



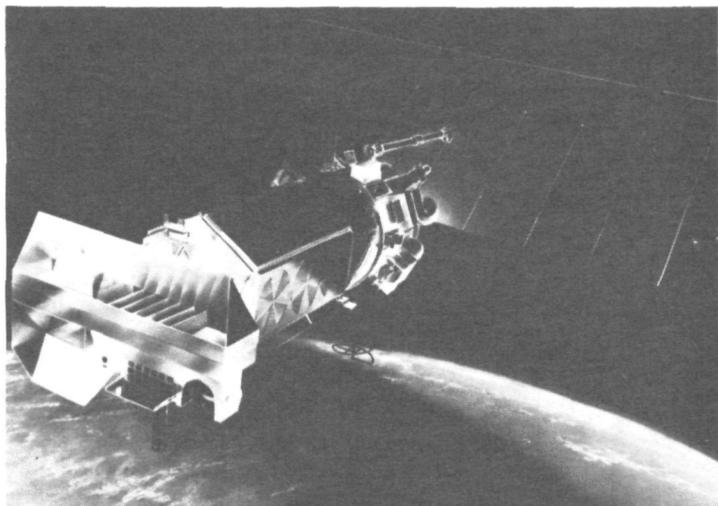
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U.S. DEPARTMENT OF COMMERCE

NOAA news

National Oceanic and Atmospheric Administration

NOAA Now Helping Fishermen Improve Catches



An artist's rendering of the NOAA - B Satellite

Another TIROS-N Going Up

The third spacecraft in a series of satellites considered by many as the most exciting in the history of operational environmental monitoring from space was scheduled to be launched on May 21, NOAA and NASA jointly announced.

NOAA-B, third of the TIROS-N series of satellites, will join TIROS-N and NOAA-6 in orbit some 540 miles (870 kilometers) above the earth's surface. Upon achieving its near-polar orbit, the spacecraft will become NOAA-7, and will replace

TIROS-N which will be placed on stand-by status. TIROS-N was launched on October 13, 1978.

Since the launch of TIROS and its partner in space, NOAA-6 - which was placed in orbit on June 27 - users of satellite data world-wide have benefited from improved and expanded environmental information collected by an array of sensors on board.

During the past two years the TIROS twins have given meteorologists, oceanographers, hydrographers, and

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Fishermen on both the Atlantic and Pacific coasts are making bigger catches and saving fuel while doing so, thanks to timely information from space and the sea surface provided by NOAA.

Ocean temperature information derived from NOAA satellites, ocean vessels, and sea buoys helps the fishermen pinpoint specific species of fish - tuna and salmon on the West coast, and swordfish on the East coast - and expend less time and fuel in getting to the best fishing spots.

Some of the data comes from NOAA's polar-orbiting satellites. They produce ocean imagery which reveals variations in surface temperature as shades of grey. Using actual sea surface temperature measurements, NOAA experts assign specific temperatures to the varying shades of grey in the imagery and then pro-

duce special charts which show the areas of temperature gradient.

On the Atlantic coast, these charts reveal the most likely locations for swordfish, areas with temperatures ranging from 55 to 76 degrees Fahrenheit. The swordfish is one of the few temperature-sensitive fish in the Atlantic. The fishermen supplement this information with data they gather on water depth and surface temperatures as well as the swordfish's migration routes.

On the Pacific coast, the temperature profile charts help tuna and salmon fishermen identify areas of cold, nutrient-rich waters associated with the upwelling that attracts the two species of fish.

The appropriate charts are transmitted daily to fishermen on both coasts by tele-

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NOAA Fostering Marine Studies

NOAA has awarded a \$24,000 grant to the Society of Naval Architects and Marine Engineers to support students studying naval architecture, marine engineering and related subjects.

The grant, announced today by administrator

Richard A. Frank, will support both undergraduate and graduate scholarships. Graduate scholarships are awarded on a competitive basis with the selection of recipients being made by the Society's Committee on Scholarships. Undergraduate nom-

Pacific Fur Seal Convention Must Not Expire, Blondin Testifies

The United States must not permit the Interim Convention on Conservation of North Pacific Fur Seals to expire, a Congressional subcommittee was told April 28.

Carmen Blondin, U.S. Commissioner, to the North Pacific Fur Seal Commission, told members of the House Subcommittee on Fisheries,

Wildlife Conservation, and the Environment that the present convention is recognized world-wide by wildlife management authorities as a hallmark conservation program for a migratory species. Blondin also is director of International Fisheries Affairs for the National Marine Fisheries Service.

