



# noaa week

Volume 5 Number 32

August 2, 1974

## Tuna Vessel Financial Aid Is Restricted

Until further notice, NOAA will not provide financial assistance that would significantly increase the harvesting capacity of vessels in an area of the Pacific regulated by the Inter-American Tropical Tuna Commission, of which the United States is a member. The regulated area is roughly two and one-half times the size of the land mass of the contiguous 48 states.

NOAA has declared the yellowfin tuna fishery in the regulated area a "conditional fishery," which Commerce Department regulations define as a fishery where there are already more than

*(Continued on page 6)*

## D.C. Weather Warning Signals Now Stronger, Reach Farther

A new 1,000-watt transmitter at a new site for the National Weather Service's continuous weather broadcasts is now providing complete coverage of the District of Columbia area. The new antenna is mounted on the tower of WNVT TV at Independent Hill near Manassas, Va.

Although Station KHB36, NOAA Weather Radio for the Washington area, has been in existence since 1967, broadcasting on 162.55 megaHertz, the transmitter until recently had only 300 watts' power and covered only the eastern portion of the D.C. metropolitan area from a low antenna 10 miles southwest of Annapolis, Md. According to Jerrold A.

LaRue, Meteorologist in Charge of the Washington, D.C., Forecast Office, the new antenna is about 1,000 feet higher than the old, and the strength and range of the radio signal have been greatly increased.

"This height is very important in extending the range of our weather broadcasts," he said, "because VHF-FM radio transmission is by line of sight. It's like television—the greater the transmitter height, the farther the range." He added:

"Now, anyone in the metropolitan area can tune in our weather broadcasts if he has a proper receiver for

*(Continued on page 8)*

## Great Lakes Water Levels Still High

The Great Lakes are currently well into a third season of high water levels, a condition which has occurred only twice before in this century, and scientists are making no predictions when this condition will abate. The outlook for next year is for continued high lake levels.

The National Ocean Survey's Lake Survey Center in Detroit, Mich., said high water levels such as these usually persist for only about two years, but LSC forecasters offer little promise that the rate of precipitation will slacken in the near future.

Similar conditions occurred in 1917-1918 and 1952-1953.

Lakes Erie and St. Clair have already broken the record high level of water they set last year in May. While both are expected to be below their monthly record highs for the remainder of the summer, they may again approach record highs in the fall. The rest of the Great Lakes are expected to continue well above their long-time averages, although they are not expected to break established records.

NOAA scientists say that when the weather settles into its usual pattern and the amount of precipitation returns to normal, the water levels will go down in the Great Lakes. The current six-month lake level forecast, however, calls for continued high levels through December, with the lake levels at the end of the year being

*(Continued on page 5)*

## Pam Rochford Is NOAA Administrator In 28th Girls Nation Program

Pam Marie Rochford, of Rupert, Idaho, was chosen by Girls Nation to serve as the Administrator of NOAA in the American Legion Auxiliary's 28th youth citizenship training course in the processes of Federal Government.

Dr. Robert M. White, NOAA Administrator, met with Miss Rochford on July 19 to outline his duties and responsibilities as NOAA Administrator.

The 17-year-old Minidoka County High School senior's activities include service as the student body secretary, club president of the pep club, and cheerleader. She is also a debater with superior awards in impromptu

speaking. A part-time disc jockey on a local radio station, she also reports the

National Weather Service forecasts as relayed by UPI wire.



## Land Heads Operations At AMC



Commander Ralph J. Land

Commander Ralph J. Land is the new Chief of Operations at the Atlantic Marine Center, Norfolk, Va. He was formerly Commanding Officer of the NOAA Ship *Peirce*. Commander Land joined the commissioned corps in 1960 and has served aboard seven vessels. He succeeds Commander Wayne L. Mobley.

## International Food Standards Group Meets

Joseph Slavin and James Brooker of the National Marine Fisheries Service recently participated in the Tenth Session of the International Codex Alimentarius Commission, which seeks to establish international standards for food products. It was held at the headquarters of the United Nations Food and Agriculture Organization in Rome, July 1-11. Approximately 350 participants from 55 countries and 25 international organizations attended.

The primary work of the Commission is to develop

and publish Recommended International Standards for basic food products that are marketed internationally. The purpose of the standards is to protect consumers' health and to facilitate international commerce.

Approximately 75 major food commodities have been approved by the Commission and referred to member countries for acceptance into their national food legislation. Six of the standards which have been approved by the Commission are for fishery products. A standard

for Canned Tuna and Bonito in Brine or Oil was approved at the Rome session of the Commission. Two additional draft standards for frozen shrimp and frozen fillets of hake were reviewed and approval given for their final development. Other matters taken up by the Commission pertinent to the fishing industry include Codes of Technological and Hygienic Practices in the processing of fishery products, acceptable food additives, pesticide residues, other contaminants, methods of analysis, and labeling of foods.



