

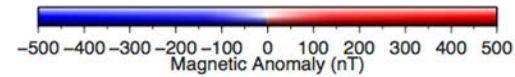
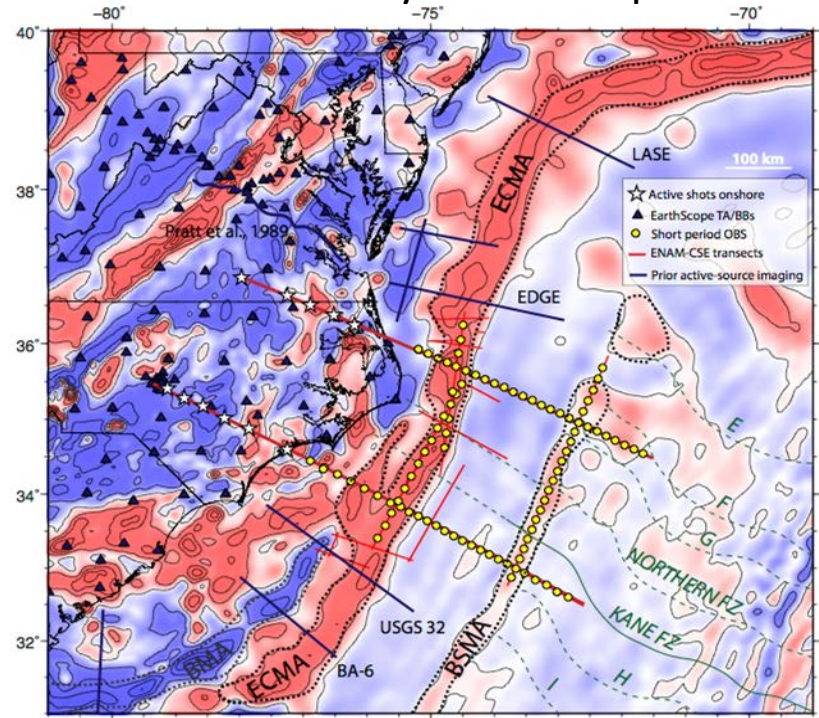
Insights on magmatic addition beneath the Atlantic Coastal Plain from crustal refraction seismic data

Thomas W. Luckie (UNM graduate student)

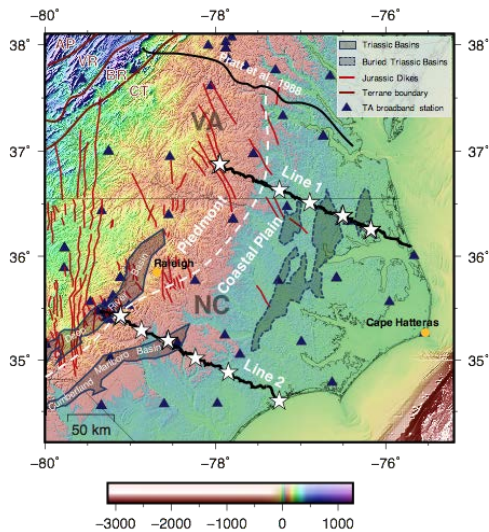
Lindsay Worthington (UNM)

M. Beatrice Magnani (SMU)

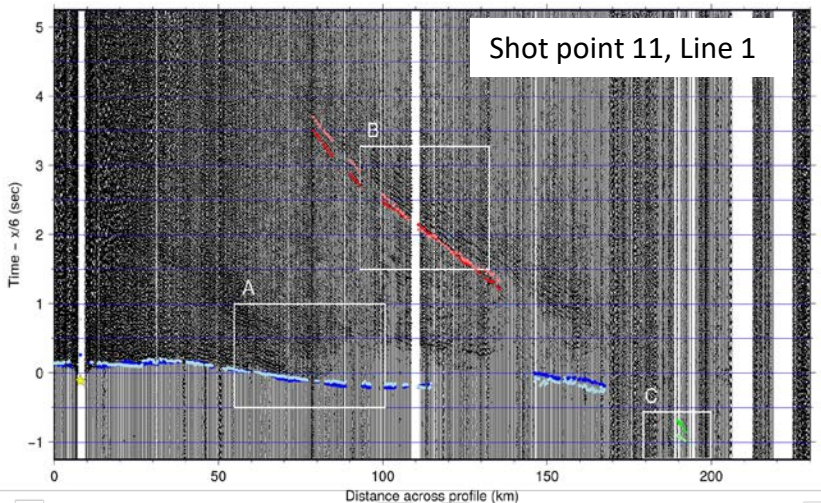
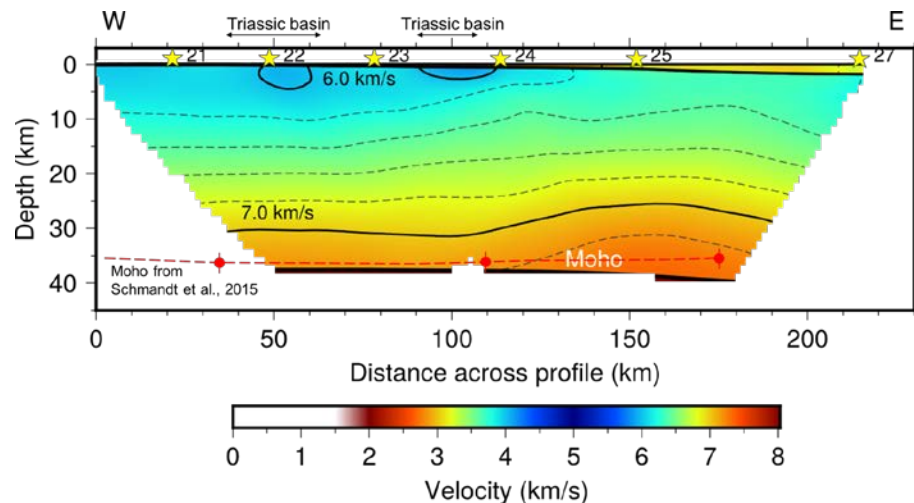
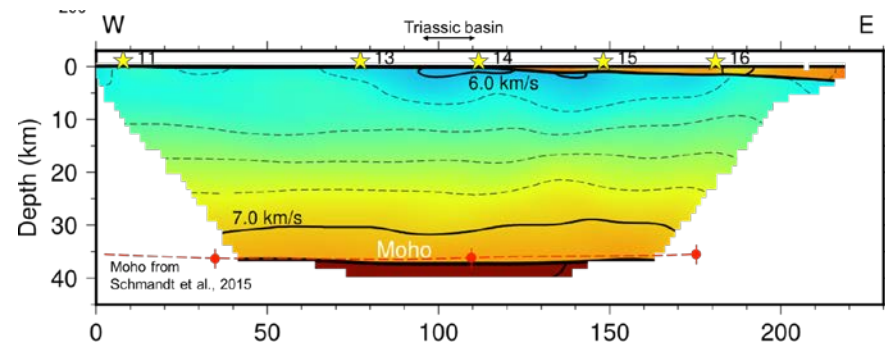
ENAM Community Seismic Experiment



