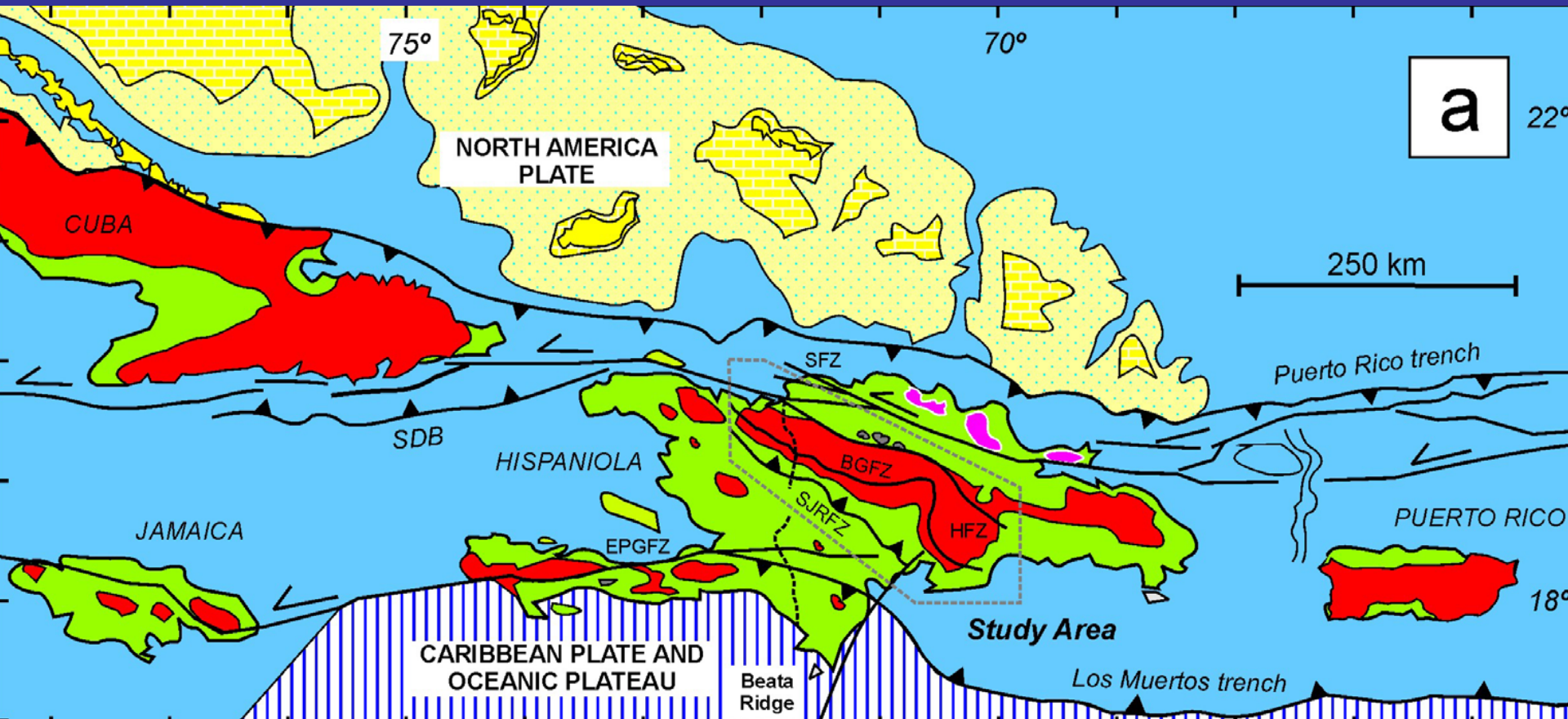


Modes of Active Deformation in Eastern Hispaniola

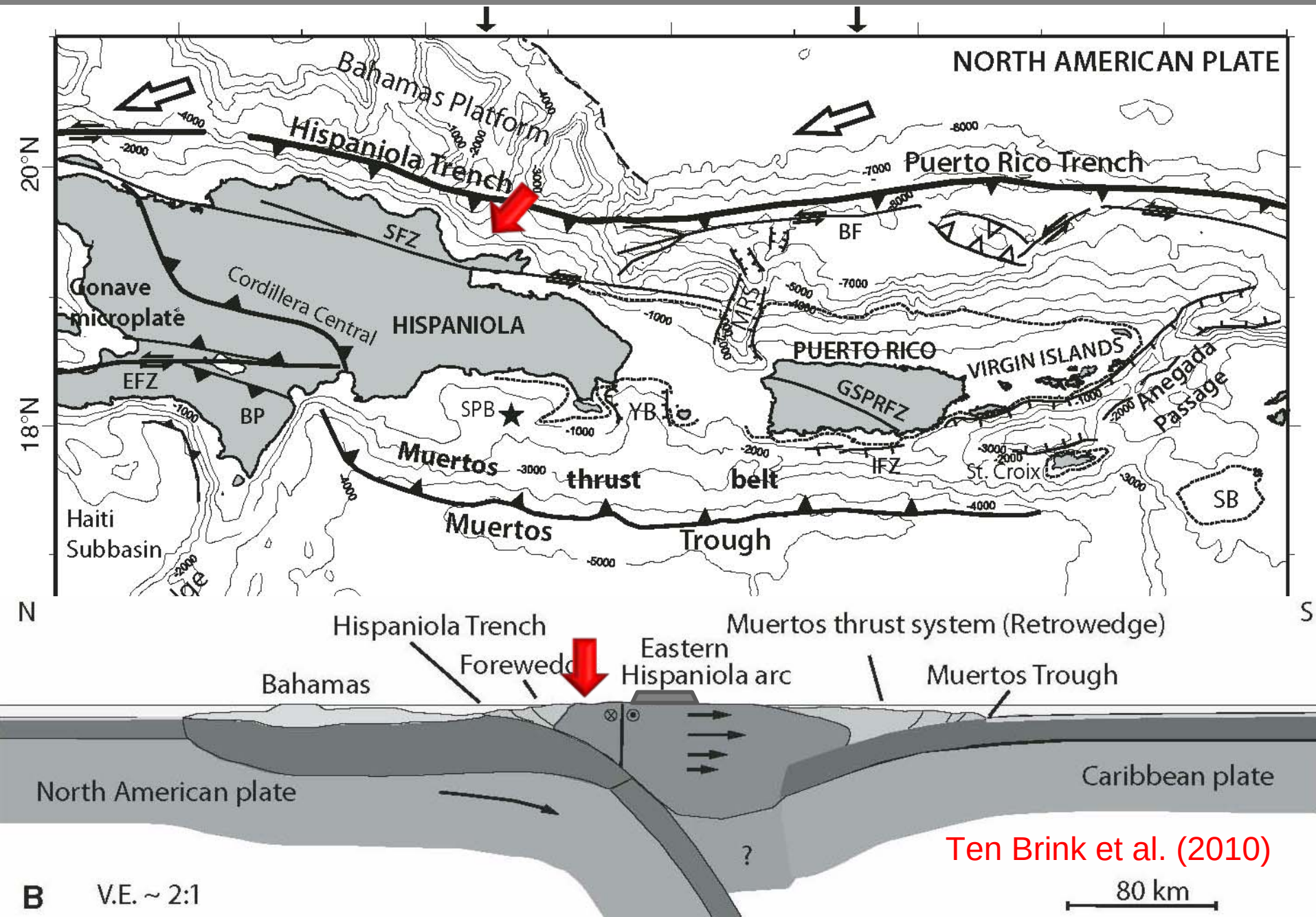
J. García-Senz ⁽¹⁾ & A. Pérez-Estaún ⁽²⁾

