



# noaa week

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National Climatic Center November 9, 1973

## New Satellite--NOAA-3-- Is Launched Successfully

The NOAA-3 environmental satellite was successfully launched by the National Aeronautics and Space Administration, from its Western Test Range, at 12:02 p.m. Eastern Standard Time, November 6. Preliminary orbital information indicates the apogee is 938 miles, the perigee 942 miles, and the period 116.2 minutes.

The spacecraft will be turned over to the National Environmental Satellite Service for operational use, after NASA has completed its systems checks.

## NOAA Announces Results Of 1973 Cloud Seeding

A three-month cumulus cloud-seeding experiment conducted over southern Florida by the Environmental Research Laboratories ended September 12 after a rain-hampered but apparently successful season.

The experiment, called FACE (for Florida Area Cumulus Experiment), was conducted by the Miami-based Experimental Meteorology Laboratory in cooperation with ERL's National Hurricane Research Laboratory, Research Flight Facility, and Boundary Layer Dynamics Group, and the National Weather Service's National Hurricane Center, the Universities of Miami and Virginia, and the Naval Research Laboratory.

Although the large mass of data obtained by FACE 1973 will be the subject of analysis and study for many months to come, some preliminary results have been reported by Dr. Joanne Simpson, who directs the Experimental Meteorology Laboratory, and Dr. William L. Woodley, FACE project director.

--The ecologically important question of how much silver from the silver iodide seeding agent reaches the ground was at least partly answered. Preliminary analysis of rainwater from seeded and nonseeded clouds, collected at the surface, suggests that smaller amounts of silver are scavenged by precipitation than was previously assumed.

--The assumption that there is essentially no size difference between seeding-produced and natural raindrops--an assumption that guides scientists' estimates of seeding effects--can now be investigated; the seeded sample analyzed thus far has not been large enough to resolve this fully.

--Several new airborne cloud physics instruments were successfully field tested and should provide a unique opportunity to document the changes taking place in the water-ice budget of seeded and unseeded cumulus clouds.

--The NOAA qst probe system was used to

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## LIBRARY Survey Will Help Modify U.S.-Mexican Boundary

The United States and Mexico are surveying areas where the Rio Grande River will be relocated to modify the U.S.-Mexican boundary in accordance with the 1970 Boundary Treaty, Secretary of Commerce Frederick B. Dent has announced.

Over the years, changes in the course of the border river have placed former U.S. lands in Mexico, and former Mexican Territory in the United States. Under the recent treaty between the two nations, the position of the Rio Grande will be modified in the vicinity of Presidio and Hidalgo, Tex., to relocate the international boundary.

The present survey will establish the center line for approximately 10 miles of new river channel, to be constructed between Texas and the Mexican States of Chihuahua and Tamaulipas. Relocation of the river will result in the transfer of approximately 1606 acres of land from the U.S. to Mexico, a transfer of 252 acres from Mexico to the U.S. in the Presidio Valley area, and an exchange of 481 acres in the Hidalgo area. The cost of the joint works to be undertaken will be shared equally by the U.S. and Mexico.

The U.S. part of the survey is being conducted by a six-man National Geodetic Survey team headed by Robert W. Safford. The survey is being made in the Presidio Valley (an area referred to in the treaty as the Ojinaga-Presidio Tracts) about 200 miles southeast of El Paso, and in the Reynosa-Hidalgo Zone area, which includes the Horcon Tract and Beaver Island, about 55 miles west of Brownsville, Tex. The few small communities located near the lands being transferred will not be affected by the change. These are Presidio and Hidalgo in Texas, and Ojinaga, Reynosa, and Rio Rico in Mexico.

The U.S. part of the surveys is being

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## Dr. Robert M. White To Address American Oceanic Organization

Dr. Robert M. White, NOAA Administrator, will be the featured speaker at a luncheon meeting of the American Oceanic Organization on Thursday, November 15, in the Rayburn House Office Building. Further information and reservations may be obtained by calling the AOO's office in Washington, D.C. The number is (202) 783-4434.

## Shrimp Aquaculture Training Offered by NMFS Galveston Center

"On-the-job training" in shrimp aquaculture is attracting an increasing number of scientists from this country and abroad to the National Marine Fisheries Service's Gulf Coastal Fisheries Center at Galveston, Tex. The program is another step in international cooperation on fisheries research, particularly with scientists from Latin American nations.

The Center's studies dealing with the culture of shrimp native to the Gulf of Mexico are under supervision of Dr. Richard A. Neal. Specific areas of research include maturation, diseases, nutrition, and hatchery technology.

