

Sea Provides Possible Aid For Diseases

Twelve chemical compounds recently discovered in such sea creatures as sponges, sea cucumbers, and sea hares potentially are valuable in treating cancer, central nervous system disorders, and cardiovascular problems, researchers supported by NOAA believe.

The scientists from the University of Oklahoma, have isolated and identified the compounds during the past 15 months, and now are beginning further study on their application to disease. The research is supported by a \$116,500 Sea Grant from NOAA and \$58,258 in supplemental funds from the University.

One of the most promising
(Continued on p. 2)

Pass the Eggplant Choices On Ship Menus

Vegetarians on board NOAA's 24 ships don't have to pick around the meat anymore to get their meals, says NOAA Administrator Richard A. Frank.

Breaking new ground on maritime meals, NOAA ships can now offer a vegetable entree for lunch and dinner along with the two meat entrees required by the Maritime Union. Ships stewards have received training in preparing vegetarian meals, and information on vegetarian diets from the Public Health Service and recipes have been sent to each ship.

A recent check by the National Ocean Survey, Office of Fleet Operations on the program, which began in late 1977, revealed that eight of the 13 Pacific Marine Center vessels are
(Continued on p. 2)

Spanish Heritage Week September 10-16, 1978

President Carter has designated the week of Sept. 10, as Spanish Heritage Week.

"The Hispanic heritage of 16 million Americans is an essential part of our identity as a nation," the president said.

Local events celebrating the Hispanic culture of America are being held throughout the country. Check your local newspapers for information and join the celebration.

New Series of Environmental Satellite

TIROS-N Launch Set

The National Aeronautics and Space Administration is preparing to launch into near-polar orbit the first in a new series of third-generation, operational, environment-monitoring satellites from the Western Test Range, Lompoc, Ca., on board an Atlas-F rocket. Launch is set for September 15 at about 7:30 a.m., EDT.

The purpose of the new

spacecraft, called TIROS-N, and its follow-on series of eight, is to help NOAA's meteorologists, oceanographers, hydrologists and other scientific environmental experts maintain and perhaps improve the quality of life on Earth through better monitoring and analysis of its environment.

This means such things as improved weather forecasts in the short and long range; providing better information for water resource management and flood forecasting; locating and analyzing ocean currents, areas of upwelling and their effects on fishing, shipping and other marine interests, and even providing more accurate information for warning of high energy solar radiation levels above the atmosphere. Solar flares can be dangerous to manned space flights, to very high altitude commercial aircraft, and often disrupt radio communications and electric power distribution networks on Earth.

For the first time ever, through an advanced data collection and platform location system, the TIROS-N series spacecraft will be able not only to collect and transmit environmental data from platforms on land, at sea, and airborne, but also determine the geographic location of those platforms which are in motion on the sea surface or aloft.

The project is funded and managed by NASA's Goddard Space Flight Center, Greenbelt, Md., but after checkout of the spacecraft in orbit, which might take up to six weeks, TIROS-N, will be turned over to the user, NOAA. NASA will launch a similar spacecraft, NOAA-A, for NOAA a few months later to complete the two-satellite system. TIROS-N and all subse-
(Continued on p. 2)

NOAA Aids Jackson State Univ.; Dr. K.W. Johnson Heads Program

A concern about the small number of minorities and women in the oceanic and atmospheric sciences has led NOAA to help expand a meteorology program at Jackson State University in Jackson, Miss.

Richard A. Frank, NOAA Administrator, has announced that NOAA is making a meteorologist available to organize a Bachelor of Science degree program in meteorology at the predominantly black institution.

Dr. Keith W. Johnson, of NOAA's National Weather Service, will become Visiting Professor of Meteorology in Residence for a two-year period, starting this fall. Under Title VII of the Civil Rights Act, the major portion of his salary will come from NOAA.

Jackson State began a limited meteorology program in 1976; the first of its kind in the country.

