

Late Quaternary Depositional and Erosional Environments on the Louisiana Continental Shelf: Interpretation of Fluvial Terrain with Emphasis on Distributary Systems

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During Last Glacial Maximum(LGM), the Wisconsinan, sea-level was greater than 120 m lower than that of present day levels. During this period large fluvial channels were incised along the continental shelf of North America and other regions. The continental margin of today is thought to be the coastal zone of this period. Along the Mississippi Delta region these alluvial river channels deposited large amounts of coarse sediment along the continental shelf and incised patterns consistent with large scale braided and anastomosing channels. Using seismic reflection CHIRP data, incised channels were mapped out, within West Bay off of today's Mississippi River's birds-foot delta. Four levels of channelization are identified within the data including deep LGM channels, with three layers of interincized post LGM channels in shallower regions of the seismic data. This data are presented in a methodical fashion that creates a plan view of the distributary systems by using a comprehensive channel classification system to correlate the channels.