

# noaa week

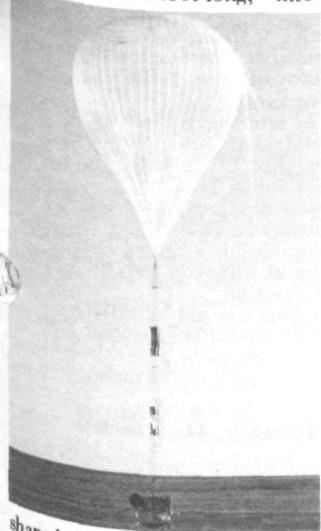
Volume 7

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May 28, 1976

## Balloons To Track Pollutants

A giant balloon will give birth to little ones over St. Louis, Mo., this spring, as part of a study of how rapidly urban pollutants disperse into the atmosphere. The paths the five-foot-long, kite-



shaped balloons follow as they drift away from the mother balloon above the city will tell Dr. James K. Angell of the Environmental Research Laboratories something about diffusion processes.

As part of Project Da Vinci, an instrumented balloon flight is scheduled to lift off from an airport just west of St. Louis in late May or early June. A helium-filled balloon 70 feet (about 20 meters) in diameter will carry aloft a 10-foot-square gondola, a crew of four, and more than a ton of instruments. The gigantic array, some 15 stories tall from top to bottom, will float northward over the city and pollutants for many miles downwind.

The flight, second in the Da Vinci series, is a joint effort of the Energy Research and Development Administration and its Environmental Laboratories, the National Geographic Society, the Environmental Protection Agency and NOAA. Several other Federal agencies, national laboratories, (Continued on page 4)

## Tough Regulations Proposed for Shelf

A tough policy greatly restricting foreign vessels from taking living resources of the U.S. Continental Shelf—and subjecting them to arrest and seizure if they violate the restrictions—would be reaffirmed by proposed standards and enforcement procedures that have been published in the Federal Register by the National Marine Fisheries Service.

The policy initially was put into effect through diplomatic channels in December 1974 by the State Department. The proposed regulations would replace the diplomatic notes.

Under the proposed regulations, foreign vessels, except as otherwise provided in international agreements, would not be permitted to fish specifically for U.S. "Continental Shelf Fishery Resources," described as creatures which, as the harvestable stage, are immobile on or under the seabed or are in constant physical contact with the seabed, such as some crabs, lobsters, oysters, and sponges.

If they did catch such species incidental to fishing for other species, foreign fishers would be required to return them promptly to the sea with as little damage as possible.

Foreign fishing vessels also would be prohibited from taking these creatures from areas which the Secretary of Commerce may designate on the basis of data showing that the protected species

(Continued on page 4)

## FACE 76 To Probe Efficiency Of Tropical Cloud Seeding

### T. P. Gleiter Is Honored By U. Wisconsin

Theodore P. Gleiter, NOAA's Assistant Administrator for Administration, last week received the Distinguished Alumnus Award of the University of Wisconsin-River Falls, and became a member of its Alumni Hall of Fame. He was honored at the University's alumni banquet and again at its commencement ceremonies.



Mr. Gleiter

Primary factors in his selection for the Award—the highest honor the University can bestow on an individual—were his continuing contributions in meteorology and his support of humanitarian programs, such as assisting low income families with housing and other problems.

Mr. Gleiter received his bachelor's degree from the University in 1942.

He received a Certificate in Meteorology from the University of Chicago in 1944; studied trop-

(Continued on page 3)

NOAA scientists will begin this year's Florida Area Cumulus Experiment—called "FACE 76"—on June 2, if weather permits.

Conducted by the Environmental Research Laboratories' National Hurricane and Experimental Meteorology Laboratory in Coral Gables, Fla., FACE 76 is the latest in a series of five summer projects designed to probe the dynamics of tropical cumulus clouds—and to determine whether the rain-producing efficiency of these basic weather factories can be improved through cloud seeding.

FACE 76 will run through August. If past years are representative, the scientists will fly missions on about one day in three through the three-month period, and seed clouds on about one day in six.

The main difference this year is that the scientists now appear to be within a season of answering the difficult question they set themselves several years ago: Does cloud seeding cause a net increase in rainfall over a given area?

