



noaa week

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A MEMORABLE WEEK FOR NOAA In Washington (Story on Page 2)



President Nixon with Soviet leader Leonid Brezhnev beside him during signing of historic agreement on the oceans by Soviet Foreign Minister Andrei Gromyko (left) and Secretary of State Rogers.

In Mississippi (Story on Page 3)



Dr. George P. Cressman, NWS Director, addresses residents, school officials, students and Mississippi State officials at ceremony in Sumner, Miss., honoring 19 individuals and organizations for life-saving actions in April 24 tornado. Lawrence R. Mahar, Regional Director of the NWS Southern Region, is on the extreme right.

U. S., USSR Sign Agreement To Expand Oceanographic Cooperation

An agreement for oceanographic cooperation between the United States and the USSR was signed on June 19, in the presence of President Nixon and Leonid Brezhnev, Secretary of the Communist Party.

Details of the agreement were worked out in May in Moscow by a U. S. delegation headed by Dr. Donald Martineau, NOAA Deputy Associate Administrator for Marine Resources; and a Soviet delegation headed by the State Committee of the USSR Council of Ministers for Science and Technology.

Howard W. Pollock, NOAA Deputy Administrator, who briefed the press on the agreement, Dr. Martineau, and other NOAA officials witnessed the ceremony in which Secretary of State William Rogers, for the United States, and Andrei A. Gromyko, for the Soviet Union, signed the oceanographic and other agreements.

NOAA will assume the lead-agency role in execution of the pact, which will focus on the areas of:

--Large-scale ocean-atmosphere interaction, including laboratory studies, oceanic ex-

periments, and mathematical modelling of the ocean-atmosphere system.

--Ocean currents of planetary scale and other questions of ocean dynamics.

--Geochemistry and marine chemistry of the World Ocean.

--Geological and geophysical investigations of the World Ocean, including deep sea drilling for scientific purposes.

--Biological productivity of the World Ocean and the biochemistry of the functioning of individual organisms and whole communities in the World Ocean.

--Intercalibration and standardization of oceanographic instrumentation and methods.

Joint planning, development and implementation of research efforts and exchanges of personnel and information, highlight the ways in which the agreement will be carried out, under the direction of a Joint Committee on Cooperation in World Ocean Studies, which will meet annually. The pact remains in force for five years, after which it may be modified or extended by mutual agreement.

New Radar at WSO Victoria, Tex., Dedicated

The new, modern S-band radar at the National Weather Service Office in Victoria, Tex., was officially dedicated on June 8. The dedication was made in the name of the founder of the Copano Research Foundation, the late Dan Braman, Sr., whose support was instrumental in the establishment and maintenance of a cooperative weather radar service at Victoria since 1949.

Dr. John W. Townsend, Jr., Associate Administrator of NOAA, accepted the radar on behalf of the NWS, which will operate the equipment. He also presented a NOAA Public Service Award to the Copano Research Foundation, which paid for and will maintain the new \$200,000 installation.

Other speakers at the dedication included Lawrence R. Mahar, Director of the NWS Southern Region; and Robert G. James, Official in Charge at Victoria.

The new equipment incorporates the latest operating features for weather detection and its construction utilizes the most modern solid-state circuitry. Plug-in modules and circuit boards are used extensively to facilitate maintenance and to keep down time to an absolute minimum. The radar set, as supplied to the NWS, is complete with all necessary test equipment and a two-year supply of spare parts.



Dr. Townsend (left) addressing the group assembled for the dedication.

Seated behind him is Mr. James.

CEDDA Briefs Three for GATE Operations

Roger Born, NOAA Data Buoy Office Senior Systems Analyst, recently was briefed at the Environmental Data Service's Center for Experimental Design and Data Analysis on the Center's requirements concerning GATE data management, quality control, and on-board data processing. Mr. Born will be the Data Manager aboard the NOAA Ship RESEARCHER during the GATE International Sea Trial to be held in August.