A native of Edmonds, Wash., Dr. Johnson received Bachelor of Science degrees, *cum laude*, in 1947, from the University of Washington in physics and mathematics; a Bachelor of Divinity from the Union Theological Seminary in New York City in 1956; a Master of Science from New York University in meteorology and oceanography in

1966; and, a Doctor of Philosophy from the University of



Dr. Keith W. Johnson

Maryland in meteorology in 1977.

During World War II, he served as a meteorologist with the Army Air Force in the United States and the Far East. From 1948 to 1953, he was an educational missionary of the Methodist Church and taught at Kwansai Gakuin University in Nishinomiya, Japan.

After being ordained an elder in the ministry of the United Methodist Church in 1956, he served as pastor of several parishes in the New York metropolitan area, until 1966 when he joined the National Weather Service in Silver Spring, Md., as a research meteorologist. In 1974, he transferred to the National
(Continued on p. 2)

Hurricanes Suffocate On Dry Land, Research Shows

Robert Tuleya and Dr. Yoshiro Kurihara of NOAA's Geophysical Fluid Dynamics Laboratory have found that the dryness of land can suffocate hurricanes, depriving the dangerous storms of their source of energy.

Creatures of the sea, hurricanes draw energy from the evaporation of warm sea water. They generally die soon after moving over land. In the past, scientists theorized that this was due to the rougher surface of the land somehow breaking up a storm's circulation, or that the storm dissipated because it had been cut off from its source of energy—the warm ocean water.

Using a numerical model of a tropical cyclone, NOAA researchers have found support for the second theory; that cutting off the hurricane's source of moisture over land is the principal factor that kills it. The rougher texture of land can augment the storm if moisture is present, they found.

Tuleya and Kurihara ran three experiments. In the first, the "land" was rougher and dryer than the ocean. In the second, the "land" area was rough but as wet as the ocean; in the third experiment, evaporation was eliminated—but the land surface was as smooth as the ocean.

When only the evaporation was changed over the land, surface winds decreased after the storm came ashore, but not as rapidly as in the first simulation—when both dryness and rough terrain were present. When oceanic evaporation rates were continued over the land and only the roughness of the

Vegetarians

(From p. 1)

serving vegetarian meals to 27 crew members. The NOAA ship Discoverer has the most vegetarians to date with 11 of the 77 crew requesting the vegetarian meals.

Vessels under the Atlantic Marine Inter have not identified any requests for a nonmeat diet other than from an occasional scientist aboard the NOAA ship Albatross IV. The Researcher

land surface was increased, the modeled storm actually intensified in force.

These experiments show, according to the researchers, that eliminating the source of moisture was the "single most important" factor leading to decay of a tropical cyclone over land.

Kurihara said that these findings will contribute to an understanding of the life cycle of a hurricane, of which there are three stages. Development of a tropical depression into a mature storm—the second stage—is the best understood. These recent computer simulations at the NOAA laboratory and elsewhere have cast more light on the final "decay" stage. But the genesis stage, when the protohurricane is born out of the larger circulations of the atmosphere, remains a mystery. This is the stage the NOAA scientists are concentrating their efforts on now.

Sea Animals Aid Research

(From p. 1)

substances, found in the sea hare—a member of the shellfish family—and known as dactylene, already has been tested on rats and mice, and increases the length of time the laboratory animals sleep after being given a barbiturate. Further research could lead to smaller, safer doses of barbiturates—which are addictive—if the substance is found to inhibit their breakdown in humans, as is suspected.

Others of the newly-identified compounds suppress cellular growth in tissue and are candidates for possible anticancer treatment, according to the research team. The scientists are

has taken a quantity of prepackaged vegetarian meals on board. Information on these prepackaged meals has been distributed to both Marine Centers.

Participation in the vegetarian menu program is on an individual preference basis. As additional material becomes available on diets and menus, it is routinely forwarded to the Marine Centers.

Johnson

(From p. 1)

Environmental Satellite Service in Suitland, Md., returning to the National Weather Service in 1977 to work in stratospheric research.

He is a member of the American Meteorological Society, the American Geophysical Union, the American Association for the Advancement of Science, and the National Weather Association, as well as Sigma XI and other scientific honorary groups.

