



noaa week

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Ships Launch New Season

A fleet of 25 NOAA ships has launched a new season of ocean investigations ranging from a study of the environmental effects of oil exploration and development in Alaskan waters to searching for shrimp off the Brazilian coast.

Other fleet activities will include searching for sunken wrecks, studying the spawning of herring, assessing the environmental effects of deep sea mining of manganese nodules, charting coastal waters and analyzing the Atlantic seabed.

The ships' operations will take them through America's coastal waters and estuaries from Maine to Alaska, across the Atlantic and through the Pacific, and along the northeast coasts of North America.

The NOAA Fleet is operated by the National Ocean Survey, and is manned by 1139 officers, scientists, technicians and crew. The ships range in size from a 73-foot, 125-ton fisheries research vessel to a 303-foot, 3959-ton deep sea oceanographic floating laboratory.

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Ohio, Georgia Areas Proposed As Sanctuaries

The Office of Coastal Zone Management is considering proposals that two areas be designated as estuarine sanctuaries—Old Woman Creek near Huron, Ohio, and the Duplin River Estuary on the southern end of Sapelo Island off the coast of Georgia.

The areas were nominated as sanctuaries under provisions of the Coastal Zone Management Act of 1972, which authorizes the Secretary of Commerce to make grants up to 50 percent of the cost of acquisition, development and operation of estuarine sanctuaries for the purpose of creating natural field laboratories for scientific research and education.

Old Woman Creek was nominated by the Ohio Department of Natural Resources because its biological characteristics are typical of estuarine type areas along the Lake Erie shoreline, and it is one of the best remaining examples least spoiled by man.

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Possible Deep Sea Mining Site in Pacific Is Studied

An intensive study of the first Pacific Ocean site to be identified for commercial deep sea mining is now underway by NOAA scientists.

The NOAA study is part of a major Department of Commerce effort to assess the pre-mining environment of selected areas and evolve some predictions about the environmental effects of deep ocean mining. The 15,000-square-mile (40,000-square-kilometer) research site, at latitude 15 degrees north, longitude 126 degrees west,—identified by U.S. marine mining interests as a desirable mining site—is part of a manganese nodule zone that covers a broad band of the Pacific Ocean floor. Manganese nodules rich in manganese, nickel, copper, and cobalt cover large areas of the ocean floor, scattered atop the sediments like chocolate sprinkles on a cake.

A team of scientists aboard the NOAA research vessel Oceanographer departed from Seattle in mid-April for a site about halfway between Hawaii and Central America. The first phase in the Deep Ocean Mining Environmental Study (DOMES) is a series of baseline studies to determine the pre-mining condition of possible mining sites. This spring's expedition is the second DOMES baseline study.

The DOMES project is supervised by the Marine Ecosystems Analysis Program Office, part of the Environmental Research Laboratories headquartered in Boulder, Colo.

Led by Barrett Erickson of ERL's Pacific Marine Environmental Laboratory, a dozen scientists from NOAA, Columbia University's Lamont-Doherty Geological Observatory, the City University of New York, and the Interior Department's Geological Survey are subjecting the area to 26 days of geological, chemical, physical, and biological scrutiny.

The researchers will take underwater photographs of the sea floor, bring up samples of sediments and animal life, and measure currents and salinity and temperatures of the water.

The Oceanographer, operated by the National Ocean Survey, is

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Chum Success May Create New Industry

Reviving the chum salmon fishery may create a new, clean industry for Oregon, says James Lannan, Sea Grant researcher and professor of fisheries and wildlife at Oregon State University.

Once the basis for an active industry, the chum salmon fishery was crippled by extensive exploitation and spoiled spawning grounds, according to Mr. Lannan.

But a new hatchery design—developed with Sea Grant



Chum Salmon

support—may change all that. Chum runs in Whiskey Creek near Tillamook, Ore., increased from about 400 in 1969 to 3,000 in 1974. The seven-fold increase, due primarily to the new hatchery system, has led to predictions of a multimillion dollar chum salmon industry.

"Ultimately, consumers throughout the nation may reap the benefits of Oregon State's new hatchery system," according to Sea Grant Director Dr. Robert B. Abel, "because its success would make fresh, frozen, or canned chum salmon available at low prices."