Progress in shrimp aquaculture is being followed closely in many parts of the world and during the past several months numerous inquiries have been received regarding scientists visiting Galveston for varying periods of on-the-job training. Last year the Galveston Fisheries Center sponsored a series of lectures and laboratory sessions for a total of 18 scientists from nine Latin American countries.

Inquiries regarding participation should be directed to Frederick Laney, Office of International Affairs, NOAA, Rockville, Md. 20852.



(From left) Mexican Biologists Infante-Leon, Perez Alvidrez, and Villavicencio Lubbart, from Centro de Investigaciones Cientificas y Tecnologicas, listen as NMFS Biologist Salser explains the design and function of an airlift developed for use in larval shrimp culture.

## Coastal Zone Management Advisory Committee To Hold First Meeting on November 15

The first meeting of the recently-formed Coastal Zone Management Advisory Committee will be held on November 15, in Room 6802, Department of Commerce Building, Washington, D.C. The meeting is open to the public.

Following a call to order and welcome at 9:30 a.m., the committee will hear a presentation of NOAA and its relations to Coastal Zone Management, presented by NOAA Administrator Dr. Robert M. White. Other items on the agenda include discussions of the Coastal Zone Management Act of 1972, under whose provisions the Secretary of Commerce established the Committee, and status of implementation of the act.

In the afternoon a presentation of the status of the different States in Coastal Zone Management will be followed by discussions on the mechanics of committee operations and the development of agenda items for future meetings.

## Senator Moss Is Briefed at NESS On Satellite Operations, Data

Senator Frank E. Moss, Chairman of the Committee on Aeronautical and Space Sciences, recently visited the National Environmental Satellite Service in Suitland, Md., for an informal briefing on satellite operations and applications of satellite data. He was accompanied by Committee staff members Ms. Mary Jane Due, Chief Clerk and Counsel, and Ralph Vandervort, Assistant Clerk. The briefing was conducted by Arthur W. Johnson, Deputy Director of NESS, and included discussions of applications of satellite data by the responsible staff personnel.



(From left) Dr. Bernard Fridovich, Satellite Experiment Laboratory, Senator Moss, and Ms. Due, at the SEL high-resolution spectrometer facility.

## Implementation of New DCPA/NOAA Agreement On Community Disaster Preparedness Discussed

The second joint meeting of the four Defense Civil Preparedness Agencies and representatives of the National Weather Service Eastern Region was held recently at DCPA II Regional Headquarters in Olney, Md. Silvio G. Simplicio, Director, led the ERH delegation that included D. Coveney, G. Shak, R. Nolan and J. Goldman. The two-day meeting centered about the implementation of the recently approved DCPA/NOAA agreement on community disaster preparedness. The sessions were loosely structured to permit relaxed discussion and exploration. Considerable attention was focused on the method by which the NWS can contribute effectively to the on-site assistance program. The first step will be the development of closer liaison between the STATUS REPs and DCPA's field representative in each state. A working committee is to be formed to begin a series of "nuts and bolts" sessions at Atlanta, Ga., in January 1974.

## U.S.-Mexican Boundary (Continued from page 1)

accomplished on a cooperative basis with the U.S. Section of the International Boundary and Water Commission, which is funding the program. The International Commission will supervise the transfer of the land and the construction of the channel relocation. The U.S. Section of the Commission is located in El Paso, the Mexican Section in Ciudad Juarez, Chihuahua.

Permanent geodetic monuments will be located at various points along the side of the proposed channel which will be used to establish the new international boundary.

## Pilot Weather Briefing Included In Albuquerque TV News Program

A possible first in aviation weather briefing was accomplished recently in New Mexico. Sid Manson, Lead Forecaster at the National Weather Service Forecast Office in Albuquerque, provided initial weather briefing services the evening before an Aircraft Owners and Pilots Association air tour group of 25 to 30 airplanes began its trip. As the tour progressed, making stops at Gallup, Silver City, Alamogordo, and Carlsbad, N.M., and associated side tours, intermediate route briefings were provided by telephone from WSFO Albuquerque. No problem so far.

However, on the morning the group dispersed to return to various home airports all over the U.S., the weather briefing problem became quite complex.

For individual courses, route TWEBs (Transcribed Weather Broadcasts) were available and were obtained from the Kansas City, Mo., Switch. However, the desired overall view of conditions and developments, and graphics oriented toward aviation, were not available at the Carlsbad Flight Service Station. Therefore, arrangements were made for Sam Shaw, Lead Forecaster at Albuquerque, to participate in the early morning news program over KOAT-TV in Albuquerque, which is available by cable in Carlsbad.

