

# Piney Point pollution spread farther than first thought, new study shows

It's proof that the plume of dirty water flowed from the former phosphate plant and out into the Gulf of Mexico, the study's authors say.



Water was collected and treated in a 10-acre retention pond at the old Piney Point fertilizer plant property on March 4, 2022, in Palmetto.

[ DOUGLAS R. CLIFFORD | TIMES ]

By **Max Chesnes** *Times staff*

The study sheds new light on the vast environmental toll of the wastewater emergency and adds more weight to the evidence that red tide and other [algal blooms](#) flaring in and around Tampa Bay during summer 2021 were linked to the nutrient-laden discharges from Piney Point, according to the study's authors.

For a year after the disaster, researchers monitored water quality at four locations and collected water samples there bi-weekly. The 215 million gallons of tainted water leaving Piney Point had a unique “fingerprint,” which means scientists could identify and separate it from other pollution sources, according to Elise Morrison, an assistant professor at the University of Florida's Department of Environmental Engineering Sciences and the study's lead author.

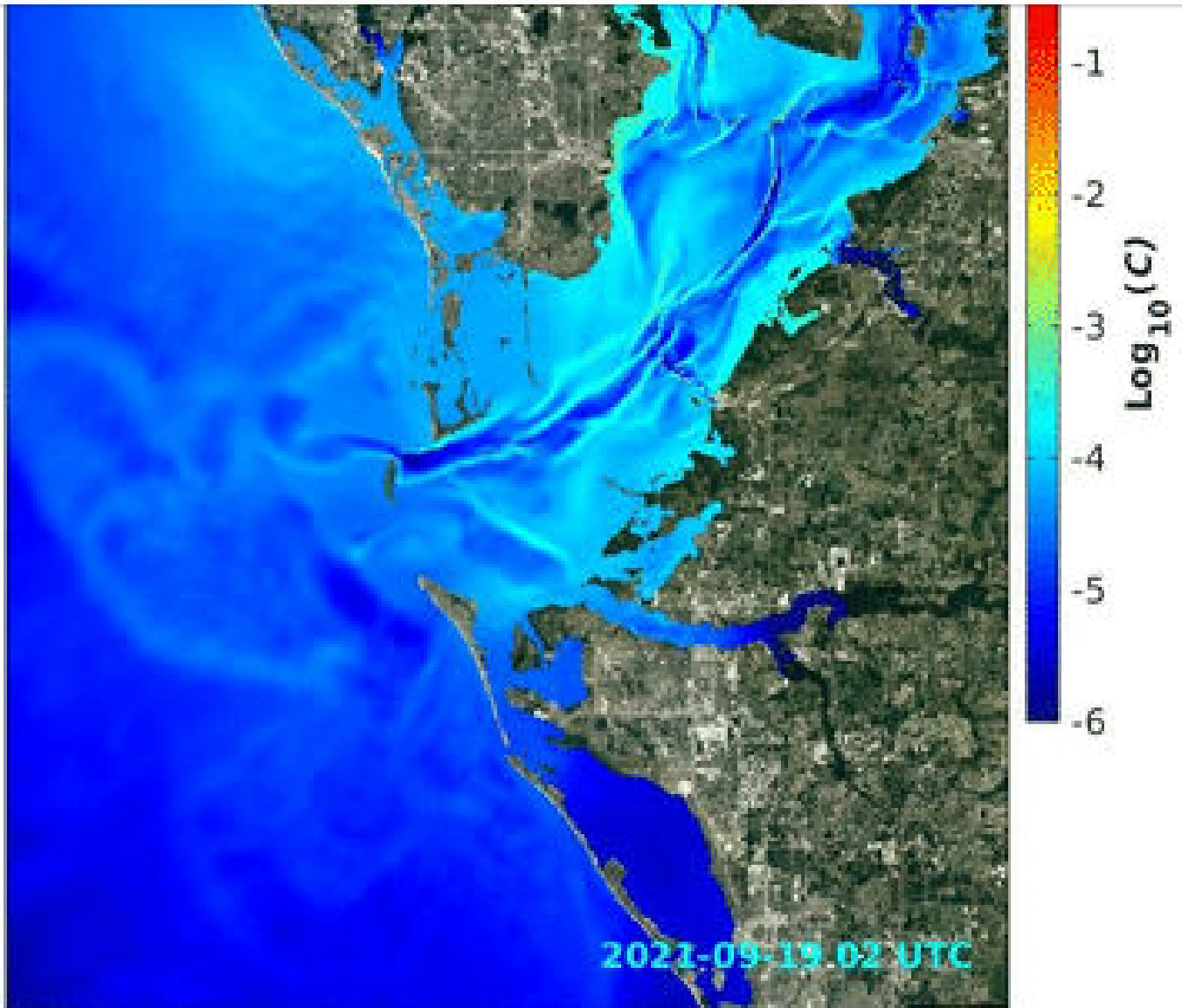
One of the four locations selected — St. Joseph Sound offshore of Tarpon Springs — is not in Tampa Bay and was supposed to be a “reference spot” for the study. Researchers planned to compare it to Tampa Bay as a control site thought to be out of reach from Piney Point's pollution plume.