Ensigns Bruce M. Douglass and George A. Hauser have also completed a GATE Data Management indoctrination program at CEDDA. These officers, assigned to NOAA Ships RESEARCHER and OCEANOGRAPHER, respectively, will have responsibility for the ship data acquisition recording systems during the field operation phases of GATE.

Tuna Tagging Lottery Triggers Reexamination Of Scientific Data Collected Earlier

The winning of a tuna tagging lottery at a recent meeting of the International Commission for the Conservation of Atlantic Tunas in Madrid, Spain, triggered a re-examination of scientific data collected earlier. One of the two \$300 prize-winning tags came from a bluefin tuna tagged off New England by Frank Mather of the Woods Hole (Mass.) Oceanographic Institution 1,058 days before its recapture off New York by a Canadian seiner. The fish weighed 40 pounds compared to 20 when it was tagged. Investigation disclosed that the tag was the 16th return from a total of 24 tunas tagged on a single fishing trip. This high return indicates to fishery scientists that young bluefin tunas in the North Atlantic are being subjected to very heavy fishing pressure.

National Marine Fisheries Service personnel for several years have been involved in cooperative tuna-tagging projects with the Woods Hole Oceanographic Institution and other scientific bodies. NMFS has been deeply involved with ICCAT matters since the organization was established.

NWS Honors Life-Saving Actions in April Tornado in Sumner, Mississippi

Thanksgiving came early to the town of Sumner, Miss. (population 531). There on June 19, in the wreckage of the Tallahatchie County West District School, residents of the northern Mississippi Delta gathered to celebrate the fact that more than 800 of their children were spared from death on April 24, 1973, when a tornado demolished much of the school.

A tornado drill, called a half hour before the tornado struck was credited with saving more than 100 lives as students and teachers took refuge in interior hallways. Two mobile classrooms and an entire wing of the school were demolished.

At the invitation of the Town Board of Sumner, Dr. George P. Cressman, Director of the National Weather Service, was guest of honor at the simple ceremony held on the school grounds. Dr. Cressman presented Public Service Awards to 19 persons and organizations whose actions were significant in the community preparedness program, in relaying warnings, or in effecting last minute life-saving actions in the school itself.

Dr. Cressman hailed the Mississippi program as an especially outstanding one. He said, "I am convinced that in an effective storm warning program, there is no need to die in a tornado." He said that the tornado warning system involving education, training, and information; preparedness warnings; prompt relay of forecasts and warnings by radio and TV; and quick, alert actions by individuals has substantially lowered the death toll throughout the Nation. He said that the sequence of events leading to the tornado drill on April 24 ... was the storm warning system performing

at its very best." He then proceeded to recognize those "...who made the miracle of Sumner happen."

Public Service Awards, in recognition of service contributing to the Public Safety and Welfare performed for the National Weather Service, were presented the Mississippi Department of Education, State and County Civil Defense, nine radio and television stations, the Mississippi Power and Light Company, the West Tallahatchie School District, and the two principals of the school.

Rogers Bearden, Principal of the Junior High School, and James M. Cox, the Elementary School principal, were cited for their decisive actions in calling the tornado drill that morning.

The Mississippi Power and Light Company received the award for the development of a new technique that triggered the successful warnings issued by the Jackson WSFO on the morning of April 24. The Mississippi Power and Light Company notifies the NWS office in Jackson of any breaks in major power transmission lines. On receipt of the powerline break reports, the Jackson Weather Service staff was able to further identify storms on radar and issue timely tornado warnings. The system of tying power outages with radar intelligence on a real time basis was developed jointly by Walter A. Schulz, radar specialist of the NWS office in Jackson, and Thomas A. Dallas, manager of the Mississippi Power and Light Company's systems operations.

Dr. Cressman was joined in Sumner by Lawrence R. Mahar, Director of the Southern Region, NWS; Robert Cole, MIC, Jackson WSFO; and Glenn Stallard, MIC, Memphis, Tenn.

