



# NOAA WEEK

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

## "Talking Drift Bottles" Will Gather Ocean Data

"Talking drift bottles" being developed for the National Data Buoy Center and the National Marine Fisheries Service may provide an effective and relatively inexpensive tool for investigating many oceanographic mysteries, from the migrations of icebergs to the transportation of haddock eggs by ocean currents.

Under a \$50,000 one-year contract, scientists at the Woods Hole (Mass.) Oceanographic Institution will develop an electronic system for tracking small drifting buoys from shore stations. The contract calls for design, fabrication, and demonstration of two shore stations and the drifting buoys.

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## Lightning Suppression Experiments Underway

NOAA scientists are attempting to suppress lightning by seeding thunderstorms with fine aluminized fibers over a 200-square-mile area of northeastern Colorado this summer. The six-week experiment represents the resumption of a 1965-66 lightning suppression study performed near Flagstaff, Arizona, by the Environmental Research Laboratories' Atmospheric Physics and Chemistry Laboratory (APCL), Boulder, Colo.

This year's study will again be directed by APCL's Dr. Heinz Kasemir, who says: "We are looking forward to getting very accurate results this summer since we have developed a ground network that will record the strength of the field and the location of each lightning stroke, within a 50 mile radius."

Lightning is the instantaneous electrical discharge between two oppositely charged storm areas. However, before lightning can occur the electric field in a thunderstorm must approach 500,000 volts per meter.

Dr. Kasemir and five other NOAA scientists will attempt to suppress lightning by preventing the storm's electric field from reaching lightning strength. To do this, they will utilize a phenomenon known as "corona discharge."

If an electrically conductive pointed object is introduced into a strong electrical field, like that of a thunderstorm, it will develop a positive and negative pole. Electrically charged particles, called ions, then escape from the pointed pole of the same charge. The resulting streams of ions, frequently visible as a faint glow on airplane wing tips, ship masts and tree tops, increase the electrical conductivity of the atmosphere.

Because air is an insulator, very little electricity passes between oppositely charged areas until the field builds enough strength to overcome the insulating effect; then a lightning bolt occurs. The corona effect, however, should make the air more conductive and the electric charge should continuously bleed away obviating the strong field build-up.

Using this principle, the scientists drop chaff, aluminized nylon fibers 10 centimeters long, in the region of the storm's electrical field, thereby increasing atmospheric conductivity, which in turn should neutralize the

(Continued on page 6)

## Awards Night Ticket Sellers

Tickets are now available for the NOAA Awards Night Dinner-Dance, to be held September 23 at the Indian Spring Country Club, Silver Spring, Md. They can be purchased from the following representatives, who will also make table reservations:

| Name and Office                                 | Telephone<br>(IDS & FTS) |
|---|--------------------------|
| Paul Paradis -<br>Office of Administrator ...   | 189-2985                 |
| Edwin McCann -<br>Office of Administration ..   | 14-68017                 |
| Patrick Hughes - EDS .....                      | 179-2237                 |
| Arthur Peterson - NWS .....                     | 179-2288                 |
| James Jones - NESS .....                        | 173-37606                |
| Alonzo Smith -<br>Environmental Monitoring ..   | 14-68646                 |
| Mary Diguilian -<br>Environmental Modification. | 14-68325                 |
| Cdr. Ronald Buffington -<br>NOAA Corps .....    | 14-68950                 |
| Leo Craig - Sea Grant .....                     | 189-2151                 |
| Joseph Slavin - NMFS .....                      | 183-4386                 |
| Herbert Lieb - PA .....                         | 14-68243                 |
| Paul Martenson -<br>Marine Resources .....      | 14-68819                 |
| Capt. Roger Lanier - NOS ....                   | 14-68701                 |
| John Robinson - ERL .....                       | 303-499-6226             |

## President Nixon Observes Kon-Tiki Voyage Anniversary

The year 1972 is the 25th anniversary of the voyage of the Kon-Tiki--a balsawood raft on which Norwegian explorer Thor Heyerdahl and five companions floated 4,000 miles across the Pacific to a remote atoll near Tahiti. This history-making journey is regarded as a classic of the sea.

To help celebrate its 25th anniversary, President Nixon sent the following cablegram on August 17:

Honorable Pierre Angeli  
Governor of French Polynesia  
Papeete, Tahiti

Twenty-five years ago, a world recently torn by war stood united in admiration for the daring achievement for a band of brave men who crossed the Pacific on a raft named Kon-Tiki.

