NCAR
NEWS RELEASE
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Scientists Prepare for Winter Storm Investigation Off Carolina Coasts

RALEIGH --Intense winter storms that often bury the Northeast Coast in snow with little advance warning are the focus of a National Science Foundation (NSF)-sponsored field investigation off the coasts of North and South Carolina beginning January 15 for a two-month period. Major co-sponsors of the $10 million study are NOAA, NASA and the Office of Naval Research.

Researchers from more than a dozen universities will team up with scientists from several federal agencies for the Genesis of Atlantic Lows Experiment (GALE), a research project headquartered in Raleigh, North Carolina.

The principal purpose of GALE is to better understand what generates these massive winter storms. The researchers' goal is to improve short-range forecasting of coastal storms by determining how the Appalachian Mountains, the coastal landscape and the Atlantic Ocean, specifically the Gulf Stream, contribute to the formation of these storms.

Research results of GALE will be of benefit to the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) and by Canada's Atmospheric Environmental Service to provide improved weather forecasts for commercial vessels and pleasure craft plying the East Coast shipping lanes, as well as for residents of the eastern coastal areas.

More than 200 scientists and support personnel will use a fleet of research aircraft from the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, to gather storm data along the Atlantic Coast from Virginia west to the hills of Tennessee and south to Georgia. The NCAR fleet includes a four-engine Lockheed Electra, a twin-jet North American Sabreliner, and a Beechcraft King Air turboprop.

Six additional aircraft, including NASA's Lockheed Electra and ER-2 aircraft, a

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Lockheed P-3 and Cessna Citation-II operated by NOAA, an Airborne Research Associates' Beechcraft Baron, and the University of Washington's Convair C-131A, will also join the fleet of research aircraft.

Three sophisticated scanning Doppler radars, including two systems from NCAR and one from MIT, will be located on the coasts of the Carolinas. In addition, NASA's SPANDAR radar will operate from its site at Wallops Island, Virginia.

Participating in the project will be NCAR, NOAA, NASA, the Naval Research Laboratory, the Naval Postgraduate School, and 16 universities listed in the enclosed brochure.

A network of 50 portable solar-powered weather stations, designed by NCAR, will be spaced approximately 60 kilometers (36 miles) apart and will extend from South Carolina to Virginia, providing automatic and high-resolution measurements of pressure, temperature, humidity, wind speed and wind direction. Four of the stations will be located along a line extending across the Appalachian Mountains from the Tennessee border to the Atlantic Ocean.

The frequency of weather balloon launches at 41 existing NWS sites will be increased from once every 12 hours to once every 3 hours during periods of intensive GALE measurements. Eight of NCAR's new CLASS weather balloon sounding systems will be operating for the first time in the field. Three Air Force/Air Weather Service rawinsonde teams will also support GALE. In addition to routine satellite products, it is expected that NOAA's special GOES (Geostationary Operational Environmental Satellite) rapid-scan data, as well as NOAA orbiter soundings and high-resolution data, will be available. Eight new meteorological buoys will be added off the Carolina and Georgia coasts (two from NOAA and six from North Carolina State University).

From these special scientific networks the federal and university researchers will try to get information about the various stages of a storm, what causes storms to develop very rapidly in coastal areas, what factors influence their growth rate and the paths they take. Such information will help solve one of the biggest problems for a forecaster: determining whether precipitation will be in the form of rain, freezing rain, snow, or sleet.

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Note to Editors: There will be some space on the larger aircraft, including NCAR's Electra and NOAA's P-3, for press on a first-come, first-serve basis by advance reservation. For further information about making arrangements to visit the GALE project between January 15 and March 15, 1986, or to tour the facilities during an open house and press conference on January 29, please contact:

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