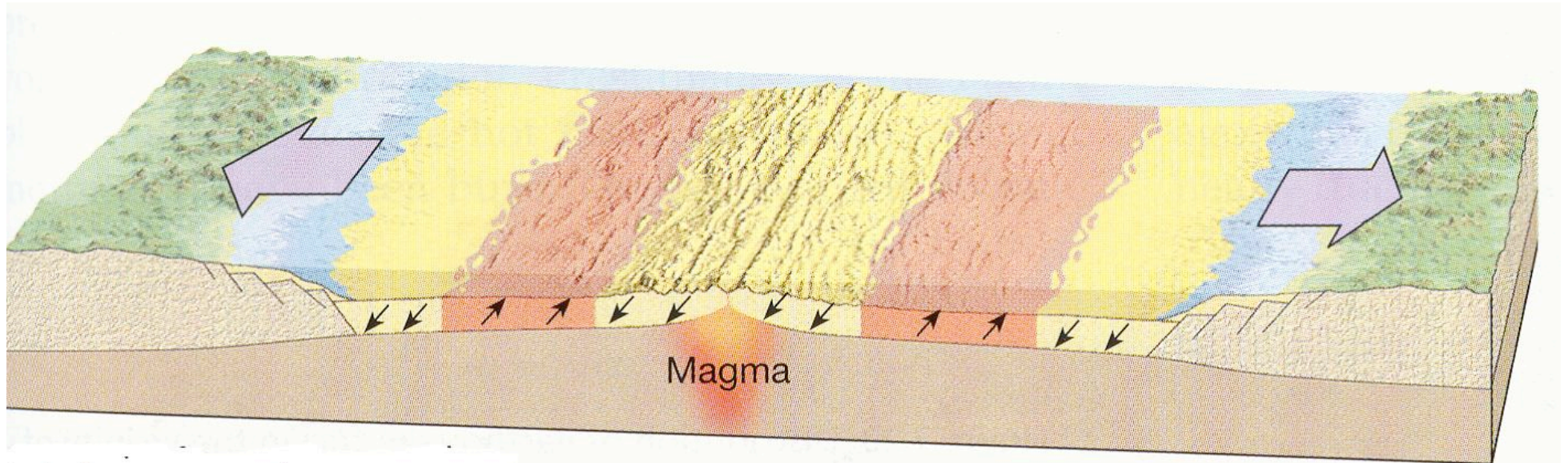
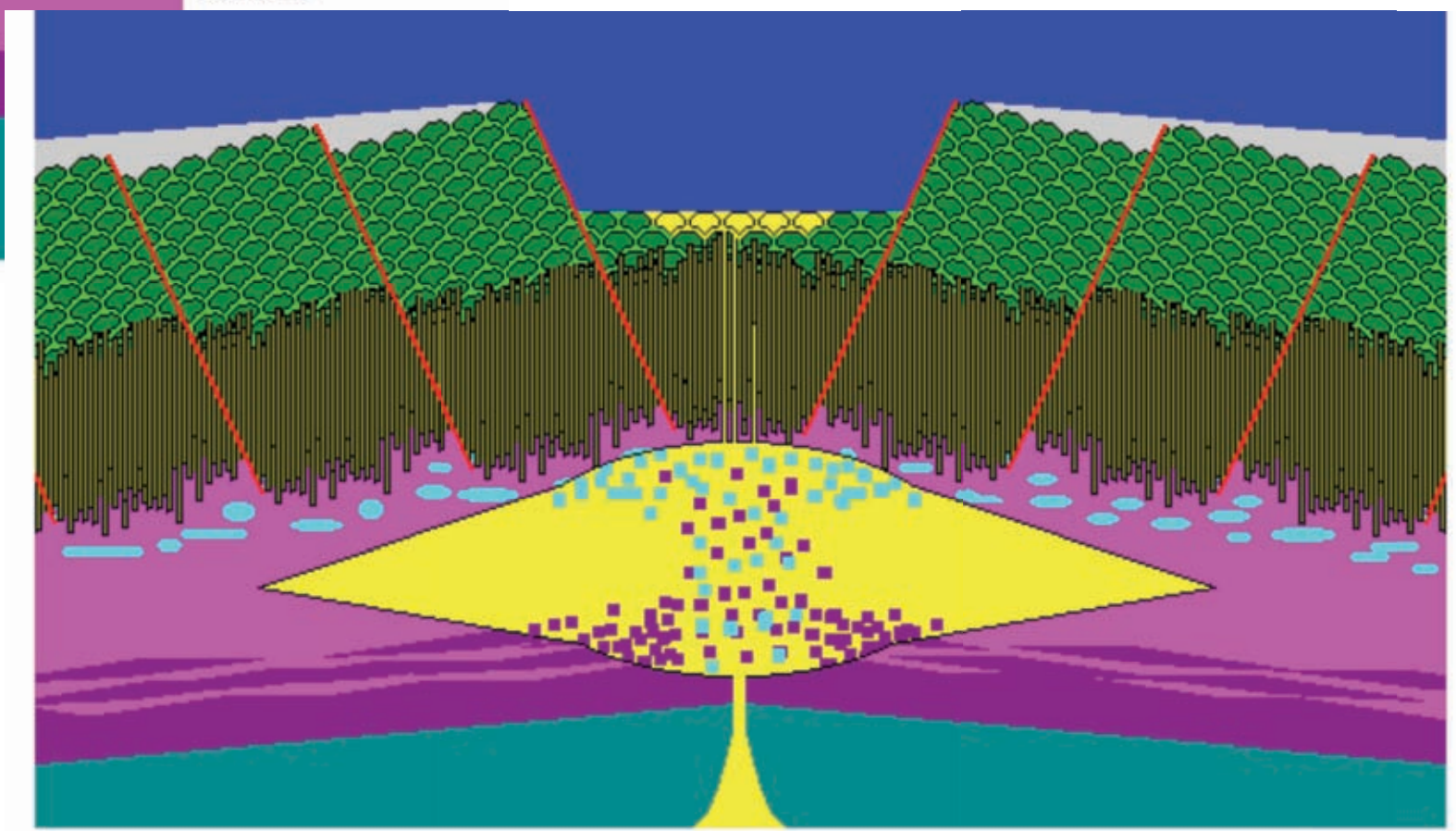
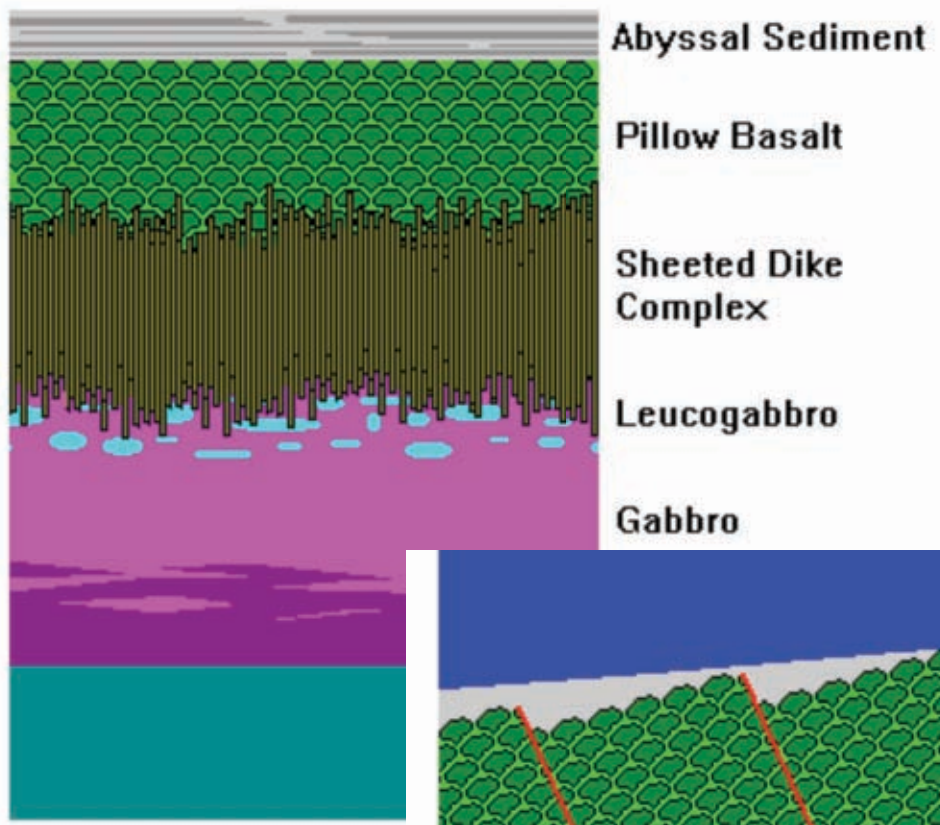


