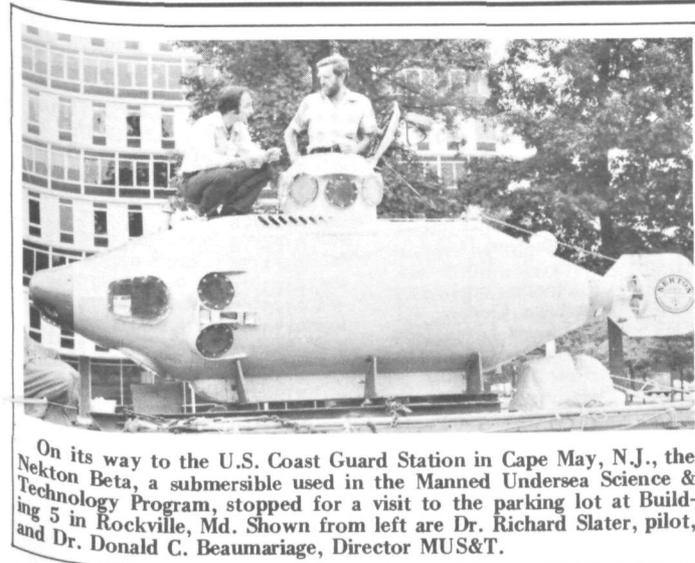




# noaa week

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## Radiometer May Detect Clear-Air Turbulence

Water vapor in the atmosphere may help aircraft pilots avoid jolting—and sometimes dangerous—encounters with unexpected turbulence in clear air, according to Dr. Peter M. Kuhn, a scientist with the Environmental Research Laboratories' Atmospheric Physics and Chemistry Laboratory. He believes that a standard infrared radiometer, which measures water vapor by the radiation it emits, could give planes as much as 10 minutes' warning of turbulence ahead.

## Sea Grant Awarded To Massachusetts Inst. of Technology

NOAA has awarded a \$890,600 grant to the Massachusetts Institute of Technology which is conducting research contributing to the development of marine resources.

The funds, which will be matched by more than \$588,000 from non-federal sources, mark the MIT's sixth year of NOAA Sea Grant support.

"In the past several years," said Dr. Robert B. Abel, Director of NOAA's Office of Sea Grant, "MIT has pioneered efforts in environmental modeling by computer—a process that can simulate and predict water circulation and dispersion rates." One of the results of the computer project has been the development of a mathematical model of Massachusetts Bay that may help pinpoint the cause of red tide blooms that can make shellfish toxic to humans. The analytical methods used in the model-

Dr. Kuhn preceived the turbulence-predicting possibilities of radiometers while making water vapor measurements aboard a National Aeronautics and Space Administration flying astronomical observatory. NASA astronomers on the instrumented Lockheed C-141 have been studying infrared radiation from galactic centers, nebula, infrared stars, and planets.

Water vapor in the atmosphere also contributes infrared radiation, however, and could confuse the astronomers' results. Cruising at 41,000 feet, the observatory is above 99 percent of the earth's atmospheric water vapor, but the scientists still needed to know how much remained in the atmosphere above. So Dr. Kuhn, with an infrared radiometer pointed directly upward from the cockpit of the C-141, measures the intensity of infrared radiation in the frequency range emitted by water vapor—and thus the amount of vapor between the plane and the top of the atmosphere.

While making these measurements, Dr. Kuhn noticed that sometimes there would be drastic changes—300 or 400 percent—in the water vapor measurements within a space of a few minutes.

Normally, the amount of water vapor at a given altitude is relatively constant. Dr. Kuhn postulates that the water vapor anomalies he has observed are caused by the churning motions of turbulence, which thin the water vapor in one place and concentrate it somewhere else.

The relationship observed between water vapor anomalies and

(Continued on page 3)

a threatened species. With the passage of the Act, this action is no longer required and the Director will take steps to stop all actions to list the Atlantic bluefin tuna as a threatened species at this time.

Copies of the complete regulations may be obtained from the Director, National Marine Fisheries Service, NOAA, Washington, D.C. 20235,

## Search For Sunken Wrecks Begins In New York Harbor

NOAA's wire drag ships the Rude and Heck are preparing to launch a 10-week search in the traffic-congested approaches to New York Harbor for at least nine sunken wrecks regarded as dangerous to shipping.

The search will begin around September 1 and continue until mid-November. The ships, the only ones of their kind in the country, were constructed especially to locate underwater navigational hazards.

