

[UNH  
Institute  
for the  
Study of  
Earth,  
Oceans,  
and Space](#)

[AIRMAP](#)

[NOAA](#)

## **Gregg and UNH Announce Regional Study of Impact of Air Quality on Pulmonary Health in Children**

By [Amy Seif](#)

Communication and Information Coordinator  
Institute for the Study of Earth, Oceans, and Space  
603-862-5369

September 25, 2002

---

DURHAM, N.H. -- As numbers of children affected with asthma and other pulmonary function disorders continue to grow, a group of scientists, health care professionals and others from New England will begin a ground-breaking investigation into the relationship between air quality, weather and pulmonary health.

A \$96,000 grant announced by U.S. Senator Judd Gregg and the University of New Hampshire will enable researchers to isolate the human health risks of poor air quality in ways never done before, starting with pilot projects in Manchester, N.H.; Burlington, Vt.; and Portland, Me.

The grant from the National Oceanic and Atmospheric Administration (NOAA) will fund the first year of a three-year initiative by UNH's Integrated Human Health and Air Quality Research (INHALE) project. Other partners in the INHALE project include the UNH masters of public health program, the Jordan Institute, the Manchester Health Department, and the N.H. Department of Environmental Services.

The project hopes to determine how weather-related changes in air quality cause asthmatic and other pulmonary health problems, as part of the ongoing Atmospheric Investigation, Regional Modeling, Analysis and Prediction (AIRMAP) study headquartered at UNH.

According to Sen. Gregg, "The New England Air Quality Study initiated this past summer is adding

greatly to our understanding of regional pollution. The studies being launched today are key to making sure that future predictions provide the information needed by asthmatics and others, including the parents of affected children. NOAA and UNH are to be commended for this focus on helping people."

Cameron Wake, principal investigator of INHALE and professor of Earth sciences at UNH's Institute for the Study of Earth, Oceans, and Space (EOS), notes that "despite the dense population of New England and the unique air quality and weather, very few studies looking at the relationship between pulmonary function and air quality have been previously conducted in the region. Few of these studies focus on children, and none investigate the role of weather in contributing to poor health. What has previously been investigated is just the tip of the iceberg."

Because of the project's link to AIRMAP, the "iceberg" is already partially uncovered. AIRMAP, funded by NOAA through the efforts of Gregg, the ranking member of the Senate Appropriations Subcommittee, is gathering up-to-the-minute data on a wide variety of air pollutants in New England. The INHALE team hopes to identify the relationship between changes in pulmonary disorder episodes among children and high pollution events recorded by AIRMAP.

Robert Talbot, director of the AIRMAP Cooperative Institute and professor of Earth sciences at EOS, explains, "In most cases, the air quality data is collected and final numbers are made available as much as one year later. AIRMAP is releasing numbers almost immediately that are of high quality that can be used to make fine correlations between air quality and episodes of decreased public health."

AIRMAP is also helping to improve national air quality forecasting. With improved information on the linkages between air quality and health, the people most vulnerable to conditions like asthma will better understand how to use these forecasts to make informed decisions.

Data on weather will be considered along with the AIRMAP data. "When you study air pollution, you have to correct for the weather. Both affect human

health," says Adam Wilson, project coordinator of INHALE and a graduate student of Earth sciences at UNH. "In New England, air quality is closely related to weather processes."

The study will also examine the full spectrum of health effects from absenteeism and reduction in individual pulmonary function, to records of deaths and hospitalization.

"Because pulmonary health and chronic disease are affected by an interaction of many factors, research aimed at responding to the alarming asthma epidemic among young children requires the integration of knowledge from multiple vantage points," says Tom Kelly, director of UNH's Office of Sustainability Programs and a co-investigator. "For example, school nurses represent a valuable reservoir of knowledge about day-to-day fluctuations in breathing related problems for children."

[Back to UNH News Bureau](#)