



# NOAA Report

March 19, 1990

## COMING UP

Boston Seafood Show, Boston, Mass., March 20  
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Wave Propagation Laboratory Review, Boulder, Colo., March  
20-22  
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TV Weathercasters' Severe Storms Workshop, National Severe  
Storms Laboratory, Norman, Ok., March 23-24  
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National Weather Service 1st National Managers Meeting,  
Boulder, Colo., March 26-30  
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**Drought Prospect Looms; Heavy Precipitation Needed:**--The  
return of drought to major areas of the nation is imminent unless  
heavy precipitation occurs, National Weather Service's Office of  
Hydrology reported.

The potential for spring flooding due primarily to melting  
snow, often a major national problem at this time of year, is  
limited to small parts of the country. The threat has been caused  
by a long-term lack of moisture, the office said. The Office's  
National Hydrological Outlook, a 23-page report, attributes the low  
flooding threat to below normal snowfall, combined with much warmer  
than usual winter temperatures over major portions of the nation.  
In the continental U.S., flood potential associated with snowmelt  
is above average only in a strip from northwestern Montana to  
northeastern Wyoming.

Snow cover in the eastern two thirds of the nation is minimal,  
and where there is snow, it is below average except in areas of  
northern Maine and northern Michigan.

A notable exception is the record snowfall in south-central  
Alaska. While melt in Alaska is still 6-12 weeks away, conditions  
indicate potential flood problems in much of southern Alaska. In  
the past, ice jams have regularly created flood problems during  
melt-off in Alaska.

While a larger area in the central part of the lower 48 states  
with generally high streamflow and moist soil conditions faces  
above average flood potential, serious water supply problems are  
a distinct possibility for much of California, as well as in the  
Great Basin, the lower Colorado, parts of the Rio Grande, and  
western and southern Texas.

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Low stream flow, low soil moisture and low flood potential for a large part of the country, including the north-central and most of the western United States create a situation where water supply shortages are likely. Much of the areas of concern have experienced abnormally dry conditions for 2-4 years. In many areas, deep moisture deficits are so severe that without significant periods of precipitation, drought in many areas in the West will continue.

**Coastal Zone Annual Meeting Scheduled:**--The Office of Coastal Zone Management and the Coastal States Organization will co-sponsor the annual National Program Managers' meeting Mar. 26-28 at Washington's Omni Shoreham Hotel. Participants will include state coastal managers, Federal agency representatives, public interest groups, and Congressional staff members.

U.S. Rep. Porter J. Goss of Florida will be the luncheon speaker on Mar. 26, and U.S. Rep. H. James Saxton of New Jersey will be the Mar. 27 luncheon speaker.

The National Ocean Service will conduct a coastal zone management data and information transfer workshop on Mar. 27, concurrently with the program managers' meeting. Computer exhibits and technical experts will be available.

**NOAA Satellite To Aid PEACESAT:**--In cooperation with the National Telecommunications and Information Administration (NTIA), NOAA's National Environmental Satellite, Data and Information Service will loan its GOES-3 satellite to the Pacific Island nations, through the Pan-Pacific Educational and Cultural Experiments by Satellite (PEACESAT) project. PEACESAT will use GOES-3's communications capabilities to reestablish satellite communications services to the Pacific island nations so residents can enjoy cultural and educational exchange, receive medical treatment and advice, and get warnings of hazardous weather. NOAA will begin drifting GOES-3 on Mar. 28 from its current position at 130 degrees west to its new position at the 180-degree international dateline.

**NOAA Leads Air-Sea Climate Probe:**--NOAA researchers will lead an April ship-and-aircraft investigation of how sulfur gases from the ocean modify climate by influencing cloud reflectivity. The project will be conducted off the coast of Washington State. Clouds reflect incoming solar radiation back into space, affecting Earth temperatures. A cloud's reflectivity, in turn, is affected by its condensation nuclei (particles around which condensation forms). Sulfur gases emitted from the oceans are oxidized in the atmosphere, becoming sulfate aerosol particles.

"Reliable predictions of climate and global change must incorporate the processes controlling the cloud condensation nuclei population and the effect of these particles on the optical properties of the clouds," Dr. Timothy Bates of NOAA's Pacific Marine Environmental Laboratory in Seattle said.