According to Merlin C. Williams, ERL's Program Manager for Weather Modification, this makes 1976 crucial for FACE. "We believe that last year, for the first time, we were able to isolate the human influence in clusters of seeded clouds," he explains. "Recently completed statistical analyses of the 1975 data indicate that we are causing in-

(Continued on page 4)

## NWS Urges Caution in Use of Home TV's for Tornado Detection

In response to queries about how tornadoes can be detected, the National Weather Service has issued the following statement:

The process begins with the tornado watch, a bulletin issued by the National Severe Storms Forecast Center in Kansas City, Mo., that there is a more than usual likelihood of tornadoes forming in a given area.

The watch is a forecast; it tells what to look for. The next step is a tornado warning, indicating that a tornado has been detected.

To detect tornadoes, the NWS draws on many sources, particu-

larly radar, volunteer storm spotters, and, in some places, reports of power-line breaks from electric-power companies.

Information from sources such as these allows forecasters to locate a tornado on a map, determine its direction and speed, and warn people in its path to take cover.

Recently there has been some attention in the news media to the Weller method of tornado detection—based on brightening of a darkened television screen by a tornado. The method involves turning to Channel 13 first, turning down the brightness

control until the screen is dark, then turning to Channel 2. If the screen turns white, this is said to indicate a tornado within 20 miles.

The NWS neither endorses nor rejects the Weller method. The limited evidence available suggests that the Weller method works in some instances but not in others.

Consequently, the NWS advises people who want to test the Weller method during a tornado watch to be sure to keep tuned to the NOAA Weather Radio, where available, or to (Continued on page 4)

# personnel perspective

## Current Vacancies in NOAA

To insure that NOAA employees are aware of job possibilities throughout the agency, a list of current NOAA-wide vacancies is published below. Employees interested in any of the listed vacancies

should contact their servicing personnel office for information as to where to apply.

Announcement Number	Position Title	Grade	MLC	Location	Issue Date	Closing Date
614-76	Fishery Biologist (Research)	GS-12	NMFS	Galveston, Texas	5-21-76	6-5-76
615-76	Physical Scientist	GS-13	ERL	Boulder, Colo.	5-21-76	6-5-76
616-76	Electronics Technician	GS-11	NWS	Swan Island, Honduras	5-25-76	6-9-76
616-76	Electronics Technician	GS-12	NWS	Raleigh, N.C.	5-25-76	6-9-76
618-76	Administrative Assistant	GS-12	NOS	Rockville, Md.	6-1-76	6-15-76
621-76	Electronics Technician	GS-11	NWS	Silver Spring, Md.	6-1-76	6-15-76
622-76	Computer Systems Analyst	GS-12	NWS	Silver Spring, Md.	6-1-76	6-15-76
624-76	Meteorologist	GS-11	NWS	Silver Spring, Md.	6-1-76	6-15-76
625-76	Meteorologist	GS-12	NWS	Albany, New York	6-1-76	6-15-76
617-76	Oceanographer	GS-14	NOS	Rockville, Md.	6-1-76	6-22-76
619-76	Electronics Engineer	GS-14	NWS	Silver Spring, Md.	6-1-76	6-22-76
620-76	Supv. Physical Scientist	GS-15	NWS	Silver Spring, Md.	6-1-76	6-22-76
623-76	Meteorologist	GS-13	NWS	Silver Spring, Md.	6-1-76	6-22-76
615-76	Meteorological Technician	GS-10	NWS	Kansas City, Mo.	5-25-76	11-25-76

## Suggestion Awards Given

In order to recognize the contributions of NOAA employees who have offered suggestions on ways to cut costs, improve efficiency or safety or, in other ways, contribute to an overall improvement in the operations of NOAA, Personnel Perspective is publishing on a quarterly basis, the names and suggestions of employees who have been given suggestion awards.

