

NOAA WEEK

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

Howard Eckles Named To Marine Affairs Position

Howard Eckles, formerly Acting Director of the Office of Marine Affairs in the Office of the Secretary of the Interior, has transferred to NOAA as Assistant to the Acting Administrator for Marine Affairs. As an assistant to Dr. White



for marine affairs, Mr. Eckles will represent the Administrator and generally participate in activities of the NOAA Headquarters to advance marine science, technology, and environmental programs.

Interior's Office of Marine Affairs was transferred to NOAA as a second step in implementation of Reorganization Plan No. 4. Mr. Eckles represented the Interior Department on several inter-agency committees including the Committee for Policy Review of the National Council for Marine Resources and Engineering Development. His office was involved in planning for coastal zone research and management, the International Decade of Ocean Exploration, data management, and other interdisciplinary programs.

From November 1967 to April 1969, Howard Eckles served as the Program Manager for the Department of Interior Marine Resources Development Programs. In this position he served as chief staff officer for the Assistant Secretary for Fish and Wildlife and Parks, who represented the Secretary on marine affairs. He assisted in coordination and planning of the Department's marine resource efforts. His office also coordinated work with the Council on Marine Resources and Engineering Development, and the Commission on Marine Research, Engineering and Resources.

From 1962 to 1967, he served as Assistant to the Science Adviser in the Department of the Interior. In this position

he was a permanent staff officer for the Science Adviser's function, which was carried out by scientists from university posts. As Assistant to the Science Adviser, Mr. Eckles served on various committees of the Federal Council for Science and Technology, and generally assisted in the management of Interior's research and development efforts.

Mr. Eckles' first scientific field is marine biology. He served as Chief of the Branch of Marine Fisheries in the Bureau of Commercial Fisheries from 1953 to 1962 before his transfer to the Office of the Science Adviser. He joined the Department of the Interior in 1948, following graduate work at Stanford University.

Born in Porterville, California, on July 3, 1920, Mr. Eckles attended public schools in Santa Barbara, California. He graduated from the University of California at Santa Barbara with a B.S. degree in 1942. During World War II he served in the Navy from 1942 to 1946.

He is a member of the American Institute of Fishery Research Biologists, the American Fisheries Society and the Marine Technology Society, and the American Association for the Advancement of Science.

Cdr. Nixon Is WHITING's New CO

Cdr. Charles H. Nixon has been appointed Commanding Officer of the National Ocean Survey's hydrographic ship WHITING. Cdr. Nixon has seen service aboard six vessels of the NOAA fleet, including command of two of the ships, since he became a commissioned officer in 1959. He has also carried out assignments with geodetic and photogrammetric field parties.

The WHITING is now being outfitted at the NOAA Atlantic Marine Center, Norfolk, Va., for a new season of hydrographic surveys along the Atlantic coast next year. The 760-ton, 162-foot ship carries a normal complement of six officers and a crew of 30.

Western Squid Fishery Proves Small But Vigorous Industry

Although the squid has little prospect of becoming the Nation's number one seafood item, it does support a small and surprisingly vigorous commercial fishery centered on the California coast. The National Marine Fisheries Service reports an annual catch of more than 20 million pounds, valued at over half a million dollars, for the last several years.

Earliest statistics available indicate a catch of 30,000 pounds in 1895. Landings fluctuated, reaching a record of 38 million pounds in 1946-probably caused partly by a demand for canned squid in the Philippine Islands and in Greece after World War II, and partly by the diversion of craft from an ailing sardine fishery. Most of the California catch is canned and exported, with over 90 percent of the exports going to Greece and the Philippines.

The market for frozen squid--used either for bait or for human consumption--has expanded somewhat in recent years, and California producers now ship about 750,000 pounds of frozen squid to New York's famed Fulton Fish Market. On the East Coast, the catch is marketed fresh or frozen in such cities as New York, Boston, and Philadelphia; no squid are canned outside of California.

Although three species make up the bulk of the U.S. commercial catch, at least ten species of squid inhabit North American waters. In this country, the value of squid as food has never been fully realized. It is high in protein and phosphorus and contains traces of calcium, thiamine and riboflavin, and is said to be delicious when fried or baked with stuffing.