The Interim Convention is an agreement between the United States, Canada, Japan, and the Soviet Union which provides protection and management of fur seals throughout their range and permits the United States and the U.S.S.R. to give the other countries a share of the skins that are harvested on

the Soviet and American islands. In return, the countries agree not to conduct commercial harvest at sea.

The harvest on the Pribilofs is closely controlled and only bachelor males, two to six years old, are killed.

The program originally began with a similar agreement

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LETTER FROM THE LABS

Volcanic Dust Over Boulder?

—“It looks very much like a patch of volcanic dust in the lower stratosphere,” said Dr. Ronald Fegley of the Air Resources Laboratories, as he displayed a photograph of lidar echoes taken on April 7th.

Lidar, which stands for “light detection and ranging”, works on the same principle as radar, except that light waves are used instead of radio waves. The shorter wave lengths can detect small dust particles very efficiently.

Fegley, who works for the Geophysical Monitoring for Climatic Change program in Boulder, believes that the sighting could be debris from the St. Helens volcano. “A patchy return is what you’d expect from a recent injection,” he explained.

Nine days later the lidar detected returns indicating possible volcanic material in the upper troposphere. Meanwhile, peculiar striations had appeared in the skies over Boulder, and the twilights were faintly rose-colored, suggesting the presence of a high-altitude haze layer. Fegley’s check of weather maps for the periods in question shows that upper winds were generally from the northwest, the direction of Mount St. Helens. “But it’s also possible that a different volcano could

be involved,” he said. There are volcanoes around the world that erupt all the time. In any case, this kind of observation in Boulder is an unusual event — something we’d expect to see less than once a year.”

* * *

Dr. Rudolf Pueschel, also of ARL, who flew to the volcano to sample its southeastward-trailing plume during the week of April 7th, may soon be able to say whether its particles could have traveled as far as Boulder. “Once we determine the size distribution of the particles,” he explains, “we can calculate their atmospheric residence time. But we still have to explain how the plume could have reached the lower stratosphere. So far, no eruption exceeding 20,000 feet (mid-troposphere) has been reported.”

* * *

Global Weather Experiment

—Dr. Verner Suomi, director of the University of Wisconsin’s Space Science and Engineering Center, recently presented a talk to NOAA researchers in Boulder about early results from the 1979 Global Weather Experiment. This year-long enterprise, for which NOAA was the lead U.S. agency, was the largest international experiment ever carried out. It gave scientists the most complete global weather record ever assembled.

Drifting ocean buoys revealed that storm intensities

in the southern hemisphere were much greater than previously thought. “We learned that the Roaring Forties (south latitude) should really be called the Screaming Forties,” said Suomi, a leading planner for U.S. participation in the experiment.

In another development, a satellite stationed over the Indian Ocean showed that the Monsoon appears to be triggered by winds moving up from the southern hemisphere. “The Monsoon onset is probably one of the most important forecasts made,” Suomi commented. “It may eventually be possible to forecast the week of onset as much as a month in advance.”

Scientists expect that the Global Weather Experiment data will eventually tell us what the practical limits of prediction are and what we need, in terms of a world weather observing system and sophisticated computer models, to achieve these limits. “All in all, we got a really remarkable set of data,” Suomi reported. “Early tests on the predictability of the global atmosphere show useful results out to ten days and excellent forecasts out to seven days.”

* * *

Oceanographer’s China Voyage

— Dr. Ants Leetmaa, Chief Scientist during the recently completed San Diego-to-Kwajalein leg of the NOAA ship *Oceanographer’s* four-month China cruise,

brings back news of good sailing weather and a successful scientific mission.

This 31-day leg of the ship’s trans-Pacific voyage focused on work for EPOCS, NOAA’s major study of the relationship between changing equatorial sea-surface temperatures and shifts in global climate.

“My primary interest was in obtaining velocity profiles of the deep equatorial current,” said Leetmaa, from his Miami office at the Atlantic Oceanographic and Meteorological Laboratories. “For the first time, we observed well-defined, jet-like features in the currents that persisted over a distance of 2,200 nautical miles. We think these jets represent the long-term response of the ocean to low-frequency forcing. By understanding their origin, we ultimately hope to be able to predict the ocean’s response to changing wind patterns.”

Other Leg 1 work included soundings of the ocean and atmosphere, measurements of sea floor topography and near-surface sea life, and deployments of three deep-sea moorings for long-term measurements of subsurface currents.

