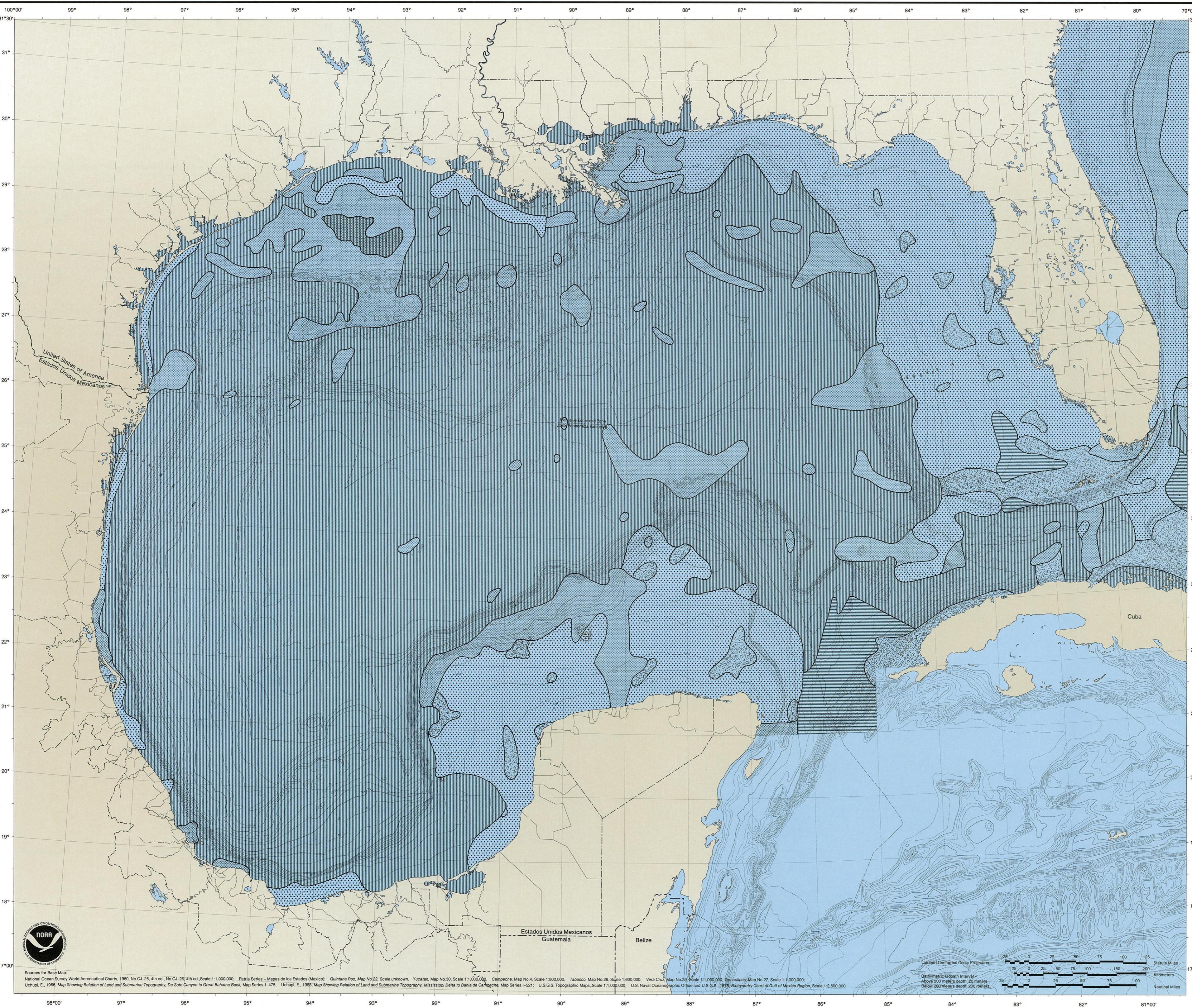


Gulf of Mexico Coastal and Ocean Zones Strategic Assessment: Data Atlas



Bottom Sediments

Description

The distribution of surficial sediments is shown according to five grain size classes (see legend). These sediments define two major provinces within the Gulf of Mexico. A carbonate province underlain by a limestone platform extends from the DeSoto Canyon on the Florida Shelf south to the Campeche Canyon. Many of the existing coral reefs are found in this province (Map 1.03). A large basin of clay and silt materials accounts for the remainder of the Gulf of Mexico (Garrison and Martin, 1973).

Bottom sediments in deep-water portions of the Gulf are primarily fine-grained silts and clays of postglacial alluvial origin (i.e., the "mud" texture class). Calcareous remains of pelagic foraminifera are also mixed with these sediments.

Complex mixtures of fine- and coarse-grained sediments overlay much of the continental shelf and slope. Shelf sediments in West Florida include quartz sands mixed with shell, coral fragments, and calcareous algae. The Texas and Louisiana shelf and slope are characterized by massive accumulations of silts and clays and by numerous sand deposits in buried channels and small basins between uplifted domes. The Yucatan-Campeche shelf is covered by calcareous sand, from 4 in to 4 ft thick, interrupted by scattered coral reefs. On the northern continental slope, glacial sands and mud-sand mixtures, ranging from 2 to 13 ft thick, cover 20 ft or more of gray silty clay interspersed with shell deposits. (Uchupi, 1975)

Gulf of Mexico sediments are determined by several factors including topography, currents, waves, storms and tides, bioturbation, past sedimentation patterns, tectonics, and mass sediment movements (Grout, 1981). The surficial geology of the Gulf provides variety of habitats for benthic invertebrates and fishes. The sediments and depositional environment of the outer shelf and slope are also the most significant determinants of hydrocarbon production potential in the region.

- Mud (Clay and/or Silt)
- Mud-Sand
- Sand, Sand-Gravel and/or Shell
- Mud-Sand-Gravel and/or Shell
- Combinations of Bottom Types Dominated by Gravel and Rock (Includes Coral Reefs)

References

US DOD, US Naval Oceanographic Office, 1972.

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