U.S. Government Representatives were (front row, from left) Dr. R. Angelotti, Dr. R. Weiks, L.M. Beacham, and Dr. V. Wodicka, Food and Drug Administration; E. Peterson, United States Department of Agriculture and G. Grange, USDA Consultant; and Mr. Slavin and Mr. J. Brooker. Several U.S. Industry Advisors to the government representatives who participated are also shown. E. Kimbrell, another U.S. government representative, was absent when the photo was taken.

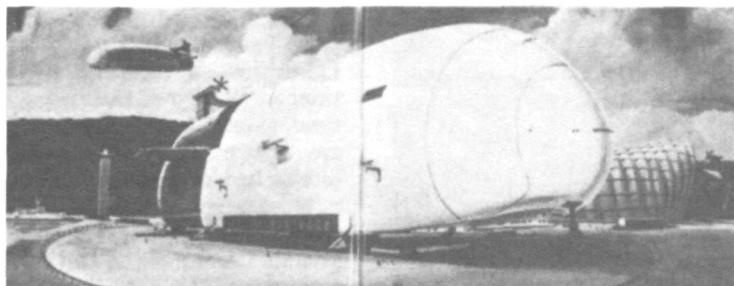
## NOAA Magazine Article Wins Illustration Award

The article "A Compelling Case for THE HELIUM HORSE" published in the October 1973 issue of NOAA Magazine has won a Third Award for story design/illustration in the Industrial Art Methods National

In-House Magazine Contest. IAM Third Award for this highly effective focus for the provocative article was given to William Welsh, Art Director in the Visual Services Branch of the Administration Operations Division at

NOAA headquarters in Rockville, Md.

Competition in IAM contest covers industry and government work featuring black/white and full color design/illustration.



A compelling case for **THE HELIUM HORSE**

**THIRD AWARD**  
 Magazine: NOAA  
 Designer/Illustrator: Frank Krasyk  
 Art Director: Bill Welsh  
 Editor: Stan Eames  
 Organization: National Oceanic & Atmospheric Administration, U.S. Department of Commerce  
 Papers: Cover & Test: 140 Litho Coated

## noaa week

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Articles to be considered for publication should be submitted at least a week in advance to NOAA Week, Room 221, WSC 5, Office of Public Affairs, National Oceanic and Atmospheric Administration, Rockville, Md. 20852. NOAA Week reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policies of the paper or the Administration.

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

## Dr. Murray Appointed To Sea Grant Office Institutional Post



Dr. Thomas E. Murray

Dr. Thomas E. Murray has been appointed Assistant Program Director of the Institutional Support Program in the Office of Sea Grant. The Institutional Support Program supports marine research, education, and advisory services through comprehensive grants to university staff. As a member of this staff, Dr. Murray will review proposals, make recommendations for grants, and monitor the accomplishment of those projects which are actually funded.

He was previously with the Institute of Policy Sciences and Public Affairs at Duke University where, in the Public Policy Sciences Program, he concentrated on international relations with particular emphasis on inter-national economic policy. Earlier, he was Professor of Physics at LeMoyne College in Syracuse, N.Y., and also served as the College's Director of Federal Relations.

He received his physics training at Fordham and Syracuse Universities.

## NOAA/NBS Energy Tip

Schedule such energy-using activities as washing, drying, ironing, and cooking for cooler early morning or late evening hours, when demands on electrical distribution systems are lightest.

In cooking, use covered pots and low heat whenever possible.

## Birth of Thunderstorms Linked With "Dryline" Phenomenon

An invisible curtain separating dry desert wind from moist air in the lee of the Rocky Mountains appears to mark a favored location for thunderstorm development over the southern Great Plains, according to an Environmental Research Laboratory scientist.

Dr. Joseph T. Schaefer of the National Severe Storms Laboratory in Norman, Okla., says the invisible "dryline" occurs most frequently in west Texas and Oklahoma during the spring and early summer. Approximately paralleling the terrain contours, the dryline is sometimes observed as far north as Nebraska and the Dakotas.

By studying the development and progression of actual dryline events, the NOAA meteorologist developed a numerical model to determine the life cycle of the dryline and the cause of its motion.

Computerized results indicate that the daytime movement of the invisible dryline is determined by surface heating of the earth, (which

causes vertical mixing of dry and moist air) rather than by naturally occurring westerly winds. This revelation is significant to meteorologists. But the question of why the dryline is a preferred location of thunderstorm generation remains unanswered.

