

## **New Models of Valanginian Source-to-Sink Pathways in the Eastern Gulf of Mexico**

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### **EXTENDED ABSTRACT**

There were some significant Valanginian changes in the Gulf of Mexico affecting marine tectonics, terrestrial erosion, and sedimentation on the Florida shelf and in the eastern Gulf of Mexico deepwater areas. New seismic refraction data indicates that termination of Gulf of Mexico sea-floor spreading left its tectonic mark at the beginning of the Valanginian stage (early Cretaceous; Snedden et al., 2013). Subsequent uplift of the Florida Peninsular Arch caused a source terrane to perch above the landscape, readying it for erosion and transport across the shelf and into the deepwater Gulf of Mexico. Coeval supply from an Appalachian source terrane brought additional siliciclastic material into the deepwater Gulf of Mexico off the Florida coast. Our hypothesis is that the Appalachian Mountains fed a westward-oriented sand-rich fan, and, together with the Florida Peninsular Arch, supplied a progradational sandy delta-fed apron that paralleled the present western Florida coastline.

The Gulf of Mexico Basin Depositional Synthesis Project (GBDS) at the University of Texas Institute for Geophysics (UTIG) maintains a database of Gulf of Mexico onshore and offshore wells, well logs, biostratigraphy data, and UTIG and third-party seismic data. Utilizing a 2D seismic dataset over the eastern Gulf of Mexico and the GBDS well database, we interpret a chronostratigraphic surface of Valanginian age across the Florida shelf, north of the Sarasota Arch. We calibrated the well log data with two onshore Florida wells.

... (Note: The full version of this extended abstract, including complete text, illustrations, and references, will be made available at a later date on both the 2014 GCAGS convention website [[www.gcags2014.com](http://www.gcags2014.com)] and AAPG Search and Discovery website [[www.searchanddiscovery.com](http://www.searchanddiscovery.com)]).