



## GEOLOGIC MAP OF THE COPANO BAY AREA, TEXAS GULF OF AMERICA COAST

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### Acknowledgments

Photography used in the study included (1) 0.6-m to 1.0-m pixel, natural color, National Agriculture Imagery Program (NAIP) digital imagery, photographed between 2012 and 2024 and (2) 1:24,000-scale Tobin aerial photographic mosaics flown in the 1930s and 1950s. NAIP imagery was obtained from the Texas Geographic Information Office (TXGIO). Photography was supplemented by 1-m cell size digital elevation models (DEMs) constructed from data acquired during airborne lidar surveys flown by the Bureau of Economic Geology in 2014 and the U.S. Geological Survey (USGS) in 2018. Previous regional maps that cover the area include the 1:250,000-scale Geologic Atlas of Texas, Beeville-Bay City Sheet (Brown and others, 1975; revised 1987) and Corpus Christi Sheet (Brown and others, 1975); the 1:125,000-scale Environmental Geologic Atlas of Texas, Port Lavaca area (McGowen and others, 1976) and Corpus Christi area (Brown and others, 1976); and the 1:125,000-scale map of Distribution of Wetlands and Benthic Macroinvertebrates from the Submerged Lands of Texas, Corpus Christi area (White and others, 1993) and Port Lavaca area (White and others, 1989). This map compiles and updates current and recent STATEMAP- and STARR-supported geologic mapping (Paine and Collins, 2014a, b; Paine, Collins, and Costard, 2015a, b; Paine, Grunau, and Morris, 2024; and Paine, Morris, and Grunau, 2023, 2024a, b). The rationale for the mapping approach to Holocene fluvial, deltaic, bay, and estuarine deposits is described in Paine and others (in press).

The study included field observations of surficial deposits and collection and interpretation of surface and subsurface electrical conductivities measured using Geonics EM31 and EM38 ground-based electromagnetic induction conductivity meters (McNeill, 1980a, 1980b) and Adem WaskTEM and TEMcompany sTEM time-domain electromagnetic induction instruments. Elevation contours were modified from the USGS. Roads and railroads were obtained from the Texas Department of Transportation. Streams, drainage ditches, and canals were obtained from the TXGIO (2023).

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System	Series	Time (ka)	Map Units									
			Eolian		Lacustrine		Fluvial and Deltaic		Bay and Estuarine		Gulf Margin	
Quaternary	Holocene	0	Qm-sd	Qm-cd			Qm-c	Qm-l	Qm-cb	Qm-ba	Qm-sd	Qm-bd
		~12	Qm-cd				Qm-l	Qm-cb	Qm-ba	Qm-sd	Qm-bd	Qm-wc
Pleistocene		~2,600					Qa-l	Qd	Qd-c			
							Qb	Qb-s	Qb-ch		Qbi	Qbi-elb