Their task is to verify or disprove reports of the existence of sunken vessels or other possible navigational hazards, such as shoals, reefs and pinnacle rocks. When proven, the ships determine the obstruction's precise location and the water's height above them. The positions of the wrecks are plotted on the nautical charts

issued by the National Ocean Survey, and if deemed hazardous reported to the Coast Guard for publication in the Notice to Mariners.

In searching for wrecks and other underwater obstructions, the Rude and Heck steam parallel to each other, sometimes as much as two miles apart, dragging a quarter-inch steel wire, suspended under water from surface buoys to predetermined depths as great as 100 feet. As the wire catches on an obstruction, the wire becomes taut and the surface buoys generally form the letter V. A determination is then made of the exact location of the obstruction and the water's depth above its highest point. If necessary, divers examine it.

The Rude and Heck each car-

(Continued on page 4)

## NOAA Establishes Regulations Limiting Endangered Atlantic Bluefin Tuna Catch

NOAA has established regulations limiting the catch of Atlantic bluefin tuna to help conserve stocks of the threatened species.

The regulations, published in the Federal Register on August 13, permit the Director of the National Marine Fisheries Service to establish fishing seasons, quotas, reporting requirements, enforcement procedures, and penalties relating to the catch of the bluefin tuna.

Publication of the regulations followed signing of the Atlantic Tunas Convention Act of 1975 last month by President Ford, and, in effect, implements recommendations adopted by the International Commission for Conservation of Atlantic Tunas.

The Commission is responsible for the study of the populations of tuna and tuna-like fishes in the Atlantic Ocean, and recommends proposals for joint action by member governments to maintain fish stocks at levels permitting maximum sustainable catch.

Member countries of the Commission are Brazil, Canada, Cuba, France, Ghana, Ivory Coast, Japan, Korea, Morocco, Portugal, Senegal, South Africa, Spain, and the United States.

Prior to the enactment of the Atlantic Tunas Convention Act of 1975, the National Marine Fisheries Service had proposed to declare the Atlantic bluefin tuna

(Continued on page 4)

# 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
64-76	Visual Information Spec.	GS-5	NOS	Rockville, Md.	8/14/75	8/28/75
66-76	Meteorological Tech.	GS-10	NWS	Peoria, Ill.	8/14/75	8/28/75
67-76	Construction Representative	GS-11	NWS	Chicago, Ill.	8/14/75	8/28/75
68-76	Supv. Meteorological Tech.	GS-10	NWS	Sioux Falls, N. Dak.	8/14/75	8/28/75
69-76	Supv. Meteorological Tech.	GS-12	NWS	Flint, Mich.	8/14/75	8/28/75
71-76	Supv. Meteorological Tech.	GS-12	NWS	Peoria, Ill.	8/14/75	8/28/75
72-76	Wildlife Biologist	GS-11	NMFS	Seattle, Wash.	8/14/75	8/28/75
55-76	Operations Research Analyst	GS-12	NWS	Silver Spring, Md.	8/8/75	8/29/75
58-76	Fishery Biologist	GS-14	NMFS	Galveston, Texas	8/8/75	8/29/75
61-76	Fishery Biologist	GS-14	NMFS	Beaufort, N.C.	8/8/75	8/29/75
74-76	Meteorological Tech.	GS-10	NWS	Scottsbluff, Nebr.	8/18/75	9/2/75
76-76	Admin. Officer	GS-12	NMFS	Miami, Fla.	8/18/75	9/2/75
65-76	Oceanographer	GS-13	NMFS	Washington, D.C.	8/14/75	9/5/75
70-76	Communications Management Spec.	GS-13	HDQS	Rockville, Md.	8/14/75	9/5/75
73-76	Public Information Officer	GS-14	HDQS	Rockville, Md.	8/15/75	9/6/75
75-76	Operations Research Analyst	GS-12	NMFS	La Jolla, Calif.	8/15/75	9/9/75
77-76	General Engineer	GS-13	NMFS	Bay Saint Louis, Miss.	8/20/75	9/4/75
78-76	Physical Scientist	GS-13	NESS	Suitland, Md.	8/20/75	9/11/75
79-76	Meteorologist	GS-14	NWS	Silver Spring, Md.	8/20/75	9/4/75
80-76	Electronics Tech.	GS-11	NWS	Sterling, Va.	8/20/75	9/4/75
81-76	Program Analyst	GS-11	NWS	Silver Spring, Md.	8/20/75	9/4/75
82-76	Research Chemist	GS-12	NMFS	Seattle, Wash.	8/20/75	9/4/75

