

31-weekly

NMFS Sees Record Fish Take in '76

United States commercial fishery landings for 1976 are forecast to be 5.2 billion pounds—the largest in 10 years, according to the National Marine Fisheries Service. This represents a seven percent increase over 1975. "Fishery landings" is the amount of fish brought to docks by fishermen.

The record dockside value—exceeding \$1 billion—is due to a steady increase in foodfish catches and to generally rising prices.

NMFS says that total quantities of domestic tuna processed by California canneries are running at least 10 percent ahead of 1975, as are those of domestic fish at canneries in Puerto Rico (Puerto Rico data are not included in the 5.2 billion-pound total catch).

Total production of shrimp in the Gulf of Mexico is up by a third, according to NOAA figures, and Alaska shrimp is expected to be up 20 percent or more. Alaska snow crab should set a new record. Pacific salmon

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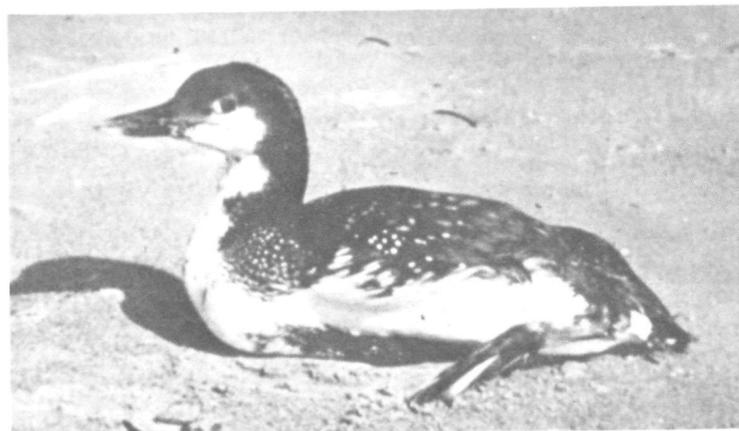
31-Day Global Forecasts Made

The National Meteorological Center's Development Division recently produced three 31-day global forecasts. These month-long forecasts are calculated using a three-layer atmospheric model developed by NMC researcher, Lloyd Vanderman. Extended period forecasts to five and one-half days began in February 1976. Results proved so encouraging that the forecast period was extended further: first to ten and one-half days, then to sixteen days.

Ordinarily, atmospheric models tend to become unstable with time because errors accumulate until the composite error overwhelms the computational

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NOAA Team At Site of Oil Spill



Victim of a previous oil spill, this Rhode Island loon and other creatures of East Coast waters are threatened once again.

Fair But Chilly

Inaugural Day Weather

Climatic history favors fair and chilly weather for President-elect Carter's swearing-in ceremonies on January 20, according to the Environmental Data Service.

Even though the coldest time of the year in Washington comes during late January and early February, temperatures on January 20 are usually not severe, records show. Average weather conditions for noon, when the President-elect usually is sworn in, are a temperature of about 37 degrees, a wind of 10 miles-per-hour or less, and partly cloudy skies. Chances of precipitation during the ceremony itself are about 1 in 6, and of snow, about 1 in 13.

These figures are climatological probabilities, not forecasts, and are based on more than 100 years of weather records for Washington, D.C., maintained by EDS. Weather forecasts for Inauguration Day will be issued by the National Weather Service. Extended outlooks will be issued beginning January 16 and regular forecasts beginning January 18.

Of the 47 quadrennial swearing-in ceremonies held to date, 19 were plagued by substantial rain or snow, bitter cold, or chilling winds. Despite this rather dismal record, however, the odds are high that the

weather for Mr. Carter's inauguration will be more pleasant. The reason? The 20th Amendment which, beginning in 1937, changed the date for Presidential inaugurations from March 4 to

Inauguration Day, January 20, 1977, will be a legal holiday for Federal employees who work in the Washington, D.C., metropolitan area except those on travel or performing official duties away from that area. In addition to the District of Columbia, "metropolitan area" includes Montgomery and Prince Georges Counties, Maryland; Arlington and Fairfax Counties, Virginia; and the cities of Alexandria and Falls Church, Virginia. Observance of the holiday will be in accordance with Chapter 11, Section 04.10, and Chapter 12, Exhibit C, of the NOAA Personnel Handbook.

January 20. Weatherwise, the means considerable less chance of rain or snow, though it favors lower temperatures. Bearing this out, of the nine inaugurations held since 1937, only one—that of John F. Kennedy—was marred by significant precipitation. On the other hand, one out of every three inaugurations held on March 4 was notable for

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Almost a score of NOAA personnel are on temporary duty at Cape Cod, Mass., site of the East Coast's largest oil spill, collecting data on how 7 1/2 million gallons of industrial oil from the wrecked tanker Argo Merchant is behaving and how it will affect land and waters of the area.

The first members of the NOAA Spilled Oil Research Team arrived at Hyannis, Mass., on the day of the spill—December 15—and since then have been joined by others, working through the Christmas and New Year holidays.

Team members at the scene include Dr. Peter Grose, Dr. James Mattson, Elaine Chan, and Jack Carlisle, all of CEDDA; David Kennedy, Sue Anderson, and NOAA Corps Lt. Rod Swope from OCSEAP in Alaska; Dr. Jerry Galt and Dr. Richard Feeloy from PMEL, Seattle; Craig Hooper, Sue Lease, and Rosalie Redmond, all from ERL, Boulder; Kathy Kidwell of EDS, Washington; Dr. Louis Butler, MESA, Boulder; and William McLeod, NMFS, Seattle.

Additionally, the Delaware II, an NMFS research vessel, is working the spill area, taking samples of fish life; while the National Weather Service is providing special forecasts for the area.

