# Researchers head to coldest place on earth for global warming insight

**Ted Gregory, Chicago Tribune, 11-23-12**

CHICAGO -- Reed Scherer has heard the question: Why in the world does he devote his career to studying Antarctica, the coldest, windiest place on earth, a place that is 98 percent solid ice? Even his wife jokes that he could pursue his research in the Caribbean.

The Northern Illinois University professor's answer is simple. Almost imperceptible geographic and climate blips over the rest of the globe are exaggerated in Antarctica. It's a phenomenon known as polar amplification.

"The reason is obvious to me, anyway," Scherer said one sunny afternoon in his third-floor office in DeKalb, Ill., outside Chicago. "If you want to know how the world is changing on a global basis ... you go to the end member."

That's where he'll be Friday, at the end member that, in a way, also is a place of origins. He and NIU colleague Ross Powell, another distinguished Polar scientist, will meet in the Antarctic. Joining them are a Ph.D. student and a senior geology major from NIU, a research associate in the university's computer science department and a fourth-grade teacher from Crystal Lake.

For almost a month, the group will sleep in tents and toil for up to 15 hours a day in converted shipping containers. Temperatures hover around 5 degrees Fahrenheit and 90 mph winds create massive snowdrifts and whiteouts. The reason for enduring that misery would seem to be a contradiction. Their work will provide crucial insight into global warming.

The NIU professors are researchers in a key part of a $10 million National Science Foundation project known as WISSARD, for Whillans Ice Stream Subglacial Access Research Drilling. It's a long-winded phrase for an effort aimed at studying ice sheet stability and subglacial life in West Antarctica.

That's an important region for climate change. Scientific evidence indicates that relatively recent instability in the Antarctic ice sheet, which covers the land, is raising sea levels.

The NIU crew, among other tasks, is gathering data from subglacial Lake Whillans that will help understand the ice sheet's instability and lead to forecasting Antarctic ice activity. Those are fundamental factors in climate change.

Scherer, whose geological research specialty is micropaleontology - the study of microscopic fossils - also is taking samples from the lake he hopes will yield evidence of organisms that never have been seen.

"You always hope that there's some eureka moment," Scherer said, "but you never know what you'll find."

Powell's emphasis is sedimentology. In an email from the Antarctic, he called the sediments "libraries, and I try to read their books - detective mysteries - trying to find out who did it, how and why."

Studying the sediments can be significant in determining ice stability and how fast it responds to global warming and raises sea levels, Powell said.

Powell left home Nov. 1 and, like him, most of the others will remain in the Antarctic until mid-February. As substantive as the work is, how it is being done may be nearly as fascinating. And daunting.

It starts at McMurdo Station, the logistics hub of the National Science Foundation Antarctic Program.

consists of about 85 structures, including dormitories, administrative buildings, power and water distillation plants, stores and a laboratory. Scherer likens it to a polar version of a 19th-century mining town.