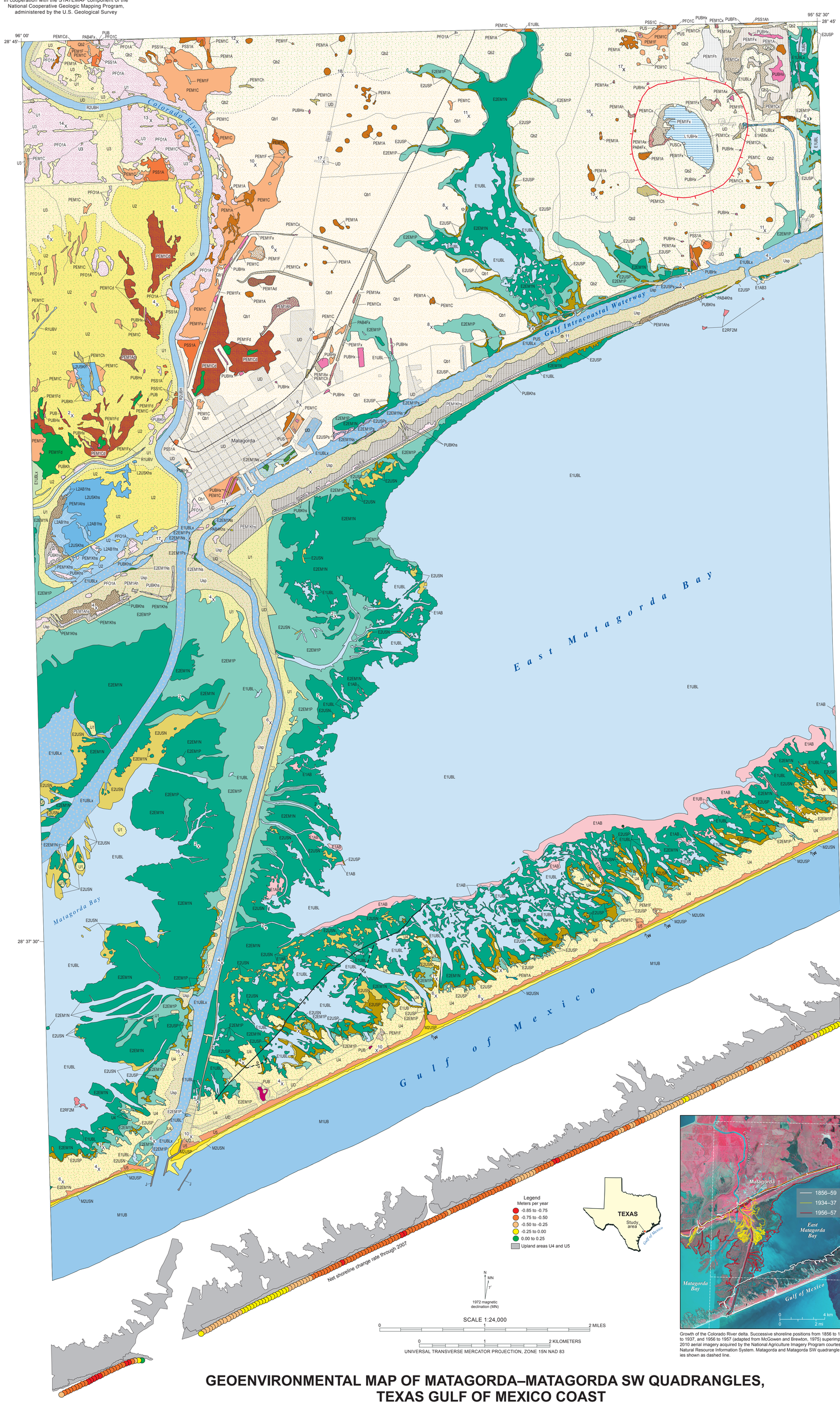
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In cooperation with the STATEMAP component of the National Cooperative Geologic Mapping Program, administered by the U.S. Geological Survey

GEOENVIRONMENTAL MAP OF MATAGORDA–MATAGORDA SW QUADRANGLES
TEXAS GULF OF MEXICO COAST
OPEN-FILE MAP



Growth of the Colorado River delta. Successive shoreline positions from 1856 to 1859, 1934 to 1937, and 1956 to 1957 (adapted from McGowen and Brewton, 1975) superimposed on 2010 aerial imagery acquired by the National Agriculture Imagery Program courtesy of Texas Natural Resource Information System. Matagorda and Matagorda SW quadrangle boundaries shown as dashed line.

