

Katrina Flood - A Silver Lining?

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Tulane University researcher Howard Mielke and his colleagues have observed an unforeseen positive result of flooding in New Orleans following Hurricanes Katrina and Rita – post-flood decreases in lead contamination in some neighborhoods and corresponding decreases in blood lead levels in young children.



Tulane research professor Howard Mielke and his colleagues document decreases in lead contamination in some neighborhoods and in blood lead levels of young children after Hurricane Katrina flooding. (Photo by Paula Burch-Celentano)

The results are reported in an article published in [*Environmental Science & Technology*](#).

Mielke, a research professor with the Tulane/Xavier Center for Bioenvironmental Research and the chemistry department, has tested soil samples from numerous areas in New Orleans since 2000.

Children from these neighborhoods have been tested, as well.

“We noticed a very strong relationship between soil lead and blood lead,” Mielke says. Older neighborhoods have high levels of lead due to the long-term use of lead in house paint and gasoline, and when children play on the ground, they ingest contaminated soil.

“The hand-to-mouth activity of very young children seems to drive the process of exposure,” says [Mielke](#). “There's also contaminated dust blowing around, and it gets into their entire environment. Children are amazingly sensitive to lead dust that has accumulated in the environment.”

When Mielke's team tested the same areas after Katrina, they noticed that soil lead levels had decreased sharply, and blood lead in children born post-storm was correspondingly lower.

Katrina had set up a “natural experiment,” according to Mielke. “This was something we could not possibly have planned,” he said. “The floodwaters of Katrina brought in clean sediments from the wetlands and from Lake Pontchartrain. There was a reduction in soil lead and this resulted in lower blood lead levels in young children.”

Mielke's recommendation for remediating lead-tainted soil in playgrounds and residential areas is to cover them with a layer of clean earth.

“Fortunately, natural resources are readily available in New Orleans in the form of clean soil available in unlimited quantities, brought to the city as sediment by the Mississippi River,” he says.