HURRICANE SEASON 2002 – HANCOCK COUNTY BEACHES

Jack S. Moody*, Keil Schmid, and Stephen Champlin, Mississippi Office of Geology, Jackson, MS 39289-1307

The 2002 hurricane season resulted in back-to-back events on the Hancock County, Mississippi, beach. This artificial beach furnishes infrastructure protection and recreational opportunities. Due to the extensive data set gathered and maintained by the Mississippi Office of Geology, reliable storm damage to the costly county beach can be assessed. Sediment movement and volumes can be analyzed with an eye toward future damage prediction and engineered replenishment design. Isidore was the first of these storms to impact the beach. Early estimates suggest a median of 1.6m (5 ft.) of shoreline retreat or 41,000 cubic yards of sand moved offshore. That is roughly twice the average annual rate. One week later Lili's storm surge flooded low portions of the beach and beach roads. With Lili's eye landing in western Louisiana, it was possible to observe the storm surge mechanics on the Hancock County beach in relative safety. The 2 to 3 foot wave heights and 3 to 4 second wave periods were not unlike those generated from non-hurricane events. The difference was that the storm surge wave energies (1700#/cu.yd. of water) were expended inland of the submerged beach. The peak of the surge event was documented on video and still photography by filming every hour from common observation points.