(1) Instituto Geológico y Minero de España

(2) Instituto Ciencias Jaume Almera-CSIC

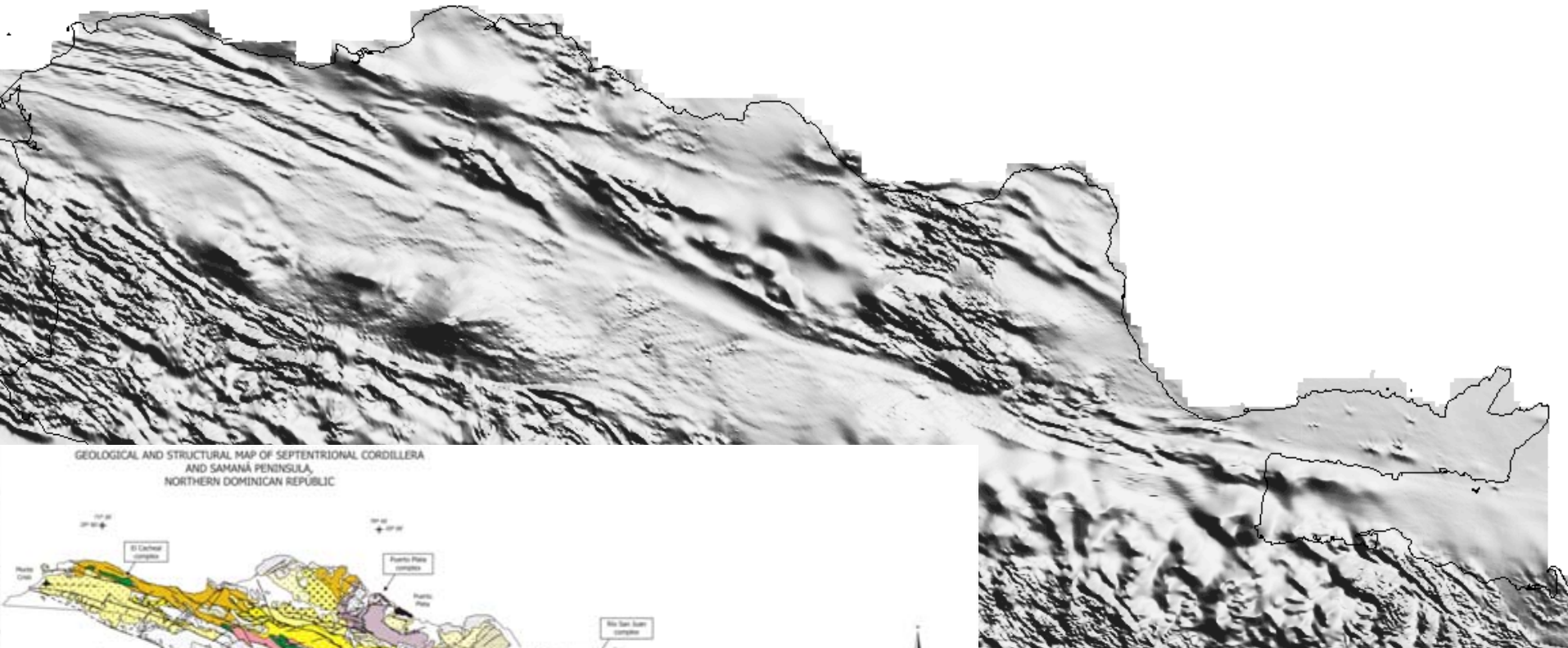


Oblique collision - bivergent thrust wedges

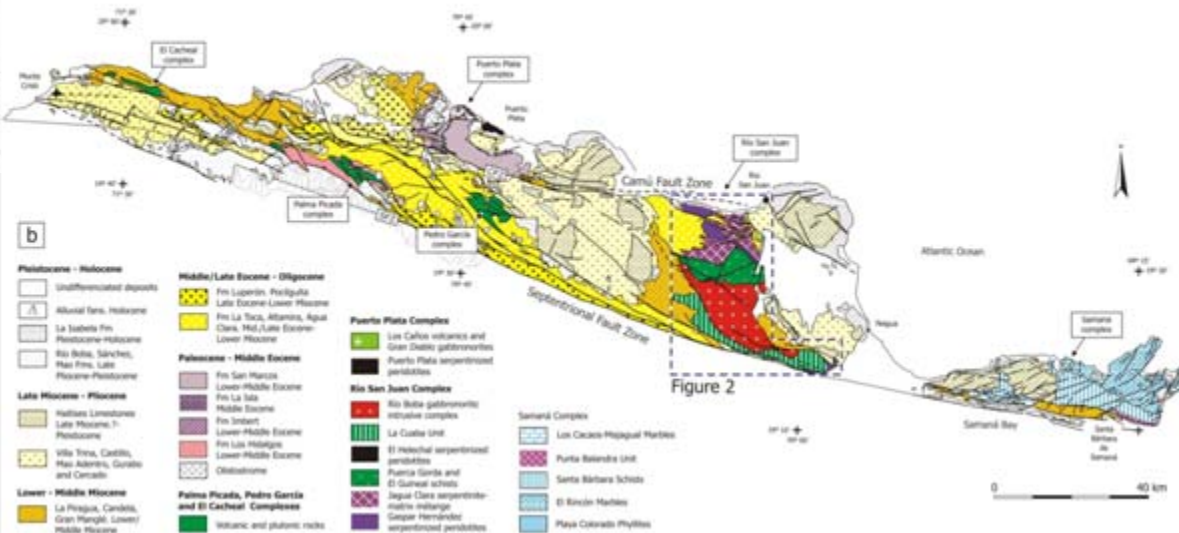


Prowedge: accretionary prism sliver plate

SYSMIN project
(2002-2004)

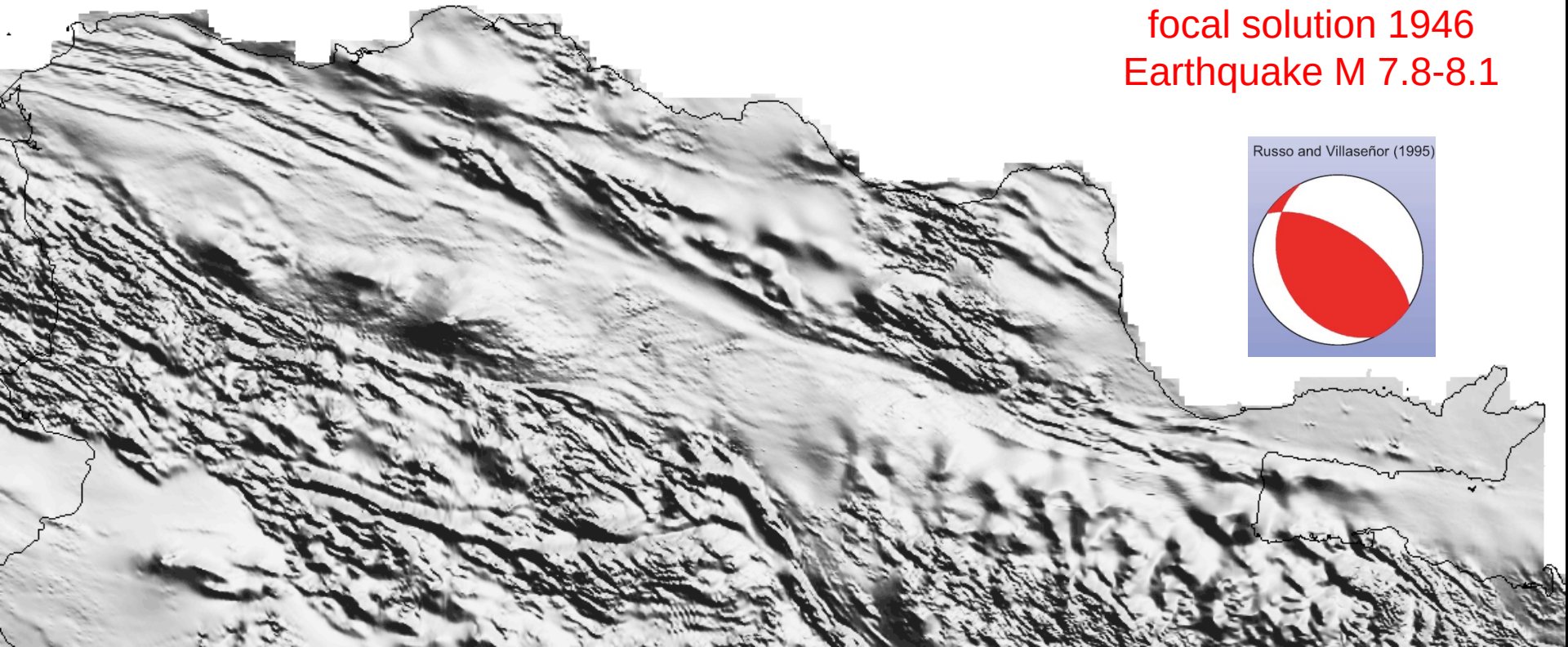
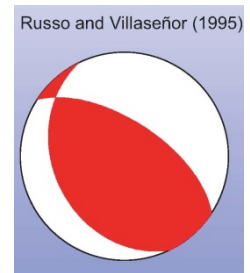


