

## Tulane researcher finds profound improvements in soil lead levels following Katrina

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Professor Howard Mielke looks for lead in the soil surrounding a New Orleans residential development

Hurricane Katrina devastated New Orleans 11 years ago, but the storm's legacy may have a silver lining: reduced levels of lead in soil across the city. Continuing research he started back in 1991, Tulane University School of Medicine professor Howard Mielke and his team collected thousands of samples for an updated survey of soil lead levels for the entire city. Their [findings](#) have been published in the journal *Environmental International*.

Mielke says, prior to Hurricane Katrina, 64 percent of the children living in neighborhoods identified as high-lead areas had blood lead levels equal to or above five micrograms per deciliter. According to the Centers for Disease Control, even a low level of lead in blood has been shown to affect IQ, academic achievement and behavior. Ten years after Katrina, Mielke says the number of children with blood lead levels five and above in high-lead areas dropped to 19 percent. The median amount of lead in the soil dropped from 280 milligrams per kilogram (i.e. ppm) pre-Katrina to 132 mg/kg after the storm.

The reasons for the decrease are threefold, says Mielke. The hurricane and levee failures flooded nearly 80 percent of the city, depositing varying depths of low lead sediment from the coastal environment. Mielke says the massive cleanup that followed also helped reduce the amount of lead dust in the air and soil, as housing interiors were cleaned out and materials covered in lead-based paint were removed or repainted. Lastly, uncontaminated soil was brought in from outside the city for new construction projects.

While the latest survey shows promising trends, Mielke says there's still much work to be done to reduce the blood lead levels of children in New Orleans and across the country.

"You're dealing with a basic environmental health problem that we have to figure out how to resolve, and I think every major city has the same kind of problem," says

Mielke. "If we figure out how to solve the problem for New Orleans, we'll have a model that other cities can follow."

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