The Spilled Oil Research Team was created a number of months ago to collect oil spill information with the goal of improving predictive modelling techniques to a point of high utility and accuracy.

Major areas of interest to the team include determining more accurately the speed with which oil moves over surface water, and how quickly it breaks up and enters the water column.

Thus far at the Argo Merchant spill, the team has gathered evidence that indicates the spilled oil is not sinking in large concentrations and that the level of bottom contaminants from the spill may be small and spread over a large area.

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Fouke Fur Co. Receives Permit To Import Skins

A permit to import 13,000 Cape fur sealskins from the Republic of South Africa has been issued to the Fouke Fur Company, Greenville, S.C., by the National Marine Fisheries Service.

The importation will be permitted only if a number of specified conditions are met.

Importation of marine mammals or marine mammal parts is prohibited by the Marine Mammal Protection Act of 1972. However, the Act authorizes a waiver of the moratorium when it is determined on the basis of the best scientific evidence available that the taking of the marine mammals is in accord with sound principles of resource protection and conservation.

This is the first permit granted by NOAA to import South African skins under a 1975 waiver of the moratorium placed on the importation of all marine mammals and marine mammal products by the Marine Mammal Protection Act.

Inaugural Weather *(Continued from page 1)*

its wet and miserable weather.

"The worst weather on the face of the earth," said one eyewitness Congressman of the snowstorm that nearly buried the inauguration of William Howard Taft in 1909.

Heavy snow began the day before and continued through the night, driven by a stinging, whistling wind. Six thousand shovelers struggled vainly to clear the areas in front of the White House and Capitol, and the route between. As noon approached, the storm still howled on, unabated. Postponing his decision until the last moment, Taft finally decided to take his oath of office in the Senate Chamber rather than on the outdoor platform erected in front of the Capitol. Ironically the snow stopped just a few minutes later.

All in all, it was the worst Inauguration Day weather in the Nation's history. Quipped President Taft to a reporter friend: "I always knew it would be a cold day when I got to be President."

The coldest Inauguration Day

Cincinnati RFC Celebrates 30th Anniversary

The Cincinnati (Ohio) River Forecast Center celebrated its 30th Anniversary recently with an "Open House."

During the fall of 1946 a staff of hydrologists assembled in Cincinnati under the auspices of the Weather Bureau, Department of Commerce, to set up a River Forecast Center for the Ohio River and its tributaries. Later the center was also assigned forecast responsibility for rivers draining into Lake Erie from Indiana and Ohio.

The success of this center has depended in a large measure on an army of 900 river and rainfall observers, and some 250 high-water and flood warning distributors.

The RFC was visited during the "Open House" by representatives of EPA, Department of Natural Resources, Red Cross, City Engineers, Ohio River Division Corps of Engineers, U.S.G.S., University of Cincinnati, flood warning distributors and RFC alumni.

on record was the second inauguration of Ulysses S. Grant, on March 4, 1873. When cannon fire announced the dawn on March 4, 1873, the temperature was just four degrees above zero; by noon, it had risen only to 16 degrees. Throughout the day, icy winds gusting up to 40 miles an hour buffeted the city, knifing through the heaviest clothing and chilling to the bone all who ventured outdoors.

Unfortunately, you can lose even when the climatic odds are with you. The very first inauguration held on January 20—that of Franklin Delano Roosevelt in 1937—was almost washed out by one of the heaviest rains in the event's history.

Said harried Senator George William Norris of Nebraska, whose amendment had changed the inauguration date to January 20: "They're trying to blame this on me. You can't charge this up to me until after March 4, when you see what kind of day that is."

It was, of course, a beautiful day—sunny, with a high temperature of 67 degrees, unusually warm for that date.

Sea Bottom Survey Panel Meets To Exchange Data

The 5th Joint Meeting of the UJNR Sea-Bottom Surveys Panel was held recently at the National Ocean Survey's headquarters in Rockville, Md.

NOS Deputy Director, Dr. Gordon G. Lill, chaired the annual meeting.

Organized in 1964, the U.S.-Japan Cooperative Program in Natural Resources, Sea-Bottom

Surveys Panel, seeks to provide a better working relationship with U.S. surveying organizations and those in Japan. This objective is furthered through the exchange of information, personnel, maps and navigational charts, and by sponsoring symposiums on the development and utilization of the sea bottom.



Attending the recent UJNR Sea-Bottom Surveys Panel meeting were (from left) Mr. Tetsuyu Kodama, Mr. Takao Yamamoto, Mr. Tadahiko Katsura, Mr. Akira Hayakawa, Dr. Kuniro Sugiura, R. Adm. Allen L. Powell, Dr. Gordon G. Lill, Mr. Paul Grim, Mr. Carl Savit, Mr. John E. Hanna, Mr. David Nash, Mr. William Grady, Dr. Hyman Orlin.

Global Forecast

(Continued from page 1)

process: forecasts become unrealistic, less accurate than simple climatology, or the mathematics become too unwieldy and the model "blows up."

As difficulties were eliminated in the Three-Layer Prediction Model, longer forecasts became feasible and the experimenters successfully attempted 31 days.

Surface charts, analyses of conditions at the so-called steering altitude (about 18,000 feet), and atmospheric thicknesses which provide outlooks as to the intensities of systems roving the earth's surface, and probable anomalies in temperature, are a few of the products derived from the 31-day forecasts. In addition, six, 5-day accumulated-precipitation charts are produced.

The entire 31-day forecast package is completed in six hours. The system shows promise as a tool for long-range outlooks.

