



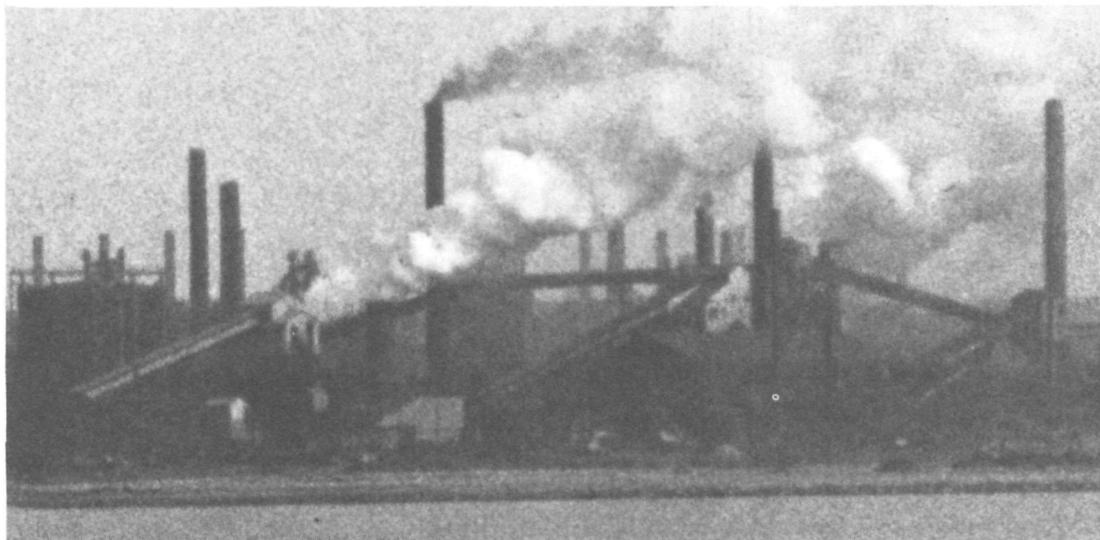
Volume 5

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# NOAA news

National Oceanic and Atmospheric Administration



Baltimore Harbor — Pollutants obscure Baltimore's Skyline

## Scientists Tracking Ozone Plumes

NOAA and the Environmental Protection Agency (EPA) are studying the effects of ozone, or photochemical smog, from Northeast urban areas upon regional air quality.

Ozone is the by-product of a chemical reaction that occurs when sunlight strikes hydrocarbons and nitric oxides emitted by automobiles, industrial smokestacks and other sources.

The study is being conducted in the Columbus, Ohio and Baltimore, Maryland areas by NOAA, and financed by EPA.

As part of a three-year Northeast Regional Oxidant Study (NEROS), scientists will follow the flow of pollutants from urban areas, such as Columbus and Baltimore, to regions hundreds of kilometers downwind.

The Columbus, Ohio phase of NEROS will be coordinated with EPA's persistent Elevated Pollution Episode (PEPE) study managed by a contractor team headed by

Environmental Measurements Incorporated. The PEPE program will study impaired visibility due to sulfate and nitrate pollutants under stagnate weather conditions lasting more than one day. At the same time, another group of scientists will sample ozone levels in Baltimore, Maryland's largest city, where oil refineries, steelworks and numerous industrial parks exist.

This, and other data gathered last summer in the Philadelphia area, will be used as the basis for developing and validating a regional-scale photochemical air quality computer model NOAA has developed for EPA. Eventually, environmental managers will use the model to find ways to control ozone levels in a 1,000-square-kilometer region from Portland, Maine, south to Richmond, VA., and westward from the East Coast to parts of the Ohio Valley.

"Tracking urban plumes over long distances and more

than one day is a difficult task, but necessary if we are to understand how these major source areas of ozone precursors, hydrocarbons and nitric oxides, impact regional concentrations of ozone," explains Dr. Ken Demerjuan, chief of Atmospheric Modeling at the NOAA's Meteorology Laboratory at Research Triangle Park, North Carolina.

## Undersea Studies Proposed

A \$1.2 million undersea research project aimed at solving regional and national marine problems was announced recently by NOAA.

The funds will go to three universities that will conduct research under cooperative agreements with the agency.

The three, and the amounts they will receive are: the University of Southern California, Catalina Marine Science Center, \$150,000; the University of Hawaii, \$550,000 and the Univer-

## Research Institute Created

NOAA and the University of Wisconsin-Madison (UW) have agreed to create the first research institute ever designed to make use of satellite data in probing the workings of the weather.

The institute will be called the Cooperative Institute for Meteorological Satellite Studies (CIMSS) and is the sixth cooperative institute established by NOAA Administrator Richard A. Frank.

Frank and Irving Shain, the university's chancellor, signed the memorandum of understanding creating the institute.

Frank noted that NOAA and UW have collaborated on satellite-related atmospheric research for more than a decade. "This institute will allow scientists and engineers to continue research into problems of mutual interest under the most conducive condi-

*(Continued on p. 2)*

sity of North Carolina, Wilmington, \$600,000. The latter will coordinate the work of the Southeast Consortium for Research Efforts.