It was more than a simple adventure. The Kon-Tiki expedition was a notable scientific advance which contributed to man's knowledge of his origins and furthered his understanding of meteorology, hydrography and zoology. With good reason, Americans were proud of the role our nation's Weather Service had played in helping guide the Kon-Tiki along its course. Thor Heyerdahl and his crew deserved our thanks then for the drama of progress they introduced to a world darkened by sadness and despair. Today we still owe them a debt of gratitude for the knowledge and understanding they gained at their personal peril for all mankind.

I send my very best wishes to all who participated in this historic voyage, and to those who now join you in celebrating its twenty-fifth anniversary.

Richard Nixon

## Chief Scientist and Projects Office Is Established on Staff of NOS Director

A Chief Scientist and Projects Office is being established on the staff of the Director of the National Ocean Survey. The new office will be responsible for developing scientific programs with academic and research institutions, for coordinating interdisciplinary programs within the agency, and for integrating NOS and NOAA programs. Professional personnel on the new staff will consist initially of oceanographers, physicists, geodesists, and other scientists. Support personnel for special projects and as advisors will be assigned as needed from program areas.

In addition to his duties as Assistant for Science Activities, Dr. Hyman Orlin has been named Acting Chief Scientist and entrusted with the task of establishing the office as an operating unit.

## VAP Fellows Receive Degrees And Are Commended by Dr. White



(From left) Mr. Daniel, Dr. White, Mr. Hoilett, and Mr. Thensathit.

On August 18, Dr. Robert M. White, NOAA Administrator, presented Certificates of Achievement to Carl B. Daniel of Trinidad and Tobago, Anant Thensathit of Thailand, and Philemon A. Hoilett of Jamaica, who had received their bachelor degrees in meteorology from Florida State University earlier in the week. They had held Long-Term Fellowships which were granted by the United States as part of its contribution to the WMO World Weather Watch Voluntary Assistance Program.

They were generous in their praise of this program, administered by NOAA's Office of International Affairs, to train meteorologists from under-developed countries. All were anxious to return to their homes and put their knowledge and training to use for their countries.

Mr. Hoilett will spend two weeks at the Brownsville, Tex., Weather Service Office for practical training in radar before returning to Jamaica, where he "hopes to make a contribution to our weather prediction capability." His duties will include being a television weatherman.

Expressing eagerness to return to his wife and three children, Mr. Daniel, the only married man in the group, said he expects to be concerned primarily with administrative aspects of the Meteorological Service in Trinidad.

Thailand, also, will have another television weatherman when Mr. Thensathit returns there to assume his duties in the Meteorological Department of the government. He felt he had gained much understanding of people of other countries, particularly those in his profession, through getting to know so many of them at the university.

## Captain George C. Mattison Dies

Captain George C. Mattison, who retired in 1947 after more than 30 years in the commissioned corps, died on August 5. At the time he retired he was in charge of the New York Field Station of the Coast and Geodetic Survey, predecessor of the National Ocean Survey. He is survived by his wife, two daughters and a son. Mrs. Mattison resides at 5502 N. Greenfield Drive, Portsmouth, Va. 23703.

## Anthony E. Tancreto Is Named MIC of Boston, Mass., WSFO

Anthony E. Tancreto, who has been Chief of the Public Weather Branch in the National Weather Service Headquarters in Silver Spring, Md., since 1970, is the new Meteorologist in Charge of the Boston, Mass., Weather Service Forecast Office.



He entered the Weather Service in 1946 at Kindley Field, Bermuda, after serving three years in the Navy as an aerologist, and two years later transferred to New York City as a Port Meteorological Officer and Area Forecaster.

He was employed by a private meteorological consulting firm from 1953 until 1955, when he returned to the NWS as storm surge specialist and guidance forecaster at Boston. He subsequently served five years as MIC at Atlantic City, N.J., four years as MIC at New York City, and one year as Special Assistant to the Director of the NWS Eastern Region before his transfer to NWSH.

A graduate of Tufts University, he obtained his master's degree in meteorology at Massachusetts Institute of Technology.