Among his community activities, Dr. Johnson has organized an Explorer Post specializing in meteorology sponsored by the District Chapter of the American Meteorology Society, and has served on the Board of Managers of the Silver Spring Branch of the YMCA of Metropolitan Washington, D.C. He is a member and past president of Monument Toastmasters Club No. 898, and former senior vice president of the NOAA Voluntary Action Corps, an employee charitable organization.

now conducting experiments on laboratory animals to validate the effects of the substances.

Chemicals taken from a number of Caribbean invertebrates and algae have, in the laboratory, inhibited the growth of experimental tumors in mice, and also mitigated cardiovascular and central nervous system disorders induced in small mammals. Isolation and identification of these substances will continue under the NOAA grant.

The newly discovered compounds may serve as models for the synthesis of new drugs. Additionally, the chemical information gained from the research will increase knowledge of the chemistry of marine animals and plants, and define the types of compounds released into seawater from natural sources.

TAX NOTE

Employees who are subject to state tax withholdings for the State of New Mexico may notice a minor change in their state tax for salary checks dated on or after September 6, 1978.

TIROS-N

(From p. 1)

quent spacecraft will be operated by NOAA and, beginning with NOAA-A (to become NOAA-6 once in orbit), will be funded by NOAA. In addition to normal operational use, NOAA will rely on the TIROS-N and NOAA-A to support the Global Weather Experiment (GWE) which begins the end of this year.

The onboard sensors and the ground equipment necessary to support TIROS-N are new, different, significant and certainly advanced. Together they are designed to deliver an array of data to the ultimate users that could not be achieved by the two previous operational systems. TIROS (Television Infrared Observations Satellite) and ITOS (Improved TIROS Operational System).

The flow of information from the spacecraft to earth is so rapid that a new data-handling system was required. Studded with technological innovations, this system includes new computers at earth stations, mini-computers on board for some data processing prior to transmission, special "front end" computers to pre-process the data, and a bank of 14 additional staging computer disks to temporarily hold the data for feeding into the mass storage system.

NOAA NEWS

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NOAA News reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policies of the paper or the Administration.

Norma V. Reyes, Editor
Warren W. Buck, Jr., Art Director

Unit Citation Awarded



NOAA ship Townsend Cromwell personnel pose with their Unit Citation Award for sustained superior performance in 1977.

The NOAA ship Townsend Cromwell received a Unit Citation Award in recognition of sustained superior performance throughout calendar year 1977. Despite being plagued with mechanical problems, the positive attitudes and dedication of all personnel aboard enabled the ship to either meet or exceed

nearly all operational commitments. Written statements of appreciation from chief scientists as well as the director of Southwest Fisheries Center, Honolulu Laboratory, were received through the year acknowledging the excellent support provided by the Townsend Cromwell personnel.

NOAA Launches Buoys Near Mouth of Columbia River

A pair of yellow wave-measuring buoys will be launched this month by NOAA to help improve marine weather forecasts for the treacherous bar at the mouth of the Columbia River.

During heavy storms, Pacific Ocean breakers can reach heights of 15 to 25 feet (five to eight meters) along the bar. High seas, especially at ebb tide, can cause hazardous navigation conditions that jeopardize the hundreds of small pleasure and fishing craft that hover around the mouth of the Columbia on summer weekends and holidays.

NOAA's Pacific Marine Environmental Laboratory in Seattle, Wash., will place one of the spherical buoys near the U.S. Coast Guard's Columbia River Lightship a few miles southwest of the river's entrance. A second buoy will float in the rough waters of the channel separating Washington state from Oregon.

The buoys are part of a year-long entrance channel study conducted by the U.S. Army Corps of Engineers. Data from the buoys' instruments will be used by NOAA's National Weather Service Office in Portland, Oreg., for improved marine weather forecasts. Wave information also will be used by the Coast Guard, which maintains the largest lifeboat station in the United States, and the busiest on the West Coast, at the river's entrance.

