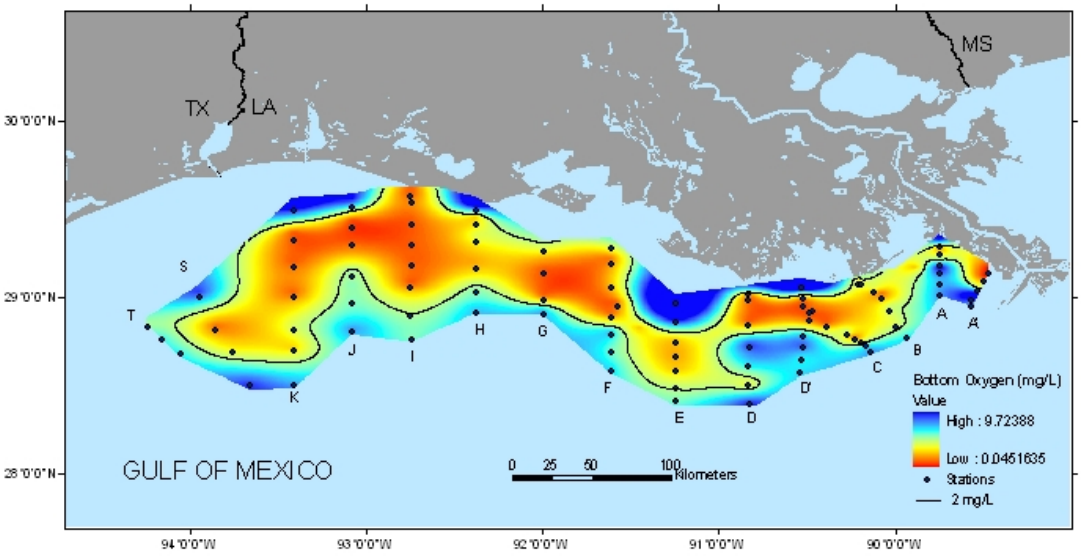
DEAD ZONE SIZE NEAR TOP END
PRESS RELEASE, JULY 28, 2007
LOUISIANA UNIVERSITIES MARINE CONSORTIUM (LUMCON)

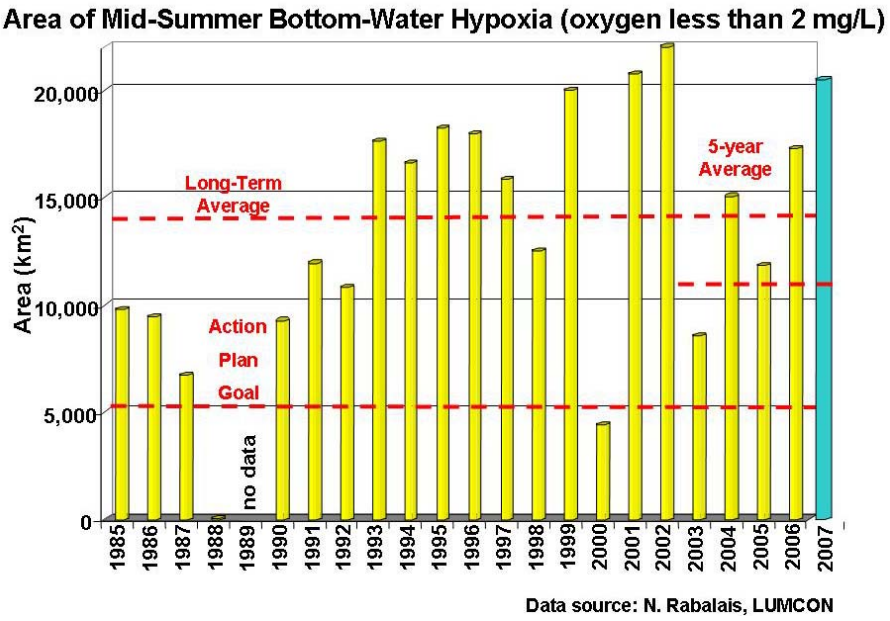
The coast wide extent of the Louisiana-Texas "Dead Zone" mapped this week is 20,500 square kilometers (or 7,900 square miles), similar to the size of New Jersey, reported Dr. Nancy Rabalais, Chief Scientist for Northern Gulf of Mexico Hypoxia Studies. The low oxygen waters extended from near the Mississippi River across the Louisiana/Texas border towards Galveston. The long-term average since mapping began in 1985 increased with this year's measurement to 13,500 square kilometers (or 5,200 square miles). The goal to reach a 5,000 square kilometers size (about 2,500 square miles) as stated in the "Action Plan for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico" continues to remain far off.