GEOLOGICAL AND STRUCTURAL MAP OF SEPTENTRIONAL CORDILLERA
AND SAMANÁ PENINSULA,
NORTHERN DOMINICAN REPUBLIC

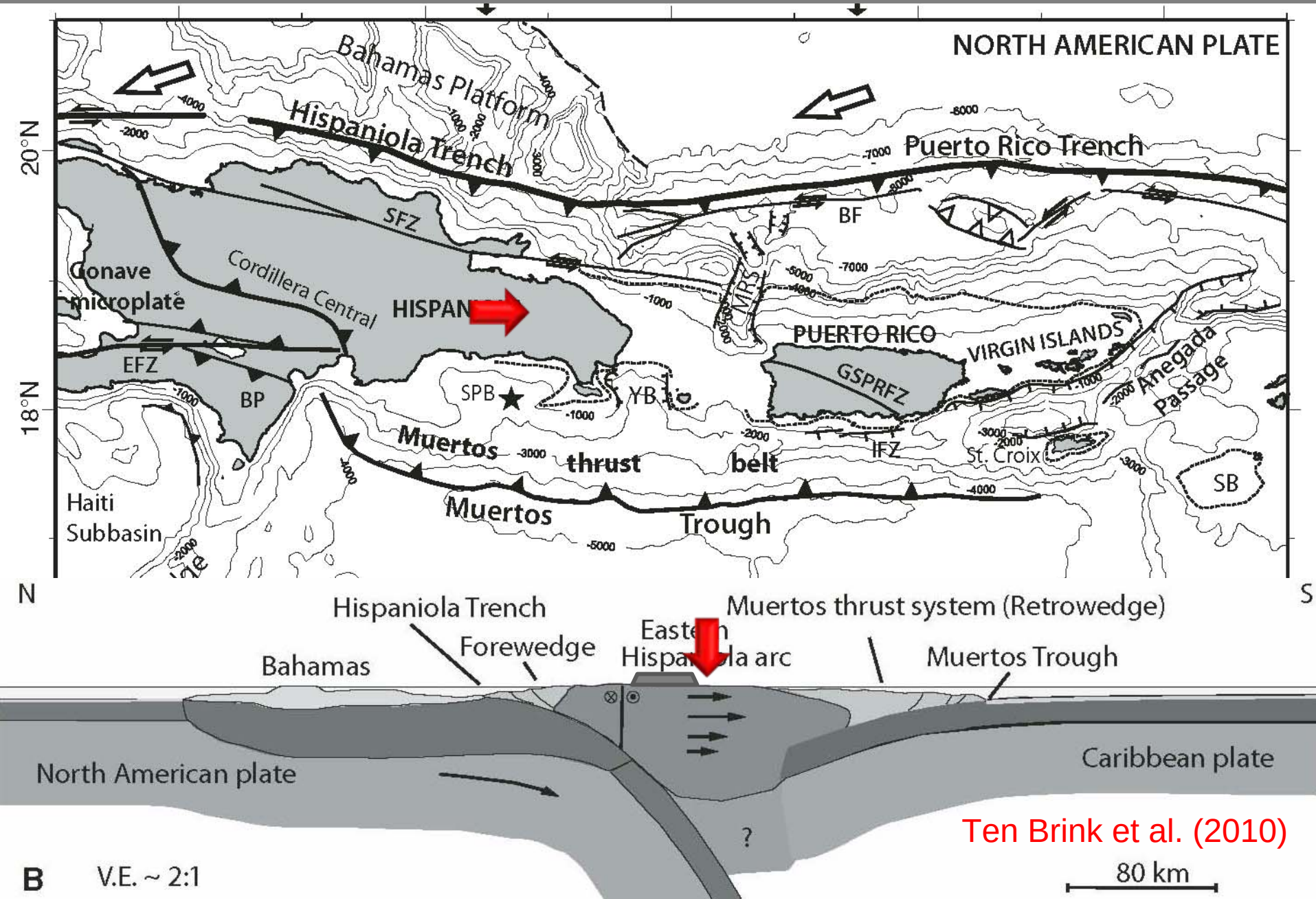


Accretionary prism sliver plate

Russo & Villaseñor (1995)
focal solution 1946
Earthquake M 7.8-8.1

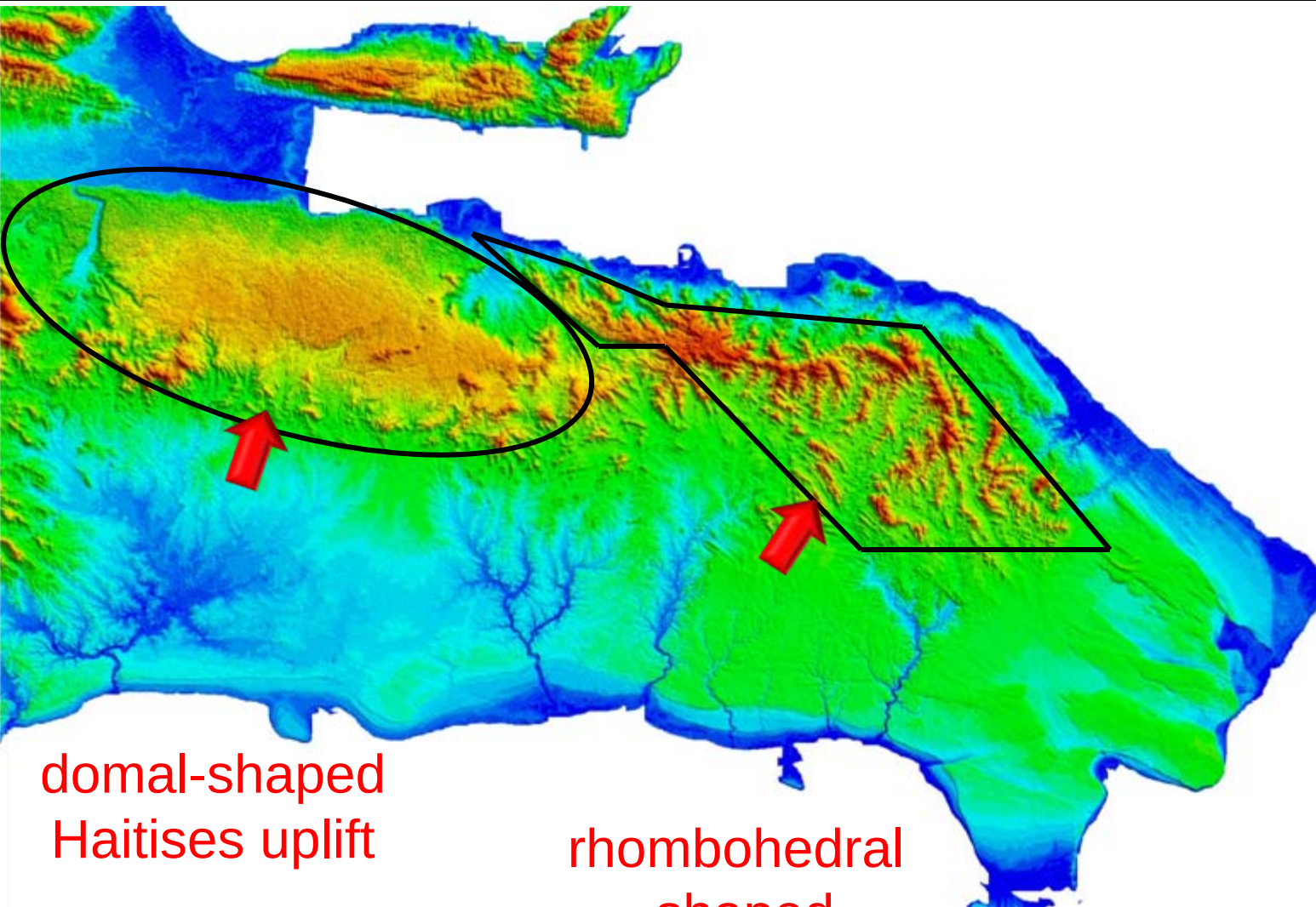


Uplifted core



Ten Brink et al. (2010)

