

# noaa week

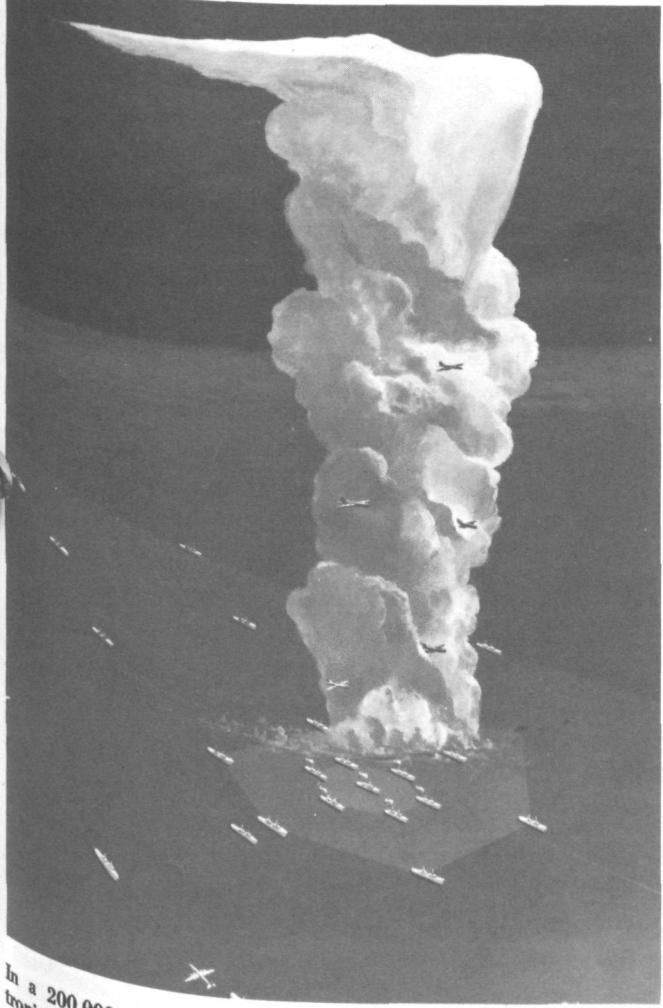
U.S. Department of Commerce  
National Climatic Center

Volume 5 Number 20

LIBRARY

May 10, 1974

## International Weather Study To Begin June 15



In a 200,000-square-mile area of the eastern Atlantic near Africa, tropical cumulus cloud clusters will be studied intensively by instrumented GATE ships and aircraft.

Weather and oceans over one-third of the earth's tropics will be closely examined this summer in the largest and most complex international scientific experiment ever undertaken.

GATE—for Global Atmospheric Research Program-Atlantic Tropical Experiment—is designed to gather the information

### Experts To Study Ocean Pollution By Petroleum

NOAA is one of the co-sponsors of an international conference on the problems of oil pollution in the world's oceans to be held May 13-17 at the National Bureau of Standards in Gaithersburg, Md.

Experts representing more than 75 nations are expected to develop oil pollution measurement guidelines aimed at evaluating over the next two years a worldwide marine monitoring capability. Countries with direct participation include the U.S.A., U.S.S.R., Canada, Belgium, France, Sweden, Bermuda, England, Republic of Korea, West Germany, India and Japan. More are expected to become involved in the next few years.

Other co-sponsors of the Marine Pollution (Petroleum) Monitoring Symposium and Workshop are the NBS, the Maritime Administration (MarAd) (both also Commerce Department agencies), the Intergovernmental Oceanographic Commission (IOC), an affiliate of the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the World Meteorological Organization (WMO).

Invited speakers who will participate in the general sessions on the scientific, environmental, regulatory and

needed to understand the behavior of the tropical atmosphere and its effects on global weather. The tropics are a key but inadequately understood element of the restless planetary circulation of the earth's atmosphere and oceans. An understanding of the workings of the entire global system is a fundamental prerequisite to reliable weather predictions beyond a few days in the future.

After more than four years of intensive planning, the GATE field investigation will be carried out from June 15 to September 23 in a 20-million-square-mile area of tropical land and sea extending from the eastern Pacific Ocean—across Latin America, the Atlantic Ocean, and Africa—to the western Indian Ocean. Instruments on 38 ships, more than 60 buoys, 13 aircraft, six types of satellites, and at nearly a thousand land stations will observe and record weather and ocean phenomena from the top of the atmosphere to about 5000 feet (1500 meters) below the sea surface.

Sponsored by the World Meteorological Organization—a specialized agency of the United Nations—and the International Council of Scientific Unions, the 101-day study directly involves some 4,000 scientists, ship and aircraft crew members, and technicians, from 66 nations. Field operations will be directed by an international

### NWS Utilizing NOAA Satellite Data In Agricultural Advisory Program

Scientists at the National Weather Service Environmental Study Service Center Auburn, Ala., and the Weather Service Office in Lakeland, Fla., are utilizing data from NOAA satellites in the development of tech-

niques to provide improved freeze forecasts and advisories for the agricultural industry of the southeastern United States. The work is being done in cooperation with the University of (Continued on page 2)

(Continued on page 6)

(Continued on page 4)

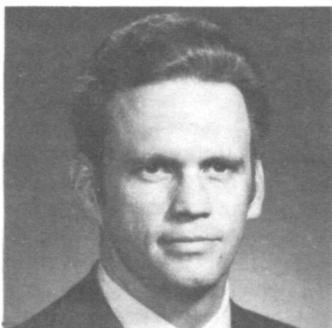
# Satellite Data Used in NWS Agricultural Advisory Program

(Continued from page 1)

Florida Department of Fruit Crops and the National Aeronautics and Space Administration's Earth Resources Offices at Kennedy Space Flight Center.

