

Maurizio Ponton

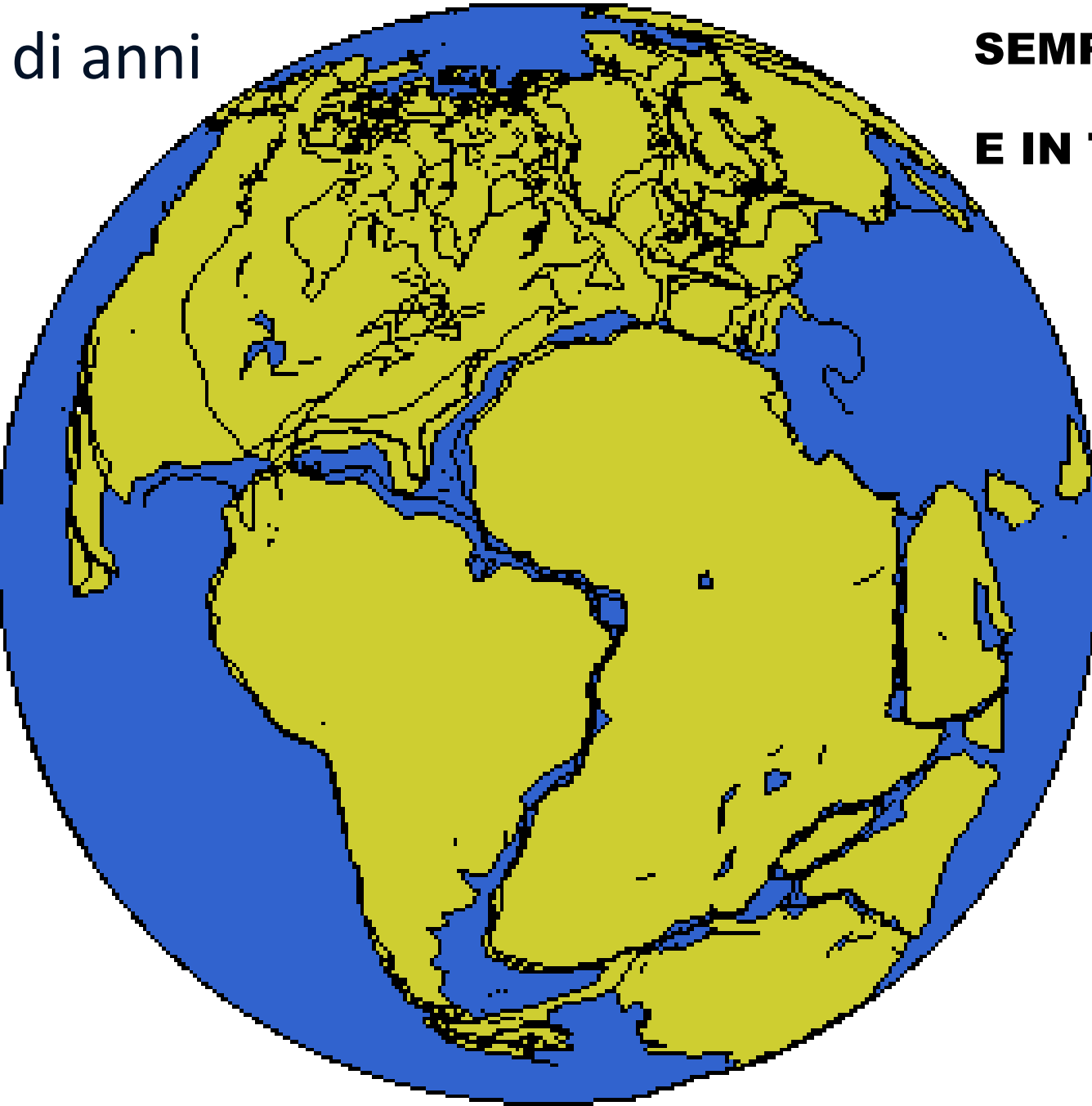
ponton@units.it

GEOLOGIA DELLE MONTAGNE FRIULANE

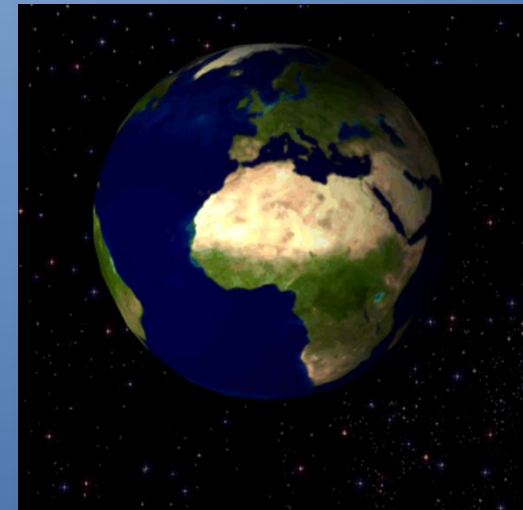
... e speleologia

Milioni
di anni

180 Ma Giura (Lias)

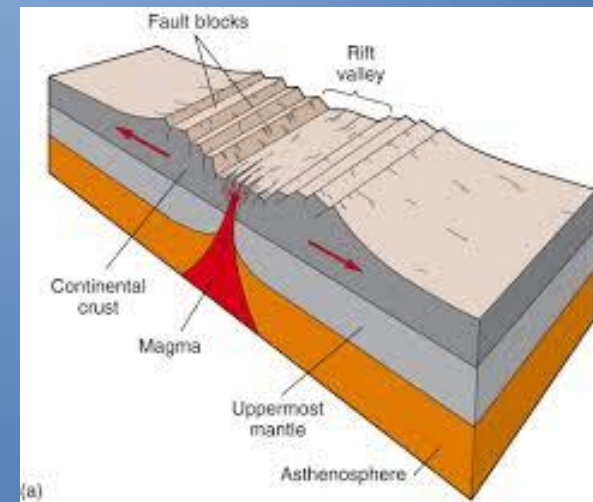


**SEMPRE IN MOVIMENTO
E IN TRASFORMAZIONE**

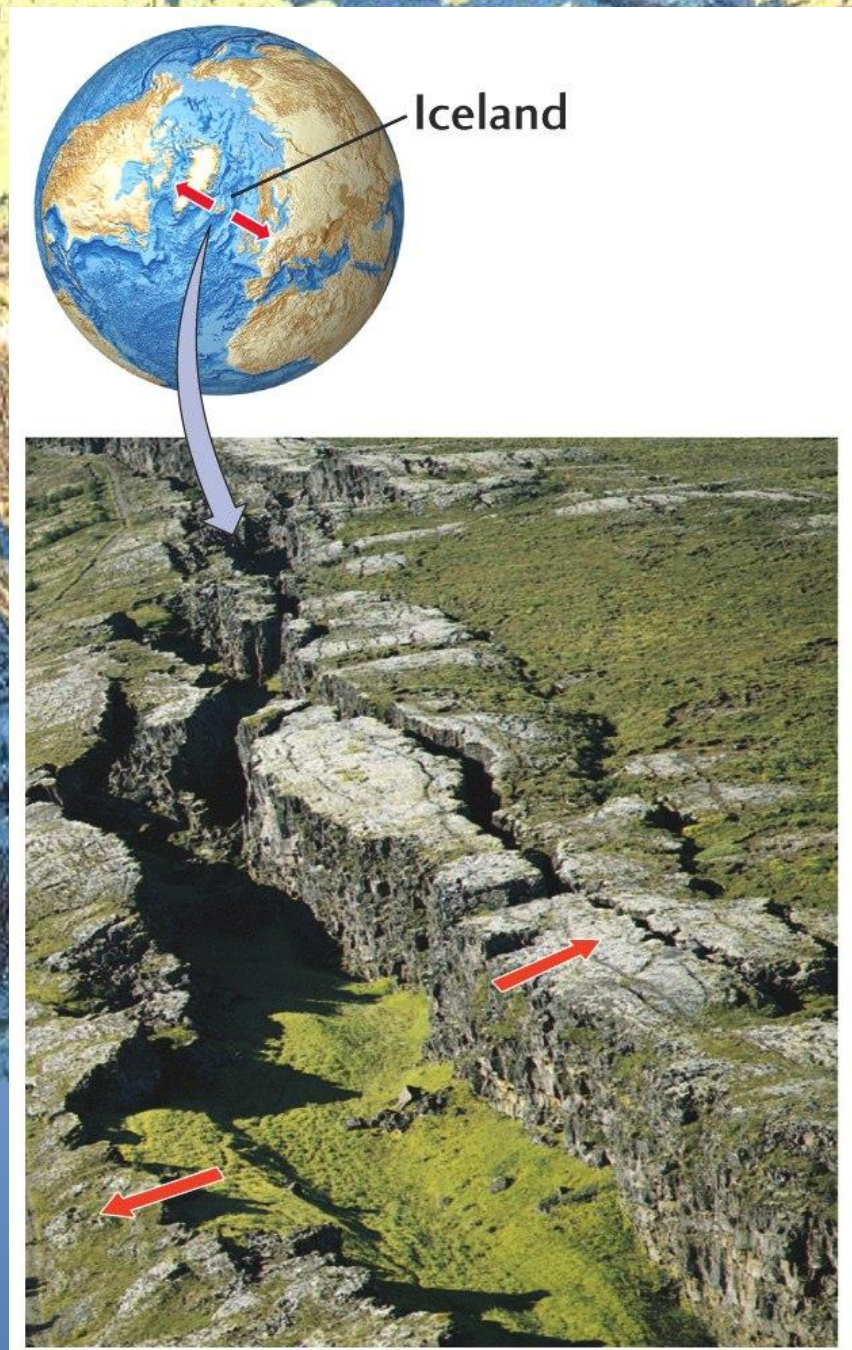
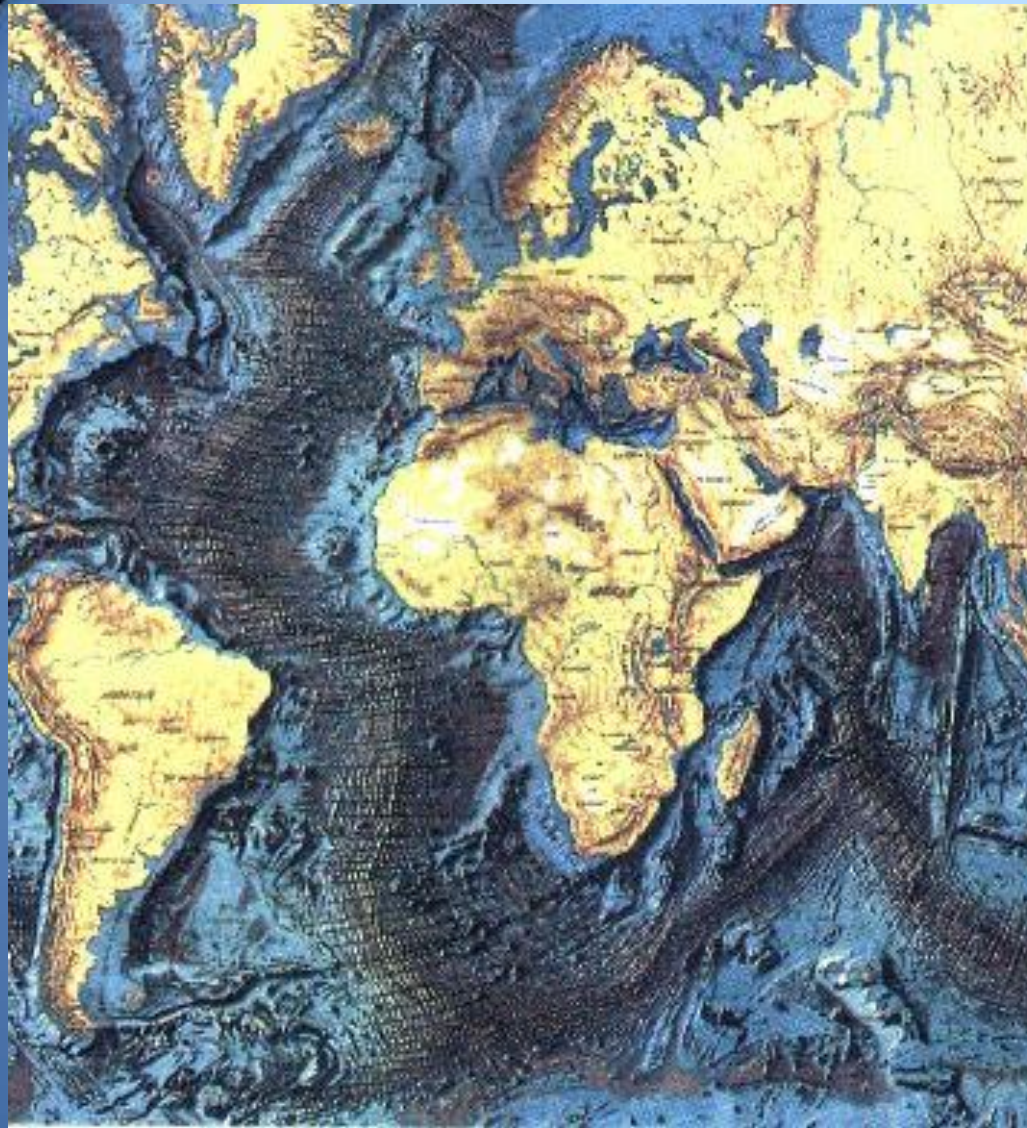