As part of the project, the University of Southern California will establish a Western Regional Undersea Laboratory (WRUL) to study the problems and characteristics of the Southern Pacific coast. The researchers will study marine fisheries and the effects of pollution and other

*(Continued on p. 3)*

## LETTER FROM THE LABS

By Richard Newell

**A Buried River** – The NOAA ship *Oceanographer*, now home from China, left Shanghai on June 9 with two Chinese research vessels to study the outflow of the mighty Yangtze River. All three ships carried both U.S. and Chinese scientists. Dr. John Milliman of Woods Hole, the U.S. scientific program coordinator, has reported that the *Oceanographer* conducted continuous seismic (acoustic) profiling of the river's ancient underwater channel, which was buried beneath as much as 20 meters of sediment.

Scientists know that during the last major glaciation, 20,000 years ago, the global sea was about 350 feet lower than today, the evaporated water locked in mile-thick continental ice sheets. Large areas of the continental shelves – the underwater extensions of the continents – became dry land. About 14,000 years ago, the ice sheets began to recede, and during the next 7,000 years the sea gradually reclaimed its own. As the mouth of the Yangtze retreated inland before the rising waters, the river covered its tracks with megatons of sediment, completely burying its ice-age channel.

"We suspected that a river that size should have such a buried channel, and we found

it and traced it to at least 100 miles offshore," Milliman said. Even though the Yangtze, Asia's longest river, ranks third in the world in water outflow, and fourth in sediment outflow (500 million tons per year), the researchers were still surprised at the amount of sediment covering the old channel.

**A Forbidden City** – Participation of the Pacific Marine Environmental Laboratory in the cooperative Chinese-American study was recently described by Dr. Glenn Cannon. He was chief scientist of the work from Manila to Shanghai and sailed on the smaller Chinese vessel, *Shuguan #6*, to study the mouth of the Yangtze estuary.

Cannon was also a member of the marine sedimentation delegation to the People's Republic of China in December 1979 – the group that helped to set up the joint study. Of that trip, he reported that after flying to Hong Kong from Seattle "We entered China by train to Guangzhou. Three members of the National Bureau of Oceanography (NBO) met us and traveled with us throughout China." In Guangzhou, the 11 American scientists visited several research facilities, gave scientific lectures, and were treated to an

evening gymnastics show.

Visits were made to scientific institutions at four other cities as well. While at the capitol city of Beijing (formerly Peking), they were also taken on tours of the Forbidden City, the Great Wall, and the Ming Tombs. "The Chinese were excellent hosts and everyone everywhere was exceptionally friendly," Cannon said. "We learned much about the country and its people as well as its oceanography, and made many friendships, collectively and individually." The American scientists left China by plane from Beijing on December 18 after arriving at a tentative agreement to conduct a sediment dynamics study off the mouth of the Yangtze River, on the East China Sea's broad continental shelf.

**A Rousing Welcome** – Dr. Cannon returned to China aboard the *Oceanographer* in May, accompanied by other scientists from PMEL and the University of Washington. The cruise from Manila to Shanghai was highlighted by a stopover in Xiamen (formerly Amoy) to pick up 13 Chinese scientists.

"The stop in Xiamen was historic," Cannon said. "This city has only very recently been opened to Americans. Only a few others had been

there before us. During the day the entire ship's complement was taken ashore for a tour of the NBO's Third Institute of Oceanography and a temple in town. In return, the ship provided tours for a large number of Chinese scientists who were not participating in the cruise to Shanghai."

Cannon reports that, following oceanographic studies across the East China Sea and into the Yangtze River plume, the ship arrived in Shanghai with much fanfare. Chinese six deep lined the dockside. Huge red and white banners, one in English and one in Chinese, read "Warm welcome, U.S. *Oceanographer*..." Before docking, the ship made a long, lazy turn for the benefit of thousands of onlookers crowding a waterfront park opposite downtown Shanghai.

"It was the first U.S. government ship to go there in over 30 years," Cannon explained. "I was particularly moved by the number of scientists to greet us from institutions from all over China. Many were those I had met either during the U.S. delegation's visit to China last December or during their delegation's visit here last March. During the June 4-8 inport, there were many celebrations of the occasion.

## Institute Will Use Satellite Data To Analyze Weather Conditions

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tions. It also will serve as a center for the training of scientists and engineers in the disciplines involved in the atmospheric sciences."

Initially, CIMSS will be staffed by scientists from the National Environmental Satellite Service and the university's Department of Meteorology and Space Science and Engineering Center. Later, they will be joined by scientists from other universities and agencies both within and outside the United States.

CIMSS already is scheduled to conduct research into

large scale weather formations and carry out NOAA's AgRISTARS project, a six-year effort aimed at gathering global rainfall estimates and predicting weather conditions that affect major farm crops. Some work also will be done on the concept of developing a regional weather forecasting system.

The institute's budget for current and new projects is expected to exceed \$1 million within a year, NOAA and university officials said. Professor Verner E. Suomi, director of the Space and

Engineering Center, stressed the benefits of consistent funding. "You can plan further ahead, and that's important," he said. Suomi also said CIMSS will provide an organizational structure for taking on broader projects.