The following NOAA employees received suggestion awards during the period of January 1 - March 31, 1976:

Suggester's Name	Amount of Award	Suggestion Title
Dixon B. Hoyle	\$225.	Standardized Geodetic Formulas
Mary V. Wyvill	\$100.	Seminars for NESS Clerical/ Administrative Staff
Raymond A. Ward	\$155.	Roll Holder Bracket
Paul E. Lehr	\$100.	Easy Identification of Vacancy Announcements
Allen B. Lee	\$550.	Training Program Using Video Tape
Sharon L. Kemp	\$175.	FAA Chart Requirement Form
Demetrio A. Dinardi	\$150.	Tidal Current Charts for Lower Chesapeake Bay using new format for even spacing
Grace C. Sollers	\$115.	Rapid Color Locator
Rusty L. Albertson	\$ 25.	Information Package for new employees
Ernest A. Shepard, Jr.	\$290.	Silver Recovery Program
William Lowenstein	\$ 50.	Safe Etch for Plates
Abraham L. Ruiz	\$400.	EEO College Recruitment Program
John T. Reid, Jr.	\$ 30.	Paul's Wash-out Container and Solvent Bottles
Roger E. Moquin	\$295.	Re-Use of Lithographic Plates
J. M. Lawhorn	\$ 25.	Modified Stripper Holder
Melvin Williams	\$300.	Modification of APAC Light Control
John P. Baker	\$ 50.	Early Transmission of Raob Data
Harold R. Crowl	\$150.	Time Savings
Joseph J. McCall, Jr.	\$135.	Telephone Toll Saver
James G. Hopkins &	\$102.50	Compatibility of Kodak Photo Paper and Datalog Chemicals in the Datalog Machine
Edward J. Samowski	(ea.)	Vehicle Radiator Overflow Recovery
George M. Detrick	\$ 25.	DARDC Telephone Coupler
Robert E. Mallory	\$ 25.	Location Identifier Decode Card
Jack R. Cooley	\$ 50.	FLSA on Vacancy Announcement
Betty S. Cunningham	\$100.	Use of 100 GM Balloons
Broadus C. Williams	\$ 50.	Rural Storm Damage Acquisition
Don J. Pedigo	\$150.	DARDC Connector Bracket
Arthur J. Nolan	\$ 25.	Change in Color Scheme aboard NOAA Vessels
William N. Brooks	\$ 50.	Emergency Repair Kits
Paul P. Swain	\$ 50.	Certification of Microforms
Michael Wyatt	\$100.	Elimination of Form Letters for Transmittal of Free Material and Acknowledgment Receipts \$4.99 and Under
Brenda D. Worley &	\$112.50	
Roma L. Radcliff	(ea.)	

Elaine H. Mason	\$ 35.	Printing of World-wide Airfield Summaries Introduction Pages
Charles B. Glenn	\$110.	Revision of Form F-10a
Carl L. Crandall	\$ 25.	Saving Paper
Carol L. Shipman	Certificate	Use of Intercom System for Confidential Communications
John E. Jones	\$ 25.	Segregation of Smokers
Edward J. Owens	\$ 25.	BNC Holding Tool
Jo Ann C. Joselyn	\$ 25.	Recycle Research Paper Reprints
Clyde A. Dalton	\$ 25.	Insulators on Towers
Jack L. Canzonire	\$ 50.	Decommission Weighing Type Rain Gauge at Audobon Park for Energy Conservation
Elden S. Young	\$ 50.	Increasing Use and Versatility of NWS VHF-FM Broadcast System
Carroll R. Dean	\$ 25.	Format Change to WS Form B-11, Weather Report for Transmission

## Statement of Earnings & Leave

Public Law 90-616 provides a process whereby overpayments made to employees, as a result of erroneous administrative actions, may be waived when there is no evidence of fault, fraud, misrepresentation or lack of good faith on the part of the employee. However, the law also imposes a responsibility on each employee to recognize those obvious and known situations which contribute to overpayments of pay or leave.

Each NOAA Employee is given a NOAA Form 34-14, "Statement of Earnings and Leave," which shows the biweekly earnings and deductions of pay and leave for each pay period. Normally this statement is distributed during the week in which the employee receives a paycheck. The purpose of the form is to provide employees with a personal record of their current and cumulative status of pay and leave.

Each employee is responsible for reviewing the form and noting obvious discrepancies in any pay or leave items. Any changes which occur and are unexplained by the lack of specific instructions or official personnel or pay documents should be noted and discussed with your immediate supervisor.