Carroll A. Elford, NWS Salt Lake City, Retires After 33 Years With Government

Carroll A. Elford, a forecaster at the Salt Lake City Weather Service Forecast Office, retired December 26 after 33 years Federal service. All of Mr. Elford's service was with the National Weather Service at a number of locations including Alaska, Puerto Rico, Washington, D.C., Seattle, Chicago, Albuquerque, Pocatello, Bismarck and Boise. He was assigned to the Salt Lake City WSFO in 1968.

Lt. Cdr. Simmons Receives Award

Lt. Cdr. Walter S. Simmons has received a Special Achievement Award and a grant of \$300 in recognition of superior performance on the 1970 aerial photography program of the National Ocean Survey. As chief of an aerial photo mission, Lt.



Cdr. Simmons' party photographed over 100 airports throughout the United States and mapped coastal areas, including those damaged by Hurricane Celia, and the U.S.-Mexican boundary. His chief, Cdr. Richard H. Houlder, head of the Photogrammetry Division, commended him for his "high degree of productivity and industry."

Nominations Now Being Received For Two Presidential Awards

The Department of Commerce is accepting nominations for two major Presidential awards--The Medal of Freedom and The Presidential Citizens Medal. The Medal of Freedom may be awarded by the President to any person who has made an especially meritorious contribution to the security or national interests of the United States, world peace, or cultural or other significant public or private endeavors. The Presidential Citizens Medal was established for the purpose of recognizing citizens of the United States who have performed exemplary deeds of service for their country or their fellow citizens. Justifications should be brief, clearly describe the contributions, and include the following information: name of award, agency, name of nominee, position, title, and grade, organization, and summary of contribution. Nominations may be submitted at any time through usual supervisory channels.

West-To-East Great Lakes Drainage Unusual

Most Canadian waters drain northward into the Arctic Ocean and Hudson Bay, United States waters southward. The Great Lakes waters, however, drain neither north nor south. They drain eastward (through the St. Lawrence River) to the Atlantic Ocean.

NMFS Program Designed To Help Salmon Survive Nitrogen 'Bends'

The National Marine Fisheries Service has proposed bold new measures to prevent massive losses of migrating juvenile salmon during their passage to the sea from the upper Snake River Basin.

Recent severe losses of juvenile chinook salmon at dams in the lower Snake River have threatened the existence of runs that were once the bulwark of the Columbia River salmon fishery.

Nitrogen gas supersaturation, resulting from the spilling of water at dams, has been pinpointed as the agent responsible for much of this loss. Atmospheric nitrogen is forced into solution as the water plunges into deep spill basins; the dissolved gas remains in solution in impounded sections of the river, and the effect on fish is similar to that of caisson disease, or the bends, on human beings.

In the spring of 1971, under contract to the U.S. Army Corps of Engineers, NMFS will begin an action program which could eventually involve collection and transportation of millions of young salmon around hazardous areas in the Columbia Basin.

NMFS scientists estimate that 70 percent of the seaward migration of juveniles from the Salmon River was lost in the lower Snake River in 1970, and that the mortality rate had risen to nearly 90 percent before the fish reached the mouth of the Columbia River near Astoria, Oregon.

Completion of two new dams in the Snake River during the past several years has increased the nitrogen gas problem. Although the Corps of Engineers is seeking means of reducing nitrogen gas levels, solutions may be years in coming; meanwhile the young salmon must be protected.

The measures proposed by NMFS are based on several years of study at Corps projects on the Snake and Columbia Rivers. In cooperation with Corps personnel, NMFS has developed a screen capable of intercepting up to 80 percent of the juvenile chinook salmon entering turbine intakes.

Salmon diverted from turbine intakes at Little Goose Dam on the Snake River will be routed by special bypasses to a central holding and sorting facility. Here the fish will be pumped from ponds into specially equipped tank trucks and transported more than 300 miles to a release area below Bonneville Dam.

