources—have accelerated the natural process of biological productivity in the lakes. If unchecked, this process could cause a lake to literally grow itself to death, becoming clogged with algae until decomposition of organic matter removed oxygen from the water depths and fish and other fauna could not survive.

Efforts at preserving the lakes have concentrated on limiting the amount of phosphorus entering them. Knowledge of the sources and sinks of the nutrient in the lakes would make the task easier, but the size of the lake system makes direct measurement costly and difficult. A mathematical model that simulated phosphorus budgets—a balance of the processes that add or remove phosphorus from the lake system—would fill the need.

To test the model, Chapra used it to simulate phosphorus inputs and concentrations from the year 1800 to 1970, and compared the results with actual measurements. The phosphorus levels predicted by the model agreed well with measured values.

The simulation also provided some new insights. It suggested for example, that there is a physical limitation to water-quality improvement in the Great Lakes. Western Lake Erie, a small basin that collects water—and phosphorus—from a large area of land, has a calculated natural phosphorus concentration 50 percent higher than the next highest lake. "This suggests that total removal of cultural wastes would never bring western Erie to the levels possible in the other lakes," said Chapra.

The experiment also demonstrated that Lake Ontario's health is significantly affected by the health of the lake upstream, Erie, and the scientist concludes that a coordinated program of waste abatement would be necessary for those two lakes.

Chapra also used the model to try to predict the success of phosphorus abatement programs that concentrate initially on reducing domestic sources. In general, the goal of these programs is one milligram of phosphorus in each liter of effluent by 1980.

It is estimated that every day about 150 gallons of effluent are poured into lakes for each inhabitant of the basin. If abatement programs go according to plan, by 1980 the inflow of phosphorus into the lakes would be .46 pounds (209 grams) per capita per year. Under such conditions, Chapra found, all the lakes would show marked improvement by 1985. However, Lake Erie—particularly the western basin—would require additional treatment to reach acceptable levels of productivity.

Chapra cautions that this prediction is based on the assumption that phosphorus loss to sediments is a one-way process. For most of the lakes, it is, but once again Erie is the exception. In Erie, phosphorus levels in sediments are already so high that reduction of the amount of phosphorus in the water might cause some of that trapped in sediment to leak back into the water. In addition, the western and central basins of Lake Erie are so shallow that storms can stir up sediment and mix phosphorus back into the water.

Chapra points out that his model is designed to aid management decisions, and that the computer program is structured so that political or geographical distinctions can be made. "Thus it is relatively easy to develop scenarios of future conditions which ask questions such as 'What would happen if the State of Michigan outlawed detergents, while all other parts of the region did not?' he said.

The NOAA researcher is planning some refinements of the model—such as better handling of diffuse sources and the addition of sediment-water interactions—that should enhance its usefulness. "When such modifications are made, the approach will offer a comprehensive and relatively inexpensive package for investigating man's impact on the future water quality of the Great Lakes," Chapra said.

New Nautical Chart Published by NOS

The publication of a new Alaskan nautical chart covering the upper part of Keku Strait 150 miles northwest of Ketchikan recently was announced by the National Ocean Survey.

The new chart completes the large scale coverage of Keku

Newsman 'Buys' Safe Boating Concept

Soon after visiting the Annapolis Power Boat Show held Oct. 14-15, Gordon Peterson, news anchorman of the Washington television station WTOP-TV, stopped by the Rockville Chart Sales Office to purchase a set of new nautical charts.

Mr. Peterson said that many boating enthusiasts including himself who attended the show were informed by Natide Ocean Survey exhibit personnel of the necessity of maintaining up-to-date navigational charts as part of safe boating.



Sally LeMay of the NOS Physical Science Services Branch assists Mr. Peterson in his purchase of Chesapeake Bay Area charts.

NOAA Golfers Win Trophy Second Year

Fifteen golfers from NOAA's World Weather Building won the annual Secretary's Cup for the second consecutive year. Seventy-six competitors, representing several Department of Commerce agencies, participated in the 1976 tournament held at Bretton Woods Country Club in Seneca, Md.

The World Weather Building team captured the Low-Net Trophy (578 for best eight-man total); the Main Commerce team won the Low-Gross Trophy.

Individual prize winners on the WWB team were: Sy Roman, low net (70); Norm Phillips, most three-stroke holes (5); Bud Werbowetzi, most six-stroke holes (10); Bob Kistler tied for the most five-stroke holes (10).

Other members of the WWB team: G. Ensor, M. Gaidurgis, G. Hammons, L. Herman, J. Leathers, J. Moiles, D. Olson, R. Sharp, A. Timchalk, and L. Vanderman.

NEFC Diving Team Aides In Search

A six-man team of divers from the Northeast Fisheries Center (NEFC) Woods Hole, Mass., led a search and rescue mission for survivors of the seven-man crew of the scallop fishing vessel Patricia Marie which sank October 24, amid 10-foot waves in 135 feet of water off Cape Cod.

Heavy seas hampered the search and rescue efforts of the U.S. Coast Guard responding to the emergency so the search was called off October 27.

In response to a call from Massachusetts Congressman Gerry Studds, the NEFC hastily mobilized a dive team led by Dr. Richard A. Cooper, Director of Manned Undersea Research and Technology, Woods Hole Laboratory.

A Coast Guard cutter from Woods Hole transported the rescue group to the scene where the team verified the wreck of the Patricia Marie a few hours after arriving Oct. 29.

After making more dives for the missing crewmen the following morning, the divers concluded that all hands had escaped the ship before it left the surface.

Other divers of the team are: Clifford Newell, Roger Clifford, Woods Hole Laboratory; Lt. Thomas Ruzsala, NOAA Corps, assigned to Woods Hole Laboratory; Harold Pratt, and Keenan McCarthy, Narragansett Laboratory, Rhode Island.

National Oceanic and Atmospheric Administration

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