

Waterspouts Subject To Laser Probe

Laser probes of waterspouts, the mild oceanic cousins of tornadoes, indicate that some spouts may sometimes be two funnels, one inside the other, each rotating at its own speed.

Double-walled waterspouts were among the recently announced preliminary findings of a study begun last summer that probed the seagoing funnels off the Florida Keys with a laser beam aboard a small aircraft.

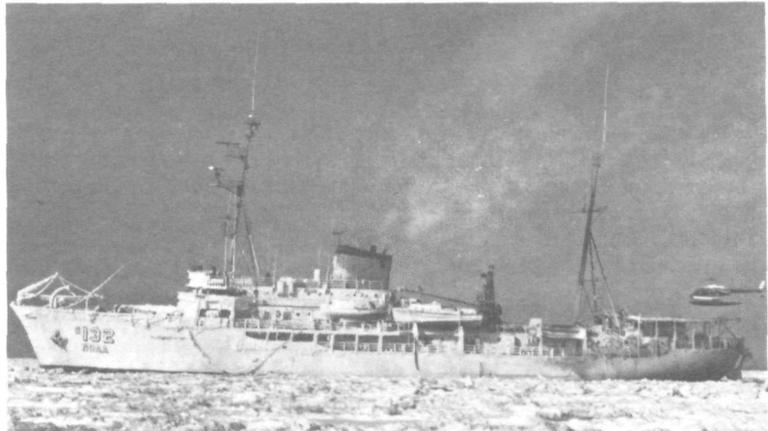
The laser is part of a novel instrument that ERL's Dr. Ronald Schwiesow and Richard Cupp, and Dr. Peter Sinclair of Colorado State University, used to measure wind speeds in waterspouts from Sinclair's Cessna 207.

Double-walled spouts have been observed before, according Schwiesow, but their winds had not been measured until this study. "They were so named because of their appearance," he explained. "It was supposed that the double-funnel effect was caused by variations in moisture in the spout, with a visible 'wall' being formed simply by denser concentrations of water.

"But, because our laser device lets us measure wind speeds, we

(Continued on page 2)

Coastal Impact Funds Allotted



With her new letter/number designators designed by the National Ocean Survey to reflect more accurately her mission, NOAA Ship Surveyor wallows through the Bering Sea to reach Ice Station #1, 100 nautical miles south of St. Matthew Island. At right, the Bell 206-B helicopter, which assisted in the installation of two shore based weather stations, completes one of its numerous flights for marine mammal observations and collections.

The first allotments of funds to coastal States under the Coastal Energy Impact Program, totaling \$125 million, has been announced by Secretary of Commerce Juanita B. Kreps. Funds allotted will go to 30 states and three territories.

State governors were notified of the fiscal 1977 allotments by the Office of Coastal Zone Management. Two sources of financial assistance created by the 1976 amendments to the Coastal Zone Management Act were used in the allotments, a Coastal Energy Impact Fund, and formula grants.

Purpose of the allotments is to help communities plan for and deal with the effects in the coastal zone of coastal energy development.

Three types of allotments were made from the Fund—credit assistance, which takes the form of loans and guarantees, \$110 million; planning grants to enable states better to plan for mitigating the effects of coastal energy development, \$3.5 million; and environmental grants, to help the states reduce or repair losses of environmental or recreational resources caused by energy activity, \$1.5 million.

Money from the Fund may also be used for activities such as improving or constructing new public facilities and providing new public services that coastal energy development may necessitate. Examples of these are new schools and hospitals, improved roads, and the like.

Formula grant allotments were made on the basis of past, rather than future, coastal energy development. Totalling \$10 million, these grants are based on four measures of outer continental shelf activity during fiscal 1976:

- the amount of oil and gas produced adjacent to the State;
- the amount of oil and gas first landed in the State;
- the number of acres leased in waters adjacent to the State;
- the number of people newly employed in OCS activity in the State.

(Continued on page 8)

Joggers Day--Rain or Shine

The time and the place:
-1 p.m., Saturday, June 11.

-Carderock Picnic Recreation Area, just off Capital Beltway (495), near the David Taylor Model Basin. Just take the Carderock exit off 495 and follow the picnic area signs. Ample parking is available.

This is your chance to run with your fellow NOAA employees and their families and friends along the scenic C&O

Canal. You may choose one or all three runs—1500 meters (about 1 mile), 3000 meters (about 2 miles), or 5000 meters (about 3 miles).

A certificate will be issued for completion of any of the runs.

The event is sponsored by the NOAA Employees Association. Runners will be asked to register and sign a release.

Rain or shine, come prepared to run!