Sometimes requests for waivers of overpayments are received from employees whose "Statements of Earnings and Leave" have clearly reflected insufficient deductions of pay or leave or the crediting of amounts of pay or leave which are contradictory to the amounts authorized by official documents previously made available to the employee. Normally, such requests for waivers of overpayments will not be approved, because of the lack of a "show of responsibility" on the part of the employee.

In deciding whether to approve or disapprove a request for waiver of an overpayment, NOAA, the Department of Commerce and the Comptroller General give weight not only to the reasonable expectancy of an employee to detect obvious administrative errors, but also to what an employee should be expected to know about basic personnel rules and regulations which govern pay and leave actions.

NOAA employees should give careful attention to their "Statements of Earnings and Leave" and promptly report obvious pay and leave errors to their supervisors.

# Las Vegas Area

## Flash Flood

### Conference Held

A conference was held recently at the Environmental Research Laboratories' Air Resources Laboratory in Las Vegas, Nev., to make plans for better flash flood warnings in the Las Vegas area. Plans for the conference were developed by Dr. Arthur N. Hull, Meteorologist in Charge of the responsible National Weather Service Forecast Office at Reno, in cooperation with Frank D. Taylor, Official in Charge of the Las Vegas Weather Service Office. Participants included NWS officials from the Reno and Los Angeles WSFO's, Palmdale, Calif. (Radar), Western Region Headquarters, and the Salt Lake City River Forecast Center; personnel from ARL, Nellis Air Force Base, the University of Nevada, and Las Vegas emergency services; and various local radio, TV, and other news disseminators.

A plan was developed for more timely forecasting and more rapid dissemination of flash flood watches and warnings. The Las Vegas area is especially prone to flash flooding. In 1974, nine people were killed at Nelson's Landing, 50 miles south of Las Vegas, and last summer a flood smashed 100 cars at Caesar's Palace Casino in Las Vegas. The City of Las Vegas is located in a natural drainage channel out of nearby mountains. This, coupled with an impervious layer of soil in the area, poses a real danger when occasional tropical air brings violent thunderstorms in summer.

A similar conference is planned at Los Angeles on June 4 to take up that area's flash flood problem.

# ERL Men Say Weather's Predictability Has Limits

One thing about the earth's atmosphere scientists are beginning to understand is that probably they never will understand it all. While there is much which still can be learned, and a real possibility for better weather forecasts of greater duration, some aspects of atmospheric behavior, it seems, simply cannot be predicted.

Researchers at the Environmental Research Laboratories' Geophysical Fluid Dynamics Laboratory in Princeton, N.J.—which is devoted to understanding and predicting weather and climate—are beginning to define the inherent limits to prediction. They are doing this by using one of the world's most powerful computers to apply numerical models to simulate the

behavior of the atmosphere and oceans.

"In principle," says GFDL Director Dr. Joseph Smagorinsky, "certain aspects of atmospheric behavior can't be predicted."

An example is the wave-like motion that develops in the atmosphere to equalize the distribution of heat. How an existing wave disturbance will develop and where it will be several days later can be predicted. But the location of second or third generation disturbances sometime in the future is less predictable.

Many phenomena are predictable, however, up to a point. Dr. Kikuro Miyakoda sees the inherent limit for deterministic predictions—statements that under observed conditions a certain place will receive "X" amount of

rain on a given day—as about two or three weeks.

Dr. Syukuro Manabe explains that this predictability limit is due partly to instability processes in the atmosphere.

Predictability depends in part on the time scale of the process. A process like a cyclone system, which changes slowly, is more predictable than an individual cumulonimbus cloud.

The irregularities of the earth's surface also help determine predictability, says Dr. Smagorinsky. If the earth were uniform—all flat continent or all ocean—the wave-like disturbances that equalize heat distribution would have no preferred longitude at which they would form, only a preferred time. "But the role of the mountains, oceans, and continents is to put a bias in the longitudinal position where these disturbances form. They tend to form some places, like in the Gulf of Mexico, more readily than others."

