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## Montclair University professors heading up Antarctica trips to study global warming effects

By Nic Corbett/For The Star-Ledger December 25, 2009, 6:30AM

MONTCLAIR -- Two Montclair State University professors are heading to Antarctica on separate expeditions to collect sediment samples scientists can use to study the effects of global warming.

A rise in sea level of just a few meters from melting ice caps could put coastal areas like Atlantic City in jeopardy, said Sandra Passchier, an assistant professor of earth and environmental studies.



Gauthier Chapelle/AFP/Getty Images

A July 2006 photo in the Weddell Sea shows a part of the broken connection between the Larsen-B-Iceshelf and the Antarctic peninsula.

Passchier and a team of international scientists leave Jan. 4 on a research-drilling vessel heading to the Wilkes Land margin off the east coast of Antarctica. There, they will drill four holes into the ocean floor about 1,000 meters deep to retrieve sediment as old as 33 million years, before the continent was covered in ice.

"We're trying to peel back the crust of the earth to reconstruct climate records of Antarctica," Passchier said Thursday from her office, as she hurried to finish grading for the semester.

The scientists plan to retrieve sediment that they'll cut into 1.5-meter pieces. Then, they'll split the pieces in half, with one side archived away and the other side divvied up among the scientists to study. Passchier is especially interested in sediment dating back 15 million years, when — recent research suggest — there was as much carbon dioxide in the atmosphere as there is today.

Stefanie Brachfeld departs Sunday to the Antarctic Peninsula, where a piece of the Larsen Ice Shelf collapsed in 2002. She and two dozen scientists, mostly from the United States, will spend two months using a tool that resembles a syringe to extract mud from beneath the floor of Weddell Sea. The mud could hold clues about which parts of the ice grew and shrank in the last 10,000 years or more.

"We're interested in determining if the modern collapse happened naturally, or if it was a unique event related to global warming and human activity," Brachfeld, an associate professor of earth and environmental studies, said Thursday.

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Brachfeld's expedition is funded by the National Science Foundation and the International Polar Year. She'll be going on a second expedition in 2012, as part of the same project. She hopes to bring students along next time.

Passchier said her trip was 12 years in the making. A scientist who works at the University of Granada in Spain, Carlota Escutia, spent years trying to pinpoint the right area to drill, using sound waves to map the ocean floor. Escutia's proposal was approved in 2007 as part of the Integrated Ocean Drilling Program, an international organization that facilitates research cruises to different parts of the world.

More data collected from Antarctica is needed so better projections about melting ice caps can be made, Passchier said. Government officials need accurate predictions to determine whether it's necessary to build sea walls and other structures to protect coastal cities.

If all the ice in Antarctica were to melt, she said, it would cause the sea level to rise by 60 meters, enough to flood New York City and for water to reach the Statue of Liberty's armpits.

"This magnitude of sea level rise is very unlikely to happen this century," Passchier said.

But, she added, 33 million years ago, there was no ice in Antarctica, so it's possible the ice will melt at some point.

"It's just not going to happen really fast in the near future," she said.

Passchier is keeping track of her expedition's progress on a blog at [www.msuintarctica.blogspot.com](http://www.msuintarctica.blogspot.com).

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 Posted by **MrBonn**  
December 25, 2009, 7:06AM

Its a HOAX!!!! Stop wasting time and effort, studying climate change yes, that's been on-going since the beginning of time. This is what happens when common sense and science is study and fueled by EMOTIONS. HOAXS have been around since the KOOKS took over in the 60's. Global freezing, too much garbage, running out of food, population boom, sun burning out, ALIENS have landed, some people/organizations thrive and exist by creating Crisis and Scares to get grants for studies/jobs.... ALWAYS FOLLOW THE MONEY. Merry Christmas and have realistic New Year.

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 Posted by **brancofan525**  
December 25, 2009, 7:14AM

Mr Bonn,  
Funny you should mention "ALWAYS FOLLOW THE MONEY."

Al Gore= Generation Investment Management LLP= LOTS OF

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