### Seven NOAA Employees Cited for EEO Accomplishments



Albert Jack Margrett and John Tabor



Patricia Terao



Lena Loman



Constance Zarbo

Dr. William J. McNeil



Dr. Bradford E. Brown



Robert Stein

Seven NOAA employees were among the Commerce Department employees who recently received 15 certificates of recognition from former Under Secretary of Commerce John Tabor for their outstanding work in developing equal employment opportunities for minorities and women. They were: Robert Stein, Oceanographer, Environmental Data Service in Suitland, Maryland; Albert Jack Margrett, Chief, Employment and Utilization Section, National Climatic Center, Asheville, N.C.; Dr. Bradford E. Brown, Supervisory Fishery Biologist, National Marine Fisheries Service, Woods Hole, Mass.; Patricia Terao, Administrative Officer, National Marine Fisheries Service, Seattle, Washington; Constance Zarbo, NOAA Upward Mobility Coordinator, NOAA Personnel Division, Rockville, Md.; Dr. William J. McNeil, Chief, Anadromous Fisheries Investigations, National Marine Fisheries Service, Auke Bay, Alaska; Lena Loman, Chief, Programming Support Section, National Weather Service, Camp Springs, Maryland.

Ms. Zarbo was cited for her outstanding performance in planning, developing, implementing and maintaining the complex NOAA Scientific Upward Mobility Training Programs. These programs were accomplished on a nationwide basis and resulted in 95 trainees being enrolled in the programs, 87 percent of whom were minorities and females.

Dr. Brown was cited for his special efforts on the job and the leading role he plays in community activities in the Cape Cod area in

furthering equal employment opportunities for minorities and women.

Ms. Terao has been honored for her many years of hard effort in initiating recruitment and upgrading minorities, and for helping to arrange formal and in-house training.

Mr. Margrett was recognized for consciously and positively recruiting for minority group candidates to fill vacancies at NCC. He was also recognized for promoting better understanding and more harmonious relations between the races.

Ms. Loman was honored for her dedication and hard work on the NWS EEO Committee. She was instrumental in the preparation of the Scientific Upward Mobility Training Program, EEO Awareness Day Ceremonies, and the special EEO issue of NOAA Week commemorating Dr. Martin Luther King's birthday.

Dr. McNeil was cited for his contribution both on the job and during his personal time to improvements concerning the education, training, and employability of Alaskan Natives.

Mr. Stein was honored for the energetic role he played on the EEO Committee. He helped initiate and organize a one-day indoctrination course for newly-elected committee members and developed a fact-finding questionnaire to stimulate employee interest in NOAA's Upward Mobility Programs.

# notes about people

**Commander James Collins** is the new Chief of the National Ocean Survey's Coastal Mapping Division in Rockville, Md. A commissioned officer since 1960, he was formerly Deputy Director of the National Geodetic Survey. Prior to that, he served on six NOAA ships, with various geodetic field parties, and in Norfolk, Va.



Cdr. Collins

**Michael Benefiel**, who has been away from the National Marine Fisheries Service for two years as a research student in Tokyo, has returned as a Foreign Affairs Specialist with the Office of International Fisheries. He left his position as a translator with NMFS when he was invited to study in Tokyo by the Japanese Government.

**Robert B. Doeker**, Director of the Space Environment Services

A DEPARTMENT OF COMMERCE BRONZE MEDAL was presented to **Eugene W. Hoover** (left), Lead Forecaster at the National

Weather Service Forecast Office in Washington, D.C., "in recognition of major contributions to the development of forecasting procedures and techniques and dedication to the ideals of public service for over 33 years." Mr. Hoover, who retired recently, spent most of his time in Washington.

The Medal was presented by **Karl R. Johannessen**, NWS Associate Director, Meteorology and Oceanography.



Center of the Environmental Research Laboratories' Space Environment Laboratory in Boulder, Colo., has been appointed Management Coordinator for ERL's Equal Employment Opportunity program. He has been active in the EEO program since being elected to the board in 1974.

Assisting Mr. Doeker in developing an on-going EEO program for the Laboratories is **Lynda F. Dickson**, who is working toward her doctoral degree in sociology at the University of Colorado.

**Dr. Kirby J. Hanson** of the Environmental Research Laboratories has been appointed director of the Air Resources Laboratories' Geophysical Monitoring for Climatic Change (GMCC) program. He succeeds **Donald H. Pack** who has retired from the post.



Dr. Hanson

## Oil Maps of Offshore Areas Being Prepared for Publication

The National Ocean Survey has published six ocean bottom maps of offshore areas in the Gulf of Mexico off Texas, Louisiana, Alabama and Florida for the Interior Department's Bureau of Land Management, which has jurisdiction over the federal leasing of the submerged offshore lands of the Outer Continental Shelf. The bathymetric maps will aid the government in its re-

source management program and environmental studies for the Outer Continental Shelf leasing program.

