

Isotope baseline shifts in pelagic food webs of the Gulf of Mexico

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Supplement. The ability to locate water masses prior to planning collection efforts was imperative in the success of this project. Assessing sea surface height (SSH; Fig. S1A,B) prior to our research cruises allowed us to plan transects that bisected warm core eddies and the Loop Current. Sea surface chlorophyll *a* maps (SSC; Fig. S1C,D) were also used to ensure freshwater masses were sampled. We provide this figure to supplement our results which indicate that the carbon and nitrogen isotope values of POM collected from high salinity waters was significantly different from POM collected in lower salinity waters. Furthermore this figure is useful in visualizing the temporal differences in eddy movement and freshwater influence throughout our sampling period. We found that the unique isotope signatures within the water masses presented in here result from differences in overall nitrogen cycling which is ultimately reflected in consumer tissues. For SSH, elevated levels are indicated by "warmer" colors that range from 0 to 30 cm. For SSC, measurements are similarly depicted where increased values are yellow to red

Fig. S1. (A,B) Sea surface height (SSH) and (C,D) sea surface chlorophyll *a* concentrations (SSC) in the Gulf of Mexico during June and July 2009. The corridor where surface samples were taken is denoted by the dashed box. Oceanic water masses (Loop Current and warm core eddies) were detected from elevated SSH (orange to red, >25 cm), and neritic water masses (Mississippi River plume) were detected from elevated SSC measurements (green to red, >0.3 mg m⁻³). Star in SSH maps denotes the approximate location where Mississippi River effluent impacts SSH in coastal areas in the Gulf of Mexico and is relatively increased in July