Rescue from Afar is Successful

Two NOAA employees in Kansas City were instrumental last month in possibly saving the lives of 80 persons aboard a chartered motor sailor in the Pacific Ocean.

Doug Mathews and Ned Johnston, with NESS' Satellite Field Services Station in Kansas City, determined the course of a vicious tropical storm which was imperiling the motor sailor and, with the help of several ham radio operators, directed the vessel to safer waters.

(Continued on page 3)



Back from duty as NMFS observers aboard Russian fishing vessels the 200-mile conservation zone off the east coast, and participating in a press conference on their experiences, are (facing camera, left to right) Francis Hart, Christopher Dewey, Douglas Long, David Kolator, Martin Bowen, and Roger Dow. All reported being well received by their Russian hosts, and the only problem encountered was a language barrier.

Inaugural Book At Special Price

The Veterans Inaugural Committee is making available for a limited time, to government employees only, a special discounted offer of the hardcover version of the "Official 1977 Inaugural Book," for \$10.00.

The 1977 Inaugural Book contains contributions from American writers, including a biography of President Carter written by Alex Haley, author of "Roots." There are many color illustrations of the 1977 inauguration.

Send order (check or money order enclosed) to: Veterans Inaugural Committee, P.O. Box 2232, Washington, D.C., 20013.

Waterspout

(Continued from page 1)

were able to identify the dynamic difference—a difference in velocities within the spout that indicates two cylinders rotating about a common axis."

Preliminary analysis of the data, he said, suggests that the two vortices of a double spout are in fact two separate, concentric funnels, which, while rotating in the same direction, rotate at different speeds.

Only part of the data has been analyzed, but the maximum rotational velocity they found so far was 56 miles (90 kilometers) per hour. Schwiesow emphasizes that as more of the data are analyzed, they will be able to tell whether that figure is typical. The waterspouts ranged in size from 13 feet (4 meters) to giants 100 feet (30 meters) across. All of them occurred at least seven miles (11 kilometers) from shore.

The researchers were also able to measure the turbulence on the upwind side of the waterspouts. This turbulence occurs, Schwiesow explained, because the waterspouts often move more slowly than the prevailing breeze. They had found this to be true of dust devils, as well. Such turbulence was expected from theory, but the NOAA team was able to document the actual quantity of the turbulence.

Additionally, Schiesow said, the team observed waterspouts rotating both clockwise and counter-clockwise, unlike tornadoes, most of which are counter-clockwise. Dust devils, he noted, are about evenly divided.



Ms. Stella Maris A. Vallejo, Economics Affairs Officer, United Nations Office, Ocean Economics and Technology, recently visited the National Ocean Survey to discuss technical problems concerning a UN mapping program. She is shown here with Dr. Lill, Deputy Director NOS; discussing the possibility that technical assistance can be provided for the program.

NOS Survey of South Carolina River Underway

A new navigable area survey of South Carolina's Cooper River is being made to provide the latest information for Charleston's expanding industry and seagoing commerce. The last survey of the area was in 1928-29.

The survey is being conducted by the National Ocean Survey Hydrographic Surveys Branch's Launch 1260, which is currently working out of the Charleston Naval Base. The 28-foot survey launch is commanded by Lt. (j.g.) Stanley Iwamoto. The launch carries a complement of five crew. Her home port is the Atlantic Marine Center, Norfolk,

Va.

In conducting the survey operations, the NOAA hydrographer will use an electronic echo sounder, an instrument that measures water depths by recording the time required for sound waves to reach bottom and the echo to return. As the vessel follows a prescribed course, returning echoes are recorded on a permanent graph at rapid intervals forming a continuous profile of the sea floor. The location of the sounding vessel will be determined with electronic positioning instruments and with sextants.



PARTICIPANTS IN THE RECENT CONFERENCE OF REGIONAL SUBSTATION MANAGEMENT CHIEFS AND ASS'T REGIONAL HYDROLOGISTS, hosted by the Hydrologic & Substation Networks Branch at National Weather Service Headquarters in Silver Spring, Md.; were (front row from left) Robert S. McMaster, Canada; Hugo Kehrer, Asheville, N.C.; Ray Richardson, NWSH; Mark Takata, Pacific Region; Charley Ridge, Southern Region; (second row from left) Tom Davis, NWSH; Bill Pogerman, NWSH; Jerry Williams, Western Region; Lou Billones, Western Region; Curt Smith, Eastern Region; Randy Fuller, Southern Region; (third row from left) Bill Taylor, NWSH; Ed Misiewicz, Alaska Region; Joe Schiesl, NWSH; Bernie Spittler, Central Region; Keith Shoun, NWSH; and (not in photo) Russ Mann, Central Region, Don Close, Eastern Region; and other headquarters personnel.

