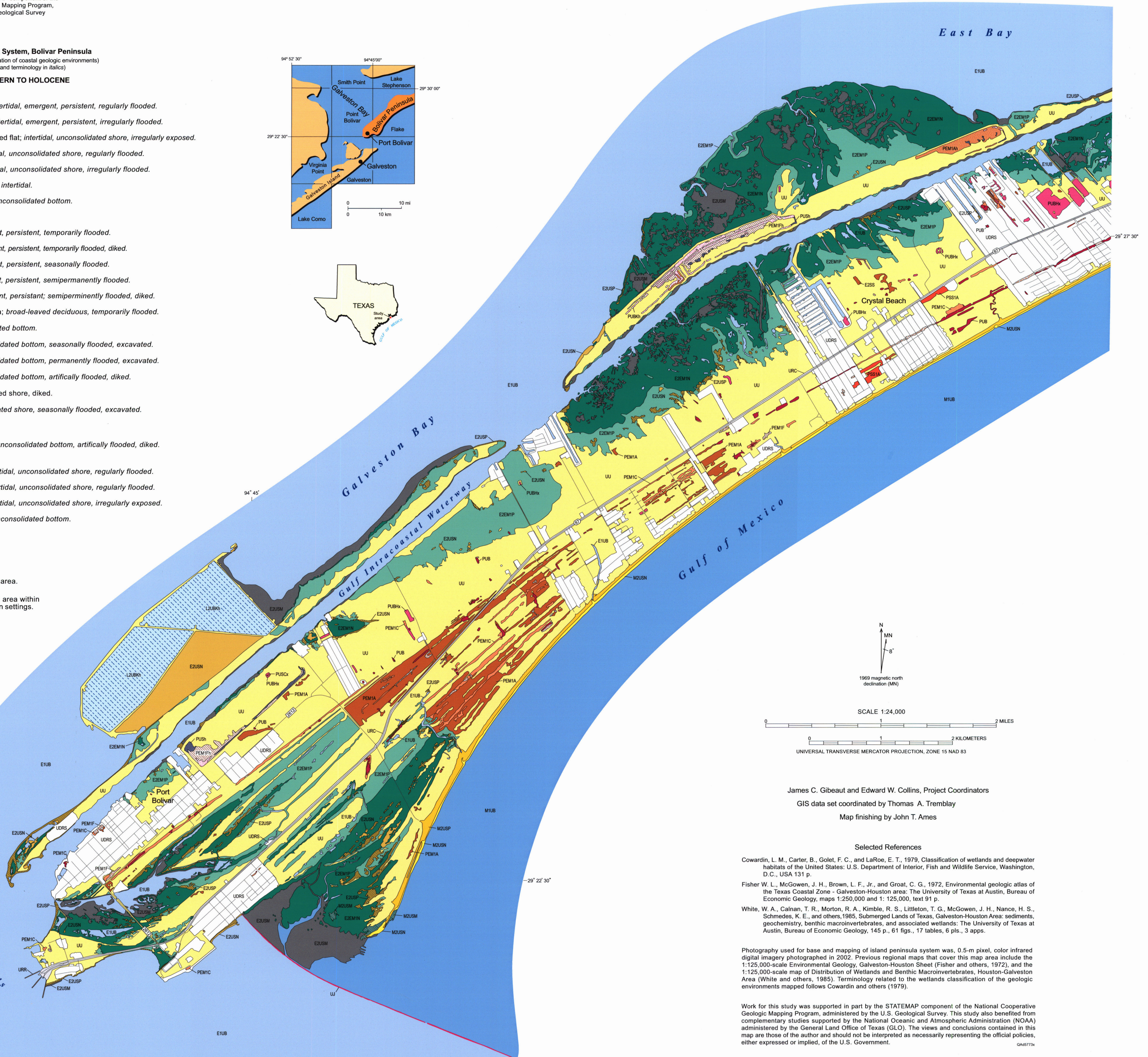
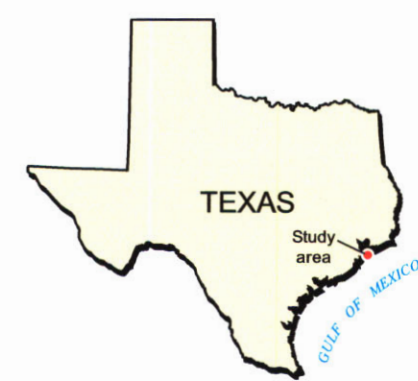