## Coastal Mapping Division Replaces Photogrammetric Division at AMC

A Coastal Mapping Division has been established at the National Ocean Survey's Atlantic Marine Center, Norfolk, Va., in place of the former Photogrammetric Division. In addition to the change of name, the Tidal Field Parties and AMC tides support personnel have been transferred to the new division from the Operations Division, and the Airport Compilation and Review Section has been changed to the Special Projects Section.

In announcing the reorganization, Rear Admiral Allen L. Powell, NOS Director, said the title "Coastal Mapping Division" defines more accurately the activities and functions of the present division and is in agreement with the name of the comparable division in the Office of Marine Surveys and Maps at NOS headquarters in Rockville, Md. He added that the flexibility gained by combining the resources of photogrammetry and tides can greatly enhance overall field operations.



Commander Melvin J. Umbach, Chief of the Photogrammetric Division, was placed in charge of the new unit.

## \$1,500,000 Sea Grant Awarded To Texas A&M University

A \$1,500,000 Sea Grant has been awarded to Texas A&M University, College Station, Tex., one of four institutions designated "Sea Grant Colleges" by the Secretary of Commerce last year.

Texas A&M's Sea Grant program concentrates on research and technology, training, and marine extension activities responsive to the needs of the State of Texas, and includes such efforts as fisheries and seafood technology, shrimp mariculture, and environmental quality assessment.

With the aid of its Sea Grant, Texas A&M will make an assessment of the presently underutilized Texas trawl fish resource, investigating human health hazards, factors affecting vessel storage, fishery product processing and market evaluation.

Having already achieved the nation's first commercial harvest of pond-grown shrimp, through its Sea Grant program, the University will continue to emphasize pond shrimp culture in its mariculture program. Private industry is cooperating closely in this effort.

Other Texas schools will participate in the Texas A&M Sea Grant program, too. For example, Baylor University College of Medicine will work to determine the extent of potent public health virus hazards in Texas coastal waters. Lamar University together with Texas A&M will initiate the establishment of a coastal laboratory in the Sabine area, to deal with the environmental problems and special needs of the Lower Neches River-Sabine River estuary. Projects on law and the administration of the coastal zone are under way in cooperation with the University of Houston Law School.

## Mason A. Bennis Is Appointed MIC at Columbus, Ohio, WSO

Mason A. Bennis, Principal Assistant at the Providence, R. I., Weather Service Office since 1964, has been appointed Meteorologist in Charge at the Columbus, Ohio, Weather Service Office.



He entered the Weather Service in 1942 as an observer at Providence, and entered the military service the following year. After serving two years as an equipment technician and observer in the Air Force, he returned to Providence. In 1949

he transferred to Syracuse as a Meteorological Aide. From 1958 to 1960 he was an Instrument Analyst in the NWS Engineering Division in Washington, D. C., and in 1960 he returned to Providence as a forecaster in the experimental FM broadcast program.

He received his meteorological training at Pennsylvania State University and the U. S. Department of Agriculture Graduate School.

## Deep Ocean Currents Measured With Electric Field Meter

Oceanographers in a joint NOAA-University of Hawaii research effort have for the first time measured the vertical electric field in the deep ocean from an on-site moored instrument. The measurements of the field are important because they can be interpreted as measurements of the water's motion.

Due to its content of metallic ions and dissolved salts, ocean water is an electrical conductor. As the ocean flows and ebbs through the earth's magnetic field, tides, waves, and currents produce what physicists recognize as the dynamo effect: whenever an electrical conductor is moved through a magnetic field an electric field is set up in a direction mutually perpendicular to both the conductor's motion and the magnetic field.

Dr. Robert R. Harvey, an oceanographer at the Joint Tsunami Research Effort (JTRE) explains that an electric field recorder can be used to determine the speed of water in the following manner. The component of the ocean current that moves in an east-west direction cuts across the component of the earth's magnetic field that is oriented in a north-south direction. This generates a perpendicular--and in this case, vertical--electric field. Using a mathematical formula incorporating the measured strength of the electric field and the known strength of the magnetic field, Dr. Harvey can easily calculate the east-west component of the ocean current. The true velocity and direction of the current may be worked out by measuring the vertical and horizontal electric fields and by using these quantities in another set of calculations. In this way, an electric field recorder becomes a current meter.

This electric field recorder developed by NOAA is dropped from a ship in deep water with no tether attached. The gasoline-filled float is about 250 pounds buoyant and so holds two electrodes on the sea floor. The electrodes make contact with the salt water and any voltage differences between the electrodes is then measured by the recorder.