The two-hundred pound (90-kilogram) buoys will gather data on wave height and length, relaying the information to shore-based equipment. A time-lapse camera simultaneously will photograph images from a radar, at Cape Disappointment on the Washington side of the river, which will show the locations of wave crests within a five-mile radius of the Coast Guard station.

NOAA Suspends Funds For Illinois Coastal Program

NOAA has suspended part of its financial support of the Illinois Coastal Zone Management Program because to date Illinois has failed to pass the necessary legislation to implement the program, Robert W. Knecht, Assistant Administrator for NOAA's Office of Coastal Zone Management, has announced.

Two other Great Lakes States, Wisconsin and Michigan, recently have received approval of their coastal management programs.

Illinois has received Federal funds since 1974 to help plan its coastal management program for the protection and enhancement of the Lake Michigan shoreline.

"This office's fourth year grant to Illinois last January was made with the condition that the State produce by June 30 the needed legislative authority to carry out its coastal program," Knecht said. "Because the Illinois Senate has failed to follow up on House passage of the needed authority, HB 2118, in the last legislative session, we find it necessary to suspend part of the Illinois program."

Knecht emphasized that only if the Illinois legislature passes HB 2118 during its fall session, will NOAA lift its suspension

Coastal Energy Impact Funds To Aid Alaska

Alaska has received \$448,600 from the Coastal Energy Impact Program, to help Cordova, Kenai, Homer, and Seldovia, all coastal cities, ease the financial burden of supporting offshore oil and gas activities. The City of Cordova has also received a low interest loan of \$812,500 to expand existing water and sewer lines in the city. The expansion of a nearby U.S. Coast Guard station has brought about the need for upgrading.

The Coastal Energy Impact Program was instituted by Congress in 1976 to help coastal communities offset the onshore impact of oil and gas operations on the continental shelf.

and consider providing further grant assistance for final program development and implementation.

About \$200,000 of the State's current \$569,000 grant will be affected by the suspension. According to an agreement between Illinois and NOAA, only those shoreline projects that were already underway at the time of the suspension can be completed. In addition, the State will not be allowed to use Federal funds to work on the program's environmental impact statement, a document required before NOAA can consider approving a State's coastal management program.

Knecht added that it is the "firm intent" of the Office of Coastal Zone Management not to fund those states that are not making adequate progress in their coastal management programs. "Clearly we have the obligation to concentrate all available resources on those states that demonstrate the greatest promise of long-term benefit from the expenditure of Federal tax dollars," he said.

In contrast to the slow progress of the legislation this year in Illinois, Knecht pointed out that a number of other states have passed coastal management legislation. A total of 25 of the 35 states and territories eligible for Federal assistance have enacted the legislation necessary for Federal approval of their coastal management programs. In recent months, Florida and Louisiana have enacted comprehensive legislation; Connecticut and Virginia have established legislative study commissions to prepare final legislation for their next session; and Georgia, Alaska, and Delaware have all enacted important parts of the authorities necessary for Federal approval of their programs.

To date, the programs of seven states have received Federal approval and further financial assistance for implementation: Rhode Island, Massachusetts, California, Washington, Oregon, Michigan and Wisconsin.

NOTES ABOUT PEOPLE

William C. Bowden, NWS Forecast Office, Rosemont, Ill., has been appointed Black Community Program Coordinator on the Central Region Equal Employment Opportunity Committee. Bowden has been with NWS since 1966 following a tour with the Federal Aviation Agency. His other NWS assignments have included WSO, Ypsilanti, Mich.; WSFO, Detroit, Mich.; WSFO, Kwajalein Missile Range, Pacific Region, Marshall Islands; and Coast Guard "Loran C Station," Eiwetok Atoll, Trust Territory of the Pacific Islands.

Robert S. Gray, Sr., and Frederick E. McCoy, EDIS, National Geophysical and Solar-Terrestrial Data Center, provided supporting ground-based measurements for a recent launching of eight instrumented rockets for the joint American-Soviet Particle Inter-Calibration Project. The measurements made by the two men at the Wallops Ionosphere Stations were used throughout the launch period to monitor local ionospheric conditions, and were instrumental in determining the specific launch times.