The thermal scanning sensors of the satellites, which are operated by the National Environmental Satellite Service, provide "at-the-surface temperature" data to the scientists working toward better crop-weather analysis techniques. Such data is particularly useful for central Florida, where freezes are uncommon, but affect the economy of the state (and to some extent, the nation) when they do occur.

ESSC Agricultural Meteorologist Dr. S. Elwyn Taylor states that surface temperature distribution is a

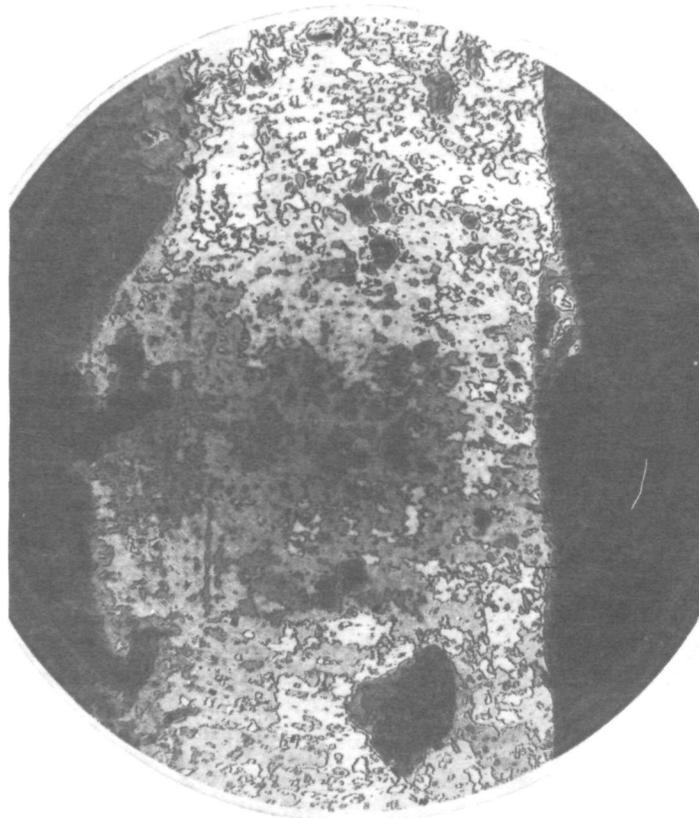


Dr. S. Elwyn Taylor

key factor in the development of improved forecasts and advisories, and that utilization of satellite observations is the most practical and economically sound method of collecting the data.

## Service Length Column To Be Discontinued

Length of Service Award information will no longer be carried in NOAA WEEK, because demands for space do not allow it to be run on a reasonably current basis. We wish to thank all those who in the past have submitted award information and photographs for the column.



This "thermal picture" produced from infrared imagery from the NOAA 2 satellite shows, in tones of gray, the temperature distribution of central Florida several hours before the occurrence of lowest temperatures on the night of December 21, 1973. The coldest areas, where local freezing could be anticipated, are clearly visible as the lightest tones in the picture. Lakes (Okeechobee is at the bottom right) appear as dark grey (warmest) portions of the image and the areas adjacent to them appear notably warmer than terrain beyond the moderating effects of the water bodies. (The black spots at the upper left are clouds—the image-analyzing device was programmed to display clouds in dark tones for convenience of identification.)

Subsequent comparison of temperatures measured at various stations throughout central Florida verified the spotty nature of the frost and demonstrated the

potential usefulness of satellite data for frost distribution prediction.

Satellite data is potentially the key to understanding many environmental factors related to the world's food production, an area of increasing concern, Dr. Taylor reports. Environmental temperatures as well as solar radiation data, both of which can be sensed by satellite borne sensors, are among the most critical parameters determining the success or failure of agricultural production. These data are significant in determining not only the extent of a damaging freeze but are also useful in predicting and assessing areal crop growth and condition as well as other significant agriculturally related processes. The expense of obtaining these and other important agricultural weather data by conventional techniques made a global or even national program of agricultural weather advice unfeasible just a few years ago. It now appears that such a program utilizing

space age techniques economically and technically practicable.

The Environmental Service Center was established in July 1973, with Ray E. Jensen as Director.

Its basic mission, the formulation of interpretive comments relating meteorological events, forecasts, and climatological data to the diversified agriculture of Alabama, Florida, and Georgia, is supported by research such as Dr. Taylor's attempt to transfer state-of-the-art meteorological agricultural technology use in agricultural forecast and advisory programs.

The services are provided regularly to assist the agriculture industry in decision making which will result in increased food and fiber production, reduced agricultural production costs, weather related agricultural losses, diminution of water, and air pollution agricultural operations, reduced energy requirements for agricultural production.

## noaa week

Published weekly in Rockville, Md., by the Office of Public Affairs of the information of employees of the Department's National Oceanic and Atmospheric Administration.

Articles to be considered for publication should be submitted at least a week in advance to Catherine Cawley, Editor, NOAA Week, Room 221, WSC, Office of Public Affairs, National Oceanic and Atmospheric Administration, Rockville, Md., 20850. NOAA Week reserves the right to make corrections, changes, or deletions in submitted copy in conformity with the policies of the paper or the Administration.

