

'Dead zone' area shrinking

September 30 2004

A team of Texas A&M University and Louisiana State University scientists conducted a research cruise in late August to the "**dead zone**" - a region in the northern Gulf of Mexico that **suffers from low oxygen** and results in huge marine losses - and much to their surprise, the "dead zone" area had either moved or had disappeared completely.

Steven DiMarco, associate professor in the Department of Oceanography and leader of the team, found that some areas that were previously hypoxic - a technical term for extremely low dissolved oxygen concentrations in water - had broken up and appeared to pose little threat to marine life, while in other areas the hypoxia appeared to have moved further off shore.

Hypoxia can result in fish kills and can adversely affect many types of marine life where it is present. The dead zone area encompassed more than 6,000 square miles this year.

"We found that the hypoxia had moved offshore from shallow waters to much deeper waters in the Gulf," DiMarco explains. "In other words, much of the dead zone had broken up, and this very much surprised us."

DiMarco believes there are two reasons why the region affected by hypoxia broke up and changed location.

"Strong coastal currents can develop and breakup the stratification that causes hypoxia," he says. "Another is offshore circulation features, such as eddies, that intrude onto the continental shelf. We think this could

break down the hypoxia in the area as well."

The NOAA (National Oceanic and Atmospheric Administration) study, conducted from Texas A&M's research ship R/V Gyre, stretched from an area near Southwest Pass, La., to the Calcasieu Ship Channel near the Texas-Louisiana border.

There are numerous theories as to the cause of the dead zone. Many scientists believe it is caused by fertilizer runoff from the Mississippi River, while other theories point to more complicated and interrelated factors.

"Just a few weeks before we went on our research cruise, other teams in the area reported seeing few if any fishing boats in the dead zone area," DiMarco says.

"But we were surprised to see a lot of fishing boats, especially shrimp boats, there. That means marine life has returned to the area where just three weeks before, the oxygen levels were recorded as being extremely low.

The dead zone has been studied and tracked since it was discovered 20 years ago, DiMarco says.

"We need to do some further research to determine the specific mechanisms under which hypoxia is created, maintained, and ultimately dissipated," he believes.

DiMarco will present his findings next month at a meeting of the International Marine Environmental Modeling Seminar in Washington, D.C.

Source: Texas A&M University

Citation: 'Dead zone' area shrinking (2004, September 30) retrieved 26 April 2024 from <https://phys.org/news/2004-09-dead-zone-area.html>

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