EDS Publishes Revised Bibliography Of Marine Science Newsletters

The Environmental Data Service recently published a revised edition of "Marine Science Newsletters--1973 An Annotated Bibliography." Prepared by Charlotte Ashby of EDS' National Oceanographic Data Center, this publication updates the 1972 version and includes 34 new newsletters (for a total of 94) that contain information about marine sciences or news of interest to marine scientists. Most of the new newsletters result from NOAA's Sea Grant Program, which has encouraged publication of news of interest to local fishermen, and of announcements of local Sea Grant institution activities.

In Part I of this revised bibliography, the newsletters are listed alphabetically by title. Each citation includes newsletter name, publisher and address, frequency of publication, cost (if any), annotations regarding content, as well as key number. Part II consists of an alphabetical listing of publishers indexed to the appropriate newsletter by key number and an index to the newsletters by type of publisher (such as academic, business, Sea Grant).

Copies may be obtained from the National Technical Information Service, U.S. Department of Commerce, Sills Building, 5285 Port Royal Road, Springfield, Va. 22151, for \$3.00 paper copy, and \$0.95 microfiche.

University of Wisconsin Sea Grant Program Funds Development of Diver-Safety Devices

In NOAA Sea Grant-funded research, devices for making underwater work safer and more practical are being developed at the University of Wisconsin-Madison. Ali Seireg and Amr Baz of the mechanical engineering department have developed instrumentation for depth, decompression, and orientation control devices.

"These are the first devices ever developed for control of orientation and depth for divers," Mr. Baz says.

Their orientation control mechanism consists of a movable weight which can be manipulated by the diver.

The depth control device uses pressure sensors and also gives the diver control over rate of ascent and descent. Air flows from the diver's air regulator to the life vest to give desired buoyancy for the proper depth.

The decompression device, which is called the decompression computer, will control decompression automatically. It is a modification of one already in use, adapted to work with the depth controller.

All the devices, made for ease of removal in case of emergency, have been tested in university swimming pools and will be further tested this summer while physiological monitoring is done on the divers.

Columbia, Mo., Radio Station Helps NWS During Emergency

On June 4, when a major line failure stopped all wire communications (telephone, facsimile, teletypewriter) at the National Weather Service Office in Columbia, Mo., for a 12-hour period, the station was without means of sending or receiving any kind of current weather data. Forecasts and warnings could not be issued. Local surface and upper air data were recorded and the local use radar was monitored, but the information could not be distributed.

Fortunately, Radio Station KFRR in Columbia had long ago installed a mobile-type of radio transmitter at the WSO for use in transmitting the twice-daily direct radio broadcasts to the studio. That two-way radio became the only link with the outside world and it was used to distribute weather information and local data to the Columbia community during the day and evening of June 4. Not only did KFRR staff members accept and relay local calls, but an arrangement for an occasional radio-telephone link between WSO and the Forecast Office at St. Louis was most helpful, especially when the Columbia radar operator could report on severe weather echoes in the Rolla-Dixon-Vienna area late in the day.

Galveston Lab Participates in Shrimp Festival

Members of the staff of the National Marine Fisheries Service's Gulf Coastal Fisheries Center Galveston Laboratory participated in the recent Shrimp Festival that was concluded with the blessing of the Galveston Shrimp Fleet. Under the guidance of Dan Patlan, Raphael Proctor, and Billy Salser, three exhibits were set up at strategic locations in the city, featuring research activities associated with shrimp population dynamic studies and shrimp aquaculture studies. It was estimated that a total of 2,000 to 4,000 people viewed the three exhibits.



Biologist Cornelius R. Mock (left) of the Gulf Coastal Fisheries Center Galveston Laboratory explains to spectators an intensive culture system for growing shrimp in large numbers in a small area being tested at the Galveston Laboratory.