Graduating Scuba Diving Class



Richard Rutkowski, Diving Officer, Atlantic Oceanographic and Meteorological Laboratories, Miami, recently graduated the first class of shipboard personnel as qualified scuba divers. The class consisted of 100 hours of advanced scuba diving instruction provided by AOML as a service to the National Ocean Survey's Atlantic Marine Center. In the class' graduation picture with Mr. Rutkowski (shirtless) are (left to right) Lt. T. Gerish, MT. MITCHELL; Mr. B. Fraser, FERREL; Lt. (jg.) C. Langdon, DISCOVERER; Ens. D. Redwine, FERREL; Lt. R. Leroy, DISCOVERER; Ens. D. Drake, DISCOVERER; Mr. R. Snow, RUDE and HECK; Ens. M. Ethridge, RUDE and HECK; Lt. (jg.) F. Childress, DISCOVERER; Lt. D. Jones, AMOL, Miami.

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Bypassing seven dams, the trip will circumvent the entire reach of the Columbia and Snake Rivers subject to dangerously high levels of dissolved nitrogen during the salmon migration.

Preliminary experiments have demonstrated that juvenile salmon collected and transported in this manner will return as adults to the original spawning areas with no apparent effect on homing ability.

Evaporation, Transpiration Loss of Lakes Calculated by Lake Survey Center Engineers

According to Lake Survey Center engineers, the average loss of water from the entire Great Lakes basin by evaporation and transpiration in one year is about equal to the total volume of water contained in Lake Erie, or about 110 cubic miles. If no water were lost in this way, it would require two more St. Lawrence Rivers to carry away the runoff from these Lakes.

NOAA Scientists Participating in Antarctic Research Programs



South Pole Station, Antarctica, will present this bleak face to the ten NOAA

scientists participating in the 1970-71 research program at the earth's bottom

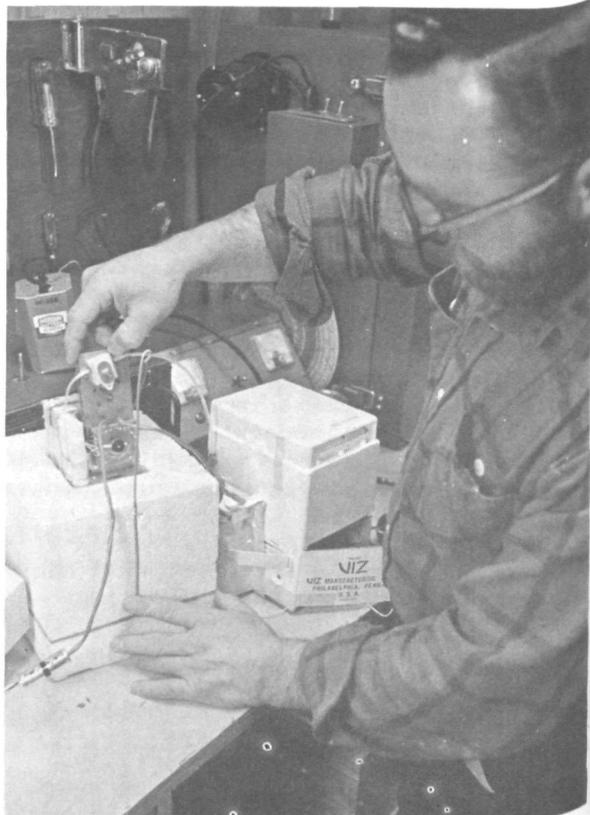
Ten NOAA scientists are participating in the 1970-71 U.S. Antarctic Research Program. The scientists will conduct experiments and research on various aspects of the Antarctic environment over the next year. Four NOAA units are represented on the white continent--the National Ocean Survey, the National Weather Service, the Environmental Research Laboratories, and the NOAA Office of Plans and Programs.

Their work is being financed by the National Science Foundation, which administers the overall U.S. Antarctic Research Program in which nearly 200 American and foreign scientists and technicians are participating. Seven NOAA scientists will spend the Antarctic winter on the continent, remaining until the next Northern Hemisphere fall; the remainder will conduct their research during the Antarctic summer and will probably return next March. NOAA scientists will be stationed at the Byrd and South Pole stations. Another will spend a year at the Soviet station Vostok as an exchange scientist.