The maps provide more precise detail and up-to-date measurements of the sea bottom. They facilitate the preparation of environmental impact statements on the possible effects of ocean oil exploration and development and aid in the management of the development of any leases issued.

The areas covered by the maps are located off Corpus Christi and Port Isabel, Tex.; New Orleans, La.; Mobile, Ala.; and Pensacola, Fla.

In addition, eleven maps of the sea bottom off the Atlantic coast, covering areas which the Federal government is considering for possible oil and gas leasing, are under preparation.

Three maps are of the Outer Continental Shelf in the Cape Cod, Mass., area, while five will cover the Baltimore Canyon, a deep ocean trough off New Jersey, Delaware and Maryland. Three maps will cover areas off the coasts of northern Florida and southern Georgia.

These maps can be ordered from the National Ocean Survey, Distribution Division (C44), Riverdale, Md. 20840, for \$5 per map.

## Fisheries Plan Nears Completion

The final draft of the National Plan for Marine Fisheries is nearing completion. Working on the final revisions are members of the task force who have spent over a year assembling the recommendations with the help and advice of over 3,000 people concerned with the future of marine fisheries. They are: **Donald Whitaker**, Fisheries Development; **Dr. Eugene Fritz**, Fisheries Habitat; **Dr. W. Mason Lawrence**, Fisheries Management; **Marjorie Gregory**, Staff Secretary; **Roland Finch**, Plan Director; **Charles Coss**, Deputy Director; **Dr. Richard Thompson**, Recreation; **Neal Hines**, Writer; and **John Glude**, Aquaculture.

## MIT Sea Grant

(Continued from page 1)  
ing have application nationwide, Dr. Abel added.

This year MIT Sea Grant scientists will concentrate their modeling efforts on refining their basic model with the aim of predicting movement of nutrients and pollutants in coastal waters and thereby anticipating the location of potential red tide blooms.

MIT's Marine Advisory Service will initiate the Marine Industry Advisory Service to foster greater involvement by marine-related business firms with user groups and the university community.

Two projects planned for the immediate future include an examination of the legal, engineering, and ecological aspects of phosphate nodule mining and development and marketing studies of chitin, a material found in the shells of crabs, shrimp, and other crustaceans.

In related work, a Sea Grant team studying chitosan—a chemical derivative of chitin—is working to determine chitosan's value in such diverse applications as wound dressings, artificial skin, edible food wrappers, and coagulants for oily industrial wastes.

Other scientists at the Cambridge, Mass., institution will examine the resource management problems that may result if the U.S. extends its fisheries jurisdiction beyond the present 12 miles, and engineers will work toward an improved system for hooking up trawl doors on fishing dragnets. This latter project is expected to reduce the number of injuries caused by the present trawl door hook-up arrangement and to increase vessel productivity by saving time in net handling.

**Francis L. Cannon** of Abilene, Tex., has been selected to head the National Weather Service Office in Wichita Falls. He replaces **Mr. Leroy W. Stankewitz**, who recently retired.

**Mr. Cannon's** meteorological career, which spans more than 20 years, began in the U.S. Navy. He entered the Weather Service at Florence, S.C. in 1958, and later served for 12 years in the Pacific Weather Patrol.



Mr. Cannon

## Fur Seal Skins Conference to be Held

A prehearing conference on a request by the Fouke Co., of Greenville, S.C., to waive the moratorium on importing Cape fur seal skins from the Republic of South Africa has been rescheduled from August 28 to September 8. It will be held at 9:30 a.m. in the Administrator's Conference Room, Room 5230, Commerce Building, Washington, D.C.

The date for submission of direct testimony on the matter, previously set for August 15, has been extended to August 27. Testimony should be submitted to the Director, National Marine Fisheries Service, NOAA, Washington, D.C., 20235.

The date for a public hearing remains unchanged. It is scheduled to be held at 9:30 a.m. September 18, 1975, in the Penthouse Conference Room, Page Building 1, 2001 Wisconsin Ave., N.W., Washington, D.C.

## noaa week

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

# Delaware Receives \$345,000 Coastal Management Grant

NOAA has awarded a \$345,000 grant to the State of Delaware, which is facing the pressures of diverse and conflicting uses of its coastal areas. The grant will assist in developing a management program for the coastline.

The grant will be administered by the Delaware State Planning Office, as was a similar grant awarded last year. The State will provide additional funds equal to

at least 50 percent of the Federal award.

Last year State planners began collection of coastal area data and development of approaches to identify areas of particular concern, permissible uses of the coastal area, and priority of uses.