Dr. Harvey made continuous measurements for two days and 14 hours in nearly 10,000 feet of water 22 miles southwest of Oahu. From this relatively short duration record, he was nonetheless able to deduce the movement of the semidiurnal tidal current which agreed in amplitude with currents predicted from conventional tide gages.

He also devised an unusual method of recovering his untethered instrument. An explosive cable cutter releases the instrument package from its anchor and the buoyant gasoline tank pulls the entire instrument to the surface where a radio beacon and flashing light are activated. Just after the scheduled explosive release time, an airplane flies over the drop point and locates the instrument for retrieval.

Dr. Harvey did this work at the Joint Tsunami Research Effort, a cooperative program of NOAA and the University of Hawaii. While he is employed by the university, the field measurement project was funded by NOAA.

## Anne J. Anderson Receives Commerce Bronze Medal



Anne J. Anderson recently received a Department of Commerce Bronze Medal for "exceptional performance of duties as Secretary and as Confidential Assistant to the Director, National Weather Service, over a long period of time." Mrs. Anderson was presented the award by Dr. George P. Cressman, NWS Director, at a recent staff meeting.

## LSC Surveyors Using Laser Ranging Device In Survey Along Shores of Great Lakes

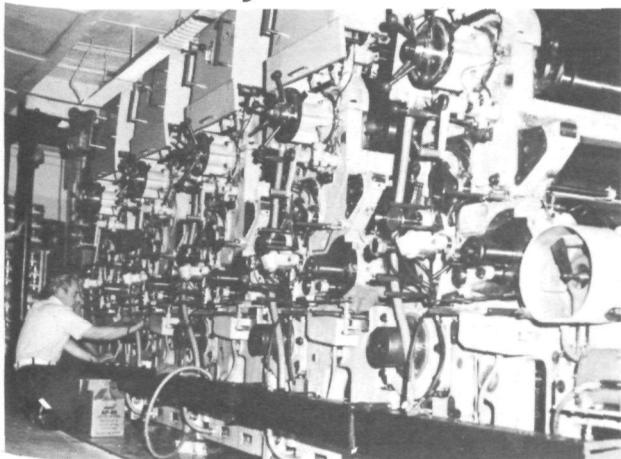
The Lake Survey Center's Horizontal Control Section will be making a survey along the southeastern shore of Lake Erie and the south central shore of Lake Ontario from now until late October to precisely determine the position of geodetic survey marks. The eight-man crew will employ a laser ranging device which can measure distances of over 60,000 meters, or more than 37 miles, in 10 minutes with an error of only two-and-a-half inches. The precise location of these marks is a pre-requisite for Lake Survey's function as a chartmaker for the Great Lakes. In addition, this work is being coordinated with the National Geodetic Survey operations in the adjacent areas.

## Lieutenant Commander John K. Callahan Is PEIRCE's New Executive Officer

Lieutenant Commander John K. Callahan is the new Executive Officer of the NOAA Ship PEIRCE. A member of the commissioned corps since 1966, he received a marine engineering degree from the State University of New York Maritime College and a law degree from Catholic University. His previous assignments have been aboard the OCEANOGRAPHER and the DISCOVERER, in the New York field office, and in Rockville, Md., on the Ship Facilities Group and on the Director's staff.



## NOS Expects Production Speed-Up With Recently Installed Press



A new five-color lithographic offset press has been installed at the National Ocean Survey's Reproduction Division in the Commerce Department Building in Washington, D. C., where millions of navigational charts are printed annually. Division Chief Melvin M. Gienau said the new half-million-dollar press represents a big advance over the old press, which is being retained. Mr. Gienau said the new press will produce a better chart at less cost, and will print over 7,000 charts an hour, while the old press prints some 5,000 charts an hour.

Assembly of the new press began July 5, but when the work was substantially completed, it was discovered that due to an oversight by the erectors, the press was 18 to 19 inches off its proper position. Since this would greatly hamper efficient operation, the massive 60-ton machine had to be moved. A two-week delay was anticipated while the machine was dismantled and reassembled. Instead, an ingenious plan to move the press without dismantling it resulted in its being shifted to the desired position in approximately three hours. This was done by dropping the press on steel rollers and placing two 20-ton jacks between the end of the press and the wall. The press was then easily moved.