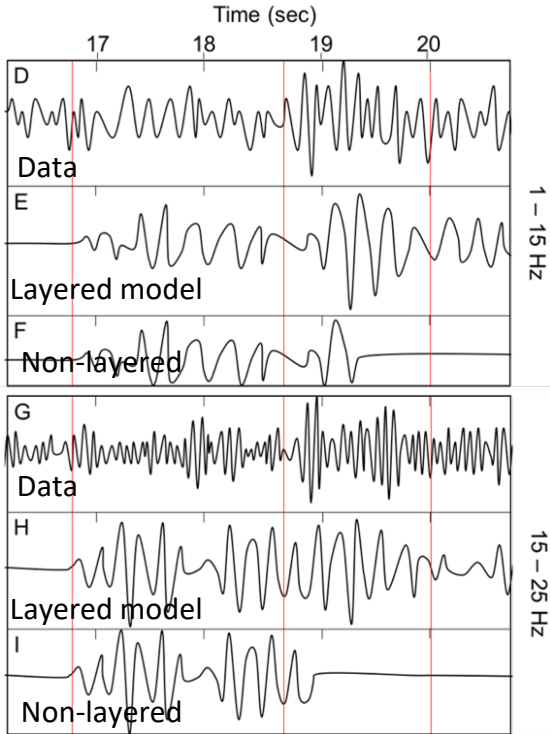
Active source seismic data and velocity modeling



- Crustal thickness ~35-38 km
- Coastal Plain sediments ~2.5 km/s
- Upper crust LVZ associated with Triassic basins
- Base of crust >7.0 km/s material
 - Line 1: ~7-7.1 km/s
 - Line 2: up to 7.3 km/s

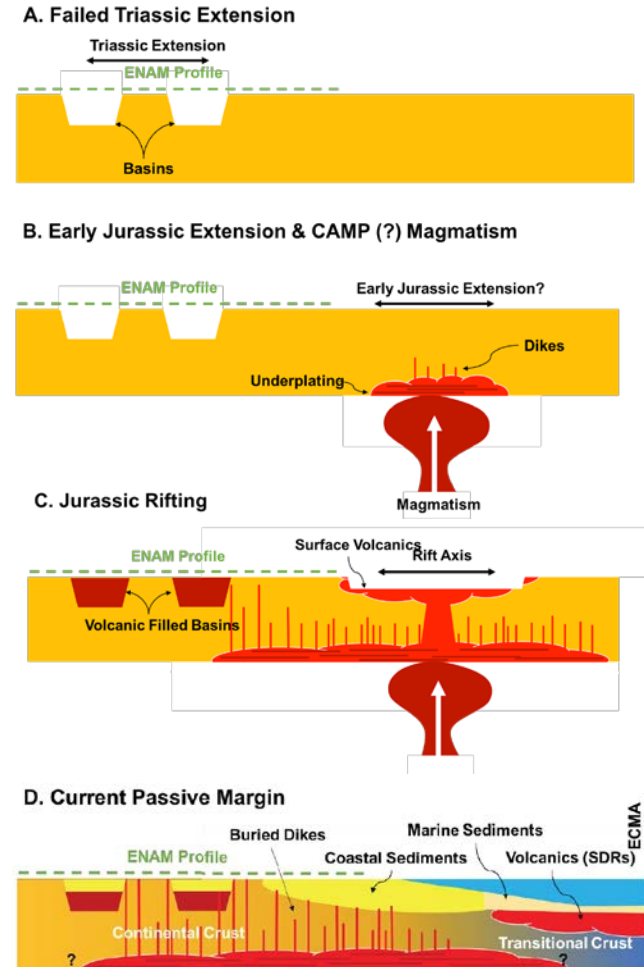


Layering at base of crust and model for magmatic emplacement and rifting



Right: Schematic of tectonic and magmatic evolution of the ENAM:

- Triassic extension creates basins
- Magmatism (CAMP?) and early Jurassic extension
- Extensive pre- or syn-rift magmatism during Jurassic rifting
- Current passive margin



Above: Synthetics comparing layered lower crust to non-layered lower crust