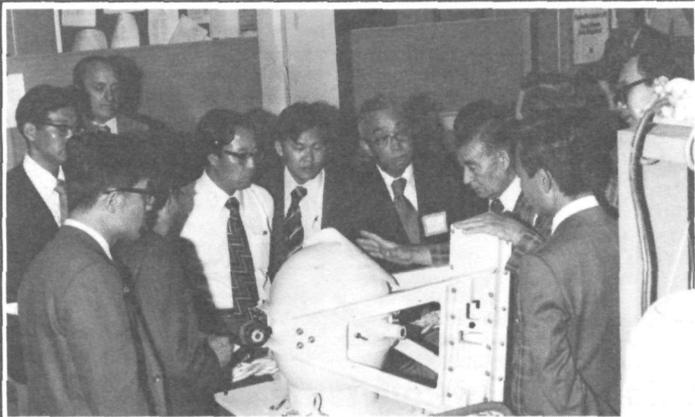
This also means that some places on the planet have more predictable weather than others. Dr. Smagorinsky suspects there is a little less predictability in the southern hemisphere than in the northern hemisphere.

Though meteorologists may not be able to predict a particular event months in advance, a statistical approach can provide probabilities, and if the procedures and the data are precise enough, that can amount to prediction.

"Certain statistical properties may be predictable, even if the details are not," explains Dr. Smagorinsky. "For example, you may not be able to tell where an individual extratropical disturbance will be, but you might be able to tell where the storm tracks are which mark the most likely place where the disturbance may pass."

One way to get a hold in the slippery atmosphere might be indirectly, through its response to the ocean. Dr. Manabe explains, "We are hoping that, with a model in which ocean and atmosphere are coupled, we can predict the slow changes of the ocean and thereby the statistical state of the atmosphere sitting on top of that future oceanic state."

Whatever the theoretical limits of prediction may turn out to be, there are still many practical limitations to be overcome, says Dr. Smagorinsky. "Models aren't perfect, the data aren't perfect, and one has to make certain mathematical compromises because the computing machines aren't infinitely fast."



A BRIEFING ON NOAA'S DATA BUOY PROGRAM and a tour of the data buoy facilities at NDBO in Bay St. Louis, Miss., were presented recently for a group of Japanese observers touring U.S. government, private and academic engineering development and oceanographic research laboratories to obtain information on underwater acoustics and ocean sensor developments. The group included staff members of the Japan Marine Science and Technology Center, a new research and development organization devoted to marine science and technology and supported by the Government of Japan and the Japanese marine industry, and engineers from Japanese industry interested in underwater instrumentation. (A National Aeronautics and Space Administration-National Space Technology Laboratory photo.)

# T. P. Gleiter Honored by University of Wisconsin-River Falls

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ical meteorology at the University of Puerto Rico in 1944; and received his master's degree in public administration from

American University in 1952. In addition, he has studied meteorology and public administration at George Washington and American Universities.

Mr. Gleiter has served in his present position since NOAA was created in 1970. Previously, he was Assistant Administrator for Administration and Technical Services for the Environmental Science Services Administration, NOAA's predecessor.

From August 1974 to June 1975, on an Executive Development Mobility Assignment, he served as Special Assistant to the Director of the Environmental Research Laboratories in Boulder, Colo.

With the Weather Bureau from 1946 until ESSA was formed in 1966, he was first a Meteorologist, became Chief of the Budget and Management Division in 1957, and, in 1963, Special Assistant for Resource Program-

ming.

He was a civilian instructor for the Department of the Army in 1942 and an officer in the Naval Reserve from 1943-1946.

Mr. Gleiter currently is working with an ecumenical group of 20 churches in his neighborhood to assist low income families and to promote and sponsor social action in the community, including operation of day care centers, housing, food, job training, and youth development. He also is active in Home Buyers, a non-profit group aiding low income, inner-city Washington, D.C., families in attaining home ownership.

Active in the American Red Cross Blood Donor Program, also, next month Mr. Gleiter will complete his ninth gallon of blood donations.

He is a member of the American Society for Public Administration.

### noaa week

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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.

Catherine S. Cawley, Editor  
Warren W. Buck, Jr., Art Director

Invest in America .....

## Buy U.S. Saving Bonds

# FACE 76 Will Probe Efficiency of Cloud Seeding (Continued from page 1)

creases of rainfall of from 20 to 50 percent in those clusters of clouds we are able to seed.