## New Standard Terminal Arrival Routes (STARs) Will Expedite Air Traffic Control

New charts designed to expedite air traffic control arrival route procedures are being issued by the National Ocean Survey's Aeronautical Chart Division beginning October 12. The Standard Terminal Arrival Routes (STARs) are preplanned instrument flight rules air traffic control arrival route procedures and will be published every eight weeks in book form. Initially, there will be approximately 120 STAR charts serving 50 airports in the conterminous United States, Puerto Rico and the Virgin Islands.

## Fire Weather Office Established At Washington, D.C, WSFO

The National Weather Service Eastern Region proposal that a fire weather office be established at the Weather Service Forecast Office in Washington, D. C., was approved by the NWS Headquarters, and the following changes became effective on August 14:

--The fire weather responsibilities for the entire state of North Carolina are vested in the Weather Service Forecast Office in Raleigh, N. C.

--The fire weather responsibilities for the states of Maryland, Virginia, and Delaware will be handled by the WSFO Washington. The technical leader for the fire weather program at WSFO Washington is James Hand, who is also the incumbent air pollution meteorologist. Through the auspices of the Eastern Region and the U. S. Department of Agriculture's Forest Service, Mr. Hand will soon receive special training in fire control and fire weather.

--The fire weather program at the Weather Service Office in Asheville, N. C., has been terminated.

These changes reflect the policies established under the recent NWS Forecast Reorganization, which is designed to concentrate meteorologist talent at forecast offices.

## Honolulu WSFO Tsunami Warning Center To Begin Operation by January 1973

The responsibility for the operation of the Tsunami Warning System is being transferred from the Environmental Research Laboratories to the National Weather Service. The Weather Service Forecast Office in Honolulu, Hawaii, will establish a tsunami warning center by January 1, 1973, and a tsunami training program has been started there.

Dr. Gaylord Miller, Environmental Research Laboratories, Director of the Joint Tsunami Research Effort at the University of Hawaii, presented the first seminar on July 11. Special classes for leading forecasters and forecasters being conducted three times a week will continue for several more weeks.

Robert A. Eppley, the WSFO's new geophysicist, is the principal instructor. His assistant is Commander Ray E. Moses, tsunami specialist in the NWS Pacific Region Headquarters.

The purpose of the training program is to assure that all of the forecasters who will be involved will be ready for the tsunami warning responsibility by the end of 1972.

In addition to the MIC and several Honolulu forecasters, Tin-Kuo Lee, a visiting meteorologist from Taiwan, attended the July 11 seminar.

## Training Course for Divers Supported by Sea Grant

A ten-week diving course, supported by a NOAA Sea Grant and called Scientist-in-the-Sea '72, is underway at the Naval Coastal Systems Laboratory in Panama City, Fla. Dr. James Miller, Deputy Director of NOAA's Manned Undersea Science and Technology Program, is NOAA's technical representative. It is considered to be the first major training program for diving scientists, and is the second such program offered to graduate students of the University System of the State of Florida. Four women are among the 16 graduate students enrolled in the course, which is designed to provide necessary skills to meet the growing demands of the marine science community.

In addition to the academics of diving and oceanography, the training will include night diving, exposure to saturation diving technology, diving medicine, navigation, underwater communications and photography, advanced umbilical diving techniques, search and recovery methods, engineering science, and deployment and utilization of underwater habitats.



Florida State University student Joe Halusky uses underwater movie camera.

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## Lightning Suppression (Continued from page 1)

storm's electric field and suppress lightning. In the experiment, the corono effect is not visible from the ground.

As thunderstorms develop or move into the test area, Dr. Kasemir and his co-workers board a B-26 aircraft equipped with two chaff dispensers and instruments to measure electric field strength. Flying below cloud level, they wait until their instruments register a field greater than 30,000 volts per meter, a magnitude at which corona discharge will occur. The chaff dispensers are then activated, and the thread-like fibers are carried into the clouds by updrafts in the storm's circulation. On one such seeding mission near Flagstaff in 1965, a 300,000-volt-per-meter field was completely neutralized in 10 minutes.

According to Alan R. Taylor of the Northern Forest Fire Laboratory at Missoula, Mont., if lightning could be totally suppressed there would be 70 percent less western forest fires. However, some researchers contend that lightning and the fires it causes are necessary to maintain an ecological balance. Nevertheless, the capability of suppressing lightning may provide foresters the opportunity to defer forest fires from periods of extreme hazard to periods when fires can be controlled more easily.