To explain the broadscale weather features to the pilot group, Mr. Shaw used conventional fax charts, ranging from surface maps, 100 and 500 milibar (approximately 10,000 and 5,000 feet) analyses, to weather depiction and forecast charts. These general indications were then supplemented by route TWEBs for the numerous individual flight paths.

According to George T. Gregg, Meteorologist in Charge at Albuquerque, members of the tour group and sponsoring organizations expressed great satisfaction with the weather services furnished them through the course of the tour, and especially with the briefings by Mr. Manson and Mr. Shaw. KOAT-TV also expressed its satisfaction with the experiment and declared a willingness to cooperate again for such a special occasion.

## NOAA Personnel Will Participate In TV "Wilderness Idea" Series

National Broadcasting Company Owned and Operated Stations have taped a 20-program Station Exchange series titled "The Wilderness Idea," in cooperation with American University. Basically the program deals with our wilderness heritage, what has happened to it, and the existing and future threats to it. NOAA is participating in four of these programs, which will be telecast over WRC-TV, Channel 4 in Washington, D.C., 6:25-6:55 a.m., preceding the TODAY show, on the dates indicated:

### 11/22/73 "The Terrestrial Wilderness"

Donald Pack, Deputy Director of the Environmental Research Laboratories' Air Resources Laboratories, will participate in this exploration of the scientific changes and attributes of the wilderness environment.

### 11/23/73 "The Aquatic Wilderness"

Dr. William Aron, Director of the Office of Ecology and Environmental Conservation, will participate in the discussion of what is happening to our water areas--our lakes, rivers, and streams that are no longer what they once were.

### 11/26/73 "The Frozen Wilderness"

Morton J. Rubin, of the Office of Environmental Monitoring and Prediction, will participate in an exploration of some of the unique values and opportunities of the Antarctic.

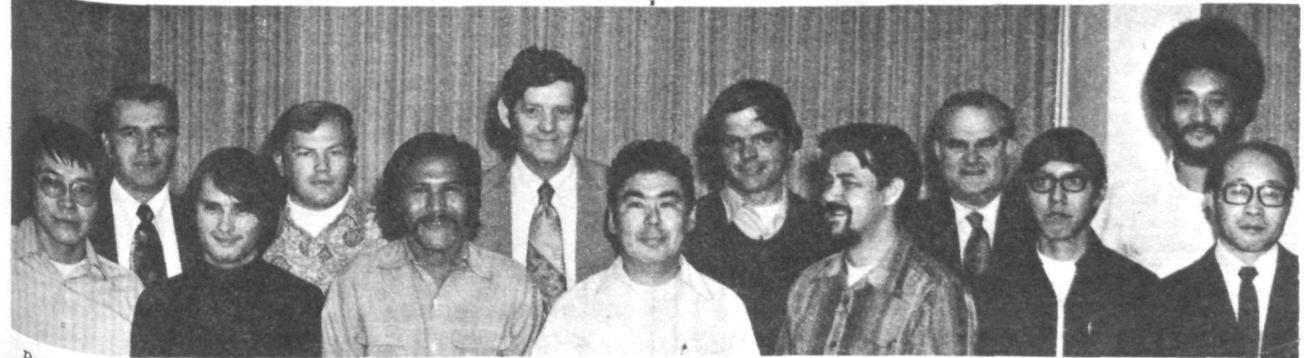
### 11/27/73 "The Underwater Wilderness"

David Wallace, Associate Administrator for Marine Resources, will participate in an examination of the dilemmas, delights, and scientific studies of the undersea world.

The series will be telecast in other cities, as indicated:

- WKYC-TV, Cleveland, Ohio--Dec. 17, 1973 through Jan. 11, 1974.
- WNBC-TV, New York City--Jan. 14, 1974 through Feb. 8, 1974.
- KNBC, Los Angeles, Calif.--Feb. 11, 1974 through March 8, 1974.
- WMAQ-TV, Chicago, Ill.--March 11, 1974 through April 5, 1974.

## NWS Alaska Region Employees Attend Basic Meteorology Training Course in Anchorage



Participants in the NOAA Basic Meteorology Training Course, Part I, held in Anchorage, Alaska, recently. (front row, from left) James J. Landlord, Bethel; Richard D. Grossl, Talkeetna; Dekan Delkittie, King Salmon; John C. Johnson, Nome; Raymond D. Craig, Valdez; William H. Tcheripanoff, Jr., Cold Bay; Jun J. Kawakami,

Instructor, WSFO Anchorage; (back row, from left) William T. Winkert, Instructor, WSTTC, Kansas City, Mo.; Gary O. Ennen, Kodiak; Donald R. Whitman, Instructor, WSTTC, Kansas City, Mo.; Stephen W. Miller, McGrath; Stuart G. Bigler, Director, NWS Alaska Region; and Clifford A. Fernandez, Fairbanks.