## Oceanic lithosphere formed at MOR



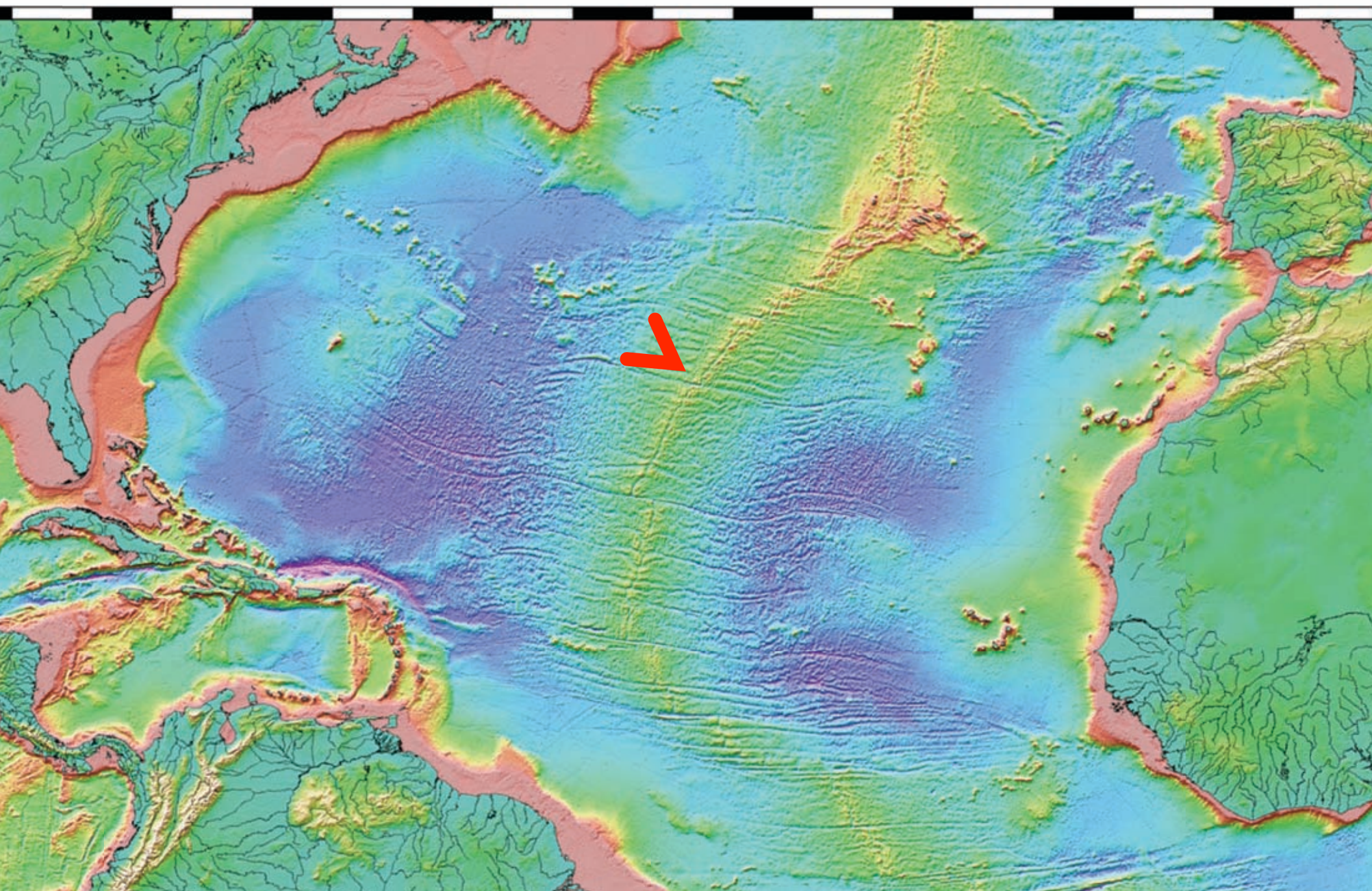
**Mid-ocean ridge magma chamber**  
**Ophiolite**