Development of the state's chum salmon fishery began when Sea Grant researchers at the Netarts Bay Fisheries Culture Station on Whiskey Creek found a substitute for natural spawning grounds: a gravel incubator, consisting of nylon mesh to hold the eggs and a gravel bed where new fry rest and develop. When ready, chum fry swim from the incubator into Whiskey Creek and then out to sea.

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Placement Program for the Handicapped Message From the Administrator

It is the policy of the National Oceanic and Atmospheric Administration to provide handicapped individuals equal opportunity for employment and advancement without discrimination in all positions where they are able to perform efficiently and safely. The term handicapped individuals "means any individual who has a physical or mental disability which for such individual constitutes or results in a substantial handicap to employment" as defined in the Rehabilitation Act of 1973, Section 7. This policy is based on the concept that physical or mental disability does not prohibit good work performance if the individual is placed in a job suited to his/her capabilities. The handicapped will be hired for their ability to perform efficiently and safely in a work situation.

Managers and supervisors at all levels are urged to make a personal commitment to hire, place, train, advance and supervise the handicapped with considerable discretion and care. We all benefit when all have an opportunity to contribute.

Robert M White

Dr. Robert M. White
NOAA Administrator

1974 Tornado Fatalities Verified

For 1974, 945 tornadoes were recorded by the Environmental Data Service, and of these, 70 tornadoes took one or more lives.

Of the 361 fatalities, 323, or 89 percent, occurred within or near valid severe weather watches.

Of the 70 killer tornadoes, 53, or 76 percent, were within valid watches.

For the period 1952-1973, these figures were 66 percent and 56 percent respectively.

The average lead time for the 1974 watches in which deaths occurred was:

-From issue time, two hours, 27 minutes; and

-From valid time, two hours, 11 minutes.

These figures were prepared by Joseph G. Galway, a National Severe Storm Local Forecaster at the National Weather Service's National Severe Storm Forecast Center in Kansas City, who is preparing a paper entitled, "Relationship of Tornado Deaths to Severe Weather Watches."

Chum Salmon

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More than three million chum salmon have been hatched in gravel incubators and released into Whiskey Creek. This research is supported jointly by the OSU Sea Grant College Program and the Oregon Agricultural Experiment Station.

William J. McNeil, former associate professor of fisheries at OSU, now Chief of Anadromous Fisheries Investigations at the Auke Bay (Alaska) Fisheries Laboratory of the National Marine Fisheries Service, initiated the chum salmon project in 1969. He placed 280,000 chum salmon eggs taken from a small natural run on Whiskey Creek in a gravel incubator at the Netarts Bay hatchery. Most of these eggs hatched and 225,000 fry and fingerlings were released into Whiskey Creek.

Of the chum fry which, on their way to sea, elude predatory coastal trout that feed on chum fry, only about one percent survive in the ocean and return to their spawning grounds as three- or four-year-old adults.

In 1974, after 3,000 adults returned to the hatchery, Mr. Lannan declared the first release of chums successful.

In 1971, the Oregon Legislature enacted laws permitting private operation of chum salmon hatcheries. Today there are four private hatchery operations and more than 15 others have applied for licenses. The Fish Commission of Oregon approves and regulates the hatcheries.



A NOAA UNIT CITATION recently was presented to the Horizontal Branch of the National Geodetic Survey's Information Center for its contributions to the success of the updating of the U.S. Horizontal (distance) Control Network.

From left above are Mary E. Yenca; Valerie N. Council; Ervin H. Lange; R. Adm. Allen L. Powell, Director of the National Ocean Survey; Roy A. Anderson; Harry Weber, Chief, Horizontal Branch; James Drosdak; Nancy S. Munro; and Sharon J. Niemi. Not in the photo are Henry B. Ames and Kenneth E. Hawkins.

Ohio, Georgia Propose Estuarine Sanctuaries

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At a public hearing on May 15 at the Firelands Campus of Bowling Green State University in Huron, a draft environmental impact statement prepared by OCZM will be presented, and expressions of opinion on the environmental effect will be solicited from interested individuals and organizations. At a later date a final EIS will be prepared.

Persons wishing to speak at the hearing should contact OCZM as soon as possible, and written comments may be submitted to OCZM no later than June 2, 1975. Copies of the draft EIS may be obtained from OCZM, and copies of it and of the sanctuary proposal may be inspected at OCZM, at the Huron Public Library, and at the Department of Natural Resources in Columbus, Ohio.