The theme of the conference was on the role of Data Systems Management and Regional Programs in basic data networks.

DOC Savings Bond Campaign to Run Through June 17.

The 1977 Savings Bonds campaign for the Department of Commerce will run through June 17, according to Secretary Juanita M. Kreps, who urged employees to participate.

The Savings Bond yield is six percent at maturity, the Secretary pointed out, noting that for as little as \$3.75 each pay period, gradually increased in small steps to larger amounts, bonds worth several thousand dollars can be accumulated by a participant.

More than half the NOAA work force buys bonds regularly. Bonds are the safest buy available because they are "indestructible"—if stolen, lost, or mutilated, they will be replaced free of charge. They are not affected by market fluctuations. There are no state or local income or personal property taxes levied on them, and Federal tax can be deferred until redemption.

Canvassers will call on NOAA personnel during the campaign period to offer the opportunity to sign up for a new bond allotment or to increase an existing one.



A recent briefing session held by the Office of Coastal Zone Management brought officials of more than 30 organizations to the Page 1 building. In the two-hour session they were brought up to date on the entire range of CZM programs, including planning and management grants, marine and estuarine sanctuaries, the Coastal Energy Impact Program, and planning for such other efforts as coastal awareness. Among the groups represented were the National Ocean Industries Association, League of Women Voters, American Petroleum Institute, Sierra Club, and American Fisheries Society. Here, Linda Sadler (left), CZM, chats with Alice Klavans, staff head of the Land Use Department, League of Women Voters, during registration for the briefing.

Rescue *(Continued from page 1)*

The drama at sea occurred last month when the 176-foot Yankee Trader, a day out of Pitcairn Island, sailed into the center of a tropical storm 200 miles wide and with winds up to 75 miles an hour.

The ship, seeking to plot a course to safety, put out a call on short wave radio, answered

by ham operators in New Zealand and Chicago, who had no access to South Pacific weather information. The call was overheard by another ham in a suburb of Kansas City, who called the National Severe Storms Forecast Center to get the information.

At the Kansas City satellite field services station, satellite meteorologists Mathews and Johnston got the coordinates for the center of the storm from WSO's in San Francisco and Washington, D.C.

The Kansas City ham radio fan passed the information to the New Zealand operator, but attempts to raise the endangered vessel failed. The Chicago radio operator tried with no success. Then another ham operator, in Florida, broke in to report he was in contact with the Yankee Trader.

Thus, the information which originated with a NOAA satellite 22,200 miles (35,720 kilometers) in space went from Kansas City to New Zealand to Chicago to Florida to the South Pacific.

Upon receipt of the weather data and course advisory, the Yankee Trader took a new heading and sailed into calmer waters, its passengers shaken but safe.

Drought May Be Causing More Salt in Puget Sound

Puget Sound is saltier these days, and this winter's drought is the probable culprit. The shortage of rainfall in the Pacific Northwest, according to Dr. Glenn Cannon of the Pacific Marine Environmental Laboratory, has reduced the amount of fresh water flowing into the Sound to mix with the ocean's salty waters.

Cannon and Norman P. Laird of the ERL laboratory discovered an increase in water density—mostly salinity—during an oceanographic study of the Sound in March. The research was part of a larger study of Puget Sound being managed by

NOAA's Marine Ecosystems Analysis (MESA) program. The results of measurements of salinity and temperature throughout the Sound have not all been analyzed fully yet, Cannon said, but so far they reveal higher-than-normal levels of salinity.

A similar increase in salinity was recorded in 1953. "We haven't made a systematic comparison of the weather conditions then and now," Cannon said, "but we have learned there also was a similar dry spell during the 1952-53 winter." He added that in that instance the waters returned to normal the following year.

NOAA and Geological Survey Publish Coastal Zone Maps

A series of 11 coastal zone maps of U.S. areas, showing both the topography of the land and the bathymetry of the ocean and other water areas will be published jointly in the next 18 months by NOAA and the U.S. Geological Survey.

The series includes maps of the Houston and Bay City (Tex.) quadrangles; the Savannah and Brunswick (Ga.) quadrangles; and the Los Angeles, Monterey, Santa Ana, San

Diego, Long Beach, Eureka and Smith River (Calif.) quadrangles.

The multi-color maps, commonly called "topo-bathy maps," are designed for use mainly by coastal zone planners and administrators as well as conservationists, environmentalists and others interested in programs, projects, and activities in coastal wetlands, on the Outer Continental Shelf (OCS) and in other coastal areas.