Ron Kuhn, former Principal Assistant at WSO Wilmington, N.C., is the Officer In Charge at WSO Charlotte, N.C. Kuhn joined NWS in Huntington, W.Va., after serving in the U.S. Air Force. He served at Elkins, W.Va. before his Wilmington assignment.



Anthony E. Tancreto (left), Meteorologist In Charge, WSFO Boston, presents a copy of the film, "Hurricane Decision," to Massachusetts Governor Michael Dukakis.

NOAA representatives from the Federal Women's Program headquarters and field offices, EEO committees, and the NOAA Corps attended the national conference of Federally Employed Women, Inc., recently held in Denver, Colo.

The conference, which hosted approximately 3000 women from Federal agencies throughout the U.S. was addressed by Ruth Abrams, Executive Director of New York Women's Action Alliance, Inc., keynote

Six NOAA people have been selected for the Department of Commerce Science and Technology Fellowship Program. They are: Norman A. Fitz, AD/OMCS; Samuel E. Freeman, AD/OMCS; C. Frederick Jenkins, RD/ERL; Charles Hume McClure, OAS/NESS; Samuel E. McCoy, OAS/NOS; and George P. Murphy, AD/OMCS.

A management training program, the fellowship includes temporary work assignments to other agencies, one week at the Brookings Institute Science Policy Conference, one week on Capitol Hill studying congressional structures relating to science and technology, two weeks touring various industries to review their technology management procedures, and regularly scheduled seminars. Training is from Sept. 1978 until June, 1979.

speaker at the opening session; Jule M. Sugarman, Commissioner and Vice Chairman of the Civil Service Commission; and the Honorable Patricia Schroeder, U.S. Congresswoman, Denver, Colo.

NOAA activities of note during the conference were a pre-conference workshop for NOAA

Federal Women's Program Coordinators, a reception for all Department of Commerce participants hosted by the Federal Women's Program Advisory Committee, and a visit to the Environmental Research Laboratories in Boulder with presentations on ERL activities by J.O. Fletcher, Deputy Director.



NOAA's exhibit at the Federally Employed Women's conference in Denver provided information on opportunities for women. Seated at the Exhibit are (l to r) Delores Reese and Mary Boylen, EDIS Rockville, and Ellen Overton, NOAA's National Federal Women's Program Manager.



Federal Women's Program Coordinators Fern Reid, NWS, Salt Lake City, Utah, and Ethel Howard, NHC, Coral Gables, Fla., distribute information on NOAA to other Federal employees at the Federally Employed Women conference in Denver, Colo.



Mildred W. Corbin, ADMIN, Rockville, Md., and Lillian Washington, NOS, Silver Spring, Md., take their turn at the NOAA exhibit during the national conference of Federally Employed Women in Denver, Colo.

NOAA On The Run

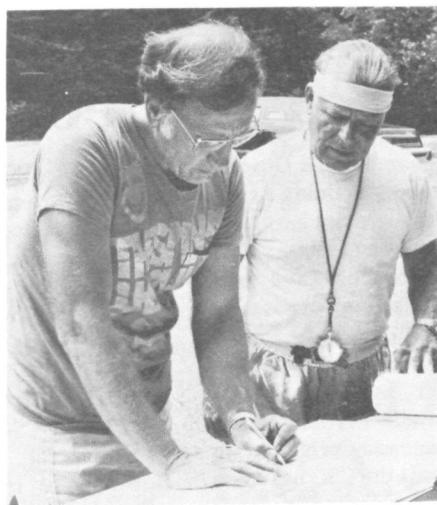
Can running a mile be fun? NOAA joggers in the Washington, D.C. area think so. At their recent jogging event along the C & O Canal about 35 NOAA employees and their families and friends



Bernie Edelman clocks in a triumphant Lou Boezi, NWS, as he completes his run.

participated in a "leisurely" one mile fun-run. For those with more energy, two and three mile courses were also laid out. Another run is planned for November.

Plans are also being made to have tee shirts with the NOAA Joggers logo. For information contact Bernie Edelman at 427-7730.



