

# NOAA Report

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HCHB Room 5225  
14TH & CONSTITUTION AVE., N.W.  
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## COMING UP

44th Interdepartmental Hurricane Conference at Homestead  
A.F.B., Fla., Jan. 9-12.  
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National Weather Service Transition Management Meeting  
in Elkridge, Md., Jan. 17-19.  
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National Aviation Icing Program Council meeting in  
Rockville, Md., Jan. 23.  
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American Meteorological Society 70th Annual Meeting in  
Anaheim, Calif., Feb. 4-9.  
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**NOAA Assumes SARSAT Responsibility:**--NOAA assumed the long-term operational responsibility for the United States in the Satellite Aided Search and Rescue program (SARSAT) Jan. 2. NOAA's new SARSAT mission control center in Suitland, Md., replaces the Air Force facility at Scott AFB which will be phased out after three months of parallel operations. By using NOAA's polar orbiting and other satellites, this international program provides alert and location information from emergency beacons on aircraft and ships in distress. The program has saved over 1,400 lives since 1982.

**U.S., Soviet Union Initial Research Agreement:**--The United States and Soviet Union have initialled an agreement that promises a broad range of oceanographic research cooperation, including making one another's port facilities available in connection with joint research projects.

The accord, known as the Ocean Studies Agreement, names NOAA as the lead U.S. agency. The Soviet counterpart will be the State Committee for Science and Technology.

In addition to NOAA, other research institutions are expected to participate in activities under the agreement, including the U.S. Geological Survey, National Science Foundation, Office of Naval Research and several universities on the American side, and the Academy of Sciences and the State Committee for Hydrometeorology on the Soviet side.

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The first four projects under the new agreement are expected to be on Southern Ocean dynamics, Mid-Atlantic ridge crest processes, geochemistry of North Pacific sediments, and Arctic erosional processes with special attention to gas hydrates.

The pact, initialled in Washington, D.C., in December, must be signed by both countries before it goes into effect.

**Geostationary Satellite Out of Fuel:**--The National Environmental Satellite, Data, And Information Service reports that a GOES-5 maneuver in mid-December indicated that spacecraft is out of fuel. NOAA satellite engineers predict it will drift westward reaching 75 degrees W. (on the Equator south of the Indian subcontinent) by March 1, at which time Europe will lose its view of the spacecraft and its ability to receive GOES data.

**NOAA Provides Support During Volcano Eruption:**--The eruption of Redoubt Volcano southwest of Anchorage, Alaska, on Dec. 14-15, provided NOAA the first opportunity to test the recently installed NOAA/FAA Volcano Hazards Alert Operational Plan. Both NOAA's Satellite Service and Weather Service received early warning of the potential for eruption and initiated satellite and ash cloud trajectory support for the FAA. Using NOAA information, the FAA issued aviation advisories to aircraft in flight paths near the eruption and ash cloud. The volcano alert plan was installed by NOAA and the FAA after two intercontinental airliners suffered engine failure from ash ingested by their turbines.

**Lake Effect Snowfall Study Planned:**--Some 50 scientists from NOAA and other organizations are braving Lake Ontario blizzards this winter to demonstrate how new, high-tech instruments can improve snowstorm forecasts. They are focusing on the latest atmospheric remote-sensing systems upon lake-effect snowstorms; intense, unpredictable storms that dump heavy snow and create hazardous whiteouts in regions to the lee of each of the Great Lakes. The \$1,000,000-plus project began the first week of January and runs through the end of February.

Only recently have meteorologists had access to remote sensing devices such as dual-polarization Doppler radar, wind and temperature profilers, and instruments to remotely sense moisture. These specialized instruments, which were developed at the Wave Propagation Laboratory, can provide continuous, real-time measurements to let forecasters identify and analyze atmospheric conditions causing the storm and contributing to its intensity.

An array of such instrumentation has been installed along the eastern end of Lake Ontario, feeding data into an operations center at the Power Control Center of Niagara Mohawk Power Corporation in Syracuse, N.Y., the major sponsor of the study.

A research dual-polarization Doppler radar, a radiometer, and a wind profiler have been set up in Lacona, N.Y., about 40 miles north of Syracuse; a second wind profiler has been installed at Cape Vincent, across the St. Lawrence Seaway from Kingston, Ont., and a third wind profiler and a temperature profiler called a radio acoustic sounding system are operating from a site near North Rose, about 50 miles east of Rochester.

