



Geomorphological Seismic Interpretation of Ceará Basin

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Abstract

Driven by advances in the mining and oil industries, seismic interpretation has evolved considerably in recent years, especially advanced technologies that allow for a better 2D and 3D data resolution. The Brazilian Equatorial Margin (BEM) has been increasingly studied due to its conjugate in West Africa which has a well-documented large hydrocarbon discovery in the last years. Nevertheless, because its complex zone, more research needs to be conducted to address knowledge gaps. The Ceará Basin, located in the BEM, is divided into 4 sub-basins that have different tectonic and stratigraphic settings developed since the Cretaceous period. This study focused on the Mundaú Sub-during the geological time between the Albian to Turonian interval. The goal of this research was to create seismic maps based on 3D seismic attributes to identify geomorphological features that might be of scientific and economical interest. This was accomplished by analyzing the RMS amplitude, sweetness, and gray-level co-occurrence matrices to identify deepwater features that may constitute significant oil and gas reservoirs. We observed channels, faults, and emphasized a fan-like structure nearby the Pecém wildcat.