Duplin River Estuary, nominated by the State of Georgia, is ecologically typical of the Carolinian biogeographical classification of estuaries along the South Atlantic coast, containing several miles of tidal salt marsh

If fish production continues at the same rate that it has at the Netarts pilot hatchery, private chum hatcheries in Oregon can expect returns of two to three million pounds of fish annually by 1980.

Chum salmon can be sold for from 25 cents to \$1 per pound, depending on quality and market conditions. The average weight of a chum salmon returning to spawning grounds is 12 pounds and females carry an average of 2,500 eggs. Although initially most of these eggs will be sold to start new hatcheries, the sale of both fish and eggs may eventually create a multi-million dollar industry.

"There will be more fish on the market at a low price," says Lannan.

as well as estuarine and tidal creek systems. A research program currently is being conducted on Sapelo Island by the University of Georgia in cooperation with the Sapelo Island Research Foundation. The land under consideration as a sanctuary is adjacent to the R.J. Reynolds State Wildlife Preserve, and is owned by the Foundation and the State.

A community of approximately 500 persons on the island, Hog Hammock, would not be included in the sanctuary, Dr. Edward T. LaRoe, Estuarine Sanctuaries Coordinator for the Office of Coastal Zone Management and Coastal Ecologist, said. He added that designation as a sanctuary generally would not affect current uses of the area, which are consistent with the principles of the estuarine sanctuary program.

DOMES Project

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commanded by Captain William Barbee.

The research site was selected in part because some data have already been collected there and partly because, as DOMES project head John Padan puts it, "It's the first site that has actually been identified as a potential mining site." As such, it offers a valuable opportunity to study, in its natural state, the type of marine environment where industry may eventually conduct mining operations.

Industrial testing and prototype mining operations could begin at such a site within a few years. The next phase in the DOMES project, after completion of the baseline studies, will be to monitor these operations to see how they may affect the marine environment and assist in developing guidelines for such operations to minimize environmental disturbances.

Ships Launch New Season

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The Discoverer, Surveyor Miller Freeman, Townsend Cromwell and Rainier are making in-depth studies of the environmental impact of the exploration and development of oil and gas resources in the Gulf of Alaska and Bering and Beaufort Seas.

The Fairweather, Rainier, Mitchell, Whiting, Peirce, McArthur, Davidson and Ferrel and several smaller vessels will conduct the nautical charting surveys in the waters of New Jersey and New York, the Florida Keys, Puerto Rico, the Virgin Islands, Gulf of Mexico, Puget Sound, the West Coast and Alaska, and the Great Lakes.

The Rude and Heck will conduct wire drag surveys for underwater hazards along the southeast coast and in the Gulf of Mexico and the Ferrel will perform circulation surveys in Chesapeake Bay, Oregon Inlet, N.C., and the Great Bay-Portsmouth Harbor Estuary in New Hampshire.

The Researcher will continue into its fifth field season a study of a large section of the earth's crust along an entire ocean basin in a corridor stretching from Cape Hatteras, N.C., to Africa's Cape Blanc; conduct circulation and chemical transport studies in the Gulf of Mexico; and participate in a continuing international study of mesoscale currents in the Sargasso Sea.

Oregon, Oregon II, David Starr Jordan, John N. Cobb, George M. Bowers, The Murre II, Townsend Cromwell, Albatross IV and Delaware II will be engaged in fisheries surveys along the U.S. east coast, off Brazil and the Guianas, in the Caribbean, Gulf of Mexico, Baja California, the U.S. west coast and Alaska and throughout the Pacific.

Far off the southern California coast, the Oceanographer will seek to determine the effects of deep sea mining for manganese nodules on the sea environment.

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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 Administrator.

Catherine S. Cawley, Editor
Anna V. Felter, Art Director

Squid Fishery Could Aid Economy Of New England

A recent economic study conducted by the National Marine Fisheries Service indicates that a viable squid fishery off the New England coast could add over \$600,000 a year to the economy of the region.

The study was conducted for the New England Fisheries Development Program, a government-industry cooperative effort aimed at developing a market for species of marine life found in the area which are underused by Americans.