GEOENVIRONMENTAL MAP OF MATAGORDA–MATAGORDA SW QUADRANGLES, TEXAS GULF OF MEXICO COAST

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2011

Fluvial-Deltaic and Barrier-Strandplain Settings
(wetland classification terminology of coastal geologic environments in italics)

Modern to Holocene

***Estuarine* Environment**

- E1AB—Water; *subtidal, unknown aquatic bed.*
- E1AB3—Water; *subtidal, aquatic bed, rooted vascular.*
- E1AB5x—Unknown aquatic bed; *subtidal, unknown submergent, excavated.*
- E1UBL—Water; *subtidal, unconsolidated bottom.*
- E1UBLx—Water; *subtidal, unconsolidated bottom, excavated.*
- E2AB1Ns—Water; *intertidal, aquatic bed, algal, regularly flooded, spoil.*
- E2EM1N—Low marsh; *intertidal, emergent, persistent, regularly flooded.*
- E2EM1Ns—Low marsh; *intertidal, emergent, persistent, regularly flooded, spoil.*
- E2EM1P—High marsh; *intertidal, emergent, persistent, irregularly flooded.*
- E2EM1Ps—High marsh; intertidal, emergent, persistent, irregularly flooded, spoil.
- E2RF2M—Reef; *intertidal, mollusk, irregularly exposed.*
- E2USN—Low flat; *intertidal, unconsolidated shore, regularly flooded.*
- E2USNs—Low flat on spoil; *intertidal, unconsolidated shore, regularly flooded, spoil.*
- E2USP—High flat; *intertidal, unconsolidated shore, irregularly flooded.*
- E2USPs—High flat on spoil; *intertidal, unconsolidated shore, irregularly flooded, spoil.*

***Lacustrine* Environment**

- L1UBHx—Water; *limnetic, unconsolidated bottom, permanently flooded, excavated.*
- L2AB1hs—Aquatic bed, *littoral, algal, diked/impounded, spoil.*
- L2USKh—Water, *littoral, unconsolidated shore, artificially flooded, diked/impounded.*
- L2USKhs—Water, *littoral, unconsolidated bottom, artificially flooded, diked/impounded, spoil.*

***Marine* Environment**

- M1UB—Water; *subtidal, unconsolidated bottom.*
- M2USN—Low shore; *intertidal, unconsolidated shore, regularly flooded.*
- M2USP—High shore; *intertidal, unconsolidated shore, regularly flooded.*

***Palustrine* Environment**

- PAB4Fx—Aquatic bed; *floating vascular, semipermanently flooded, excavated.*
- PAB4Khs—Aquatic bed; *floating vascular, artificially flooded, diked/impounded, spoil.*
- PEM1A—Marsh; *emergent, persistent, temporarily flooded.*
- PEM1Ad—Marsh; *emergent, persistent, temporarily flooded, partly drained/ditched.*
- PEM1Ah—Marsh; *emergent, persistent, temporarily flooded, diked/impounded.*
- PEM1Ahs—Marsh; *emergent, persistent, temporarily flooded, diked/impounded, spoil.*
- PEM1Ax—Marsh; *emergent, persistent, temporarily flooded, excavated.*
- PEM1C—Marsh; *emergent, persistent, seasonally flooded.*
- PEM1Cd—Marsh; *emergent, persistent, seasonally flooded, partly drained/ditched.*
- PEM1Ch—Marsh; *emergent, persistent, seasonally flooded, diked/impounded.*
- PEM1Cx—Marsh; *emergent, persistent, seasonally flooded, excavated.*
- PEM1F—Marsh; *emergent, persistent, semipermanently flooded.*
- PEM1Fd—Marsh; *emergent, persistent, semipermanently flooded, drained/ditched.*
- PEM1Fh—Marsh; *emergent, persistent, semipermanently flooded, diked/impounded.*
- PEM1Fx—Marsh; *emergent, persistent, semipermanently flooded, excavated.*
- PEM1Khs—Marsh; *emergent, persistent, artificially flooded, diked/impounded spoil.*
- PFO1A—Forested area; *broad-leaved deciduous, temporarily flooded.*
- PFO1C—Forested area; *broad-leaved deciduous, seasonally flooded.*
- PSS1A—Scrub-shrub area; *broad-leaved deciduous, temporarily flooded.*
- PSS1Ah—Scrub-shrub area; *broad-leaved deciduous, temporarily flooded, diked/impounded.*
- PSS1C—Scrub-shrub area; *broad-leaved deciduous, seasonally flooded.*
- PUB—Water; *unconsolidated bottom.*
- PUBFh—Water; *unconsolidated bottom, semipermanently flooded, diked/impounded.*
- PUBHx—Water; *unconsolidated bottom, permanently flooded, excavated.*
- PUBKh—Water; *unconsolidated bottom, artificially flooded, diked/impounded.*
- PUBKhs—Water; *unconsolidated bottom, artificially flooded, diked/impounded spoil.*
- PUS—Water; *unconsolidated shore.*
- PUSCx—Flat; *unconsolidated shore, seasonally flooded, excavated.*