Diving Tables Will Provide Increased Safety for Aquanauts

Scientist-divers can now work longer and more safely under water as a result of new diving tables that have been successfully tested in the ocean. The new vertical excursion tables provide scientists living on the seafloor with precise knowledge of how long they can work at various depths while saturated on a nitrogen-oxygen breathing mixture.

Developed for NOAA by Union Carbide Corporation, the tables were tested by divers from the habitat La Chalupa in 100 feet of water off Puerto Rico. Combining their excursion table testing with scientific work, the divers made excursions up from La Chalupa to depths of 25, 30, 40, 50, and 60 feet during their underwater stay from April 24 to May 7.

La Chalupa is operated by the Puerto Rico Inter-National Undersea Laboratory (PRINUL), which is supported by the Government of Puerto Rico. The divers were Ian Koblick, team leader and President of PRINUL; Dr. James W. Miller, Deputy Director of NOAA's Office of Manned Undersea Activities, who led the test diving operations; Dr. Allen Waterfield, Professor of Physiology at the University of New Hampshire; and Michael Sheen, a PRINUL biologist.

"From a practical standpoint, our tests demonstrated that these new tables can safely be used by future aquanauts," said Dr. Miller.

This was the first mission at 100 feet using a nitrogen-oxygen mixture in the open sea, and it took place further out to sea (10 miles from shore) than any habitat operation to date. The surface life support system consisted of an unmanned buoy anchored above the habitat.

The men breathed a mixture of 95 percent nitrogen-5 percent oxygen while in the habitat (equivalent to breathing air at a pressure of 123 feet), but used air on all excursions from the habitat.

The tests add considerably to the margin of safety by allowing divers to go upward perhaps even briefly to the surface in an emergency to get a bearing, before returning to their saturated depth.

The new diving tables will be published in a technical report to NOAA from Union Carbide, and will be included in a forthcoming NOAA diving manual.

Data Centers' Functions Are Explained

Professor Lubos Perek of Czechoslovakia, President of the International Council of Scientific Unions' Panel on World Data Centers, met with National Oceanographic Data Center and EDS officials on June 11 and 12 to be briefed on the functions of World Data Center A, Oceanography and NOCD. Professor Perek plans to visit other WDC-A subcenters, including those at Boulder, Colo., during his stay in the United States.

State and Federal Officials Discuss Coastal Zone Programs

Almost 200 people--representatives of all coastal zone states and territories except Indiana and Guam, and government officials--met in Annapolis, Md., last week at a conference on Organizing and Managing the Coastal Zone. Robert W. Knecht, Director of NOAA's Coastal Zone Management Task Force, was chairman of the conference, which was sponsored jointly by NOAA, the Council of State Governments, the National Science Foundation, the Environmental Protection Agency, and the Departments of the Interior, Agriculture, and Housing and Urban Development.

Other NOAA speakers were Howard W. Pollock, Deputy Administrator; and Robert D. Wildman, Director of Project Support Programs in the Office of Sea Grant.

The four session topics discussed were, "Intergovernmental Aspects of Coastal Zone Management," "Coastal Zone Management Process," "Uses of the Coastal Zone," and "Needs and Resources."

The many speakers and panelists included Joseph Bodovitz, Executive Director of the California Coastal Conservation Commission; James M. Dolliver, Assistant to the Governor of Washington; Dr. William J. Hargis, Jr., Director of the Virginia Institute of Marine Sciences; Dr. J. Herbert Hollomon, Director of the Center for Policy Alternatives at the Massachusetts Institute of Technology; John F. Hussey, Staff Member, U. S. Senate Commerce Committee Subcommittee on Oceans and Atmosphere; and Aaron R. Schwartz, State Senator from Austin, Tex.

Guidelines for the Coastal Zone Management program Development Grants were printed in the Federal Register on June 13, and distributed to the conferees that day. Essentially, the guidelines tell a state how to apply for a grant to develop a coastal zone management program, and also describe the general character of the work that is to be undertaken under such a grant.