Earl G. Dressler, head of NOAA's Office of University Affairs, said CIMSS signifies the Agency's growing relationship with the academic world. He said the institute represents a way of finding solutions to the technical and scientific problems posed by using satellite data for

weather-related analysis and predictions.

William L. Smith, who has headed the NOAA Environmental Satellite Service at Madison since 1977, noted that the agency needs the kind of research done by universities – "especially the kind that produces results that can be applied quickly.

"Because institutes traditionally are strong on applied research," Smith added, "the government gets research which is in more direct support of its operational mandates."

# U.N. Decade of the Women Conference Held

More than 23,000 delegates from 136 countries gathered at the Bella Centre in Copenhagen, Denmark, July 14-30, for the second World Conference of the United Nations Decade for Women on Equality, Development and Peace. The purpose of the meeting was to examine the progress made since the Mexico City Conference in 1975, which launched the UN

Decade for Women, and to chart a continuing course of action for participating governments in the conference sub-themes of education, employment and health, as they relate to women.

The introduction of political issues, such as women and apartheid, Palestinian women and women as refugees, distracted from these projects, and - in the end - the U.S.

delegation could not endorse the conference's five-year Plan of Action because of provisions equating Zionism with racism.

As in Mexico City, there was a parallel conference, the Non-Governmental Organization (NGO) Forum, which took place from July 14-24, at Copenhagen University, and which had over 8,000 registrants. While the Forum also

was plagued by political overtones and demonstrations, women from all over the world took advantage of the 150-175 workshops, panels, or group meetings which were offered daily on a wide range of topics and heard feminist leaders, such as Betty Friedan and Bella Abzug.

While the Mexico City *Tribune* in 1975 concentrated on global consciousness raising, the "in" word at the Copenhagen Forum was "networking". Women made personal and professional contacts and vowed to keep in touch and to work together regardless of the outcome of the official UN Conference.

One area of particular interest to NOAA were three workshops on Women in Science and Technology, organized by the Washington-based Association for Women in Science (AWIS) and the AWIS Educational Foundation funded from the Ford Foundation. The purpose of the Copenhagen workshops was to discuss the status of women in science and technology in various countries, suggest ways to increase women's participation in science and technology, and to strengthen their roles in determining science policies.

Over 165 women attended  
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## NOAA Employees Assist FEW Workshops

The Shoreham Hotel in Washington, D.C. was headquarters for over 2,500 participants at the 11th Federally Employed Women's Annual Training Program, July 10-12. About 75 NOAA women from the Washington metropolitan area and 25 from the field were present.

On Monday evening, July 7, the NOAA Federal Women's Program Advisory Committee (FWPAC) hosted a reception for the field Federal Women's Program (FWP) Managers. On July 8, an all-day training workshop was held for NOAA's field FWP Managers and headquarters Advisory Committee members. Diane Herrman, Director of the FWP Program at the Office of Personnel Management (OPM), and Arva Jackson, Director of

NOAA's Office for Civil Rights, gave keynote addresses on the future of the special emphasis programs and projections for the 1980's. Other topics which were covered in the workshop included sexual harassment, the current Federal Equal Opportunity Recruitment Program, new affirmative action plan requirements and the complaints processing system.

Many of the field FWP Managers and FWPAC members were in attendance at the OPM-sponsored workshop on July 9. In addition, NOAA had a booth in the Exhibit Hall of the Shoreham Hotel and participated in both an exhibit and a reception sponsored by the Interagency Subcommittee on Women in Science and Engineering (WISE).

The purposes of WISE, which has published a Directory of Federally Employed Women in Science and Engineering, are:

- To expand career opportunities and provide technical skills up-date for women scientists and engineers in the Federal service;
- To enhance the advancement of women scientists and engineers in the Federal service;
- To increase the pool of women in science and engineering through recruitment and community outreach.

Regular meetings of WISE are held the second Tuesday of every month from 9 to 11 a.m. at the National Science Foundation. For further information contact Ellen Overton, 443-8725.

## Three Universities Receive Funds For Undersea Projects

(Continued from p. 1)

human activity upon their habitats and all other forms of sea life.

"These agreements mark the beginning of NOAA's regional underwater research program, designed to produce high-quality research aimed at important national and regional problems," Frank said. "The institutions will use the most appropriate technology and the most experienced marine scientists in conducting their research. We anticipate highly productive results, the kind that can only be obtained by re-

searchers on the site - in this case, under the water."

Several major studies also will be made of the massive kelp beds off the southern California coast that are an important source of food and home to various species of fish.

The underwater system, including hyperbaric - pressure - chambers and support vessels, selected for the study will be used in conjunction with existing university facilities and equipment. The system will be the most cost-effective, one that can be

developed for 7- to 10-day diver-scientist missions.

The University of Hawaii will use submersibles for its studies of marine fisheries, pollution, and seafloor properties and processes. The most important research will be aimed at evaluating and developing natural resources - including sources of energy - and at understanding the environmental processes needed to better manage marine ecosystems.

The researchers also will investigate the effects of sewage dumping at four sites

off the island of Oahu and ocean dumping at 15 sites off the Hawaiian islands.

