

NOAA WEEK

U.S. DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration

Dr. White Describes Fish Contaminant Study

Speaking before the National Cannery Association in Chicago, January 25, Dr. Robert M. White, NOAA Acting Administrator, said the National Marine Fisheries Service has now stepped-up research on marine contaminants in fish and fishery products. In doing so, it is working closely with the Food and Drug Administration and industry. The NMFS, he said, is seeking to define more clearly the nature and extent of heavy metal contaminants in fish found in coastal and offshore waters. A systematic survey is being undertaken of major commercial and sports species supplied from commercial boats and NOAA research vessels. Delimitation of heavy metal contamination in fishery stocks will be based on differences due to species, age and geographic location of catch. The NMFS has initiated a research effort to determine the effects of heavy metals on the physiology and mortality of fish and shellfish.

Dr. White revealed that tests by NMFS scientists already have shown that nearly all of 200 samples of commercially important fish products have tested well below FDA guidelines of .5 parts per million of mercury. Species tested from which all samples were below the FDA guideline were salmon from the North Pacific, cod and sole from the North Atlantic and Pacific, hake from the North Pacific, clams from Chesapeake Bay, haddock from the North Atlantic, halibut from the North Pacific, shrimp from the Central Atlantic, and fishmeal made from menhaden and herring from the Central Atlantic and Gulf. The fish tested in-

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J. Padan Is Appointed To MMTC Directorship



John W. Padan

John W. Padan has been appointed Director of the Marine Minerals Technology Center in Tiburon, Calif. Dr. Robert M. White, NOAA Acting Administrator, made the announcement during his visit to the Center, January 13. Mr. Padan had been the Center's Acting Director since April of 1970. Holding bachelor's and master's degrees in mining engineering, he served as a petroleum geologist with the Pure Oil Company, and as a mining geologist with the Bear Creek Mining Company prior to joining the U.S. Bureau of Mines in 1960. For three years, he worked as a mining engineer in the Bureau's San Francisco office, including a five-month tour in Washington as a member of the Interior Department's Manager Development Program. During 1963-64, he served as a scientific staff assistant to the Interagency Committee on Oceanography. Except for one year with the Ocean Resources, Inc., Mr. Padan has been associated with the Marine Minerals Technology Center's program since 1964, both at the Center and as a programming officer on the staff of the Director of Mining Research under whose direction the Center operated until its transfer to NOAA.

Great Lakes Warning System Improved by Weather Service

The National Weather Service is changing its marine forecast and warning service for the Great Lakes this year, to provide for the issuance of short-fuse warnings and especially to improve warnings of thunderstorms and squalls that endanger small craft.

A Special Marine Warning Bulletin, to be inaugurated this year, will be disseminated by teletypewriter and radio whenever a severe local storm or strong wind is expected that will be of brief duration (two hours or less) and which is not covered by existing Gale or Storm Warnings. No visual displays will accompany the Special Marine Warning Bulletin, because the hazard involved would be sudden in development. Typically, the warning might be based on a radar report or a visual observation from a ship or coastal station, and require action within minutes if lives and property are to be saved. Boaters should expect to receive this type of bulletin by radio from NOAA VHF-FM stations or from Coast Guard or commercial broadcast stations.

A new Small Craft Advisory will replace the Small Craft Warning in the Great Lakes region. It will relate to conditions within five miles of shore, and will be disseminated by visual displays and by teletypewriter and radio. The Advisory alerts mariners to sustained (more than two hours) weather or sea conditions that might be hazardous to small boats. The threshold wind for the Small Craft Advisory is usually 18 knots, unless otherwise pegged by a Weather Service office.

From April 1 to November 15, weather offices along the Great Lakes will routinely issue daily forecast summaries for their assigned areas. These forecasts will give: 1. a brief statement of weather and wave conditions; 2. applicable Gale and Storm Warnings and Small Craft Advisories; 3. expected winds for coastal waters out to five miles; 4. expected thunderstorms of line squalls; and 5. forecast for the remainder of the Great Lakes.