## Comments Invited On Incidental Take Of Marine Mammals

A public hearing on proposed regulations affecting the incidental taking of marine mammals during commercial fishing operations is scheduled for May 15, 1974, at 9:30 a.m. in the Seattle Center, Seattle, Wash. The proposed regulations were published in the *Federal Register* on April 5, 1974. Among other considerations, they are designed to reduce porpoise mortalities or serious injury in the yellowfin tuna fishery.

The hearing is being held in compliance with the Marine Mammal Protection Act of 1972. The Act, in effect, provides that the commercial fishing industry is allowed to take marine mammals incidental to fishing operations until October 20, 1974, without permits. After that date, permits—to be issued by the Secretary of Commerce—must be obtained to take any marine mammal incidental to commercial fishing operations.

The National Marine Fisheries Service administers that portion of the Act dealing with seals, sea lions, porpoises, and whales. Other marine mammals, walrus, sea otters, manatees, and

## Staff of WSFO in Little Rock, Ark., Receives NOAA Unit Citation

A NOAA Citation has been awarded to the staff of the Weather Service Forecast Office in Little Rock, Ark., for its outstanding performance during the spring storm season of 1973.

Although the storm season was unusually long, and some episodes lasted several days, the WSFO personnel stayed on top of fast developing severe weather situations and provided the public with outstanding service under difficult and trying conditions.

An example was the period of April 19-24. A tornado which hit Batesville,

## Sea Grant-Funded Project Indicates Marine Worm Culture Could Be Profitable

Researchers at the University of West Florida, funded by a NOAA Sea Grant, believe there is a commercially profitable way to breed and raise baitworms. The results of their efforts could lead to the establishment of a new and thriving industry.

Lead by Charles N. D'Asaro, the Sea Grant scientists are studying ways of culturing the lugworm, a marine annelid virtually unknown to all but the most erudite anglers in this country, but an extremely effective natural bait.

Lugworms—in addition to being an excellent bait—have many biological character-

polar bears are under the jurisdiction of the Department of the Interior.

Individuals and organizations may express their views or opinions by appearing at the hearing in Seattle. Written comments or inquiries concerning the hearing should be sent to either the Director, National Marine Fisheries Service, NOAA, Washington, D.C. 20235, or to the Regional Director, National Marine Fisheries Service, NOAA, Lake Union Building, 1700 Westlake Ave., North, Seattle, Wash. 98109.

istics that make them ideally suited to aquaculture. For example, spawning can be induced, making selective breeding possible. Newly-hatched lugworm larvae do not require food, can withstand extreme environmental changes, and settle on almost any substrate. Postlarvae, juvenile, and adult lugworms prefer the same type of food, making feeding relatively simple and inexpensive.

At the University of West Florida, adult worms are induced (by hormone techniques) to lay eggs in special spawning trays. The eggs hatch into larval worms with no special care. For 30 days the juvenile worms are kept in aerated hatching trays living on and in a substrate of finely ground, composted marine grass. During this time, the hundreds of thousands of embryos originally deposited are thinned to a community of 2,000 to 4,000 hearty juveniles. These worms are placed in the raceways containing compost and sand where they are reared to a marketable size (three inches [7.5 cm] or larger). D'Asaro's team believe that with their controlled conditions, they can raise marketable worms in 120 days. Harvesting the

worms presents no problems; they can simply be strained from the substrate by pumping the mud over a screen.

The Sea Grant researchers have conducted packaging experiments which indicate it is possible to pack hundreds of worms in a damp, neutral filler and airfreight them any place in the world. On arrival the lugworms could be sold to the fishermen directly from the shipping container.

A possibly profitable sideline to the bait applications of lugworm aquaculture is the worm's desirability as a tropical fish food. In a raceway one meter (38 inches) square and 15 centimeters (6 inches) deep, up to 200,000 lugworm juveniles can be reared. After six weeks, these worms are 1.5 centimeters (about 5/8 inch) long. In one year, the specified raceway could produce for the tropical fish food market 1.7 million young swimming worms.

The research portions of the lugworm culture project are scheduled to last two more years. The results will be made available to the public as a detailed hatchery plan and distributed by the Sea Grant Marine Advisory Service.



Harold S. McCrabb (right), of NWS Southern Region Headquarters, representing the Director of the Southern Region, presented the plaque to Dr. Elden V. Jetton, MIC at Little Rock, as the WSFO staff watched.

Ark., at 11:30 a.m. on April 19 left several injuries and extensive damage, but no