In addition to the in-place remote sensors, mobile units will be sent into the field during observing periods to launch balloon-borne instrument packages that radio information on upper air conditions back to the ground.

Nearly 150 persons are involved. In addition to NOAA researchers, they include personnel from Niagara Mohawk Power Corporation, Pennsylvania State University, State Universities of New York at Brockport, Oswego and Syracuse, NOAA National Weather Service offices at Buffalo and Syracuse, and Canada's Atmospheric Environment Services.

Others involved in the study are Pulaski Academy and Central School, Pulaski; Galson Technical Services, East Syracuse; and Tycho Technology, Inc., Boulder, Colo. Kaman Science Corp., of Colorado Springs, Colo., is managing fiscal aspects of the program.

"Well Done!" From The President:--Earl Steward of Cottage Grove, Oreg., has received a warm congratulatory letter from President Bush for his 72 years as a volunteer observer for the Weather Service. Wrote the president: "The national weather record that you helped to compile is not only important for the day-to-day work of our National Weather Service but also provides valuable input for global climate studies." Oregon NWS Area Manager George Miller presented the letter to Mr. Steward at a press conference Dec. 21 at the Portland Forecast Office.

Zebra Mussels Threaten U.S. Waters:--Thomas F. Nalepa of Great Lakes Environmental Research Laboratory in Ann Arbor, Mich., predicts that the zebra mussel, now spreading through the Great Lakes, will attack water and sewage systems in waterways and lakes across two-thirds of the U.S.

The NOAA scientist said expenditures high in the millions will be required to prevent crippling damage to intake and outflow pipes serving industry and community water and sewage systems by the inch-long, fresh-water mollusk.

The mussels, carried in the ballast of ships from Europe, are well established in Lakes St. Clair and Erie, and are being found in Lake Ontario. Nalepa predicted they probably will spread from Lake Erie into the Hudson River and the Finger Lakes. In time, he said, the mussels should move upstream into Lakes Huron, Michigan

and Superior, perhaps carried in the ballast of Great Lakes shipping. Once established in Lake Michigan, he said, they will be carried eventually into the Illinois and Mississippi Rivers.

The mussels attach themselves to any hard surface underwater, including the insides of intake and outflow pipes, reducing their diameter and flow capacity. They have cut the opening of an intake pipe from three feet in diameter to less than one foot, at a Monroe, Mich., water plant. They also attach themselves to the hulls of pleasure boats, living out of water up to 14 days while boaters move between waterways.

NOAA's Great Lakes laboratory is cooperating with other agencies in tracking the spread of the mussels. The research effort focuses on their impact on other Great Lakes organisms, including other types of mussels.

Two From NOAA Help WMO Lightning Program:--Raul Lopez and Ron Holle of the Environmental Research Laboratories have accepted the request of the United Nations' World Meteorological Organization (WMO) to help coordinate its lightning detection research and operations program.

Ground-based lightning detection networks provide inexpensive, reliable identification of thunderstorms. This is an effective alternative to complex, expensive radars, especially in lesser developed nations. In the United States, lightning networks supply valuable data in gaps of radar coverage and are used for storm monitoring and lightning hazard warnings.

Lopez and Holle will serve the WMO as co-rapporteurs on the on a program called Detection and Location of Radio Atmospheric from Lightning Flashes. They will be responsible for keeping up to data on worldwide lightning research and network advances and reporting the significance and related issues to the WMO.

Lt. Cdr. Marriner Wins Award:--Lt. Cdr. Richard E. Marriner II, recently was presented the NOAA Special Achievement Award for his sustained superior performance as Associate Director of the Atlantic Oceanographic and Meteorology Laboratory.

Mesoscale Briefing Tape Completed:--The Environmental Research Laboratories public affairs office has completed production of a 15-minute briefing videotape detailing its progress in meso (medium)-scale weather research. The production points out that new high-tech systems will provide almost unimaginable amounts of data, so that by 1995, the number of weather observations made daily in the U.S. will be at least 50 times greater than in 1985.

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# **National Oceanic and Atmospheric Administration**

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