Dr. Richard E. Hallgren, Acting Assistant and Administrator for Oceanic and Atmospheric Services (l.) discusses course layouts with Bernie Edelman, NWS.



Pounding down the C & O Canal towpath, NOAA joggers and friends set a brisk pace on a sunny summer afternoon.



A training class in combined operations was held at Pacific Marine Center July 5-28, for five officers who have received their first sea assignments on NOAA hydrographic survey vessels. These officers joined the ships Mt. Mitchell, Peirce, Whiting, and Davidson. Pictured (l to r) are: R. Adm. E.A. Taylor, Director, PMC; Ens. Fred Diaz; Ens. Tim Peasley; Ens. Paul Morton; Ens. Andy Shepard; Lt. Bill Wert, Instructor; L. Cdr. John Albright, Instructor; and Ens. Jay Rodstein.



The National Weather Service Employees Organization (NWSEO) signed its first labor/management agreement with NOAA on August 7. The agreement covers employees in the Facility Operations Division in the Office of Management and Computer Systems (OMCS). Pictured during the signing are: (seated, l to r) Edward Coleman, Chief Branch Steward; Leo R. Harrison, Jr., National President, NWSEO; Ted P. Gleiter, Assistant Administrator for Administration; and Mirco Snidero, Director, OMCS; (standing, l to r) Charles Towles, NWSEO Steward; and R.M. Lumpkin, Chief, Personnel Operations Branch.

New Forms Become Mandatory For Training

Since Passage of the Government Employees Training Act of 1958, Federal agencies have used a multitude of forms for internal, inter-agency and non-government training purposes. In response to concerns voiced by the Civil Service Commission (CSC) and by the General Services Administration (GSA) with the increasing proliferation of such forms, the CSC has spent five years developing a single form to be used by all Federal agencies in nominating their employees for training in government and non-government facilities. The result of these efforts is Standard Form (SF) 182 (formerly OF 170), Request, Authorization, Agreement, and Certification of Training.

The SF 182 is a comprehensive, multi-purpose form and its implementation will require many changes in NOAA's procedures for processing training requests and in our automated training system. Therefore, NOAA has negotiated with the Department of Commerce (DOC) and CSC for a one-year delay in full implementation. However, to insure uniformity within the Federal system and to meet CSC's immediate requirements, all requests for inter-agency training courses (other than DOC), such as CSC, GSA, Department of State, etc., which begin after September 30, 1978, must be submitted through regular channels on SF 182.

Detailed instructions for

completing the SF 182 will be included in a revision of NOAA Personnel Handbook Chapter 07. Meanwhile, Servicing Personnel Sections, Field Personnel

Offices and the Career Development Branch can provide guidance and assistance in completing the new forms.

(Continued on p. 7)

Now, Is Everybody Happy?

In the past, the Office of Personnel received complaints that vacancy announcements were being received after the closing date to file an application for employment.

As an experiment in alleviating this problem, the Chief, Printing Section was authorized to establish the issue date on all NOAA Merit Program Vacancy Announcements ten (10) work days from the date of printing.

This has appeared to work out fine with the exception of NOAA commuting area announcements. Complaints now are that these announcements are being received as much as two weeks in advance of the issue date. To correct this situation, the issue date on NOAA commuting area announcements will be established five (5) work days from the date of printing.