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NOAA NEWS

Published biweekly at Rockville, Md., by the Office of Public Affairs for the information of employees of the Commerce Department's National Oceanic and Atmospheric Administration.

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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.

Forecasters Honored for Saving Lives

Marine forecasters at the National Weather Service Forecast Office in Honolulu, Hawaii, who accurately predicted high seas that accompanied Typhoon Louise in Mid-November, are being credited with a substantial savings of life and property.

Twenty to 30-foot surf from the storm struck the north shores of Hawaii's islands. Approximately 36 hours before the event, state and county Civil Defense officials were alerted by forecasters, and a heavy surf watch issued about 24 hours in advance was upgraded to a warning 18 hours before the waves struck shore. Both arrival time of the surf and height of the breakers were accurately predicted.

Typhoon Louise had originated in the tropical western Pacific about a week earlier. After recurving out of the Philippine Sea into the colder North Pacific, Louise accelerated east-northeastward into a frontal zone about 500 miles southeast of Tokyo. As the storm deepened, it spread out over thousands of square miles of the North Central Pacific.

Damage was minimal and there was only one death attributed to the surf—a young Marine was swept off a rock and drowned at the Kaneohe Marine Air Station in Oahu.

Miami, Fla., Company Receives ERL Contract

Airtech Service, Inc., of Miami, Fla., has been awarded a \$280,000 contract for providing maintenance services and related facilities for weather research aircraft operated by NOAA.

The contract was let by the Environmental Research Laboratories in Boulder, Colo. NOAA's Miami-based Research Facilities Center, part of ERL, uses instrumented aircraft for studying weather modification techniques, probing subtropical cyclones and hurricanes, and a wide variety of other environmental research missions.

At present the NOAA facility operates two new Lockheed WP-3D Orions and one C-130 research aircraft. NOAA has previously let contracts to the Miami firm for similar services in 1974 and 1975.

MIT Awarded Sea Grant College Status

The Massachusetts Institute of Technology has been designated a Sea Grant College in recognition of the school's excellent marine program.

The addition of the prestigious Cambridge, Mass., institution brings to 12 the number of Sea Grant Colleges named since the National Sea Grant Program began in 1966. MIT also becomes the first private institution to join the ranks of Sea Grant Colleges.

In recognition of the excellence of a university's Sea Grant-supported marine program, the Secretary of Commerce may confer Sea Grant College status. The 11 other Sea Grant Colleges are the Universities of Rhode Island, Wisconsin, Hawaii, California, Washington, Delaware, and North Carolina; Oregon State University; Texas

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NOS Vessel Miller Freeman Gets a 400-Horsepower Push

The National Ocean Survey recently installed a 400-horsepower, retractable bow thruster in the NOAA Ship Miller Freeman, one of the largest stern trawlers in the United States.

A spokesman for the NOS Office of Fleet Operations said the bow thruster is an "auxiliary propulsion device that extends 5 feet below the bow of the Miller Freeman and rotates 360 de-

U.S./Mexico Agreement Provides Limited Fishing

The NMFS has announced an agreement between the United States and Mexico providing limited U.S. fishing activities within Mexico's 200-mile economic zone. The agreement was signed by Ambassador John Jova for the United States and by Foreign Minister Alfonso Garcia Robles for Mexico, and now is in effect.

The agreement authorizes limited access for U.S. fishermen to traditional fisheries within 12 miles of the west coast of Mexico. U.S. vessels are also authorized to harvest surplus portions of the total allowable catch, determined by Mexico, of snapper and grouper, shrimp, and associated incidental fishes within the 12- to 200-mile zone off Mexico's Gulf coast. Moreover, continuation of the U.S. fishery for highly migratory species in that zone is permitted.

The United States has ac-

cepted the concept of phase down-phase out regarding its shrimp fishery within the Mexican 12-200-mile zone.

U.S. vessels will fish only on the Contoy and Tampico grounds, with no more than 80 percent of the catch being taken off Tampico. Each vessel participating in the fishery will pay annually a permit fee of \$80 and a charge of \$2,006 for its yearly catch, calculated on the basis of five percent of the official price for shrimp (as established by Mexico) of \$4,640 per ton.

Vessels that intend to fish off Contoy will pay a yearly catch charge of \$1,538, since the fishery in this area has yielded, on the average, 35 percent rock shrimp. The official price for rock shrimp is \$1,540 per ton.

The agreement provides for 52 U.S. vessels to participate in the hook and line fisheries within the Mexican zone until the annual allocation of 450 metric tons is taken. Each vessel will pay an annual permit fee of \$80 and a charge of \$433 for its yearly catch (determined by dividing the number of authorized vessels into the total charge for the amount of agreed capture which is five percent of the fishery's official price of \$1,000 per ton times 450 metric tons).

Owners of vessels participating in either of the above fisheries will be required to make a cash deposit of performance guarantee or post a performance bond with a Mexican bonding company to guarantee compliance with the obligations. The amount of the cash deposit or bond will be \$1,600 for individual vessels, or \$160 for vessels applying in association with others, with joint liability for loss of the cash guarantee or bond.

Vessels authorized to fish in
(Continued on page 5)

New Nautical Charts Published by NOS

The National Ocean Survey has announced publication of new editions of 19 nautical charts for the West Coast, Hawaii and Alaska and 18 nautical charts for the Atlantic Coast and Great Lakes.

Charts may be obtained from the National Ocean Survey, Distribution Division, (C44), Riverdale, Md. 20840.



NOTES ABOUT PEOPLE

Samuel S. Ross has been selected as NOAA's EEO Counselor, Equal Employment Opportunity Office, in Rockville, Md.