\$100,000 Sale of Salmon Caviar Reported

A California exporter reports sales of salmon caviar valued at \$100,000 resulting from participation in the recent Paris International Food Trade Show, in cooperation with National Marine Fisheries Service personnel.

Glude Serves As Consultant On Shellfish and Aquaculture



John B. Glude, National Marine Fisheries Service Associate Regional Director for Management and Utilization, is serving as a consultant on shellfish and aquaculture with the South Pacific Islands Fishery Development Agency of the Food and Agriculture Organization of the United Nations.

Mr. Glude expects to return to his duties with NMFS in Seattle about July 6. Meanwhile, he will work out of Noumea, New Caledonia, headquarters of the South Pacific Islands Fishery Development Agency, traveling extensively in the islands of the Trust Territory, French Polynesia, the Fiji Islands and other locations in the South Pacific.

Fish Contaminants (continued)

cluded 30 tuna from African waters, in which only three of the 30 exceeded FDA guidelines. All except ten percent met FDA guidelines and in no case did mercury content exceed .7 ppm.

Speaking of NOAA's voluntary, industry-financed inspection program, Dr. White called for continued industry cooperation, and also congratulated industry upon the way in which it has reacted to a situation which could have serious economic effects.

Turning to a second environmental problem, Dr. White warned that a lack of management mechanisms and a multitude of conflicting uses of estuarine waters has endangered a vital natural resource. "Problems and conflicts associated with increasing use of the marine environment are growing," he said. "Man is changing and planning to change our coastal zone areas, which support at least 80 percent of U.S. commercial fish resources and most of its recreational fishery resources. Most of the degradation is going on in a seemingly unplanned way with the actions of one segment of our society having definite, but often little-known effects on other segments."

SIRS on NIMBUS IV Detects Stratospheric Warming

Radiances measured by the Satellite Infrared Spectrometer (SIRS) on board Nimbus IV have recently revealed dramatic stratospheric temperature changes in the Northern Hemisphere. High-level radiosonde and rocketsonde observations are being used to corroborate the intensity and extent of the phenomenon. A world-wide alert for this stratospheric warming has been issued by the National Weather Service so that more frequent conventional observations will be made in order to gain as much information as possible during this period.

A cooperative effort between the National Environmental Satellite Service's Radiation Branch and the National Meteorological Center's Upper Air Branch has made possible this use of satellite data in determining the state of the atmosphere on an operational basis to as high as 100,000 feet. Other instrumentation on Nimbus IV (the United Kingdom's Selective Chopper Radiometer) shows promise of yielding usable upper stratospheric temperature information. Studies are now being carried out by the Upper Air and Radiation Branches to determine the overall usefulness of data gathered from both instruments.

Intense wintertime stratospheric warmings such as that now occurring have been observed relatively infrequently. During these events, temperatures in upper portions of the usually cold winter stratosphere can reach levels comparable to those occurring during hot summer months at the surface of the earth. For example, rockets have measured temperatures as high as 109 degrees Fahrenheit in the upper stratosphere over Scotland. Studies are underway in an effort to determine whether there is any connection between stratospheric warmings and weather changes near the earth's surface.

NOS Surveys Florida Lake and River

Lake Okeechobee and the 73-mile Caloosahatchee River, connecting the lake to the Gulf of Mexico at Ft. Myers, on Florida's west coast, will be investigated for underwater obstructions to navigation. The two-month survey will be carried out by a six-man National Ocean Survey field party and is scheduled to get underway this month. The party, led by Lt. Brent H. Traugher, is based at Fort Myers Beach.

H.E. Crowther Retires



H. E. Crowther

H. E. Crowther, former Director of the Bureau of Commercial Fisheries, will retire from the National Marine Fisheries Service February 6, after 22 years of federal service. Born in Laurel, Md., Mr. Crowther received his bachelor of arts degree in 1933 and his master of science degree in 1935 from the University of Maryland. In 1936, he was employed by a private company to conduct research in fishery products, beginning a career encompassing more than 30 years in fishery research and administration. From 1943 to 1946, he served with the Marine Corps in the South Pacific, returning to work in the fishing industry in Massachusetts, first as a research scientist and later as an executive. Mr. Crowther came to the Fish and Wildlife Service in 1949 as a fishery engineer in gear research and exploratory fishing, returning to private industry for three years (1953-56). In 1956, he again joined the federal service as coordinator of the Saltonstall-Kennedy aid-to-fishery program, and in 1961 was named Assistant Director of the Bureau of Commercial Fisheries. He became Acting Director in 1966 and Director six months later.

