

The Role of the Mississippi in Deltaic Research and the Contributions of J.M. Coleman, H. H. Roberts, and P. Shea Penland

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Deltas were among the first depositional systems built into widely utilized facies models. Elegant process-response classifications of Holocene examples as river, wave, or tide-dominated provided the building blocks for facies analysis, influencing the field to this day. The Mississippi River and Delta served as one of the primary natural laboratories for the development of these models, as the type-example of river dominance. Proximity to the Mississippi made Louisiana State University a global center of deltaic geology, resulting in a vast number of studies of the Mississippi by a series of distinguished scientists. The seminal contributions of the three individuals in whose honor this session is named: James M. Coleman, Harry H. Roberts, and P. Shea Penland, not only helped crystallize this process-response view of deltaic systems, but also provided understanding and insights into the complexities of dynamic, continuously evolving systems. With a series of co-workers, Jim Coleman characterized the Mississippi system, from the modern Balize (birdfoot) lobe to the shelf, to the Mississippi Fan. Besides working with Jim Coleman on the Mississippi Delta and in many other parts of the world, Harry Roberts contributed significantly to the understanding of shelf margin deltas (the Lagniappe delta) and is a principal architect of the bayhead delta models based on the Atchafalaya and Wax Lake deltas. The late Shea Penland's legacy encompasses research on the transgressive evolution of the abandoned Mississippi deltas; the Chenier Plain; Lake Ponchartrain, along with a lifelong devotion to understanding, quantifying, and ameliorating the consequences of shoreline erosion and land loss in the Mississippi Delta and the northern Gulf of Mexico. In addition, all three served as scientific partners, teachers and mentors to large numbers of geologists, all three spent significant time as administrators, and all were important contributors to grappling with the societal implications of Mississippi delta evolution.