But that's not what happened: In May 2021, researchers identified nitrogen isotope signatures from Piney Point in St. Joseph Sound, far away from the former phosphate processing plant.

“It's proof that the plume went out into the Gulf of Mexico, and was then transported northward, and southward most likely,” said Dave Tomasko, executive director of the Sarasota Bay Estuary Program and an author on the study. The pollution was diluted by the time it reached that far north, he said, but it's still noteworthy it was found at all.

The findings also validate the flow of pollution predicted by computer models [created by the University of South Florida's College of Marine Science](#) in the weeks after the disaster, according to Tomasko. Those models showed the plume stretching north to St. Joseph Sound before it was documented in the real world.





A computer model, created by the University of South Florida and shown here, predicted the flow of pollution leaving the Piney Point site in the weeks after the disaster.

[ COURTESY OF THE OCEAN CIRCULATION LAB AT THE UNIVERSITY OF SOUTH FLORIDA ]

Nutrients, like nitrogen and phosphorus, can help fuel the growth of phytoplankton, or small organisms that live in the water. For their study, scientists monitored how those organisms responded to the nutrients released from Piney Point. They found diatoms (a type of phytoplankton) “responded quickly” to the available nutrients near where pollution entered into the bay, and also in tucked-away spots including Joe Bay and Bishop Harbor, Morrison said.

Piney Point underscores why it’s imperative to support organizations that keep an eye on



wrote in an email. “Supporting long-term monitoring programs and collaborative research is critical to address complex challenges and find solutions to maintain coastal water quality and ecosystem health.”

The [peer-reviewed study was published May 24](#) in *Frontiers in Ecology and Evolution*, an international journal highlighting scientific findings.

In the months after the disaster, the waterbody Tomasko monitors regularly, Sarasota Bay, had some of the worst conditions he’d seen, he said. He remains convinced that the prolonged algal blooms were because of Piney Point, and these findings show it’s possible, he said.

If the pollution spread as far away as 30 miles or more north from the epicenter, it likely also flowed south, Tomasko said. The algae problems are now worse in the upper portion of Sarasota Bay than what has been monitored historically.

“By far – in my opinion – those releases were the worst impact to our coastal waters in decades: Not just a short-term impact in a limited area, but a detectable impact across an area from St. Joseph Sound down through Tampa Bay and into Sarasota Bay,” Tomasko said. “I’m not convinced we’re over the impacts.”



Water partially filled the New Gypsum Stack South pond at the old Piney Point fertilizer plant site on March 4, 2022, in Palmetto. The sandy area, at center, marked the location where a breach was discovered in 2021.

[ DOUGLAS R. CLIFFORD | TIMES ]



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