Eel Fishing Becoming Lucrative Industry

Eels, considered a nuisance by many fishermen, have become the subject of a growing and profitable fishery on the North Carolina coast because a team of marine specialists at the North Carolina State College's Extension Service office in New Bern, have encouraged local fishermen to fish for them. Wholesale prices for eels range from \$.50 to \$1.50 a pound on the New York and foreign markets.

The experts, whose work is funded jointly by N. C. State and a NOAA Sea Grant, predict that the eel fishery will be a million-dollar industry within a few years. They have explored the marketing possibilities of eels, developed improved traps for their capture, determined the best times, places, and locations for eel fishing, and offered the use of holding tanks in which the eels are kept for five days of purging in circulating water. Eels for the market are graded, packaged, and frozen alive at forty below zero.

NOAA Ensures Continuation Of Research on Bowhead Whales

NOAA has taken steps to ensure continuation of ongoing research on bowhead whales, recognizing the importance of these whales to the Alaskan Eskimo communities.

Dr. Robert M. White, NOAA Administrator and U. S. member of the International Whaling Commission, said a contract has been signed with the University of California and Dr. Floyd Durham, who has worked with bowhead whales and the Eskimo people in the Alaskan Arctic for the past decade. Dr. Durham's studies are believed to be the only U. S. research of its type being done on bowhead whales, and is in full accord with the Marine Mammal Protection Act of 1972.

The bowhead is on the Endangered Species List and is protected by the Marine Mammal Protection Act of 1972, but the Eskimos are permitted to take the mammals for subsistence and for handicraft work. The Eskimos leave their villages for several weeks during the whaling season each spring and the whales they capture are shared by the entire community.

Personnel from the National Marine Fisheries Service are working with Dr. Durham this year to assure a smooth transition when he retires from this phase of his work later this year. Dr. George Y. Harry, Jr., Director of the NMFS Marine Mammal Laboratory in Seattle, Wash., recently returned from a trip to the Arctic with Dr. Durham, during which they hiked over the ice to a number of whaling stations near Point Hope, where the whales' migratory pattern would bring them.

During the past 10 years, Dr. Durham has studied the biology of the bowhead whale, including reproduction, food habits, and size, in addition to gathering data on the number of whales taken by the Eskimos. He has established an excellent rapport with Eskimos throughout the whaling area, and they send him data on whales taken by the various communities. NMFS hopes to continue the whale reporting system, the only one in existence in the Alaskan Arctic. Data obtained by Dr. Durham have been made available to the Federal Government and to the International Whaling Commission, and the flow of information will continue under the new arrangement.

Airport Survey Underway in Cortez, Colo.

A National Ocean Survey airport survey party, headed by Paul D. Crabtree, has begun a field survey of Cortez-Montezuma County Airport in Cortez, Colo., as part of a joint program with the Federal Aviation Administration to advance air safety. Results of the survey, in conjunction with aerial photographs taken previously by the National Ocean Survey, will appear on an Airport Obstruction Chart to be published in five or six months. Airport Obstruction Charts are used by the FAA in planning operational procedures for the arrival and departure of aircraft.

Scientists Report Sunshine Loss From Urban Air Pollution

Environmental Research Laboratories meteorologists assigned to the Environmental Protection Agency's Meteorology Laboratory near Durham, N.C., have made measurements in the St. Louis, Mo., area of the difference in sunshine received by city dwellers and country folk during a variety of meteorological conditions. Preliminary data of Dr. James T. Peterson and Edwin C. Flowers indicate a loss of solar radiation at ground level in urban areas, as compared with nearby rural areas. They report that urban air pollution reduces the amount of solar radiation by several percent and that increased cloudiness over the city further reduces the amount of incident energy.

In determining the effect of a city and its air pollution on the solar radiation received at ground level, from mid-July through mid-August last year, they took simultaneous solar radiation data at two sites in the St. Louis area--one downtown and one in a rural area about 30 miles southwest of the city, Dr. Peterson explained.