Iouri A. Znamenskiy, left center, USSR Embassy, and Robert W. Schoning, right center, Director, National Marine Fisheries Service are shown discussing the number of permits to fish within the U.S. 200-mile conservation zone being issued to the USSR. Mr. Znamenskiy presented a check for \$3,567,224 for the permits issued to the Soviet government. More than \$10 million has been collected from seven foreign nations for permits to fish this year. Robert W. Ayers, Acting Assistant Director, Office of Fisheries Management, left, and Bruno G. Noetzel, management office staff, right, observe the discussion.

NOAA NEWS

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Nancy Pridgeon, Editor
Warren W. Buck, Jr., Art Director

Tornado Preparedness Saves



This high school corridor survived most of the tornado's fury.



Classrooms like this one, with roof gone and furniture crumpled, were vacated in time.

A tornado carved a wide path of destruction through Pleasant Hill, Mo., on May 4. Damage in the town of 4,000 located 35 miles southeast of Kansas City was estimated at over \$6 million. However, only three persons were killed, thus leading to heavy usage of the word "miracle" by most eyewitnesses to the devastation.

Whether or not any miracles occurred in Pleasant Hill is highly debatable. But there can be no doubt about one of the main reasons that so many lives were spared. That reason is tornado preparedness.

The value of safety drills and other forms of preparedness was most graphically demonstrated at the high school and nearby primary school. Both were directly in the path of the tornado and received heavy damage. Yet, none of the nearly 1,000 students present was killed, the worst injury being a broken leg.

Both schools had participated in Missouri's statewide tornado drill on March 9, and they had also conducted their own drills last fall.

Thus when the warning bells rang at 1:07 p.m. on May 4, the students knew what to do, but they didn't get too excited, or

take it too seriously.

"We figured it was just another drill," said Eric Sharp, a sophomore, who was attending his physical education class in the high school gymnasium. "But we went into the corridor where we were supposed to go, because we knew that was what we had to do in a drill."

Ironically, the spectacular preparedness success almost did not happen. The National Weather Service Office in Kansas City had issued a tornado warning for the area just before 1 p.m., but no one in the Pleasant Hill City Hall or at the schools was listening to a radio or watching TV.

James H. Bell, the city clerk, became the missing communications link which made the safety success story possible. Just prior to 1 p.m., he phoned the local radio station to make his daily broadcast of events of community interest. To his surprise, there was no answer at the radio station. Bell then began listening to his police monitor and heard about the tornado warning. He acted immediately to have the city siren sounded. Then he and a secretary began calling the schools.

Bell's call was received at



School buses were rammed together by the wind.

ives In Missouri School Disaster

Pleasant Hill High School at 1:07 p.m. It took just three minutes to get all the students out into the designated corridors and other safety areas. Therefore, when the tornado slammed into the schools at 1:16, everyone was ready. About 550 of the high school students crouched along the halls in the north wing, while a hundred more took shelter in the basement level kitchen and storage area. At the primary school, the children took refuge in corridors and in the underground storm shelter/gymnasium.

The heaviest destruction, and the more dramatic safety story, occurred at the high school. The gymnasium and many of the classrooms were nearly destroyed—with roofs blown off and some walls collapsed. Outside, the parking lot was littered with battered cars and buses strewn at random, and the football field stands were flattened.

During those few minutes before 1:16, the students in the hallways still weren't taking the situation very seriously—even when they knew it was not just another drill. "We sat in the halls joking, and we didn't figure it was going to hit us," admitted student Bobby Jones.

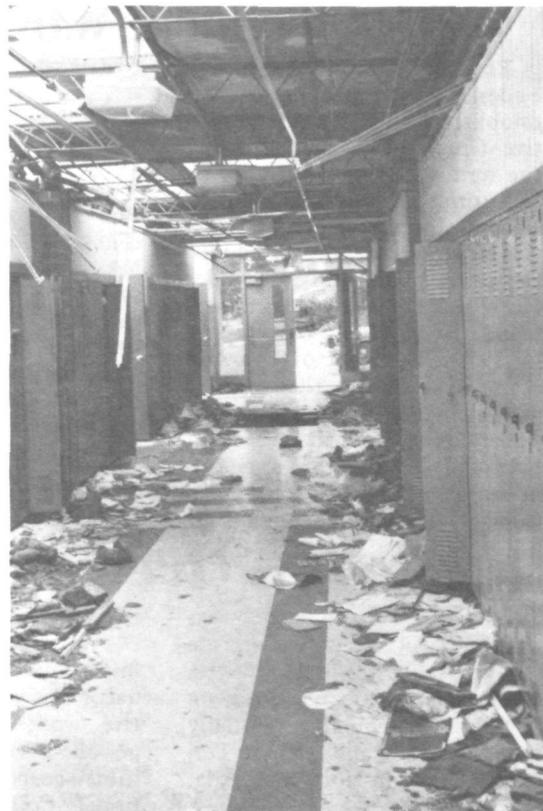
But when the fierce winds struck, the mood changed dramatically. "People were screaming and crying and holding onto each other," said Dan Tierney, another student.

