



Figure 7. Plot of  $\delta^{18}\text{O}$  versus salinity of surface waters collected from the Texas shelf in 2007 and 2008 and Louisiana shelf in 2008. Solid lines represent mixing lines between the  $\delta^{18}\text{O}$  of river discharge and Gulf of Mexico seawater (salinity = 36.5,  $\delta^{18}\text{O}$  = 1.1‰). Dotted lines represent mixing zones ( $\pm 1\sigma$  of the average). The 2007 Texas shelf values plot within mixing zones of high and normal volumes of BR discharge. In 2008, concurrent with reduced rainfall over eastern Texas, values identify Mississippi-Atchafalaya discharge to be the dominant freshwater source at the Texas locality. The strong Brazos influence on the Texas shelf witnessed in 2007 may be only associated with high discharge events, or potentially reduced transport of Mississippi-Atchafalaya discharge.