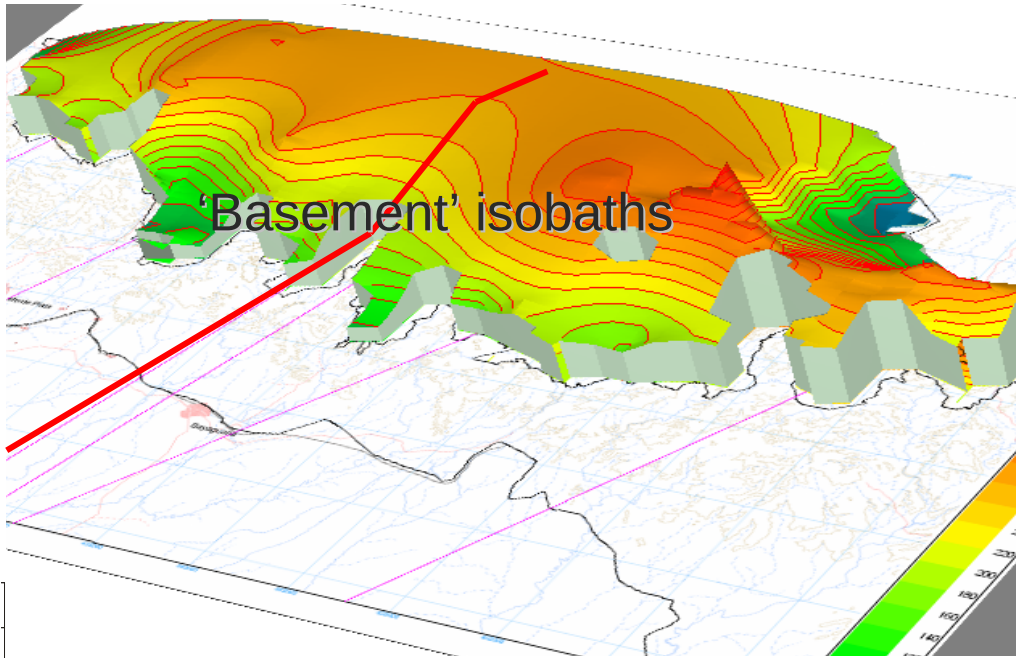
Contractional uplifts



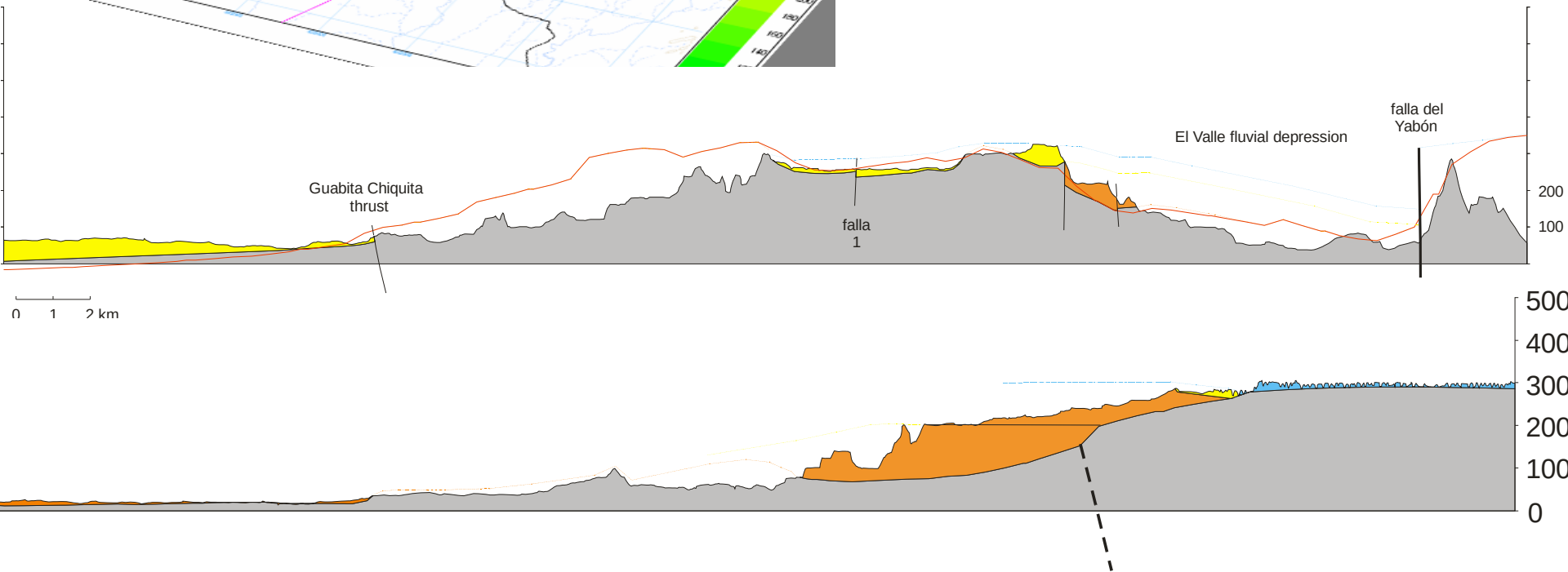
domal-shaped
Haitises uplift

rhombohedral
-shaped
Seibo uplift

Domal Haitises Park uplift

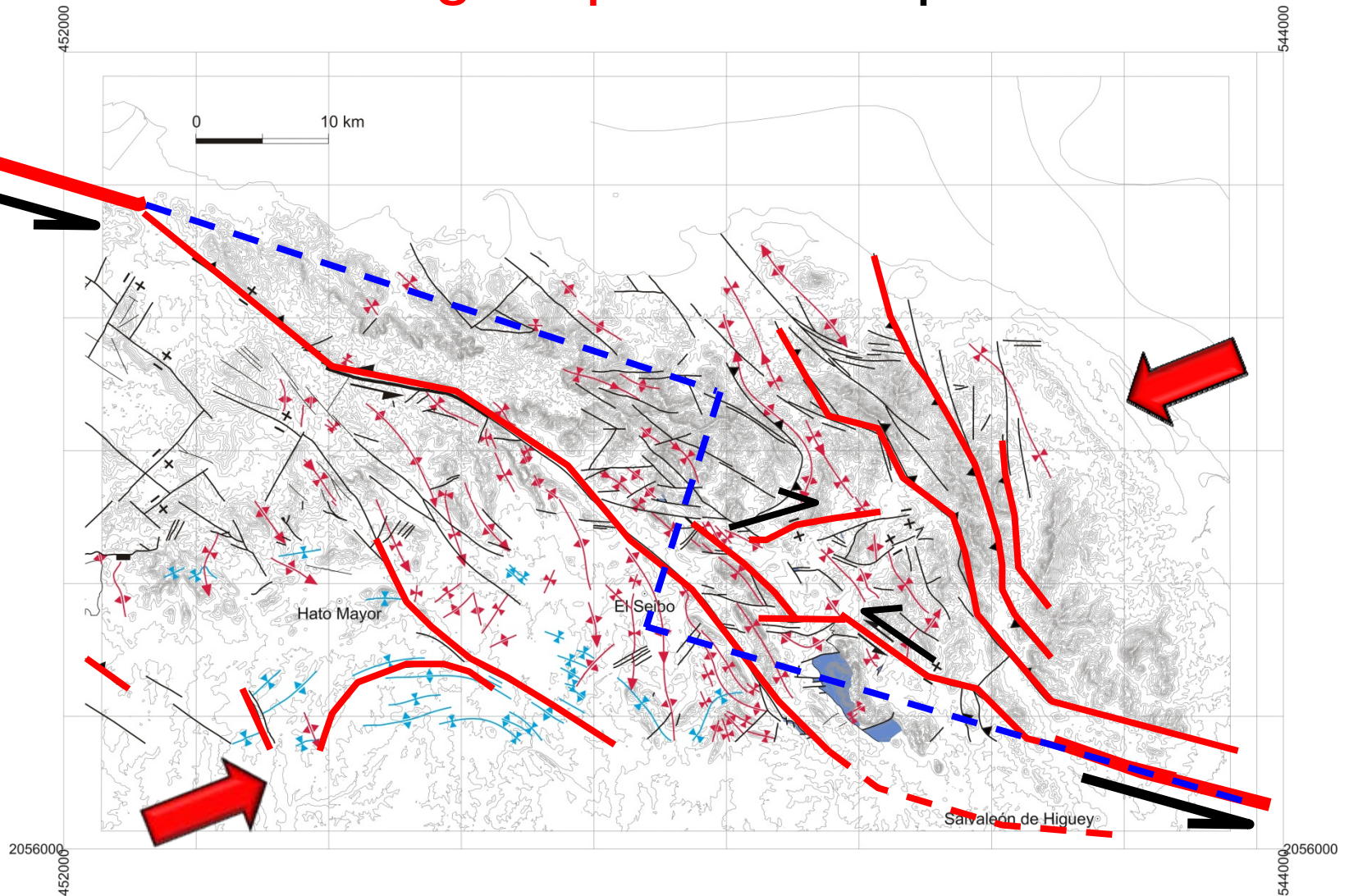


arch of the Late-Neogene reef



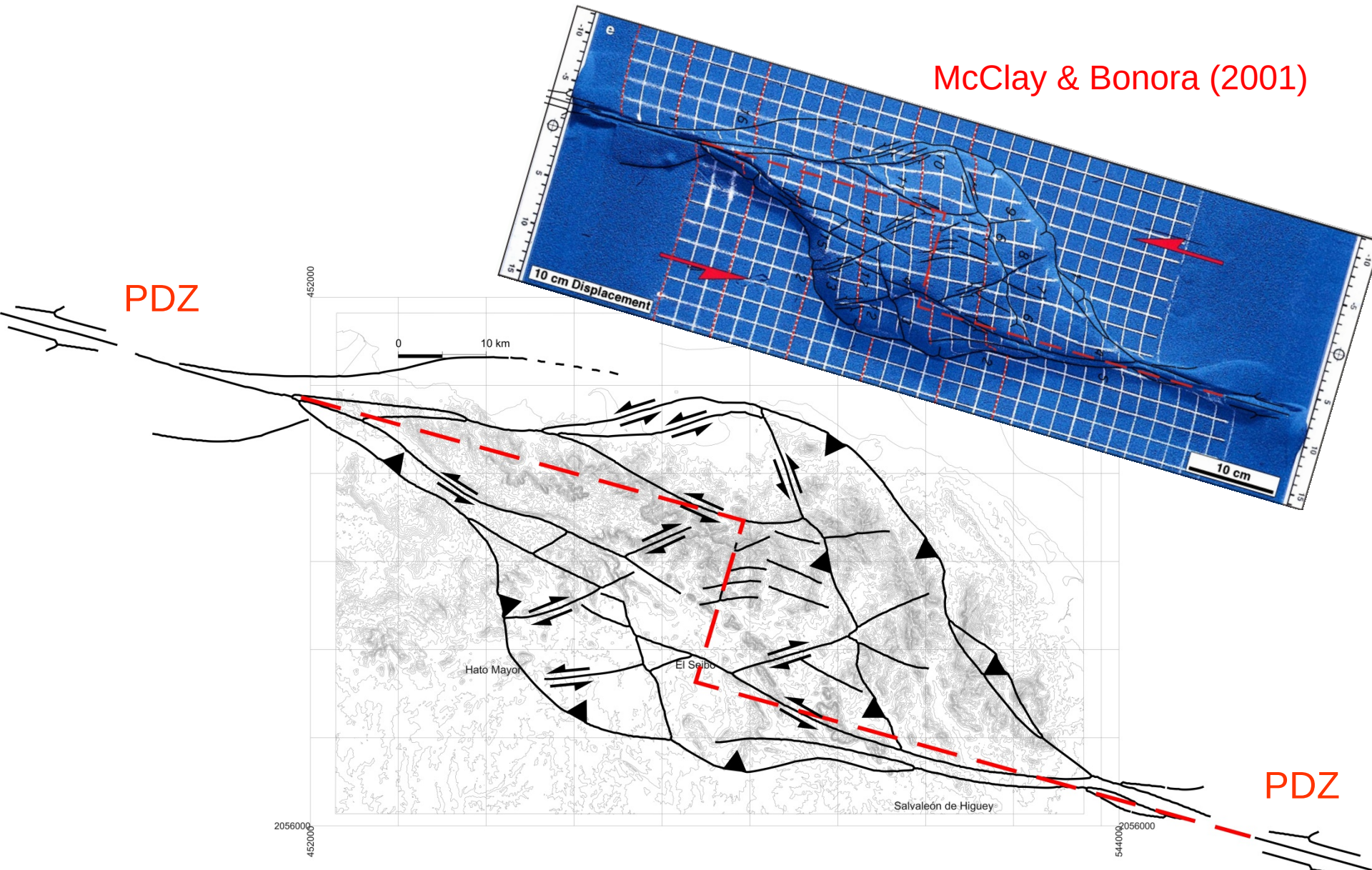