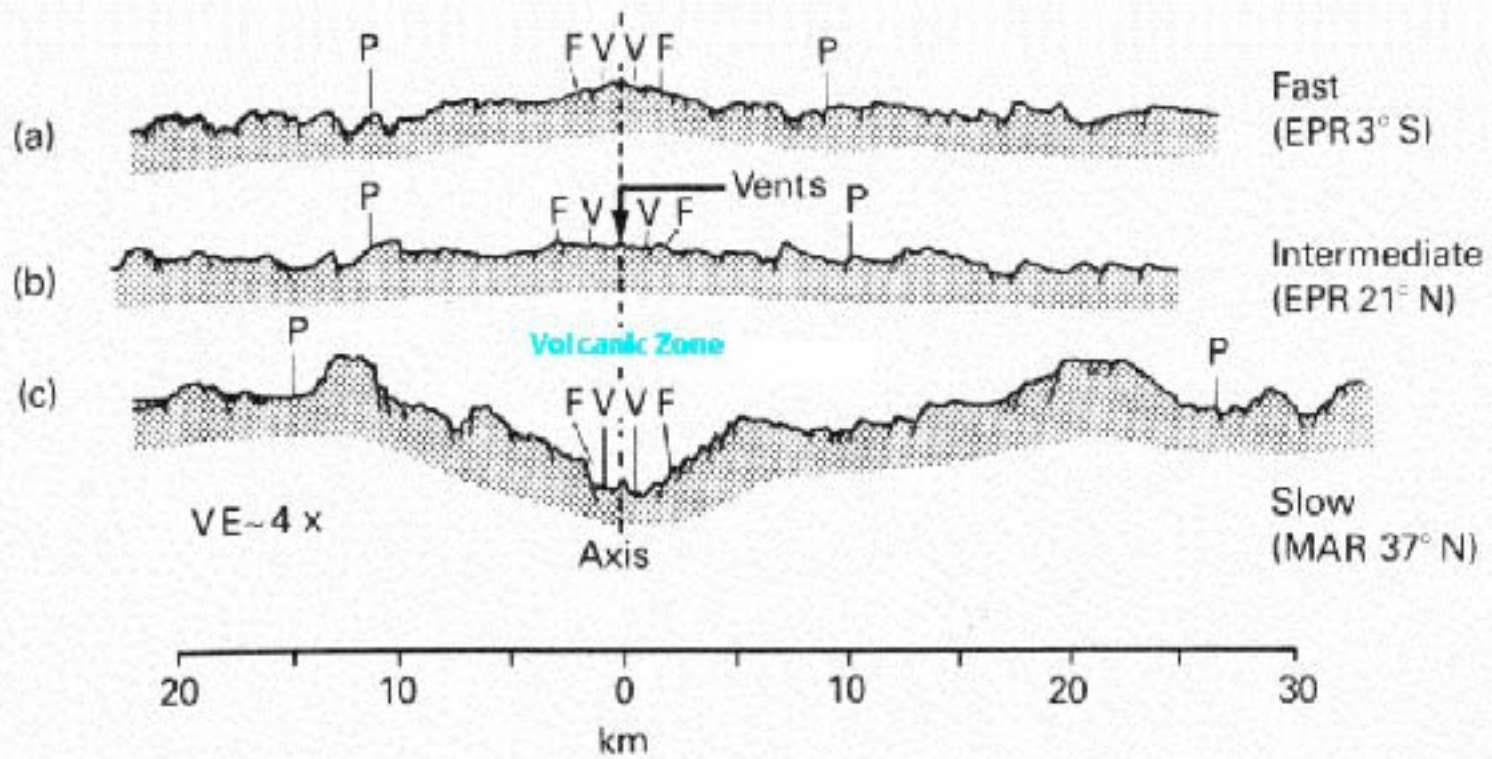


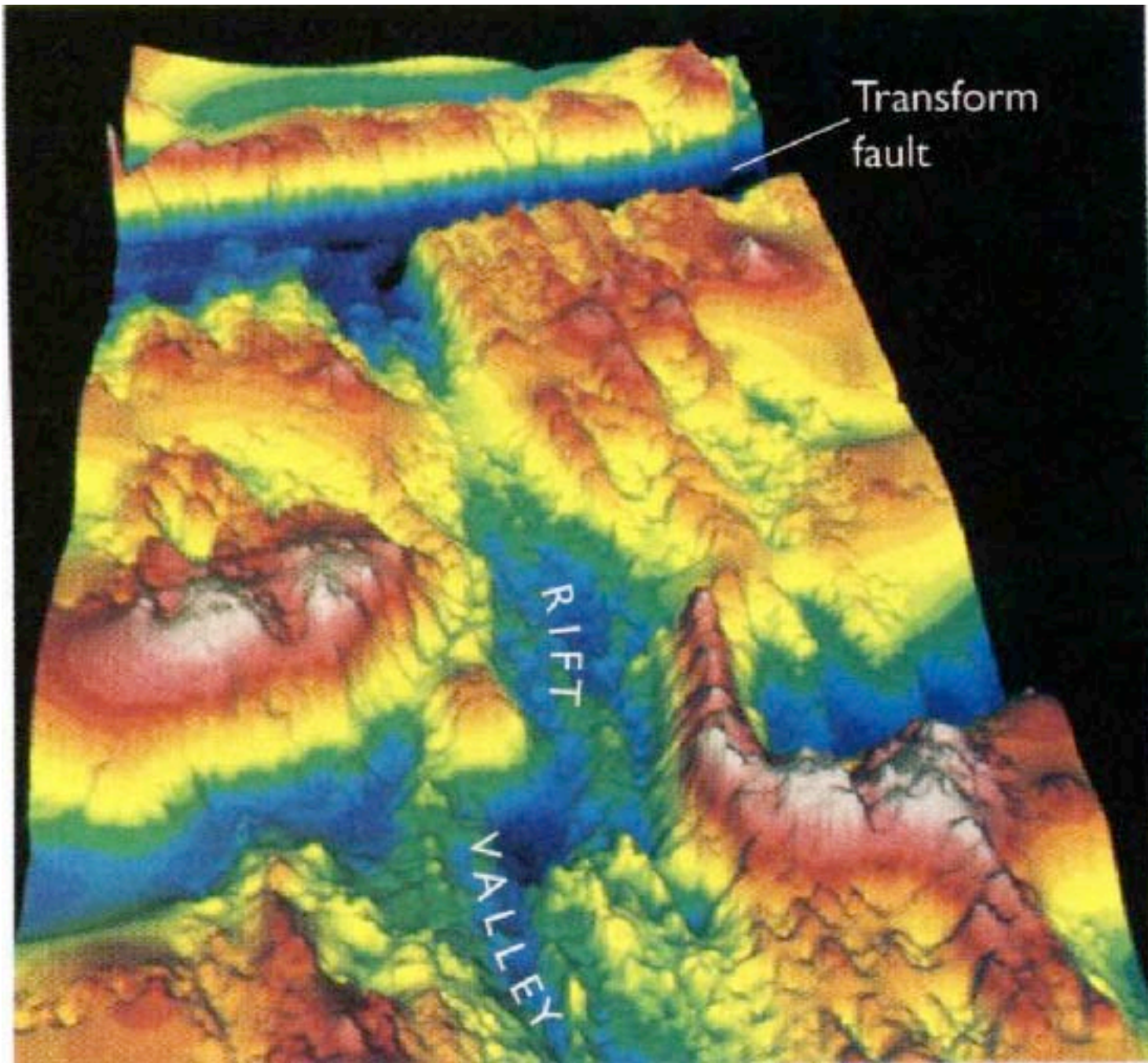
## Mid-Atlantic ridge, slow spreading center, transform faults



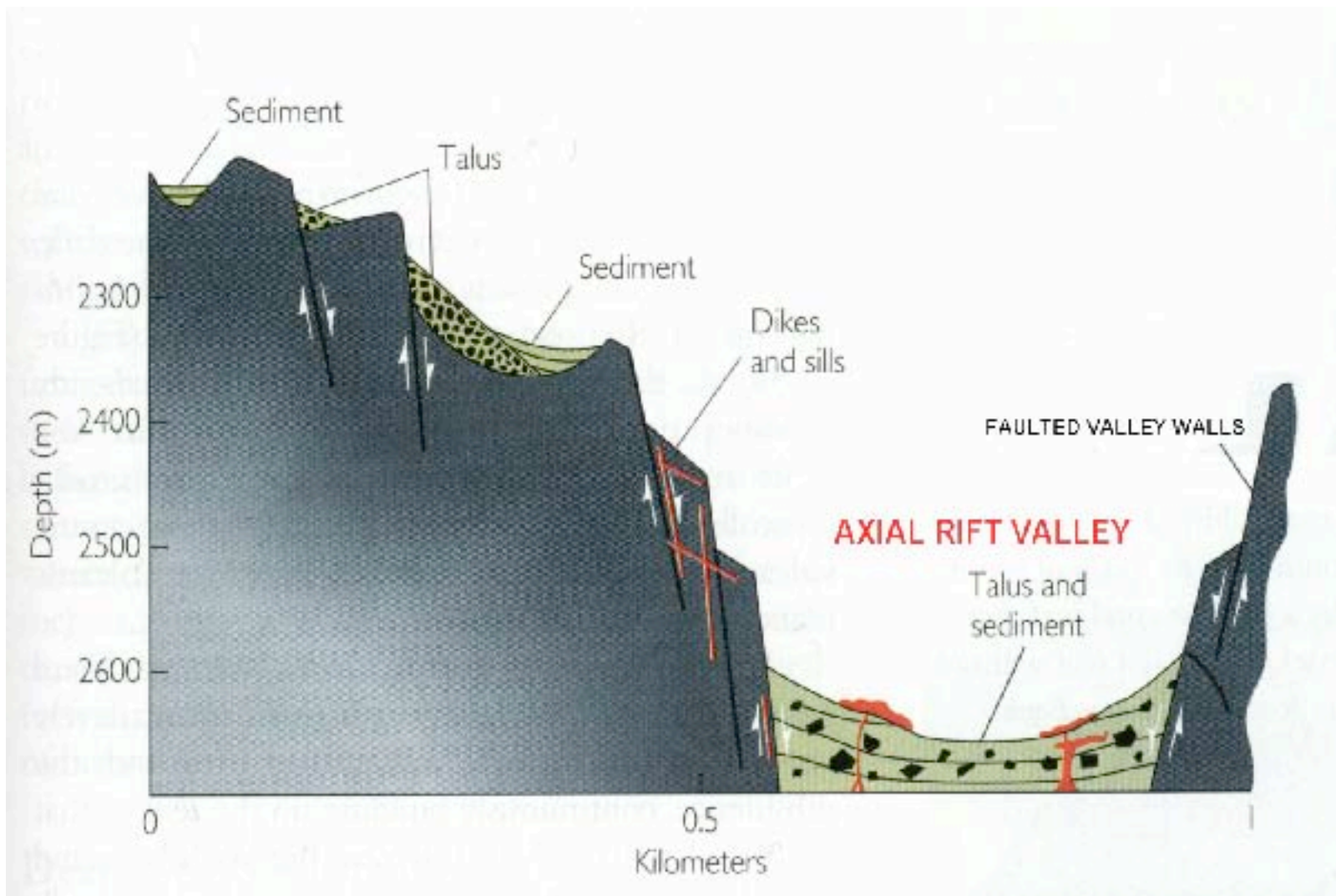
# Mid Atlantic ridge, axial graben –rough topography