Prior to joining the EEO Staff, Mr. Ross was a Physical Science Technician in the Physics Branch, Satellite Experimental Laboratory, National Environmental



Mr. Ross

Satellite Service, where he was involved in various research activities. In addition to his scientific duties, he served as a part-time EEO Counselor.

As an EEO Counselor, he will be responsible for providing counseling services on a full-time basis for NOAA employees and applicants for employment who believe they have been discriminated against because of their race, color, religion, sex, national origin, or age.

Counseling is the first stage in the discrimination complaint process. Its purpose is to resolve EEO-related problems informally in a short period of time, wherever possible. The counselor, through interviews and inquiries, attempts to resolve problems in 21 calendar days or less. All employees and applicants for employment have equal access to counseling services.

Dr. James D. McQuigg, Director of the Environmental Data Services' Center for Climatic and Environmental Assessment since its inception in 1974, has retired from Federal Service. As CCEA Director, McQuigg's efforts were directed toward solving problems concerning the impact of climatic fluctuations on global crop production.



Dr. McQuigg

McQuigg joined the U.S. Weather Bureau in 1946 and became State Climatologist for Missouri in 1953. He later served as Professor of Atmospheric Sci-

ences at the University of Missouri, where he gained a national and international reputation as a leader in the use of statistical methods to translate climatic data into realistic, useful parameters.

Captain Wesley V. Hull has been appointed Chief, Oceanographic Division, of the Office of Marine Surveys and Maps in Rockville, Md. Prior to becoming Commanding Officer of the NOAA Ship Mt. Mitchell in August 1975, he was Chief of the Coastal Mapping Division.

Donald R. Wiesnet, Sr., Research Hydrologist with the National Environmental Satellite Service has recently been appointed a member of the Commission on Snow and Ice of the American Geophysical Union. Mr. Wiesnet is also a contributing author to a new book published by John Wiley & Sons entitled "Facets of Hydrology" compiled by Dr. John Rodda of the British Department of the Environment.



Mr. Wiesnet

In October, Mr. Wiesnet served as chairman of the WMO Seminar on Snow Studies by Satellite at WMO headquarters in Geneva, Switzerland. He also attended the WMO Informal Planning Meeting on Satellite Applications in Hydrology at which both he and Dr. George Ludwig (NOAA/NESS) were official U.S. delegates.

Paul Woolard, Official in Charge of the Weather Service Office in Norfolk, Va., recently received a letter of gratitude from the head of Nebraska's Youth Work Experience Program, Larry Kraus.

Mr. Kraus cited the Norfolk WSO for its support which has enabled "...numerous young men and women... to be gainfully employed adults." Mr. Kraus also said the WSO's support to these youths has provided "...confidence, self respect, positive attitude and a promise of a bright future for those willing to accept the challenge."



Bragi Gudmundsson (center) director of the Iceland Geodetic Survey, recently visited the National Ocean Survey to learn about NOS first order surveying techniques and their application for the measurement of changes on the Mid-Atlantic Ridge across Iceland. Here, he is flanked by Capt. Leonard S. Baker (left), Director of the National Geodetic Survey and B. K. Meade, Chief of the NGS Control Networks Division.

NOAA representatives Cecilia Griffith, Physicist, National Hurricane Experimental Meteorological Labs, and Ethel Howard, Meteorological Technician, WSMO, National Hurricane Center, were on a taped interview show for TV Channel 6 WCIX, Miami, Fla., called "Black Involvement" on October 15. The panel consisted of members of Federally Employed Women. Ms. Griffith discussed "Career Counseling" and "Women in Scientific and Technical Fields." "Upward Mobility for Women and Minorities" was the topic covered by Ms. Howard.

W. Gale Haggard is the new Executive Officer to the Director, Systems Development Office, National Weather Service Headquarters in Silver Spring, Maryland. He succeeds Mr. Vin-

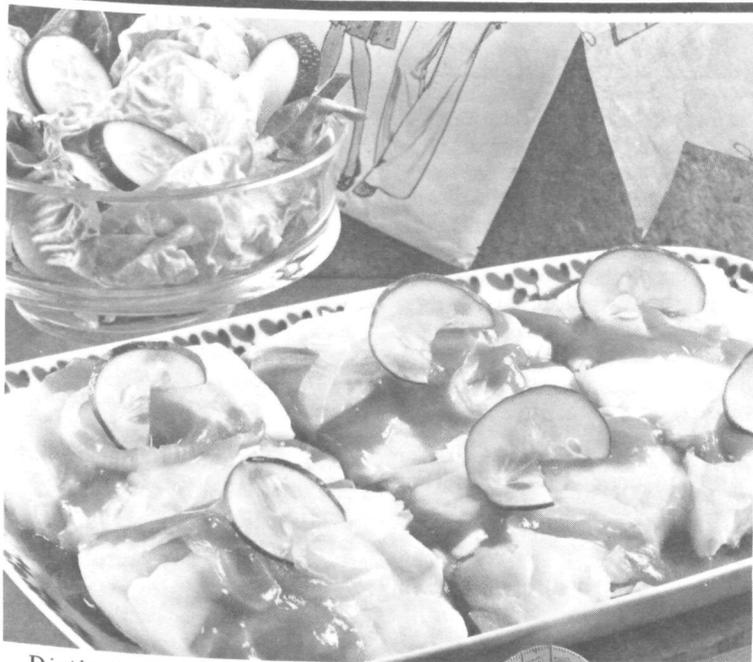
cent S. Murino, who is now Chief, Executive Affairs Staff, NWS.

Mr. Haggard formerly served as Acting Chief, Systems Experimentation Branch, Integrated Systems Laboratory. Prior to this assignment he served as Deputy Chief, Aviation Weather Branch, Forecast Division, National Meteorological Center, Camp Springs, Maryland.

