

Researchers track "where the mud goes"

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mtravis@tulane.edu

A major river event occurred this past spring: The Mississippi and Atchafalaya became the two largest rivers on earth. It was an extraordinary time to be a scientist who is interested in what rivers do to oceans, says Alex Kolker.



Spring flooding by the Mississippi and Atchafalaya rivers left behind sediment deposits of great interest to scientists such as Alex Kolker, research assistant professor of earth and environmental sciences. (Photo by Paula Burch-Celentano)

The Mississippi River is always one of the biggest rivers in the world, but the epic flooding during May and June caused the Atchafalaya River to gush with a force 15 times greater than Niagara Falls.

Usually, the salt water of the ocean mingles with rivers far inland, making the river water too salty to drink, but this spring, "You could be 20 miles from the mouth of the Atchafalaya and be in water fresh enough to drink," says Kolker, research assistant professor of earth and environmental sciences.

While those rivers were reaching their epic high-water stages, [Kolker](#) spent a week at sea, gathering samples of sediment deposited by the flooding rivers. Researchers are collecting data along the Louisiana coastal zone, from the mouth of the Mississippi and the Chenier Plain westward to the Wax Lake Delta and the mouth of the Atchafalaya, “studying where the mud goes,” he says.

For eons, flooding rivers have formed deltas by making alluvial deposits near the mouths of rivers. And when a river flows freely, as the Atchafalaya does when it is released to prevent Mississippi River flooding, land is built. The Mississippi River, however, is thwarted from overflowing its banks by an extensive levee system and is not building land.

PhD student Apu Ullah and master's students Cyndhia Ramatchandriane and Kelly Williams are working with Kolker, doing research on flood sediment deposits to use for their theses. “This is a fascinating place to work in,” says Kolker, “because you have these large river events that happen here in south Louisiana.”