"Our major uncertainty now is whether we are producing this increase in rainfall in one group of clouds at the expense of natural rain-making processes in neighboring cloud systems. We expect to resolve this in 1976, at least for these particular types of clouds."

The FACE 76 target area, as in previous years, is a rectangle covering about 5,000 square miles (13,000 square kilometers) south of Lake Okeechobee. With the cooperation of area landowners, FACE scientists have transformed the rectangle into an enormous outdoor laboratory.

A network of surface instruments there will measure weather conditions and rainfall at the surface. A mobile camera unit will move through the target area under the seeding aircraft, to photograph growth of target clouds penetrated by the planes. Low-level aerosols (tiny suspended particles) will be sampled at a station near Immokalee. The digitized weather surveillance radar at the National Weather Service's National Hurricane Center in Miami will probe clouds over the target area, providing data to help FACE researchers select clouds for seeding and estimate floating-target and total-target rainfall.

Surface stations will also measure atmospheric electrical im-

pulses, or "spherics." This effort, fielded this year for the first time, begins a study aimed at determining whether cloud seeding and lightning production are related.

This year, three seeding aircraft will be used, instead of the one or two usually available. The airplanes, turbocharged, pressurized Piper Navajos, and their flight crews are being leased by NOAA from Atmospherics, Inc., of Fresno, Calif. Each airplane carries a pilot, copilot, aircraft scientist, and flight meteorologist and up to 208 silver-iodide flares. Two planes have ice particle counters and sensors for liquid water, and one of these also carries a cloud-particle replicator from the University of Nevada's Desert Research Institute. The airplanes will stage from ERL's Research Facilities Center, at Miami International Airport.

FACE 76 will continue to use the complicated statistical practice called "randomization" to ensure that results and interpretations preserve the project's statistical objectivity.

The possibility of severe weather keeps FACE on the ground since the relationship between cloud seeding and severe weather is not well understood.

If conditions are right, project leaders call it a GO day for seeding, and by noon are in the air over southern Florida. They seed at altitudes of about 20,000 feet

(6,000 meters). "We need a cloud," says Dr. William L. Woodley, who heads the Miami Laboratory's cumulus group and FACE, "that is going to rain anyway. Then, if our hypotheses are right, we can make it rain a little more than it would have naturally."

The mission is something like a roundup, where the aircraft seed neighboring systems to foster cloud mergers, which appear to be a key process in the atmospheric events which bring summer rain to southern Florida.

FACE 76 will continue the search for phenomena which change more or less in parallel with rainfall amounts, and events which can be used as a basis for predictions.

The FACE investigators will also continue their study of the fate and effects of silver iodide introduced into the environment by experimental seeding. Results obtained in 1973 and 1975 suggest the amount of silver entering the environment is quite small, perhaps a hundredth of U.S. Public Health Service Standards.

Aircraft scientists will include Dr. Woodley, Dr. Robert Sax, who also leads the FACE cloud physics effort, and meteorologist John Cunning. Dr. Joanne Simpson, former FACE director now with the University of Virginia's Department of Environmental Sciences, Dr. Abraham Gazin,

# Balloons To Track Dispersing Urban Pollutants (Continued from page 1)

and universities are also participating.

Dr. Angell's "tetroons"—tetrahedral balloons—will be released from the main balloon in sets of three and then observed until they are out of sight. They will be ballasted to remain at the same altitude as the mother balloon—between 1,000 and 3,000 feet (305 to 915 meters). The pre-inflated tetroons will be moored to the gondola by ropes, giving it the appearance of a giant balloon stand at a carnival.

When it comes time to release them, Dr. Rudolf Engelmann, the scientist aboard the gondola, will adjust their ballast, unfasten them, and push them away from the gondola. Dr. Engelmann, now Director of the Outer Continental Shelf Environmental Assessment Program Office, was a prime author of the Da Vinci Project while employed by ERDA.

Since at first they will be travelling in the same air stream as the mother balloon, Dr.

Angell expects the tetroons will remain close to it for some time. But eventually the vagaries of the air currents in the atmosphere will separate them and carry them off in different directions, explains Dr. Angell, a researcher with the Air Resources Laboratories.