Bottom-Water Dissolved Oxygen Concentrations for July 21-28, 2007, map by A. Sapp

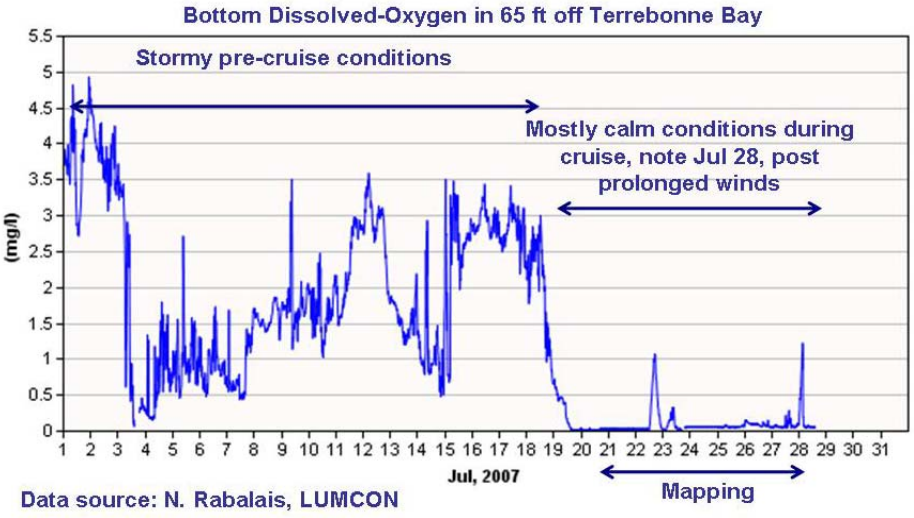
The scientific word for the commonly named Dead Zone is 'hypoxia,' or low oxygen, which results in the failure to capture fish, shrimp, and crabs in bottom-dragging trawls when the oxygen falls below the critical level of 2. Rabalais and her team saw evidence of the impact on sea life as crabs, eels and other bottom animals trying to escape the severe oxygen conditions on the bottom were swam en masse at the surface. The other clear indicator was the lack of shrimp trawlers throughout the large area.

Higher than average nitrogen loads for May of 2007 led to a prediction by Dr. Gene Turner of Louisiana State University that the 2007 area of hypoxia would be above or near the maximum size since mapping started in 1985. The 20,500 square kilometer area falls short of that mark but ranks within the three largest sized zones to date.



Possible explanations for the lower than predicted size are (1) stormier than average conditions in the first half of July preceding the cruise that disrupted the formation of hypoxia, and (2) the tropical low pressure disturbance on the western part of the study area that would have disrupted hypoxia in shallower waters from Cameron, LA to Galveston, TX. Values near hypoxia, however, were extended well beyond the borders of the delineated zone. Dr. Rabalais reported that "We were in some pretty stiff winds and high seas for the last two days of the cruise, enough to stir up the shallower waters."

Dr. Rabalais and her colleagues, who measure oxygen conditions monthly along a line of stations offshore of Terrebonne Bay and continuously with an oxygen meter in a frequently hypoxic area, watched low oxygen start to develop several times in the spring through early June, but it was disrupted on and off in June and the first half of July by the stormier than average conditions for that time of the year.



The seasonal formation and persistence of hypoxia are influenced by the discharges and nutrient loads of the Mississippi and Atchafalaya rivers. The seasonally warmed, fresher river-source water forms a layer above the deeper, cooler and saltier Gulf waters and prevents oxygen from reaching the bottom. Nitrogen and phosphorus from the river stimulate the growth of microscopic plants, the phytoplankton. The phytoplankton are either transferred into the food web or end up as organic debris that falls to the sea floor. Decomposition of the organic debris by bacteria depletes oxygen in the lower waters.

The research was funded by NOAA's Center for Sponsored Coastal Ocean Research. The mapping was conducted from July 21-28 from aboard the research vessel, *Pelican*, a vessel that is owned and operated by LUMCON and is part of the National Science Foundation's oceanographic fleet.

Check for events of this year's cruise at http://www.gulfhypoxia.net

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