The importance of the dryline as a severe weather predictor has been recognized for almost a quarter of a century. A recent four-year study of radar echo formation showed that when cells existed within 200 nautical miles on either side of the dryline, 78 percent of the first radar echoes developed within 10 nautical miles of the dryline position.

The United States is not the only country to experience dryline-like occurrences. Over India and central West Africa the dryline is a significant feature during the pre-monsoon months. These phenomena are similar to their United States counterpart in terms of amount of heating at the earth's surface, the vertical profile of the dryline, and its effect upon convection.

## NOAA Ship Activities in FY '74 Were Extensive and Varied

Ships of the NOAA Fleet conducted extensive operations in the 1974 fiscal year ending June 30 in areas extending from the Gulf of Maine to the Gulf of Mexico, from Latin America to the African coast, from the Bering Sea to the Mexican border, and in the Great Lakes.

The Office of Fleet Operations reported that activities were carried out in Alaskan waters, including Prince William Sound, southeast Alaska, Cook Inlet and the Bering Sea; off California and Oregon; in Washington's Strait of Juan de Fuca and Puget Sound; off British Columbia; in the eastern Pacific

and between Hawaii and Guam; in the north and southeastern Atlantic; off West Africa; in the waters of Georgia, Florida, and the Carolinas; off Mississippi and Texas; in the Caribbean and Chesapeake Bay; in the N.Y. Bight; and in Lake Ontario.

The activities covered various types of surveys, including hydrographic, circulatory (tides and currents), geological investigations, ocean investigations, physical oceanography, cable route, wire drag, internal wave energy, geophysical traverse, Atlantic Tropical Experiment, resource surveys, biological investigations and fishing technology.

## Dr. R.J. Berry Named Chief, NMFS Research Management Division



Dr. Richard J. Berry

Dr. Richard J. Berry has been named to the post of Chief, Research Management Division, in the Office of Resource Research of the National Marine Fisheries Service in Washington, D.C. In this capacity he is responsible for the planning, budgeting, coordination and evaluation of fishery research activities that are conducted in seven major research centers in the functional areas of fishery oceanography, in-shore and estuarine ecology, life studies, marine mammals, fishery technology and engineering, aquaculture and marine recreational fisheries.

Dr. Berry's last assignment was as Chief of the Bears Bluff Field Site of the Gulf Breeze Environmental Research Laboratory. This Environmental Protection Agency facility is engaged in laboratory and field studies to determine the effects of pesticides and heavy metals on estuarine ecosystems.

From 1962 to 1972 Dr. Berry was with the NMFS Galveston Laboratory, where he was active in the study of shrimp population dynamics and as an Assistant Professor at Texas A&M University.

Dr. Berry received his B.A. in Zoology from the University of Connecticut, and his M.S. in Biological Oceanography and Ph.D. in Oceanography from the University of Rhode Island.

# notes about people

Dr. Wilmot N. Hess, Director of the Environmental Research Laboratories in Boulder, Colo., recently presented Outstanding Paper Awards to eight ERL scientists. Original research, tutorial and review papers are recognized for originality, scientific and/or applied importance, quality of writing, longevity, and relevance to NOAA missions. This year, single ERL authors received \$500 and ERL co-authors received \$250 each.

The recipients were

—Robert S. Lawrence, Chief of the Optical Propagation Program Area in ERL's Wave Propagation Laboratory, Boulder, for "A Survey of Clear-Air Propagation Effects Relevant to Optical Communications", co-authored with John W. Strohbehn, Dartmouth College;

—Richard B. Norton, Program Leader of the Atmospheric Composition Study Group, Aeronomy Laboratory, Boulder, for

Rear Admiral Harley D. Nygren, Director of the NOAA Corps, and C. Peter Marini, Communications Officer in the Administrative Operations Division, have received ceremonial National Safe Boating Week Proclamations for their outstanding contributions to safe boating nationwide. Both are members of the National Safe Boating Committee, Inc. Admiral Nygren represents NOAA, and Mr. Marini, as National Chief, Safe Boating, represents the U.S. Coast Guard Auxiliary.

The proclamations, personally signed by President Nixon, were presented by William J. Baroody, Jr., Special Consultant to the President.

Commander Robert A. Ganse has received a Doctor of Philosophy degree from St. Louis University. Doctor Ganse is the fourth member of the NOAA Commissioned Corps to achieve this distinction.



Mr. Norton,

"Theory of Nitric Oxide in the Earth's Atmosphere", co-authored with Charles A. Barth, University of Colorado.