Rhombohedral Seibo uplift

restraining stepover interpretation

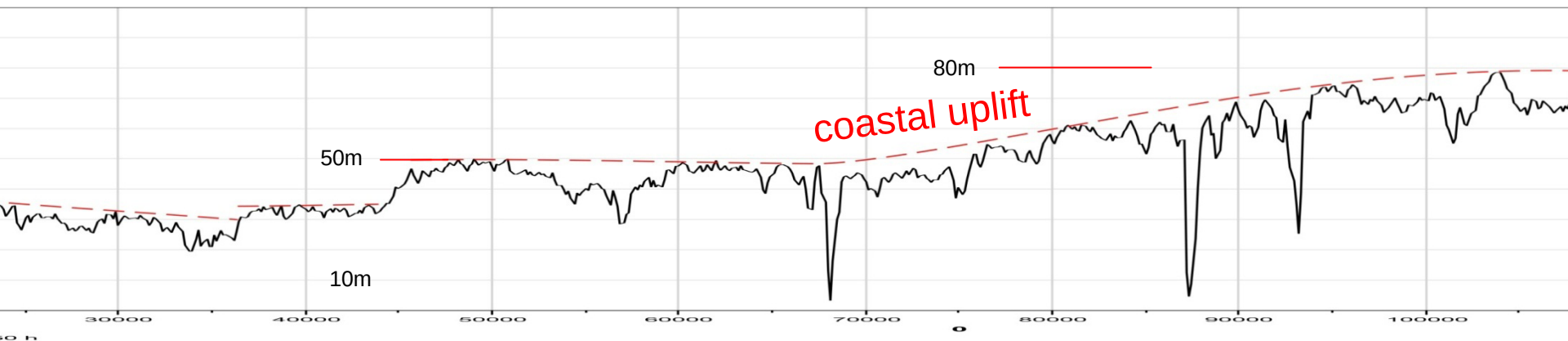
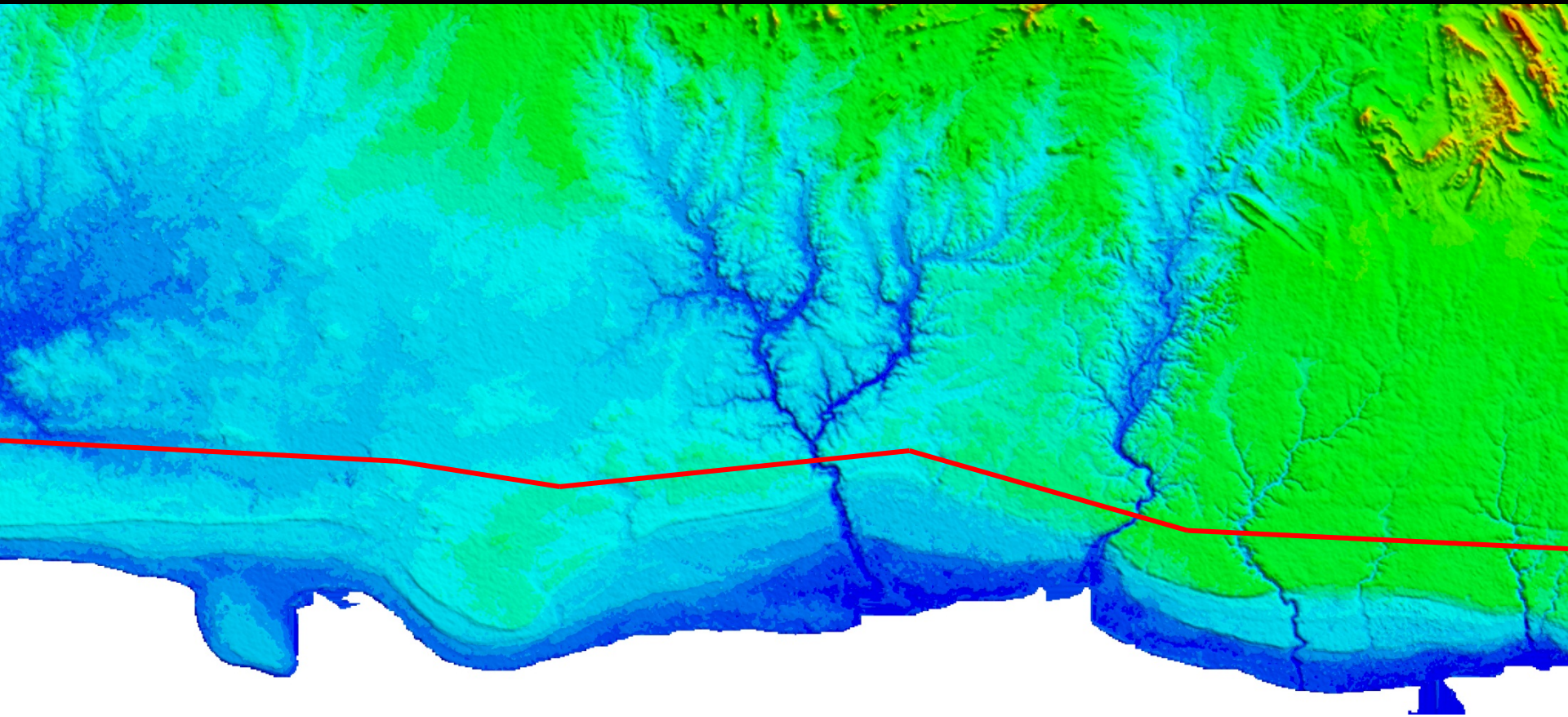


Sand models suggests the orientation of the PDZ for the Seibo uplift

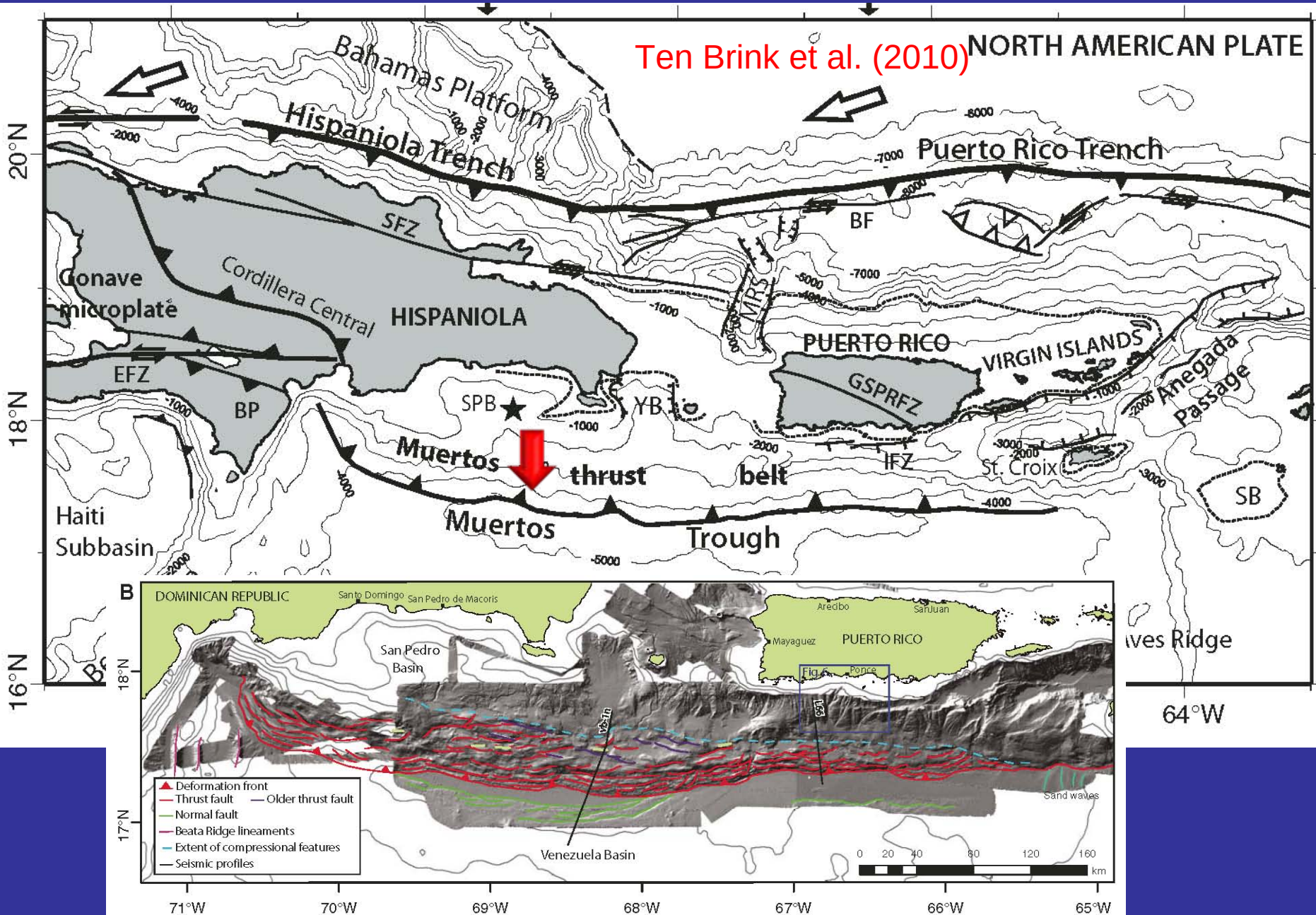
McClay & Bonora (2001)



