BOEM uses 3-D seismic data to characterize the seafloor of the Gulf of Mexico, identifying natural hydrocarbon seepage and other features using amplitude response and building the highest resolution bathymetry map to date

The Bureau of Ocean Energy Management (BOEM) has published a 3-D seismic bathymetry map of the seafloor of the Gulf of Mexico (GOM). BOEM geoscientists have mapped over 230,000 square kilometers of the deep water GOM for amplitude response, bathymetry, and natural gas hydrate occurrence.

 Since 1998, geoscientists at the Bureau of Ocean Energy Management (BOEM) have identified and mapped nearly 35,000 water bottom (seafloor) acoustic amplitude anomalies in the deep water northern Gulf of Mexico (GOM) using 3-D time-migrated seismic surveys. The anomalies are both high positive (carbonate hardgrounds with protected megafauna communities) and low positive (high flux vents, mud volcanoes, and pockmarks).

BOEM used the database of X-Y-Z data to grid together and create one contiguous map across the deepwater GOM. The resultant map is the highest and most consistent resolution regional map available to date. It provides almost 50 times the resolution of the existing NOAA map. Many geological seafloor features are clearly visible on the new map, but not on the old, and give the scientific community a much better understanding of the dynamics and evolution of the GOM.