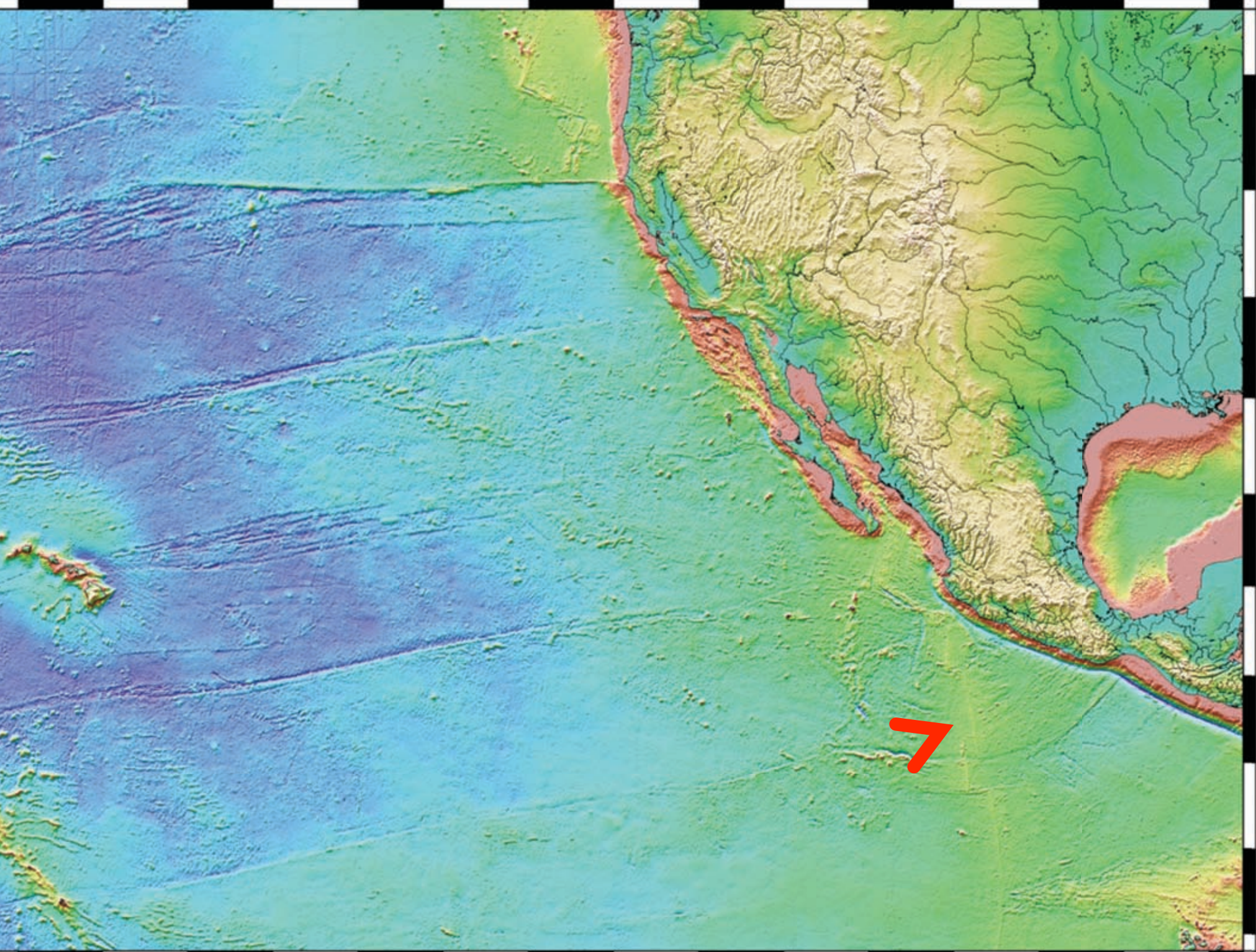






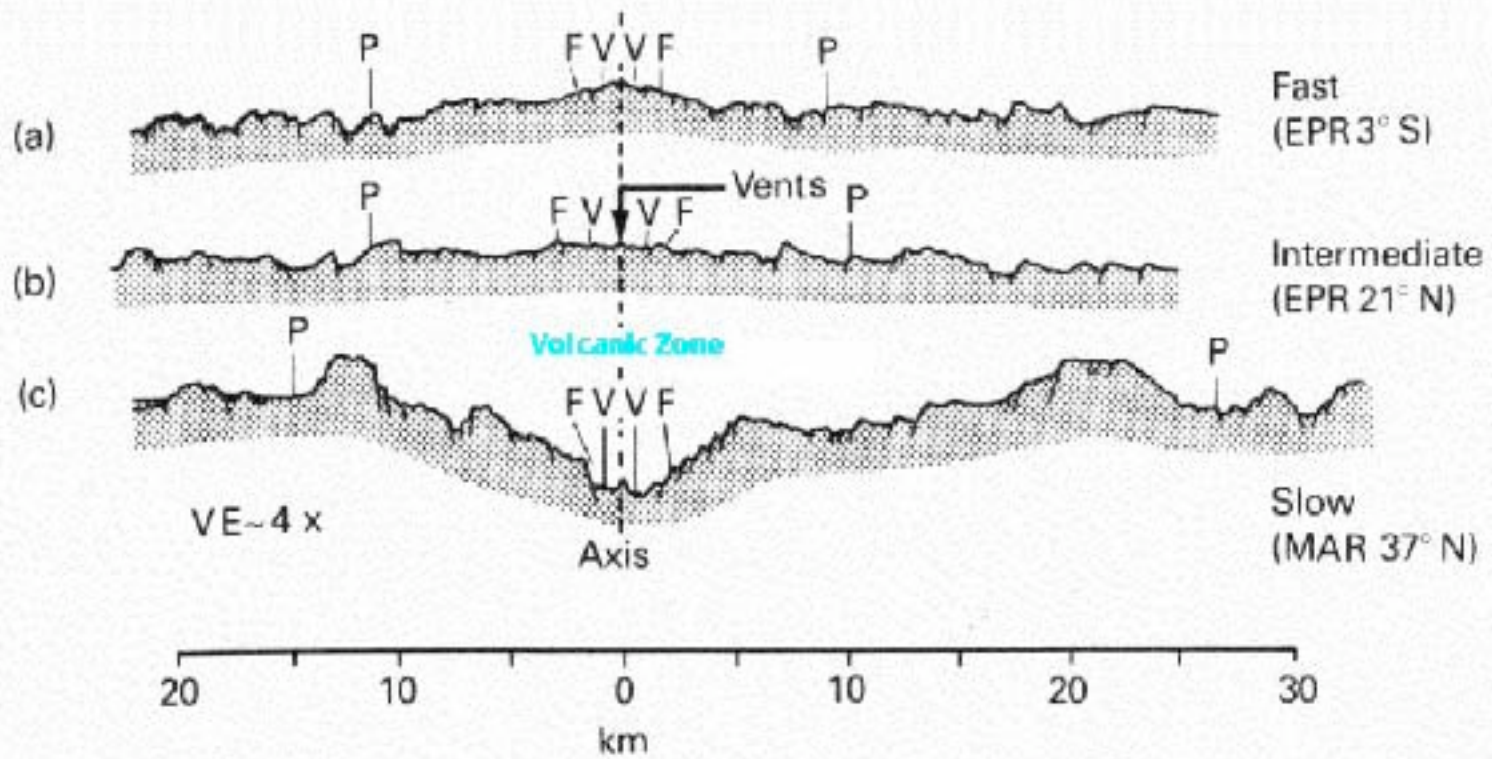
## East Pacific rise, fast spreading center, triple junction

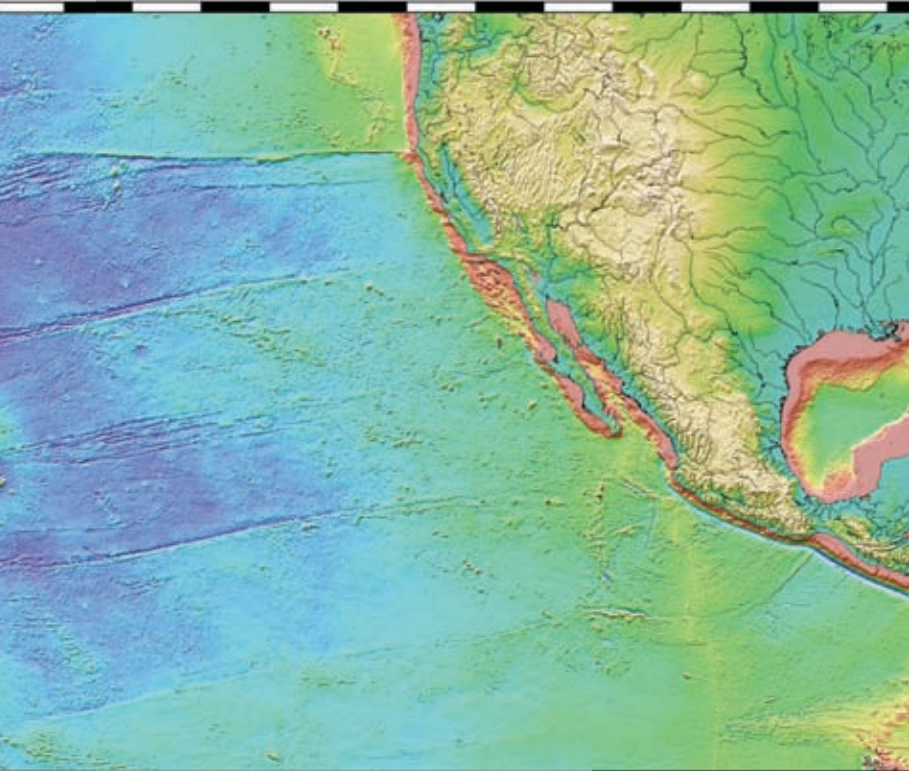




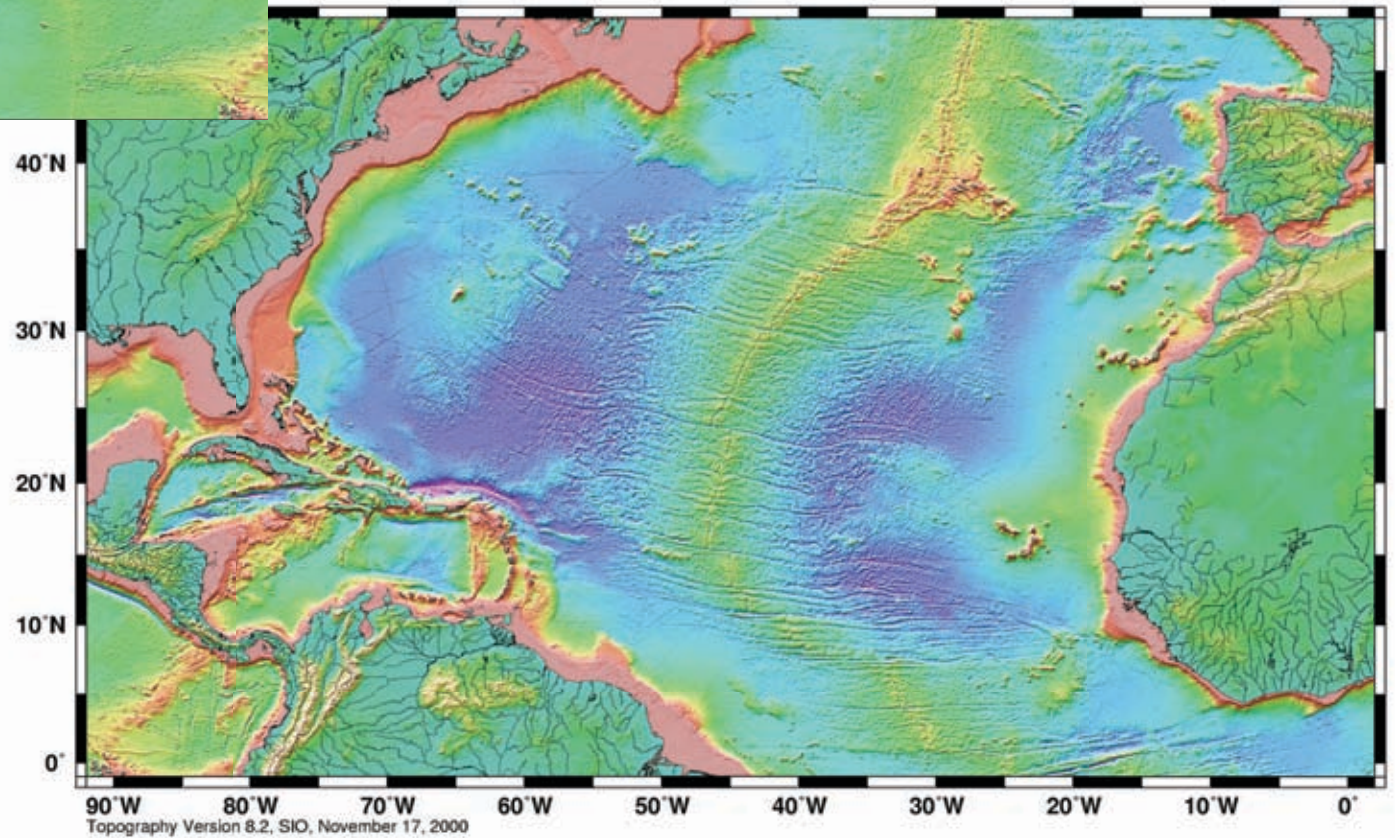
160°W 150°W 140°W 130°W 120°W 110°W 100°W 90°W