Raised reef terraces at the Caribbean coast

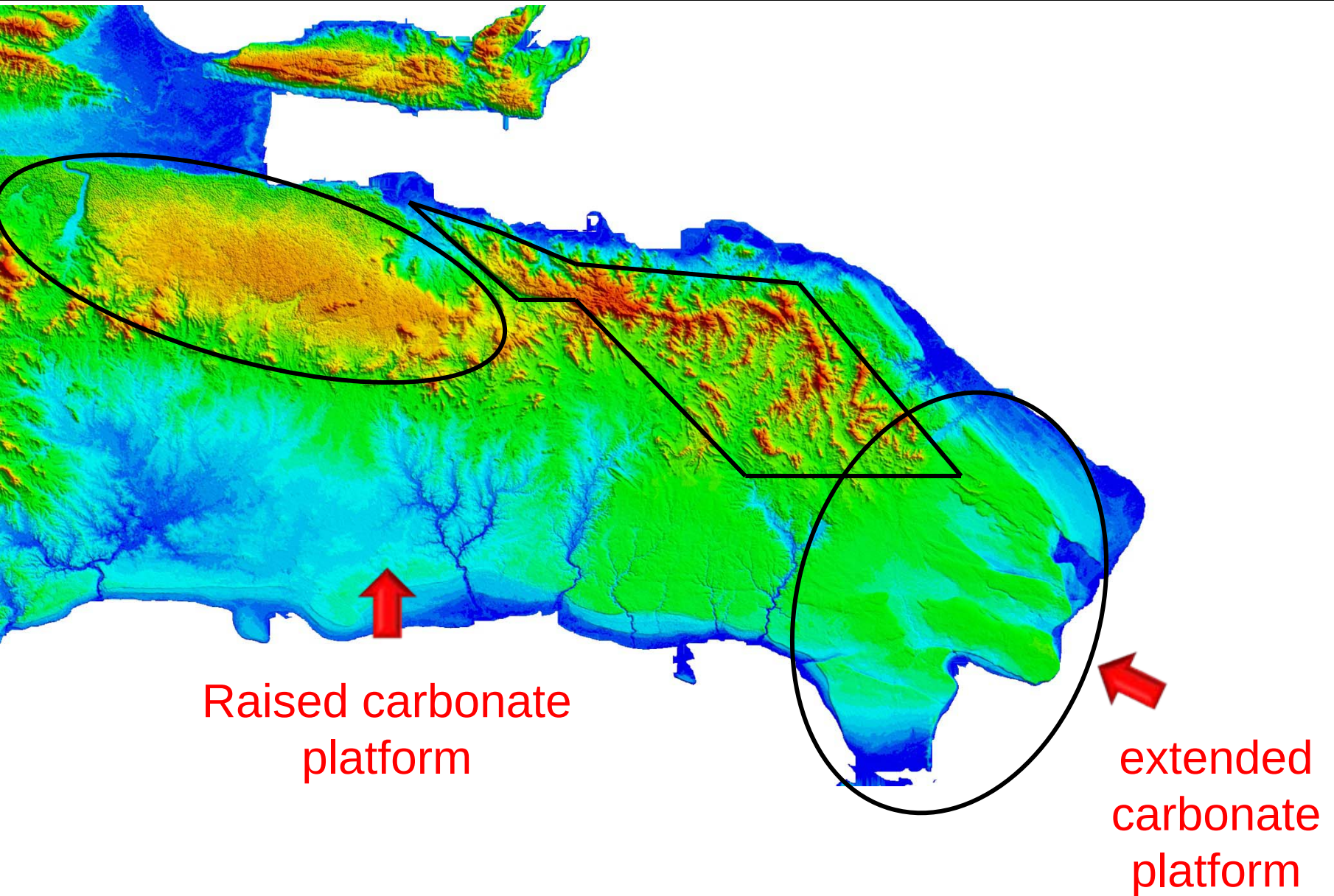


Los Muertos retrowedge



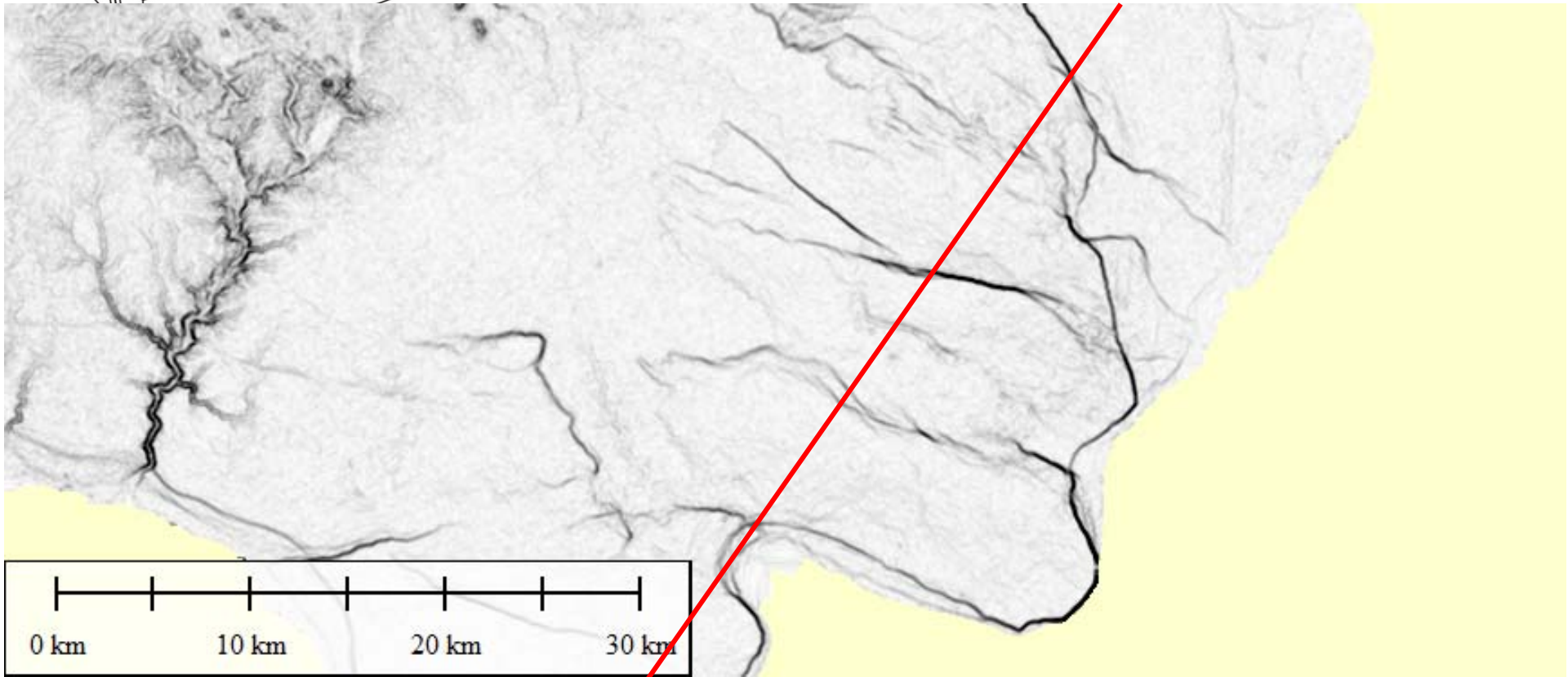
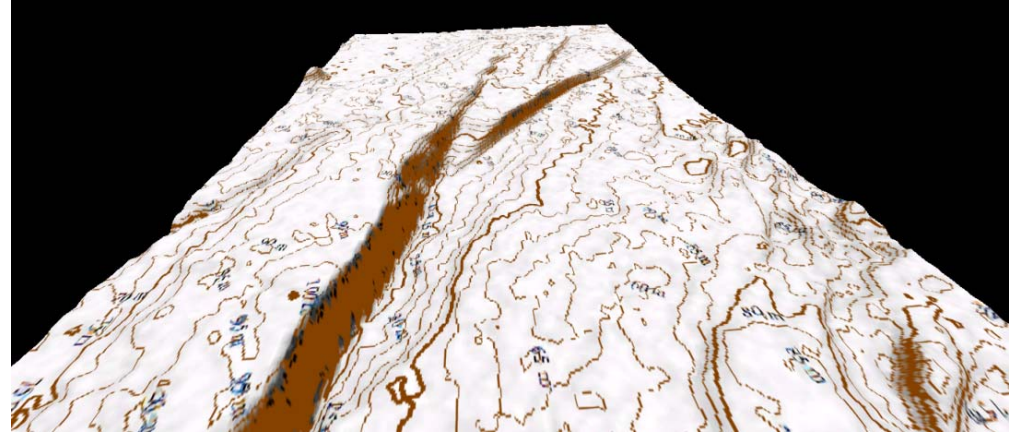
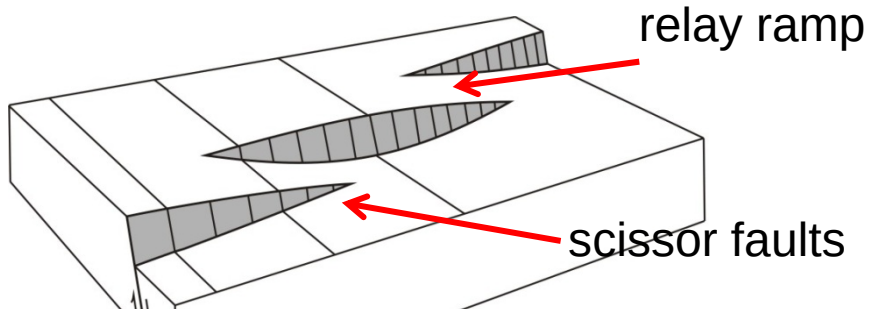
The Punta Cana **extensional** province