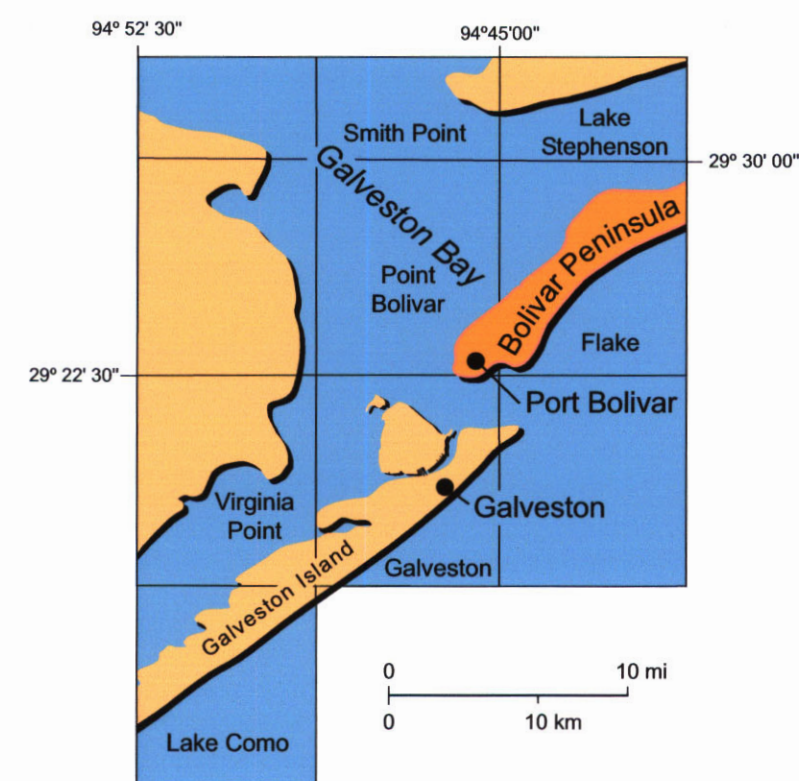


