



PolarTREC Lets Teachers Instruct From Poles

Teachers Explore Arctic, Antarctica With Researchers and Scientists, Teaching Online

COLUMN by LISE BUYER

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It's hot out there. Gas is expensive. There are plenty of reasons to be grumpy about our world. But below the headlines, there is great reason for optimism stemming from incredible opportunities □ brought to you through the magic of technology □ to better understand the challenges we face.

One of these is PolarTREC. Funded by the National Science Foundation and managed by the Arctic Research Consortium, the program allows teachers to participate in polar research, working closely with scientists. The goal is to improve science education.

These trips are part of a "global scientific campaign to advance our understanding of the polar regions" and involve teachers embedded in the field with researchers, to explore the regions' native environments, cultures, history and science.

Think about that for a second: a chance for elementary school teachers to spend two to six weeks of their summers working at one of the poles, with full-time exploring researchers. Can you remember a teacher from your elementary school days who inspired you in a particular topic, in no small part because you could just feel his or her enthusiasm? What better way to inspire kids and to make faraway places seem local than to send a teacher along to gather and share, in real time, his or her firsthand experiences? Make no mistake; this program isn't about a "what I did on my summer vacation" project. Throughout the journey, program participants relay calls and videos back stateside via the Internet so that kids (or anyone else) can follow along as events and research unfold. Even more powerfully, the teachers on these trips converse with anyone with Internet access via trip-specific message boards, engaging students even when classrooms are closed.

This learning is not a one-way adventure. Scientists are all too aware that American kids are behind in math and sciences and know that to reverse that trend, we'll have to find effective ways to spark their curiosity early and often. In addition to teaching kids about ice caps and the lives of researchers who work on them, these scientists will be watching how the students learn, charting what grabs their attention. Through daily interaction, the scientists seek to understand how to most effectively share discoveries and inspire the next generation of adventurous learners.

So on to the specifics. "Greenland Atmospheric Studies" is a current trip and is being chronicled by Montana teacher Craig Beals.

"How often do you shower and how do you get warm water in the field?" one student asks.

A teacher, who previously went to Antarctica with PolarTREC, asks, "Maybe we can do a joint publication when you get back?"

Some queries are random; some are in response to daily journals that start with the factual data such as

date, location, temperature, wind speed and wind chill. Today, the chats are informative and bring the adventure home. Tomorrow, they will be the basis for scientific classroom exploration.

Last year's trips included Bering Sea predators, Alaska climate variation and human impacts in Antarctica. Upcoming adventures include the Nuvek archaeological study and ocean dynamics in the Beaufort Sea study. In the Beaufort Sea expedition, Gerty Ward, a middle school teacher from Durham Academy in North Carolina, will join with a team from the Woods Hole Oceanographic Institute to conduct research on the changing climate. For five weeks, she'll travel the Arctic seas on a Canadian Icebreaker.

I spoke with Gerty about what she hopes to accomplish, other than escaping the heat of a North Carolina summer.

"I want to bring the excitement of the whole experience □ from drilling holes in the ice, to the crunch of the ice breaker, to the quiet of a land of ice, to my tiny room on the ship □ into the classroom, the living room, wherever," she said. "I want my students to understand the important role that science will take in their lives as we begin to adapt to our changing planet. I want students to appreciate the environment as something we are a part of every day, not just something 'to save.' I want my students to understand the relationship between cause and effect; ocean temperatures, daily climate change, school day wardrobe choice. Students learn in an exceptionally meaningful and permanent way when they can develop a personal connection to the material."

"Students" in this case can mean all of us. Starting July 16, Gerty will post daily commentary and field questions from www.polartrec.com. This is a learning opportunity too compelling to miss.

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