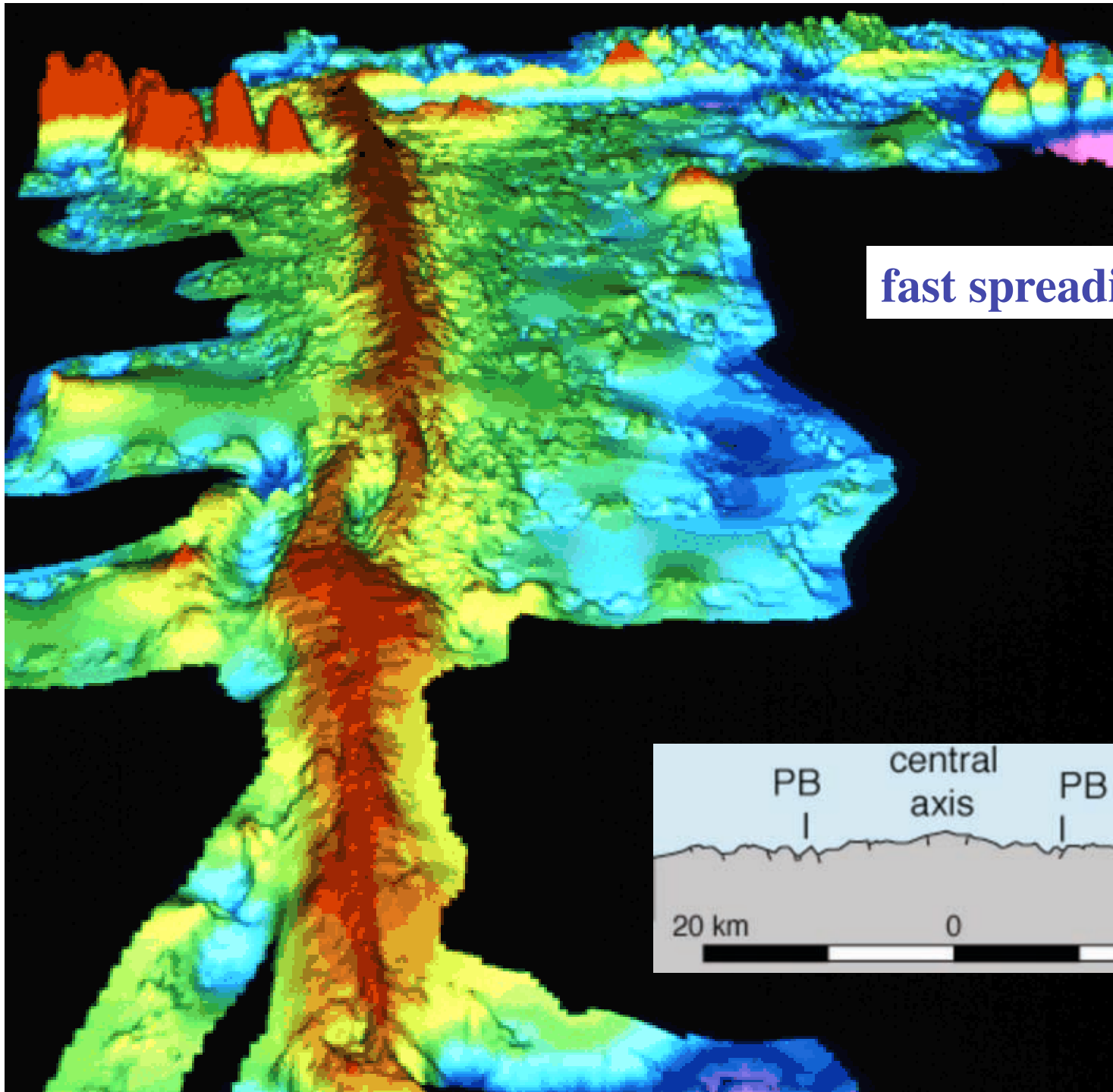
ber 17, 2000



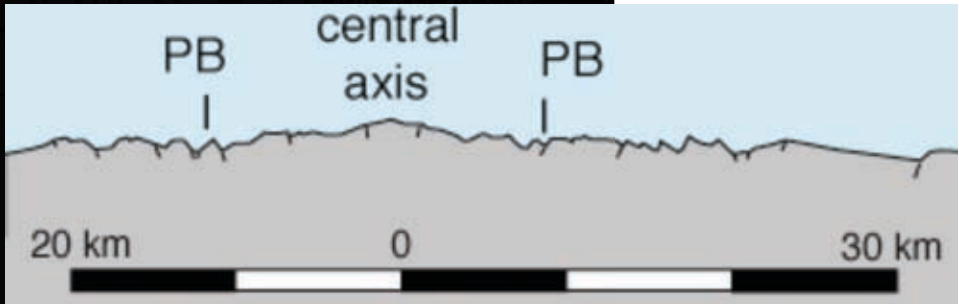


Compare with EPR  
with MAR

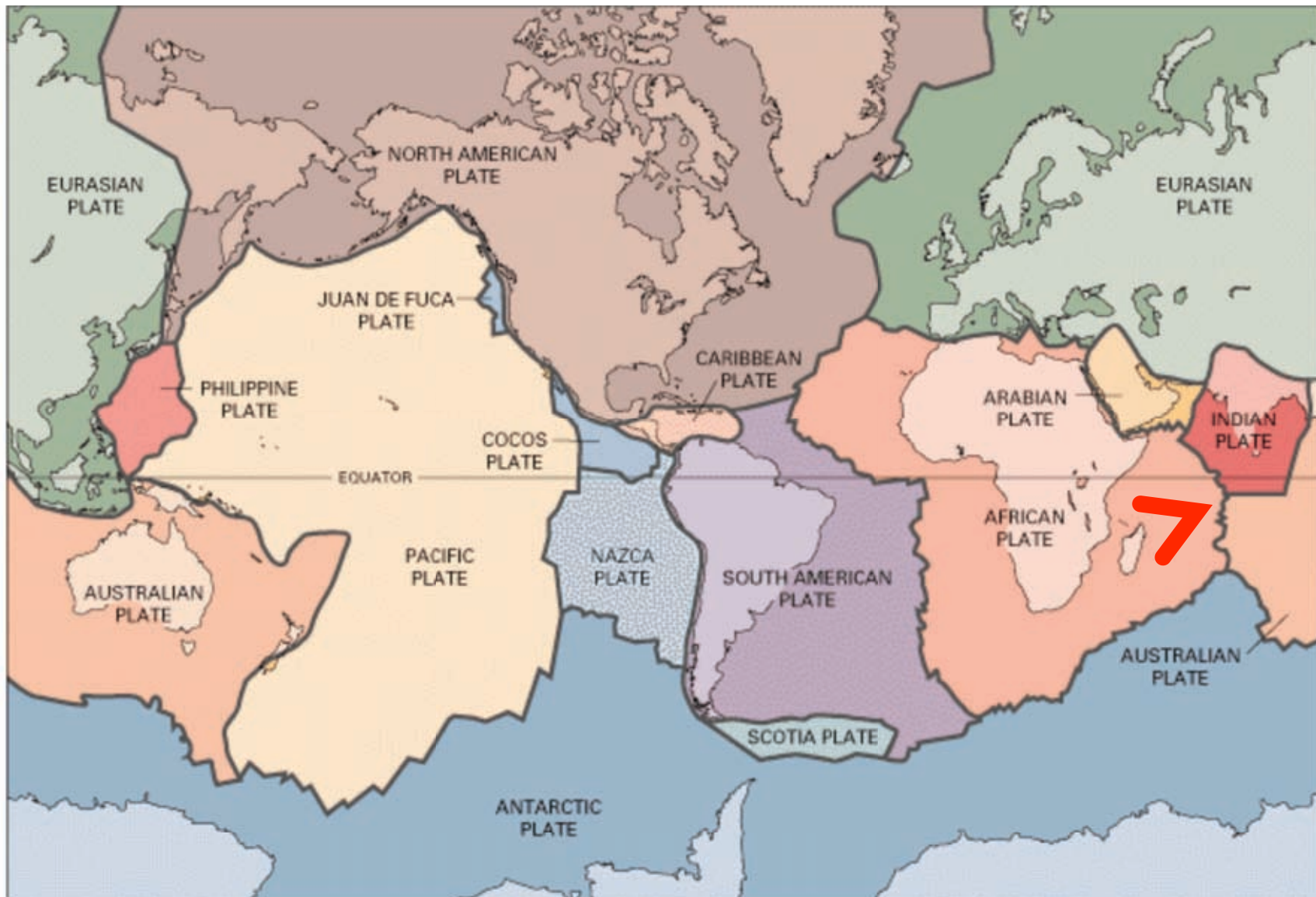




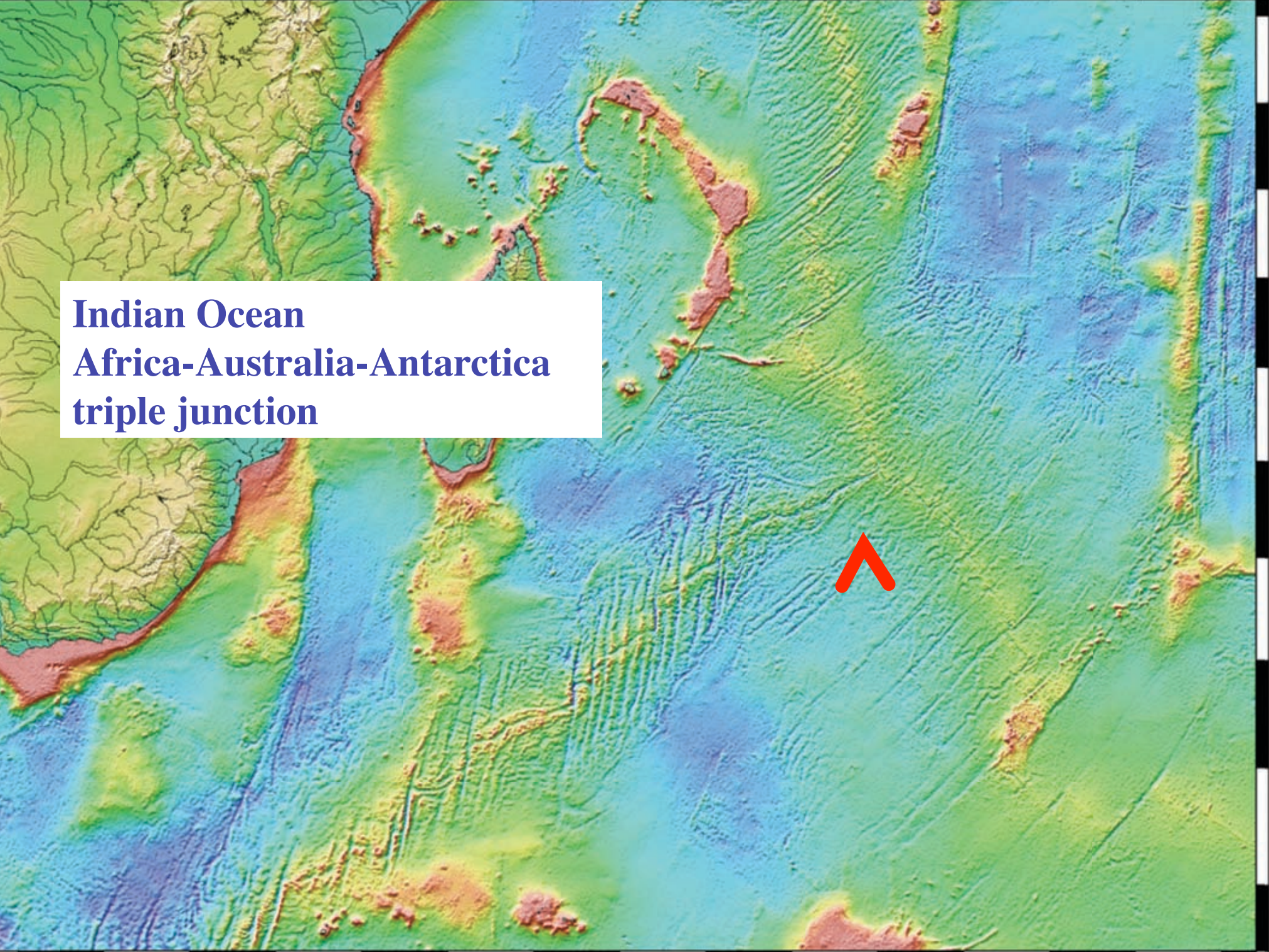
fast spreading center