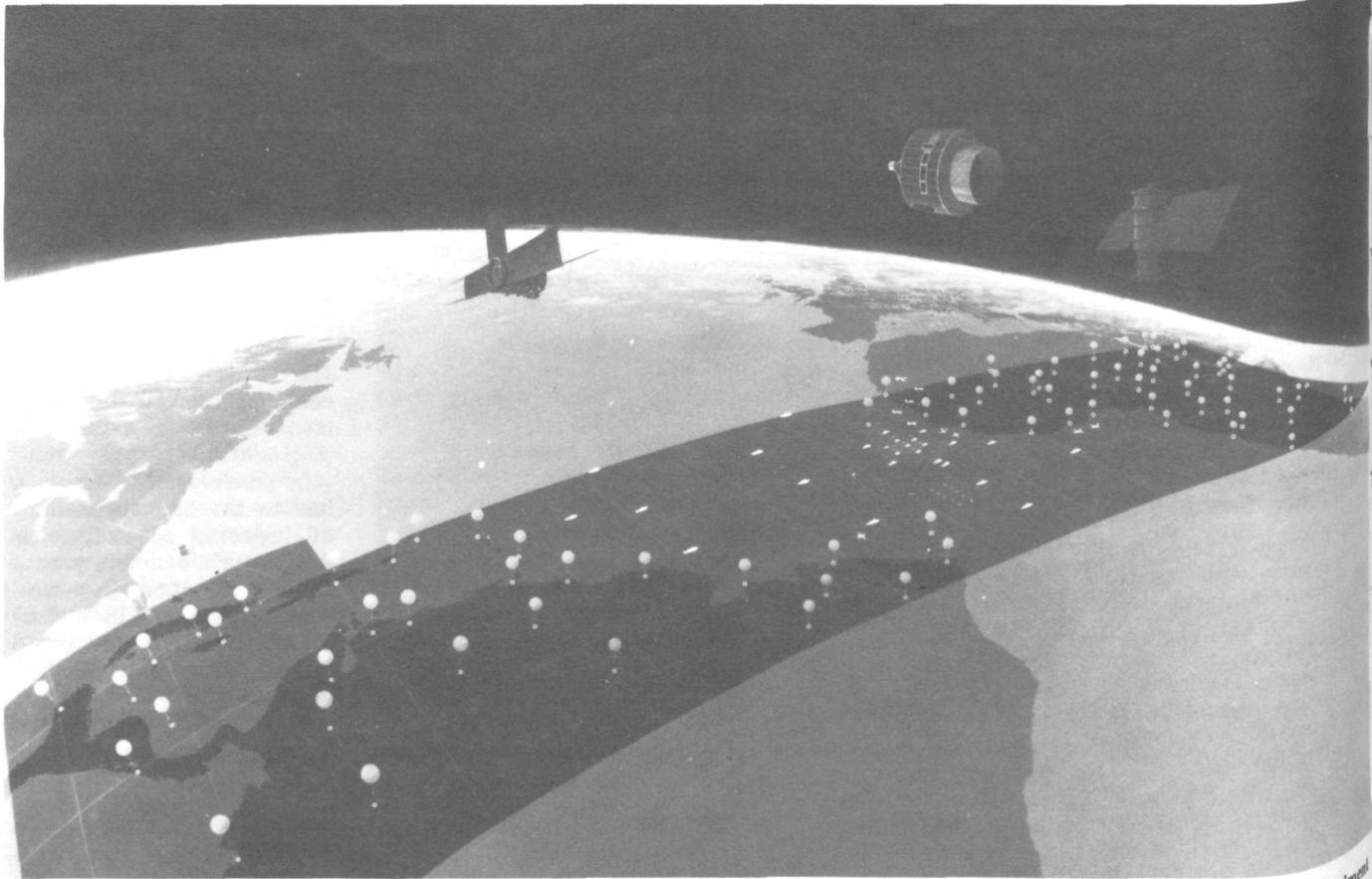
deaths, in its wake.

A severe thunderstorm warning had been issued by

WSFO Little Rock at 10:40 a.m. On April 24, a storm near Dumas about 8:20 a.m. resulted in injury to two persons, but no deaths were reported. A severe thunderstorm warning had been issued at 7:10 a.m. One death occurred in Little Rock because of high water. A flash flood watch had been in effect for two days and a flash flood warning was issued earlier in the day.

Severe weather warnings were issued in sufficient time prior to each of the above occurrences to allow residents to take precautionary measures.

# Scientists From 66 Nations To Participate in GATE



Ships, buoys, balloons, satellites, and land stations will examine weather and oceans over one third of the earth's tropics in this

*(Continued from page 1)*

control center established at Dakar through the cooperation of the Government of Senegal.

Scientific director for the experiment is Dr. Joachim P. Kuettner, formerly with NOAA and now Director of the GATE International Scientific and Management Group.

NOAA is coordinating and directing U.S. participation in the project through its U.S. GATE Project Office, headed by Dr. Douglas H. Sargeant. The U.S. Field Office to be established at Dakar will be directed by William S. Barney, also of NOAA. Federal agencies contributing to GATE include the Departments of Commerce, Defense, State, Transportation, National Aeronautics and Space Administration, and the National Science Foundation.

The primary purpose of the Atlantic Tropical Experi-

ment is to collect the massive quantities of simultaneous observations required to enable scientists to understand tropical weather phenomena, describe them in mathematical terms, and develop improved models for computer weather forecasting.

The tropics receive half of the sunshine that strikes the earth and fuels the atmosphere's circulation. Much of this solar heat is first stored in the tropical oceans and then is transferred from sea to air, carried upward in tropical cloud systems, and transported from the tropics by high-level winds. Although these processes ultimately affect atmospheric circulation and weather all over the earth, they are inadequately understood.

Meteorologists have achieved sufficient understanding of the atmosphere, based largely on observations in middle latitudes, to de-

velop mathematical models or sets of equations expressing the physical laws governing its behavior. Programmed for computers, these models—together with the latest set of simultaneous weather observations—are used to produce computerized weather forecasts for several days in the future. But in order to develop improved models that predict weather a week or more in advance with reasonable accuracy, greater knowledge of the special characteristics of tropical weather systems and their global effects is needed.