Dr. Harris B. Stewart, Jr., Director of the ERL Atlantic Oceanographic and Meteorological Laboratories has been appointed the U.S. National Associate to the Intergovernmental Oceanographic Commission's Caribbean Regional Association. This is the successor body to CICAR which terminated last July.



NOS Director, R. Adm. Allen L. Powell presented a NOAA Unit Citation to the NGS's Network Maintenance Branch. Representing the Branch were (from left) Bonnie Voight, Vince Stapleton, and Branch Chief, Charles Novac.



DiETING? The trouble with most diets is that the dieter usually loses interest faster than the weight is lost. In spite of a firm resolution at the beginning, old habits are hard to change, and, if one is left with an empty, unsatisfied feeling, the diet is usually short-lived.

COD IN TOMATO-ONION SAUCE

- | | |
|---|-----------------------------------|
| 2 pounds cod or other fish fillets, fresh or frozen | 1/2 teaspoon sugar |
| 1 can (8 ounce) tomato sauce | 1 chicken bouillon cube, crumbled |
| 1 cup sliced onion | 1/2 teaspoon salt |
| 2 tablespoons lemon juice | Fresh cucumber, sliced (optional) |
| 1/2 teaspoon oregano | |

Thaw fish, if frozen. Combine tomato sauce, onion, lemon juice, oregano, sugar, and bouillon cube in saucepan. Bring to simmering stage. Cover and cook over low heat 15 minutes or until onion is tender. Spoon 1/3 of the sauce over bottom of shallow 2-quart baking dish. Cut fish

A new low-calorie recipe, from the National Fisheries Education Center, was developed especially to help dieters. Cod In Tomato-Onion Sauce is so tasty and versatile that it is sure to please the rest of the family whether they are dieting or not.

into 6 equal portions. Arrange fish on sauce in baking dish. Sprinkle with salt. Spoon remaining sauce over fillets. Bake 350° for 25 to 30 minutes or until fish flakes easily when tested with a fork. Garnish with thin cucumber slices, if desired. Makes 6 servings.

United States / Mexico Agreement

(Continued from page 3)

the shrimp or hook and line fisheries may take associated incidental fishes that do not exceed, on the average, five percent of the total catch.

To determine the actual harvest, the master of each U.S. vessel with a permit to fish in the shrimp or hook and line fisheries will maintain a current vessel fishing log while in the Mexican economic zone, and at the end of each trip, deliver a notarized fishing trip report to the nearest Mexican Consular office, sending a second copy of the report

to the NMFS, St. Petersburg, Fla.

Enforcement of the agreement is the responsibility of Mexico which, under the agreement's provisions, may:

- stop, board, and inspect any U.S. fishing vessel fishing in the Mexican economic zone when there is reason to believe such vessel is not fishing in accordance with the terms and conditions of the agreement;
- seize and arrest U.S. fishing vessels that violate the agreement; and

Sea Grant Funds Antitumor Agent Investigations

The American Cancer Research Center and Hospital in Lakewood, Colo., and the Ohio State University Foundation in Columbus, Ohio, have received separate but related grants from NOAA's Office of Sea Grant to conduct chemical investigations of a marine antitumor substance.

NOAA's grant to the Colorado hospital is for \$25,000 and will be matched by \$67,000 in non-federal funds. Ohio State will receive a grant of \$16,200 with the University pledging more than \$8,000 in matching funds.

Sea Grant-supported researchers at both institutions will be studying the ordinary hard shell clam in hopes of purifying and identifying a substance from the clam's liver that is active against tumors found in mammals.

Dr. A. C. Schmeer, director of the American Cancer Research Center's program on anticancer agents of marine origin, will extract the as yet unidentified biologically active substance from the clam's livers. The crude extract will then be shipped to Dr. Derek Horton at Ohio State's chemistry department, where it will be purified and identified.

According to Dr. Horton, once the antitumor chemical is identified, an attempt will be made to synthesize it in the laboratory. Purified preparations of the natural clam extract will be applied to the Drug Research and Development division of the National Cancer Institute for further testing and study.

OBITUARIES

AUSTIN

Gerald L. Austin, Forecaster Aide at the Weather Service Forecast Office in Bismarck, N. Dak., died recently. Mr. Austin had been with the Weather Service at Bismarck since he transferred from the Bureau of Census in 1974. He retired from the military in 1965 with more than 22 years of service. He is survived by his wife Geraldine, and two children, Carol and Wayne of 602 11th Street, N.W., Mandam, N. Dak., 58554.

CORNELL

Mrs. Gladys M. Cornell, former Communicator at the National Severe Storms Forecast Center (1960 to 1968) and wife of NSSFC's Supervisory Computer Operator, Sid Cornell, died on October 31, 1976. She is survived by her husband who resides at 11915 Smalley, Grandview, Mi., 64030 and their two daughters, Lori and Mari.

FREY

Carl Frey, former Budget and Administrative Officer with the National Environmental Satellite Service, died on November 22. He retired from NOAA in 1973. He is survived by his wife Genevive of Palm Coast, Fla., and four children.

LEATHERWOOD

Keith R. Leatherwood, former Denver, Colo., Principal Assistant and retired since 1971, is presumed dead after being lost in an Idaho boating mishap in August. He began his Weather Bureau career in 1939 at Boise and transferred to Denver in 1949. He is survived by a son, Robert and daughter, Kay who reside in the Denver area.

McCALL

Lt. Cdr. Harold E. McCall, who retired from the NOAA Corps in 1974, died December 16.