Approximately 70 million pounds of squid were taken from the waters off the coast of the northeast United States by foreign and American vessels in 1973. Of the United States quota of approximately 12 million pounds in the area, only about three and one-half million pounds were harvested that year.

The majority of squid landed by U.S. fishermen in the area is caught incidentally while trawling for cod, flounders, haddock, and other fish, and is used for food and bait.

During four trips to test the feasibility of a directed squid fishery, a charter boat making 218 tows caught over 169,000 pounds of squid and over 14,000 pounds of finfish for a total value of almost \$30,000.

The study provides evidence that the quota, if taken, could supplement the earnings of about 30 vessels in a seasonal squid fishery.

MIT Sea Grant Program Schedules Summer Courses

The Massachusetts Institute of Technology, in cooperation with MIT's Sea Grant Program, will present four special courses during the summer of 1975: "Detection, Estimation, and Modulation Theory," June 9-13, tuition \$450; "Engineering and Environmental Aspects of Heat Disposal from Power Generation," June 9-13, tuition \$475; "Ocean Resources Management: Legal and Policy Aspects," July 20-25, tuition \$500; and "Analysis and Design of Transportation Systems," Part 1, August 4-8, tuition \$450, and Part 2, August 11-15, tuition \$450 (tuition for the combined program is \$700).

These week-long courses will be given by faculty members engaged in active Sea Grant projects, and are the result of or related to their Sea Grant work. Application forms are available from the Director of the Summer Session, Massachusetts Institute of Technology, Cambridge, Mass. 02139.



A NOAA UNIT CITATION was presented to the National Weather Service New York Upper-Air Unit at Fort Totten for "outstanding individual and collective contributions in furthering NOAA's mission." In the photo are (from left) John A. McAlvin, Upper-Air Supervisor; Edward A. McGahern; Joseph A. Mirisola; David L. Coveney, NWS Eastern Region Deputy Director, who made the presentation; Meteorologist in Charge Milton N. Werbin; and Robert T. Kurtz.

EDS Men To Participate in Session of IOC Working Committee on Data Exchange

Thomas Winterfeld, Advisor for International Programs in the Environmental Data Service's National Oceanographic Data Center; Dr. Paul Lefcourt, Chief of the Environmental Protection Agency's Coastal Ecosystems Branch; and Dr. Tern Niler, Professor at Oregon State University, will represent the United States at the VIIIth Session of the Intergovernmental Oceanographic Commission Working Committee on International Oceanographic Data Exchange (IOC WC IODE) to be held in Rome, Italy, May 12-16.

EDS Director Dr. Thomas S. Austin, Chairman of the Working Committee, will attend; James Churgin, Director of World Data Center A for Oceanography, will serve as an Observer; and Richard M. Morse, EDS Associate Director for Marine Sciences, will represent the IOC Secretariat for the Interdisciplinary and Inter-organizational Data and Information Management and Referral System.

Discussion topics will include strengthening and modernizing arrangements for international oceanographic data exchange in conjunction with national, regional, and World Data Center systems; formulation of standard formats for data exchange, with special emphasis on the needs of major new interdisciplinary programs; management of oceanographic information and collaboration with respect to ongoing information services, such

as the Food and Agriculture Organization's Aquatic Sciences and Fisheries Information (ASFIS) and the United Nations Environment Programme's International Referral System; standards for the documentation and exchange of marine pollution data; exchange of satellite data; and further development of archiving schemes for data and data products resulting from the Integrated Global Ocean Station System (IGOSS).

Data Transfer Explained

Atmospheric Sciences Library material stored at the National Agricultural Library will be accessible to NOAA and will be available to users on a 24-hour turnaround basis. The move of about one-fourth of the collection is mandatory due to floor-loading problems.

NMFS Schedules Bluefin Tuna Hearing

The National Marine Fisheries Service will hold an informal public hearing to obtain comments and views with respect to listing the Atlantic bluefin tuna as a "threatened" species pursuant to the Endangered Species Act of 1973, 16 U.S.C. 1531 et. seq., and on the proposed protective regulations pertaining to the species.

The hearing will be held on

May 17 Named 7th World Telecom Day

May 17 will be celebrated as the 7th World Telecommunication Day by the 144 countries that are members of the International Telecommunication Union (ITU), the United Nations specialized agency that deals with telecommunications.