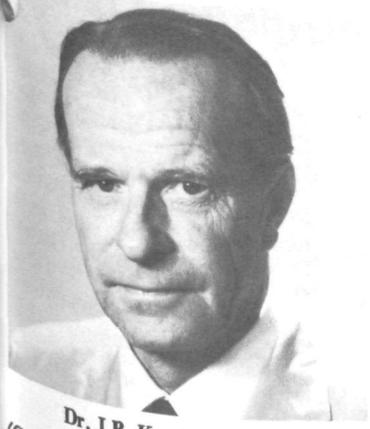
Especially in the tropics, weather processes covering a broad spectrum of sizes cooperate to produce effects of global importance. Thus, the Atlantic Tropical Experiment requires an observing system capable of studying the full range of phenomena from small groups of cumulus clouds to huge traveling disturbances thousands of

miles across. Of the 38 participating ships from 10 nations, about half will be stationed at points 300 to 600 miles (500 to 1000 kilometers) apart across the Atlantic. *(Continued on page 5)*



Nose of NCAR Electra

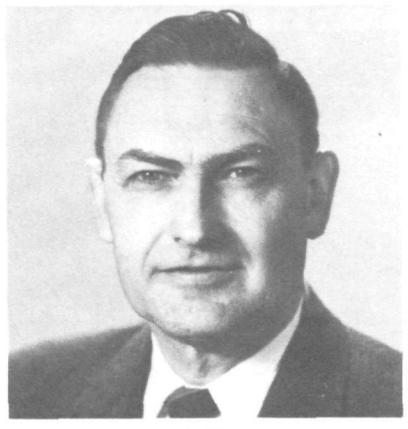
# International Weather Study Beginning June 15



Dr. J.P. Kuettner



Dr. Douglas Sargeant



William S. Barney

(Continued from page 4)  
 serving large-scale weather and ocean systems. Others will be concentrated within an area of about 200,000 square miles (500,000 square kilometers) in the eastern Atlantic near the African coast, for an intensive investigation of the internal structure of organized systems of tropical cumulus clouds called "cloud clusters." Roving and stationary oceanographic vessels will examine processes in the uppermost layer of the ocean affected by local atmospheric conditions, and study the broad ocean current system near the Equator which has been called the backbone of the ocean circulation.

Flying at altitudes from 300 to more than 30,000 feet (90 to 9,000 meters), 13 instrumented aircraft from five nations will gather atmospheric and ocean measurements, principally in the area of the concentrated ship array.

Spacecraft will scan the entire experimental area night and day, furnishing information on clouds and winds, temperature and moisture in the atmosphere, and sea-surface temperatures. The Soviet Union's Meteorological Satellites and the United States' new SMS-A (Synchronous Meteorological Satellite), ATS-3 (Applications Technology Satellite), Nimbus-5, Defense Meteorological Satellites, and NOAA-2 and NOAA-3 will provide data for the project.

Nations contributing ships or aircraft for the GATE project include Brazil, Canada, France, Federal Republic of Germany, German Democratic Republic, Mexico, Netherlands, United Kingdom, Union of Soviet Socialist Republics, and the United States.

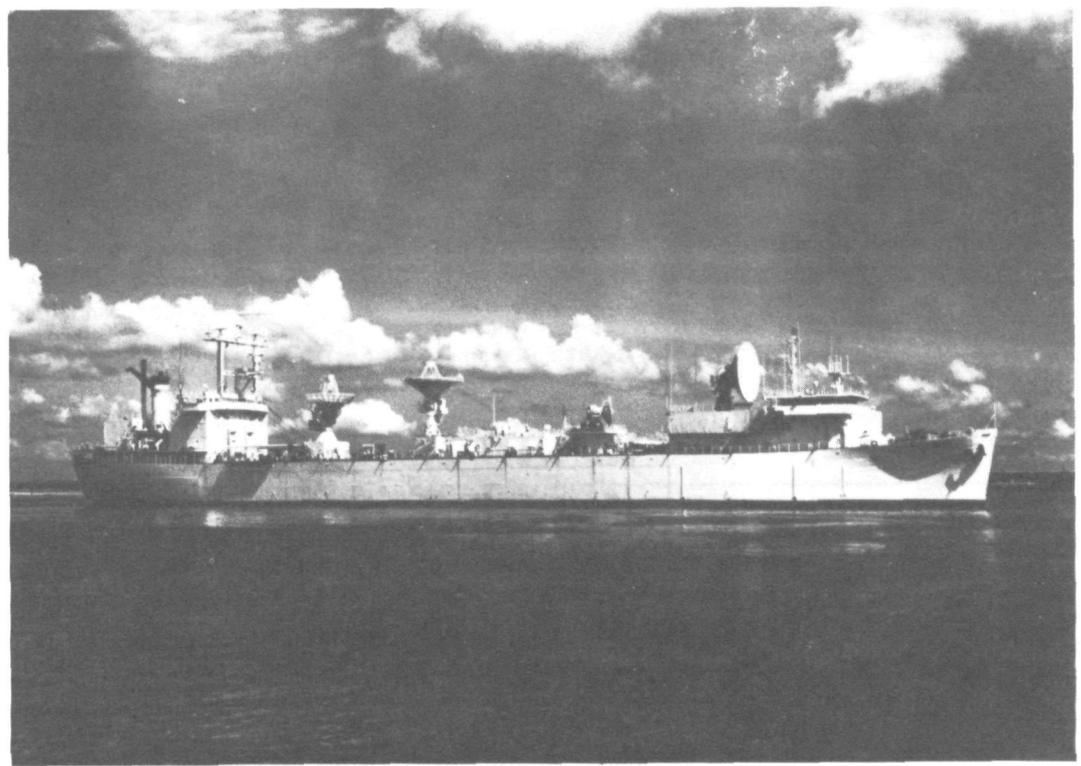
U.S. ships scheduled to take part are the NOAA Ships *Oceanographer* and *Researcher*, the Coast Guard Cutter *Dallas*, NASA's *Vanguard*, the University of Miami Research Vessels *James M. Gilliss* and *Columbus Iselin*, Woods Hole Oceanographic Institution's

*Atlantis II*, University of Rhode Island's *Trident*, and Texas A&M University's Research Vessel *Gyre*.