## Charles V. Lindsay Receives Commerce Bronze Medal



Charles V. Lindsay (right), Quality Control Officer at the Weather Service Forecast Office in Washington, D. C., has received a Department of Commerce Bronze Medal for "outstanding achievement in the development and use of forecasting methods for those parameters relevant to soaring and sailplane aviation."

Karl R. Johannessen (left), NWS Associate Director for Meteorological Operations, made the presentation.

## Talking Drift Bottles (Continued from page 1)

The system proposed by the Woods Hole team would offer a range of about 250 miles between shore stations and drifting buoys transmitting radio signals. The land stations will be able to track the field of buoys by listening to each buoy's signal transmitted on a programmed basis.

Although drift bottles have been used effectively to gather data on ocean currents, there have been disadvantages the new system is intended to eliminate:

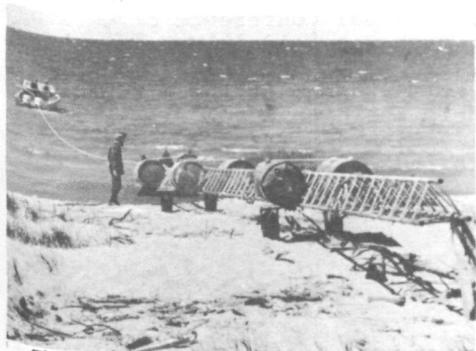
--Success is dependent upon the bottles being recovered and reported, and their recovery rate off the east coast of the U.S. averages only 10 percent on an annual basis, and considerably less during the cold half of the year because of northwesterly winds pushing the surface drift further offshore.

--There is no way of knowing the route followed from release point to recovery point.

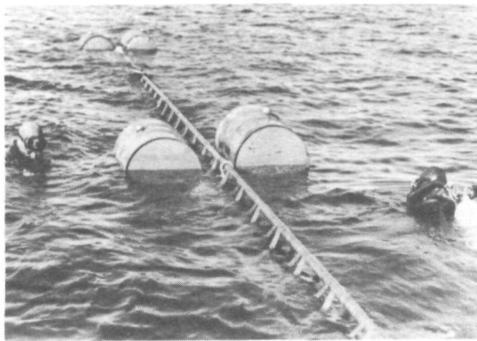
--Expensive instrumentation in electronic systems previously used to track drifting buoys has made prohibitive deploying the optimum numbers of buoys, and, in addition, two of the three existing electronic systems have severe range limitations.

--A ship or an aircraft can be used to track buoys through radar contact, which is limited to five miles or less. Radio or radar transponding systems, which expand the range to tens of miles, still require the use of a vessel or an aircraft. Present satellite tracking techniques require relatively expensive systems on each buoy.

## LSC Personnel Install Instrument Towers on Land and Sea



The towers are trucked in sections to the shore.



Empty drums keep the sections afloat until they are positioned.



Completely installed tower, ready for use.

Working deep under water or atop a high tower is all in the day's work for Lake Survey Center Instrument Branch personnel. Ronald Dana and Richard Thibault of that Branch recently installed a 70-foot steel research tower for the Atomic Energy Commission's Argonne (Ill.) Laboratory. The tower is in Lake Michigan approximately 6,000 feet west of Mona Lake Outlet, about five miles south of Musketon, Mich. It stands in 50 feet of water, with 20 feet protruding above the surface, and is secured to the bottom by nine archimedes screws, turned six feet into the sand bottom. It has a six-foot working platform and is instrumented with hydrographic and meteorological equipment both above and below the water. It is to be used to collect and record data for studying vertical and horizontal wind currents and water and air temperatures. The data will be used by LSC in wave generation studies.

Another tower recently installed by the same men, with the assistance of Richard Robbins of the LSC Water Motion Branch, is at Oswego, N.Y., about 3,500 feet offshore

north of Burt Point. It, too, is 70 feet overall and of all-steel construction. It is anchored to the bottom with eight five-ton concrete clocks, which were set by the Coast Guard Cutter MAPLE. Because of the weight of the blocks, the ship had to make two trips to the site, carrying four blocks at a time.

