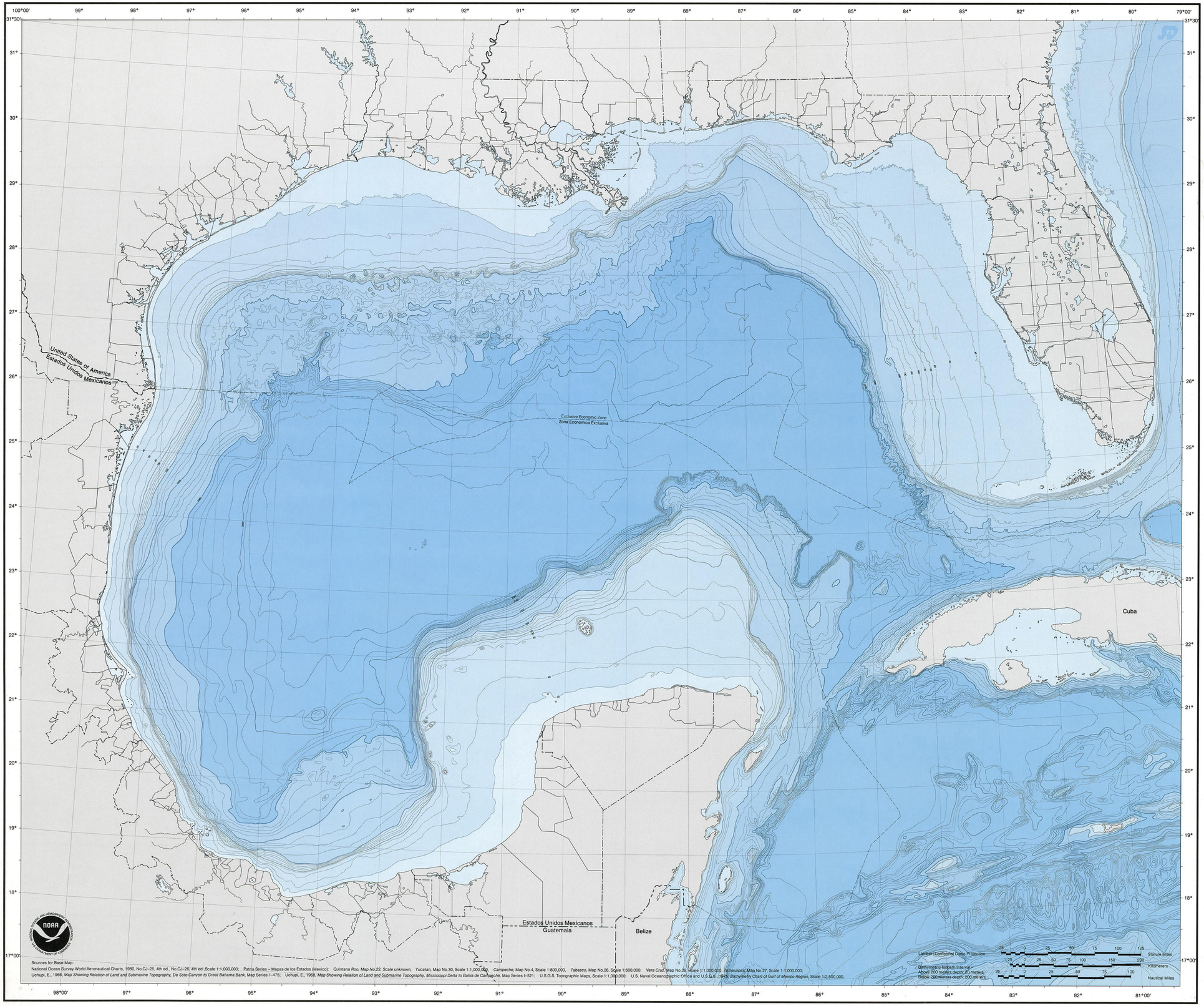
Gulf of Mexico Coastal and Ocean Zones Strategic Assessment: Data Atlas



Bathymetry

Description

Bathymetry is a measure of the depth of the ocean floor. It defines the form of the bottom of the ocean. Bathymetry is shown here with isobaths (contours of equal depth) located at 20 m intervals up to 200 m depths and at 200 m intervals beyond. The 200 m isobath approximates the seaward extent of the continental shelf, while the continental slope lies between the 200 and 2,000 m isobaths.

The continental shelf in the northwestern Gulf of Mexico extends from 100 km to 200 km in width. The surface of the shelf is generally smooth, but features such as relict stream channels are evident. The Mexican shelf south of the Rio Grande is the narrowest in the Gulf, only some 40 km wide near Tampico. It widens considerably in the Gulf of Campeche off Ciudad del Carmen, where it is interrupted by small fault scarps and reefs. The topography along both the West Florida and Campeche shelf is low relief broken only by reefs and relict shoreline features.

The continental slope is generally divided into a gentle, smooth upper segment and a steep, lower segment. The average slope gradient in the northwest Gulf is less than 1°, with salt structures providing some variation in topography (Shepard, 1963). The upper continental slope off eastern Mexico is broken by a series of tectonic features. DeSoto Canyon interrupts the smooth topography of the upper slope in the northeastern Gulf of Mexico (Garrison and Martin, 1973; Uchupi, 1975).

The central Gulf of Mexico encompasses the continental rise, Sigsbee Plain, and the Mississippi Fan. The continental rise, a gently sloping feature extending from the foot of the continental slope, merges with the Sigsbee Plain at approximately 3,500 m. The Mississippi Fan (1,000-3,000 m), covering 160,000 km2, is an extension of the Mississippi Delta. The Sigsbee Plain is an almost featureless expanse, interrupted only by the Sigsbee Knolls near its center (Garrison and Martin, 1973).

Bathymetry in Meters

- 2,000 or greater
- 1,000 – 1,999
- 200 – 999
- 20 – 199
- 0^{+} – 19

References

Sorensen, F.H., et al., comps., 1975; Uchupi, E., 1966, 1968.

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