Participating U.S. aircraft include a KC-135A from the Federal Aviation Administration; NASA's Convair 990; an Electra, Sabreliner, and Queen Air from the National Center for Atmospheric Research; NOAA's DC-6 and WC-130; and an RP-3A Orion provided by the Naval Oceanographic Office.

The Global Atmospheric Research Program and the World Weather Watch are the major components of the World Weather Program, an

international effort coordinated by the World Meteorological Organization. The National Academy of Sciences-National Research Council's U.S. Committee for the Global Atmospheric Research Program provides scientific advice on U.S. GARP programs and research activities, and on the GATE project through its GATE Advisory Panel. Professor Verner Suomi of the University of Wisconsin is chairman of the U.S. GARP Committee, and Professor John M. Wallace of the University of Washington heads the GATE Advisory Panel.



NASA tracking ship *Vanguard*



## SEA SLAW

- 1-1/2 pounds fish fillets, fresh or frozen
- 1 quart boiling water
- 1 tablespoon salt
- 1/4 cup low calorie salad dressing (mayonnaise type)
- 2 tablespoons chopped onion
- 2 tablespoons sweet pickle relish
- 1 tablespoon lemon juice
- 1 teaspoon salt
- 1 cup shredded green cabbage
- 1 cup thinly sliced celery
- 6 lettuce cups
- Lemon wedges

## RECIPE

Thaw frozen fillets. Place fillets in boiling salted water. Cover and simmer about 10 minutes or until fish flakes easily when tested with a fork. Drain. Remove skin and bones; flake. Combine salad dressing, onion, relish, lemon juice, salt, and fish. Chill at least 1 hour to blend flavors. Add cabbage and celery; toss lightly. Serve in lettuce cups. Serve with lemon wedges. Makes 6 servings. (Approximately 120 calories in each serving.)

## Next Week's Best Fish Buys

According to the NMFS National Consumer Educational Services Office in Chicago, the best buys for the next week or so are likely to be flounder fillets and turbot along the Northeast Seaboard; breaded

shrimp and king mackerel in the Southeast and along the Gulf Coast; ocean perch and smelt in the Midwest; sablefish and turbot in the Northwest; and blackcod and whiting in the Southwest.

# Experts To Study Pollution Of Ocean by Petroleum

(Continued from page 1)

social aspects of marine pollution and monitoring on the morning of May 13 and the afternoon of May 15 include:

Dr. Richard W. Roberts, NBS Director; Dr. Robert M. White, NOAA Administrator; Howard F. Casey, Deputy Assistant Secretary for Maritime Affairs, MarAd; Dr. Sidney R. Galler, Deputy Assistant Secretary for Science and Technology, U.S. Department of Commerce; Dr. A.I. Simonov, Oceanographic Institute, Moscow, U.S.S.R.; Dr. Beatrice E. Willard, Member, President's Council on Environmental Quality, U.S.A.; Dr. Albert Tolkachev, assistant secretary, IOC, UNESCO; Dr. E. Bright Wilson, Theodore William Richards Professor of Chemistry, Harvard University; Sadakiyo Hori, Director, Oceanographic Division, Maritime Safety Agency, Tokyo, Japan; and Dr. Neil J. Campbell, chairman, IOC working committee for IGOS.

In addition, on May 13, 14, and 15, more than 40 technical papers will be presented by scientists during concurrent topical sessions devoted to sampling methods and techniques for oil slicks, tar balls and particulates; oil in water: sampling and analytical methods; standards and intercomparison criteria; oil in marine organisms and sediments: sampling and analytical methods; tar balls and particulate matter: analytical methods; and biological assessment of marine pollution.

## New Lake Superior Data Available

The Lake Survey Center's newest NOAA Technical Memorandum (NOS LSC R 4), "Lake Superior Beginning-of-Month Water Levels and Monthly Rates of Stor-

Guidelines developed at the conference workshops will be held May 16 and 17 and will be followed during a two-year international pilot project on marine pollution monitoring under the auspices of the Integrated System of the Ocean Station Scheduling (IGOSS) program. Scheduling is to begin this summer, and the pilot project will measure and assess oil pollution in parts of the Atlantic Ocean, the Caribbean Sea, the Mediterranean Sea, the Sea of St. Lawrence, the Sea, the oil tanker route from the Persian Gulf through the Indian Ocean and around the Cape of Good Hope to Europe, and an area off the west coast of South America.

The goal of the pilot project is to coordinate surveillance on the degree of oil pollution in designated areas and develop monitoring capabilities to the point where worldwide and intercomparable data on petroleum pollution can be obtained. The project is seen as a major step in evolving a comprehensive international marine environmental monitoring, assessment and prediction program of services to various categories of ocean users.

Official languages for the conference will be English, French, Russian and Spanish with simultaneous interpretation facilities available during general sessions and interpreters furnished as needed at technical sessions.

Registration information may be obtained by calling the NBS Conference Office (301) 921-3181.

age Changes," is on sale at the Center for \$1.00. It was written by Dr. Frank Quinn, Chief of the Lake Hydrology Branch, and Malcolm J. Todd.