Boston Boat Show Set for February

The New England Boat Show to be held at Suffolk Downs, Boston, Mass., February 20-28, was inadvertently omitted from the list of boat shows in which NOAA is scheduled to participate. Our apologies to the staff of the National Weather Service Forecast Office at Boston. (See NOAA WEEK, Vol. 2, No. 2, January 15.)

Earthquake Expert Warns Cities Of Outmoded Building Codes

Karl V. Steinbrugge, an expert on the effects of earthquakes on structures, and also a seismology collaborator to the National Ocean Survey, warns that some high-rise buildings in metropolitan San Francisco, Los Angeles, and other western cities may collapse in "a great earthquake."

The likelihood of building collapse is increasing, the San Francisco structural engineer stated, because certain code requirements for design of earthquake-resistant high-rise structures have not kept pace with changing construction practices. As a result, it is possible to design an extremely hazardous structure that meets legal requirements. To prevent a major disaster, Mr. Steinbrugge urged local governments to correct inadequacies in their building codes and to eliminate hazards that now exist even in structures conforming to present regulations.

The views, findings, and conclusions--presented in a report published by NOAA--were based primarily on studies made of the October 1969 earthquake in Santa Rosa, Calif., a city of 50,000 in the San Francisco Bay area, but touched also on similar studies in Caracas, Venezuela, in 1967 and in Anchorage, Alaska, in 1964. The Santa Rosa shocks took no lives, but damaged beyond repair more than 50 buildings and caused an estimated 7¼ million dollars in property damage. The report's conclusions were based in part on the earthquakes' effect on the 1966-constructed Sonoma County Social Service Building in Santa Rosa, a two-story reinforced concrete structure designed as an earthquake-resistive building. It was found that damage to the building was greater "than expected in what is considered to be, at worst, a moderate earthquake."

Taking this into consideration, as well as the fact that the San Francisco Bay area contains soft alluvial material, generally considered unstable, Mr. Steinbrugge stated: "The experience of the Social Service Building is not at all reassuring when extrapolated to reinforced concrete high-rise frame construction. There is an increasing number of high-rise reinforced concrete frame struc-

Seattle Units To Merge Administrative Services

The NMFS Regional Administrative Services Office and the NOS Pacific Marine Center Administrative Services Office at Seattle are to be consolidated into a NOAA Administrative Services Office serving both components. This consolidation has been authorized as a pilot project to determine the feasibility of regionalized administrative services offices for NOAA. It is expected that two or three months will be needed to effect the consolidation and the result will be evaluated after nine months to a year of operation. If the project is successful, other locations will be studied to determine whether regionalization of administrative services is feasible. John M. Patton, Jr., Special Assistant to the Assistant Administrator for ADTECH, and former Assistant Director for Administration of NMFS, has been named as leader of the project with responsibility for implementation of the plan.