"On days when clouds were not a factor, the radiation measurements at the two sites could be compared to study the effect of pollution in the urban atmosphere. On the average, the city received about two to three percent less solar energy because of particles in the atmosphere. The depletion in the ultraviolet wavelengths averaged six to seven percent," he said.

For the entire 28-day period, the cumulative total solar energy received at the city was 6 1/2 percent less than that incident at the country location. In the ultraviolet wavelengths, the difference was 8 1/2 percent.

The experiment was conducted simultaneously with METROMEX (from Metropolitan Meteorological Experiment), a multi-institutional investigation of the city-sized weather and pollution patterns in and around St. Louis. It was also run as a pilot study aimed at identifying the best sites for a larger EPA-sponsored measuring network of air pollution and meteorological parameters planned for deployment there over the next four years.

William J. Denney Receives Bronze Medal

William J. Denney (left), a Leading Forecaster at the San Francisco National Weather Service Office, has received a Commerce Bronze Medal for "exceptional service to the



the public through sustained superior performance as a weather forecaster." The medal was presented by Arthur F. Gustafson, Meteorologist in Charge of the San Francisco WSFO.

notes about people

Casimir S. Zaraneck, Chief of the Lake Survey Center's Chart Section, appeared as part of a week-long elementary school Outdoor Education Program in Farmington, Mich., to acquaint the youngsters with LSC's work and the benefits they and their parents derive from it. At three sessions, he explained to 85 students how maps and charts are made and how to use them, using visual aids, including a small model of Lake Ontario to make his points. Kits were furnished to take home for future reference.

Other LSC personnel, including David C. Norton, Donald R. Rondy, William J. Monteith, Floyd R. Watts, and Lieutenant (junior grade) David L. Stockwell, also have spoken recently to similar groups, such as students and community meetings.

Leonard C. Broline, A Commerce Junior Fellow at the Environmental Data Service's National Geophysical and Solar-Terrestrial Data Center in Boulder, Colo., graduated from the University of Colorado during May. He received an award for outstanding achievement from the American Institute of Aeronautics and Astronautics.

Dr. James H. Saylor, Chief of the Lake Survey Center's Water Motion Branch, presented a paper, "Nearshore Bottom Stability in Relation to Changing Lake Levels," at the recent Lake Michigan Shoreland Planning Conference. The meeting, sponsored by the Lake Michigan Federation and such other organizations as the Chicago Department of Planning and Development and the Environmental Protection Agency, Region V, provided data to public officials concerning erosion, lake levels and shoreline processes and planning.

Dr. Harris B. Stewart, Jr., Director of the Atlantic Oceanographic and Meteorological Laboratories, has been appointed by the American Association for the Advancement of Science to be the AAAS Liaison Representative to the Marine Technology Society's Ninth Annual Conference and Exposition in Washington, D. C., in September.

Joe Haskell Allen, Geophysicist at the Environmental Data Service's National Geophysical and Solar-Terrestrial Data Center in Boulder, Colo., recently served as NOAA representative on the Organizing Committee for the Annual Colorado State Science Fair held this year in Boulder. One prize, a Department of Commerce summer employment opportunity appointment in Boulder, was received this year by Sharon Gilbert of Bayfield, Colo.

Rue E. Rush, Meteorologist in Charge of the Weather Service Forecast Office in Raleigh, N.C., has been elected to the Policy Committee of the Research Triangle Federal Executive Council of North Carolina for the 1973-74 year.

Lieutenant Grunthal Receives Junior Officer of the Year Award

Lieutenant Melvyn C. Grunthal has received the annual "Junior Officer of the Year" award for a NOAA commissioned officer. The award was presented by the Association of Commissioned Officers of NOAA in recognition of Lieutenant Grunthal's leadership in organizing and implementing the Hydrolog computer software and the successful development of the Hydrolog Bertram launch, while assigned to the NOAA Ship FAIRWEATHER. The honor is given annually to one or more junior officers (those with service of one to six years). Lieutenant Grunthal joined the commissioned corps in 1968.