This date is the anniversary of the signing in Paris of the first International Telegraph Convention which established the ITU on May 17, 1865, 110 years ago - thus making the ITU the oldest of the intergovernmental organizations belonging to the United Nations system. ITU is headquartered in Geneva, Switzerland.

The theme of the 7th World Day, "Telecommunications and Meteorology," was chosen by agreement with the World Meteorological Organization (WMO), which adopted it for World Meteorological Day, celebrated on March 23.

The two sciences although dissimilar are complimentary; not only are high quality, reliable telecommunications vital for the collection and dissemination of weather information, but weather also can have an important influence on the quality of radio communications. Many of the advances in modern meteorology are due to improved telecommunications.

WMO, established in 1873, is the United Nations specialized agency dealing with the coordination, standardization and improvement of services rendered by meteorology throughout the world for the promotion of various human activities.

May 16 at the State House in Boston, Mass.

An "endangered" species is one that is in danger of becoming extinct throughout all or a significant part of its habitat. A "threatened" species is one which is likely to become endangered in the foreseeable future.

NMFS published its proposal to list the Atlantic bluefin tuna as a threatened species and the proposed protective regulations in the Federal Register on April 2.

A draft Environmental Impact Statement on the proposed listing may be examined at or obtained from the office of the NMFS Director in Washington, D.C., or of the Director of the NMFS Northeast Region, in Gloucester, Mass.

Written comments or views may also be submitted to the NMFS Director through June 2, 1975.

next week's best fish buys

According to the NMFS National Fishery Education Center in Chicago, the best fish buys for the next week or so are likely to be breaded fish portions and cod along the Northeast Seaboard; fresh spot and fluke in the Middle Atlantic States, including the D.C. area; speckled trout and whiting in the Southeast and along the Gulf Coast; pan-dressed smelt and ocean perch fillets in the Midwest; silver salmon and fresh fillets of sole in the Northwest; and canned tuna and fresh butterfish fillets in the Southwest.

Special Forecasts To Be Provided For Oklahoma Agricultural Areas

Beginning this summer, special weather forecasts tailored to the needs of Oklahoma farmers will be issued on a daily basis by the National Weather Service. The action is part of the NWS' national plan to provide such specialized services for all areas with intensive agricultural activity.

To be issued by the Weather Service Forecast Center at Oklahoma City, the forecasts will go out by wire to Oklahoma radio and television stations and newspapers and will include expected drying conditions, dew point, wind, vegetative wetness and duration of sunshine. Con-

tent may also be varied according to seasons and stage of crop growth.

Experience in other states has shown that these forecasts are used extensively by broadcast and newspaper farm editors and that the benefits in reduced production cost, reduced weather losses, and increased value of production are many times the cost of producing the service.

Ray Crooks, Meteorologist in Charge of WSFO Oklahoma City, has stated his office will be geared up for the new service by mid-July and that no additional staff will be required to provide the service.

notes about people

A DEPARTMENT OF COMMERCE BRONZE MEDAL was presented recently to Robert H. Nolen (right), Radar Analysis Specialist at the National Weather Service's National Severe Storms Forecast Center in Kansas City, Mo., by NWS Central Region Director Charles G. Knudsen. Mr. Nolen, who retired in December, was honored for a long period of highly competent service and for an original contribution in regard to the "line echo wave pattern", which is a generally recognized indicator of severe local storms when observed on a radarscope.



Lt. (jg) Donald D. Winter, who is assigned to the National Ocean Survey's Lake Survey Center in Detroit, Mich., presented a paper, "National Ocean Survey-Canadian Hydrographic Service Technical Exchange Program; A United States Evaluation," at the recent 14th Annual Canadian Hydrographic Conference in Halifax, Nova Scotia. Carl B. Feldscher, who retired

recently as Chief of LSC's Compilation Branch, presented a paper entitled, "The Effect of Apparent Vertical Movement in the Great Lakes on the Validity of Hydrographic Surveys."

LSC Director Cdr. Darrell W. Crawford also attended the conference.

Dr. Kirby J. Hanson, a Meteorologist in the Sea-Air

Fishing Vessel Loan Guarantee Booklet Available

The National Marine Fisheries Service has recently published an information booklet of interest to commercial fishermen.