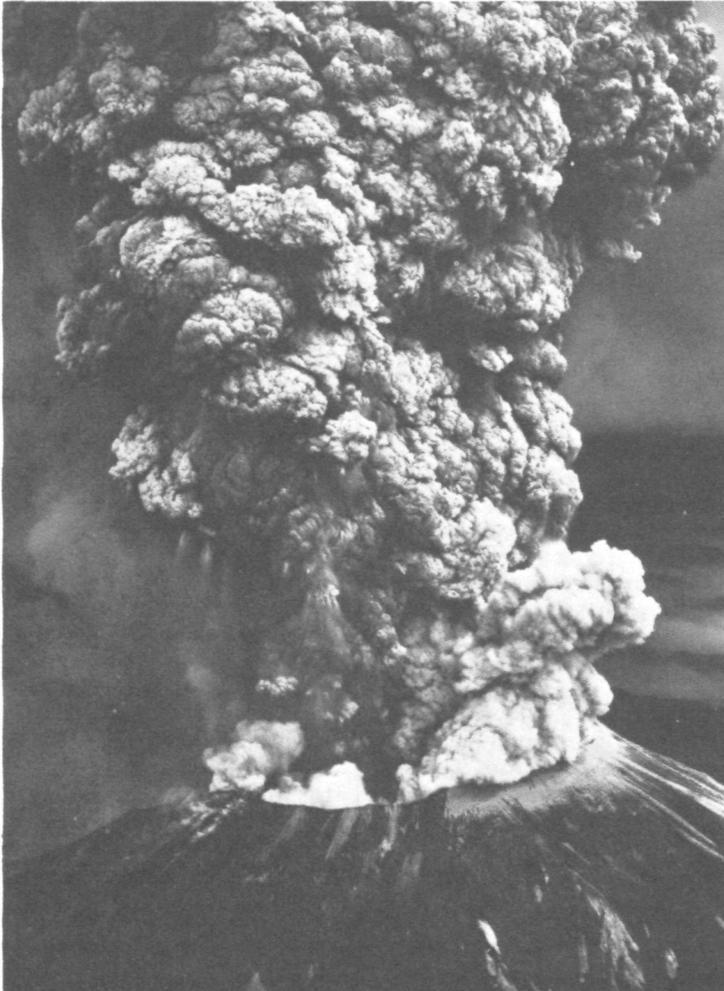
The southeast consortium, composed of institutions from North Carolina, South Carolina, Georgia, and Virginia, will establish a Southeastern Undersea Research Facility (SURF) to also study marine fisheries, seafloor processes, marine pollution, and ocean services. The latter will include research into underwater archeology and the effects of diving on the human body.

## Mount St. Helens' Cloud Detected Over Hawaii

The cloud of ash that Mount St. Helens spat into the stratosphere on May 18 has appeared over Hawaii, according to scientists with NOAA.

The cloud was detected by instruments at an observatory on Mauna Loa maintained by

the agency's Air Resources Laboratories. Since the May 18 eruption, the cloud had been detected at various locations at higher latitudes, and has circled earth at least twice, but this is thought to be the first time it has made its way to the sub-tropics,



says Dr. Kinsell Coulson, director of NOAA's Observatory. Furthermore, the cloud was found at the same altitude as some patches of it were when they first crossed the United States.

The Earth's wind system tends to carry such particles generally "zonally" — west to east, or east to west — Coulson explains, noting that, at the time of the eruption, stratospheric winds had begun their seasonal reversal, blowing east to west. But variations in upper winds and diffusive processes in the atmosphere cause deviations that can carry it southward over Hawaii, and eventually over the whole globe. The NOAA observatory has detected particles in the stratosphere over Hawaii from other volcanic eruptions, such as Mt. Agung in Bali, De Fuego off Central America, and Soufriere in Guadeloupe.

The Mauna Loa observatory is part of a network of stations that NOAA maintains at remote locations around the globe to monitor the atmospheric constituents, such as carbon dioxide or volcanic ash, that are believed to be tied to climate change. The St. Helens ash was first detected over Hawaii during routine observations in the early morning of July 8. To measure particles high in the atmosphere, an intense laser beam is projected upward

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## Improved Climate Information To Help Farmers

Improved climate information designed to help farmers irrigate more effectively will be provided under an agreement between NOAA and the University of Nebraska.

NOAA will provide \$100,000 for the first phase of a demonstration test and evaluation of improved climate information support to AGNET (agricultural computer network), a regional information delivery system developed by the University.

Four automated climate stations will be established in the Imperial-McCook region, where ground water levels are declining. They will provide data on air temperature and humidity, soil temperature solar radiation, net radiation, wind speed and direction, precipitation, and possibly soil moisture and dew duration. "County agents, private consultants, and individual farmers within the test area with access to an AGNET

irrigation scheduling program will participate in the demonstration," said Administrator Richard A. Frank.