McCall joined the Coast Survey in 1958, and served aboard the Pathfinder, the Lester Jones and the Hodgson, and on geodetic and hydrographic field parties. Before his retirement in 1974, he was Director of the National Tsunami Warning Center in Honolulu, Hawaii.

He is survived by his wife, Carole, of 3110 Magnolia Boulevard, Temple, Texas 76501, and two children, Susan and Gary.

Cost of Living Increase for Retirees Now Effective

Public Law 94-440 approved October 1, 1976, amended the U.S. Civil Service Retirement Law to provide a new method of computing cost-of-living increases (COL).

Prior to the enactment of Public Law 94-440, annuities were automatically increased whenever the Consumer Price Index (CPI) went up at least three percent over the Index for the month used as a base for the most recent COL increase, and stayed at three percent or more for at least three consecutive months. The highest percent increase during the three-month period, plus an additional one percent, was the total amount by which annuities were increased effective the first day of the third month following the three-month period. Public Law 94-440 eliminates the three-percent-for-three-months formula. It also eliminates the additional one percent add-on.

The new law provides for semi-annual COL adjustments to be effective March 1 and September 1 (payable in April and October annuity checks). The March 1 increase will be determined by the percentage change in the CPI published for December of the preceding year over the CPI published for June of

the preceding year. If the percentage change represents any rise in the CPI, then effective March 1, all annuities commencing not later than March 1 will be increased by the percentage change in the CPI through December of the previous year.

The September 1 increase will be determined by the percentage change in the CPI published for June over the CPI published for December of the preceding year. If the percentage change represents any rise in the CPI, then effective September 1 all annuities commencing not later than September 1 will be increased by the percentage change in the CPI through June of that year.

For annuity income purposes, each percentage change in the CPI will be adjusted to the nearest one-tenth of one percent. If at any time there is no change or if the percentage represents a drop in the CPI, there will be no change in the amounts of annuities.

The new method of computing COL increases is effective immediately. Therefore, current retirees and survivor annuitants as well as persons who retire before March 1, 1977, will not receive a COL increase before March 1, 1977. Under a special

NOAA Employees

LABOR UNIONS OKAY!

Each employee of the executive branch of the Federal Government has the right, freely and without fear of penalty or reprisal, to form, join, and assist a labor organization or, to refrain from any such activity, and each

employee shall be protected in the exercise of this right. Except as otherwise expressly provided in Executive Order 11491, as amended, the right to assist a labor organization extends to participation in the management of the organization and acting for the organization in the capacity of an organization representative, including presentation of its views to officials of the executive branch, the Congress, or other appropriate authority. There shall be no interference, restraint, coercion, or discrimination practiced within NOAA to encourage or discourage membership in a labor organization.

transition provision of Public Law 94-440, the first COL calculation under the new method will be based on the full CPI change from December 1975, through December 1976. Regular semi-annual adjustments will commence on September 1, 1977.

The new law has not changed the method of computing annuities. A comparison will be made between the annuity which would be received at the actual date of retirement and the annuity which would have been received had the employee retired the day prior to the previous COL. See NOAA Week, Vol 7, No. 8, dated February 20, 1976, for a comparison annuity computation. The retiree will always receive the higher figure.

An announcement about the March 1, 1977, cost-of-living increase will appear in this column as soon as the December 1976, CPI is announced (usually about the last week in January).

Executive Order 11491, as amended, does not authorize participation in the management of a labor organization or acting as a representative of such an organization by a supervisor or by an employee when the participation or activity would result in a conflict or apparent conflict of interest or otherwise be incompatible with law or with the official duties of the employee.

Any employee including supervisors who has a question concerning this article should contact the servicing personnel office or the NOAA Labor Management Relations Branch.

NOAA Personnel Division Lists Current Vacancy Announcements

Announcement Number	Position Title	Grade	MLC	Location	Issue Date	Closing Date
170-77	Supervisory Meteorologist	GS-12	NWS	Yakima, Wash.	12/21/76	1/5/77
169-77	Meteorological Tech.	GS-9	NWS	Charleston, W. Va.	12/21/76	1/5/77
178-77	Supervisory Meteorologist		NWS	Springfield, Ill.	12/23/76	1/7/77
177-77	Construction Representative	GS-11	NWS	Chicago, Ill.	12/23/76	1/7/77
174-77	Electronics Engineer	GS-11	NWS	Silver Spring, Md.	12/21/76	1/5/77
172-77	Supervisory Electronics Engineer	GS-14	NWS	Silver Spring, Md.	12/21/76	1/12/77
173-77	Electronics Tech.	GS-11	NWS	Silver Spring, Md.	12/21/76	1/5/77
176-77	Oceanographer	GS-15	NOS	Rockville, Md.	12/23/76	1/14/77
175-77	Supervisory Oceanographer	GS-13	NOS	Rockville, Md.	12/21/76	1/12/77
117-77	Biologist or Ecologist or Oceanographer	GS-14	ERL	Boulder, Colo.	1/11/77	1/31/77
179-77	Meteorological Tech.	GS-10	NWS	International Falls, Minn.	12/23/76	1/7/77
180-77	Electronics Tech.	GS-10	NWS	Denver, Colo.	12/23/76	1/7/77
182-77	Fisheries Management Operations Officer	GS-13	NMFS	Seattle, Wash.	12/29/76	1/12/77
188-77	Program Analyst	GS-13	NMFS	Wash., D.C.	12/29/76	1/12/77
181-77	Research Chemist	GS-11	NMFS	Seattle, Wash.	12/29/76	1/12/77
187-77	Meteorologist	GS-12	NWS	Silver Spring, Md.	12/29/76	1/12/77
186-77	Computer Specialist	GS-12	NWS	Silver Spring, Md.	12/29/76	1/12/77
189-77	Intergovernmental Coord.	GS-14	HDQS	Washington, D.C.	12/29/76	1/19/77

Administrator Explains NOAA Oil Spill Efforts

An active, all-NOAA effort to determine both the short- and long-term effects of the Argo Merchant oil spill has been outlined by Dr. Robert M. White.