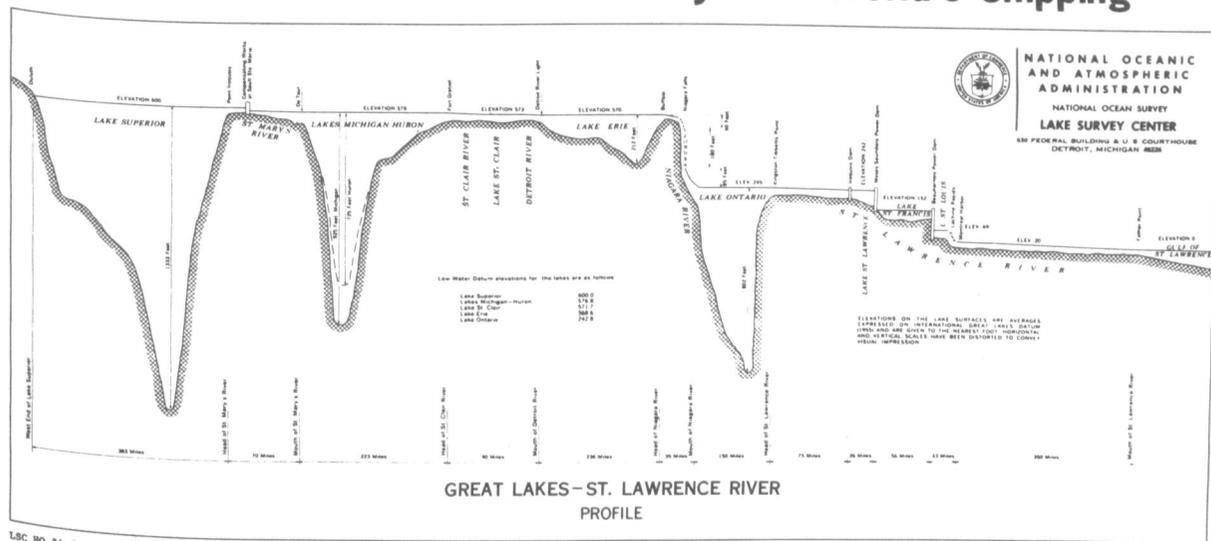
tures being built throughout Metropolitan San Francisco, Los Angeles, and other western cities.... Based on the 1969 Santa Rosa experience, the 1967 Caracas experience, and the 1964 Alaskan experience, collapse of one or more of these modern high-rise reinforced concrete frame structures in a great earthquake would not be a surprise."

An earthquake even of the comparatively low magnitude of the Santa Rosa tremors, if centered below a high concentration of property in San Francisco or Los Angeles, could cause building damage of \$25 million or more, the report suggested. It made no estimate of the damage that might result from a "great" earthquake.

The report concluded that a critical re-examination of the judgment factors underlying present-day seismic codes is necessary, particularly with respect to high-rise construction, regarding their adequacy for modern building types.

The 99-page report was prepared by NOAA's National Earthquake Information Center. Entitled "The Santa Rosa, California, Earthquakes of October 1, 1969," it may be purchased for \$2 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

Six-Hundred-Foot Great Lakes Stairway Aids World's Shipping



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The opening of the St. Lawrence Seaway in 1959 added an important new route to the world's shipping patterns. Deep-draft foreign and domestic cargo ships from anywhere in the world can now sail almost halfway across the American continent directly to any port on the Great Lakes without trans-shipment of cargo, resulting in a considerable savings in shipping costs.

A ship traveling the 2,342 miles from the Atlantic Ocean to Duluth, Minnesota, climbs a total of almost 600 feet from the time it leaves Father Point, Quebec, at the mouth of the St. Lawrence River until it reaches Duluth at the west end of Lake Superior. This is done through

a series of locks and dams, such as those on the Welland Canal, which lift the vessel some 326 feet to Lake Erie, and the St. Marys Falls Canal (the world famous Soo Locks), where the water rises 21 feet from the lower lakes to the level of Lake Superior.

The Lake Survey Center "Profile" (above) gives a graphic picture of the water "stairway" a ship travels on such a journey. It also shows the relative depths of the Great Lakes. Copies of the profile are available to the general public free of charge. Write to: Public Affairs Office, National Ocean Survey, Lake Survey Center, 630 Federal Bldg., Detroit, Michigan, 48226.

Koror WSO Wins Award for Observations

The National Weather Service Office at Koror in the Pacific Region was the only station in the region to qualify for a "Significant Achievement in Observations" award during the third quarter of 1970. The Koror staff started 1970 with a quarterly score of 375 in rawinsonde observations but raised this to 50 percent during the second quarter and stayed above the 500 mark during the July-September period. Koror also made a substantial improvement in its surface observing program by reducing its error rate 60 percent below the second quarter.