## Interest in Science Careers Promoted by NWS SDO Program

A team of scientists from the Test and Evaluation Laboratory of the National Weather Service's Systems and Development Office gave a series of lectures to a Career Guidance Class at Lake Braddock Secondary School in Fairfax, Va., in September and October.

William E. Eggert, T&EL Director, lectured on "Meteorology as a Career;" Meteorologist David H. George, on "Synoptic Meteorology;" and General Physicist Augustus N. Hill, on "Engineers and Other Scientists in Meteorology."

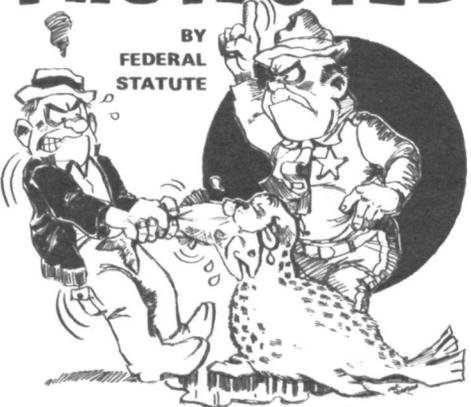
Formerly called the "Lecture to School Series," the School Lecture and Visitation Program has expanded its program to include senior high and junior high schools within the Washington Metropolitan area.

It is endorsed by the SDO EEO Committee as a regular part of SDO's long-range participation in the Equal Opportunity Program initiated in 1971. Richard L. Crisci, Meteorologist in the Techniques Development Laboratory, is the Acting Chairman of the SDO EEO Committee, and Daisy L. McKelly, Operations Research Analyst, Systems Plans and Design Division, is Program Coordinator for the School Lecture and Visitation Program.

## New Marine Mammal Protection Law Publicized

**MARINE MAMMALS**  
ARE NOW  
**PROTECTED**

BY  
FEDERAL  
STATUTE



**FOR MORE INFORMATION CONTACT:**  
Oregon Game Commission (503) 229-5503  
Washington Dept. of Game (206) 753-5740



Oregon State University  
Extension Service  
Marine Advisory Program

This poster calling attention to a new Federal law that protects marine mammals is being distributed by the marine advisory service of Oregon State University's Sea Grant Program. The poster tells where to call in Oregon or Washington to get answers to questions about marine mammals and the law.

## NOAA's Charles M. Gilbert Ends Service to Fisheries Research



The NOAA fisheries research vessel *Charles M. Gilbert*, matriarch of the National Marine Fisheries Service Honolulu Laboratory's two-vessel fleet for many years, has been sold.

The *Gilbert* sailed on her first cruise in 1952 from San Diego, Calif. In the intervening years, she made 130 cruises, covering over 375,000 miles, mostly in the central Pacific Ocean. She began her service with the Interior Department's Fish and Wildlife Service, and was transferred to NOAA in 1970. With her departure from Hawaii, the San Diego-based *David Starr Jordan* remains the only fishery research vessel assigned to the central Pacific.

## Cloud Seeding Results (Continued from page 1)

determine the transport of heat, moisture, and momentum through the cloud base of precipitating Florida cumuli, for the first time in the FACE series. Such information will be extremely useful in studies of cumuli and their interactions with the atmospheric boundary layer.

--Data were obtained which will permit scientists to compare radar estimates of precipitation with actual rainfall as measured by a network of surface instruments, and improve the quality of radar estimates. Digitized weather surveillance radar and one of the shipboard radars designed for use in next year's Global Atmospheric Research Program's Atlantic Tropical Experiment, were used in the experiment.

--Dual Doppler radar was used in a weather modification experiment for the first time, and should improve present understanding of cumulus dynamics.

Of the 94 days available, within the June 11-September 12 experiment period, 19 qualified for the experiment, and 75 were rejected as unsuitable for reasons of too much or too little weather and water in the atmosphere over the test area.

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## Fish-Saving Measures Examined in Salmon Runs

Scientists and engineers from several Federal and State agencies are testing new designs in dam construction, in attempts to reduce high levels of nitrogen and other gases present in waters near dams in rivers of the Pacific Northwest.

Supersaturated gas levels cause "gas bubble" disease in fish, destructive to large numbers of migrant and resident species swimming in the vicinity of dam spillways. The disease is similar to the nitrogen poisoning ("the bends") that can maim or kill deepsea divers.

The cooperative program is carried out by the U.S. Army Corps of Engineers, State fishery agencies, and NOAA in the Columbia and Snake Rivers. The study site is at Lower Monumental Dam, Washington.