**ROTTURA CROSTALE E
ALLONTANAMENTO**

Deserto di Afar - Etiopia



Press et al., 2004



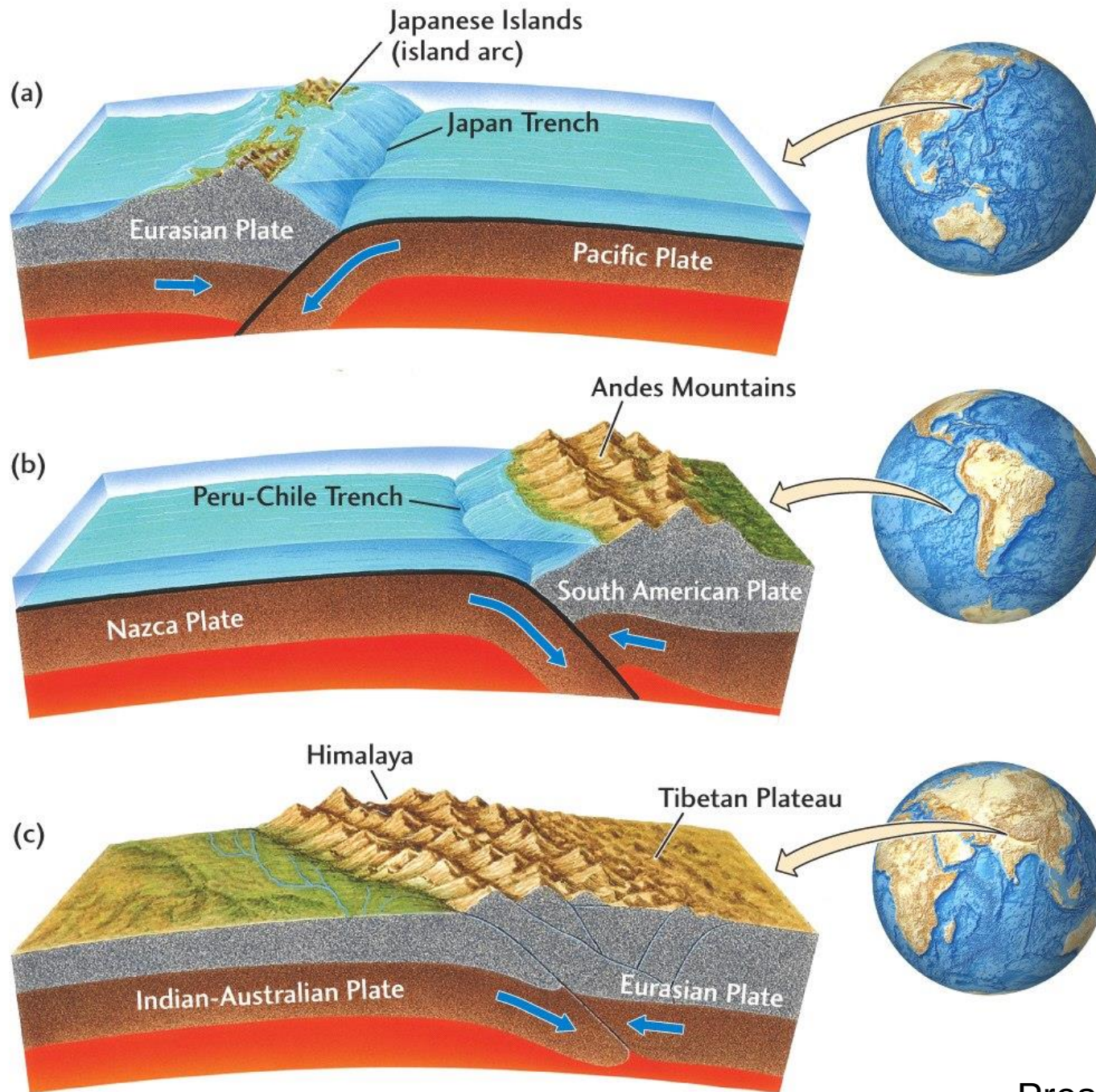
DORSALI OCEANICHE APERTURA

Press et al., 2004

SCORRIMENTO LATERALE DI PLACCHE

(b)

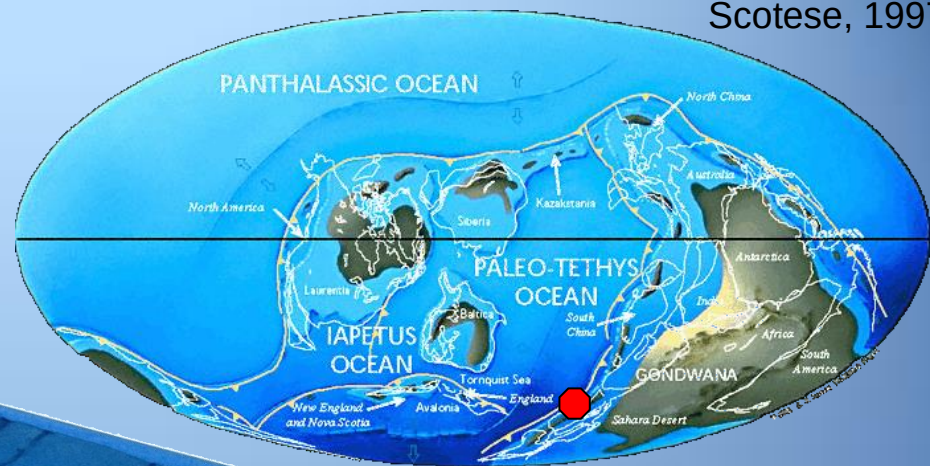
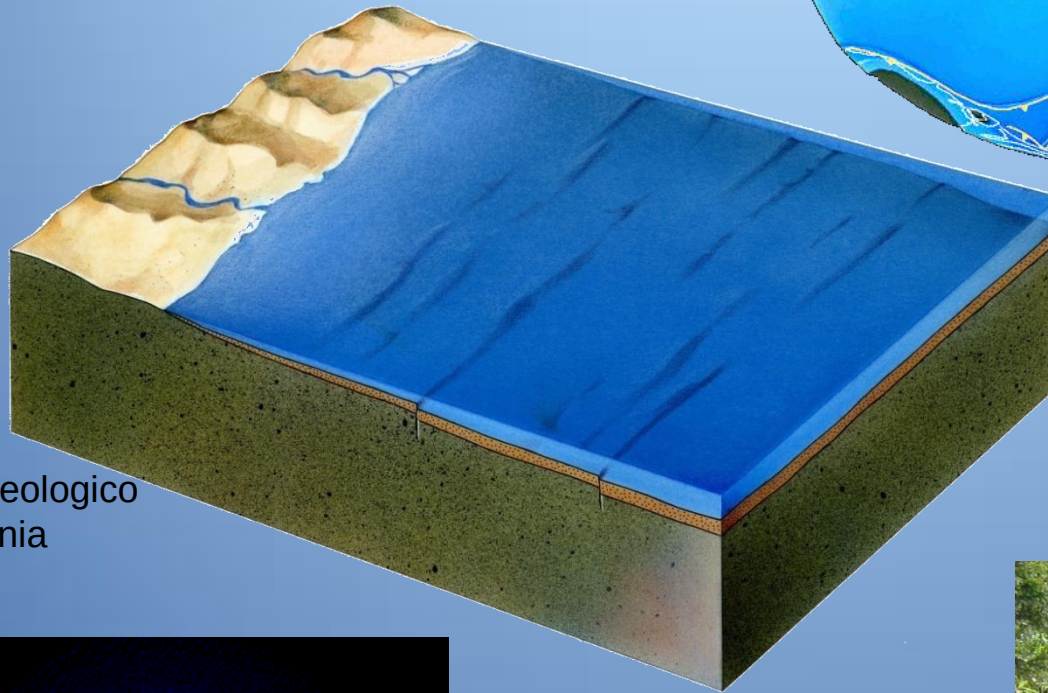




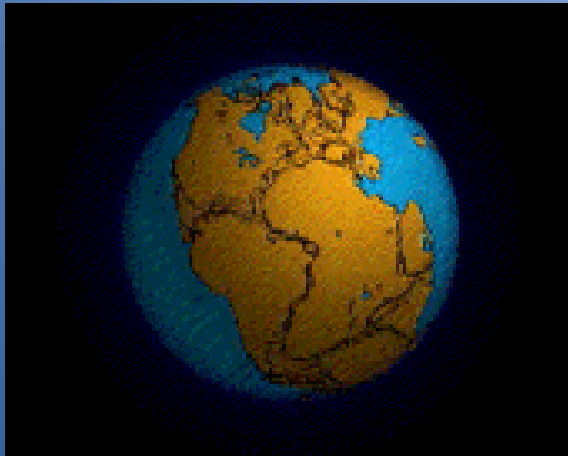
da
dove
vengono le nostre
montagne ?

Ordoviciano Superiore

450 milioni anni

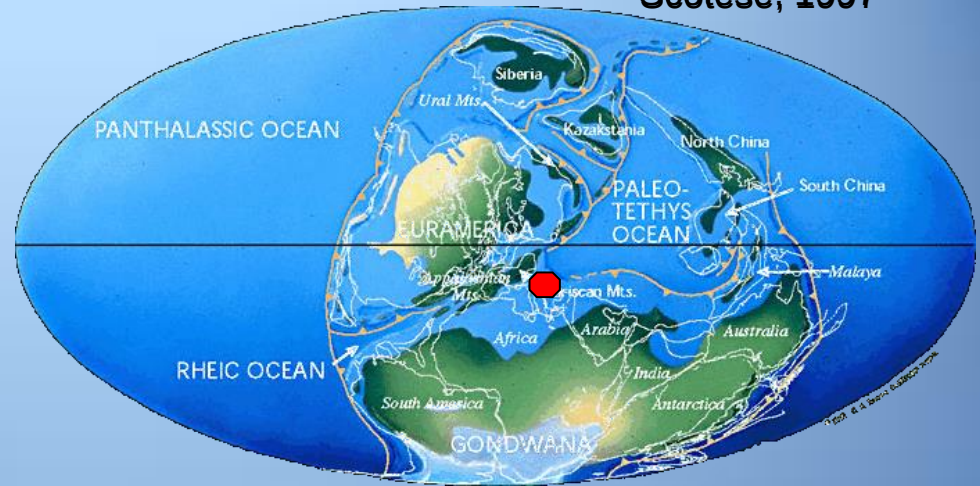
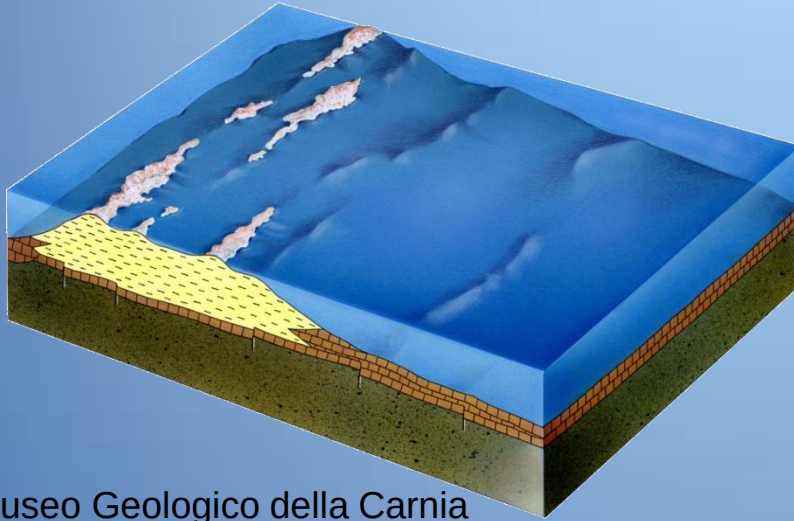


