

Caribbean Region

References:

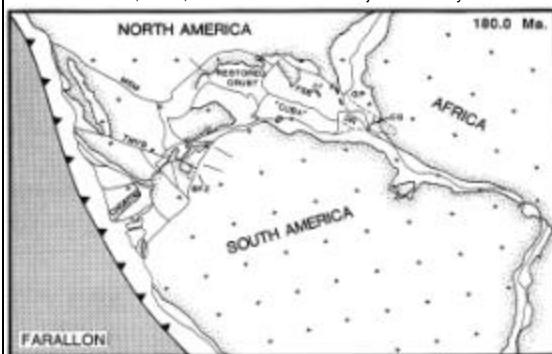
DNAG volume A, Ch. 9

Condie, K.C., 1993, *Plate Tectonics and Crustal Evolution*, pp. 266-269

Plate Evolution of the Caribbean

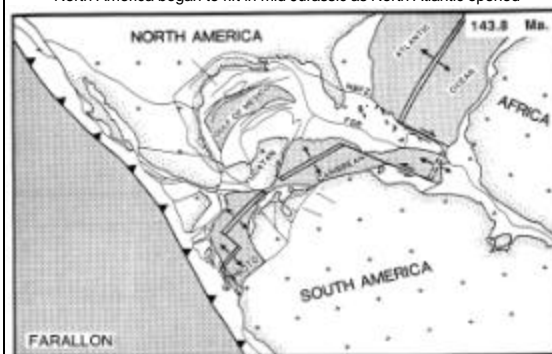
- Separation of North America from Africa and South America
- Opening of the North Atlantic
- Development of the Antilles arc
- Growth of the Panama arc and Cayman transform
- Gulf of California opened; Hispaniola and Puerto Rico moved eastward

North America, Africa, and South America were joined in Early Jurassic



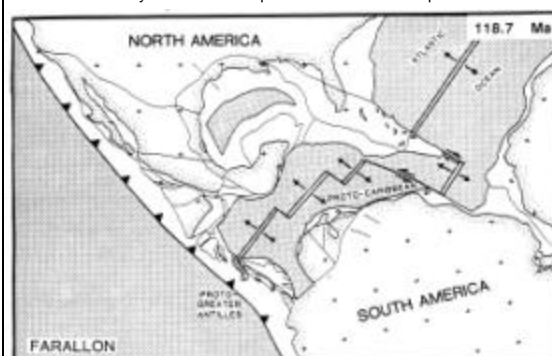
Condie (1993)

North America began to rift in mid-Jurassic as North Atlantic opened



Condie (1993)

In Early Cretaceous the proto-Caribbean Basin opened

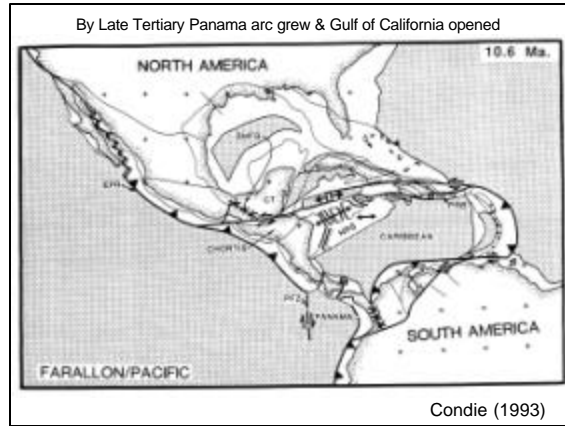
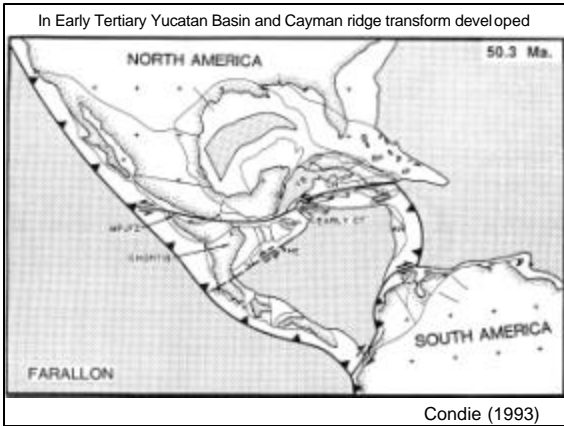


Condie (1993)

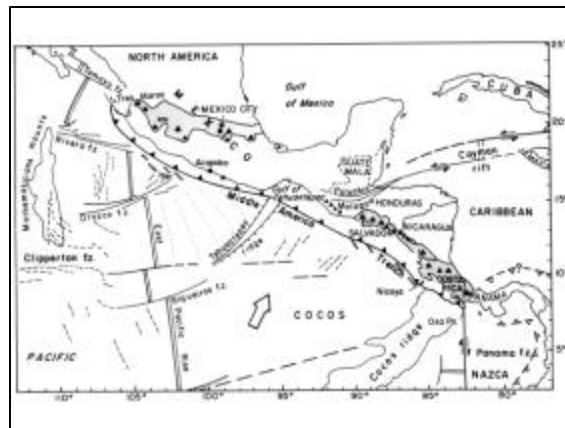
By Late Cretaceous spreading ended and Greater Antilles arc developed



Condie (1993)



- ### Morphotectonic Provinces
- Pacific Ocean Floor
 - Pacific Plate
 - East Pacific Rise
 - Rivera Plate
 - Cocos Plate



East Pacific Rise

- En echelon transforms in Gulf of California
- Depth of ~3,000 m
- Orozco FZ
- Spreading rate 9 cm/yr (E-W motion)

Rivera Plate

- Rivera fracture Zone
- Tamayo Fracture Zone
- Continental thrust
- 6 cm/yr plate motion S22E
- Convergence rate 2 cm/yr

- Middle American Trench
 - >5000 m deep
 - 6-7 cm/yr convergence
- Tehuantepec Fracture Zone