During the present grant period, planners will focus on additional tasks necessary to conduct an effective management program, including establishment of coastal zone boundaries, development of alternative management methods, and creation of a regulatory package.

The planners are working to accommodate two sets of goals; those included in the Coastal Zone Management Act of 1972, and those issued by the Governor's Task Force on Marine and Coastal Affairs in 1970.

The CZM Act, passed by Congress to encourage and assist states in development of coastal zone management programs, includes broad program criteria state programs must meet to be eligible for implementation funding once a management scheme is developed.

The Governor's Task Force goals deal with the preservation and improvement of the quality of life and of the state's marine and coastal environment for recreation, conservation of natural resources, wildlife areas, aesthetics, and the health and social well-being of the people.

Additionally, the Task Force goals call for promotion of the orderly growth of commerce, industry and employment in the state's coastal zone compatible with the first goal; and, increasing opportunities and facilities in the state for education, training and research in marine and coastal affairs.

## Search for Sunken Wrecks

(Continued from page 1)

ries a complement of 10 officers and crew. The ships are commanded by Commander Robert A. Ganse, a NOAA commissioned officer.

Generally, the National Ocean Survey regards wrecks and other submerged objects as dangerous to shipping if they are covered by less than 65 feet of water. Most merchant shipping requires a clearance of at least 45 to 50 feet, but some of the larger oil tankers require more.

The wrecks being sought by the NOAA ships lie strung out in an area some two to 11 miles off the New York-New Jersey coast, stretching in a southerly direction from a point in the Ambrose Channel about five miles off Rockaway Beach, Long Island, to a point off Sea Girt, N.J. Ambrose Channel is a major traffic waterway leading into New York Harbor.

The wrecks have been reported lying in the Barnegat to Ambrose Traffic Lane and in the New York Harbor Precautionary Area where traffic lanes leading into the harbor converge.



FOR THE FIRST TIME SINCE THE NOAA FLEET WAS FORMED, both of NOAA's newest Class I ships are based at the same port. The Oceanographer and the Discoverer are shown here at their berths at the Pacific Marine Center, Seattle, Wash.



DEPARTMENT OF COMMERCE BRONZE MEDALS recently were presented at the Environmental Data Service's National Climatic Center in Asheville, N.C., by EDS Director Dr. Thomas S. Austin (center) to Nellie Jo Maney and Rufus Maynor. Mrs. Maney, a meteorological technician in the Cooperative Data Branch, was cited for exceptional leadership and analytical ability in supervising the processing of climatological data and editing of the Cooperative Observer Regional Newsletter. Mr. Maynor, Data Management Assistant (retired) from the User Products Branch, received the award for significant contributions in designing, implementing, archiving and documentation procedures for the NCC digital data base.

## NOS Nautical Chart Survey Begins in Baltimore Harbor

A National Ocean Survey nautical charting survey of Baltimore Harbor, is underway. The survey is the most comprehensive one to be made of the area in almost four decades.

The survey includes the entire Patapsco River area, including Bear, Curtis, Stony and Bodkin creeks. Data from the survey will be used to update nautical charts of the area.

Ordinarily, a survey of this scope would take two seasons, but the project has been given a high priority and is to be com-

pleted by December 1.

Three launches from the Survey's Norfolk, Va.-based Atlantic Hydrographic Party, headed by Lt. Cdr. John O. Rolland, will carry out the project. They will cover the entire harbor and the Patapsco River entrance to the harbor.

The survey will cover approximately 26 square nautical miles and it was estimated the launches will carry out 1200 lineal nautical miles of charting. The last comprehensive survey of the area was made in 1934-37.

## Turbulence Detector (Continued from page 1)

turbulence was recently verified by researchers from the University of Oregon, who were on a flight, watched the radiometer, and gave notice when turbulence should be expected.

The next step, says Dr. Kuhn, will be to install a radiometer that looks ahead of the plane. Looking upward, the radiometer does not see water vapor anomalies until the plane almost reach-

es them, and the warning period for turbulence is only a few minutes. He believes that a forward-looking radiometer will be able to sense the fluctuations well in advance—perhaps 80 miles ahead at 40,000 feet altitude—giving a warning of 5 or 10 minutes. That should be enough notice for the pilot to request a change in altitude to avoid the turbulence.

## next week's best fish buys

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 fillet and fresh bluefish along the Northeast Seaboard; croaker and spot in the Middle Atlantic States, including the D.C. area; fresh mullet and grouper in the Southeast and along the Gulf Coast; canned salmon and whiting fillets in the Midwest; fresh sole fillets and ocean perch in the Northwest; and rainbow trout and squid in the Southwest.



# **National Oceanic and Atmospheric Administration**

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