Museo Geologico
della Carnia

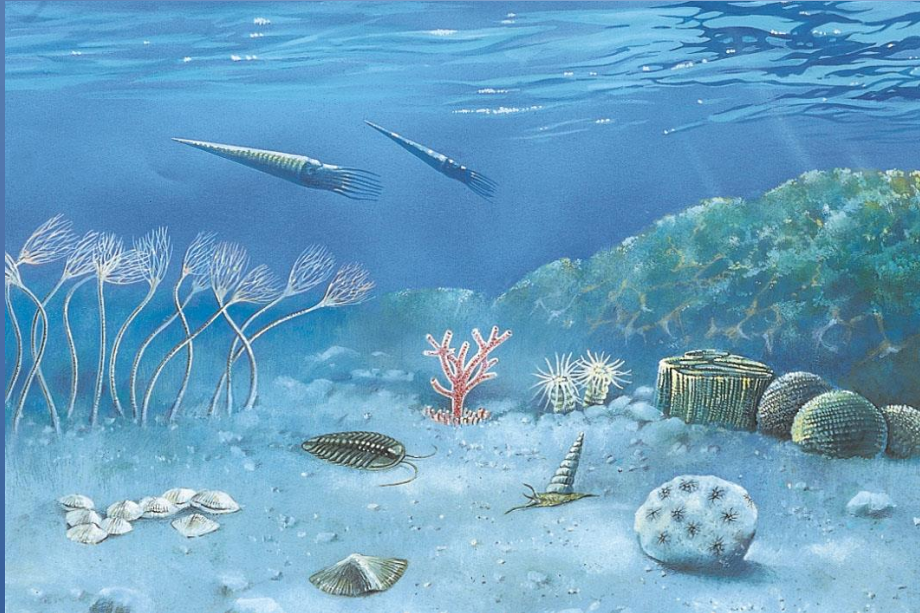


Devoniano Medio

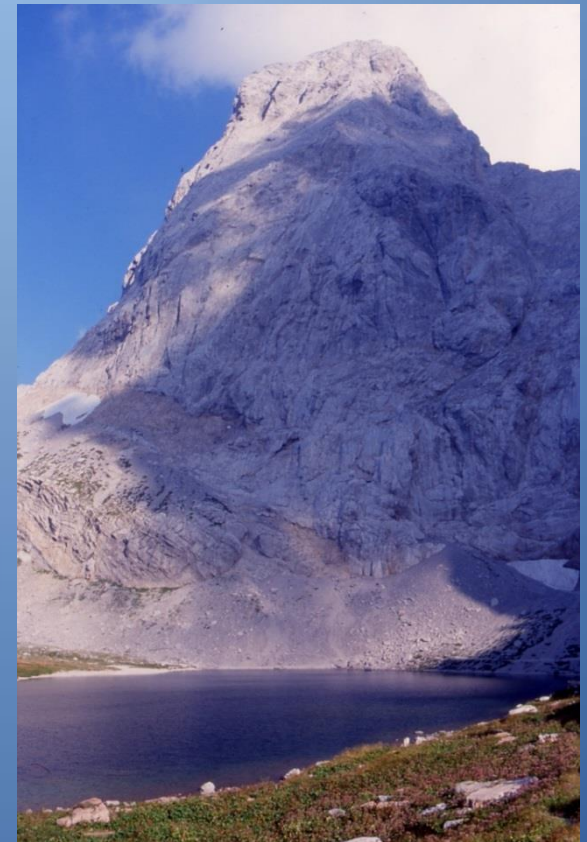
390 milioni anni



Museo Geologico della Carnia

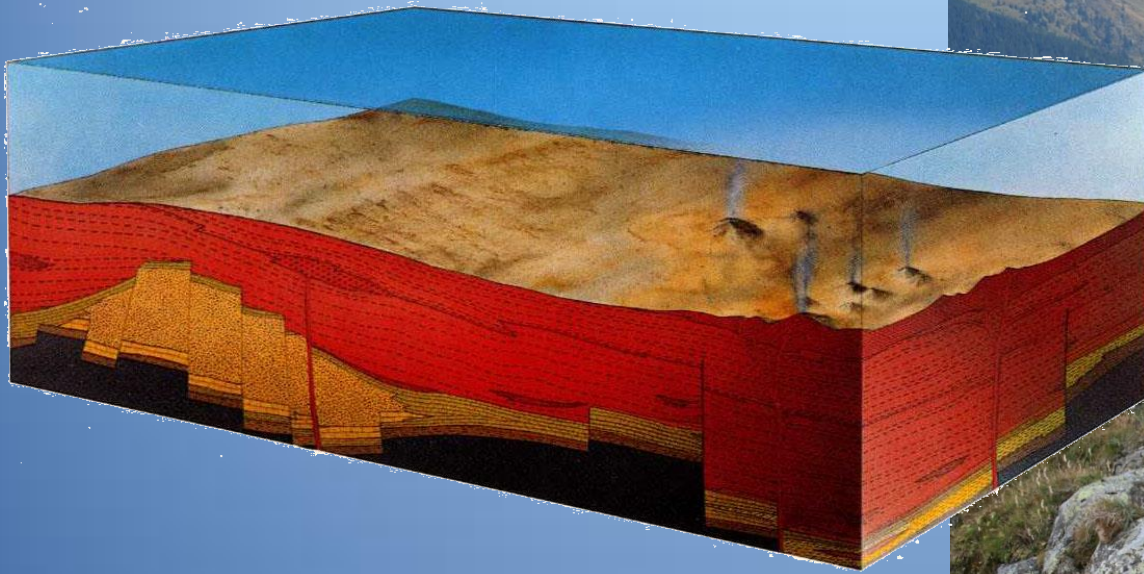


CALCARI



Carbonifero inferiore

350 milioni anni



Museo Friulano di Storia Naturale

Lave a cuscino

Formazioni
del Hochwipfel e
del Dimon

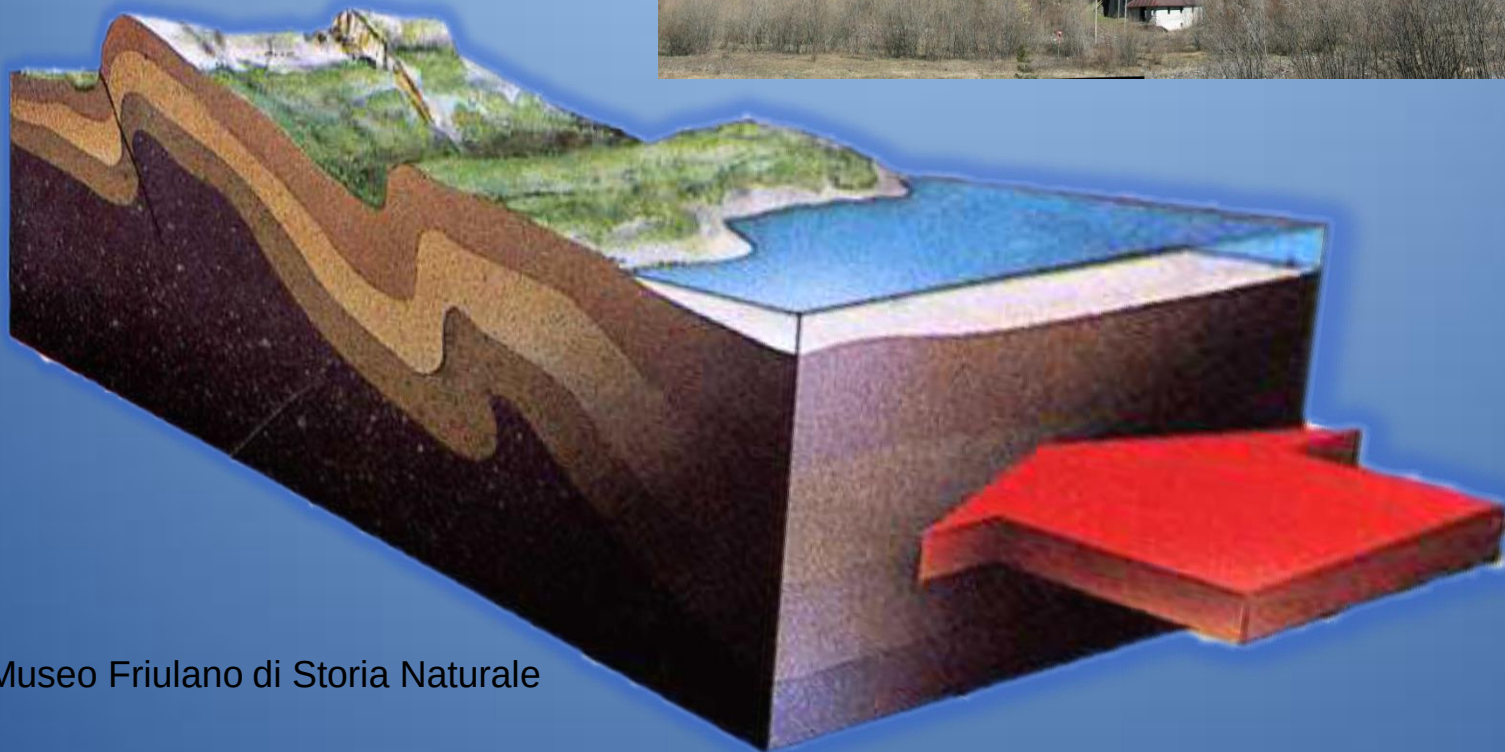
Monte Crostis



Carbonifero superiore

L'Orogenesi Ercinica

310 milioni anni



Permiano Superiore 260 milioni anni



Museo Friulano di Storia Naturale

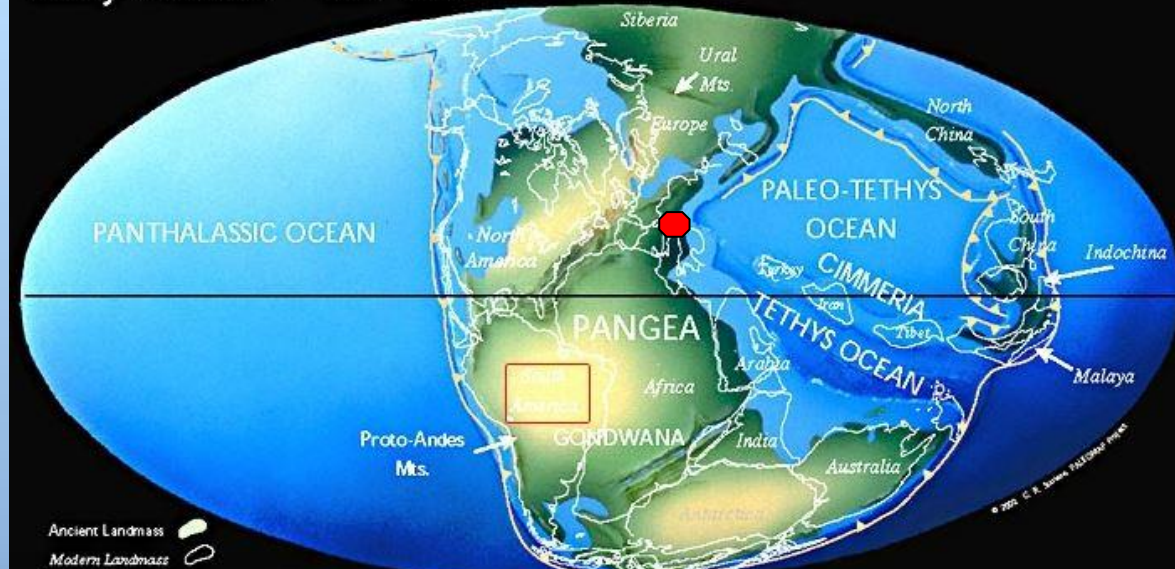


Impronte di tetrapodi in
Arenaria di val Gardena

Triassico inferiore-medio

252-237 milioni anni

Early Triassic 237 Ma



cima del M. Arvenis
Dolomia del Serla



Gruppo del Monte Canin



CALCARI

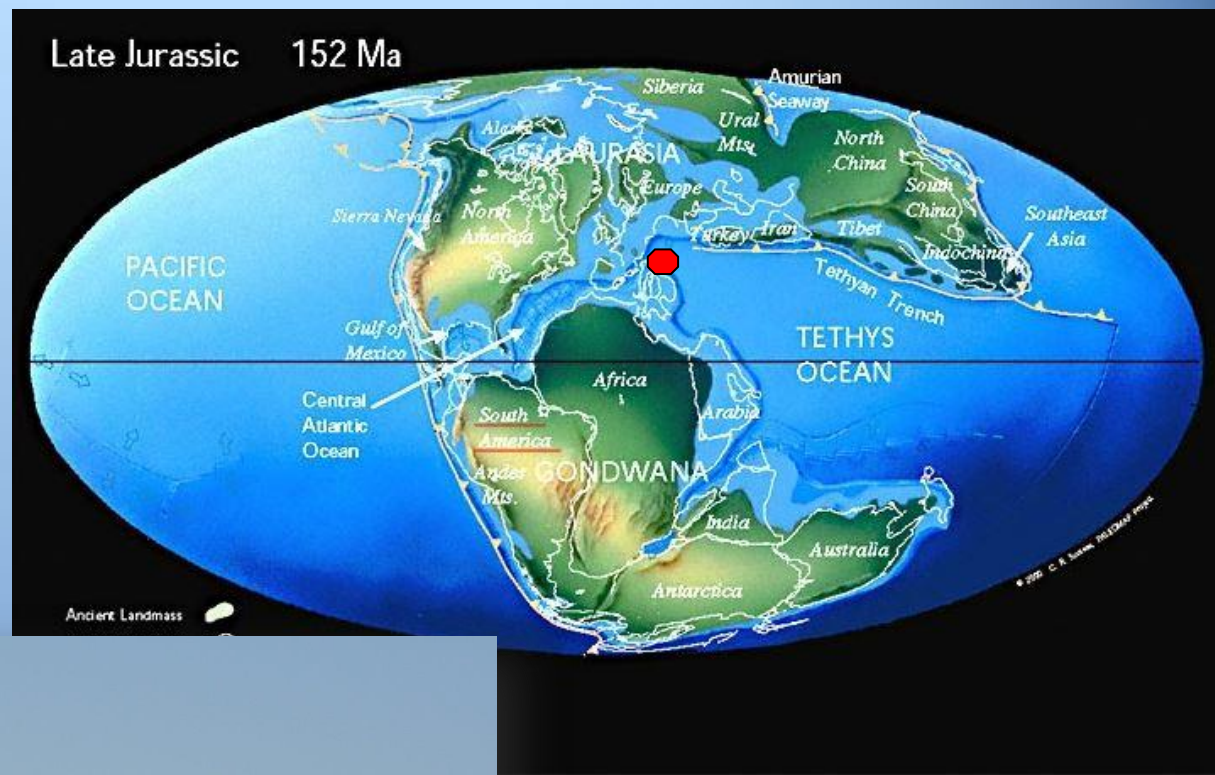
Triassico superiore
Inizio Giurassico

237-200 milioni
anni



Giurassico

200-145 milioni anni



Scotese, 1997



CALCARI

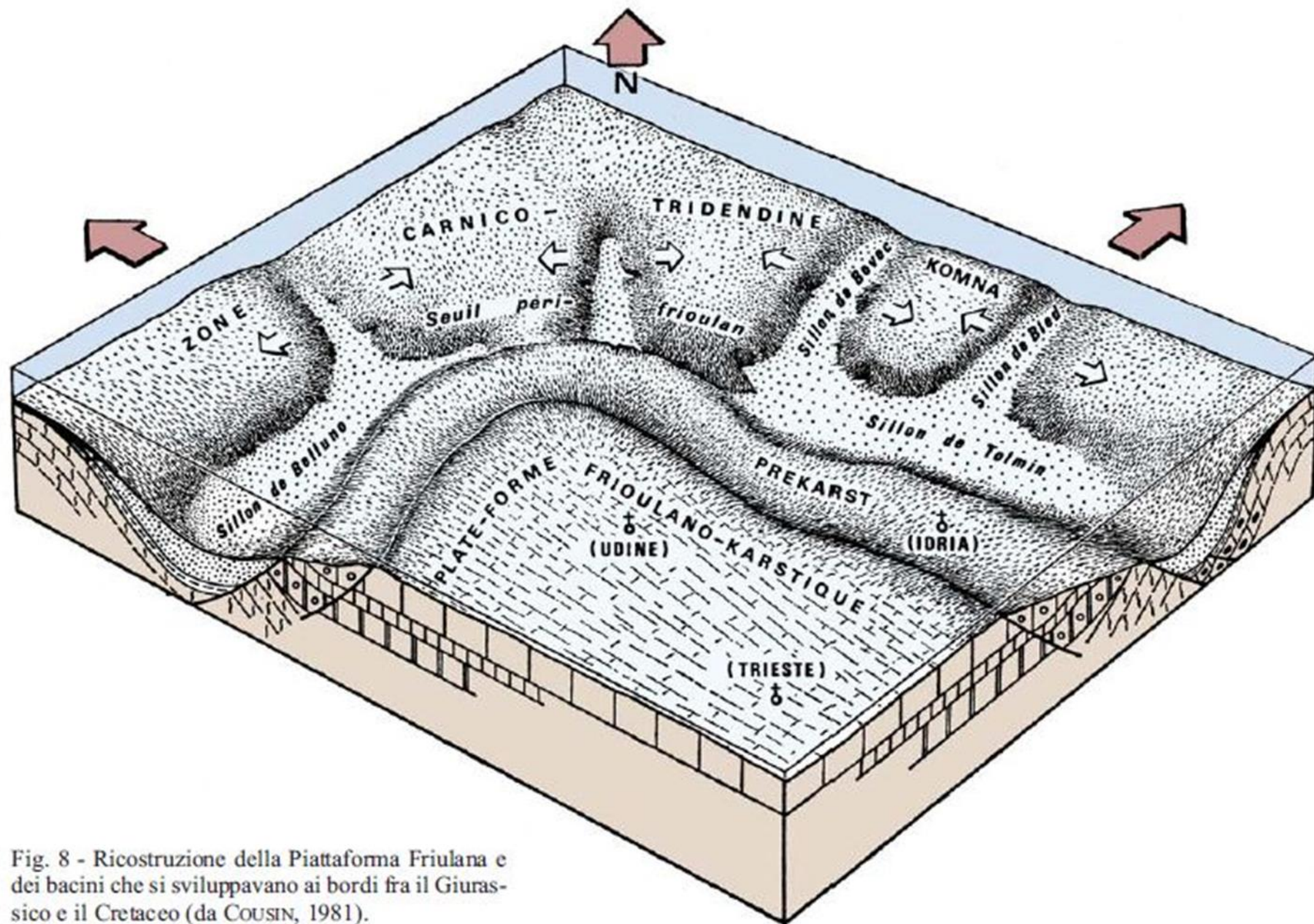
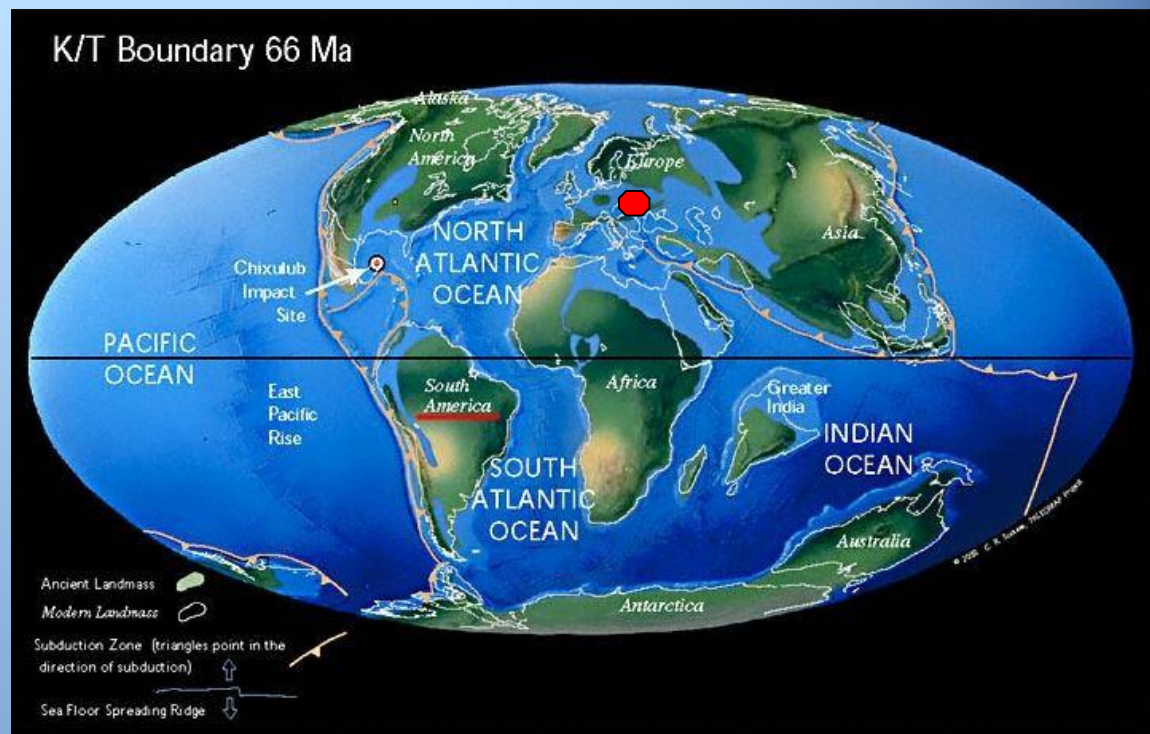


