ALARMING CHANGES IN SEDIMENTATION RATES IN MAJOR BAYS ALONG THE GULF COAST

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POSTER SESSION ABSTRACT

Fifteen major estuaries are present along the northern margin of the Gulf of Mexico between Galveston Bay, Texas and Apalachicola Bay, Florida. Each of these bays serves as the terminus for one or more river systems whose combined watershed size exceeds 160,000 km^2. As such, the rivers drain regions of marked lithologic diversity, including the Valley and Ridge, Piedmont, and Coastal Plain Provinces. Sediments carried by these rivers must reside either transiently or permanently in the marginal bays, coastal lagoons, and estuaries that fringe the northern Gulf of Mexico. Circulation patterns, tidal currents, bottom topography, and the morphology of each basin control how much sediment becomes permanently incorporated. Best estimates place the total sediment load added to these sites at approximately 12 million tons each year. A compilation of data from recent studies indicate some significant changes over the years concerning the total sediment budget in these bays. For instance, both Mobile and Pensacola Bays are showing a marked increase in sedimentation rates. These two bays are currently filling in at a much more rapid rate than they were just 50 years ago. Because each of these lagoons are also the sites of heavy industrial development, such drastic changes in sediment rates can almost entirely be attributed to the activities of man with natural causes playing a smaller role in the sedimentation processes.

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