Leetmaa reports that morale was high as the crew looked forward to its June 4th Shanghai arrival, to follow a three-week study of submerged “internal” waves in the Sulu Sea, southwest of the Philippines.

—Richard Newell

Fur Seal Convention Must Not End

signed in 1911 when the population of the herds had dwindled to 300,000 animals. The agreement was renewed in another accord signed in 1957, and today the population is estimated at 1.7 million animals.

Blondin told the lawmakers that representatives from the other countries have indicated that pressure would be brought to bear to allow pelagic sealing, that is, taking

seals at sea, if the Convention is permitted to expire. “We know that other governments have been pressured by their fishermen because of alleged damage caused to fishing operations by the fur seal population,” he said.

Blondin said that without the Convention the seals would not be protected from sealing when they migrated outside the U.S. 200-mile fishery conservation zone.

“It appears that as many as 30-50 percent of the female seals born on the Pribilofs pass through waters that are outside our con-

servation zone,” said Blondin. “These animals are subject not only to the threat of directed pelagic sealing but are also vulnerable to incidental taking by foreign commercial fishing fleets in the area.

Both Japan and Canada have already indicated their desire to extend the Convention another four years.

“Expiration of the convention also will have a profound effect on the Aleut communities on the Pribilof Islands of St. Paul and St. George,” Blondin added. “The fur seal harvest is the major

source of employment for the residents of St. Paul. Were the harvest ended, there would be socioeconomic impacts on a people who have considered this activity part of their culture since they were first brought to the islands in the mid-eighteenth century.”





Peirce Tour — More than 4,000 people toured the NOAA Ship *Peirce* on May 3 and 4 during the Washington (D.C.) Harborfest Celebration. Ship's personnel and other NOAA representatives briefed visitors on the vessel's capabilities and Administration programs.

Chesapeake Bay Fisheries Studied

The University of Maryland is undertaking studies of Chesapeake Bay fisheries, particularly the declining oyster industry, under a \$908,000 grant from NOAA.

The grant was announced by Secretary of Commerce Philip M. Klutznick. The funds are being provided by NOAA's Sea Grant program and will be augmented by \$548,000 from university and other non-federal sources.

Under that program, the agency provides funds to qualified institutions for marine research and education.

The fisheries program at the University of Maryland consists of seven projects, NOAA Administrator Rich-

ard A. Frank said. Two applied oceanography studies in the Chester and Patuxent Rivers will assess the importance of the mixing of water and nutrients on productivity in the area. The goal is to relate these factors to the yields of the various commercial fisheries in the bay, including the oyster industry — a major influence in Maryland's economy with annual landings totaling \$14 million.

A third project will investigate the relationship between genetic variability in oysters and their growth and survival. The fourth study will attempt to develop a molluscan cell culture system.

Two other projects will

involve studies of the crab fishery. One will be concerned with the growth and development of deep sea red crab in their larval stages.

The other will investigate the chemical nutritional properties important to the diet of blue crab larvae and how survival of the larvae is affected by changes in these properties.

Another fisheries project will determine if competition for food between larval striped bass and larval white perch has contributed to the decline of striped bass in the Bay. Both the bass and the perch are highly significant commercial and recreational Bay species.

Contracts Let For Repair of NOAA Vessels

Contracts recently were awarded two Seattle, Wash., firms for the drydocking and repair of the NOAA Ships *Discoverer* and *Surveyor*.

A \$380,000 contract was awarded to the Lockheed Shipbuilding and Construction Co., for the drydocking and repair of the 303-foot *Discoverer*. The contract includes the rearrangement of

some of the ship's laboratories, installation of seismic profiling equipment, and provision for carrying coring devices to be used in the *Discoverer's* continuing investigation of Alaska's Outer Continental Shelf in support of the Federal Government's program to assess the effects of offshore oil and gas development. The work on the

3,959-ton research ship is scheduled to be completed May 12.

A \$300,000 contract was awarded to the Lake Union Drydock Company for the drydocking and repair of the 292-foot NOAA Ship *Surveyor*. The contract includes the installation of an aerobic sanitation system on the 3400-ton research and survey ship.

NOAA Guide Will Assist Spill Planning

NOAA has published a guide to aid contingency planning for oilspills in the New York Bight — the ocean area between Montauk Point, N.Y. and Cape May, N.J.

"For the first time, we have included in one package both environmental data and resource information, which are vital in planning how to combat oil spills," Administrator Richard A. Frank said. "This manual summarizes the climate of the Bight, discusses movement of oil at sea, charts the location of fisheries and other natural resources in the area, and shows how an oil spill might affect them at different seasons of the year."

