

West Antarctic to be covered with scientific instruments

December 10 2007

In a mission of unprecedented scale, scientists are about to cover West Antarctica with a network of sensors to monitor the interactions between the ice and the earth below -- 24 hours a day, 365 days a year.

The National Science Foundation (NSF) just awarded the collaboration, called POLENET, \$4.5 million to plant global positioning system (GPS) trackers and seismic sensors on the bedrock that cradles the West Antarctic Ice Sheet (WAIS). Lead institution Ohio State University will receive more than \$2.2 million, and the rest will be divided among partners in the United States as part of an International Polar Year project.

As scientists have tried to understand how climate change is affecting the WAIS, they have long wished they could gather information from the entire region, explained POLENET leader Terry Wilson. But Antarctica contains the coldest and windiest sites on the planet -- locations inhospitable to scientific instruments and the scientists who would deploy them.

In a presentation Tuesday, December 11, 2007 at the American Geophysical Union meeting in San Francisco , she described how her team will overcome the harsh environment. They'll fly ski-equipped aircraft to remote locations, and plant rugged instruments that will send signals back to the United States via satellite.

“We'll be able to do systems-scale science in Antarctica . That wasn't

possible before,” said Wilson, associate professor of earth sciences at Ohio State. “This instrumentation is designed to run and record data year-round, through the dark polar night. Previous instrument deployments have largely operated only for a few months, or less, each year. This allows us to do new science.”

In a related project over the summer of 2007, POLENET scientists installed two dozen GPS trackers in Greenland . By the end of February 2008, the scientists plan to have 17 new trackers installed around the WAIS, along with about 11 new seismic sensors. The first expeditions began arriving in Antarctica early in December, 2007. The network will be complete in 2010 and will record data into 2012. Selected sites may remain as a permanent Antarctic observational network.

Scientists around the world will be able to access POLENET data online, and schools will be able to access educational resources.

Source: Ohio State University

Citation: West Antarctic to be covered with scientific instruments (2007, December 10) retrieved 20 April 2024 from <https://phys.org/news/2007-12-west-antarctic-scientific-instruments.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.