One device being tested is a perforated bulkhead (a temporary wall or gate installed in the intake of incomplete or skeleton generator units) that allows water to pass through each empty generator bay (areas in the dam designated for future turbines), thus decreasing the amount of water plunging over the spillway. When spilling is necessary, flow deflectors (with and without tooth-like projections called dentates) installed in spillways prevent the water from plunging to great depths.

After investigators determined that the test devices satisfactorily alleviated nitrogen supersaturation, the next important objective became an evaluation of the impact the test structures themselves might have on juvenile salmon as they made their way to the sea through the control bulkheads.

Results of the tests suggest that during the period of heavy smolt migrations, spillways should be equipped with flow deflectors without dentates and that perforated bulkheads should not be used during the main migrations of juvenile salmon. The adoption of such procedures will ensure maximum overall benefits of a reduction in supersaturated gas to both migrating and resident species of fish.

## New NOVAC President Announces Annual Meeting



Mrs. Donna Foster (right), newly elected President of NOVAC Voluntary Action, Inc., has announced that NOVAC's Annual Meeting will be held on November 26 at 11:30 a.m. in the Adam's Ark Restaurant, in Page Building No. 1, in Washington, D.C.  
On the left above is Ms. Meredith Beeg, Chairman of NOVAC's Board of Directors. The group's former President, Ms. Gail Young, resigned recently after accepting a new position in another Government agency.

## Wind-Sensing Network Begins Second Year of Operation

Strong, gusty west winds struck the Boulder, Colo., area on October 24 reaching peak velocities exceeding 90 miles per hour in some parts of the city at mid-morning. The region of strongest winds moved slowly eastward as the winds diminished in intensity in the early afternoon.

This is the general picture provided scientists in the Environmental Research Laboratories by a network of wind-sensing sites which have entered their second year of operation in the Boulder area.

Instruments in the network are maintained by volunteer observers, who relay wind data to ERL's Atmospheric Physics and Chemistry Laboratory. In addition to the 14 NOAA stations, six wind stations are operated by other government laboratories, two by local industries, and one by the Boulder Daily Camera. This windstorm was the first of the season and the second to be recorded by the full network.

The direct cause was a strong westerly flow of air at upper levels of the atmosphere in conjunction with an inversion over the Rocky Mountains, producing the high winds which swept through the foothill communities. A high pressure system moved into the Great Basin on October 23 behind a weak frontal system. As the front passed through the next day a low pressure trough developed to the east of the Rockies, creating a strong westerly flow of air. Air rushing over the Continental Divide created lee waves east of the Divide, resulting in the strong winds. The October 25 winds are referred to as Bora-type and are of cooler temperature than the locally more common Chinook-type winds.

Studies of historical wind data show that an October windstorm is unusual, since most of the damaging winds occur between November and February.

## WMO Cooperative Marine Climatological Summaries For 1965 Published by National Climatic Center

The Environmental Data Service's National Climatic Center has published the 1965 issue of The WMO Cooperative Marine Climatological Summaries for the U.S. area of responsibility. The 1964 summaries were published last year under a cooperative World Meteorological Organization program. The WMO-assigned zone of responsibility for the U.S., one of nine responsible member nations, extends from longitude 50° W to longitude 170° W and from latitude 50° S to the North Pole.

The 437-page volume contains monthly summaries for 57 representative marine areas and three Ocean Weather Stations. The elements summarized are: dry-bulb temperature, dew-point temperature, sea temperature, air-sea temperature difference, visibility, weather, wind direction and speed, pressure, cloud, and waves. NCC plans to publish summaries for 1961-1963 and 1966-1971 in the next few years. Copies of the summaries may be purchased from the NCC, NOAA, Federal Building, Asheville, N.C. 28801. The price is \$5.00 for domestic and \$6.25 for foreign orders.

# length of service awards

National Weather Service Southern Region employees who received Length of Service Awards in March were: 30 years - William R. WRIGHT, WSO Chattanooga, Tenn.; Daniel N. SELLERS, WSO Fort Worth, Tex.; Isom E. MEDFORD, WSO Houston, Tex.; James H. CANNON, WSMO Houston, Tex.; Perry J. EMMERT, WSO Jacksonville, Fla.; Rodrigo V. GONZALES, WSFO San Antonio, Tex.; and Robert J. CALVESBERT, WSO/CC, San Juan, Puerto Rico. 25 years - Donald M. SCHULER, WSO Tampa, Fla. 20 years - Charles L. CHILDS, WSRH, Fort Worth, Tex.; Hugh B. RILEY, Sr., WSO, Athens, Ga.; Robert J. COE, WSMO, Centreville, Ala.; Mary T. WATSON, NHC Miami, Fla.; and Richard A. SNYDER, WSO, Mobile, Ala.



