

VARIATIONS IN MIOCENE FLUVIAL ARCHITECTURE: BEDLOAD SYSTEM OF THE UPPERMOST GOLIAD FORMATION AROUND LAKE CORPUS CHRISTI STATE PARK, SOUTH TEXAS

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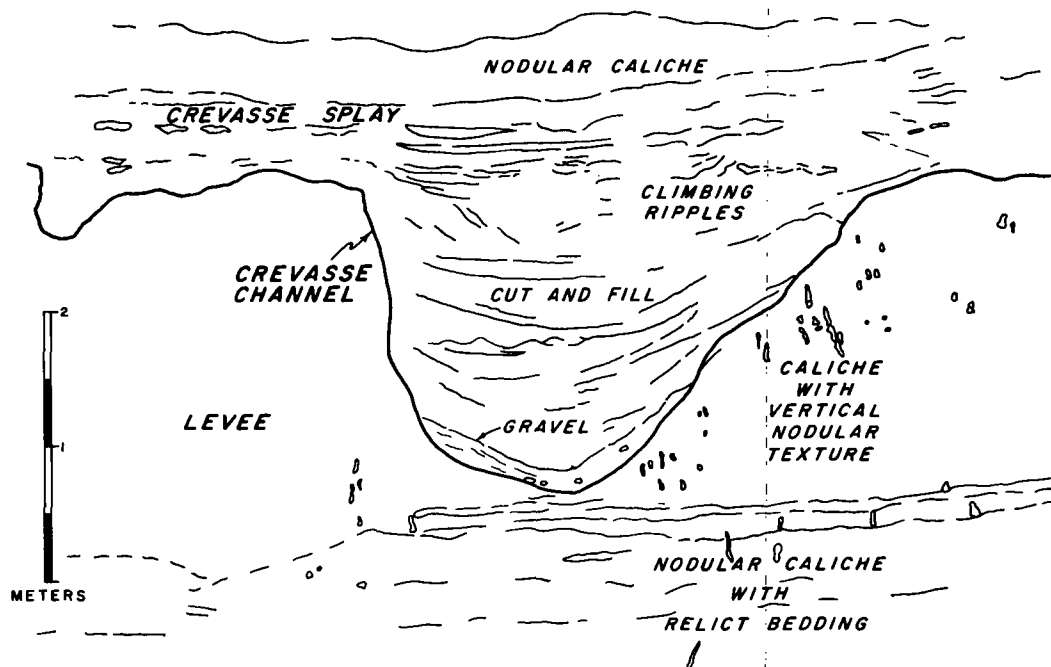
POSTER SESSION ABSTRACT

Garner (1970) briefly described cliff outcrops around Lake Corpus Christi State Park as Pleistocene caliche deposits. However, these outcrops are continuous with Goliad fluvial outcrops along the lake margin to the north and west. These uppermost Goliad outcrops are described utilizing modern techniques of fluvial architecture.

The state park exposures are situated along a paleoaxis of the Mathis fluvial system of the Miocene Goliad Formation of Hoel (1982) which is a time persistent fluvial axis of the modern Nueces River. Fluvial architecture exposed along the state park cliffs are lateral accretion deposits of coarse grained meandering streams and their chute channels, braided channels, crevasse splay channels, and floodbasin soil zones.

The most impressive fluvial features are conglomerates occurring in every channel type and crevasse splay channel cuts. Conglomerates consist of clasts (up to 11 cm, C axis) of chert, petrified wood, reworked caliche clasts, reworked oyster shells, and vertebrate fragments arranged in massive and planar cross bedding. A crevasse channel (see Fig.) carves a 2.5 m asymmetrical cut into soil zone levee deposits of calcitic fine sandstones with vertical rhizoliths. The channel fill consists of a basal pebble lag, a medium grained sandstone with cut and fill structures, and an upper fine grained sandstone with climbing ripples.

Crevasse splay sandstones dominate overbank lithofacies. Thick (>3 m), laterally extensive sequences of soil zones consist of overbank lithofacies with varying degrees of pedogenic overprinting. The soil zones vary from caliche horizons with a vertical nodular texture to nodular caliche in relict bedding with isolated, well preserved vertical rhizocretions.



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