FSU Coastal Researchers Study Climate Changes

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Coastal researchers from Florida State University are carrying out an investigation of the potential effects of accelerated sea-level rise and increased storminess over the next century on the northwest Florida coastal region. The three-year project is funded by the Strategic Environmental Research and Development Program (SERDP), which is a research consortium of the Department of Defense, the Department of Energy and the Environmental Protection Agency. The project involves a half-dozen geosciences faculty from FSU, and an equal number of graduate student assistants, plus researchers from the URS Corporation in Tallahassee.

The main focus of the work is to develop models for projecting into the next century the potential effects of climate change on both man-made and natural components of the coast, such as groundwater, wetlands and barrier islands. The model development is being calibrated with field data. Some of the field data involves Walton County's Coastal Dune Lakes.

Researchers and students have been collecting sediment cores from the lakes and subjecting them to various analytical techniques in an attempt to extract information on major storm occurrence prior to the era of record-keeping, i.e., the past approximately 150 years. The researchers have been measuring radiocarbon age, sediment properties, microfossil occurrence, and stable isotopes of nitrogen and carbon in order to detect the presence of disturbance to the lake sediments caused by major storms striking the west Florida coast.

Preliminary results indicate that there is a record extending back at least 4000 years in the lake sediments, and that storm frequency in the geologic past was quite different than it has been in the past century. The paleo-storm information obtained from Walton County's Coastal Dune Lake sediments will be used in the development of future storm models and in the prediction of storm effects to the northwest Florida coast over the next 100 years. The SERDP project will continue until the summer of 2012. Watch for updates in the Alliance as this research proceeds.

Researchers are conducting isotope sampling along the length of the sediment core every 2mm.