# Central Atlantic Conjugate Margin Development: Paleoreconstructions, Basin Evolution, and Implications for Hydrocarbon Exploration

Paul J. Post[1], Erin T. Elliott[1], William G. Dickson[2], and Mark E. Odegard[3]

[1]U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Regulation and Enforcement, Gulf of Mexico Region, New Orleans, LA 70123, paul.post@boemre.gov
[2]Dickson International Geosciences, Houston, TX
[3]Grizzly Geosciences, Inc., Missouri City, TX

Paleoreconstructions provide a basis for interpreting the opening history of Central Atlantic and its associated conjugate basins. They also constrain modeling and understanding known, projected and postulated petroleum systems along the conjugate margins.

Newly processed, integrated, and enhanced magnetic, gravity and other data at kilometric-scale spatial resolutions were used for the paleoreconstructions made at five key paleoages, three of which are shown.

“Paired” conjugate margin basins do not appear to have originally been a single basin: a structural/topographic high seems to have separated them. However, proximity of conjugate margin basins resulted in remarkably similar stress regimes and depositional environments. Implications of shared geologic history are that when a new play or source rock is found in one basin, data must be evaluated for its broader regional value in assessing plays and resources in all the similar basins.

Examples of hydrocarbon prospectivity in conjugate basins and for plays in similar tectonic settings are discussed.

Although hydrocarbon exploration potential is determined by regional scale margin development and conjugate margin basin setting, local factors; e.g., sediment provenance, kerogen type, source rock geohistory, etc. also have an influence.