Extensional province adjacent to contractional uplifts

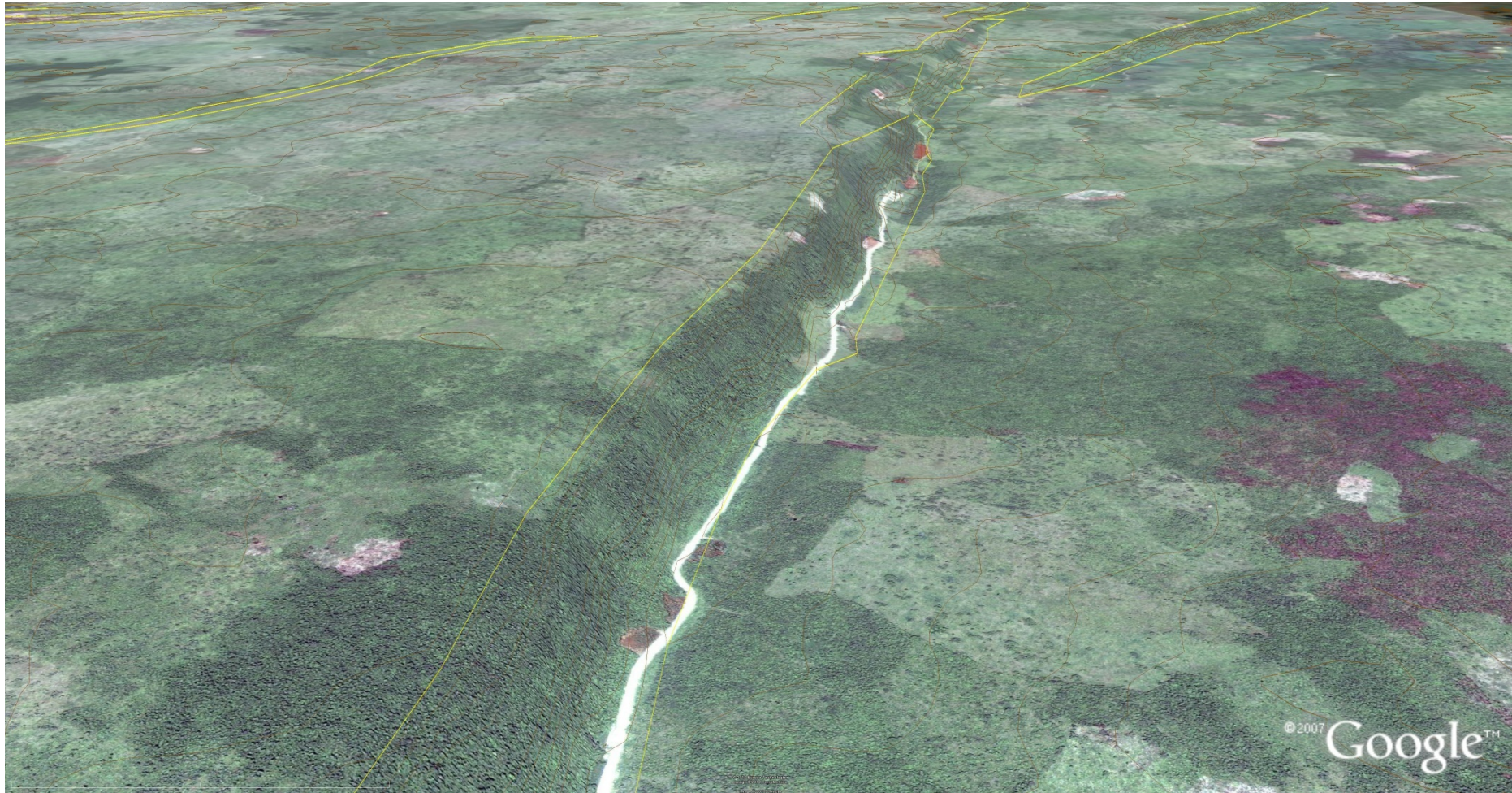


Fault linkage pattern is indicative of extensional systems

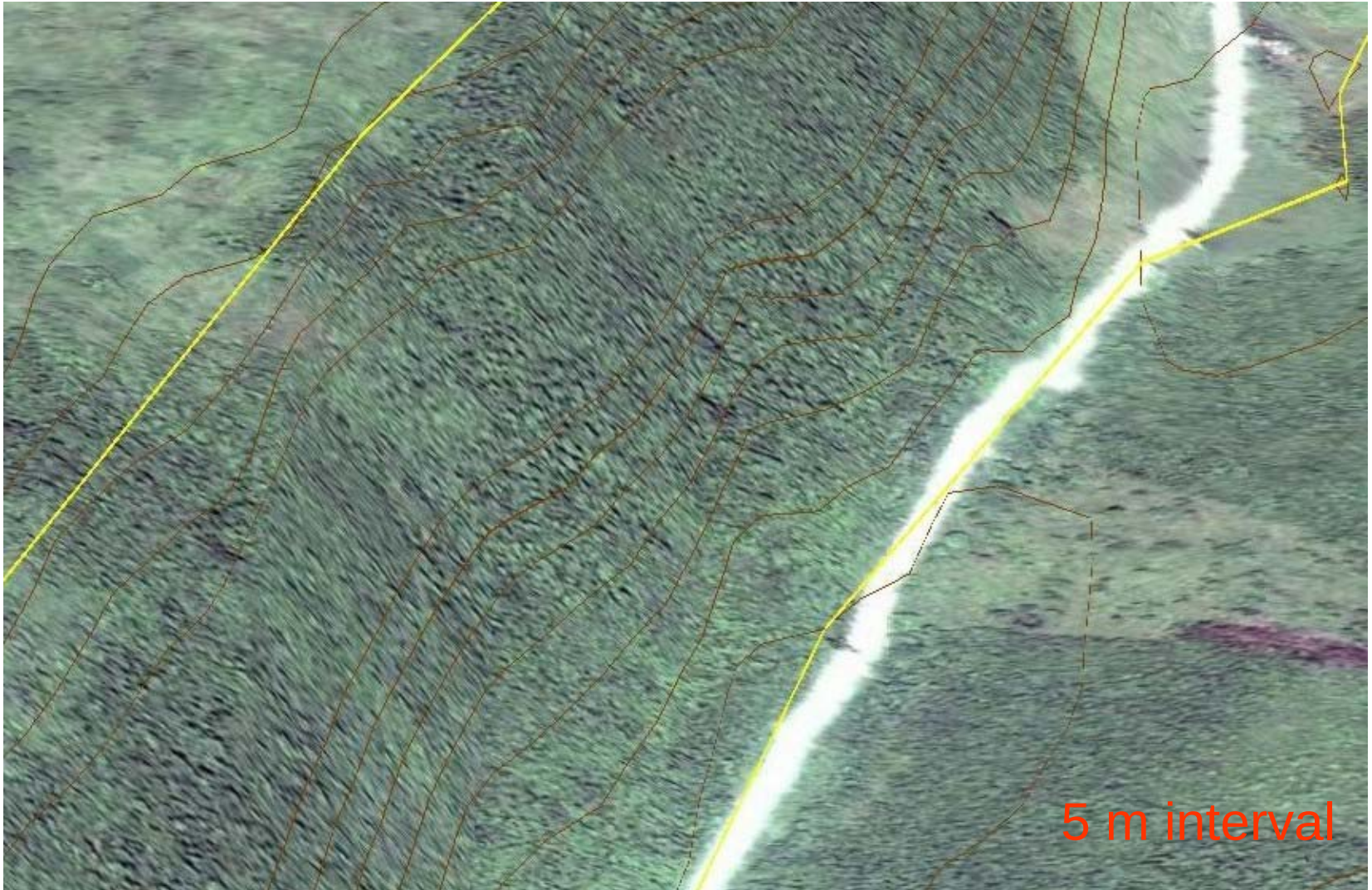
Ramsay & Huber (1987)