Because of seasonal changes in the direction of prevailing winds and currents, the publication notes that spills occurring during summertime would pose more of a problem to beaches and nearshore natural resources than would winter spills, barring an unusual or special weather event such as a prolonged northeaster.

(Continued on p. 7)

Employee Wins Editing Award

Mary Holliman, now with the Office of Sea Grant, was one of three editors of *Sea Grant 70's* (now called *Sea Grant Today*) who received awards recently from the Virginia Press Women. She received a first place in the category "Publications (other than newspapers) regularly edited, using black-and-white and spot color."

Victoria Howarth, Associate Editor, also received a first place and Constance Wones, Associate Editor, received a second place.

Sea Grant Today is published by the Virginia Polytechnic Institute and State University, Blacksburg, Va., for the National Sea Grant Program.

WELCOME NOAA ANNUAL EEO AWARENESS CELEBRATION



Flamenco! — A spirited Spanish dance was one of the highlights of an EEO Awareness Luncheon May 2 at Bolling Air Force Base near Washington, D.C. The affair closed out a busy week of EEO Awareness activities.

TIROS-N Going Up *(Continued from p. 1)*

other scientists increased knowledge about solar energy, the atmosphere, surface sea ice, water, and weather conditions.

Orbiting around the globe from pole to pole as it turns beneath them, the satellites each view every part of the earth twice in a 24-hour period. They are the only civilian operational spacecraft to cover the polar regions.

NOAA-B, the replacement satellite, will be launched by the U.S. Air Force on an Atlas-F launch vehicle from the Western Test Range at Vandenberg, AFB, Lompoc, Calif.

Perhaps the most versatile of environmental monitoring satellites, those in the TIROS-N series basically perform five functions for NOAA and the wide variety of users who obtain material from the air and sea agency. These functions are: earth scanning, collection of remote observations from data platforms, solar particle radiation measurements in space, atmospheric soundings, and data dissemination in real time.

Providing imagery in both visible and infrared wave lengths, the spacecraft discern cloud distribution both day and night, show snow and ice distribution, and determine

sea surface temperatures.

Most significant, perhaps, to the Nation's weathermen is the ability of instruments on board NOAA-B and its two predecessors to take atmospheric soundings — measurements in vertical "slices" of the atmosphere showing temperature profiles, water vapor amounts, and the total ozone content from the earth's surface to the top of the atmosphere.

The sounding data are especially important for the production of global weather analyses and forecasts, which, in turn, are vital to accurate continental, regional, and local forecasts. Spacecraft in the TIROS-N series even obtain some sounding data in the presence of cloud cover. One of the three sounding instruments aboard the satellites detects microwave radiation unaffected by most clouds.

NOAA-B, as with TIROS-N and NOAA-6, was designed and built by RCA Astro-Electronics under contract to NASA's Goddard Space Flight Center, which acts as the industry interface for NOAA. Five more satellites in the series are scheduled through 1985, to be launched on a "call up" basis to ensure an uninterrupted data flow.

Commerce Opposes Inclusion Of Bluefin Tuna Under FCMA

The Department of Commerce is opposed to any amendment that would bring Atlantic bluefin tuna under the authority of the Fishery Conservation and Management Act, members of Congress were told on May 1.

Testifying before the House Committee on Merchant Marine and Fisheries, Terry L. Leitzell, NOAA Assistant Administrator for Fisheries, said that the United States believes that conservation and management of tunas throughout their range can be achieved only through international regimes.

"To bring bluefin tuna under U.S. management authority within the U.S. fishery conservation zone would contradict the U.S. position on tuna," Leitzell said.

He noted that the United States had vigorously pursued management measures for the bluefin in the International Convention for the Conservation of Atlantic Tunas (ICCAT). "Under the proposed amendment, the present ICCAT regulations would

not apply to the bluefin tuna within our conservation zone," said Leitzell. "If the United States rejects the ICCAT conservation measures, it is very likely that they will expire in 1982 which may reduce the number of bluefin found off our Atlantic coast."

Leitzell stated that the vast majority of countries with extended jurisdiction over fisheries have included tuna under their control. However, he said that many of the countries are not enforcing their laws against U.S. tuna fishermen. "Placing bluefin tuna under the FCMA would not only undercut U.S. policy but may cause these countries to enforce their laws against our tuna vessels," he said.