(From left) Commander Wesley V. Hull, Chief of the National Ocean Survey's Coastal Mapping Division; Captain Robert C. Munson, Associate Director, NOS, for Marine Surveys and Maps, and President of ACO; Lieutenant Grunthal; and Captain Richard H. Houlder, former Commanding Officer of the FAIRWEATHER, who nominated Lieutenant Grunthal for the award.

Researchers Using Sea Grant Funds Harness Natural Power of Ocean Waves

Oceanographers at the Scripps Institution of Oceanography have harnessed the natural power of ocean waves with a simple but ingenious device which can generate a thousand watts of electrical power. Using Sea Grant funds, John D. Isaacs and David Castel of the University of California's San Diego facility, designed, built, and tested a wave pump with only one moving part. The pump, designed to be operated from a free-floating platform such as a buoy or a ship, consists of a 200-foot plastic pipe with a one-way check valve (the moving part) inside near the top. As the pipe, mounted with most of its length below water, accelerates downward into a wave trough, water flows up past the check valve. When the wave peak swings the pipe upward, the water in the pipe is prevented from flowing back down by the now-closed check valve. The water above the check valve is lifted into a tank aboard ship by the action of the next wave where it is pressurized before being discharged through a turbine to produce useful power.

Corrective Action May Save Threatened Sportfishing Center

Excessive and increasing salt concentrations in California's Salton Sea can be reversed, preventing further deterioration and promoting the survival of the threatened fish population.

That was the recent judgment of a California-based consortium of Government and state scientists, engineers, and civic leaders who have designed a blueprint for survival involving the diking off of 14 percent of the 450-square-mile sea (about 50 square miles of surface) to form a "lake within a lake." The control area would be equipped to remove 5 1/2 million tons of salt from inflowing water each year and recirculate the purified water into the main body of the sea. The saline content of the Salton Sea thus would be diluted, and the marine environment restored to a chemical balance more hospitable to the marine inhabitants, before instead of after unalterable impairment.

The principal in the investigation was the Inland Fisheries Branch of the California Department of Fish and Game, aided by a private engineering firm and marine scientists from the National Marine Fisheries Service and the Scripps Institution of Oceanography. The Office of Sea Grant supported a study of hypersalinity on marine fish eggs and larvae. Marine biological programs in existence at the NMFS Southwest Fisheries Center at Lo Jolla, Calif., were called upon to answer the previously unanswered question: "When does the salt content in sea water endanger Salton Sea fish eggs and larvae?"

The investigators have ascertained--in studies begun and completed since 1968--that the salty runoff from nearby agricultural lands, combined with the high quantities of salt naturally present in the inland sea, will soon result in salinity measurements lethal to juvenile fish. They say that when salinity in the Salton Sea increases from the present 37 parts per thousand to 40--surely no later than 1980--all embryonic life in the water will be doomed.

Some of these studies were conducted by Dr. Reuben Lasker at the NMFS laboratory in La Jolla and others by NMFS and California Department of Fish and Game scientists.

California economists estimate that recreational benefits provided by the Salton Sea can reach \$388 million over the next 50 years, and that land values in the vicinity may mean \$375 million to the State. But that rosy picture, they warn, will fade quickly if the fish population of the artificial sea is allowed to perish.

The recommended corrective action--considered the best and cheapest of several alternative solutions to the problem--is now being considered for implementation by California officials.

Henry A. Glidden Dies

Henry A. Glidden, former cook at the National Weather Service Station on Swan Island, died on May 30 at West Bay, Grand Cayman, British West Indies. He had retired in 1972 after 20 years' service.

recipe of the week



SEAFOOD STROGANOFF

12 frozen, pre-cooked, breaded fish portions (2-1/2 or 3 ounces each)
2 tablespoons melted fat or oil
Paprika
2 tablespoons butter or margarine
1 teaspoon poppy seeds (optional)
2 cups hot cooked egg noodles
Stroganoff Sauce
Chopped parsley

Place frozen fish portions on a well-greased cookie sheet, 15 by 12 inches. Drizzle fat over fish. Sprinkle with paprika. Bake in an extremely hot oven, 500° F., for 10 to 12 minutes or as directed on package. Add butter and poppy seeds to noodles. Arrange noodles on a platter and place portions on top. Pour stroganoff Sauce over portions. Sprinkle with parsley. Serves 6.