"I still can't get over how few injuries there were, considering how bad it looked at first," said Steven Leslie, a math teacher. "There was debris throughout the hallway with arms and legs sticking out. I don't know why half of us weren't blown away."

One person who had a lot to do with preventing the disaster that could have happened is Jack Forbes, the assistant superintendent. Ten years ago he formulated the plan for tornado safety, which includes charts showing people where to go and includes two or three drills each year. "Our kids were perfect," he said after it was all over.

"Those lives were saved months ago through the drills they held," said Allen Pearson, Director of the NWS National Severe Storms Forecast Center.

And the Kansas City Times summed it up in an editorial on May 7: "The best of tornado warning systems is only as good as the swift protective response of those in the path of the roaring funnel."



Debris fell or was blown along this corridor, but students crouched in the tornado drill positions and survived.



The south wall of the high school gym looked like this when it was over.



And the north part of the same gym looked even worse.

NOAA Federal Women's Program Advisory Committee Set

The Federal Government's Federal Women's Program was established in 1969 by Executive Order 11375 which added the term "sex" to other prohibited forms of discrimination in Federal Employment. In 1969, this program was integrated into the overall EEO program under Executive Order 11478 and was mandated by Public Law 92-261 in 1972. The goal of the program is to ensure that women are included in all aspects of Federal employment based on their fullest potential as a natural result of recruitment, selection, counseling and training ac-

tivities within a merit system.

NOAA has implemented the Federal Women's Program (FWP) over the past five years with some encouraging results. For example, while the percentage of women in the agency has increased slightly over 1% since 1972, the percentage of women in the middle grades has increased from approximately 5.5% to 9.5% because of a continuous effort to recruit and/or train more women for professional and scientific positions.

In 1975, International Women's Year (IWY), NOAA

sponsored many awareness activities and highlighted the valuable contribution of women in NOAA by awarding special achievement certificates to many outstanding women.

In 1976, Ms. Joyce Thomas served as FWP Coordinator for one year. Many seminars and other activities were offered, and the first monthly FWP Newsletter for FWP Coordinators was published.

The first election of a NOAA FWP Advisory Committee for metropolitan Washington, D.C., was held in February 1977

Interest ran very high when Dr. Townsend, then Associate Administrator of NOAA, on December 27, 1976, issued a call for interest statements. Twelve representatives were elected on a geographical basis and two others were appointed by Mr. T. P. Gleiter and Mr. Ralph C. Reeder. The FWP Committee will elect a chairperson and vice-chairperson. Elected members will serve 2-year terms and appointed members for one year. The NOAA EEO Committee will appoint one of its members to serve as a liaison with the FWP Committee.

Ellen S. Overton Named NOAA FWP Coordinator

Ellen S. Overton, widely experienced in the area of women's affairs, has joined NOAA as Federal Women's Program (FWP) Coordinator, initially working from the NOAA Personnel Office in North Bethesda, Md.

Ms. Overton is past National Corresponding Secretary, Former National Capital Chapter President and the International Women's Year (IWY) Chairperson of the Women's Equity Action League (WEAL).

A Phi Beta Kappa and magna cum laude graduate of Mount Holyoke College, she holds a bachelor's degree in political science. She received her master's

in government from Yale.

Prior to her NOAA assignment, Ms. Overton was coordinator of a conference on alternative work schedules in Chicago—she is a firm believer in Flexitime—cosponsored by the National Council on Alternative Work Patterns and George Washington University, and held concurrently with a conference by the American Association for Higher Education on "Education and Work."

From 1966 to 1974, she worked at Washington Opportunities for Women (WOW) as Information Center Administrator and trainer.

"I am excited about the job

with NOAA," Ms. Overton says. "I would like for people to



Ellen S. Overton

come to see me—to tell me about NOAA and to tell me what I can do for them. I welcome any suggestions."

One of the first events coming up in the FWP will be the Federally Employed Women's (FEW) national convention on July 13-15, in Washington, D.C. Ms. Elsa Porter, DOC Assistant Secretary for Administration, will give a major address, and Ms. Overton also will be on the program. NOAA's FWP Coordinators in the field will be invited by DOC to attend.