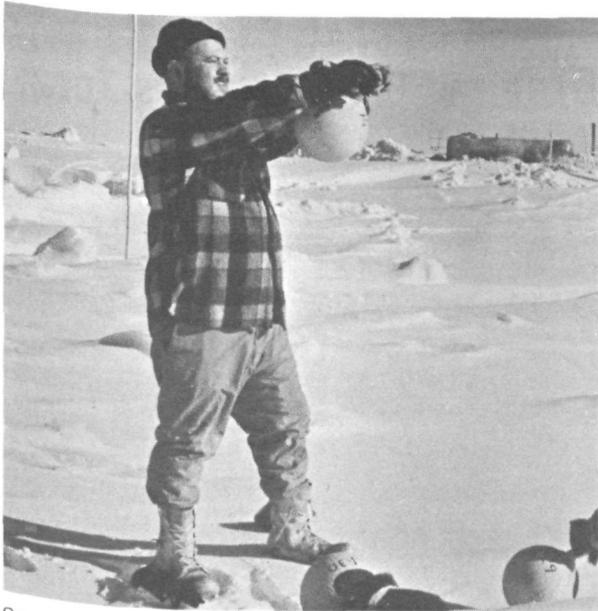
The National Ocean Survey will operate seismological and magnetic observatories at the South Pole and Byrd stations. The seismological observatories serve as "listening posts" for NOAA's global earthquake monitoring network, which makes it possible to determine the location and strength of earth tremors, and for studies of the structure of the earth's crust. At Byrd Station, seismic waves from Northern Hemisphere earthquakes which pass through the earth's core are re-

corded on magnetic tape from a four-station array for later analysis. Their study will provide information on the depths at which earthquakes occur and the internal composition of the earth's core.

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A radiometersonde-ozonesonde-radiosonde triple-header is prepared for Polar flight



Surface air sampling at the South Pole.

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Magnetic data will be recorded continuously at the Byrd and South Pole stations through the Antarctic winter of 1971. Analysis of the data will be aimed at gaining new knowledge of the short and long-term variations in the earth's magnetic field; correlating the magnetic variations with auroral behavior, electromagnetic propagation, the earth's radiation belts and with ionospheric variations; and providing knowledge of the changes in the earth's magnetic field for the production of magnetic charts and to furnish essential magnetic data for nautical and aeronautical charts.

National Weather Service personnel will measure surface weather conditions and

the atmospheric temperature, pressure, humidity and wind in the free atmosphere above the South Pole Station. They will also make surface and upper air measurements of ozone concentrations, radiation fluxes, collect air samples for carbon dioxide concentration determination and air filter for radioactivity monitoring, make continuous measurements of the air conductivity current and potential gradients, and determine the turbidity of the atmosphere on a routine basis.

Scientists of the Environmental Research Laboratories will study high latitude upper atmospheric physics--the interactions among the earth's air envelope, the geomagnetic field, and incoming radiation from the sun and space. The study is directed at increasing man's knowledge of the solar-terrestrial relationship. In the Antarctic, it includes observations of such phenomena as aurora and airglow, whistler, hiss, and other very-low-frequency (VLF) radio noises, radio-wave propagation, ionospheric absorption, geomagnetic fluctuations and cosmic-ray bombardment.

Following are the NOAA scientists who are participating in the program.

Wintering Party, 1971

NOS, Gary W. Brougham (South Pole).
NWS, Charles T. Gadsen, Jr., and Richard L. Urbanak (South Pole).
ERL, Leroy G. Holcomb (Byrd); George L. Siegner (South Pole), and Dale Vance (Vostok).
Office of Plans and Programs, Ronald L. Gester (Byrd).

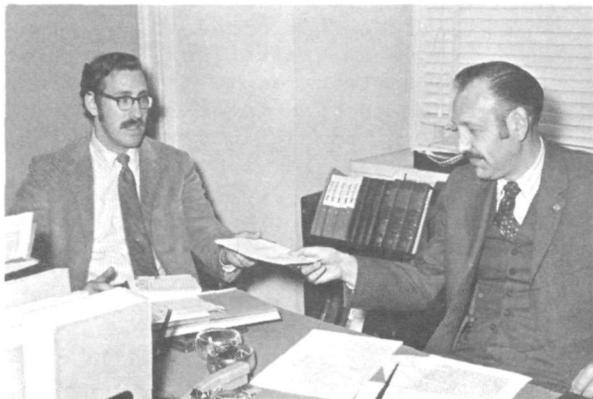
Summer Party, 1970-71

ERL, Jean P. Whitcomb (Byrd), and William E. Cobb (South Pole).
NWS, H. D. Hobart (South Pole).