Air Conditioning Considered for GSA Vehicles

Herbert C. S. Thom, of the Environmental Data Service, recently met with General Services Administration commissioners, at their request, to consider the establishment of guidelines for the air conditioning of government vehicles to be purchased in the future. Several of Mr. Thom's recommendations were included in the criteria soon to be issued by GSA, including the map which defines that portion of the United States where average temperatures are judged high enough to require air conditioners in government motor vehicles.

VHF-FM Frequencies Changed For Four Eastern Stations

Beginning this spring, the VHF-FM frequencies of the National Weather Service's transmitters at Atlantic City, N.J.; Cleveland, Ohio; Boston, Mass.; and New London, Conn., will be shifted to 162.400. These NOAA VHF-FM Radio Weather Transmitters which have been in operation for many months, have become an important weather dissemination source to a large and varied segment of the public. During the past decade, the National Weather Service has installed more than two dozen transmitting sites throughout the United States, including the State of Hawaii. These installations are part of the NOAA Natural Disaster Warning System for expanded and improved nationwide disaster warning services to the public. Experience under varying weather conditions has proved that there are occasional signal overlapping between some adjacent transmitters. To improve reception and to avoid interference, the Federal Communications Commission has approved the use of the new frequency.

NOAA Offices Participate in EPA Briefings

During the past two weeks, several meetings have been held at the EPA (Environmental Protection Agency), in which EDS (Environmental Data Service) and SIDD (Scientific Information and Documentation Division) officials were given briefings and demonstrations of equipment used for information, storage, and retrieval at the Water Quality Office. Preliminary discussions at EPA involved Acting Director Thomas S. Austin and Julius F. Bosen of EDS; James Noel of NODC (National Oceanographic Data Center), and Robert Freeman of SIDD, and centered on the possibility of mounting a cooperative effort toward development of compatible information-retrieval systems.

Mrs. Hobbs Hired As Vietnam Veteran

Dorothy M. Hobbs, of the National Weather Service's National Severe Storms Forecast Center, Kansas City, Mo., is the Central Region's first Vietnam veteran to be hired under the Veterans Readjustment Program. Mrs. Hobbs, who served with the U.S. Navy from 1967 to 1970, is performing meteorological technician duties for training purposes while stationed at the Kansas City Weather Service Office.

Offshore Gulf Port Study Launched With Sea Grant Funds

A \$30,000 project partially financed by Sea Grant money is under way to establish the goals and guidelines for a feasibility study for an offshore port facility in the Gulf of Mexico off the Texas coast. Paid for by Texas A&M's Sea Grant Program and the Ports of Galveston, Freeport, and Port Arthur, the project is being undertaken for the South Texas Regional Export Expansion Council by Texas A&M University. Need for the research was brought about by the increasing use of "supertankers" in international oil trade. These large carriers require deeper channel depths, with none of the existing Texas ports capable of handling them. The Japanese developed the superships of 200,000 tons and later, ships over 450,000 tons. The English are proposing ships up to one million tons with depth requirements of about 100 feet. The current study, requiring about five months, will include a literature search for information applicable to an offshore port facility and an evaluation of what studies will be needed in the areas of ecology, economics, legal and jurisdictional aspects, site selection, engineering, traffic, and transportation and other considerations. It also will include estimated cost figures for the individual studies and recommendations for possible sources of funds. The study is only the beginning of long-range planning to determine if there is a need to accommodate the supertanker on the Texas coast, and if there is, some of the alternatives on how it will be done.

Markarian Wins Bronze Medal

Aran Markarian, electronic technician at the Yakima, Wash., Weather Service Office has received the Department of Commerce Bronze Medal. Mr. Markarian was cited for sustained superior performance over nearly 20 years. He began his career with the Weather Bureau in San Francisco, Calif., where he served until his recent transfer to the Yakima Weather Service Office. Employed as an electronic technician since 1958, Mr. Markarian became deeply involved in the weather satellite program in San Francisco, making numerous outstanding contributions in the operational and communication phases of the program.

