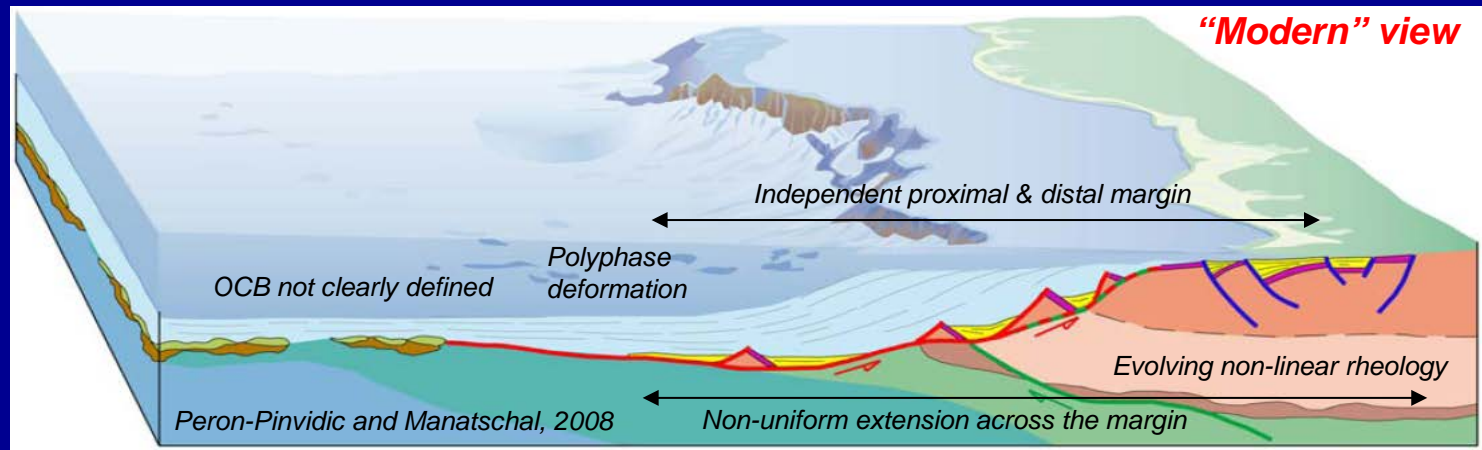
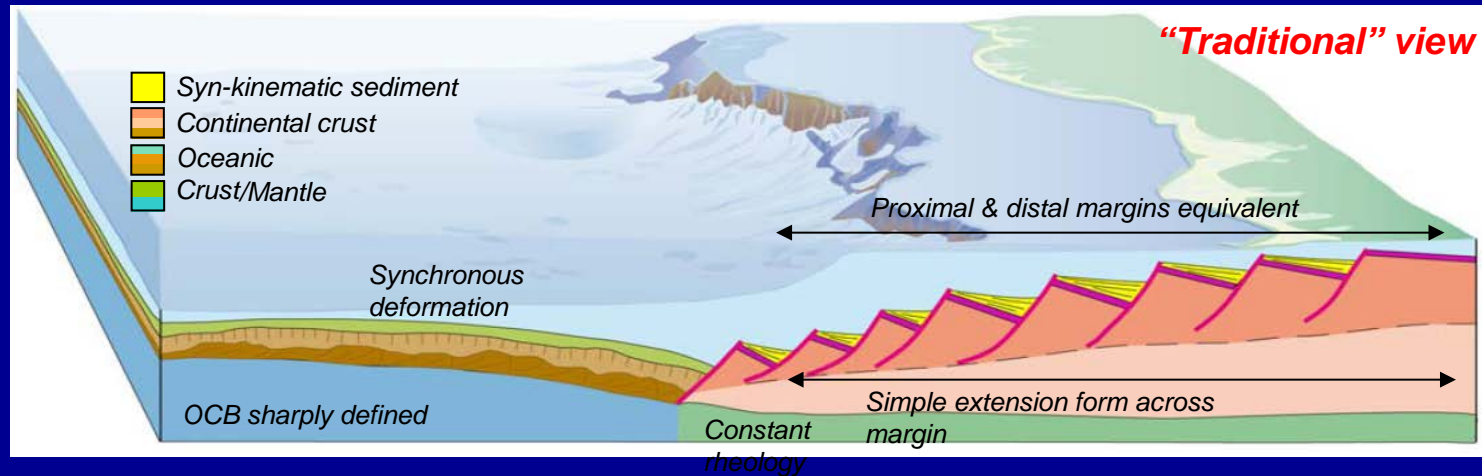


Implications of RIE science to an understanding of extensional margin formation and the development of hydrocarbon resources