The Da Vinci flight is planned to last up to 36 hours. Depending on air currents and weather, the balloon could travel several hundred miles over the Midwest. During this long flight, Dr. Angell hopes that at least two sets of tetroons can be released.

Instruments placed on the gondola by Dr. Rudolf Pueschel of ERL's Atmospheric Physics and Chemistry Laboratory will filter minute particles, or aerosols, from the air along the balloon's path. These will be analyzed later by electron microscope, to determine particle size, shape, and composition, and also will be tested for their potential effects on weather.

Dr. Peter Kuhn of APCL has placed an infrared radiometer aboard to study the radiative properties of aerosols in the St. Louis pollutant plume and of the land surfaces beneath the balloon.

Information from these experiments will help scientists predict the rate of dispersal of pollutants or radioactive clouds from their sources, and some of the effects of these contaminants.

# Publications Council Formed

A NOAA Scientific and Technical Publications Council was formed recently to provide a forum for discussing policy, and procedures, and making recommendations for improvements in NOAA's scientific and technical publishing program.

The members, named by their respective associate administrators or MLC directors are: Gene T. Triplett (AD), Michele Teller (EM), Harold A. Corzine (EM), Dennis G. Carroll (MR), Ernest Greenwald (SG), Dr. Joseph Caponio (EDS), Jack M. Cormick (ERL), Walter G. (NESS), Dr. Bruce B. (NMFS), Janice Flagg (NWS) and Dr. Duane S. Cooley of the EDS Environmental Science Information Center, will chair the Council.

who directs the Cloud Physics Laboratory of Israel's Hebrew University in Jerusalem, and Dr. John Hallett of the Desert Research Institute will participate in FACE 76 as consulting scientists. Dr. Noel LaSeur directs the National Hurricane and Experimental Meteorology Laboratory.

# Continental Shelf Fishing Regulations

(Continued from page 1)  
cies concentrate in the location. The Secretary is reviewing evidence for establishing such "area of concentration" for the American lobster off the New England coast.

The proposed regulations implement those parts of the 1968 Act that prohibit foreign vessels from taking fishery resources from the Continental Shelf of the United States.

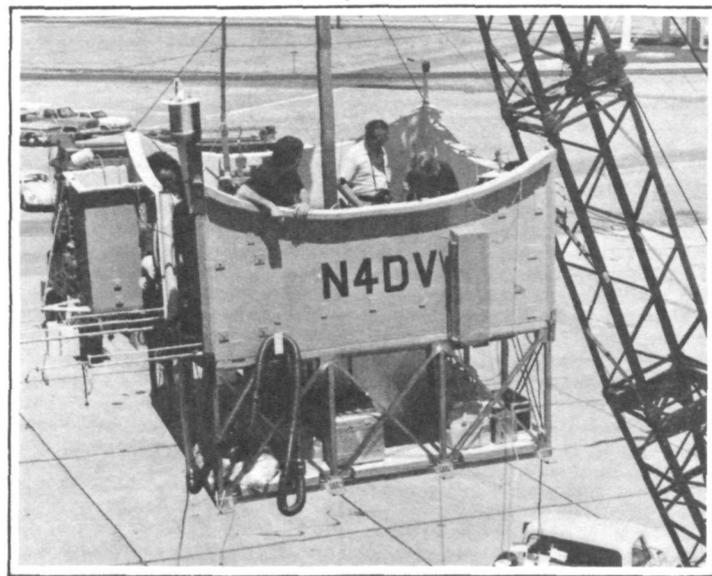
Written comments, views, or objections to the proposed regulations may be sent to the Director, National Marine Fisheries Service, NOAA, U.S. Department of Commerce, Washington, D.C. 20235, through May 1976. Final regulations will be published as soon as possible after the comments have been reviewed.

# Tornado Detection

(Continued from page 1)  
commercial radio or TV stations for the latest reports from local Weather Service offices.

Also, since there may not be time for a tornado warning, keep a "weather eye" on the sky for dark clouds, hail, intense rain, as well as the telltale funnel cloud. At night, listen for tornado roar—like a freight train or flight of jet planes.

If there are any indications tornado is heading your way take cover!



# **National Oceanic and Atmospheric Administration**

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