



Professor extracts teaching materials from Antarctic sediments

Think of a December in Antarctica. It is summer. Yet outside the comfy confines of a research station at McMurdo Sound on the Pacific shore, the temperature is minus 2 degrees Fahrenheit.

Inside, Kate Pound, a geologist and St. Cloud State University associate professor in the Department of Earth and Atmospheric Sciences, is at work. As one of six educators invited “down to the ice” to staff the ANDRILL Research Immersion for Science Educators (ARISE) during the 2007 – 2008 drilling season, she is helping develop and implement innovative educational and public outreach projects.

“There are fewer and fewer places that remain unexplored and truly remote,” said Pound of Antarctica, the coldest, driest and windiest place on earth.

ANDRILL (ANtarctic geological DRILLing) is a collaboration of more than 100 scientists, students and educators from Germany, Italy, New Zealand, the United Kingdom and the United States.

ANDRILL’s engineers drill through the Antarctic ice to reach the sea floor at various target areas to remove cores of sediment that inform the scientists about paleoenvironmental changes over the last several million years. At the research centers, scientists study the cores to determine the length and frequency of warming and cooling trends in the region – information that also informs scientists’ predictions about future climate change.

Pound departed St. Cloud Oct. 1, flying to Los Angeles and then to New Zealand for two days of preparation before boarding a C130 Hercules equipped with skis for landing on the ice runway at McMurdo. She returned via the same route in mid January.

While her geological interests have previously taken her to remote sites in Alaska, Australia and New Zealand, she describes the Antarctic location as “more removed and more extreme – it won’t be new to be ‘in the middle of nowhere,’ but Antarctica is the epitome of a physically isolated and demanding environment.”

Pound’s 1994 dissertation is a study of a sequence of rocks that begins in the southern Alps of New Zealand and correlates with a belt of rocks in Antarctica.

But these rocks are not Pound’s focus on this expedition.

As a team member of ARISE, Pound is helping to produce materials to teach K-12 teachers about the geological concepts and the science involved in ANDRILL’s projects.

“The materials will be universally relevant, but will of course use Antarctic geology as an example of geologic processes,” Pound said.

Prior to her departure, Pound anticipated other possible opportunities at the station.

“I’m hoping to use my geological expertise to make a contribution to the science,” she said.

While on the ice, Pound kept a blog to connect her with the elementary and middle school students and teachers at St. Cloud’s Talahi Elementary, Coon Rapids Middle School and other sites; and posted ‘postcards from the poles’ on the University Corporation for Atmospheric Research “Windows to the Universe” Web site: http://www.windows.ucar.edu/tour/link=/people/postcards/andrill/andrill_post.html.

She was also an online “Scientist on the Spot” and regular contributor to Science Buzz, the Science Museum of Minnesota’s current science exhibit and Web site, <http://www.smm.org/buzz/>. 🐾