The greatest increase in irrigation in recent years in the Great Plains region has been through sprinkling systems, primarily center-pivot systems that irrigate between 135 and 152 acres in each quarter section of land. These systems cost more than \$60,000 each, and a single

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## Buttons For Winners

A group of NOAA employees is sponsoring a contest to recognize fellow Federal employees of NOAA who, in rain or shine, hot or cold, go the extra mile. Fifty metal buttons have been struck and will be awarded to those nominated. The rules are simple—to nominate any employee, send in the individual's name with the signatures of five fellow workers. A description of the person's contribution is required and must be received no later than Friday, September 19 at the contest address:

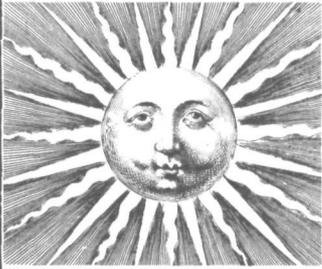
Fellow Hard Workers  
Contest  
c/o P.O. Box 131  
Poolesville, Md. 20837

The winners will be awarded a 1½" button with their initials on the back. This one-time contest is being sponsored by private donations.

## Air Force Lab Awarded Grant

NOAA has awarded a \$140,000 contract recently to the Air Force's Flight Dynamics Laboratory to provide and install explosive-suppressant foam in the wing fuel tanks of NOAA's C-130 research aircraft.

# HEAT



# WAVE

The one certainty about the current heat wave is that just as surely as it will pass another will come along.

NOAA scientists therefore, have issued these guidelines for coping with excessively high temperatures.

**Slow down.** The human body doesn't do its best in high temperatures and humidities and may not even perform well at all. Therefore, you should reduce your level of activity and try to stay in a cool environment as much as possible.

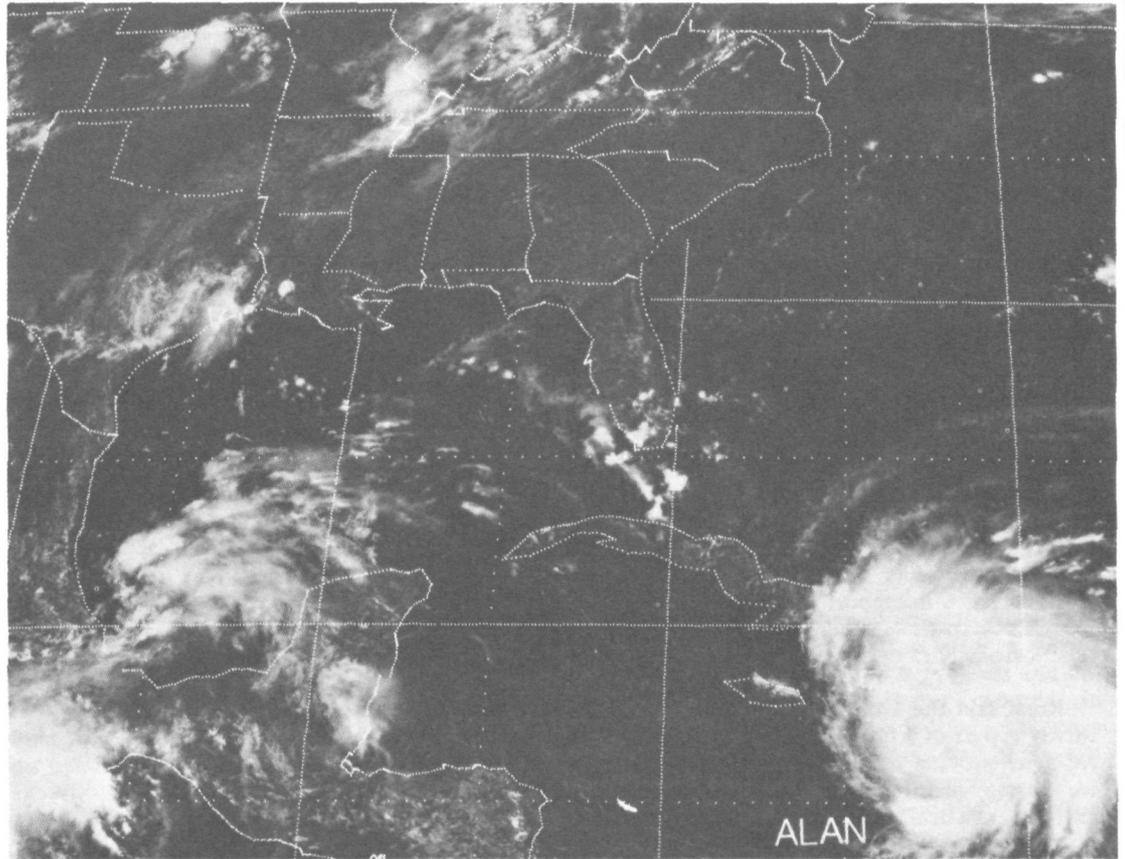
**Dress properly.** Wear lightweight and light-colored clothing that reflect heat and sunlight and help the body maintain a normal temperature.

**Choose food carefully.** Avoid foods such as proteins that produce body heat and cause water loss.

**Don't dry out.** The body loses water quicker during a heat wave than one normally might expect. Therefore, you should drink plenty of water while the hot spell lasts.

**Avoid Thermal Shock.** Acclimatize yourself gradually to warmer weather to avoid a heat stroke. Because lengthy exposure to heat increases physical stress, it is wise to occasionally stop in a cool place — store, restaurant or theater — while moving about.