—William L. Woodley, Meteorologist, Experimental Meteorology Laboratory, Miami, Fla., for "Rainfall Enhancement by Dynamic Cloud Modification";

—Steven R. Hanna, Meteorologist, Air Resources Laboratory, Oak Ridge, Tenn., for "Simple Methods of Calculating Dispersion from Urban Area Sources";

Donald R. Rondy, Chief of the Lake Survey Center's Water Level Branch, was the LSC's representative at the 79th Meeting of the Committee on Tidal Hydraulics held in Chicago, Ill., on July 16 and 17. The meeting, sponsored by the Corps of Engineers, North Central Division, covered areas of prime importance to those professionals working to maintain the aesthetic beauty and utility of the Great Lakes. Topics included erosion and its prevention, water level fluctuation, wind set-up and waves.

Dr. Harris B. Stewart, Director of the Environmental Research Laboratories' Atlantic Oceanographic and Meteorological Laboratories, and Dr. Peter A. Rona, a research geophysicist with the Miami Laboratories' Marine Geology and Geophysics Laboratory, have been re-elected and elected respectively to two-year terms as trustees of the Miami Museum of Science.



Mr. Lawrence (left) and Dr. Hess

—Syukuro Manabe, Meteorologist, and J. Leith Holloway, Jr., Supervisory Meteorologist, Geophysical Fluid Dynamics Laboratory, Princeton, N.J., for "Tropical Circulation in a Time-Integration of a Global Model of the Atmosphere", co-authored with Hugh M. Stone, National Weather Service, Detroit, Mich.

—Toby N. Carlson, Meteorologist, National Hurricane Research Laboratory, Miami, Fla., for "The Large-Scale Movement of Saharan Air

Outbreaks over the Northern Equatorial Atlantic", co-authored with Joseph M. Prospero, University of Miami, Miami, Fla., whose research is largely funded by the National Science Foundation; and

—Robert D. Nason, former Geophysicist with ERL's former Earth Sciences Laboratories who transferred to the U.S. Geological Survey in San Francisco, Calif., for "Measurement and Theoretical of Fault Creep Slippage in Central California".

Douglas Doles, a computer technician at NOAA's Pacific Marine Center, has been honored in Seattle by the National Conference of



Christians and Jews with a Community Brotherhood Award. He received one of the seven awards presented at the organization's 22nd Annual Citation Dinner for his work among young boys and the elderly in Ballard, a Seattle community.

Three Boulder Laboratories' staff members have been selected to begin new careers

under the scientific upwelling mobility training programs with NOAA:

—Helen H. Tepedelen, currently secretary to the Director of the Environmental Research Laboratories' Atmospheric Physics and Chemistry Laboratory, who will be training as a physical science technician with the Nuclear Chemistry Group in the same laboratory;

—Wilford W. Buggs, a former supply technician with the National Bureau of Standards, currently training as a scientific electronics technician at Chanute Air Force Base near Chanute, Ill., who will be assigned to a permanent position later on and

—Andrew J. Shepard, a Viet Nam veteran employed by the Bureau of Standards who will be training as a physical science technician and ultimately assigned to NOAA's Pacific Marine Environmental Laboratories in Seattle, Wash.

## Sea Grant Funds Help Support Scuba Training

The University of Wisconsin-Madison has taken the plunge this summer in a move to create on campus one of the leading research diving centers in the country.

Backed by the school's Sea Grant College Program, instruction has started in the use of Self Contained Underwater Breathing Apparatus—SCUBA diving. The project will also tie in with research in the engineering school on diving equipment and techniques.

According to project director David Engeseth, while most other "big ten" universities already have some form of scuba instruction, "there are few institutions devoted to a complete program from beginning to advanced classes, and coordinating with research and testing of new underwater diving equipment."

"Only in the last two or three years have scientists realized that with scuba equipment and training they can get right down in the water to do their research," he says.

Professor Robert Ragotzkie, director of U.W.'s Sea Grant College Program, who strongly endorsed the venture, noted that Sea Grant has underwater research going on right now on mineral deposits in Lake Superior.

The University's physical education department will evaluate the scuba program with an eye to making it a permanent part of the curriculum. Summer classes are now well under way, and 70 students are expected to take the course this fall.

Enrollment is coeducational and open to all grade levels. Graduates of the one semester course receive credit, and can take an exam for national certification as a qualified diver.

The sponsoring U.W. Sea Grant College Program is funded jointly by NOAA and by the state of Wisconsin.

## Computerized Literature Search System Inaugrated as Part of O.A.S.I.S.

Want to know something about electrical cars, sun spots or lasers? A telephone call can activate a computerized literature search, providing information on these and thousands of other subjects. The Boulder, Colo., Laboratories Library, administered by NOAA, has inaugurated the first computerized literature search service within the agency as part of O.A.S.I.S.—Oceanic and Atmospheric Scientific Information System.

