Abenaki carbonate platform to Sable Island delta transition: in search of modern analogues and towards a seismic-and-well-based model for a major depositional facies change - Late Jurassic, Nova Scotia Shelf, Canada

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Abenaki carbonate understanding has greatly increased through recent publications by Encana-associated geologists on the Deep Panuke gas field and by the web-published Play Fairway Analysis on regional setting of the Abenaki carbonate platform. These workers offered somewhat different versions for Abenaki sequence stratigraphy and facies model(s) despite both using well cuttings and core descriptions done by Leslie Eliuk. Neither dealt in much detail with changes from thick relatively pure Abenaki carbonates to the Sable deltaic depo-centre with minor carbonates. After a brief survey of previous transition interpretations, the results of a search for possible modern analogues are presented. In the modern as in much of the ancient, thick clean carbonates with both reef framebuilders and oolites next to major deltas are absent to very rare. Curiously the pre-Holocene marine transgression seems to have more widespread oolites than the modern! This may be a clue that the sea chemistry, geometries, and settings during the Late Jurassic were peculiar. Finally, based on newly logged wells and cores but unfortunately still not well constrained dating, an interpretation of this perhaps unique transition will be presented. Examples of shallow-water coral reefs less than a meter thick and major vertical depth/facies changes in reef and mound builders over just 10 m in ramp settings comparable to those over 100s of meters in ramp or kilometre thicknesses in rimmed platform settings plus shelf-margin deltas and reefs are part of this mixed-carbonate-siliciclastic story.

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