Fig. 8 - Ricostruzione della Piattaforma Friulana e dei bacini che si sviluppavano ai bordi fra il Giurassico e il Cretaceo (da COUSIN, 1981).

passaggio

Cretaceo - Terziario

66 milioni anni



Scotese, 1997



CALCARI

Miocene

23 - 5 milioni anni

Middle Miocene 14 Ma

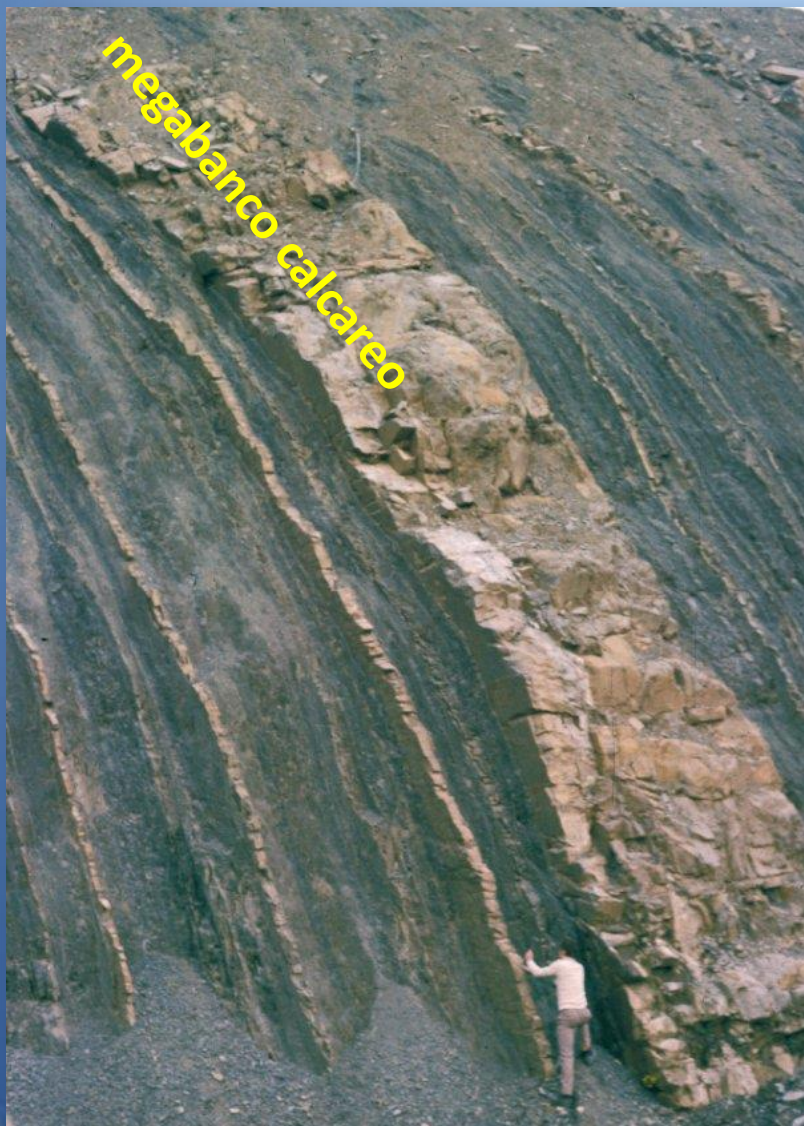


Scotese, 1997

CALCARI e CARISMO

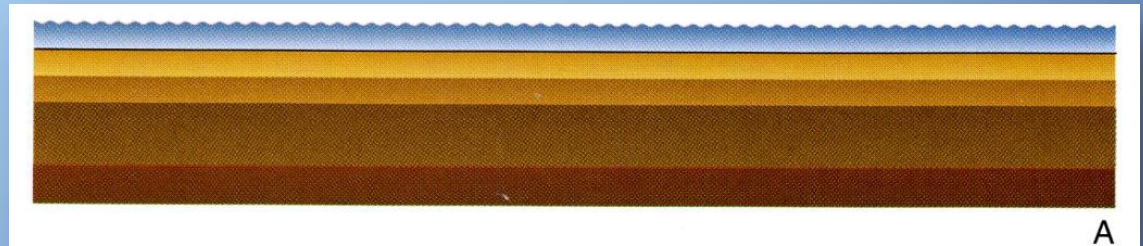


FLYSCH e CARSIAMO



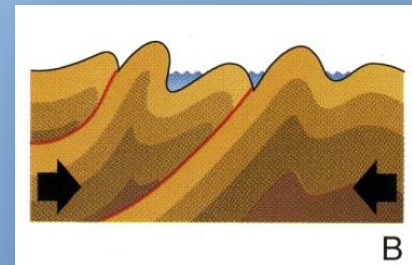
Le montagne sono il risultato di differenti processi che sono avvenuti e continuano ad avvenire nella storia geologica:

- processo litogenetico : è responsabile della formazione delle rocce

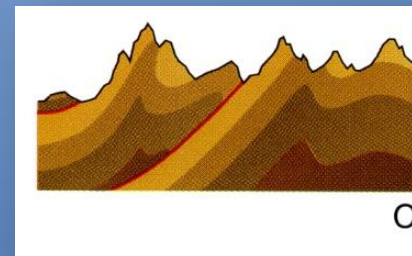


- processo orogenetico : porta al sollevamento delle rocce, è endogeno

(scontro fra grandi blocchi continentali
– teoria della tettonica a zolle)

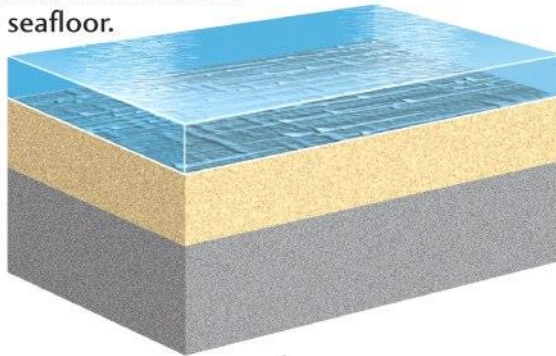


- processo morfogenetico : responsabile del modellamento, è esogeno



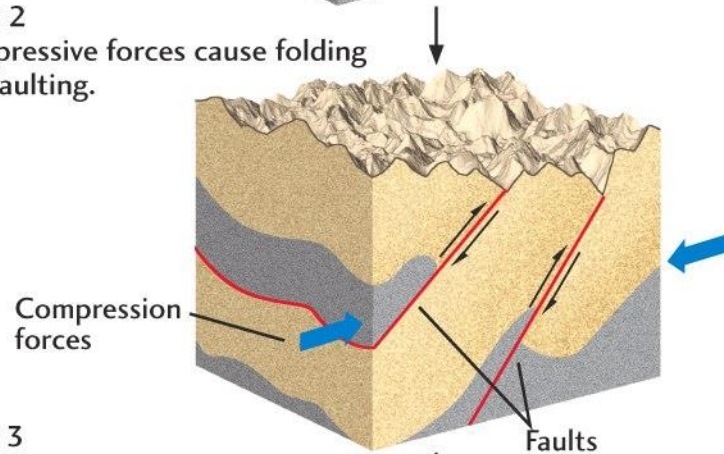
TIME 1

Horizontally stratified sediments are deposited on the seafloor.