**Don't overdo sunbathing.** Sunburn makes it more difficult for the body to dissipate heat.



Hurricane Alan is precisely located south of Haiti in this August 5 GOES satellite picture.

## Satellite Helps Locate Hurricanes

A NOAA geostationary satellite — 22,300 miles out in space — is locating Atlantic Ocean hurricanes with an average accuracy of about 17 nautical miles, and pinpointing their intensity within an average of 10 knots.

The spacecraft's ability to track hurricanes with such accuracy is described in a scientific paper written by

Donald C. Gaby, manager, and his staff at the Miami Satellite Field Services Station for the May issue of the *Monthly Weather Review*, a publication of the American Meteorological Association.

Since 1971, Gaby reported, estimates of the locations and maximum sustained wind speeds have been made for all tropical and sub-tropical

hurricanes in the Atlantic, the Caribbean, and the Gulf of Mexico.

"Our ability to estimate accurately the maximum sustained winds is significantly better for storms of at least hurricane intensity (65 knots); that is, for those storms potentially most damaging," the paper said.

## 'Coastal Zone '80' Scheduled for Nov. 17-20

More than 50 experts in such fields as fisheries, coastal erosion, energy and ocean pollution will present their views at a national symposium—Coastal Zone '80—to be held in Hollywood, Fla., November 17-20, 1980, the National Oceanic and Atmospheric Administration has announced.

The four-day meeting at the Diplomat Hotel is being sponsored by NOAA's Office of Coastal Zone Management in cooperation with the

American Society of Civil Engineers and 25 other government and private groups.

Dallas Miner, co-chairman of the event, anticipates that about 2000 participants—scientists, planners, engineers, and government officials—are expected to attend.

"This conference will be the largest gathering of coastal specialists in the country," Miner said. "And it will be the culmination of literally scores of Year of the

Coast events that have taken place throughout the coastal states since January."

In addition to those presenting papers at the conference, a number of members of Congress and Administration officials will address the meeting.

Information on Coastal Zone '80 is available from Dallas Miner, Office of Coastal Zone Management, 3300 Whitehaven Street, N.W., Washington, D.C. 20235.

## The Ship Whiting Conducting Hydrographic Survey of Lake

A 5-month hydrographic survey of Lake Huron is being conducted by NOAA to provide the latest navigational information for lake-going commerce and recreational boating.

The survey, which began June 24, near Port Huron, Mich., is being conducted aboard the 163-foot NOAA Ship *Whiting* under the command of Cdr. Frank P. Rossi, a member of the NOAA Corps. The ship carries a normal complement of 8 commissioned officers and 33 crew. Its homeport is NOAA's Atlantic Marine Center, Norfolk, Va.

Rossi said the Lake Huron survey is part of a program by NOS to provide information for the maintenance of existing nautical charts and

construction of new reformatted or reschemed charts. "The survey further exemplifies," he said, "the long-existing cooperative charting efforts between the National Ocean Survey and the Canadian Hydrographic Service."

In conducting the operation, NOAA hydrographers will use an electronic echo sounder, an instrument that measures water depths by recording the time required for sound waves to reach bottom and the echoes to return. As the vessel follows a prescribed course, returning echoes are recorded on a permanent graph at rapid intervals forming a continuous profile of the lake floor. The location of the sounding vessel will be determined with electronic positioning instruments and with sextants.



NOAA Ship *Whiting* is surveying Lake Huron during a five-month mission. The ship's home port is Norfolk, Va.

The survey utilizes hydrography to provide information of dynamically or geologically changing bottoms, offshore, alongshore, inshore construction, position of fixed and floating aids, landmarks and all submerged obstructions, i.e., wrecks, shoals, and dangers to naviga-

tion. In addition, the survey will provide updating information on the Coast Pilot and other marine publications to the Office of Marine Surveys and Maps.

The Lake Huron survey affects seven nautical charts: 14860, 14862, 14863, 14864, 14865, 14869, and 14880.

## \$165,600 Grant to University of Delaware Aiding Researchers

The University of Delaware has been measuring the relationships between coastal waves and sediment movement for some months now under a \$165,000 grant from NOAA.

The study is a part of a major Sea Grant project known as Nearshore Sediment Transport Study (NSTS) that is investigating erosion and other hydrographic activities in the coastal surf zone.

Under the Sea Grant program, NOAA fosters marine education and research and provides marine advisory services.

Dr. Robert G. Dean of the Department of Civil Engineering at the University of Delaware heads the project which will measure and characterize the net accumulation of sediment in a "trap" that was formed when a breakwater was built in the Santa Barbara (California) Harbor during the early 1930's.

Dean's group periodically

will measure the amount of sediment in the trap over a year's time span, and compile data characterizing the sediment — including the depth of the water, the volume of sand, and the bathymetric contours of the sea floor.

Each week-long series of measurements, repeated every 4 to 6 weeks, will determine the volume of sediment which moved into the area since the previous measurement. A preliminary survey, in December 1979, indicated that two winter storms had moved roughly 80,000 cubic meters of material into the trap.

Santa Barbara Harbor, according to Dean, is marked by the erosion to the east that began the first year after construction of the breakwater, and has become more intensive ever since. Government agencies spend as much as \$400,000 per year to transfer sand mechanically and hydraulically from the west side to the continually eroding east side.