NOS Surveys Puerto Rican Coast

A hydrographic survey of Puerto Rico's south coast was resumed this month by the National Ocean Survey. The survey is being carried out in the waters off Ponce by the MT MITCHELL. The program was begun along the southern coast in 1968 at Cabo Rojo. The MT MITCHELL, commanded by Cdr. Edwin K. McCaffrey, was scheduled to sail from her home port of Norfolk, Va., January 12 and return June 1. The ship was slated to arrive in San Juan on January 24 and in Ponce, her base of operations, January 26. The survey is being conducted by the ship and her 26-foot launches equipped with precision echo sounders and electronic positioning instruments.

Calling Sea Grant

The telephone number of the Office of Sea Grant has been changed again--to (202) 343-6213.

Maxine Jackson To Chair EDS Equal Employment Committee



The Environmental Data Service's Equal Employment Opportunity Committee was expanded to 15 members and new officers were elected, January 13. Maxine Jackson (left), of the National Oceanographic Data Center, was elected chairman; Patrick Hughes of EDS headquarters, vice chairman; and

Claudia Brooks of EDS headquarters, secretary. Maxine Jackson, Daisy Rivers of EDS' Rockville, Md., detachment, and Robert Schloemer of EDS headquarters were subsequently elected EDS representatives to NOAA's EEO Committee.

Assistant Computers Attend National Ocean Survey Training Course



An intensive two-week training course in geodetic computations was completed today by seven assistant computers from National Ocean Survey horizontal control parties. The pilot course, held at National Ocean Survey headquarters, was designed to increase the proficiency and efficiency of assistant computers. The course was initiated by Carl F. Kelley, Chief of the National Network Maintenance Section of the Geodesy Division, who al-

so served as one of the instructors. Those completing the course are shown seated on either side of the table (from left to right): Billy R. Lewis, Ralph G. Poust, Jerry A. Odum, Harley D. McKinney, E. Dean Wagner, Vincent B. Stapleton, and Norman E. Matlock. Appearing at the head of the table are: (left to right) Dr. Gordon Lill, NOS Deputy Director; Curtis W. Thorson, instructor; and Rear Admiral Don A. Jones, NOS Director.

First 1971 Workshop on Severe Local Storms Held in Kansas City



The first of two workshops to be held in 1971 on severe local storms forecasting was completed January 15 at the National Severe Storms Forecast Center (NSSFC) in Kansas City, Mo. Eleven forecasters from four Weather Service regions participated in the two-week course. Lectures on severe local storm forecasting and case studies were given by the Center's staff. The instructors and students shown here are, front row, left to right: Joseph G. Galway, Shirley Matejka,

Lawrence R. Burns, and Hilmer A. Crumrine, Kansas City, Mo. Second row, left to right: William E. Williams, Kansas City, Mo.; Richard Fay, Cleveland, Ohio; Allen D. Pearson, Kansas City, Mo.; Ray C. Crooks, Oklahoma City, Okla.; John C. Purvis, Columbia, S. C.; and Louis D. Ranney, Salt Lake City, Utah. Third row, left to right: Edward Brandes and Craig Goff, Norman, Okla.; Charles D. Defever, Detroit, Mich.; David L. Reeves, Louisville, Ky.; and Robert A. Sanders, Kansas City, Mo.

NATO Official Visits Satellite Service

Amos J. Shaler, special consultant to the Assistant Secretary General, North Atlantic Treaty Organization, Brussels, recently visited the Applications Group, NESS, to discuss the possible use of NOAA satellite pictures for oil slick surveillance in the Atlantic waters. Mr. Shaler plans to review pictures for nearly 200 oil spills that have occurred during the last two years.

Fur Seal Harvest Scheduled for Early Summer

The annual fur seal harvest for the Pribilof Islands herd has been scheduled for June 23 - July 31. William L. Peck, National Marine Fisheries Service Program Director for Marine Mammal Resources, said that an estimated harvest of 40,000 males (primarily three-and-four-year olds) is forecast for the 1971 season. No females will be taken.

National Oceanic and Atmospheric Administration

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