BUREAU OF ECONOMIC GEOLOGY
SCOTT W. TINKER, DIRECTOR
JOHN A. AND KATHERINE G. JACKSON SCHOOL OF GEOSCIENCES
THE UNIVERSITY OF TEXAS AT AUSTIN
In cooperation with the STATEMAP component of the
National Cooperative Geologic Mapping Program,
administered by the U.S. Geological Survey

Barrier-Spit System, Bolivar Peninsula
(Wetland classification of coastal geologic environments)
(Wetland terminology in *italics*)

MODERN TO HOLOCENE

- Estuarine Environment**
- E2EM1N—Low marsh; *intertidal, emergent, persistent, regularly flooded.*
 - E2EM1P—High marsh; *intertidal, emergent, persistent, irregularly flooded.*
 - E2USM—Irrigably exposed flat; *intertidal, unconsolidated shore, irregularly exposed.*
 - E2USN—Low flat; *intertidal, unconsolidated shore, regularly flooded.*
 - E2USP—High flat; *intertidal, unconsolidated shore, irregularly flooded.*
 - E2SS—Scrub shrub area; *intertidal.*
 - E1UB—Water; *subtidal, unconsolidated bottom.*
- Palustrine Environment**
- PEM1A—Marsh; *emergent, persistent, temporarily flooded.*
 - PEM1Ah—Marsh; *emergent, persistent, temporarily flooded, diked.*
 - PEM1C—Marsh; *emergent, persistent, seasonally flooded.*
 - PEM1F—Marsh; *emergent, persistent, semipermanently flooded.*
 - PEM1Fh—Marsh; *emergent, persistent, semipermanently flooded, diked.*
 - PSS1A—Scrub shrub area; *broad-leaved deciduous, temporarily flooded.*
 - PUB—Water; *unconsolidated bottom.*
 - PUBCx—Water; *unconsolidated bottom, seasonally flooded, excavated.*
 - PUBHx—Water; *unconsolidated bottom, permanently flooded, excavated.*
 - PUBKh—Water; *unconsolidated bottom, artificially flooded, diked.*
 - PUSH—Flat; *unconsolidated shore, diked.*
 - PUSCx—Flat; *unconsolidated shore, seasonally flooded, excavated.*
- Lacustrine Environment**
- L2UBKh—Water; *littoral, unconsolidated bottom, artificially flooded, diked.*
- Marine Environment**
- M2USN—Low shore; *intertidal, unconsolidated shore, regularly flooded.*
 - M2USP—High shore; *intertidal, unconsolidated shore, regularly flooded.*
 - M2USM—Low shore; *intertidal, unconsolidated shore, irregularly exposed.*
 - M1UB—Water; *subtidal, unconsolidated bottom.*
- Uplands**
- UJ—Jettie.
 - URR—Rock riprap.
 - UU—Undeveloped upland area.
 - UDRS—Developed upland area within rural and suburban settings.
 - URC—Major road corridor.



James C. Gibeaut and Edward W. Collins, Project Coordinators
GIS data set coordinated by Thomas A. Tremblay
Map finishing by John T. Ames

Selected References

- Cowardin, L. M., Carter, B., Golet, F. C., and LaRoe, E. T., 1979, Classification of wetlands and deepwater habitats of the United States: U.S. Department of Interior, Fish and Wildlife Service, Washington, D.C., USA 131 p.
- Fisher, W. L., McGowen, J. H., Brown, L. F., Jr., and Groat, C. G., 1972, Environmental geologic atlas of the Texas Coastal Zone - Galveston-Houston area: The University of Texas at Austin, Bureau of Economic Geology, maps 1:250,000 and 1:125,000, text 91 p.
- White, W. A., Calnan, T. R., Morton, R. A., Kimble, R. S., Littleton, T. G., McGowen, J. H., Nance, H. S., Schmides, K. E., and others, 1985, Submerged Lands of Texas, Galveston-Houston Area: sediments, geochemistry, benthic macroinvertebrates, and associated wetlands: The University of Texas at Austin, Bureau of Economic Geology, 145 p., 61 figs., 17 tables, 6 pls., 3 apps.

Photography used for base and mapping of island peninsula system was, 0.5-m pixel, color infrared digital imagery photographed in 2002. Previous regional maps that cover this map area include the 1:125,000-scale Environmental Geology, Galveston-Houston Sheet (Fisher and others, 1972), and the 1:125,000-scale map of Distribution of Wetlands and Benthic Macroinvertebrates, Houston-Galveston Area (White and others, 1985). Terminology related to the wetlands classification of the geologic environments mapped follows Cowardin and others (1979).

Work for this study was supported in part by the STATEMAP component of the National Cooperative Geologic Mapping Program, administered by the U.S. Geological Survey. This study also benefited from complementary studies supported by the National Oceanic and Atmospheric Administration (NOAA) administered by the General Land Office of Texas (GLO). The views and conclusions contained in this map are those of the author and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.

GA5573x

GEO-ENVIRONMENTAL MAP OF SOUTHWEST BOLIVAR PENINSULA, BOLIVAR AND FLAKE QUADRANGLES, TEXAS GULF OF MEXICO COAST

Thomas A. Tremblay, William A. White, Rachel Waldinger and Edward W. Collins
2007