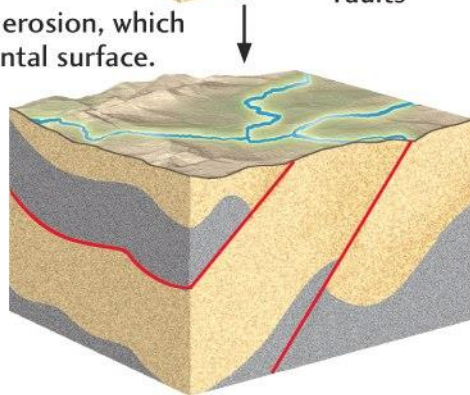
TIME 2

Compressive forces cause folding and faulting.



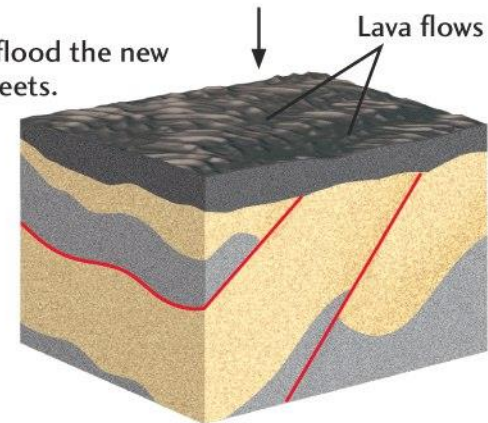
TIME 3

Uplift is followed by erosion, which creates a new horizontal surface.



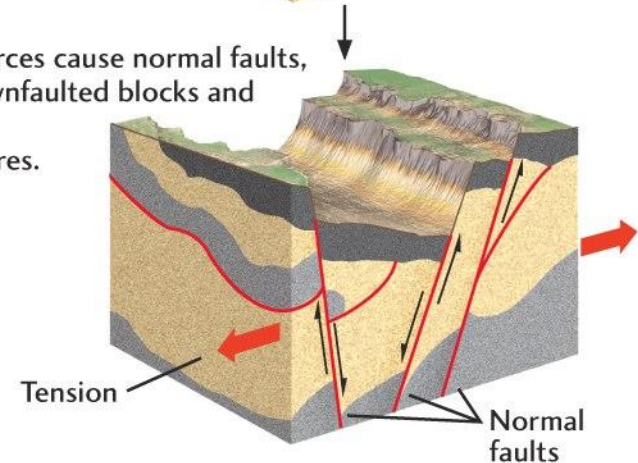
TIME 4

Volcanic eruptions flood the new surface with lava sheets.



TIME 5

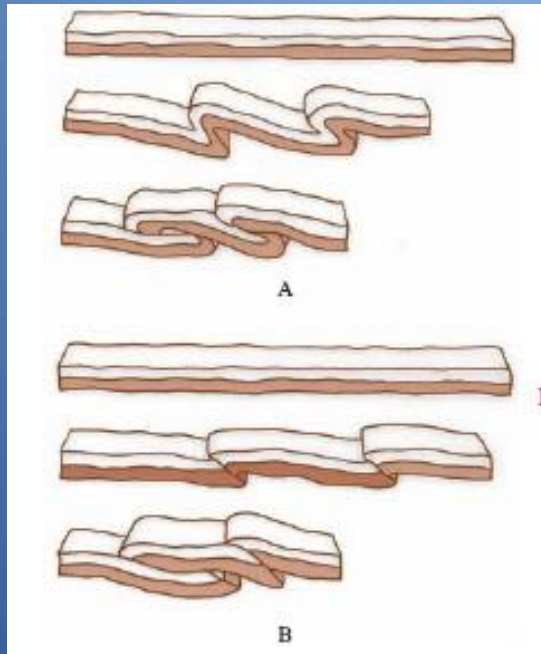
Tensional forces cause normal faults, creating downfaulted blocks and breaking up earlier features.





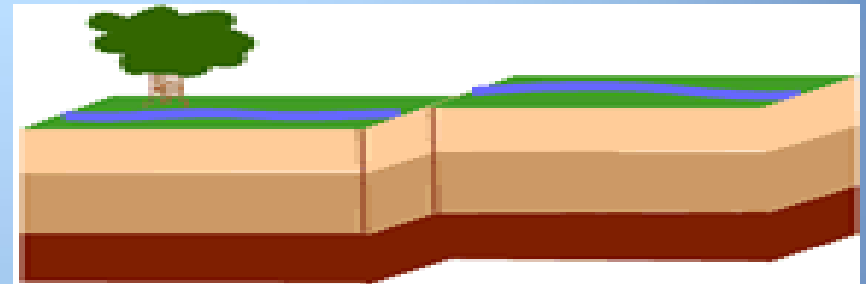
TETTONICA

I sedimenti originariamente
orizzontali
ora possono presentarsi
inclinati

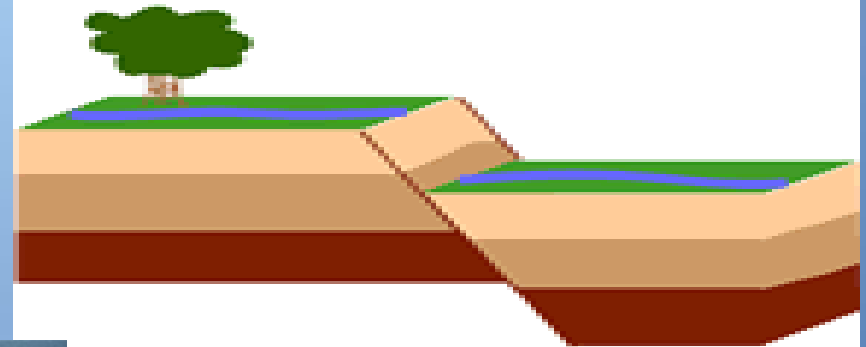


pieghe

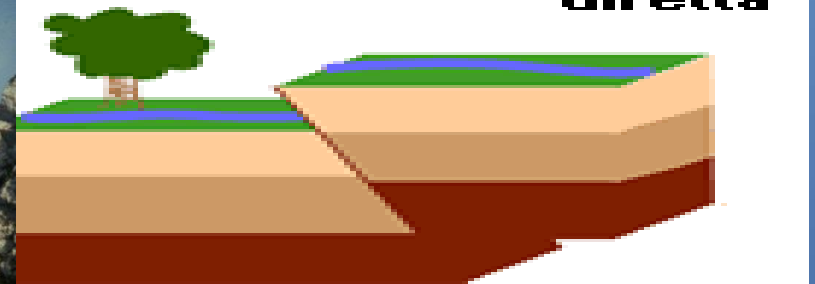
faglie



trascorrente

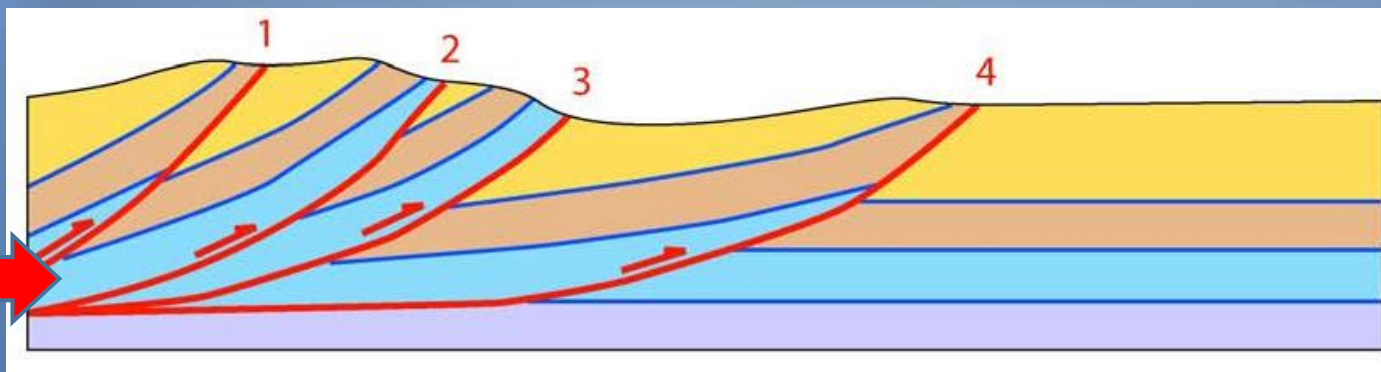
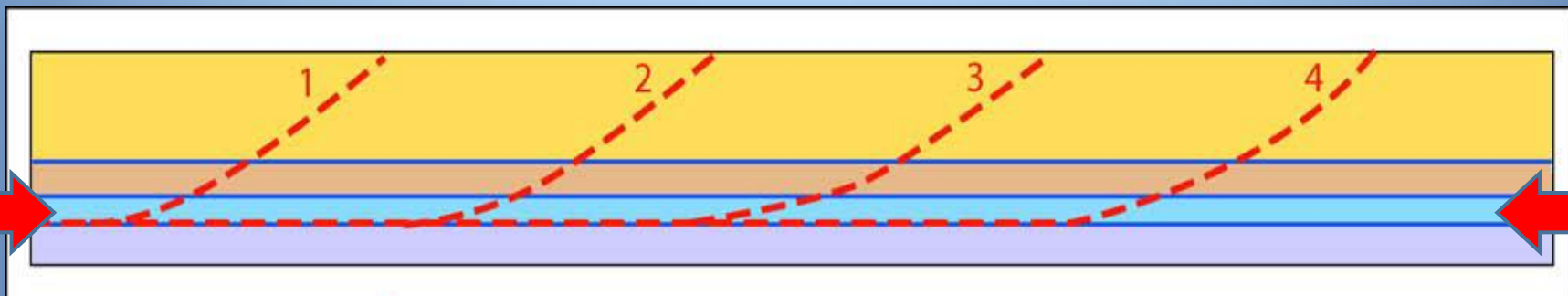


