

PRESS RELEASE, JULY 26, 2004
LOUISIANA UNIVERSITIES MARINE CONSORTIUM

AVERAGE SIZE “DEAD ZONE,” IN ANYTHING BUT AN AVERAGE YEAR

The coast wide extent of the Louisiana “dead zone” mapped this week is slightly larger than average at 15,040 km² (or 5,800 square miles). The long-term average since mapping began in 1985 is 13,000 km² (or 5,000 square miles). The river flow and the offshore conditions prior to the mapping cruise, however, were anything but normal and more reminiscent of the Great Mississippi River Flood of 1993. The river in 2004 peaked in discharge several times, in January, February, March, again in May, then a prolonged above average flow persisted in June and into July, as in 1993.

This year’s low oxygen area extended from the Mississippi River delta almost to the Texas coast. The low oxygen bottom waters were very close to shore during this summer’s mapping, as a result of north winds and onshore currents that pushed the zone towards the beach. Water depths affected were as shallow 12 feet and as deep as 100 feet, but mostly within the 70-foot contour. The close proximity of the low oxygen close to shore precluded the presence of shrimp trawlers from that area.

The freshwater from the Mississippi and Atchafalaya rivers was distributed far across the Louisiana coast, accompanied by massive algal blooms. These massive algal blooms are not toxic, but noxious in that they create scummy water and the surface and the organic matter that sinks to the Gulf bottom and leads to the depletion of oxygen at the bottom. The algal blooms were not the same as the noxious ones in May along the southeastern Louisiana coast that created problems for fishers.

The scientific word for the commonly named Dead Zone is ‘hypoxia,’ or low oxygen, which refers to the failure to capture fish, shrimp, and crabs in bottom-dragging trawls when the oxygen falls below the critical level of 2 ppm in bottom waters. Higher in the water column, however, there is sufficient oxygen to support sizeable numbers of fish, where they often seek refuge from the low oxygen.

The seasonal formation and persistence of hypoxia are influenced by the discharges of the Mississippi and Atchafalaya Rivers. The fresh water forms a fresher layer above the saltier Gulf waters. Nutrients stimulate the growth of microscopic plants, the phytoplankton. These algae are either transferred up the food web, which supports valuable commercial fisheries, or end up as organic debris on the sea floor. The decomposition of this organic matter depletes oxygen in the lower waters until the conditions no longer sustain the life of most marine animals.

This year’s mapping of the dead zone is the 20th anniversary of the systematic survey of the low oxygen that began in 1985 under the direction of Dr. Don Boesch, then director of the Louisiana Universities Marine Consortium (LUMCON), with initial funding from NOAA, the National Oceanic and Atmospheric Administration. Since then, LUMCON and LSU collaborators under the direction of Dr. Nancy Rabalais have maintained the mapping of the low oxygen each summer with funding primarily from NOAA. The scientific party that mapped this year’s hypoxic zone was from LUMCON, Louisiana State University, Texas A&M University Galveston, and the University of Scranton and was funded by the National Oceanic and Atmospheric Administration, National Ocean Service, Coastal Ocean Program. The mapping was conducted from July 21-25 from aboard the research vessel, *Pelican*. For further information contact Nancy Rabalais, LUMCON, 985-851-2836, nrabalais@lumcon.edu.

July 21-25, 2004 - Area of Bottom Hypoxia