According to the library staff, the first set of files searchable via computer are maintained by the Lockheed Corporation in Palo Alto, Calif. The files include Government Reports Announcements; Inspec, physics, electrical engineering, and computer science abstracts; PANDEX/TRANSDEX, Macmillan Information Services' scientific, technical, and translation abstracts; and Compendex Engineering Index.

A second phase of O.A.S.I.S.—a set of files maintained by the Systems Development Corporation of Santa Monica, Calif.—is also available, including: Compendex; CAIN agricultural literature abstracts; Chemical Abstracts, and Geo-Ref, a bibliography and index of geology literature.

The third phase of O.A.S.I.S. files, maintained at NOAA Headquarters, will be available by computer to the Boulder facility shortly. Robert Freeman and James Stear of NOAA's Environmental Science Information Center in Washington, D.C. provided in-service training to the Boulder library staff on Phase III June 19 through 21.

Subjects of recent literature search requests completed by the library staff include: holograms produced by computers, laser measure-

ments, wind power, ultrasound measurement, electrical cars, paramagnetic resonance spectrometers, solar heating and cooling, and prediction of sun spots and solar flares.

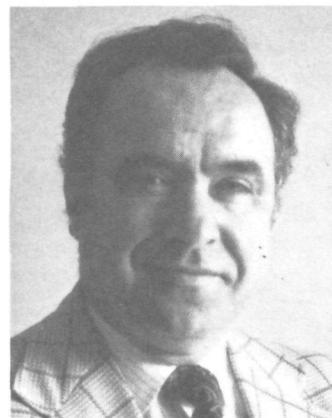
Prospective users of O.A.S.I.S. may contact Mr. Freeman or Mr. Stear on (FTS) 202-343-6454 or Joan Maier or Shirley Alldredge in Boulder on (FTS) 303-499-3271.

### User's Guide to OASIS Available from EDS

A new "User's Guide to OASIS—Key to Oceanic and Atmospheric Information Sources—No. 1" is now available from the Environmental Data Service's Environmental Science Information Center. The Guide is designed to provide scientists, engineers, planners, and decision-makers with specialized information retrieval services and inform them of available published literature. It describes services available through OASIS, how to request OASIS services, costs and payment procedures, descriptions of and an index to the data bases in such disciplines as air pollution, aquaculture, biology, chemistry, energy, geology, and meteorology. Also included are sample search results.

Copies of the new Guide are available free from the Technical Information Division (ATTN: D832), National Oceanic and Atmospheric Administration, Washington, D.C. 20235.

## Nolan Named Met Services Asst. at ERH



Robert L. Nolan

Robert L. Nolan has been selected for the position of Assistant Chief of the Meteorological Services Division at the National Weather Service Eastern Region Headquarters in Garden City, N.Y. He served as the Regional Evaluation Meteorologist in that division for the past four years.

He entered the Weather Service in 1956 as a Meteorologist at Buffalo, N.Y. In 1960, he became a Meteorologist (Field Aide) in the former DATAC Branch at ERH, and in 1961, was promoted to Chief of Observations, DATAC.

Earlier he served in the Air Force as a Weather Officer for four years, and is currently a Lieutenant Colonel in the Air Force Reserve.

He received a B.S. in Mathematics from Canisius College, attended New York University in the USAF Meteorology Program, and has attended the University of Michigan.

## Great Lakes Water Levels Still High

(Continued from page 1)

within a few inches of those of last December.

The present high lake levels are primarily due to precipitation (both rain and snow) which has been 16 1/2 inches above normal since 1965. This condition has been aggravated by below normal evaporation and

the cumulative effect has been to raise lake levels in some cases to all-time highs.

Because of their huge size and storage capacity and relatively small outlets, the Great Lakes do not respond quickly to changes in supply.

The Great Lakes contain the world's largest supply of

fresh water, nearly 5500 cubic miles, enough to cover the entire continental United States to a depth of over nine feet. Their water area stretches nearly 100,000 square miles, about equal to the combined land area of the Michigan, South Carolina and Massachusetts.

## recipe of the week



### OCEAN PERCH FRENCH ONION SOUP

- 1 pound ocean perch fillets or other fish fillets, fresh or frozen
- 2 packages (1-3/8 or 1-3/4 ounces each) onion soup mix
- 5 cups boiling water
- Crusty Cheese Slices

Thaw frozen fillets. Skin fillets and cut into 1/2-inch pieces. Add soup mix and fish to boiling water; stir. Cover pan and return to the boiling point. Reduce heat and simmer for 10 minutes or until fish flakes easily when tested with a fork. Serve topped with Crusty Cheese Slices. Makes 6 servings.