Dean's group spends 4 to 5 days, from dawn to dark, in a small vessel with a fathometer, continuously recording depths as the boat moves. Each trip covers about 4 kilometers along the shore, about 800 meters from shore. The boat's horizontal position also is recorded continuously on magnetic tape.

The resultant data correlations enable the scientists to establish a contour map of the sea floor and then to compare it with the previous maps. The year-long study should give a picture of how, and how much, sediment moves during both stormy and fair weather periods.

Scientists from five universities are cooperating in the overall NSTS study and, during February, they conducted a month-long intensive collection of data both in the water and on the shore. When the data finally are analyzed and evaluated, the results should be useful to engineers and others who

must make decisions about building, dredging, and siting in the near-shore environment.

## Farmers To Be Aided By Climate Information

*(Continued from p. 4)*

irrigation cycle costs between \$6 and \$8 an acre at current energy prices. Frank stated, "Lacking precise climate information, farmers often over-irrigate, which wastes fuel, degrades soil quality, depletes groundwater resources, and sometimes reduces crop yield."

The AGNET irrigation scheduling program serves more than 1.8 million acres. The test system is expected to strengthen it by improving the quality, reliability, representativeness, and accessibility of climate information needed to both estimate evaporation and soil moisture and plan water deliveries.

Recent organizational changes within the Environmental Research Laboratories include the formation in Boulder of a new Office of Weather Research and Modification, with Dr. Charles F. Chappell as acting director. This office consolidates several mesoscale meteorology groups, including the Weather Modification Program Office's Boundary Layer Dynamics Group, the SESAME (Severe Environmental Storms and Mesoscale Experiment) Project Office, and all of the former Atmospheric Physics and Chemistry Laboratory except the chemistry group — that group has merged with the Air Resources Laboratories, but remains in Boulder. The cumulus group of the National Hurricane and Experimental Meteorology Laboratory (NHEML) has also joined the new Boulder office and the remainder of NHEML has merged with the Atlantic Oceanographic and Meteorological Laboratories.

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R. Adm. Eugene A Taylor of Fitchburg, Mass., retired June 30 as Director of the Pacific Marine Center (PMC), Seattle, Wash. Capt. Charles K. Townsend of Orrick, Mo., has been appointed Acting Director.

After serving with the Navy in World War II, Admiral Taylor received a B.S. degree in civil engineering from the University of Massachusetts. Shortly thereafter, he joined the U.S. Coast and Geodetic Survey, predecessor of NOAA's National Ocean Survey.

Admiral Taylor has been serving as Director of the Pacific Marine Center since mid-1976, prior to which he served for four years as Associate Director, Office of Fleet Operations at the Rockville, Md., headquarters. His sea assignments have included duty aboard five NOAA ships

(Cowie, Wainwright, Pioneer, Explorer, and Pathfinder) operating in the South Pacific, Hawaii, Alaska, and on both east and west coasts.

For his work in the Satellite Triangulation Program, Taylor received the Department of Commerce Gold Medal, the Department's highest award. Other honors include the University of Massachusetts Engineering Award (1976). As a member of the Executive Committee of the Marine Section, National Safety Council, he received the Cameron Award in 1976 for outstanding contribution in furthering the safety goals of the Council.

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R. Adm. Robert C. Munson, associate director of the Office of Fleet Operations of the National Ocean Survey was recently re-elected president of The Hydrographic Society at its annual meeting in London, England.

Munson's re-election as president coincides with the increasing international activities of The Hydrographic Society and follows the recent establishment of a U.S. branch under his direction. The Society's overall membership is drawn from more than 40 countries and is directed towards representing the broad interests of hydrographers, oceanographers, and geophysicists, as well as all branches of offshore engineering.

## OBITUARY

Mr. John M. Horodeck, of the National Meteorological Center, was killed in a car accident on Tuesday, June 17. He worked as a research meteorologist with the Development Division in Camp Springs, Maryland for the past four years. Horodeck was a graduate of Rutgers with a Master's from Pennsylvania State University.

## U.N. Conference Report

(Continued from p. 3)

the workshops on Women in Science and Technology and discussed topics such as mathematics education as a filter keeping women out of science, the problem of negative stereotyping of women in the sciences, the need for better technical training for girls and for more research on barriers to participation of women in science and technology in various countries. On the last day, it was decided that there was a need for an international network of women scientists and that AWIS was the logical organization to create it.

A steering committee was appointed with representatives from various countries. Plans for a newsletter were outlined, and there was a discussion on setting up an international exchange program for women scientists.

Much attention was given to the problems of employment of older women and numerous workshops were held on Alternative Work Patterns. The NOAA Federal Women's Program Manager was a panelist and translator at a workshop on Flexible Working Time, led by French-speaking Swiss and Belgian women. She outlined the new U.S. laws on flexible and part-time employment.

Despite the fact that the United States did not endorse the Plan of Action because of its political implications, there is bound to be more at-

tention given to and improvement of the status of women in the United States as a result of the Conference. As part of the preparations for the Copenhagen meetings for example, 11 regional conferences took place and the US Secretariat for the World Conference undertook an outreach program that involved women throughout the country. In addition, position papers were prepared by numerous US Government agencies, the UN Secretariat and UNESCO on the sub-themes of education, employment and health. Ensuring that there is progress and advancement for women in these areas will be a challenge for the second half of the UN Decade for Women.