Charles T. Gadsen, Jr., National Weather Service, stands at the entrance to the Pole Station which is completely covered by snow. Mr. Gadsen is with the wintering party.

NMFS Legal Officers Assigned



Messrs. Herbert L. Blatt and Richard M. Parsons formerly of the Office of the Solicitor, Department of the Interior, have transferred to the Office of the General Counsel, National Oceanic and Atmospheric Administration. They have been assigned to handle legal matters for the National Marine Fisheries Service.

Wind Stress Conference Held

Herbert Thom, Senior Research Scientist of the Environmental Data Service participated in a Conference on Wind Loads on Structures sponsored jointly by the National Science Foundation and the California Institute of Technology, December 18 and 19 at Pasadena, California. Mr. Thom served on the organizing committee and chaired sessions of the meeting attended by about fifty scientists representing government, industry, and universities. Of particular concern to the conference was the question of public safety and protection in times of tornadoes, hurricanes and other violent weather. Problems of instrumentation, testing, structural design, materials and design tolerance, and assessment of damage were questions discussed both in small groups and general sessions. The conference decided to make the organizing committee a permanent group to coordinate wind load research within the engineering profession.

Lake Survey Documents Lake Superior Facts

According to the records of the Lake Survey Center, Lake Superior has a water surface area of 31,800 square miles, or slightly larger than the State of Maine. It has a maximum depth of 1,333 feet and an average temperature of 40° F. It is the largest, deepest, and coldest of the Great Lakes.

Captain Cole, 40-Year Veteran Of Ocean Survey, Retires Today

Captain Howard S. Cole, retired today after more than 40 years with the National Ocean Survey. His career included 14 years of sea duty during which he served from the Arctic Ocean to the West Indies and from the Pacific coast to the Orient, and assignments with geodetic field parties in 21 states.

During the past 15 months he has served in Rockville, Md., with the Field Research Projects and the Federal Plans and Coordinating Divisions of the Office of the Assistant Administrator for Environmental Systems. His last major field assignment was that of Deputy Project Manager for the Barbados Oceanographic and Meteorological Experiment (BOMEX), a major investigation of the interactions between the ocean and the atmosphere, during which he served as commodore of the four participating Ocean Survey vessels. For this he received the Department of Commerce Silver Medal for "outstanding achievement in furthering man's understanding of the relationship between the ocean and the atmosphere."

Prior to that he was Acting Director of the Atlantic Marine Center and East Coast Field Director, Norfolk, Va.; Alaska Field Director in Anchorage; Officer-in-charge of the Honolulu Observatory, headquarters of the tsunami warning system in the Pacific; and Commanding Officer of the USC&GS Ship PIONEER.

He was also technical assistant to the Associate Director for Seismology and Geomagnetism at the Coast Survey's Rockville, Md., headquarters, in charge of coordinating the tsunami warning system.

Capt. Cole plans to retire to Lopez, Washington.

Former NWS Man Writes Article On Early Weather Service Chief

Barney Wiggin, former Meteorologist in Charge of the National Weather Service facility in Buffalo, N.Y., now retired and local Weather Services Centennial Committee Chairman, is the author of an article on Gen. Albert Myer which appears in the December 1970 issue of SMITHSONIAN magazine. General Myer was the head of the Army Signal Corps when President Grant authorized the establishment of the first U.S. Weather Service in 1870.

Cash Awards, Quality Increases Go To Ten On Headquarters Staff



Ten employees of NOAA's Office of Administration and Technical Services received cash awards or quality increases for superior service from Theodore P. Gleiter, Assistant Administrator for Technical Services in a Dec. 7 ceremony held at NOAA headquarters, Rockville, Md.

Shown in photo, front row, left to right: Florrie S. Ballou, Ruth Marcus, Frank Lomax, Emma Sharpe, Nancy Clark, Ida Saponekoo. Back row, left to right: Charles Ratcliff, Jeanne H. Rieder, Ernest Daniels, Pearl Reid, and Mr. Gleiter.