Leitzell told the lawmakers that the United States is engaged in eastern Pacific tuna negotiations aimed at developing a successor to the Inter-American Tropical Tuna Commission and that passage of the proposed bill would undercut the present U.S. position in the negotiations.

ESIC Has Air Force Weather Data

Extensive summaries of surface weather observations for about 100 U.S. Air Force bases in the United States and abroad are now available on microfiche in the Silver Spring Center of ESIC's Library and Information Services Division, Environmental Data and Information Service. These data reports, which were made available recently for distribution through the Defense Technical Information Center and the National Technical Information Service (NTIS), are part of a comprehensive microfiche collection of Government reports in meteorology housed in the Silver Spring Center.

Known as RUSSWO for Revised Uniform Summary

of Surface Weather Observations, each report in the series consists of six parts: weather conditions and atmospheric phenomena; precipitation, snowfall, and snow depth; surface winds; ceiling versus visibility and sky cover; humidity summaries; and pressure summaries. Reports average 500 pages in length and summarize the data for the period during which observations were recorded.

The microfiche reports may be viewed at the Silver Spring Center, Room 816, Gramax Bldg., through microform reader-printers, or they may be borrowed by NOAA personnel. Call Laurie Stackpole, 427-7800, for further information.

NOAA Updating New York Harbor Survey



It's been forty-five years since the last basic hydrographic survey of New York Harbor.

And for the next five months, three NOAA ships will continue the project begun last year to provide the latest navigation information for commercial and recreational boating in New York Harbor, the Upper Bay, and the Narrows.

The ships *Whiting*, *Rude* and *Heck*, are conducting the survey as part of a program by the National Ocean Survey to provide new information on the adequacy of its major marine products including nautical charts, Tide Tables, Coast Pilot and other related publications necessary for safety in navigation.

Known as a comprehensive basic survey, the project calls for the gathering of precise information of dynamically or geologically changing bottoms offshore, alongshore, and inshore, as well as resolving any discrepancies affecting shoals, depths, landmarks, underwater obstructions, floating and non-floating aids for navigation.

In conducting the operation, NOAA hydrographers will use an electronic echo sounder, an instrument that measures water depths by recording the time required for sound waves to reach

bottom and for the echoes 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 vessels will be determined with electronic positioning instruments and with sextants. The data received are processed automatically on the ship's data processing system.

The 163-foot *Whiting* is commanded by Cdr. Karl W. Kieninger, Jr., of the NOAA Corps. The ship carries a normal complement of 8 NOAA Corps officers and a crew of 35.

The two 90-foot ships, *Rude* and *Heck*, are the only vessels of their kind in the Nation designed to drag a submerged wire between them as they sweep the bottom for underwater hazards, such as sunken wrecks, shoals, pinnacle rocks, and boulders while operating in coastal areas including channel harbors and estuaries.

The *Rude* and *Heck* are commanded by Cdr. Melvyn C. Grunthal. The ships carry a normal complement of 20 officers and crew.

The three NOAA ships are based at the National Ocean Survey's Atlantic Marine Center, Norfolk, Va.

NOAA Programs Helping Fishermen Improve Catches *(Continued from p. 1)*

phone and telecopier to machines aboard their boats.

The Atlantic coast swordfishermen are the most recent to use the satellite-surface charts. Previously, their main source of information was temperature charts that were two weeks old and obsolete by the time they arrived by mail.

Their plight attracted the attention of the Marine Service agents of NOAA's New Jersey Sea Grant research and education program. The agents conveyed it to officials at the National Marine Fisher-

ies Service (NMFS), National Weather Service (NWS) and the National Environmental Satellite Service (NESS), all NOAA agencies.

The advisory service agents found that the NWS's Ocean Services Group in Camp Springs, Md., produces isotherm charts — those showing areas of constant temperatures — on a regional and global basis. The charts are based upon information gathered from satellites operated by NESS, ship and buoy reports, and other sources.

At the request of the

agents, the Ocean Services Group arranged to have their charts telecopied daily to the swordfishermen.

On the Pacific coast, the NESS and Sea Grant marine advisory agents also cooperate in providing the satellite data to tuna and salmon fishermen.

"Receiving those charts," explained Melvin Segal, president of the Swordfishermen's Association, "has resulted in a tremendous saving in time. We use to spend up to five days looking for the fish, and now we can go right

to the place where the fish are located.

"When you figure that most boats will use from 20 to 50 gallons of fuel an hour, you can recognize the energy savings involved.

