ECU professors research effects of BP oil spill in Gulf of Mexico and beyond Pieces of Eight

GREENVILLE, NC (June 8, 2010) — The BP oil spill, also known as the Deepwater Horizon oil spill, has riveted the attention of the public since an explosion April 20 aboard an offshore oil rig caused crude oil to begin to leak into the Gulf of Mexico. Now, East Carolina University professors are participating in various research projects that may help determine some of the effects of this catastrophic event.

On May 21, Siddhartha Mitra, assistant professor of geological sciences in the Thomas Harriot College of Arts and Sciences, along with graduate student Nidhi Patel and undergraduate student Kirsten Grossweiler, returned from a 24-hour research trip off the North Carolina coastline. Mitra and his team collected water and sediment, which will be analyzed for baseline levels of hydrocarbons and compared to samples of oil from the spill in the Gulf of Mexico.

“Residents of North Carolina are concerned about oil from the Deepwater Horizon spill eventually entering the Gulf Stream and coastal North Carolina – the question on their minds is ‘when, and if so, how much?’ said Mitra. “Interestingly, the same hydrocarbons that are the toxic components of oil pollution can be used as ‘fingerprints’ for the source of pollution.”

Many of the hydrocarbons found in oil pollution are extremely toxic to organisms and humans, said Mitra. Due to this concern to water quality and biological organisms, Mitra is collaborating with scientists and staff at the University of North Carolina–Wilmington to determine background levels of hydrocarbons in water samples from coastal North Carolina.

Mitra’s team is working on the assumption that as of late May the oil spill had not traveled around Florida to make its way up the Atlantic seaboard. The presence or lack of hydrocarbons, compared to the hydrocarbon “fingerprints” from the oil spill sample, will help determine the answer to this question. Presently, Mitra’s team is seeking funding to conduct additional cruises over the coming months to pinpoint when the oil will make it into the Gulf Stream.

In a separate research project, assistant professor of biology David Kimmel, also in the Thomas Harriot College of Arts and Sciences, recently was awarded a $44,284 National Science Foundation RAPID Grant to study the impact of the oil spill in the Gulf of Mexico.

Kimmel’s research project, “RAPID Collaborative Proposal: Spatially-Explicit, High-Resolution Mapping and Modeling to Quantify Hypoxia and Oil Effects on the Living Resources of the Northern Gulf of Mexico,” is a collaboration with fellow colleagues Michael R. Roman at the University of Maryland Center for Environmental Sciences and Stephen Brandt at Oregon State University.

“Since 2003, my collaborators and I have conducted five summer cruises in the northern Gulf of Mexico,” said Kimmel. “Thus, we possessed an extremely valuable dataset to compare the possible effects of the BP oil spill on the ecosystem of the Gulf.”

The grant will fund a seven-day research cruise allowing Kimmel, his graduate student Benjamin McGlaughon and his collaborators to repeat high-resolution mapping of plankton and fish in the northern Gulf of Mexico and access the chemical and biological impacts of the spill.

Specifically, Kimmel will use data collected over previous years to determine if the spill has altered the distribution of plankton, important organisms that form the base of the food chain. According to Kimmel, an alteration of plankton distribution or abundance could dramatically impact fisheries production in the Gulf.