**Garry D. Karner
Lori Summa
Erik Kneller
Christopher A. Johnson**

***ExxonMobil* Upstream Research Company
Houston, Texas**

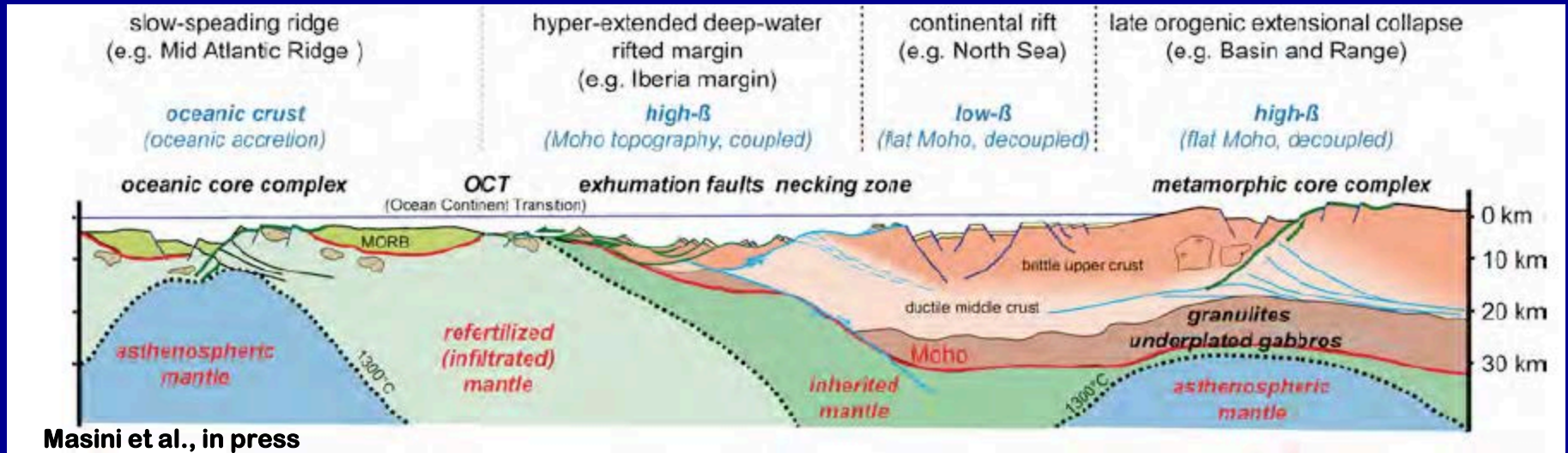
The Opportunity: Evolving models for extensional margin evolution



Key question: Predict the nature and spatial variability of “early” sedimentary fill of conjugate margins systems

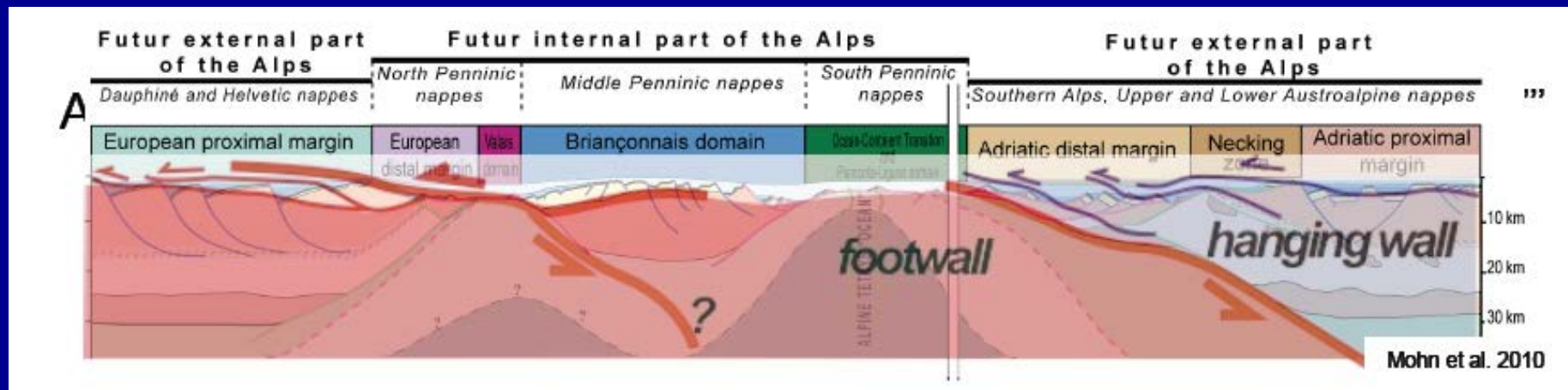
- Shallow water vs. deep water; organic-rich vs. organic poor; “high” vs. “low heat flow”, high P_f vs. low P_f
- Inherited characteristics, subsidence, sediment supply, heat flow; updip to downdip variability, restricted vs. non-restricted