## Indian Ocean, triple junction

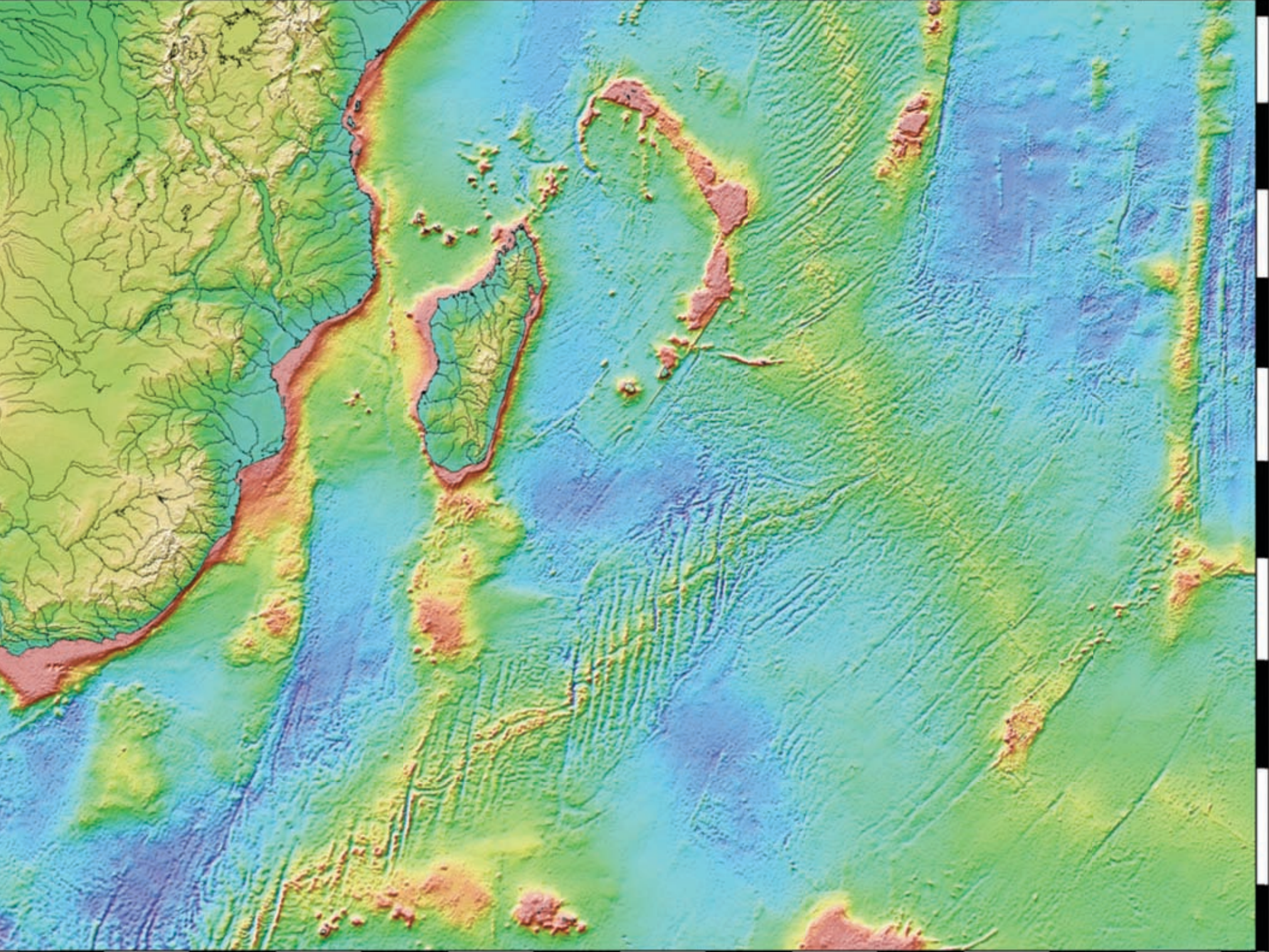


**Indian Ocean  
Africa-Australia-Antarctica  
triple junction**



0°E 30°E 40°E 50°E 60°E 70°E 80°E 90°E





0°E 30°E 40°E 50°E 60°E 70°E 80°E 90°E

ber 17, 2000

Age of ocean floor:

Magnetic anomalies

Magnetic reversal  
time scale

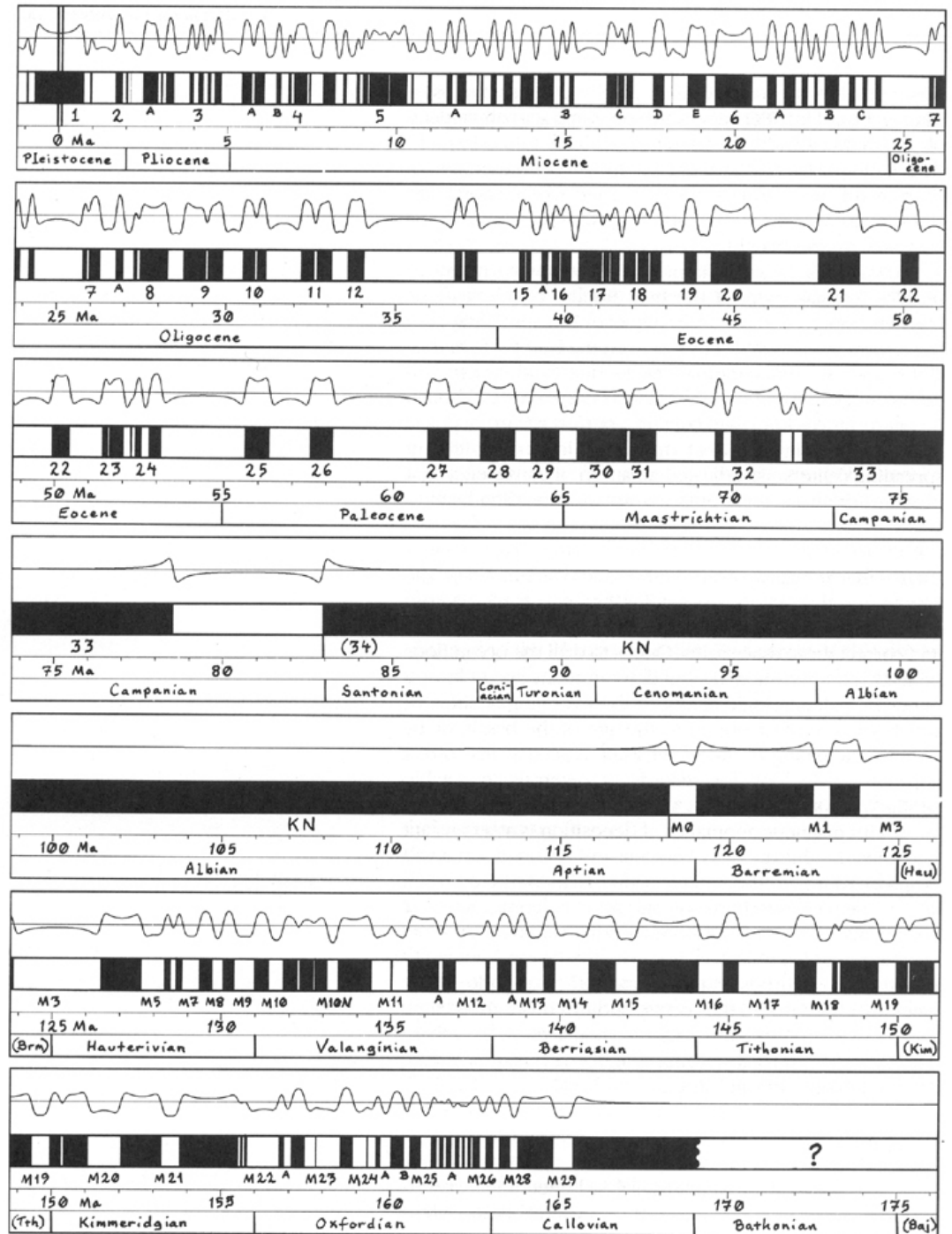
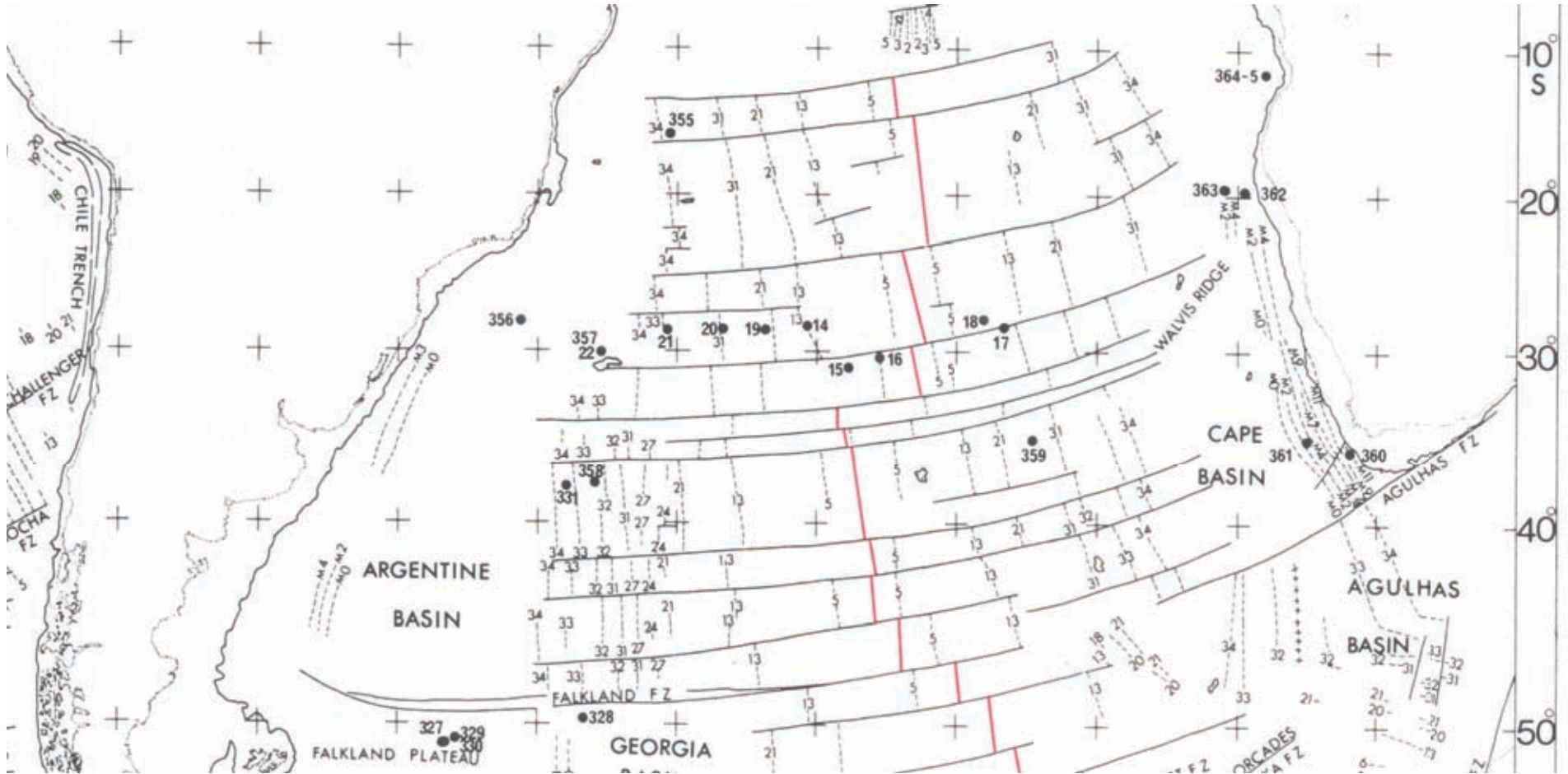