There are 13 women and one man on the NOAA FWP Advisory Committee in the Washington, D.C., area. The committee serves as an advisory committee to the FWP Coordinator and will be a viable resource for implementing the program.

NOAA Personnel Division Lists Current Vacancies

Announcement Number	Position Title	Grade	MLC	Location	Issue Date	Closing Date
498-77	Meteorologist (Forecaster)	GS-12	NWS	Atlanta, Ga.	5-16-77	5-13-77
499-77	Supv. Meteorologist	GS-13	NWS	Lake Charles, La.	5-16-77	5-31-77
500-77	Mathematical Statistician	GS-12	NMFS	Washington, D.C.	5-16-77	5-31-77
502-77	Loan Specialist	GS-12	HDQS	Rockville, Md.	5-16-77	5-31-77
505-77	Cartographer (Photogrammetry)	GS-12	NOS	Rockville, Md.	5-17-77	6-1-77
489-77	Personnel Management Specialist	GS-11	ERL	Miami, Fla.	5-11-77	6-2-77
490-77	Personnel Management Specialist	GS-11/12	NASO	Seattle, Wash.	5-11-77	6-2-77
492-77	Electronics Engineer	GS-12	ERL	Miami, Fla.	5-11-77	6-2-77
508-77	Fishery Biologist	GS-13	NMFS	Galveston, Texas	5-19-77	6-2-77
509-77	Electronics Technician (Instructor)	GS-9	NWS	Kansas City, Mo.	5-19-77	6-2-77
510-77	Supv. Meteorological Technician	GS-10	NWS	Bismarck, ND	5-19-77	6-2-77
511-77	Supv. Meteorologist	GS-12	NWS	Huron, SD	5-19-77	6-2-77
493-77	General Engineer	GS-12	NOS	Norfolk, Va.	5-12-77	6-3-77
501-77	Economist	GS-14	EDS	Washington, D.C.	5-16-77	6-7-77
497-77	Supv. General Supply Specialist	GS-9	NOS	Norfolk, Va.	5-16-77	6-7-77
503-77	Supv. Personnel Management Spec.	GS-14	HDQS	Washington, D.C.	5-16-77	6-7-77
512-77	Electronics Technician	GS-12	NWS	Silver Spring, Md.	5-23-77	6-7-77
513-77	Meteorologist (FA Forecaster)	GS-13	NWS	Kansas City, Mo.	5-23-77	6-7-77
514-77	Meteorologist (NATSELS Forecaster)	GS-13/14	NWS	Kansas City, Mo.	5-23-77	6-7-77
515-77	Operations Research Analyst	GS-12	NMFS	Miami, Fla.	5-23-77	6-7-77
516-77	Supv. Special Agent (Fisheries)	GS-12	NMFS	Hampton, Va.	5-23-77	6-7-77
517-77	Meteorologist (Forecaster)	GS-12	NWS	Fort Worth, Texas	5-23-77	6-7-77
504-77	Cartographer (Photogrammetry)	GS-13	NOS	Rockville, Md.	5-17-77	6-8-77
507-77	Meteorologist	GS-13	NWS	Silver Spring, Md.	5-17-77	6-8-77

NOTES ABOUT PEOPLE

Cdr. Eddie N. Bernard of the NOAA Corps has been named director of the National Tsunami Warning Center in Honolulu, Hawaii, and Geophysicist in Charge of the Honolulu Observatory. He replaces Herman J. Wirz, who recently retired, as Director of the Center.

Bernard, a native of Houston, Tex., earned a bachelor of science degree in physics at Lamar University, Beaumont, Tex., in 1969, graduating with honors. He received a masters degree and a doctorate, both in physical oceanography, at Texas A&M University College Station, Tex.

Eight scientists with ERL's Atlantic Oceanographic and Meteorological Laboratories in Miami recently received outstanding paper awards from the agency.

They are: Dr. Donald Hanson and John Festa of the Physical Oceanographic Laboratory; George Berberian of the Ocean Chemistry Laboratory; Dr. John Proni, Charles Lauter, and Ronald Sellers of the Sea-Air Interaction Laboratory; Dr. Donna Rona of the Marine Geology and Geophysics Laboratory; and Douglas Segar, formerly with the Miami facility, and now with NOAA's Ocean Survey Engineering and Development Laboratory in Rockville, Md.

Berberian won awards for two

papers. Proni and Hanson have both won outstanding paper awards in previous years from ERL headquarters in Boulder.

Cantell B. Haskins, a meteorologist with NOAA's National Hurricane and Experimental Meteorology Laboratory in Miami received a certificate for completion of her year of graduate scientist training at Pennsylvania State University as part of NOAA's scientific upward mobility training program.