"Fishing Vessel Obligation Guarantee" is 22 pages of most-asked questions, with detailed answers, concerning the NMFS program available to help fishermen get loans which finance or refinance up to 75 percent of the cost of constructing, reconstructing, or reconditioning commercial fishing vessels, at least five net tons or over, at reasonable interest rates and for periods of time commensurate with a fisherman's ability to repay.

Copies may be obtained free of charge from NOAA, National Marine Fisheries Service, Financial Assistance Division, Washington, D.C. 20235, or from the Financial Assistance Officer at the NMFS Regional Offices in Seattle, Wash.; Terminal Island, Calif.; Gloucester, Mass.; St. Petersburg, Fla.; and Juneau, Alaska.

Interaction Laboratory of the Environmental Research Laboratories' Atlantic Oceanographic and Meteorological Laboratories, has been appointed to a newly created position in ERL's Air Resources Laboratories in Boulder, Colo.



Dr. Hanson

He has been named Chief of the Data Analysis and Interpretation Group for NOAA's Geophysical Monitoring for Climatic Change program—a network of observatories at "clean air" locations around the world

Scientists From U.S.S.R. Visit NOAA

Dr. N.N. Aksarin, Director of the All Union Research Institute of Hydrometeorological Information, U.S.S.R., and B.V. Pikhonov, Chief Engineer, Central Administration of Hydrometeorological Services, U.S.S.R., visited a number of NOAA facilities recently to learn more about the development of methods for the collection, processing and storage of meteorological information used to compile manuals of basic data for long-range weather forecasts.

Their itinerary included visits to all Environmental Data Service Centers, the National Weather Service's National Meteorological Center, the National Environmental Satellite Service, National Hurricane Center, and the Environmental Research Laboratories.

A similar U.S. delegation will visit the Soviet Union in the fall.

that measure atmospheric properties which appear to be linked to long-term climatic change.

Before joining AOML in 1970, Dr. Hanson was Executive Director of the Space Science and Engineering Center at the University of Wisconsin in Madison. He previously had been a staff member of what is now the National Environmental Satellite Service.

During 1958 and 1959, he headed the National Weather Service meteorological program at the South Pole Station and was a member of the NWS Polar Meteorological Research Program for an additional four years. In 1965 the National Science Foundation's Board of Geographical Names designated Antarctica's Hanson Ridge in his honor.

He received his B.S., M.S., and Ph.D. degrees in meteorology from the University of Wisconsin.



Participants in the Advanced Prediction Techniques Course held recently at National Weather Service Headquarters were (seated, from left) Donald Haddock, Brownsville, Tex.; Paul Haraguchi, Honolulu, Hawaii; Robert Black, Great Falls, Mont.; Roger Carter, Space Operations Support, Houston, Tex.; Michael Mogil, National Meteorological Center; Perry Wood, Fort Worth, Tex.; (standing, from left) Walter Cottrell, Instructor, NWSH; Dr. Charles Chow, Instructor, NWSH; William Elliott, Air Resources Laboratory, Silver Spring, Md.; Alexander Sadowski, Instructor, NWSH; Dr. Duane Cooley, Chief, Technical Procedures Branch, NWSH; John McClain, Raleigh, N.C.; Lawrence Shaw, Charleston, W.Va.; Robert Wanton, Philadelphia, Pa.; Frank Makosky, Fort Worth, Tex.; Charles Conway, Emergency

Warnings Branch, NWSH; Alfred Jones, Pittsburgh, Pa.; Nicholas Ropar, Phoenix, Ariz.; Richard Wagoner, SFSS, San Francisco, Calif.; Joseph Strub, Minneapolis, Minn.; Charles Gadsden, NMC; Martin Kaufman, Detroit, Mich.; Joe Bayer, Lubbock, Tex.; Warren Caldwell, Des Moines, Iowa; Edward Maree, New York, N.Y.; Thomas Swift, Salt Lake City, Utah; John Smith, Pendleton, Oreg.; Philip Peck, Portland, Oreg.; Sanford Miller, Sioux Falls, S.Dak.; Arlin Snider, Community Preparedness Staff, NWSH; Donald Wuerch, Cheyenne, Wyo.; Maury Pautz, Course Supervisor; and (not in photo) Jerry Osborn, Oklahoma City, Okla.



National Oceanic and Atmospheric Administration

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