Scientists aboard the NOAA research ship McArthur and a research aircraft from the University of Washington will measure sulfur compounds in the ocean and overlying atmosphere to calculate the rate of emission of the compounds from the ocean. They will also measure oxidized sulfur gases and particles in the atmosphere to study the growth and formation of cloud condensation nuclei.

Seawater and air samples will be collected off the coast of Washington from April 2 through April 27, and during that period chlorophyll measurements will be made from a high altitude NASA ER2 research aircraft. Satellite data also will be collected to assess cloud reflectivity.

The project is a part of a major NOAA initiative to investigate climate and global change over the coming year. The climate program is a major element of NOAA's research efforts, reflecting the Administration's environmental commitment.

Organizations participating, in addition to NOAA, are the University of Washington, the Monterey Bay Aquarium Research Institute, the Naval Post Graduate School, NASA Ames Research Laboratory, University of Arizona, Batelle Pacific Northwest Laboratory, Florida International University, and the Moscow Institute of Atmospheric Physics.

**840 U.S. Tornado Deaths in 1989:**--After five years of fewer than normal number of tornadoes in the U.S., 1989 registered the second highest total on record - 840 - the NOAA Weather Service has reported. The previous high was 907, in 1984.

However, last year's tornado fatalities were low, with 48, compared to the 30-year average of 83. Last season's tornado fatalities occurred in the following states: 21 in Alabama; nine in New York; five in North Carolina; four in Georgia; three in Florida; two each in Louisiana and South Carolina; and one each in Tennessee and Texas.

The tendency to depart from the normal amount of tornadoes appeared early when the first tornado occurred in Arizona on Jan. 4. Three days later a violent tornado ripped through Illinois and Indiana.

The month for the greatest number of tornado deaths is normally April, but unseasonably spring-like weather produced a record number of deaths in the month of November for the last two years, said Ed Ferguson, deputy director of the National Severe Storms Laboratory, Kansas City, MO.

For the third consecutive year, Nov. 15 produced a major outbreak. Killer tornadoes struck Georgia, Alabama, and New York. Thirty-one of the year's 48 deaths also occurred during November. The weather system which began on Nov. 15 spawned a score of tornadoes that struck northern Alabama. The largest single killer storm in 1989 was in Huntsville, Ala., claiming 21 lives. Twelve of those killed were in automobiles, going about their normal

business. The last tornado of the year also occurred in November, for the first time since 1963. It occurred in Huron County, Ohio, racing northeastward at 70 miles per hour--concluding a season with many unusual twists.

**Progress on Tsunami Front:**--The Pacific Tsunami Warning Center has successfully transmitted simulated sea-level data from its Hawaii facility to Japan, using the Japanese Meteorological Satellite. The event was a part of a second phase of feasibility tests with the Japan Meteorological Agency, designed to enable the two nations to share sea-level data. The testing will continue with the relay of data back to the Pacific Tsunami Warning Center, using the Global Telecommunications System. Final-phase testing will locate the data collection platform with an operating tide gauge at Yap in the West Caroline Islands.

Meanwhile, NOAA announced plans to hold a series of tsunami workshops over the next several months along the Pacific coast, to refine program coordination and public disaster awareness aspects of the tsunami warning program. Host will be the geophysicist-in-charge of Alaska's Tsunami Warning Center. Local and state emergency management and National Weather Service officials will participate.

**Floyd to Command Whiting:**--Cdr. Richard P. Floyd, NOAA, has been named commanding officer of the National Oceanic and Atmospheric Administration (NOAA) Ship Whiting. Floyd relieved Cdr. Dean R. Seidel in a change of command ceremony March 5 at NOAA's Atlantic Marine Center in Norfolk, Va.

The Whiting, a 163-foot bathymetric survey ship based at the Atlantic Marine Center, has a complement of 32 NOAA Corps officers and civilian wage marine crew. Whiting conducts seafloor mapping surveys off the Atlantic coast, and the Gulf of Mexico, and in the coming months will be surveying the entrance to Chesapeake Bay and the waters off Texas and Louisiana. Floyd has been a commissioned officer in the NOAA Corps since 1972. In addition to his most recent assignment as chief of the operations branch of the National Geodetic Survey Division, National Ocean Service, he has served aboard the NOAA Ship Pierce, and as executive officer of the NOAA Ship Ferrel.

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# **National Oceanic and Atmospheric Administration**

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