

## Oliver Fund Scholar Probes Ancient Sea-Level Rise

December 07, 2010 11:15 AM Arthur Nead  
anead@tulane.edu

Did the melting of ancient ice sheets after the last Ice Age cause sudden sea-level rises? What can be learned from this distant history that could send cautionary messages to modern populations living at the ocean's edge? Tulane researcher Torbjörn Törnqvist is drilling into coastal soils in search of answers.



Torbjörn Törnqvist, a professor of earth and environmental sciences, is drilling into coastal soils to learn lessons from last Ice Age. He is the third recipient of the Oliver Fund Scholar Award. (Photo by Paula Burch-Celentano)

[Törnqvist](#), a professor of earth and environmental sciences, the third recipient of the [Oliver Fund Scholar Award](#), has received \$43,000 to study sea-level changes due to melting ice in the period called the early Holocene, 12,000 to 6,000 years ago. Tulane University created the award to stimulate faculty research initiatives.

"This time interval serves as a powerful analog for future climate change, given the rates of sea-level rise that are predicted for the next century," says Törnqvist. "Unraveling the early Holocene is therefore of particular importance for low-lying coastal areas such as south Louisiana."

The Mississippi delta region offers a uniquely favorable setting for collecting sediment cores that will provide new, more precise data about early Holocene ice sheet/sea level interactions, TÄ¶rnqvist says.

In addition to drilling new cores, TÄ¶rnqvist will improve the record of sea-level changes using cores he has already collected.

“We will use our currently available sediment cores to develop a novel sea-level indicator, a buried coastal wetland soil known as paleosol, to extend sea-level records back in time,” TÄ¶rnqvist says. “Accurate dating of this paleosol is crucial, and we will use newly acquired geochemical instrumentation to date these samples using radiocarbon dating.” This work will happen in close collaboration with Tulane isotope geochemist Brad Rosenheim, assistant professor of earth and environmental sciences.

Their research is intended to lay the groundwork for a future proposal to the National Science Foundation for expanded research on ancient patterns of sea-level change.