"There are about 500 vessels in the swordfish fishing fleet," he said.

"I can't give you specific numbers on the exact savings," he explained, "but I can tell you that they are tremendous."

He said that the improved service from NOAA also has improved the catches.

**PERSONNEL
PERSPECTIVE**

Review Family Benefits

Do you remember who you designated as your beneficiary? Are you sure you designated anyone at all? Have you divorced? Married? Remarried? Is your beneficiary still alive? Are you and your beneficiary still on good terms? Depending on your answers to these questions, you (or more likely, someone else) may be in for an unpleasant (or pleasant) surprise.

Periodically, you should review your designations of

beneficiaries to make sure that they reflect the most recent changes in your family status or your current desires. Beneficiaries may be family, friend, organization: anyone or anything you choose. And a word of caution: Don't be half-safe. You should have a beneficiary for your retirement fund and your unpaid salary, as well as for your life insurance. It's up to you to make the designations you desire.

If you have not designated a beneficiary, payments will be made in the following order. If you did not make a specific designation, and you are satisfied with this order, you need take no further action.

-If you did not designate a beneficiary, payment will be made to your lawful widow or widower;

-If you did not designate and you have no lawful widow or widower, payment will be made in equal shares

to your child or children. (The share of any deceased child will be divided among the descendants of that child.);

-If you did not designate and leave neither a lawful spouse nor children, payments will be divided between your parents or, if one parent is deceased, the entire payment will be made to the surviving parent;

-If you did not designate and leave neither a lawful spouse, children, nor parents, payment will be made to the executor or administrator of your estate; or

-If none of the above exists, payment will be made to your next of kin in accordance with the laws of the state in which you lived.

You must designate if you wish to name some person or persons not mentioned above or if you wish to name one of these persons in a different order or for a different share. You may make, change, or

cancel a designation of beneficiary at any time without the knowledge or consent of the persons previously or currently named. All it takes is a visit to your servicing personnel office.

Deadline Set On Flex Time

The Office of Personnel Management has advised the Department of Commerce that the last date for implementation of flexible and compressed work schedule experiments is the first pay period after April 1980. In the Department, that means any experiments requested under OPM's regulations (including the extended period to allow experimentation) must have been authorized by OPM prior to April 30 in order to begin May 4, 1980.

**CURRENT
NOAA
VACANCIES**

Announcement Number	Position Title	Grade	Organization	Location	Issue Date	Closing Date
NWS-80-88(WL)	Supervisory Meteorologist	GS-15	NWS	Camp Springs, Md.	5/9	6/2
ERL-80-103(VP)	Supervisory Meteorologist	GS-15	ERL	Boulder, Colo.	4/15	6/14
ERL-80-129(VP)	Supervisory Meteorologist	GS-15	ERL	Oak Ridge, Tenn.	5/5	6/14
SER-80-27(CT)	Fishery Biologist	GS-14	NMFS	Miami, Florida	5/5	5/27
NESS-80-26(VLM)	Supervisory Physical Scientist	GS-14	NESS	Suitland, Md.	5/9	6/2
NOS-80-59(DB)	Geodesist	GS-14	NOS	Rockville, Md.	5/7	5/29
		May be filled at GS-13 level.				
NESS-80-25(VLM)	Supervisory Physical Scientist	GS-14	NESS	San Francisco, Calif.	5/1	5/22
ER-80-27(SB)	Supervisory Hydrologist	GS-14	NWS	Hartford, Conn.	4/28	5/19
NWS-80-89(WL)	Meteorologist	GS-13	NWS	Camp Springs, Md.	5/9	5/23
AR-80-17(JB)	Meteorologist	GS-13	NWS	Anchorage, Alaska	5/7	5/21
NOS-80-57(DB)	Geodesist	GS-13	NOS	Rockville, Md.	5/7	5/29
ER-80-29(SB)	Meteorologist	GS-13	NWS	Raleigh, N.C.	5/5	5/19
NESS-80-27(VLM)	Physical Scientist	GS-13	NESS	Suitland, Md.	5/9	5/23
NOS-80-60(DB)	General Physical Scientist	GS-13	NOS	Rockville, Md.	5/7	5/29
		May be filled at GS-12 level.				
NWS-80-86(WL)	Meteorologist	GS-13	NWS	Camp Springs, Md.	5/7	5/21
		May be filled at GS-12 level.				

Six Appointed To SG Panel

Six new members have been appointed to NOAA's Sea Grant program panel, Secretary of Commerce Philip M. Klutznick has announced.