This tower has four surface wave gages and two subsurface wave gages, one ten feet below the surface and the other 30 feet below the surface. It also contains a wind velocity and direction system. All data is sent to shore via telemetry, using a subsurface marine cable, and is recorded on a seven-track magnetic tape recorder and on a two-channel strip chart recorder. The tower is being used for wave studies in connection with the International Field Year for the Great Lakes (IFYGL).

### NCC/ University of North Carolina To Offer Course in Oceanography

In cooperation with the University of North Carolina at Asheville, the Environmental Data Service's National Climatic Center will offer an introductory course in oceanography for high school graduates or those who successfully complete a high school equivalency test. The four-hour credit course will be taught on the UNC-A campus during regular working hours by Center employees. The National Climatic Center will sponsor 20 of its employees to earn college credit during the first term of the 1972-73 academic year.

### Geodetic Survey Is Underway in Florida

A nine-month Federal geodetic survey underway in Pinellas County, Fla., including St. Petersburg and Clearwater, is a cooperative project of the county and the National Geodetic Survey. In the survey, estimated to cost approximately \$224,000, over 60 geodetic control points (positions of latitude and longitude) will be established for use in county development.

Preliminary field work is being done by NGS surveying technician Jerry C. Layton and county engineers. A 20-man party headed by Harold L. Miller is scheduled to begin survey measurements in November.

### Annual NWS Golf Tournament Is Scheduled To Be Held November 3-4

All National Weather Service employees and retirees are invited to join in the fun and games at the Annual Weather Service Golf Tournament, scheduled for November 3-4, 1972, at the PGA National Golf Course, Palm Beach, Florida. Room rates at the Colonnades Beach Hotel will be \$14 per day for single and \$16 per day for double; green fee is \$2, plus required cart at \$6 for two (\$3 each for two golf-

ers in one cart). If you plan to attend, please send your name, office, whether wife will accompany you, and date of arrival (those desiring can go early and get in some practice rounds) and mode of transportation to West Palm Beach by September 15, along with \$8 entrance fee to: Buck Christian, National Weather Service Office, 3800 Southern Blvd., West Palm Beach, Fla. 33406.



## notes about people...

Dr. Dayton L. Alverson, Director of the National Marine Fisheries Service Northwest Fisheries Center, received the Golden Halibut Award given annually by the Halibut Fishermens' Wives Association for distinguished service to fisheries. Dr. Alverson is the winner of 17 previous awards in the fisheries field.



Buford K. Meade has been appointed to the National Academy of Sciences' Panel on Geodesy and Cartography, a unit of NAS' Committee on Polar Research. Mr. Meade is Chief of the National Geodetic Survey's Horizontal Network Division.

Hyoung Jin Kang, who is receiving two months' training in the National Ocean Survey Reproduction Division as part of a six months' tour in NOS, recently obtained from his embassy several color movie reels on cultural art and points of interest in his country, the Republic of Korea, to be viewed by the division employees. Mr. Kang's training as a United Nations International Maritime Consultative Organization Fellow is being coordinated by the Office of International Affairs.



Mr. Kang (left) and Max Sachs, NOS Reproduction Division Instructor, inspect the register on a negative.

Dr. Leo Bajorunas, Chief of the Lake Survey Center's Limnology Division, attended the 13th International Conference on Coastal Engineering, which was held in Vancouver, B.C., this year. About 500 scientists from 30 countries were present at the biennial conference where the high level discussions dealt primarily with theoretical problems encountered in the coastal zone.



Micronesian Supervisory Meteorological Technicians Bernard M. Aten of the Weather Service Office on Truk (center) and Oscar Milne of the WSO on Majuro (right) recently completed nine months of academic instruction at the Kapiolani Community College. Before returning to their respective weather stations, they were detailed at the WSO at Hilo, Hawaii, and the WSFO at Honolulu International Airport. National Weather Service Pacific Region Director Paul H. Kutschenreuter (left) presented their specialized training certificates to them.

### NOAA EMPLOYEES ASSOCIATION PICNIC

September 16, 1972  
10 a.m. - 7 p.m.

Bay Ridge Beach  
Annapolis, Md.

- \* Free Beer and Pop
- \* Softball
- \* Swimming Pool
- \* Horseshoes
- \* Picnic Area

Please buy your tickets  
by September 6 from your  
NOAA Employees Association Delegate.

Adults - \$1.00

Children - \$.50

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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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