## Space Age Communications Aid in Remeasuring U.S.

Combining an idea 132 years old with space age communications, federal surveyors are helping to remeasure the United States with almost pinpoint accuracy.

Using a system known as doppler geodesy, measurements are being made at about 130 points in the contiguous 48 states, Alaska and Hawaii, at distances approximately 150 miles (240 kilometers) apart, by the National Ocean Survey's National Geodetic Survey.

The surveys are being accomplished with an accuracy of approximately one meter (3.28 feet) in a million square miles (2.6 million square kilometers). The work is being done in conjunction with more conventional methods of surveying by other NGS field parties.

Doppler geodesy combines a principle postulated in 1842 by the Austrian physicist Johann Christian Doppler, and since known as the doppler effect, with radio signals from satellites orbiting the earth. As a source of wave motion approaches or moves away from an observer, the frequency of waves received by the observer increases or decreases. This phenomenon is known to everyone who has heard a train whistle, with the pitch changing as the train approaches and disappears. The same phenomenon occurs with radio waves emitted by a satellite.

NOAA's doppler geodesy program is being accomplished with a minimum of manpower and equipment. There are two two-man teams in the field, composed of George W. Peterkin, William J. Rindal, James D. Swinney, and William F. Perryman. Each team is equipped with a hand portable geodetic receiver (Geoceiver) weighing less than 100 pounds (45 kilograms) and a few accessories. The Geoceiver receives electronic signals from a Navy

satellite and measures the doppler shift and precise time of the satellite signals with signals generated by the Geoceiver. The data are recorded on tape. With this information and precise orbital data supplied by the Navy Weapons Laboratory at Dahlgren, Va., the NGS is then able to determine the geographic location (latitude and longitude) of each point.

The doppler geodesy teams supplement the work of eight geodetic field parties, consisting of about 180 engineers and technicians, which are measuring both distances and elevations in the United States. Since the earth is constantly shifting, the work is continuous and has been going on for more than a century and a half. The number of doppler geodesy teams may be increased later and may eventually replace some of the more conventional survey groups, which normally consist of 15 to 20 men. Both types are required now since doppler geodesy is accurate primarily over long distances.

The measurements for each point will be used to improve the positions of the 150,000 survey markers which make up the National Horizontal Survey Control Network, maintained by the NGS, which provides the basis for accurate measurements of distances.

The doppler geodesy system provides an independent check on the accuracy of long distance measurements accomplished by more conventional methods. It can furnish geodetic accuracies at remote locations where conventional geodetic methods would prove too costly and time consuming, including mountainous areas where helicopters can transport teams and their equipment. With only about 500 watts required to power the equipment, a hand portable motor-generator can be used in remote areas.

## U.S. Fish Consumption and Value of Catch To Fishermen Set New Records in 1973

Americans are eating more fish than at any time since the Federal Government began keeping records in 1909.

National Marine Fisheries Service statistics for 1973 indicate that the average per capita consumption of seafood was 12.6 pounds (5.7 kilograms)—an increase of slightly more than 2 percent, or three-tenths of a pound (.14 kilogram) per person over the 1972 figure. The 12.6 (5.7 kilogram) figure includes edible fish (fresh, frozen, canned, or cured) that entered usual commercial channels from all sources, and represents about 2.6 billion pounds (1,200 thousand metric tons) of fish, edible weight.

The increase can be attributed largely to a rise in consumption of fresh and frozen products, and to a lesser extent, canned fishery products.

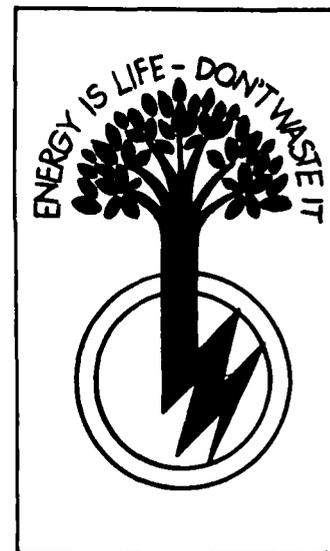
The data indicate that total U.S. commercial fisheries landings (products used for both edible and industrial purposes) were worth a record \$907.4 million to the fishermen. The total volume, in terms of weight, was approximately 4.7 billion pounds (2,100 thousand metric tons), almost the same as in 1972, but the value was up about 29 per-

cent from a year ago because of higher prices paid at dockside. The 1973 average value per pound of 19.2 cents (42.3 cents per kilogram) for all species also was a record high.

Total imports of fishery products reached a record high value of \$1.57 billion, up from \$1.49 billion a year earlier. Imports of edible fishery products, in terms of live weight, were 4.7 billion pounds (2,100 thousand metric tons), up from 4.4 billion pounds (2,000 thousand metric tons) in 1972. Industrial fishery products imported by the United States declined sharply from 4.6 billion pounds (2,090 thousand metric tons) to about 800 million pounds (360 thousand metric tons). The drop reflects the world shortage of fishmeal, especially the decline in production by Peru which suffered a severe failure in its anchovetta fishery.

Details and other preliminary data dealing with U.S. fisheries are included in "Fisheries of the United States, 1973." Single copies may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for \$1.50.

The system will be especially useful in places like Alaska, where work will begin this summer remeasuring remote land areas, including those disturbed by the 1964 earthquake. It can be used to determine more accurate positions of remote islands and U.S. possessions and unify these points into one common system of measurements (the North American Datum). It can determine more accurately the positions of ships at sea and of offshore oil platforms. It is not affected by the weather. And it represents a considerable saving in money and time.