Oblique view of a normal fault scarp



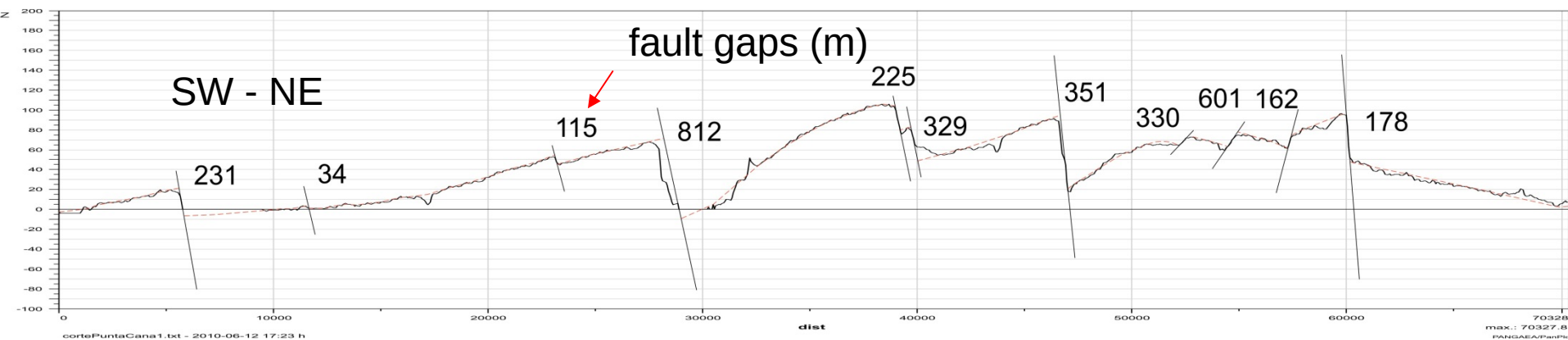
Fault scarp is 50 m high



Fresh normal fault scarp



Cross-section coast to coast



Cross-section length (L_1) = 70386 m

Total fault gaps (heave) = 3369 m

Restored section length (L_0) = 67017 m

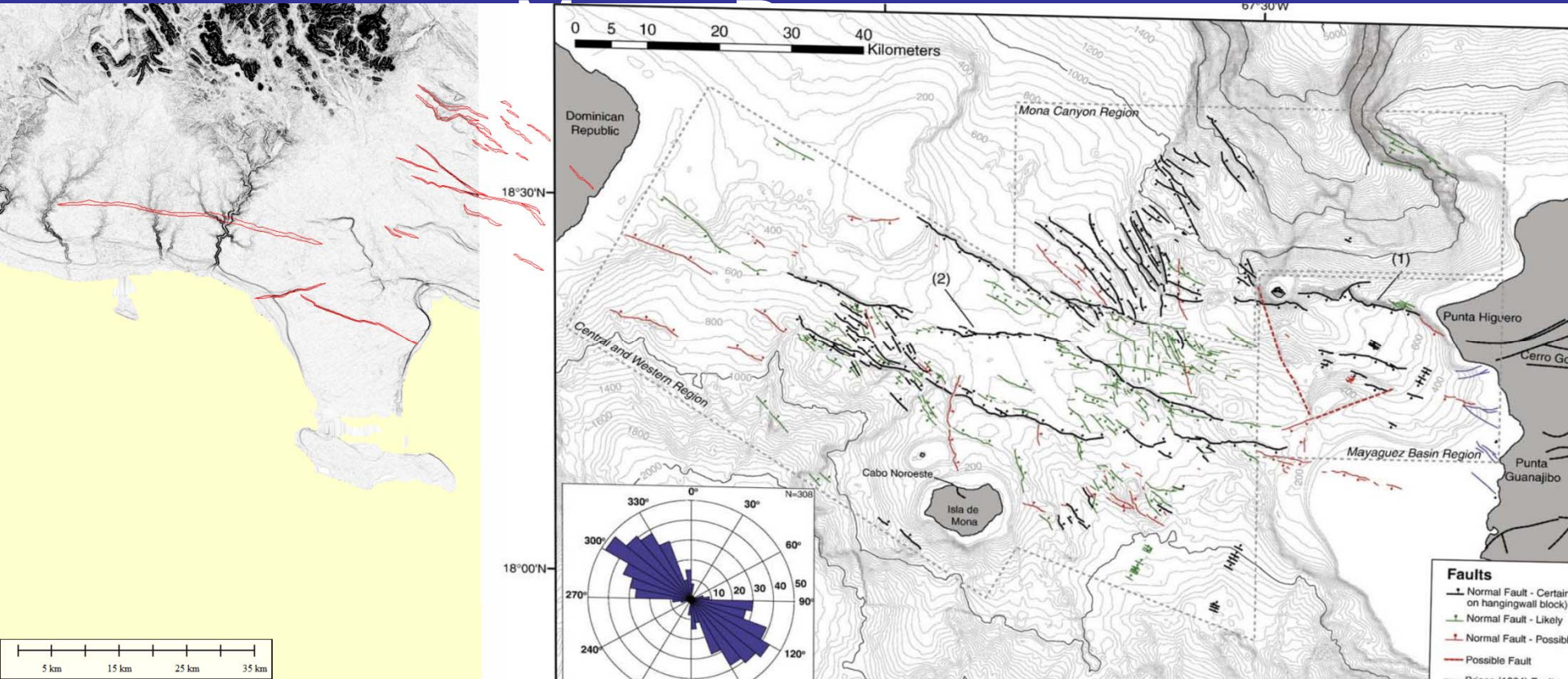
Shortening (S) = 1,050

% Stretching = 5%

Maximum normal throw = 75 m

on the assumption
of normal dip-slip

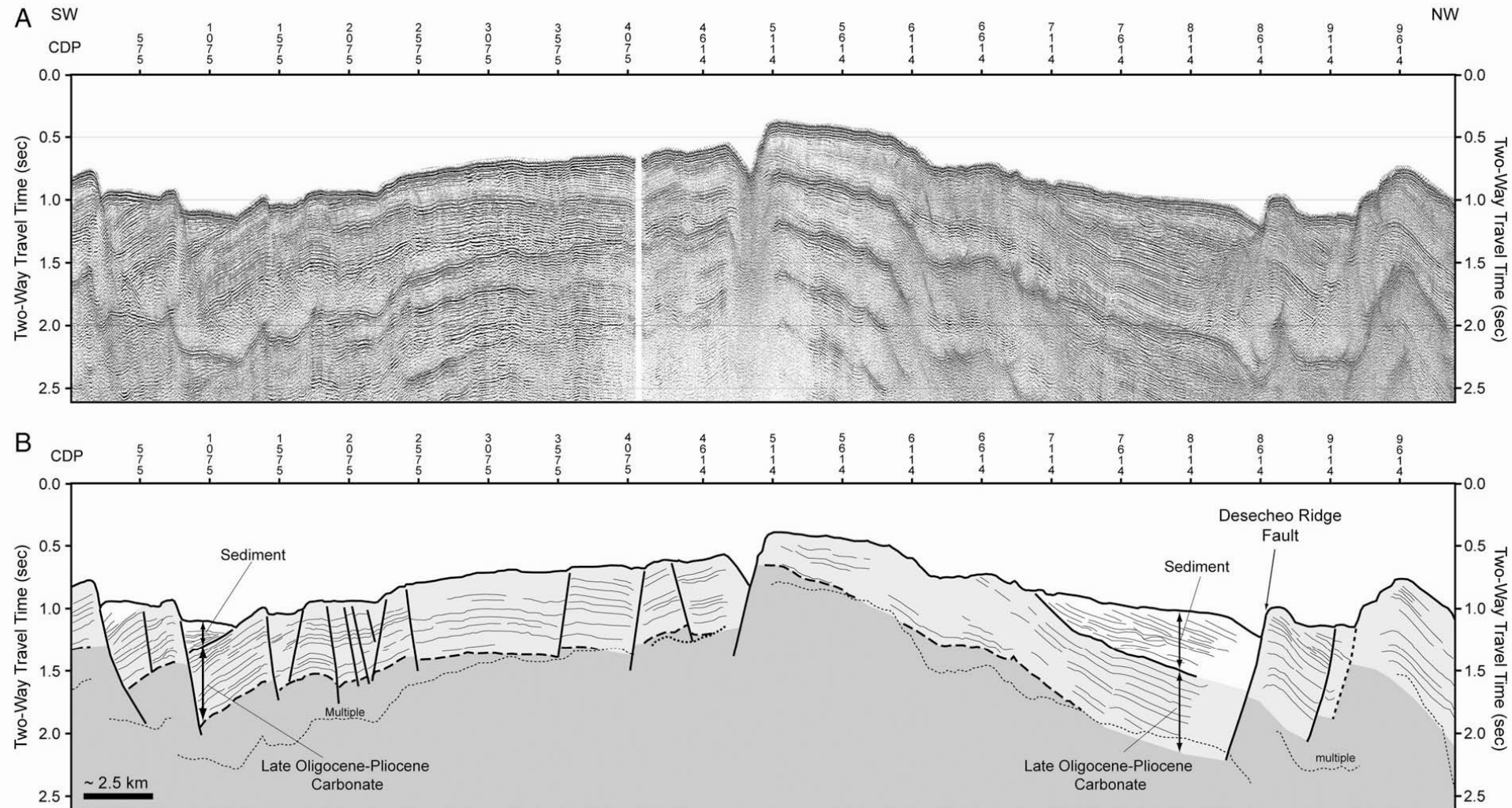
Continuation of the Punta Cana extensional faults across the Mona Passage



our results

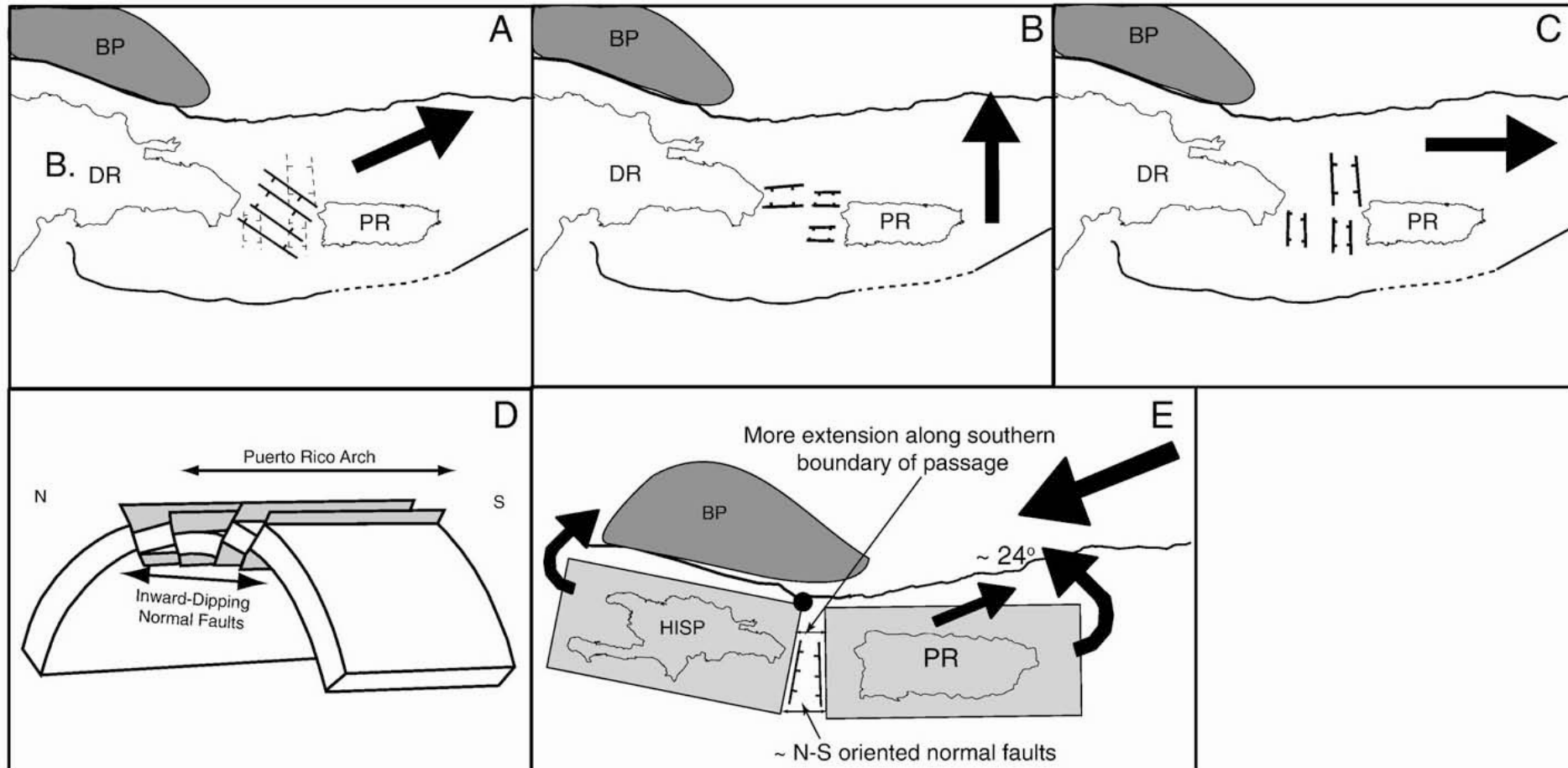
Chaytor and ten Brink
(2010)

Seismic interpretations of the Mona Passage fault system



Chaytor and ten Brink (2010)

Tectonic models



Chaytor and ten Brink (2010)

Thanks!