diretta



inversa



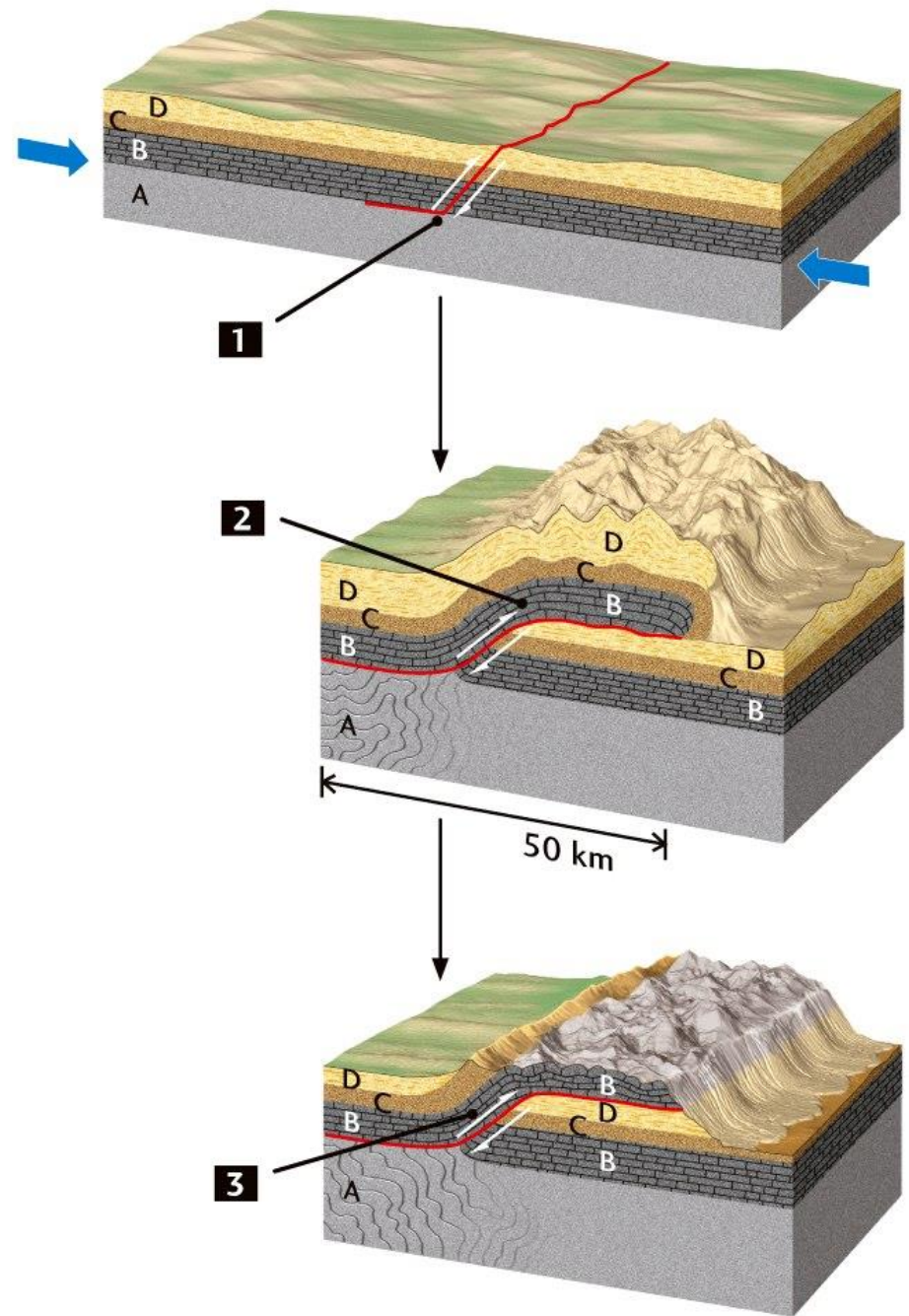


TETTONICA COMPRESSIVA - **SOVRASCORRIMENTI** modalità di propagazione

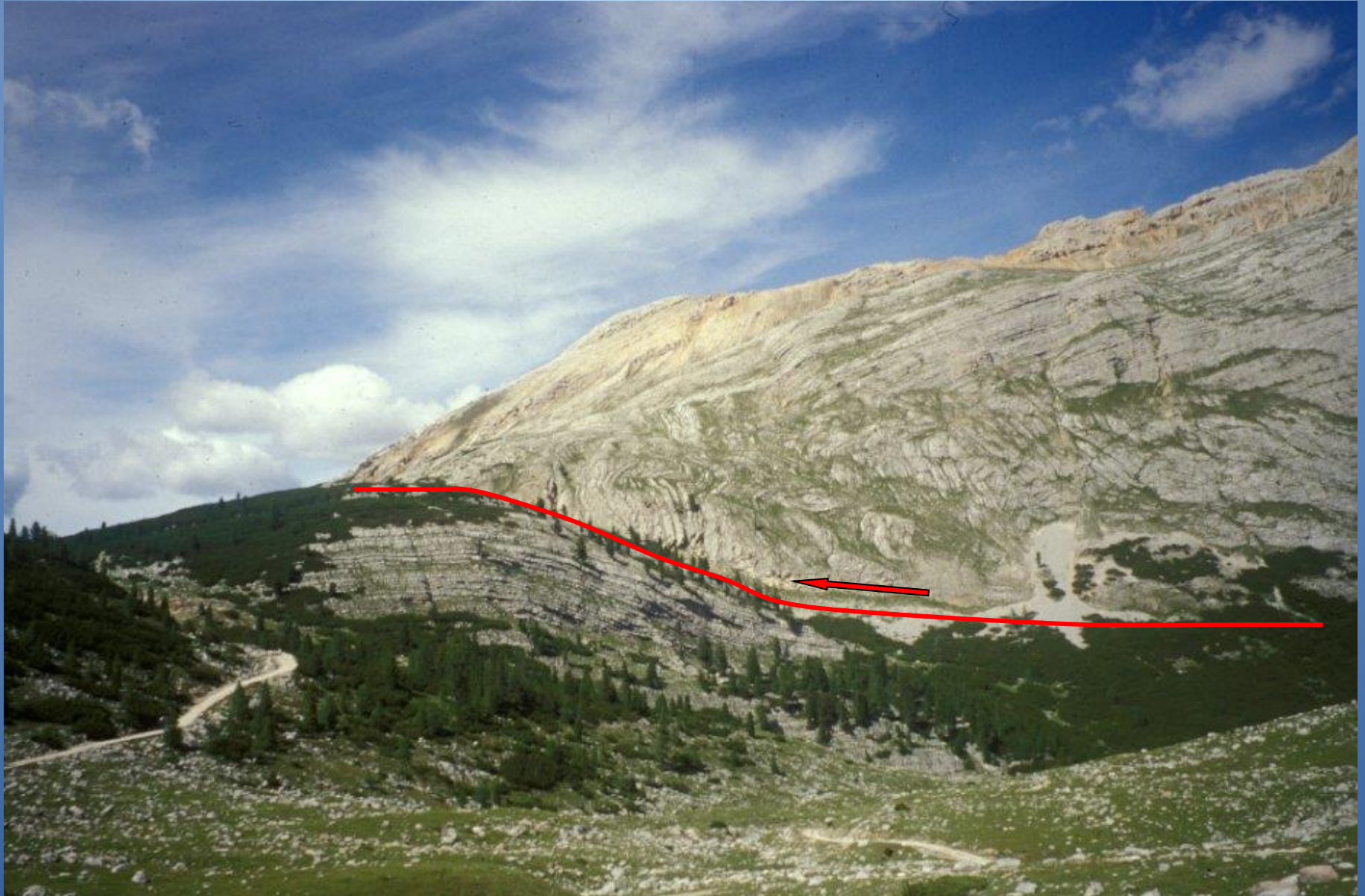
Doglioni e Carminati, 2008

cosa sono i
sovrascorrimenti?

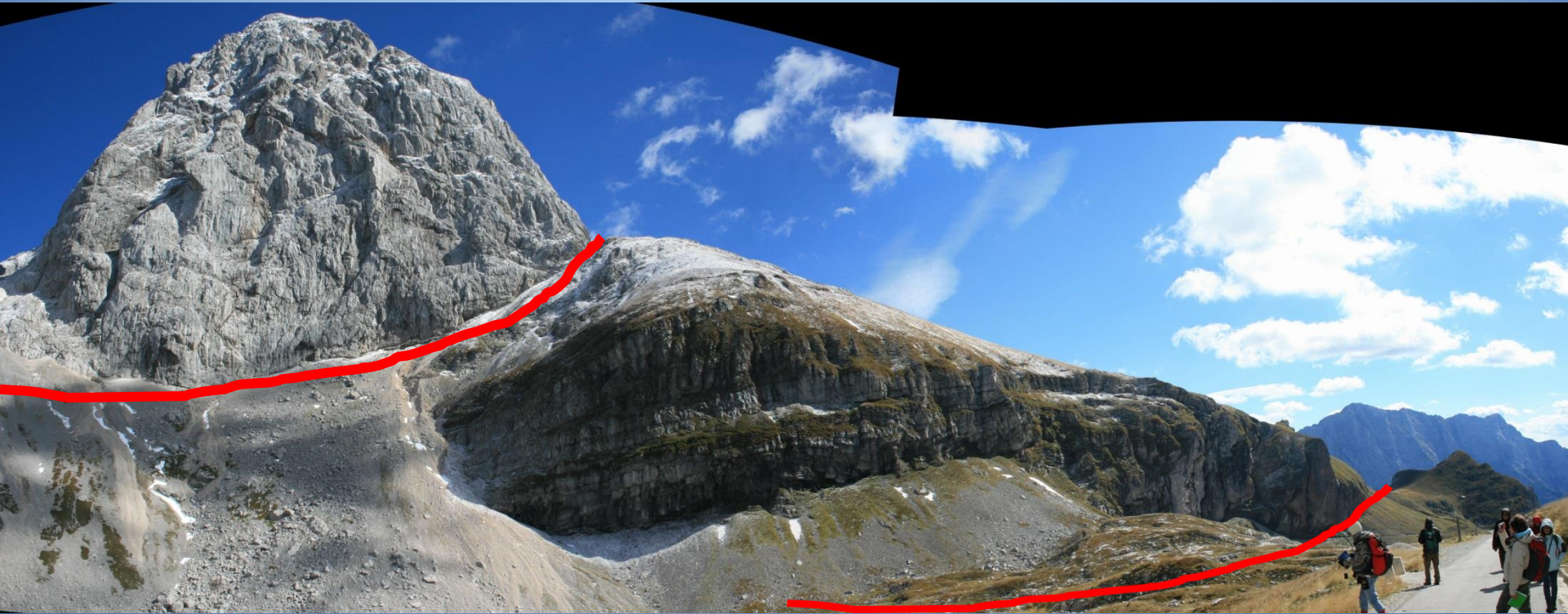
sono enormi
faglie inverse



SOVRASCORRIMENTI



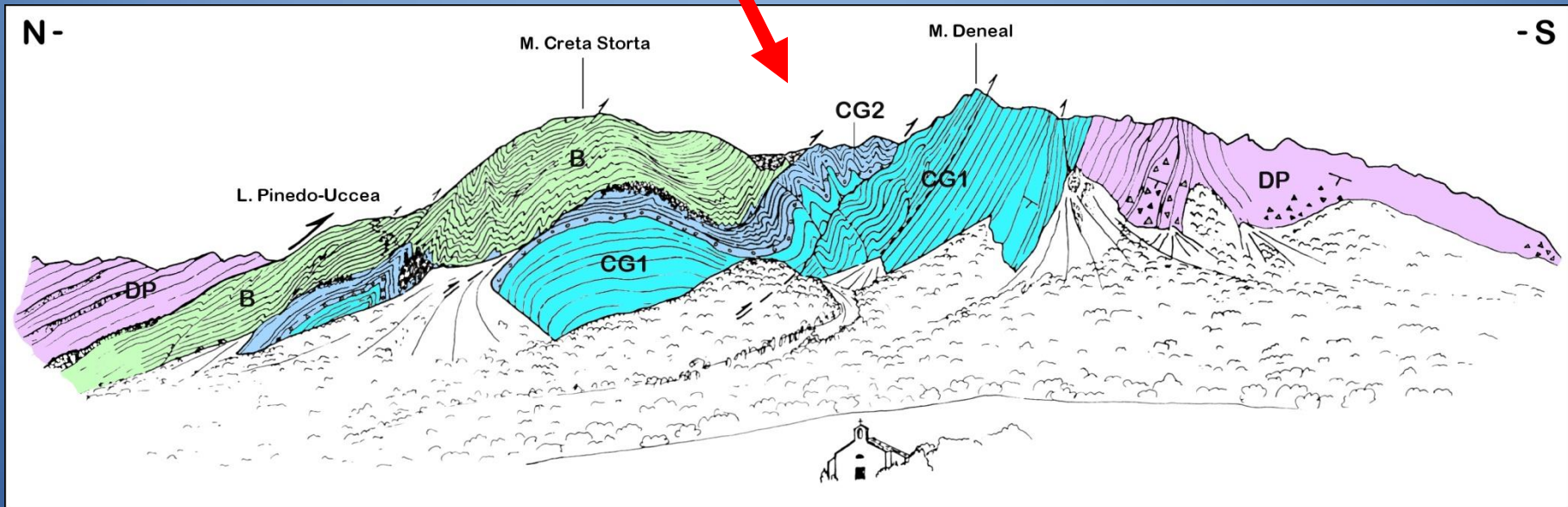
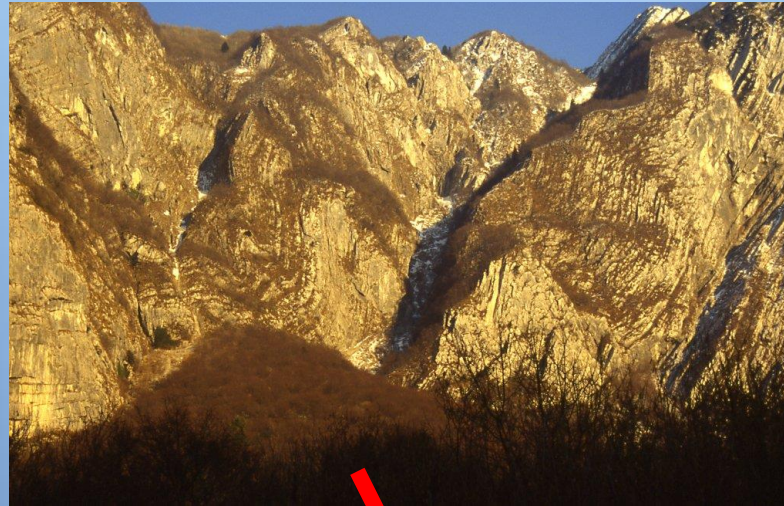
SOVRASCORRIMENTO DEL MANGART