***Riverine* Environment**

- R1UBV—Water; *tidal, unconsolidated bottom, permanently tidal.*
- R2UBH—Water; *lower perennial, permanently flooded.*
- R2UBHx—Water; *lower perennial, permanently flooded, excavated.*

***Uplands* Environment**

- U1—Upland area; fluvial-deltaic system; undivided levee and crevasse splay silt, mud, and sand; local, reworked land undivided.
- U2—Upland area; fluvial-deltaic system; delta-plain mud and sand.
- U3—Upland area; fluvial-deltaic system; fluvial sand and floodbasin mud.
- U4—Upland area; barrier-strandplain system; barrier sand and silt.
- U5—Upland area; barrier-strandplain system; eolian dominated; coppice dunes, foredunes, and blowouts; sand.
- Usp—Upland area; undivided spoil, reworked spoil, made land, and reworked land.

Pleistocene

- Qb1—Beaumont Formation; delta-front sand and mud.
- Qb2—Beaumont Formation; fluvial and distributary sand, silt, and clay.

Legend

- Jetty
- UD—Developed upland area
- Gulf salt dome (approximate boundary)
- Normal fault; U = upthrown side; D = downthrown side
- Approximate fault; question mark where queried. U = upthrown side; D = downthrown side
- Tropical-storm washover channel
- Contact; dashed where approximate
- Railroad
- Road
- x^4 Elevation (ft)

Photography used in study was 0.5-m-pixel, color-infrared digital imagery photographed in 2001, 2008, and 2010. Previous regional maps that cover this area include the 1:125,000-scale *Environmental Geology, Bay City-Freeport Sheet* (McGowen and others, 1976), the 1:125,000-scale map of *Distribution of Wetlands and Benthic Macroinvertebrates, Bay City-Freeport Area* (White and others, 1988), and the 1:250,000-scale Geologic Atlas of Texas Beeville-Bay City Sheet (Aronow and others, 1975). Fault data from Paine (2010). Modern wetland geologic environments adapted from unpublished BEG data sets by W. A. White in 2002 and T. A. Tremblay in 2008. Terminology related to wetlands classification of geologic environments mapped after Cowardin and others (1979). Shoreline and dune mapping used 2010 photography as a base. Shoreline erosion rates adapted from Paine and others (2011). Digital files of topographic elevation points from Texas Natural Resources Information Services (TNRIS) for U.S. Geologic Survey 7.5-minute topographic quadrangle maps, Matagorda and Matagorda SW. Digital files of roads and railroads were also obtained through TNRIS. Photo preparation was by John T. Ames and David M. Stephens. Editing was by Lana Dieterich.

Edward W. Collins, Project Coordinator
GIS data set coordinated by Thomas A. Tremblay
Graphics by John T. Ames


Well-developed low and high vegetated dunes landward of barren, sparsely vegetated backbeach on Matagorda Peninsula.


Beaumont Formation deltaic sand and mud interbeds exposed in an excavation east of Matagorda.


Wetlands (marsh, wind-tidal flats, and open water) along main Matagorda fault, Matagorda Peninsula.

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