#### Crusty Cheese Slices

- 6 slices French bread, 1/2-inch thick
- 2 tablespoons melted butter or margarine
- 2 tablespoons grated Parmesan cheese
- 1 tablespoon chopped parsley

Place bread on a cookie sheet. Brush with butter and sprinkle with cheese and parsley. Toast in hot oven, 400° F., for 10 to 12 minutes or until lightly browned. Makes 6 servings.

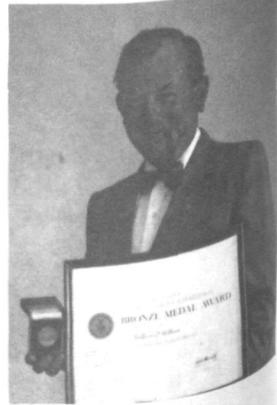
## next week's best fish buys

According to the NMFS National Consumer Educational Services Office in Chicago, the best buys for the next week or so are likely to be medium frozen shrimp and frozen haddock along the Northeast Seaboard; fresh spot and croaker in the Middle At-

lantic States, including the D.C. area; fresh and frozen shrimp in the Southeast and along the Gulf Coast; frozen shrimp and ocean perch in the Midwest; silver salmon and fish sticks in the Northwest; and canned tuna and frozen turbot in the South-

## William O. Halluin Receives Commerce Bronze Medal

William O. Halluin, Cartographic Technician in the Photogrammetric Branch of the National Ocean Survey's Coastal Mapping Division, has received a Commerce Bronze Medal "in recognition of more than thirty years' dedication to duty and numerous notable contributions to the field of Cartography." Mr. Halluin retired recently after more than 33 years' Federal service.



## NOAA Fleet Logged 1617 Days at Sea Last FY

The NOAA Ship *Oregon II* recorded the greatest number of days "at-sea" during the fiscal year which ended June 30 of the 11 ships which comprise NOAA's Atlantic fleet—a total of 216. The *Albatross II* was second with 197 working days at sea. Both ships, which operate out of the Atlantic Marine Center in Norfolk, Va., engage in fisheries research.

In all, the 11 ships spent 1617 days at sea for a total of almost 4 1/2 years.

Other totals were *Researcher* 195; *Ferrel* 188;

*Rude/Heck* 181; *Mt Mitchell* 170; *Whiting* 158, *Peirce* 156, *George M. Bowers* 140, and the *Delaware II* (for which all data are not available) 16.

In hydrographic survey and trackline activities, the *Mt Mitchell*, *Whiting*, *Peirce* and the Atlantic Hydrographic Party recorded 38,088 miles, the *Mt Mitchell* accounting for 13,219 miles of the total. The other totals were: *Whiting* 9930, *Peirce* 8326, Atlantic Hydrographic Party 6613.

## Tuna Vessel Financial Aid Is Restricted

(Continued from page 1)

enough vessels to harvest the available catch. The restriction on financial assistance is automatic upon such a declaration.

The National Marine Fisheries Service currently administers two financial assistance programs affected by this action—the Fishing Vessel Obligation Guarantee Program and the Fishing Vessel Capital Construction Fund Program. The first provides a Federal guarantee for obligations, financing or refinancing (for up to 15 years) 75 percent of the cost of constructing, reconstructing or reconditioning U.S. commercial fishing vessels of at least five net tons. The second is one under which Federal income taxes on fishing vessel income may be deferred in connection with

constructing, reconstructing, or under certain conditions, acquiring U.S. commercial fishing vessels of at least five net tons.

One NMFS goal is to administer its financial assistance programs in such a way that they will be consistent with the needs and objectives of sound resource management, and thus help achieve a primary objective of the Service—a viable U.S. fishing industry.

The decision concerning the conditional fishery was reached after consideration of all comments received from the interested public and other agency officials which were solicited earlier this year.

The official announcement of the new policy was published in the Federal Register July 10, 1974.

# Data Buoy Group Receives NOAA Unit Citation

The Program Management Staff of the NOAA Data Buoy Office in Bay St. Louis, Miss., has been awarded a NOAA Unit Citation for outstanding contributions in reducing expenditures for contractor support personnel, telephone costs, mailing expenses and office equipment.

Concurrently, new procedures were initiated to automate the office's financial management system and an improved five-year program was developed. The achievements were made at a time when the emphasis of the data buoy program was redirected to the application of known data buoy technology.



Recipients of the citation were (from left) Rosemary Lovell, Evelyn Young, O.J. Howe, Gene Autrey, Fred Schmitt, Ron Rosie, (not shown) Jim Askew, Skip Onstad and Bill Smith.

