

University: Large Dead Zone Forming In The Gulf

Source: *Texas A&M University*

July 1, 2013 - Ocean experts had predicted a large "dead zone" area in the Gulf of Mexico this year, and according to the results from a Texas A&M University researcher just back from studying the region, those predictions appear to be right on target.

Steve DiMarco, professor of oceanography and one of the world's leading experts on the dead zone, says he and a Texas A&M team surveyed areas off the Texas-Louisiana coast last week and found large areas of oxygen-depleted water - an area covering roughly 3,100 square miles, or about the size of Delaware and Rhode Island combined.

"We found hypoxia (oxygen-depleted water) just about everywhere we looked," DiMarco reports.

"The most intense area is where you would expect it - off the Louisiana coast south of Atchafalaya Bay and Grande Isle, La. But we also found significant amounts off High Island and near Galveston. The farther south we went, the less we found hypoxia in the water column, but we still found plenty of depleted oxygen waters up to just west of Freeport.

"There is no doubt there is a lot of hypoxia in the Gulf this year."

Hypoxia occurs when oxygen levels in seawater drop to dangerously low levels, and persistent hypoxia can potentially result in fish kills and harm marine life, thereby creating a "dead zone" in that particular area.

Such low levels of oxygen are believed to be caused by nutrient pollution from farm fertilizers as they empty into rivers such as the Mississippi and eventually into the Gulf, or by soil erosion or discharge from sewage treatment plants. The size of the zone has been shown to be influenced by the nutrient runoff, volume of freshwater discharged, and prevailing winds, which controls the freshwater river plume's movement.

The Mississippi is the largest river in the United States, draining 40 percent of the land area of the country. It also accounts for almost 90 percent of the freshwater runoff into the Gulf of Mexico.

Last year, with much of the Midwest suffering through its worst drought in 100 years, the dead zone measured only 1,580 square miles.

DiMarco's research on the dead zone is supported by the National Oceanic and Atmospheric Association (NOAA), as part of its long-term commitment to advancing the science to inform management practices aimed at mitigating the hypoxic zone.

"While we await additional data from the entire summer, these early findings start to validate our prediction that we could see one of the largest dead zones ever in the Gulf of Mexico this July," said Robert Magnien, Ph.D., center director at NOAA's National Centers for Coastal Ocean Science.

"This is further confirmation of the link between upstream nutrient management decisions and the critical habitats and living resources in the Gulf."

DiMarco has made 28 research trips to investigate the dead zone since 2003. His cruise this year carried 10 investigators from Texas A&M and Texas A&M at Galveston and included two

research scientists, Matthew Howard and Ruth Perry, five graduate students, Laura Harred, Jordan Young, Yan Zhao, Heather Zimmerle, and Nicole Zuck, and two marine technicians, Eddie Webb and Andrew Dancer (Geochemical and Environmental Research Group).

Onshore investigators include Lisa Campbell, Wilford Gardner, Shari Yvon-Lewis, and Ethan Grossman, all from Texas A&M, and Antonietta Quigg from Texas A&M-Galveston.

DiMarco says the size of the dead zone off coastal Louisiana has been routinely monitored since 1985. Previous research has also shown that nitrogen levels in the Gulf related to human activities have tripled over the past 50 years.

For more about hypoxia [click here](#).