Excerpts from a directive to principal operating elements follow:

"I am most impressed and appreciative of the efforts that our agency has been making to assist in the Federal response to the recent tragic groundings of the Argo Merchant off the coast of Massachusetts. I am also pleased by the fine cooperation between elements of NOAA and the EPA, Coast Guard, BLM, and nongovernment groups. Now that the initial phase of our response is nearing conclusion, it is essential that we initiate positive steps to fulfill our many statutory responsibilities to assess the impact of this event upon the ocean environment and the valuable resources that inhabit it. Accordingly, I am directing the Environmental Research Laboratories through the Marine Ecosystems Analysis (MESA) Program, to lead and coordinate NOAA's effort to assess both the short-term and long-term impacts of this event. Such investigations as are necessary for this assessment are to be carried out in collaboration with other NOAA programs, both in-house and extra-mural, and I expect full cooperation from all elements of NOAA to address this critical problem. Efforts of other agencies also should and must be incorporated.

"I am requesting the initiation of a program of research with respect to the long-range effects of the pollution from the oil of the Argo Merchant upon the ocean ecosystem, particularly upon the fish stocks of the Georges Bank area. As a preliminary phase of this program, I wish to have a short-term assessment of immediate impacts and a summary report of the initial phase of this event by January 20, 1977.

"Our assessment of the impact of the Argo Merchant grounding is important to other responsibilities of our agency. The information gathered from this spill will provide a data base useful in coastal zone management and planning pursuant to our responsibilities under the Coastal Zone Management Act.

With the development of OCS oil and gas our studies can provide data to States and also enable us as a Federal agency to provide technical assistance to the States when required. Under the Deep Water Ports Act, NOAA also is charged with assessing potential damage to the coastal environment resulting from the operation of deep water ports. Tanker traffic to, as well as in and around deep water ports, can be a major contributor to the potential environment risks associated with these ports. Consequently, we must learn as much as possible from this Argo Merchant incident to assist us in future environmental risk studies in connection with our responsibilities under this Act.

"Other Federal agencies are deeply involved in this work. EPA and the Coast Guard have specific responsibilities with respect to oil spills and the National Contingency Plan for response to such events. We should make every effort to assist them in discharging their responsibilities under the National Contingency Plan. The Department of the Interior is concerned with the implications for OCS developments. We should also seek from it all data and information necessary to meet our obligations. We must be in a position to carry out our assessments to meet our statutory obligations in close cooperation with all Federal and non-Federal groups involved.

"I am sure that I can count upon all elements of NOAA to support this most critical work."

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 frozen smelt and turbot fillets along the Northeast Seaboard; grey sea trout in the Middle Atlantic States, including the D.C. area; grouper and speckled trout in the Southeast and along the Gulf Coast; dressed whiting and smelt in the Midwest; silver salmon and Dungeness crab in the Northwest; and butterfish fillets and Dungeness crab in the Southwest.

Oil Spill

(Continued from page 1)

Over the New Year weekend a seven-foot NOAA data buoy was deployed in the center of the largest "pancake"—a 300-foot by 700-foot glob of oil six inches thick. It will be tracked by Nimbus satellite twice daily, giving accurate measurements of the oil movement. Earlier, surface currents and the absolute velocity of the oil had been measured by "tagging" oil patches with drift cards. One 90-foot patch was found to have traveled only 47 miles to the southeast in seven days.

About 6000 drift cards also were released between the oil spill and Nantucket Island to serve as an early warning to cleanup crews if the oil started moving inshore.

The Argo Merchant spill represents the biggest cold-water oil spill the team has had the opportunity to study first hand. Information from this spill is expected to be of major importance in predicting the potential danger to the Gulf of Alaska from stepped-up oil transport there.

MIT Sea Grant College

(Continued from page 3)

A&M University; the State University System of Florida; and the combined State University of New York/Cornell University.

Among MIT's most recent accomplishments was the design last year of a novel hook-up block for use in trawling operations on New England fishing boats, which allows nets to be hauled back more quickly and efficiently. The device is significantly safer than the traditional hook-up block, which has caused serious injury, and even death, among fishermen in the Northeast.

In 1973, MIT's Sea Grant program produced a major study of the environmental and economic impacts of potential oil and gas development on Georges Banks, an area on the continental shelf off New England. The study is now being used by regulatory agencies and the oil industry as a reference for base-line information.

Related work by MIT scientists on oil spill tracing, containment, and removal has made an important contribution towards

Fish Take

(Continued from page 1)

are up about 40 percent over 1975, after two successive poor years. Landings of Maine sea herring, American lobster, and sea scallops are expected to be up, as are those for cod and flounders.

Landings of fish used for processing into meal and oil also appear to be above the 1975 levels. Increased production of Atlantic and Gulf of Mexico menhaden will offset a decline in California anchovy. Heavier-than-expected production of menhaden and anchovies in December could make 1976 the best year for such industrial fish since the record year of 1962.

The chief declines will be in clams and blue crabs. Resource problems with the surf clam now restrict Atlantic Clam landings, which are expected to be down by a third from last year. Total Atlantic and Gulf of Mexico blue crab production will be off by about 25 percent, but fairly large resource fluctuations are normal in this fishery.

reducing the hazards of petroleum operations.