Recognizing opportunities early: Evolution of extensional margins from collision systems



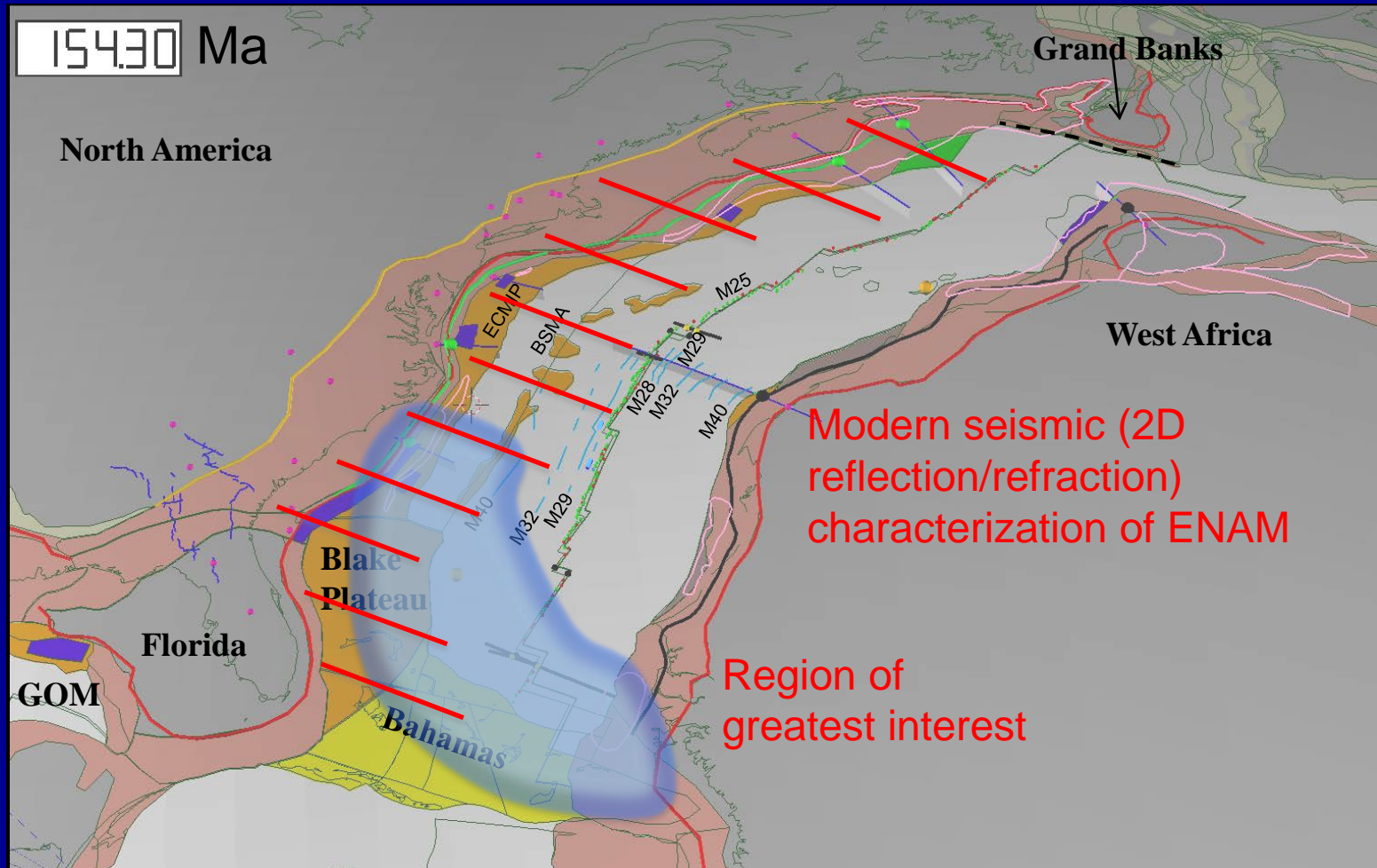
Traditional exploration range

New possibilities: Large risk, huge pay-off



Possible research collaborations

1. New data: deep, long-offset 2D seismic reflection/refraction, other remote sensing data, scientific drilling
2. Basic genetic analysis: “plates to pores” thinking to drive to development of hierarchy of similar processes



Potential links with GeoPrisms:

- Improved understanding of feedbacks between processes –
Examples: climate coupling to mantle processes; role of fluids in margin geometry/sediment dispersal; margin geochemistry, lithosphere rheology, seismic data acquisition
- Evolving tools: remote sensing, geothermochronology, geodynamic modeling