Richard H. Waters

Richard H. Waters is the new Director of the Integrated Systems Laboratory in the Systems Development Office, NWS. The Lab is responsible for system level hardware/software design and development and integrated activities relating to data communications, processing and display—the Automation of Field Operations and Services (AFOS) program.

Five members of the ERL staff have been selected to pursue advanced education on a full-time basis. They are Cecilia G. Griffith, Terry A. Nelson, R. Michael Hardesty, Patrick S. McIntosh, and Alice G. Sanchez.

Griffith, a physicist with the National Hurricane and Experimental Meteorology Laboratory in Miami, Florida, will pursue graduate studies in atmospheric science at Colorado State University in Fort Collins. Nelson, an oceanographer with the Atlantic Oceanographic and Meteorological Laboratories' Marine Geology and Geophysics Laboratory on Virginia Key, will attend the University of Miami.

Remote sensing is the topic of graduate study at the Naval Postgraduate School in Monterey, California, for Hardesty, who is an electronics engineer with the Wave Propagation Laboratory. Sanchez, a management analyst with Boulder Laboratories' Research Support Services, will pursue further management analysis training at the University of Colorado. McIntosh, a scientist with the Space Environment Laboratory, will study astrogeophysics at CU.

The first Equal Employment Opportunity Awareness Day held by an Environmental Research Laboratories' field facility was presented by the Pacific Marine Environmental Laboratory's EEO Committee in Seattle, Wash., in late April.

Marian Woods, EEO management coordinator and Federal Women's Program coordinator, spoke on "EEO: Games People Play." Robert Barela, deputy EEO officer for complaints, gave a talk on the future of EEO in government.

Other program events included viewing of four special EEO films, which were each followed by a discussion, and a short talk by Dr. John R. Apel, director of PMEL.



Willie-Belle Wilson

Willie-Belle Wilson, PMEL EEO Committee Chairperson, and Gary Crankus, Co-Chairperson; Dr. Constance Sawyer, PMEL/FWP coordinator, Dr. Frank Gonzales, PMEL Spanish-speaking coordinator, and Dr. Robert Burns, PMEL/EEO manager planned the event. They were assisted by other PMEL/EEO committee members: Billie Barb, James Schumacher, Mary Jensen, Norman P. Laird, Dr. David Damkaer, Ruth Brown, and George Poor.

OBITUARIES

Charles M. Benedict

Charles M. ("Ben") Benedict, retired NOAA photographer, Environmental Research Laboratories in Boulder, Colo., died May 2, 1977, after a lengthy illness. Employed by the government as a professional photographer for 23 years, he was supervisor of the photo lab and printing shop at National Bureau of Standards before being transferred to NOAA. He is survived by his wife, Joyce Benedict, Pine Brook Hills, Boulder, Colo. 80302.

Lloyd D. Heiser

Lloyd D. Heiser, Weather Service Specialist at Dodge City, Kan., died May 13, 1977, following a long illness. He is survived by his wife, Herta Heiser, 401 University, Dodge City, Kan. 67804.

Joseph D. Harrell

Joseph D. ("Del") Harrell, NMFS Supervisory Technical Publications Editor in the Northwest Regional Office, Seattle, Wash., died May 12, 1977. He served with the NMFS since October 1975, and in that brief period won several awards for his work. He is survived by his wife, Beverly E. Harrell, 14017 15th NE, Seattle, Washington.

R.E. Simmermacher

Richard E. Simmermacher, retired Weather Service meteorologist, died April 30, 1977. He entered Weather Service in 1939 and was MIC at Wilkes-Barre/Scranton, Pa., at the time of his retirement in 1971. He is survived by his wife, Gwen Simmermacher, and two sons, Richard and William, 308 VanBrunt St., Moscow, Pa. 18444.



Vernell M. Woldu was recently presented a Certificate of Training upon successful completion of the Graduate Scientist Program in meteorology from Pennsylvania State University. Dr. Thomas D. Potter, EDS Deputy Director, is shown presenting the award. Ms. Woldu has been a meteorologist at the National Climatic Center since July 1976.