# Sea Grant Deputy Director Harold L. Goodwin Retires

Harold L. Goodwin, who has served as Deputy Director of the National Sea Grant Program since its inception in 1967, has retired after thirty years of Federal service. He has been chiefly responsible for developing the Program's long-range plans, unified national programs, and many of its innovative initiatives.



Harold L. Goodwin

Most recently, he was appointed Interim Program Manager for Aquaculture to assess the state-of-the-art of aquaculture within NOAA and the Federal Government. From this assessment, his task group prepared a "Special Emphasis Document" on Aquaculture, which is expected to serve as NOAA's guide in development of future aquaculture programs.

Earlier, as Chief Editor for the President's Commission on Marine Science, Engineer-

ing and Resources, Mr. Goodwin assimilated and synthesized the Commission's comments and recommendations, preparing a document which became internationally known as The Stratton Report—widely acclaimed as this country's major milestone in its ocean program.

In 1971, he was awarded the DOC Silver Medal for his work for the Commission, and for his efforts in behalf of the Sea Grant Program. In March of this year, he was honored with the American Littoral Society's James Dugan Award, presented annually for outstanding service in the aquatic sciences.

Mr. Goodwin has also maintained the unusual avocation of writing children's book series, has published over 40 books—both technical and fiction, and has authored over 400 articles.

## U.S./Canadian Exchange Program Continues; NOAA Officer Selected To Represent LSC

Under an international technical exchange program started in 1972 between the United States and Canada, an interagency training program has been conducted yearly in which selected employees receive on-the-job training and experience in the charting operations of the counterpart agency. The agencies involved are the National Ocean Survey's Lake Survey Center and the Canadian Hydrographic Service.



Lieutenant (j.g.) Donald D. Winter

This season, for the first time a NOAA commissioned officer—Lieutenant (junior grade) Donald D. Winter—has been chosen to represent the Lake Survey Center. Jake Kean, a qualified hydrographer, was selected by the Canadian Hydrographic Service as its representative.

Because of their similar interests and work in the Great Lakes area, a spirit of cooperation and coordination has developed through the years between the two

agencies. The exchange of charting data and related operational assistance has resulted in such important undertakings as the establishment of the International Great Lakes Datum in 1955. Of significance also to both charting agencies have been the benefits derived from international coordination and cooperation which have collectively decreased the time, efforts and cost of chart production.

## Duckpin League To Resume Activities

The NOAA Mixed Duckpin League will resume its recreational activities beginning Thursday, Sept. 5, at 6 p.m., at the Bethesda Bowl, 7651 Old Georgetown Rd., Bethesda, Md. There is room for full teams or individual bowlers. Further information can be obtained from Ed Via (IDS 161-77680), Grace Solters (IDS 14-68387), or Diane Smith (IDS 14-68321).

## Obituaries

### Clifford Glore

Clifford Glore, Meteorological Aid at the National Weather Service Office in Huntington, W.Va., died on July 13. He had been with the NWS since March of this year. His previous Government service was with the Air Force.

He is survived by his wife, Karen, and two young daughters. Their address is Route 3, Box 114, Grayson, Ky. 41143.

### Harold L. Jones

Harold L. Jones, Weather Service Specialist at the National Weather Service in St. Louis, Mo., died on July 22. He had served with the NWS for 17 of his 21 years of Federal service. He worked with the Weather Service in Moline, Ill., for six years before transferring to St. Louis.

His survivors include his father, Clarence W. Jones, 443 Patterson St., Farmington, Mo. 63640.

# Pollution Monitoring Systems Compared in Multi-Agency Test

Western Long Island Sound between New Rochelle and Sands Point, N.Y., was the location of a multi-agency effort last week to compare two methods of detecting metal pollutants in surface layers of the seabed. Using the *Beaver* Mark IV research submersible as an undersea platform, the five-day test was made to evaluate neutron activation and X-ray fluorescence techniques, in an area of the Sound known to contain heavy metal pollutants.

NOAA conducted the test jointly with the Atomic Energy Commission, U.S. Geological Survey, and National Aeronautics and Space Administration. The Project Coordinator was Joseph R. Vadus of NOAA's Manned Undersea Science and Technology office.

Earlier, samples of bottom sediments were taken at the project site by the Environmental Protection Agency's vessel *Clean Waters*, to provide preliminary baseline reference data for the area.

The objective of this first test was to evaluate the effectiveness of the two techniques rather than to detect and chart pollution levels in Long Island Sound.