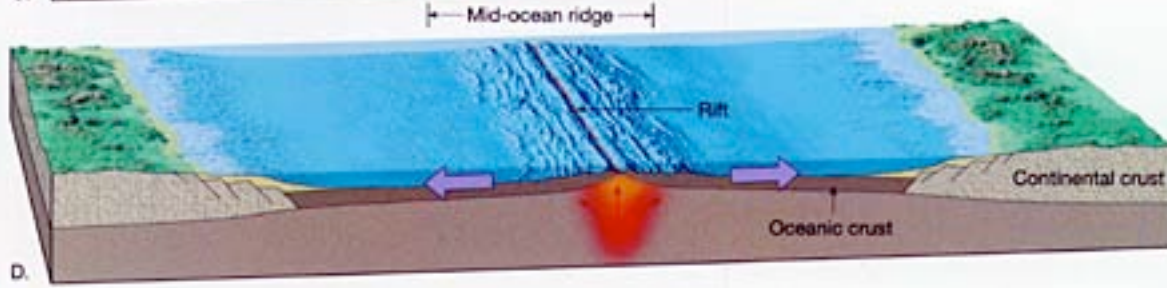
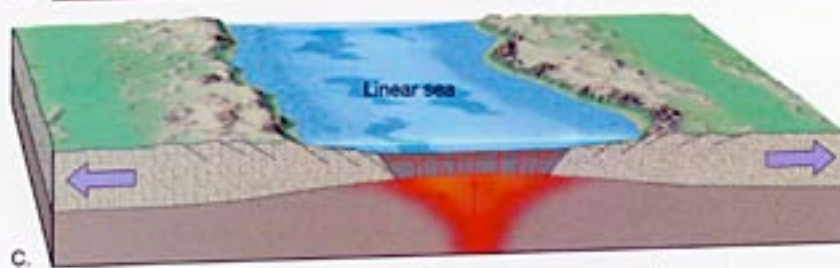
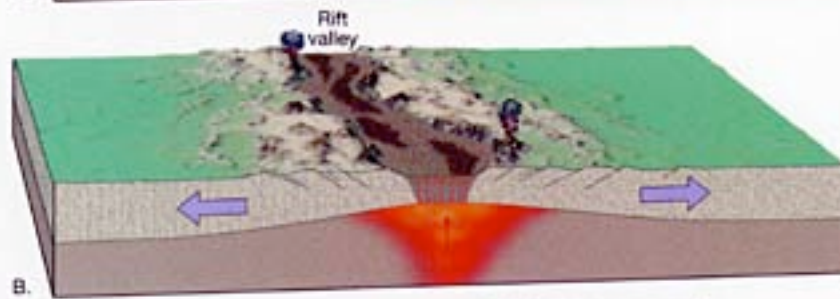
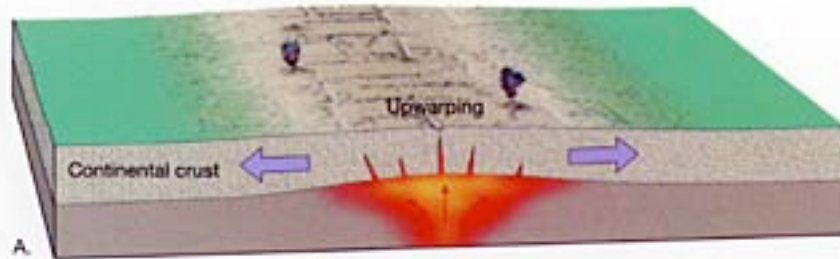
Figure 8-9.

# South Atlantic magnetic anomalies



## Spreading rate and direction

## Rifting: formation of a new MOR



**Continental rifting:  
stretching of old  
continental  
lithosphere**

**Drifting:  
formation of new  
oceanic lithosphere**



**Rift initiation:  
East African rift**

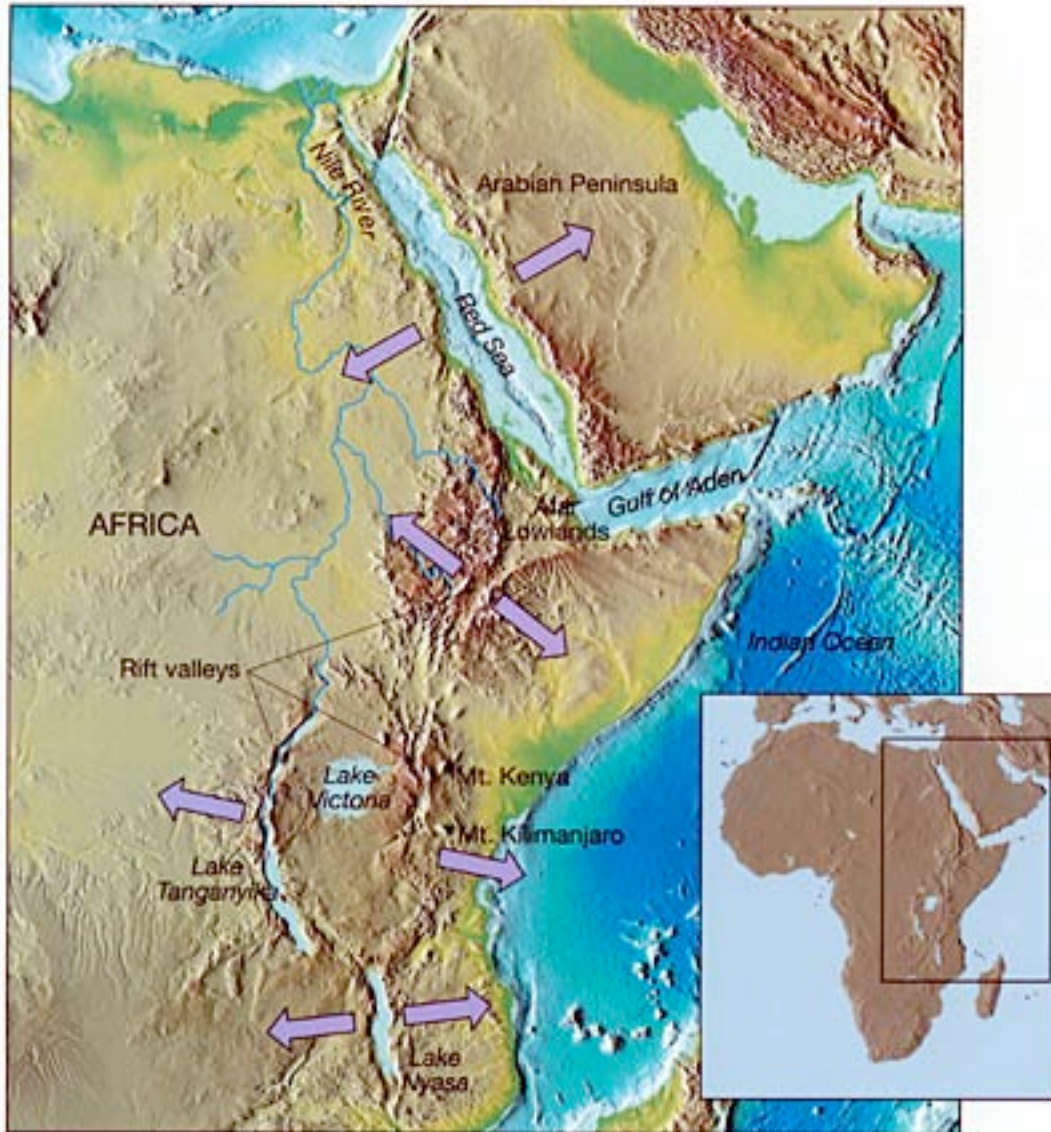
**Initiation at a triple  
junction**



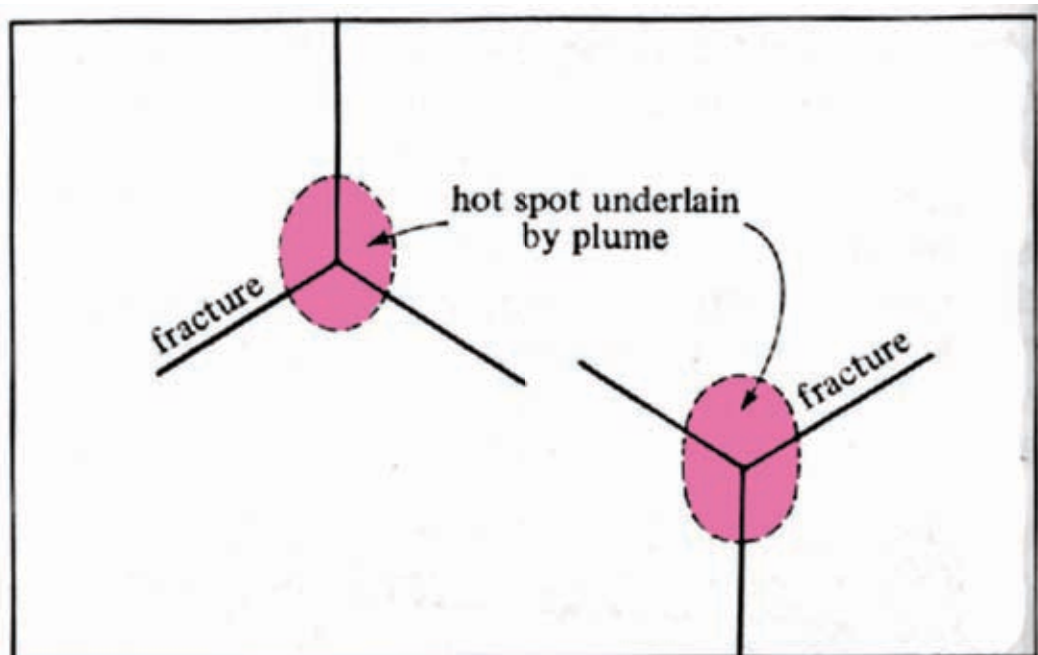
**Space Shuttle image: East African rift**



## New spreading center: Red Sea



## Triple junction and start of spreading



(a)