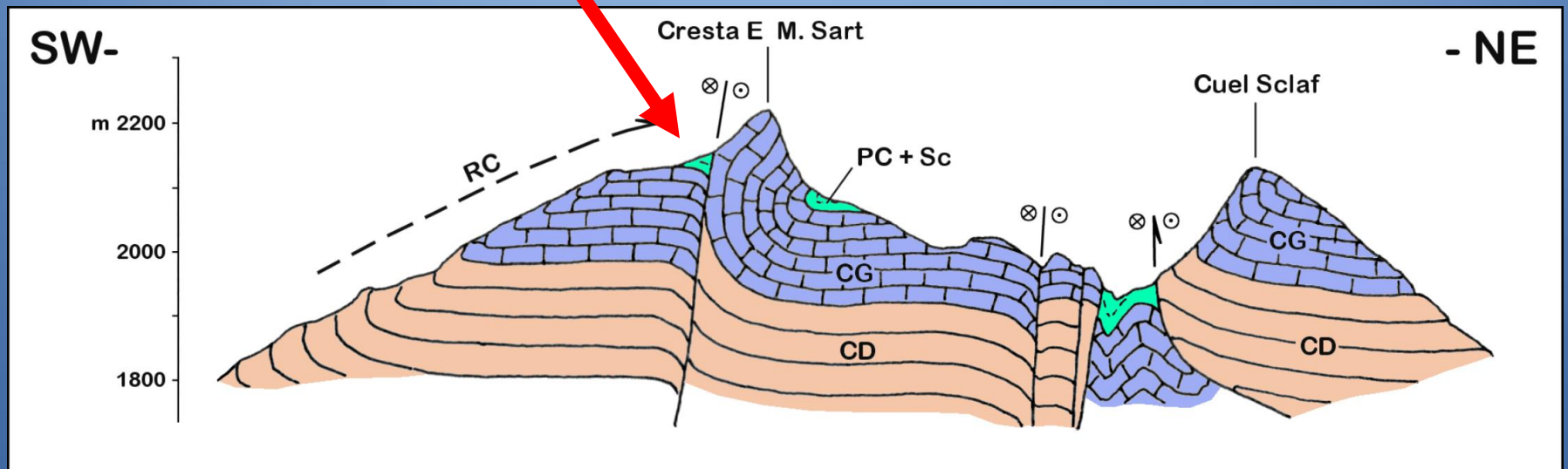
Monte Deneal: la struttura

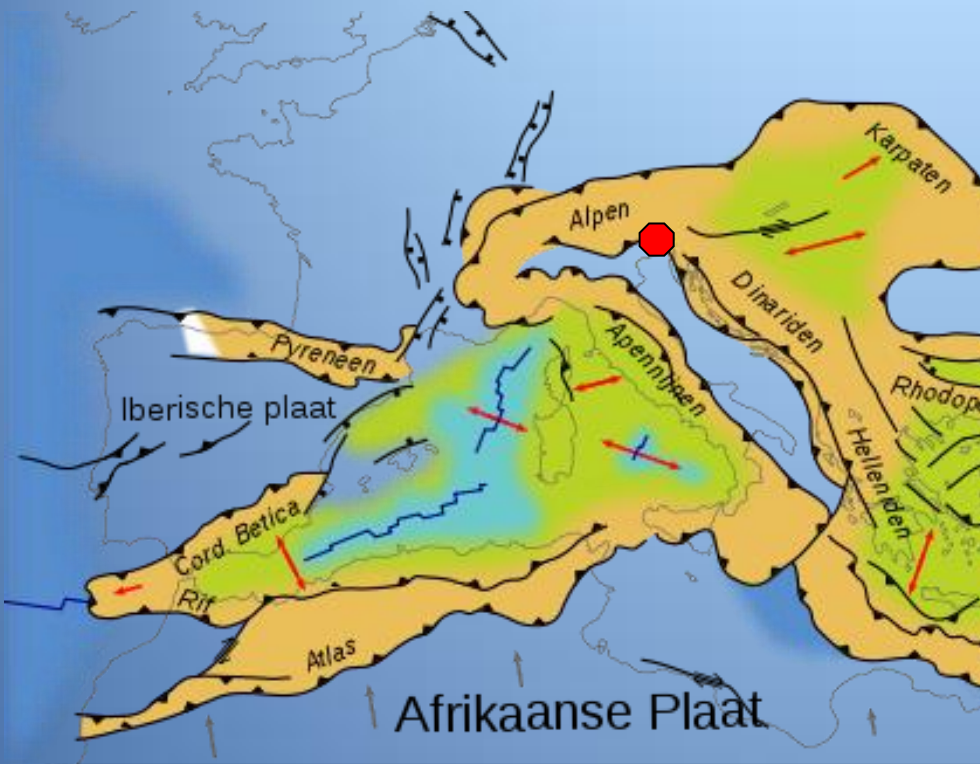
M. Ponton 2000

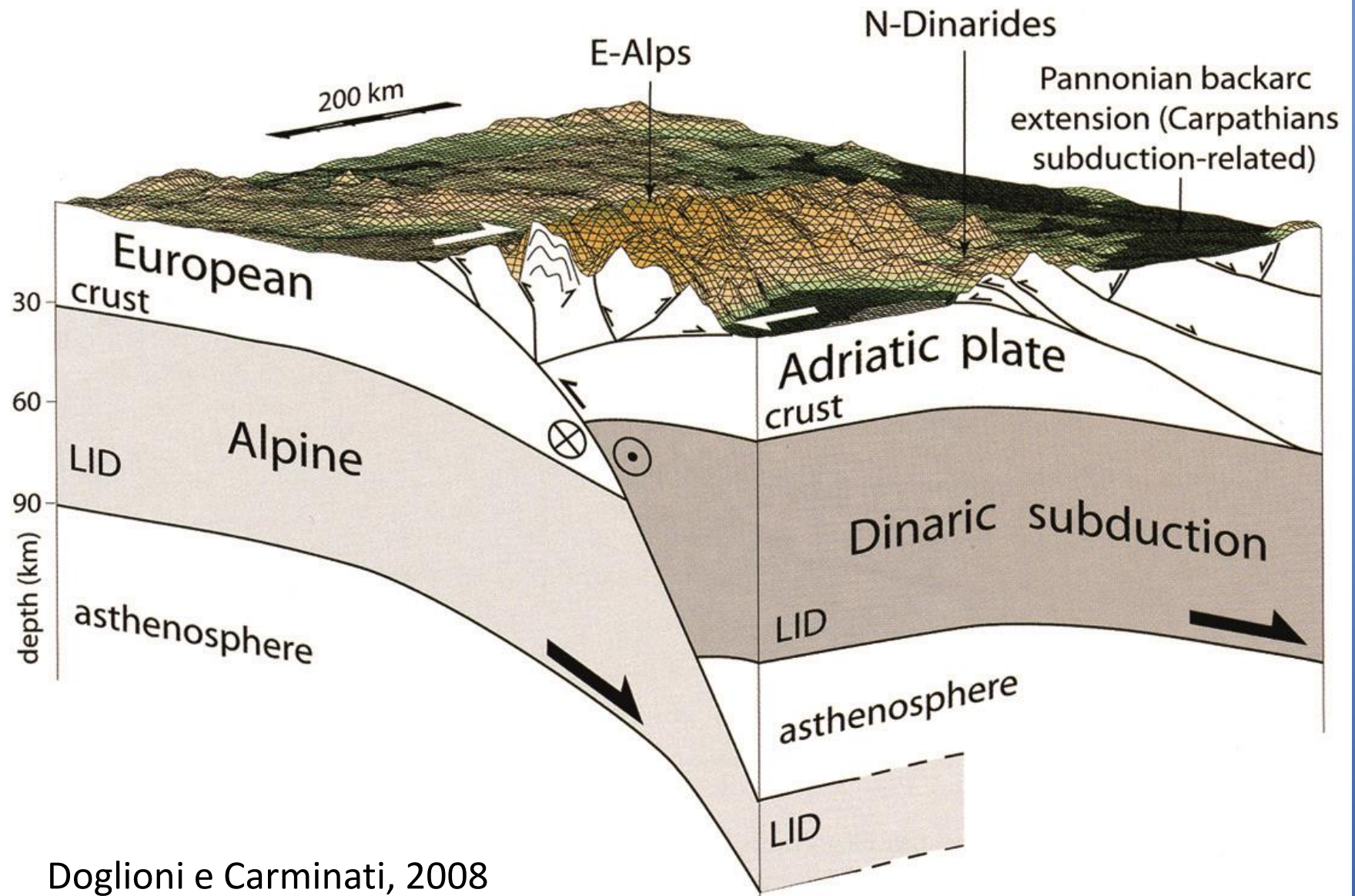




- Il Monte Sart:
- La sua struttura

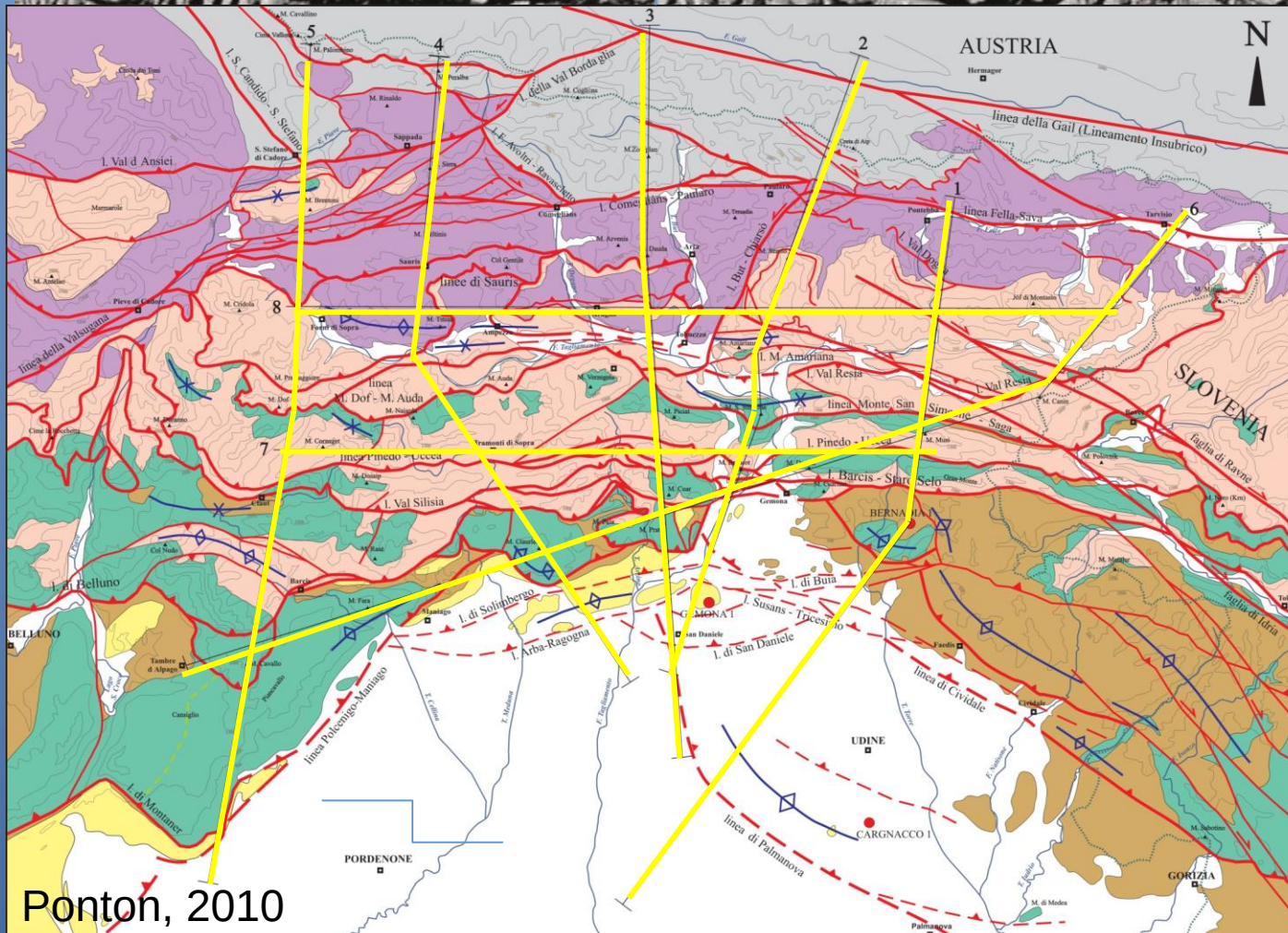




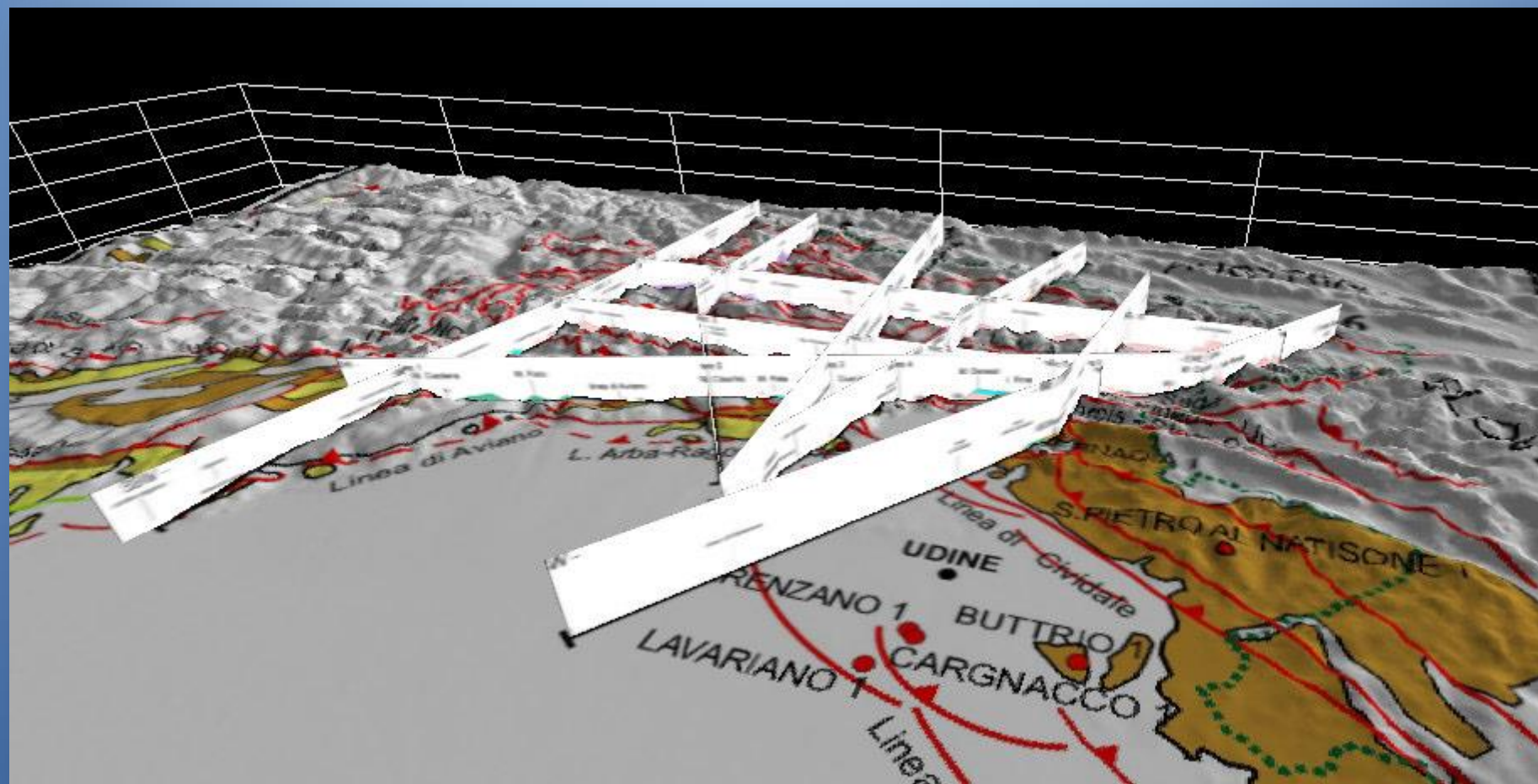


Doglioni e Carminati, 2008