Doyle F. SUTHERLAND (left), of the Gulf Coastal Fisheries Center Panama City (Fla.) Laboratory, National Marine Fisheries Service, received his 20-year Length of Service Award in April from Eugene L. Nakamura, Officer-In-Charge of the Laboratory.

National Weather Service Central Region employees who received Length of Service Awards in May were: 35 years - Wesley W. GRIFFITH, NSSFC Kansas City, Mo.; Edward O. ZEIEN, WSO Rapid City, S. Dak.; and Alfred A. SKREDE, DATA, CRH Kansas City, Mo. 30 years - Kenneth C. ASTELL, WSFO Minneapolis, Minn.; Warren O. ECKERT, WSO Goodland, Kans.; Bernard W. MAGOR, NSSFC Kansas City, Mo.; Lewis W. PORTER, Jr., NRC Joliet, Ill.; Charles J. STEPHANS, WSO Rockford, Ill.; and Charles D. WILLIAMS, WSO Grand Junction, Colo. 20 years - James H. BURUD, WSO Duluth, Minn.; Georgia M. FIKE, WSO Lander, Wyo.; Ronald E. HAUG, WSFO St. Louis, Mo.; William E. KETOLA, WSO Green Bay, Wisc.; and Marvin D. SHIMP, WSO Lansing, Mich.



Jack B. WHITCOMB, of the National Ocean Survey Reproduction Division in Washington, D.C., received his 40-year Length of Service Award from Dr. Robert M. White, NOAA Administrator, in May.

National Geodetic Survey Operations Center employees who received Length of Service Awards in May were: 35 years - Gilbert L. BURDINE. 30 years - Vernon H. BURNS, Party G-47; and James L. COOK, Party G-19.

National Weather Service Western Region employees who received Length of Service Awards in May were: 40 years - William E. DUNN, WSO San Diego, Calif. 30 years - S. Thomas ANDERSEN, WSMO Wendover, Utah; Carl J. CLARK, Jr., and Melvin W. GRAHAM, WRH, Salt Lake City, Utah; Ernest G. COGDAL and Paul G. KANGEISER, WSFO Phoenix, Ariz.; Edgar T. FRYMAN, WSMO San Nicolas, Calif.; and Carl E. WICKSTROM, WSMO, Blue Canyon, Calif. 25 years - Frank E. LAMBRECHT, WSO Medford, Oreg.; Charles L. ROBERTS, Jr., WSFO San Francisco, Calif.; Edgar L. SESSIONS, WSFO Los Angeles, Calif.; and Robert A. STUWE, WSO Salem, Oreg. 20 years - David G. HENCHEN, WSMO San Nicolas, Calif.

NOAA Headquarters employees who received Length of Service Awards in June were: 35 years - David G. FORDHAM and Wesley IRVIN. 30 years - Garnett S. AMBURN, Dorothy M. SAMEN, Earle E. FRAZIER, Thelma ANTHONY, Lewis S. COTTEN, Robert L. JACOBY, Armando R. PANARIELLO, and Margaret V. SUPPLEE. 25 years - John C. DAVIES, Donald J. DENION, Mary K. SKOTZKO, Otto WILLIAMS, Gordon M. LEIBOLD, Eldon HUGHES, Clyde E. DUNCAN, Gale LYON, and Henry TABACK. 20 years - Ethel B. HUGHES, Floyd E. SMITH, Toshiko M. OTA, William L. SCHALLERT, Michael W. PAGE, Joseph A. MILLER, George M. PETRO, Jr., Frank Joseph ZIDANIC, Robert L. BIRCHFIELD, Norman O. SMITH, Robert BLEVINS, and Normalee S. FOAT.

National Weather Service Central Region employees who received Length of Service Awards in June were: 30 years - John A. EAKIN and Wilbur W. WRAY, NSSFC, Kansas City, Mo.; Leonard F. HAND, WSO/AG Portageville, Mo.; Harold E. LOWMAN, WSO Concordia, Kans.; and Charles A. WORKMAN, WSO Grand Junction, Colo. 25 years - Malcolm J. BAUMAN, WSO North Platte, Nebr. 20 years - Arnold A. DEUTSCHER, WSO Rapid City, S. Dak.; Richard M. GLOMMEN and Iola A. PATTON, WSFO Detroit, Mich.; David M. HIGGINBOTHAM, NSSFC, Kansas City, Mo.; William D. LEWIS, WSO Sault Ste. Marie, Mich.; Richard L. PETTIT, WSO Peoria, Ill.; Harold SMITH, WSO Topeka, Kans.; and Wilford E. TAYLOR, WSO Springfield, Mo.

