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## Professor: Katrina had minimal impact on East Pearl River

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HATTIESBURG, MS (WLOX) - An article in a recent issue of the Journal of Hydrology details how a team of scientists headed by researchers from the University of Southern Mississippi found that Hurricane Katrina had minimal long term impact on the water quality of the East Pearl River in southwest Mississippi.

Led by Alan Shiller, professor of marine science and director of the Center for Trace Analysis at Southern Miss, the team had wondered whether the severe impact of Hurricane Katrina on trees in southwestern Mississippi and southeastern Louisiana affected local stream water quality.

Because trees retain water, stabilize soils and generate organic matter, Shiller said there was some concern this destruction of vegetation could indeed affect the East Pearl River.

"Fortuitously, we had been studying the water quality of the East Pearl for a couple of years before Katrina," said Shiller. "We thus saw an interesting opportunity to continue these studies after Katrina to see how sensitive the system might be to a major environmental impact."

Comparing the pre-Katrina and post-Katrina water quality data was challenging, Shiller said, as rivers quite naturally have a lot of variability in flow and composition. "However, we had enough pre-Katrina data to establish patterns of variability of important water quality characteristics such as pH, dissolved organic carbon, suspended particles and dissolved iron," he said.

When examining the post-Katrina data in the context of this natural variability, little if any significant post-storm change in water quality was found, which Shiller attributes to the natural resilience of the system as well as the slow rate at which organic materials degrade and are transported through the watershed.

"Understanding how resilient our natural systems are is especially important here along the northern Gulf Coast, where we are subject not only to hurricanes but other natural and human stresses such as the recent Deepwater Horizon blowout."

Shiller's research on the topic involved collaboration with colleagues at Texas

A&M University and also the dissertation work of recent Southern Miss Ph.D. graduate Dr. Moo-Joon Shim.

The article appears in the Jan. 11 issue of the journal, which can be viewed online at http://www.sciencedirect.com/science/article/pii/S0022169411007839. Funding for the research was provided by the National Science Foundation and the Northern Gulf Institute.

For more information about Shiller's research, online visit http://ocean.otr.usm.edu/~w305860/

For information about the Southern Miss Department of Marine Science, online visit http://www.usm.edu/marine/

For information about the Center for Trace Analysis, visit http://www.usm.edu/marine/ceta.php.

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Southern Miss marine science professor Dr. Alan Shiller conducting research in the East Pearl River. (Photo source: Univ. of Southern Mississippi)



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