X-ray fluorescence and neutron activation techniques both employ an energy source and a sensor, which were mounted on *Beaver* in these tests. With both techniques, heavy metals that may be present on the seabed are irradiated by the energy source. Each of the metals then emits its own detectable energy signature. The scientists aboard the submersible compared these signatures against recorded data to identify the metals, and compared the in-

tensity levels to estimate the concentrations of each of the pollutants.

A small cadmium 109 X-ray fluorescence source and sensor were mounted aft in *Beaver*, and the submarine's two articulating arms used for the neutron activation system. For the latter, a small californium 252 source was secured to one arm, the sensor to the other, and both were remotely operated from inside the craft. The source was pressed briefly into the bottom sediment, then removed, and the sensor pressed into the same spot. Scientists in the submersible then recorded the signature response.

A third, passive detector, externally mounted on a skid beneath the submersible, measured the minute amounts of background radiation that are inherently present in all locations in varying degrees.

Signals detected by the three external detectors were transmitted via interconnecting cables to a central processing system including mini-computer, displays and

data recording equipment located in the aft sphere compartment of *Beaver*.

Scientists from the Battelle Institute Northwest in Richland, Wash., under contract by the AEC, performed the mission aboard the submersible. *Beaver* was used at various locations in the operating area and to depths of about 100 feet in the Sound. While the submersible was deployed from the support barge and operating on the sea bed nearby, a second neutron activation system was deployed over the side from the barge. This system integrates the equipment developed by the U.S. Geological Survey with equipment developed under a NOAA Sea Grant to the University of Georgia. This neutron activation system differed from that on board the submersible in that the sensor was in the same housing and very close to a small californium 252 source to detect prompt gamma emissions that were instantly derived upon activation by the source.

A mobile van containing

instrumentation for signal processing and analysis computation, display and data recording was located on the barge in support of the neutron activation equipment deployed over the side.

The data obtained from the submersible will be compared with that obtained from the barge, and both will be compared to data obtained from samples processed independently in a laboratory.

NASA utilized advanced data processing equipment to process data recorded during the mission, to provide another means of comparing results. NASA also plans to participate in future missions applying neutron activation technology developed for space programs.

Based on the results of this test, additional inter-agency projects will be planned to assist the participating agencies in fulfilling their missions relative to survey, assessment and monitoring of metallic pollutants, and mineral resources.

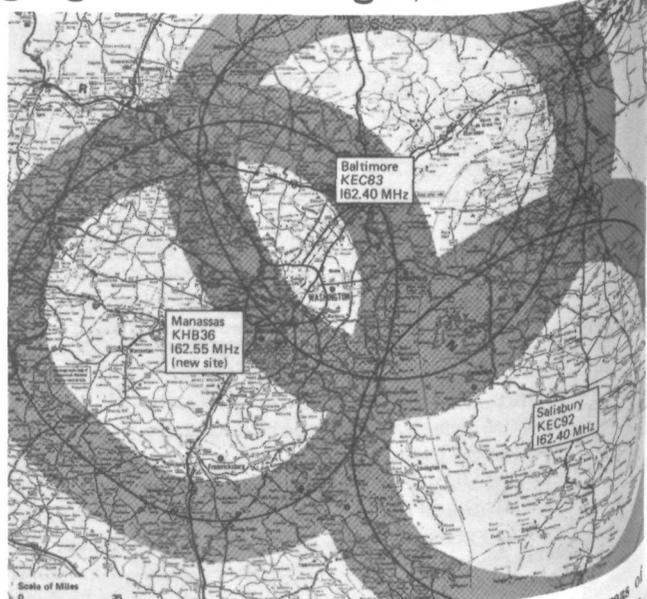
## D.C. Weather Warning Signals Now Stronger, Reach Farther

(Continued from page 1)

the very high frequency. Before, the weaker signal from the low elevation near Chesapeake Bay was unavailable to people in the Virginia suburbs and along the Potomac unless they had very sensitive receivers with high, outside antennas."

Since NOAA Weather Radio frequencies of 162.55 MHz and 162.40 MHz lie above commercial FM frequencies, which end at 108 MHz, high-band VHF receivers are needed. A variety of these are available in radio and electronic stores, some of them small versions at a very modest price, for weather broadcasts only.

Station KHB36 is one of almost 70 NOAA Weather Radio stations, nationwide. Its broadcasts are prepared and delivered by personnel at the Washington Weather Service Forecast Office.



EGG-SHAPED AREAS on map above are approximate areas of coverage of three NOAA Weather Radio Stations—in Baltimore, Washington (Manassas), and Salisbury, Md. Shaded bands 20 miles wide show differences in reception range of various quality receivers. Better receivers will get the signal at outer edges. Where range bands of the two stations on 162.40 MHz intersect, the stronger signal will be the one heard.



# **National Oceanic and Atmospheric Administration**

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