Record 420-Pound Halibut Taken

A 420-pound, 8½ foot halibut was recently landed at Kodiak, Alaska, by the long-line vessel, ALRITA. According to the National Marine Fisheries Service, this is believed to be a record-sized halibut. The fish weighed 395 pounds dressed out, and its head weighed 25 pounds. Otto Jangaard, skipper of the ALRITA, said the fish was caught in Kodiak waters, and sold for \$125.

AOML Director Receives Award From The Florida Council of 100

Dr. Harris B. Stewart, Jr., Director of the Atlantic Oceanographic and Meteorological Laboratories, has received an award from the Florida Council of 100 for his outstanding contribution to the growth of oceanography and the oceanographic industry in Florida.

Appetite Jaded By Rich Fare? Snack On A NMFS Pollock Burger!

Appetites jaded by too much holiday feasting can be rescued during the New Year with the assistance of seafood recipe booklets prepared by the National Marine Fisheries Service, and available through the Government Printing Office.

"Nautical Notions for Nibbling" is a collection of easy ways to prepare fancy appetizers with fish and shellfish. Depending on the state of the family budget, the hostess can indulge her guests very inexpensively with "Nor'east Nibbles," using frozen fish sticks, or can go all out with "Caviar Crown" and "King Crab Canapes."

"Top O' the Mornin' With Fish and Shellfish" offers suggestions for breakfasts designed around seafood, and if you happen to be one of those non-breakfast eaters, these recipes are also admirable supper dishes.

It takes a particular type of temperament to enjoy sardines, just as it takes a particular type of temperament to enjoy watching wrestling or football on television. If you are already a sardine fan, "Flavor of Maine" gives new and different methods of preparation for those accustomed to eat them only with a squirt of lemon juice or a slice of onion. If you aren't already a sardine eater, these recipes may lure you into giving them a fair trial.

Those who live in catfish country know already that this whiskery fellow makes good eating, but catfish fanciers miss a lot of good eating because of a tendency to always cook them the same way--fried, with fried potatoes and hush-puppies. "Fancy Catfish" suggests new and exotic ways to enjoy an old favorite.

Relatively unfamiliar, pollock is kin to both the cod and the haddock, and is recommended as a nutritious and flavorful substitute during the current haddock shortage. "Portraits with Pollock" ranges from such old standbys as chowder and stew to pollock with sauerkraut and on to barbecued pollock burgers.

"Seafood Moods" features seafood favorites of Washington, Oregon and Alaska. This one was prepared in cooperation with the Alaska King Crab Marketing and Quality Control Board, the Canned Salmon Institute, the Halibut Association of North

America, National Fishermen and Wives, Inc., Northwest Fisheries Association, Otter Trawl Commission of Oregon, State of Alaska Department of Economic Development, and the State of Washington Department of Fisheries.

The booklets can be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. "Seafood Moods" and "Portraits with Pollock" are each 60 cents per copy; "Fancy Catfish" and "Top O' the Mornin'" are 25 cents each; "Flavor of Maine," 35 cents, and "Nautical Notions," 45 cents

Study Shows Temperature Changes in Ocean Have Little Effect on Fish Distribution

Temperature changes over the past 20 years appear to have had little effect on the distribution of bottom fish on the Atlantic continental shelf between Nova Scotia and Long Island, New York. An examination of research vessel distributional data and recent water temperature trends failed to show any important correlation, according to the National Marine Fisheries Service's Biological Laboratory, Woods Hole, Mass. An increase in water temperature from the early 1940's to a maximum in 1952-53 was followed by decreasing temperatures through 1957. Since that year, temperatures have tended upward. Although the effect of these changes on the abundance of groundfish has not yet been examined, there appears to be no change in distributional patterns that could be attributed to temperature fluctuations. The four key species studied were American plaice (dab), haddock, yellowtail flounder and butterfish. During colder years, there was some indication that American plaice occurred further to the southwest and that the northeastern limit of the butterfish was withdrawn toward the southwest during the summer and fall, but the changes were not great. The distributional patterns of haddock and yellowtail flounder showed no correlations with temperature at any time of the year.

National Oceanic and Atmospheric Administration

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