In June, the following employees of the National Weather Service Pacific Region received Length of Service Awards: 25 years - Floyd M. KEYES, PRH, Honolulu, Hawaii. 20 years - Nichima ORLANDO, WSO Truk; and Thomas T. TATEKAWA, WSO Ponape.

Elmer W. NELSON of the National Marine Fisheries Service Alaska Region received a 25-year Length of Service Award in June.

Ambrosio G. CABRARA, who serves aboard the NOAA Ship Oceanographer, received a 25-year Length of Service Award in May.

Lake Survey Center employees who received Length of Service Awards this summer were: 30 years - Emily A. CHESNEY, Albert M. NALLIAN, Casimir S. ZARANNEK and Gordon L. REINSBERG. 25 years - Richard PAJAKOWSKI and Ted D. KUCHCIAK. 20 years - Tom H. ALLEN, John E. DUNGAN, John E. GALES, Al W. HODSON and Carmela F. NEW.

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# Twelfth Weather Radar Class Held at NWS Technical Training Center

Participants in the recently completed Twelfth Weather Radar Class at the National Weather Service Technical Training Center in Kansas City, Mo., were

(front row, from left) Larry Burns, Instructor; Charlie D. Mabe, Victoria, Tex.; Paul W. Dailey, Jr., Cincinnati, Ohio; William O. Folsom, Sacramento, Calif.; John Teare, Kansas City, Mo.; Maxie R. Brown, Baton Rouge, La.; Edward J. Landry, Jr., Centreville, Ala.;



(second row, from left) Joel Wertman, Instructor; Gene E. Bowman, Garden City, Kans.; Francis E. Burns, Detroit, Mich.; James E. White, Nashville, Tenn.; Carl L. Phipps, Fort Worth, Tex.; Stephen L. Blackman, Charleston, S.C.; Reginald W. Preston, Huron, S. Dak.; and Bill Winkert, Instructor.

## Surplus Nautical Chart Sale Successful

The National Ocean Survey's sale of surplus nautical charts, some dating back to the mid-19th century, generated more than 25,000 communications over the past 19 months. The requests for the collector items were handled by the Physical Science Services Branch headed by William Stanley. Queries are still coming in for the charts, but most of the supply of approximately 13,000 charts have been sold.

## Length of Service (Continued from page 6)

National Weather Service Eastern Region employees who received Length of Service Awards in June were: 35 years - Domenic J. GAUDIOSO, ERH, 30 years - Donald W. MARIER, WSO Washington, D.C.; Richard A. FOSTER, WSO Youngstown, Ohio; Vincent J. VALLI, WSO Kearneysville, W. Va.; Richard H. RAUSCH, WSFO Buffalo, N.Y.; and Thomas E. ROWLEY, Jr., WSFO Albany, N.Y. 25 years - Paul J. RHODES, WSO Greenville-Spartanburg, S.C. 20 years - William C. BALMER, Jr., WSO Greenville-Spartanburg, S.C.; Cecil E. SIMMONS, WSO Trenton, N.J.; and Shafer D. CASE, Jr., WSFO Charleston, W. Va.

National Weather Service Western Region employees who received Length of Service Awards in June were: 30 years - Roy H. BASTIAN, WSO Stockton, Calif.; Leonard DAHL, WSO Olympia, Wash.; William B. DOWNS, WSO Helena, Mont.; Harry L. ELSER, WRH, Salt Lake City, Utah; William F. SAPP, San Francisco, Calif. PWP; and Donald A. WILLIAMS, WSO Las Vegas, Nev. 20 years - James D. DUFFEY, WSO Yakima, Wash.; and Russell D. STOHL, WSO Quillayute, Wash.

National Weather Service Southern Region employees who received Length of Service Awards in June were: 30 years - Carl W. HOSTETTER, Jr., WSFO San Antonio, Tex.; Donald B. MUNRO, WSO Lake Charles, La.; Otho I. BLANKENSHIP, WSO Shreveport, La.; Frank D. SEALY, WSO Corpus Christi, Tex.; Henry M. TONKIN, Jr., NHC, Miami, Fla.; Leo E. THURMOND, Jr., WSFO Lubbock, Tex.; and William J. THOMASON, WSMO, Waycross, Ga. 25 years - Ray R. JANTZ, WSO Tulsa, Okla. 20 years - Annabelle PAVER, NHC, Miami, Fla.; Alene D. Van DEURSEN, WSO Fort Myers, Fla.; and Bob G. PONDS, WSFO Jackson, Miss.

