Scientists Put Climate Change Research In Kids' Hands

David Sims
UNH Media Relations

Follow this and additional works at: https://scholars.unh.edu/news

Recommended Citation
Sims, David and UNH Media Relations, "Scientists Put Climate Change Research In Kids' Hands" (2009). UNH Today. 3.
https://scholars.unh.edu/news/3

This News Article is brought to you for free and open access by the Administrative Offices at University of New Hampshire Scholars' Repository. It has been accepted for inclusion in Media Relations by an authorized administrator of University of New Hampshire Scholars' Repository. For more information, please contact nicole.hentz@unh.edu.
Scientists Put Climate Change Research In Kids' Hands

Media Contact: David Sims
603-862-5369
Science Writer
Institute for the Study of Earth, Oceans, and Space

January 29, 2009

DURHAM, N.H. - Researchers from the University of New Hampshire are giving students at the Oyster River Middle School in Durham and Berlin High School a hands-on view of how scientists study climate change.

Graduate student Jill McDermott, working with research assistant professor Ruth Varner, uses a portable laboratory to measure carbon dioxide exchange between soils and vegetation and the atmosphere at sites near the schools in an effort to help students understand both the scientific method and Earth system science.

"Using our traveling carbon dioxide lab we're able to bring a little technology to some of the things teachers have traditionally been doing in Earth science," notes Varner of UNH's Institute for the Study of Earth, Oceans, and Space and the department of Earth sciences. She adds, "This helps make more of the Earth system connection, which is really what we're trying to get into their schools."

While Earth science is traditionally taught in separate disciplines such as geology and chemistry, scientists investigate climate change issues in an interdisciplinary or systems approach that better connects the scientific dots.

Says Varner, "We're connecting the teachers and students with what scientists actually do using these types of instruments to look at fluxes of carbon, which is connected to climate change and the prediction of what's going to happen in the future. We're trying to get students interested in science, get them asking questions and using real data."

The work is part of the Transforming Earth System Science Education (TESSE) program, which is funded by the National Science Foundation and run out of the Joan and James Leitzel Center at UNH.

"Projects of this type are an integral part of the Leitzel Center's mission to improve the teaching and learning of mathematics and science by connecting K-12 teachers and students with the scientific research enterprise at UNH", says Karen Graham, Leitzel Center director and UNH professor of mathematics.

The TESSE program provides opportunities for university faculty and graduate students to partner with middle and high school teachers in order to develop inquiry-based curriculum models that promote an integrated approach to modern concepts in Earth science.

"I have really learned a lot about incorporating Earth systems science into my teaching," says 7th-grade science teacher Stephanie Ward of the Oyster River Middle School. Adds Ward, who attended a two-week TESSE institute last summer to learn the fundamentals of a systems approach to teaching Earth science, "I have also increased my use of inquiry and student-driven inquiry into my teaching as a result of working with Jill in the TESSE program."
McDermott, who is an Earth science master's degree student studying geochemical systems, is helping students gather year-round carbon flux (how much carbon dioxide goes in and out of a system) measurements in a small wetland area in woods behind the middle school and in a cranberry bog at Berlin High School.

McDermott says that in addition to students seeing how "all the pieces fit together" when taking a systems approach to Earth science, "one of the most valuable things for both teachers and students is understanding the scientific method. They really appreciate that it's highly organized and there are specific steps to it, and actually doing it is much more interesting than just reading about it in a textbook."

Indeed, notes Ward, students are looking at data they've collected and wondering if the sampling method is affecting results. "Students, who are keeping their own field journals for the first time, are thinking more about what they're learning and suggesting ideas for further investigations," says Ward.

For more information on the TESSE program visit http://leitzelcenter.unh.edu/geoteach/index.html.

The University of New Hampshire, founded in 1866, is a world-class public research university with the feel of a New England liberal arts college. A land, sea and space-grant university, UNH is the state's flagship public institution, enrolling 11,800 undergraduate and 2,400 graduate students.

-30-


Caption: At the wetland study site behind the Oyster River Middle School in Durham, UNH graduate student Jill McDermott (left) and 7th-grade science teacher Stephanie Ward use a portable chamber to measure the carbon dioxide flux of soil and plants.

Credit: Courtesy of ORMS.