FROM THE GALLEY



VERACRUZ-STYLE FILLETS

- | | |
|--|------------------------------------|
| 2 pounds fish fillets, fresh or frozen | 1 can (1 pound) tomatoes |
| 2 cups sliced onion | 1/2 cup sliced stuffed olives |
| 1 clove garlic, minced | 1 tablespoon chopped green chilies |
| 2 tablespoons cooking oil | 1 tablespoon lemon juice |
| 1 tablespoon flour | 1 teaspoon salt |
| 1 teaspoon chili powder | |

Thaw frozen fish. Cut fillets into 6 serving portions. Cook onion and garlic in oil until tender, but not brown. Stir in flour and chili powder. Add undrained tomatoes; cook, stirring constantly, until thickened. Stir in olives and chilies. Spoon 1/2 of the sauce into shallow 2-quart

baking dish. Top with fish. Drizzle fish with lemon juice; sprinkle with salt and top with remaining sauce. Bake in moderate oven, 350° F., 25 to 30 minutes or until fish flakes easily when tested with a fork. Makes 6 servings.

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 fresh pollock and flounder fillets along the Northeast Seaboard; fresh croaker and bluefish in the Middle Atlantic States, including the D.C. area; fresh mullet and sea trout fillets in the Southeast and along the Gulf Coast; frozen breaded portions and smelt in the Midwest; fresh Dungeness crab and fresh Pacific red snapper fillets in the Northwest; and frozen Mahi-Mahi fillets and whole Dungeness crab in the Southwest.

The caption on the photograph of Dr. White receiving the Neptune Award in the 5/13 issue misidentified the person presenting the award. It was presented by Senator Ted Stevens, of Alaska, who also gave the keynote address at the ceremony.

Third EDS Bibliography Ready for Distribution

"The Coastal Zone—Packaged Literature Search 76-3" is now available. It is the third in a series of computer-generated bibliographies produced by EDS' Environmental Science Information Center and contains more than 500 references covering the coastal zone and its management.

Available free, the bibliography may be ordered from: the Library and Information Services Division, User Services Branch, D822, WSC-4, Executive Blvd., Rockville, Md., 20852, or by calling (301) 443-8330.

Packaged Literature Search 76-1, "International Policies, Agreements, Law, Regulations,

and Cooperation Relating to the Oceans," and "Manganese Nodules," also are available free in this series prepared by Robert Walter. Searches are currently being prepared on oil spills, ocean mining, and weather modification.

Specialized bibliographies also are prepared on request to meet individual needs. Literature searches of more than 40 different data bases are available through the Oceanic and Atmospheric Scientific Information System (OASIS). The cost to non-NOAA users is determined by the type of search provided and the number and character of the data files searched.

Coastal Energy

(Continued from page 1)

Formula grants are the primary source of assistance to help coastal States and local governments mitigate the unavoidable loss of recreational and environmental resources stemming from coastal energy activity.

Dr. White Receives Honorary Doctor Of Science Degree

NOAA Administrator Dr. Robert M. White received an Honorary Doctor of Science degree, awarded to him May 20 by Rensselaer Polytechnic Institute, Troy, N.Y.



Participants in the Advanced Prediction Techniques Course, National Weather Service Hdqtrs., Silver Spring, Md., Jan 24-Feb. 4, 1977, were: Standing, left to right: Leo J. Sansregret, Jr., Portland, Ore.; Kenneth W. Ziegenbein, Little Rock, Ark.; James J. Lebda, Milwaukee, Wis.; Donald E. Stoltz, Sioux Falls, S.D.; M. Steven Tracton, NMC, Suitland, Md.; Robert E. Livezey, NMC, Suitland, Md.; Richard J. Naistat, Minneapolis, Minn.; Robert C. Elvander, NWSH; Joseph Charpentier, NESS, Suitland, Md.; Alexander F. Sadowski, NWSH; Earl P. Hooper, NESS, Suitland, Md.; George W. Rippen, Atlanta, Georgia; Serge Rivard II, Juneau, Alaska; David Goldstein, Fairbanks, Alaska; Robert P. Krebs, NWSH; Randel D. Halbert, Great Falls, Mont.; William E. Hillig, Buffalo, New York; Nicholas P. Cimimo, Oklahoma City, Okla.; Edward B. Mortimer, Jackson, Miss.; Stephen W. Harned, NWSH; Jack Murphy, Los Angeles, California; Andrew K. T. Chun, Honolulu, Hawaii; Walter N. Cottrell, NWSH.

Seated, left to right: Robert F. Hamley, Reno, Nev.; Ronald R. Stephen, Fresno, Calif.; Irving Pullman, New York, N.Y.; James W. Zoller, Omaha, Nebr.; Ronald R. White, Miami, Fla.

Front row, left to right: John A. Schwab, Denver, Colo.; Charles Chow, NWSH; Owen G. Evans, Boston, Mass.; Dennis McCarthy, Portland, Me.; James L. Lehmann, NWSH.

Not Pictured: Michael J. McLaughlin, Pittsburgh, Pa.

National Oceanic and Atmospheric Administration

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