

New research, assisted by KU ice sheet center, provides hints of climate change effects

January 23, 2013

New research published this week provides never-before-seen clues about what could happen to the Greenland ice sheet as global temperatures rise, and it was made possible in part by a Kansas University research center.

Researchers and technology from KU's Center for Remote Sensing of Ice Sheets played a role in an article published in the most recent issue of the journal *Nature*, dated Jan. 24, that for the first time presents a record of a time period called the Eemian interglacial in the Greenland ice sheet.

"That's the major accomplishment from this core," said Prasad Gogineni, a professor of electrical engineering and computer science and director of CReSIS at KU.

During that period, which lasted from about 130,000 to 115,000 years ago, temperatures around the ice sheet were about 8 degrees Celsius (around 14 degrees Fahrenheit) warmer than they are today.

So a record of what happened, Gogineni said, could serve as an example for what's in store in the case of climate change.

Scores of researchers from 15 different countries assisted on the research, which took place from 2008 to 2012.

The research required the drilling of an ice core 2,540 meters long — more than 1.5 miles — that could be used to tell the historical story of the ice sheet.

KU's CReSIS researchers used their aircraft equipped with radars to identify the site to drill for the core, and also recorded data about the core's layers so it could be compared to others collected in Greenland. Layers on the ice represent different time periods in the life of the ice sheet, similar to rings inside of a tree, Gogineni said.

The radars developed at CReSIS are the best in the world for such work, he said.

The effort discovered that, during that warmer period more than 100 millenia ago, the Greenland ice sheet survived, but it shrank considerably.

Enough ice likely melted to cause sea levels around the world to rise by about 2 meters, Gogineni said.

"If you add a meter-to-2-meter level rise to what happened in Sandy, it's going to be more serious," he said.

The airborne radars developed by CReSIS have been assisting with research in Greenland and Antarctica since 1993.

Originally published at: <http://www2.ljworld.com/news/2013/jan/23/new-research-assisted-ku-ice-sheet-center-provides/>