Stroganoff Sauce

1 can (4 ounces) sliced mushrooms, drained
1/2 cup chopped onion
1 clove garlic, finely chopped
2 tablespoons melted fat or oil
1/4 teaspoon paprika
1 can (10-1/2 ounces) condensed cream of chicken soup
1/4 teaspoon salt
Dash pepper
1 cup sour cream

Cook mushrooms, onion, and garlic in fat until tender. Stir in paprika. Add soup and seasonings. Cook over low heat for about 10 minutes, stirring occasionally. Add sour cream; heat.

Kenneth W. Matthews Dies

Kenneth W. Matthews, former Meteorological Technician at the National Weather Service Office in Tulsa, Okla., died on June 13. He had retired in 1965 after almost 30 years' service to the Government. His widow resides at 1532 North Kingston Place, Tulsa, Okla. 74115.

ETV Aviation Weather Program Expanded in Northeast U.S.

An aviation weather program that has been carried on Educational TV (ETV) Channel 67 in Baltimore, Md., for the past year has been made available to other ETV outlets in the northeastern United States. The program has resulted from a cooperative effort on the part of the National Weather Service, the Federal Aviation Administration, the Aircraft Owners and Pilots Association, pilot groups and the Maryland Center for Public Broadcasting. It was expanded on June 14 to ETV stations in New York, New Jersey, Pennsylvania, Massachusetts, Connecticut, Maryland, Virginia, and Washington, D. C.

Edward M. Gross, Domestic Aviation Weather Services, Weather Analysis and Prediction Division, at National Weather Service Headquarters in Silver Spring, Md., stated that this expansion could not have made as scheduled without outstanding cooperation from NWS personnel at Eastern Region Headquarters and at the Weather Service Forecast Offices assigned broadcast responsibility for their areas: WSFO Boston, Mass.; New York, N.Y.; Philadelphia, Pa.; and Washington, D.C.

For the first year, the program, aired on Thursdays and Fridays at 7:30 and 11:00 p.m., and conducted by an FAA pilot weather briefer, has consisted of about 15 minutes of weather discussion and 15 minutes of pilot educational information.

With the expansion of the service, a waiver of policy has been granted which will allow NWS personnel to participate in the program. This participation consists of voice transmission from the WSFOs having terminal forecast responsibility.

After the FAA briefer discusses the most recent surface, weather depiction, radar summary, and 850-700-500 mb analysis charts as obtained from NAFAX, emphasizing the weather problem areas for aviation operations, the NWS forecaster continues the discussion of weather, concentrating on flying weather prospects for the weekend. For two and a half minutes, while the latest surface prognoses (12, 24, 36, and 48 hours) are displayed on the TV screen, the forecaster discusses the aviation weather outlook. Next (for the 7:30 p.m. broadcast only) is a 13-to 15-minute insert of pilot educational material, which may be on weather, flying techniques, or operational problems, all pointing toward aviation safety.

Planning and coordination for the expansion of this service were handled primarily by Stanley J. Lacy, NWS Representative to the FAA; Vern Lindsay, Quality Control Officer at the WSFO in Washington, D. C.; Clarence W. Reynolds, Meteorologist in Charge at the Baltimore, Md., WSFO; and Mr. Gross.

It has been proposed by the FAA that this service be expanded to cover all of the United States by October.

Items to be considered for publication in NOAA WEEK should be submitted to:
Office of Public Affairs, NOAA, Room 221, Bldg. 5, Rockville, Md. 20852. Phone (301) 496-8243

National Oceanic and Atmospheric Administration

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