## Navy Secretary Warner Meets SITS Graduates



During a recent visit to the Naval Coastal Systems Laboratory in Panama City, Fla., Secretary of the Navy John W. Warner stopped briefly to chat with college graduate students who just completed a rigorous 10-week diving program entitled "Scientist in the Sea." A unique training program for diving scientists, SITS is a joint effort of NOAA, the State University of Florida, and the Naval Coastal Systems Laboratory, aimed at providing the marine science community with qualified scientific divers. Since its inception three years ago, SITS has graduated 42 graduate students, including eight women, as scientific divers.

## Tropical Cyclone Probability Data Available

The Environmental Data Service's National Climatic Center in Asheville, N.C., has printed Volumes I, II, and III of North Pacific Tropical Cyclone Probabilities containing information on 24-hour, 48-hour, and 72-hour storm movements. Computations of the probabilities were supplied by the NOAA Office of Management and Computer Systems, Systems and Applications Division, at Suitland, Md. The project was funded by the Naval Weather Service Command.

## FY 1973 Chart Sales Total \$3,675,000

The sale of navigational charts by the National Ocean Survey brought in \$3,675,000 during the 1973 fiscal year which ended July 1. Receipts the previous fiscal year totaled \$3,220,000.

## LSC Survey of St. Mary's River To Support MARAD Project

A nine-man field party from the Lake Survey Center's Surveys Branch is running third-order horizontal control from Lake Munuscong to Lake Nicolet on the St. Mary's River for the Maritime Administration. William A. Bergen (Chief), Peter A. Heltunen, Ted D. Kuchciak, Lieutenant (junior grade) Michael C. Meyer, Ensign Donald Winter, Robert E. Stachon, Jerry M. Nahas, Arthur M. Christenson, and Amos Perry comprise the team.

The survey is necessary to support MARAD's project for development of a commercial navigation system for shippers using the waterway during the coming winter months. Since buoys are removed when ice starts forming on the Great Lakes, a different aid system is being developed for the extended winter navigation season. Two systems will be tested this year. One will be a precise laser navigation system using a laser device aboard ship and passive laser retroreflectors along the shoreline, and the other will use a ship's radar and shore-based passive radar reflectors.

The initial survey support is scheduled for completion November 30, with the second and final phase support tentatively scheduled for January 1974.

## City Adopts Street Name Suggested by MIC

In South Dakota's largest city, Sioux Falls, the excellent building housing the Weather Service Forecast Office at Joe Foss Field is located on an access drive which was without a name until recently. Pointing out the deficiency to city officials, Meteorologist in Charge Sanford R. Miller suggested an appropriate street name and the responsible city departments agreed.

The street leading to the National Weather

Service Office is now named "Weather Lane" and an unveiling ceremony of the new street sign was conducted by the Sioux Falls Mayor, M.E. Schirmer, with other leading city officials in attendance. "We plan to use 'No. 1, Weather Lane' as our working address and will strive to maintain top rating in the services we provide", said Mr. Miller.



NWS Secretary Donna Roti watches as Harold Bovee of the Sioux Falls Traffic Engineering Department erects the new sign. in the services we provide", said Mr. Miller.

Photo by Bill Hoey, Sioux Falls Argus-Leader.

## recipe of the week



### TUNA-VEGETABLE LOAF

2 cans (7 ounces each) tuna  
2 cups (1/4-inch) soft bread cubes  
3/4 cup milk  
1 cup finely chopped celery  
1/4 cup finely chopped onion  
4 eggs, beaten  
1 tablespoon chopped parsley (optional)  
1 tablespoon lemon juice  
1 teaspoon salt  
Mustard Sauce (recipe follows)

Drain and flake tuna. Grease an 8-1/2 by 4-1/2 by 2-5/8-inch loaf pan. Line bottom with aluminum foil and grease foil. Combine bread cubes and milk; heat just until mixture bubbles, stirring constantly. Remove from heat. Stir in celery, onion, and remaining ingredients, except Mustard Sauce. Pour tuna mixture into pan. Bake in slow oven, 325° F., about 1 hour or until mixture is set. Cool in pan 15 minutes before removing from pan. Slice and serve with warm Mustard Sauce. Makes 6 servings.

### MUSTARD SAUCE

1/2 cup salad dressing or mayonnaise  
1/2 cup dairy sour cream  
1 tablespoon prepared mustard  
1 tablespoon lemon juice  
1/2 teaspoon horseradish  
1-1/2 teaspoons grated lemon rind

Combine ingredients; mix. Heat slowly, stirring constantly, until desired serving temperature. Makes about 1 cup sauce.

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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