# notes about people

Dr. Athelstan Spilhaus, special consultant on oceanic and atmospheric programs to Dr. Robert M. White, NOAA Administrator, is Texas A&M University's first Visiting University Professor.

"The title 'Visiting University Professor' recognizes distinguished expertise and achievements which transcend the traditional boundaries of academic disciplines," Dr. John C. Calhoun, Jr., A&M's vice president for academic affairs, explained, in announcing the appointment.

Dr. Spilhaus, a scientist, inventor, and author renowned for his work in oceanography and meteorology, is called the "father of Sea Grant" for his concept for NOAA's National Sea Grant Program, enacted by Congress in 1966.

Texas A&M has participated in the Sea Grant Program since 1968 and in 1971 was named one of the nation's first four Sea Grant Colleges.

Donald R. Wiesnet from the Environmental Sciences Group of the National Environmental Satellite Service presented a paper at the Ninth International Symposium on Remote Sensing of the Environment at the University of Michigan. The paper, which described the flood-mapping of the 1973 Mississippi River floods with the NOAA-2 satellite's Very High Resolution Radiometer, was co-authored by Mr. Wiesnet, Dr. D.F. McGinnis and J.A. Pritchard.

At the same symposium, Dr. Alan E. Strong, also of ESG, presented a paper on summer upwelling on Lake Michigan as viewed by the NOAA-2 and ERTS-1 satellites. Dr. Strong, H.G. Stumpf, Julia Hart and J.A.

Dr. C. Gordon Little, Director of the Environmental Research Laboratories' Wave Propagation Laboratory in Boulder,



Colo., has been elected to the National Academy of Engineering for his "contribution to the development of remote sensing devices for meteorological parameters and space."

Election to the Academy is the highest professional distinction that can be conferred on an American engineer and honors those who have made important contributions to engineering theory and practice or who have demonstrated unusual accomplishments in the pioneering of new and developing fields of technology.

Dr. Little joined the National Bureau of Standard's Central Radio Propagation Laboratory as a consultant in 1958, and four years later became its Director.

In 1966, he became

Pritchard were coauthors of this paper.

The April 1974 issue of *Outdoor Life Magazine* features the Official-in-Charge of the National Weather Service Office at Yakutat, Alaska, on the front cover holding a 44-pound (19.8-kilogram) king salmon. The accompanying article describes a fishing trip by the OIC, Phil Baker, and the author of the article. Trolling in Yakutat Bay from Mr. Baker's boat the *Buzz Fuzz*, the party caught several king salmon.

Deputy Director of the Environmental Science Services Administration Research Laboratories and the next year was named Director of the Wave Propagation Laboratory. Since November 1972 he has also served as Acting Deputy Director of ERL.

He holds a Ph.D. in physics from the University of Manchester, England.

Dr. Little has received a Commerce Gold Medal for distinguished contributions to the physics of radio propagation and other research programs in radio science. He was also awarded the first NOAA Program Management and Administration Award for his leadership of the Wave Propagation Laboratory, and has received citations for distinguished authorship. He has served on several National Academy of Sciences committees, and currently chairs a panel on violent storms. He is a fellow of the Royal Astronomical Society and the Institute of Electrical and Electronics Engineers, and a member of the American Geophysical Union and the Research Society of America.

He is also past chairman of U.S. Commission 3, Ionospheric Radio Propagation, International Scientific Radio Union, and is currently Secretary of the U.S. National Committee for the International Scientific Radio Union.

Dr. Harris B. Stewart, Director of Environmental Research Laboratories' Atlantic Oceanographic and Meteorological Laboratories, recently attended a two-day workshop on the U.S. Marine Scientific Research Assistance to Foreign States sponsored by the Ocean Policy Committee of the National Academy of Sciences' Ocean Affairs Board. He delivered papers on NOAA's activities in foreign marine science assistance and a summary of the 1973 Bologna, Italy, Workshop on Technical Assistance.

Dr. Hellmut H. Schmied, Director of the National Ocean Survey's Geodetic Research and Development Laboratory, is on a four-month leave of absence during which he will lecture at the Eidgenossische Technische Hochschule in Zurich, Switzerland. Bernard Chovitz, Chief of the Laboratory's Physical Geodesy Branch, will serve as Acting Director during his absence.

Captain Hubert W. Keith Jr., Deputy Director, Atlantic Marine Center, Norfolk, Va., retired on April 30. Captain Keith had completed 28 years of service.

Mike Christian, a marine enforcement officer with the Fishery Service's D.C. headquarters, was graduated first in his class at completion of



courses at the Treasury Department's Criminal Investigator School in Washington, D.C., and received a letter of commendation for his outstanding performance at ceremonies on April 12.

Before joining the Fishery Service, Mr. Christian served for 12 years with the Washington State Fish and Wildlife Division, part of the time on the State police tactical squad.

The instruction at the center, which trains all Federal enforcement officers (except for the F.B.I.) is mandatory for all new marine enforcement agents entering the NMFS



# **National Oceanic and Atmospheric Administration**

## **ERRATA NOTICE**

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages  
Faded or light ink  
Binding intrudes into the text

This has been a co-operative project between the NOAA Central Library and the Climate Database Modernization Program, National Climate Data Center (NCDC). To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or [Library.Reference@noaa.gov](mailto:Library.Reference@noaa.gov)

HOV Services  
Imaging Contractor  
12200 Kiln Court  
Beltsville, MD 20704-1387  
July 23, 2010