

More Harm Than Good?

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Much has been made recently about the rift between Louisiana officials and scientists over the prudence of building coastal sand berms as a defensive measure against the Gulf oil spill. Among members of the science community there is no such division, says Torbjörn Törnqvist, professor of earth and environmental sciences.



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To try and protect against oil intrusion, dredges are building sand berms off the Louisiana coast. (Photo from the office of Louisiana Gov. Bobby Jindal)

“We all know scientists have a tendency to disagree with each other, but in this case I don't know a single coastal scientist or engineer who thinks that the sand berms are a good idea,” says Törnqvist, who studies geologic processes in the Mississippi Delta.

[Törnqvist](#) says he can understand how the creation of sand berms, as well as a similarly touted proposal for rock walls, can seem like reasonable solutions to people unfamiliar with coastal dynamics.

“The problem is,” he says, “if you start messing around with the coast in a particular area you are likely to cause problems somewhere else.”

TÃ¶rnqvist points to the decision by state officials and the Army Corps of Engineers to create an emergency sand barrier by dredging off the fragile shores of the Chandeleur Islands.

“This is absolutely the sand you don't want to touch because you are undermining the foundation of the island you are trying to reinforce. It makes no sense at all,” says TÃ¶rnqvist.

Beyond that, TÃ¶rnqvist questions the rationale for the sand berms.



Professor Torbjörn TÃ¶rnqvist studies coastal geologic processes. (Photo by Paula Burch-Celentano)

“The character of barrier islands is that they are separated by tidal inlets. If you close off some of these inlets with berms, the ones that remain will almost certainly widen and deepen. This could potentially enhance the migration of oil into the coastal wetlands.”

And oil is not the only concern. The construction of berms will likely change the salinity in the waters of the coastal zone, says TÃ¶rnqvist.

“You are going to close off certain portions so the salt water won't get in there, but in the inlets that remain the salt intrusion could increase. We don't really know what the potential impacts of that could be.”

TÃ¶rnqvist is director of the National Institute for Climatic Change Research, hosted by the [School of Science and Engineering](#) at Tulane.