

ECU aids with research of the BP oil calamity

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On April 20, the explosion of the Deepwater Horizon led to a substantial oil spill catastrophe in the Gulf of Mexico. The spill caused the death of 11 people and also took a vast toll on the marine environment, suffocating many populations of sea-life.

Progress has been made in containing the spill since the initial impact. ECU professor Siddhartha Mitra is conducting research to establish the effects of the spill. Mitra began his research in May and speaks enthusiastically about his ongoing efforts.

Mitra explains, "In our lab, we are extracting material for hydrocarbons from the Deep Water Horizon spill and using these hydrocarbons as 'fingerprints.' We are then analyzing water off the coast of North Carolina and comparing those hydrocarbons in the water to the 'fingerprints' of the actual oil spill."

Mitra, an assistant professor of geological sciences in the Thomas Harriot College of Arts and Sciences, along with fellow students Kristen Grossweiler and Nidhi Patel, took a cruise to the North Carolina coastline to collect water and sediment samples.

These substances were then analyzed for baseline levels of hydrocarbons and compared to samples of oil from the actual spill.

"Hydrocarbons are organic chemicals mostly made from hydrogen and carbon. When you take algae and extract their hydrocarbons, they are a certain size. Oil comes from algae that have been exposed to extreme hot temperatures and pressures over a period of millions of years. The problem with oil is that these same hydrocarbons in the original algae material have been transformed and now are very carcinogenic and toxic," Mitra said.

The severity of the spill has caused a significant amount of damage but the negative effects that it still withholds are continuous.

"The hydrocarbons in the oil pollution are very harmful and toxic not only to the biological organisms that reside in the Gulf of Mexico, but to humans as well. These toxic hydrocarbons can work their way up the food web, which is why the fishery industries and the coast are very concerned as to when these hydrocarbons will reach the coast," he said.

Nidhi Patel, ECU graduate student within the Department of Geological Sciences, worked with Mitras on the project and said, “We don’t have any solid results yet, but basically it was a one and a half day cruise. It was constantly getting samples. Our first sample was at five in the morning and then we continued to work until nine or so that evening just getting sediment samples.”

Patel explained the collection of the samples throughout six stations on the boat.

“We got samples from the surface water and denser water from the bottom. When we could, we got samples from the very bottom. Because the water depth was so large, we couldn’t efficiently get samples from the very bottom in every case.”

Despite the small setbacks, Patel has faith in the results that are still being processed.

“Overall I think it went very well. I’m very excited to get the samples back and analyze them. It should be a matter of a few days or weeks.”

In the mean time, predictions have been made through creating models, though these models may contain uncertainty. As of now, Mitra’s team predicts the oil will hit coastal North Carolina by the end of this summer.

Mitra advises, “The public should remain visual and go to the coast and should not be afraid to go to the ocean. The goal, as of now, is to find funding and continue to go out and collect samples through the rest of the year and be able to pinpoint when hydrocarbons from the spill may affect coastal North Carolina.”

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Professor Mitras and students research the effects of the recent oil spill. Image available at http://www.theeastcarolinian.com/polopoly_fs/1.1492490!/image/1794063450.jpg



Nidhi Patel works with samples of ocean water. Image available at [http://www.theeastcarolinian.com/polopoly fs/1.1492489!/image/794057593.jpg](http://www.theeastcarolinian.com/polopoly_fs/1.1492489!/image/794057593.jpg).