The panel members, with terms ranging from two to three years, join nine other scientists, educators, industrialists, and administrators who serve as an advisory group for the Secretary of Commerce, the administrator of NOAA and the director of the National Sea Grant College program.

The new members are: Dr. Herman R. Branson, President, Lincoln University (Pa.); Dr. Fay R. Biles, Kent State University (Ohio); Dr. Lauren R. Donaldson, University of Washington; Dr. Leigh H. Hammond, Raleigh, N.C.; Dr. Francis L. LaQue, N.J.; and Dr. Michael J. Pelczar, Washington, D.C.

Under the Sea Grant College program, NOAA helps fund marine research and education and provides marine advisory services.



Walter R. Reese

Walter R. Reese has been appointed Meteorologist in Charge of the Weather Service Office at Bakersfield, Calif.

Former positions were Warning and Preparedness Meteorologist for the state of Indiana and Meteorologist in Charge of the Weather Service Meteorological Observatory, near Marseilles, Ill. Reese has a B.A. degree in Management from Upper Iowa University. He studied meteorology at Oregon State and Penn State universities, and at the technical training center, Chanute Air Force Base, Illinois.



Frederick M. Cramer

Frederick M. Cramer is now Meteorologist in Charge at the Weather Service Office, Tallahassee, Fla. He entered the Weather Service at Houston, Tex., in 1955, and has served at Amarillo, Tex.; Huron, S. Dak.; and Apalachicola, Fla. His initial meteorological training was obtained in the U.S. Air Force.

He has completed additional university education in meteorology.

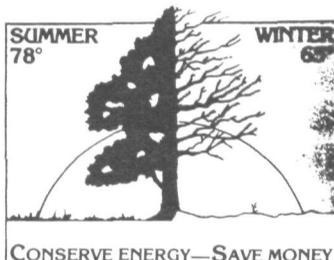


Malcolm S. Lacy

Malcolm S. Lacy replaces Frederick M. Cramer as the new Official in Charge at the Weather Service Office at Apalachicola, Fla. Previously, Lacy was Supervisory Meteorological Technician at WSFO, Oklahoma City. After Navy service, he entered the Weather Service in 1956 and has served at Wichita Falls, Tex.; Burrwood, La.; Swan Island; El Paso, Tex.; and Lihue, Hawaii.

* * *

John Rodriguez has been appointed EEO Coordinator for the National Weather Service's Central Region. Prior to this appointment, he served as an EEO Specialist for the General Services Administration and was the GSA's Regional Hispanic Employment Program Manager. Rodriguez is the first Hispanic to receive an appointment as a State Commissioner in Missouri. He represents the state's Fifth Congressional District as Human Rights Commissioner.



Plan Issued for Managing Unique Marine Sanctuary

A plan for managing the only marine sanctuary in the Nation established to protect a living resource has been issued by NOAA's Office of Coastal Zone Management.

The sanctuary, a 100-square-mile area lying off Key Largo, Fla., was set up in 1975 to protect an extensive coral reef that harbors well over 500 species of fish and shellfish, including commercially valuable spiny lobsters, and such sought after sport fish as grouper, snapper and pompano.

The management plan calls for carrying out a series of scientific studies throughout the 1980's aimed at assessing the reef's health, documenting the extent of anchor damage and coral disease, and determining whether pollutants and nutrient runoff from nearby coastal areas are harmful to the coral.

In addition, OCZM, in co-

operation with Florida's Department of Natural Resources, will set up a number of underwater monitoring stations to observe the repopulation, growth, and mortality of the coral, and measure temperature, salinity and the clarity of the water in the area.

JoAnn Chandler, acting director of NOAA's Sanctuary Programs office, noted that the Key Largo Coral Reef Marine Sanctuary is located off the coast of one of the fastest growing urban areas in the country.

"We want to make sure," she said, "that the sanctuary's remarkable underwater beauty and rich marine life can be enjoyed by future generations."

Chandler said too little is now known about the impact on the reef of an estimated 400,000 annual visitors—many of them divers, sport fishermen, and boaters.

Guide To Assist Spill Planning

(Continued from p. 1)

Oil from winter spills, the guide shows, would tend to move southeasterly out to sea, and present more of a problem to offshore fisheries than to coastal resources. Oil spilled during the summer more likely would be carried northeasterly, with nearshore spills affecting Long Island beaches and other coastal area resources.