NOAA Personnel Division Lists Current Vacancies

Announcement No.	Position Title	Grade	MLC	Location	Issue Date	Closing Date
ERL-78-271 RT	Oceanographer	GS-11	ERL	Seattle, Wash.	9/6/78	9/20/78
WR-78-43 (JB)	Meteorological Tech.	GS-5/9	NWS	Glasgow, Mont.	9/6/78	9/20/78
SR-78-36 (GC)	Electronics Tech.	GS-10	NWS	Columbus, Ga.	9/6/78	9/20/78
WR-78-44 (PD)	Meteorological Tech.	GS-10	NWS	San Francisco, Ca.	9/6/78	9/20/78
CR-78-41 (MK)	Electronics Tech.	GS-10	NWS	Duluth, Minn.	9/6/78	9/20/78
NCC-78-21 (GWE)	Physical Scientist	GS-12	NCC	Camp Springs, Md.	9/8/78	9/22/78
HQS-78-71 (AM)	Oceanographer	GS-13	NOAA	Rockville, Md.	9/8/78	9/22/78
ERL-78-268 (MD)	Engineering Tech.	GS-12	ERL	Miami, Fla.	9/8/78	9/22/78
ERL-78-266 (MD)	Electronics Tech.	GS-9	ERL	Miami, Fla.	9/8/78	9/22/78
HQS-78-69 (CB)	Position Classification Specialist (4 positions) and Staffing & Employee Relations	GS-11/12	NOAA	Rockville, Md.	9/5/78	9/26/78
HQS-78-69 (CB)	Specialist (2 positions)	GS-11/12	NOAA	Rockville, Md.	9/5/78	9/26/78
NESS-78-18 (VLM)	Meteorologist	GS-11	NESS	Coral Gables, Fla.	9/12/78	9/26/78
NOS-78-47 (DH)	Cartographer (Nautical)	GS-12	NOS	Rockville, Md.	9/12/78	9/26/78
NOS-78-46 (CBB)	Boat Operator	WC-11 or WC-9	NOS	Calvert City, Md.	9/12/78	9/26/78
NOS-78-43 (SJM)	Supervisory Geodesist	GS-13	NOS	Rockville, Md.	9/5/78	9/26/78
NOS-78-44 (SJM)	Geodesist	GS-14	NOS	Rockville, Md.	9/5/78	9/26/78
NWS-78-54 (FM)	Program Analyst	GS-11	NWS	Silver Spring, Md.	9/13/78	9/27/78
AR-78-24 (IH)	Meteorological Tech.	GS-9	NWS	Juneau, Alaska	9/13/78	9/27/78
NESS-78-21 (WL)	Physical Scientist	GS-13	NESS	Suitland, Md.	9/13/78	9/27/78
CR-78-42 (MK)	Electronics Tech.	GS-10	NWS	Indianapolis, Ind.	9/13/78	9/27/78
CR-78-43 (MK)	Electronics Tech.	GS-10	NWS	Evansville, Ind.	9/13/78	9/27/78
CR-78-44 (MK)	Meteorological Tech.	GS-10 (9/8/7)	NWS	St. Louis, Mo.	9/13/78	9/27/78
NASO-78-31 (CEG)	Hydraulic Engineer	GS-11/12	NMFS	Portland, Ore.	9/6/78	9/27/78
NOS-78-45 (SJM)	Supervisory Computer Systems Analyst	GS-14	NOS	Rockville, Md.	9/6/78	9/27/78
ER-78-52 (SB)	Supervisory Geodesist	GS-14	NOS	Rockville, Md.	9/6/78	9/27/78
ER-78-53	Meteorologist (Forecaster)	GS-12	NWS	New York, N.Y.	9/13/78	9/27/78
ER-78-54 (SB)	Meteorological Technician	GS-7/8/9/10	NWS	Youngstown, Ohio	9/13/78	9/27/78
NWS-78-52	Meteorological Technician	GS-7/8/9/10	NWS	Beckly, W.Va.	9/13/78	9/27/78
	Supervisory Meteorologist (Deputy Director, NWS)	GS-17	NWS	Silver Spring, Md.	9/8/78	9/29/78



MEXICAN STYLE TUNA SALAD

- | | |
|--------------------------------------|-------------------------------------|
| 2 cans (6-1/2 or 7 ounces each) tuna | 1 medium head lettuce, shredded |
| 2 cups finely chopped onion | 1 medium tomato, cut in thin wedges |
| 1 large clove garlic, minced | 1 medium avocado, peeled and sliced |
| 1/4 cup cooking oil | 1/2 cup shredded Cheddar cheese |
| 2 cans (8 ounce each) tomato sauce | 1 bag (10 ounce) corn chips |
| 1 cup water | |
| 1 teaspoon oregano | |
| 1/2 teaspoon hot pepper sauce | |