— Ellen S. Overton

## Ashes Tracked

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into the atmosphere during the pre-dawn hours and light scattered backward by atmospheric particles is collected by a telescope and analyzed by computer.

The cloud formed a deep but not very dense layer between about 49,000 feet (16 kilometers) and 58,000 feet (19 km) above sea level. Though such a cloud might be visible to the human eye as dusty striations in the sky at dawn or sunset, explains Coulson, it would not have a noticeable effect on the perceived brightness of sunlight during the day. It takes sensitive instruments to detect its presence.

Since the volcanic cloud is well into the stratosphere, Coulson continues, ordinary clouds and rain will not wash it out of the atmosphere, and it can remain there for years — without major changes. "There is evidence that such volcanic clouds may change the climate of the earth if they are sufficiently dense and persistent, but it is still too early to say if the present cloud is in that category."

## Claims Honored

Fishermen who missed the previous deadline for filing compensation claims for damage to their fishing gear or vessels under the Fishing Vessel and Gear Damage Compensation Fund may now apply.

The compensation fund are obtained from surcharges assessed foreign fishing vessels that fish within the U.S. 200-mile Fishery Conservation Zone.

## FROM THE GALLEY

### TASTY CLAMBURGERS ON TOASTED BUNS For Indoor or Outdoor Cooking

2 cans (6½ to 8 ounces each)  
minced or chopped clams  
1-1/2 cups fine soft bread  
crumbs  
1 egg, beaten  
1/2 teaspoon salt  
Dash pepper  
1/4 cup finely chopped onion  
1/4 cup finely chopped celery  
1 tablespoon chopped parsely  
1 teaspoon lemon juice

Drain clams well. Combine crumbs, egg, salt, and pepper; mix well. Add drained clams, onion, celery, parsely, and lemon juice; mix well. Shape into 4 patties, 3 to 3½-inch diameter, using about 1/3 cup clam mixture for each burger. Heat butter or margarine in skillet or on grill. Add patties; brown well on both sides, turning once, 8 to 10 minutes. Serve on toasted buttered hamburger buns with lettuce, tomato slices, and tartar sauce. Makes 4 burgers.

#### Tartar Sauce

1/4 cup yogurt  
1/4 cup salad dressing  
1 tablespoon well-drained  
sweet pickle relish

1/2 teaspoon prepared must-  
ard  
1/2 teaspoon minced onion  
1/2 teaspoon chopped pi-  
miento, optional

Combine and mix ingredients. Chill. Makes about 1/2 cup  
sauce.



1 tablespoon butter or margarine  
4 hamburger buns  
Lettuce  
1 large tomato, thinly sliced  
Tartar Sauce (recipe follows)

## NWS Holds Weather Watch

A special weather watch was being maintained at Oshkosh, Wisconsin, through August 30 to protect the safety of nearly half a million aviation enthusiasts expected there for an annual aerobatics of competition.

The World Aerobic Championships will take place August 17-30. Arrangements have been made to accommodate an anticipated 10,000 aircraft.

"Our primary concern is to provide a watch for severe weather to help protect the many exhibitors, competitors, and spectators in these events along with their aircraft," said Dr. Richard E. Hallgren, Director of NWS.

"Lightning can be particularly dangerous with such a large concentration of people in the open, and a large number of experimental aircraft possibly may be exposed to high winds," added Dr. Hallgren.

"One important service to be provided by the weather team will be special briefings

for the competitive events and the fly-bys of the experimental aircraft," said Charles H. Sprinkle, Chief of the Meteorological Services Division, NWS.

The temporary weather unit established by NOAA at the Oshkosh Airport will receive guidance forecasts directly from the National Weather Service. In addition to a satellite imagery receiver, this unit will be equipped with a radar to track balloons for upper air data.

Members of the special team concentrating on the championship aerobic events are: Ted Jafferis, and Paul Hammett, Kansas City, Mo.; Rolland Wendlick, Milwaukee, Wisconsin; Martin Kaufman, Ann Arbor, Mich.; and Jerald Uecker and Kenneth Clark, Washington, D.C.

Other team members, who will support the experiments in aircraft include: Dorothy Davis, Springfield, Ill.; Arthur Strong, Chicago, Ill.; James Davis, St. Louis, Mo.

## NOAA news

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## Coho Stock Exceeds Estimates

The Northwest Regional Director of NMFS reported that the ocean recreational harvest of coho off the Oregon coast has exceeded the amount originally estimated to be necessary to maintain the balance between the ocean recreational and commercial fisheries for that area. The finding was accompanied by a projection that the number of fish needed to maintain the balance off the Washington coast would be

exceeded prior to September 14, the end of the regularly scheduled season. On the basis of these conclusions, final Federal action could be taken on August 7 to reduce the daily catch limit of the ocean salmon recreational fishery off Oregon and Washington from 3 to 2 fish. The Washington Department of Fisheries and the Oregon Department of Fisheries and Wildlife took such action effective July 16.

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