The NOAA guide contains a removable overlay that enables planners to pinpoint locations in the Bight and roughly estimate the summertime and wintertime risks of spills at specific locations. The overlay can be placed over charts in the back of the report to see how spills might affect any of the more than 50 resources charted.

For example, when the transparent overlay is placed over the chart of the striped bass fishery, it shows that summertime rather than

wintertime spills would be most likely to cause the fishery harm.

The guide, "A Climatological Oil Spill Planning Guide: No. 1, The New York Bight" was prepared by NOAA's Environmental Data and Information Service for the Regional Response Team for Coastal Region II, the Third Coast Guard District. Computer models of projected oil movement are based on climatological factors such as winds and currents.

Similar manuals covering other coastal areas are now in the planning stage.

Single copies of the guide are available at no charge from the Environmental Data and Information Service, CEAS/MEAD, National Oceanic and Atmospheric Administration, 3300 Whitehaven Street, Washington, D.C. 20235.

FROM THE GALLEY

SHRIMP AND VEGETABLES, CHINESE STYLE

1 pound cooked, peeled, and deveined shrimp, fresh or frozen

or

4 cans (4½ ounces each) shrimp*

2 tablespoons soy sauce

1 teaspoon garlic salt

½ teaspoon sugar

½ teaspoon ginger

2 tablespoons cooking oil

½ cups carrots cut in ¼ by

2½-inch long julienne strips



1 package (6 ounces) frozen Chinese pea pods, thawed and drained

1½ cups diagonally sliced celery

1 cup green onion cut in 1-inch lengths

2 medium zucchini, cut in ¼ by 2½-inch long julienne strips

1 can (8 ounces) water chestnuts, drained and sliced.

Thaw shrimp if frozen. Drain canned shrimp and rinse gently with cold water. Combine and mix soy sauce, garlic salt, sugar, and ginger. Heat oil in wok or 12-inch frying pan over moderately high heat. Add carrot strips and pea pods; cook and stir 2 minutes. Add celery, green onion, zucchini, and water chestnuts; cook and stir 1 minute. Add soy mixture and shrimp; stir. Cover and heat about 2 minutes or until shrimp are heated and vegetables tender-crisp. Makes 4 to 6 servings.

*For convenience, shrimp may be cooked ahead of time, cleaned and stored in refrigerator until preparation time. About 2 pounds of raw shrimp will yield 1 pound cooked, peeled, and cleaned shrimp.

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Robot Explores Ocean Depths

A project to develop a highly-sophisticated robot submersible for exploring the floor of the ocean is being undertaken by scientists at the Massachusetts Institute of Technology (MIT) under the joint sponsorship of the Navy and NOAA's Sea Grant College program.

The project will be financed mainly by the Navy's Explosive Ordnance Disposal Facility and carried out by researchers in NOAA's National Sea Grant College program for Marine research and education.

The researchers will be seeking to improve upon technology in unmanned submarines developed at MIT, by constructing an eight-foot long, aluminum pressure hulled vehicle 13 inches in diameter weighing 130 pounds. The vehicle will be lighter and stronger than previous models. It is expected to be ready for sea-going tests by summer.

The battery-powered submersible will be capable of speeds of up to three knots, the principal investigators on the project, Dr. A. D. Carmichael, professor of Ocean Engineering, and Dr. D. G. Jansson, assistant professor of Aeronautics and Astronautics, said.

The vehicle will be com-

puter controlled by a digital autopilot, Dr. Carmichael explained, with limited communications capable of altering pre-programmed missions, if necessary. The submersible will be able to explore sea bottoms to 300 feet (100 meters) and will have a range of 20 nautical miles, he explained.

The submersible will be equipped with side scan and other sonar, permitting it to perform a number of missions which represent serious hazards to divers, particularly around offshore drilling platforms.

The Navy has allocated \$45,300 for the project, which will be augmented by \$5,397 in university funds.

In two other related projects, Sea Grant researchers at MIT are developing new techniques for manipulating mechanical arms on a submersible and examining means of improving communication systems for untethered undersea vehicles.

Because of the fatality rate and the high dollar cost of human divers on manned submersibles and because of the increasing requirements for operations at extensive depths, all three projects offer promise of significant safety and economic advantages, the researchers note.

NOAA Fostering Marine Studies

(Continued from p. 3)

In 1979, eight graduate and 28 undergraduate scholarships were provided under the NOAA-Society program. The Society also provided some support to students at the Webb Institute of Naval Architecture in Glen Cove, N.Y.

The Society will provide \$43,000 in matching funds to support the program.

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