Drain tuna and break into chunks. Cook onion and garlic in oil until tender, not brown. Add tomato sauce, water, chili powder, oregano, salt and pepper sauce; simmer uncovered about 15 minutes to blend flavors. Add tuna; allow to heat through. Arrange lettuce on individual salad plates or large salad bowl. Spoon hot tuna mixture into center; garnish with tomato wedges and avocado slices. Serve with cheese and corn chips. 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 dressed whiting and fresh cod fillets along the Northeast Seaboard; fresh scallops and fresh whole croaker in the Middle Atlantic States, including the D.C. area; frozen cod fillets and fresh mullet in the Southeast and along the Gulf Coast; canned tuna and frozen cod fillets in the Midwest; fresh silver salmon and fresh sole fillets in the Northwest; and frozen whiting fillets and frozen turbot fillets in the Southwest.

Grants Roundup

Universities And Firms Get Grants

Recent NOAA grants totaling \$1,647,851 have been awarded to the following universities and firms:

California, \$80,441 to Computer Hardware Support, Inc., to provide on-site maintenance service for a UNIVAC Computer System at NOAA's Atlantic Oceanographic and Meteorological Laboratories in Miami, Fla.; \$30,050 to Megatek Corp. of San Diego for a graphic subsystem to be used by National Hurricane and Experimental Meteorology Laboratory in Coral Gables, Fla., for use in displaying data sets recorded during research flights into hurricane and tropical cyclones; \$51,247 to the California Academy of Sciences in San Francisco to be the archives center for voucher specimens of biological materials collected as part of a major environmental study; \$19,786 to the University of California at Davis to study the turbidity of the earth's atmosphere from a set of skylight measurements taken at the Mauna Loa Observatory in Hawaii.

Colorado, \$494,219 to the University of Colorado for continuation of a research associate scientist program; \$30,560 to Colorado Video, Inc., \$21,424 to Ailtech, \$32,862 to Tektronix, \$23,304 to Electronic

Navigation Industries, Inc., all to supply scientific equipment for research purposes; \$16,129 to Martin Marietta Corp., to continue visibility study of coal power plant development in south central Utah; \$18,393 to the University of Denver for a weather related workshop; \$11,591 to Colorado State University to study long-range prediction of sunspots and search for periods of high and low activity.

Florida, \$250,000 to Airtech Service, Inc., to install a variety of scientific instrumentation on three NOAA atmospheric research aircraft; \$57,400 to Florida State University for work relating to the New York Bight ecosystem; \$19,725 to Aerochem Metrics for automatic precipitation collectors which will be used to monitor the chemistry of precipitation throughout the U.S.; \$19,492 to Ocean Sciences Center at Nova University for research on surface current-transport correlations in the Florida Current; \$28,120 to Modular Computer Systems, Inc., to provide computer parts, installation and maintenance for large computer used in ERL, Boulder, Colo.

Massachusetts, \$60,876 to Benthos, Ind., \$16,350 to Ocean Research Equipment, \$11,000 to Neil Brown Instrument Systems, \$35,000 to Computer Genetics Corp., \$30,826 to Environmental Devices Corp., \$28,829 to Aanderaa Instruments, \$15,535 to Energy Resources Company, Inc., \$11,484 to Computer-Link Corporation, all for scientific equipment for use in exploring deep ocean floor, assessing oil spills, tracking currents, and remote sensing of subsurface sea temperatures.

Virginia, \$71,900 to Virginia Institute of Marine Science at Gloucester Point to study creatures that inhabit the sea floor of the New York Bight to determine how pollution affects them; \$161,238 to AMF Electrical Products Division of Herrington, for production of marine scientific equipment.



Lochan M. Acharya, a World Meteorological Organization Fellow from Nepal completed training in climatological data processing and publication at EDIS' National Climatic Center in Asheville, N.C., July 24-28. Acharya also received indoctrination concerning the use of the Hewlett-Packard and NCC's main frame computer system. Daniel B. Mitchell, NCC Director (left), presented Acharya with a Certificate of Training.

National Oceanic and Atmospheric Administration

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