

Published: Jul 19, 2008 12:30 AM

Modified: Jul 19, 2008 01:42 AM

[MORE PHOTOS](#)

## Cool expedition puts teacher on ice in Arctic

### DA teacher to study sea changes

**SAMIHA KHANNA, Staff Writer**[Comment on this story](#)

When she returns to her classroom at Durham Academy this fall, teacher Gerty Ward might have the most exciting story when it's time to share "What I did this summer."

Just days ago, Ward left Durham for the Arctic, where she'll spend five weeks aboard a 400-foot ship, researching ocean circulation on the icy Beaufort Sea.

"Some parts are going to be scary," Ward said just before she left. "Some are going to be just full of wonder."

Ward, who has taught at Durham Academy for four years, is one of 12 teachers selected this year for PolarTREC, a program of the Arctic Research Consortium of the U.S. through which teachers join scientists in the field. More than 250 teachers competed for spots on a dozen research teams that are exploring the Arctic and Antarctic regions. The expeditions are paid for by a grant from the National Science Foundation.

Ward will join a project on the Beaufort Gyre, a slowly rotating bowl of icy water just north of Alaska. Researchers at the Woods Hole Oceanographic Institute in Massachusetts started researching the ocean currents, where saltwater mingles with freshwater from melting ice, in 2003.

According to the researchers' observations, circulation patterns in the area are changing, possibly due to global climate change.

The experience is a way to give teachers field experience that they can use to better teach their students, said Janet Warburton, project manager for PolarTREC.

"Through No Child Left Behind, teachers are supposed to be masters in their subject area," Warburton said. "It's hard to be a master of something if you've never experienced it. Many teachers in science don't have a background in science. If they do, it's a textbook background, and they don't have experience gathering data and applying the scientific method."



Gerty Ward, a teacher at Durham Academy, seals up a plastic bag with her backup drive for her computer. She just recently left for a trip to the Arctic Circle aboard a Canadian icebreaker vessel.  
Staff Photo by John Rottet

Before becoming a teacher in 2004, Ward's background was in economics, but she found it unfulfilling, she said. She soon gravitated to the legacies of her scientist father and her grandparents, Carl and Gerty Cori, who shared the 1947 Nobel Prize for their work on the biochemistry of carbohydrates.

Ward soon earned a Ph.D. in molecular genetics and became a teacher. She now focuses her energy on capturing the attention of students who "don't see themselves as science kids," she said.

She'll serve as a liaison between the researchers and students, translating complicated science into lessons about the effects of climate change. (She'll use a kid-friendly mascot, a stuffed lion named Cavaleo, on her blog to pique students' interests.)

Even subtle shifts in the Beaufort Sea may affect ocean currents worldwide, said Rick Krishfield, a manager for the Woods Hole project. The research is expensive, costing as much as \$75,000 a day, but it's important work, he said.

"We've got to know what's happening to it," Krishfield said. "The Arctic is one of the places you would see the effects of global warming first because of the ice cover. It's been called the canary in the coal mine."

While on the trip, Ward will send dispatches from the ship, the Canadian Coast Guard vessel *Louis S. St-Laurent*, which has a hull designed to break through surface ice.

Ward's journals will appear in an online blog, or "virtual base camp," where her job is to explain the research in terms anyone can understand.

Students from around the world may also ask Ward questions on the blog, quizzing her about everything from the insulated gear she must wear in the 20- and 30-degree weather, to how scientists use underwater moorings to measure salinity, temperature and other properties of the water.

"My sixth graders want to know things like, 'Do polar bears bother the equipment,'" Ward said. "And the eighth graders want to know things like, 'How do you handle conflict on the ship?' They're more interested in relationships."

Knowledge of real-world research, such as that in the Arctic, will benefit students even if they pursue careers in fields other than science, Ward said.

"Climate change and the impact of our environment is going to have a pretty large role in some of the economic and political decisions that are going to be made in the future," she said. "It's important for [students] to be stewards of our earth."

**[samiha.khanna@newsobserver.com](mailto:samiha.khanna@newsobserver.com) or (919) 956-2468**

© Copyright 2008, The News & Observer Publishing Company

A subsidiary of [The McClatchy Company](#)