Last July, MIT received a grant of more than \$1 million from the Office of Sea Grant. The money, matched by some \$780,000 from non-federal sources, is being used for a variety of marine projects including an effort to improve the techniques used in welding and cutting material underwater.

Working with engineers and technicians in Western European countries, the MIT researchers are studying such aspects as heat flow and metal transfer as well as the effects of water on the structure of welds. According to the scientists, the techniques are extremely important in view of the increasing number of offshore structures that need periodic repair.

Through its growing Sea Grant program, MIT is bringing together expertise in engineering, applied science, and management and policy planning to deal with a number of critical issues of ocean resource development.

Optical Society Honors ERL Man For Laser Work

Robert S. Lawrence, a physicist with ERL has been elected a Fellow of the Optical Society of America, a technical society devoted to increasing and diffusing the knowledge of optics in all its branches. Only individuals who have served with distinction in the advancement of optics are eligible for election to the class of Fellow.



Mr. Lawrence

Lawrence, chief of the Wave Propagation Laboratory's optical propagation group in Boulder, Colo., joined the Commerce Department in 1948. His present activities are primarily concerned with the use of optical effects in the atmosphere to develop new atmospheric remote sensing equipment. Specifically, his group is studying the effects of the turbulent atmosphere upon laser beams.

Weather Service Provides Data On Degree Days

Again this winter, the National Weather Service is providing State energy offices with weekly degree day summaries and forecasts from which weather effects upon heating fuel needs can be projected. Additionally, efforts are being made to promote wider use of the information by the nation's news media for dissemination to the general public.

The heating degree day is pegged to a temperature of 65 degrees F. (18.3 degrees C.), agreed upon as the dividing line between where some amount of furnace heat ordinarily is required to provide a comfortable indoor temperature, and where it is not. When the average temperature for a given day is one degree below 65, that counts as one degree day.

The concept assumes that the same amount of heating fuel is needed for any combination of cold and duration that add to the same number of heating degree days. For instance, 10 days at 64 degrees, five days at 63, and two days at 60 all equal 10 heating degree days.

The Environmental Data Service and the Long Range Prediction Group of the National Meteorological Center both are involved in providing the degree day data.

University of Maryland Receives \$441,200 Grant

The University of Maryland has received a NOAA Sea Grant of \$441,200 to be used in part to study the threatened Maryland oyster industry and to assess the water quality of the 2000-square-mile Chesapeake Bay area. The grant will be augmented by almost \$300,000 in matching funds from the University.

Although the University of Maryland has received support from the Office of Sea Grant in the past for its Marine Advisory Service program and for individual marine research projects, this marks the first time the College Park institution has received funds for a coherent program of marine research and advisory services.

Under the current grant, a number of projects devoted to Maryland's oyster resource will be undertaken. During the late 1960's, the state accounted for more than one quarter of the nation's oyster production, nurturing a fishery that had a dockside value of almost \$10 million annually. Recently, however, the Chesapeake Bay oyster population has not been reproducing at its previous rates, and as a result, has not been able to keep pace with harvesting and natural mortality.

Scientists will collect and analyze historical information on harvesting, fishing effort, and

natural repopulation in an attempt to predict harvests in future years. Other Sea Grant-supported researchers will try to determine why some areas of the Chesapeake are highly oyster productive and others poor. The scientists also will evaluate a method called "sprinkle planting"—the depositing of male oysters on natural oyster beds comprised primarily of larger, female oysters to stimulate spawning. According to the Maryland Sea Grant scientists, the method could aid in rehabilitating oyster bars in the Chesapeake that are now dominated by female oysters.

Work on bacterial contamination of shellfish in the Bay, begun last year, will continue under the current grant.

Foreign Fishing Vessel Sightings Decline Again

For the fifth consecutive month, foreign fishing and fisheries support vessels sighted off the coasts of the United States declined—258 in November from the year's high of 970 sighted in June. The decline is attributed to the seasonal changes in the location and abundance of various stocks of fish taken by the foreign fleets.

The counts were made by representatives of the National Marine Fisheries Service and by personnel of the U.S. Coast Guard, conducting joint fisheries enforcement patrols from Coast Guard aircraft and cutters.

The largest number of foreign fisheries vessels, 98, were from Japan, which had 89 ships off Alaska, four off New England, and five off the Mid-Atlantic. Second was the Soviet Union with 89, of which 80 were off Alaska, one off the west coast, and eight off New England. Third was the Republic of Korea, with 16, of which three were fishing off Alaska, nine off the west coast, three off the Mid-Atlantic, and one off New England.

In addition, Coast Guard and NMFS personnel sighted vessels from Poland, the German Democratic Republic (East Germany), Italy, Spain, the Republic of China (Taiwan), Bulgaria, and Panama.



Graduates of the Weather Radar Course held at the NWS Technical Training Center in Kansas City, Mo., October 27 -November 18, are (seated from left) Doyle S. Casey, Waco, Tex.; Douglas R. Tranchina, Baton Rouge, La.; Roger M. Galloway, Limon, Colo.; Clifford Haney, Hartford, Conn.; Don K. Halligan, Rapid City, S. Dak.; Leloyd M. P. Acosta, Salt Lake City, Utah; (standing from left) Joel Wertman, Instructor; Robert Grebe, Instructor; William W. Ierien, Aberdeen, S. Dak.; Jimmie J. Rogers, Augusta, Ga.; Joseph R. Martin, Harrisburg, Pa.; John C. Purvis, Columbia, S.C.; Paul E. Woolard, Norfolk, Nebr.; and Robert V. Alto, Akron, Ohio.

National Oceanic and Atmospheric Administration

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