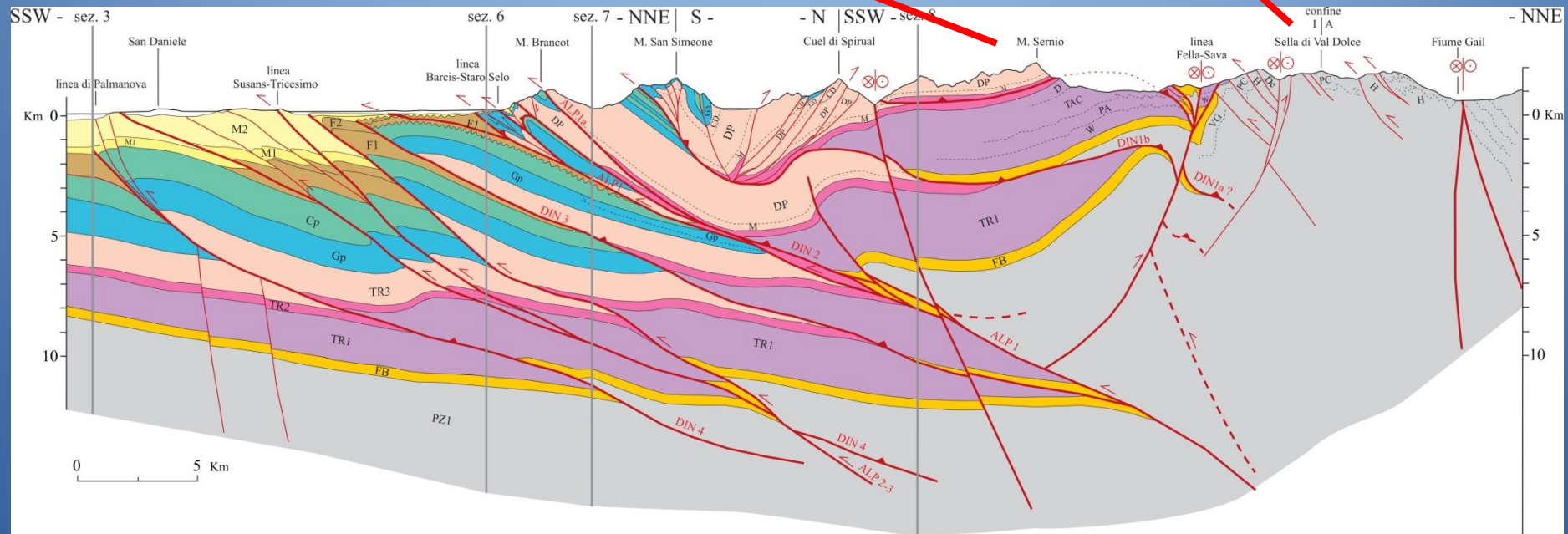




Montagne a fette: le sezioni

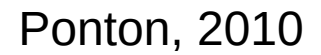


sezione 2 M.Brancot-M. San Simeone-M. Sernio

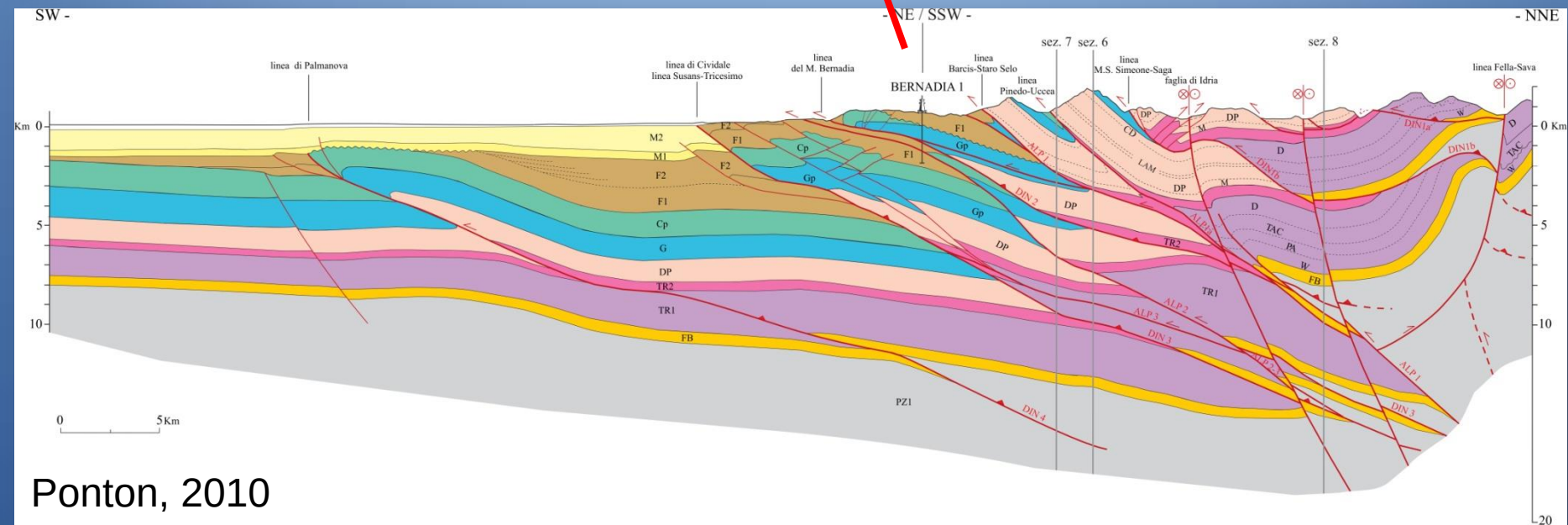


Ponton, 2010

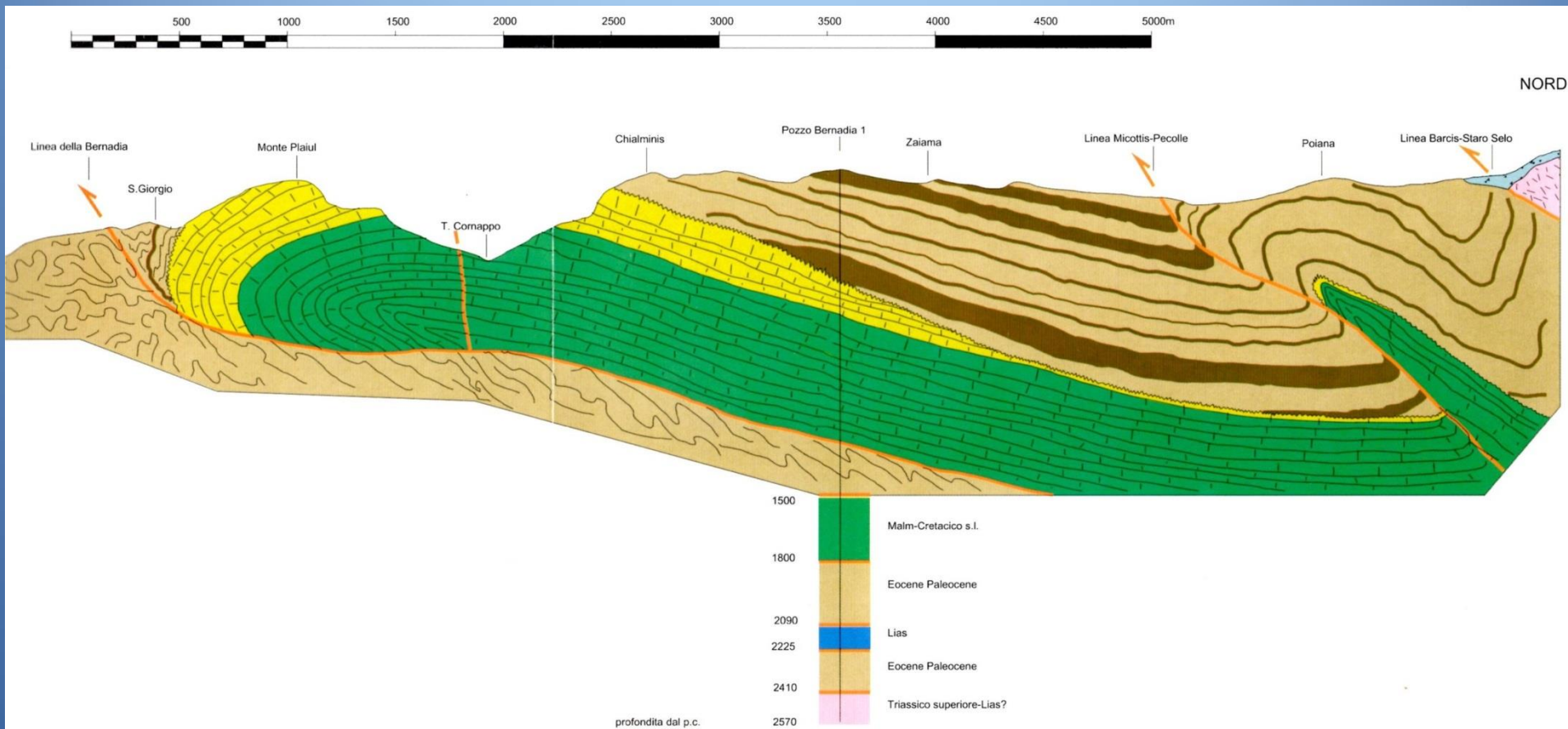
A wide panoramic photograph of a mountain range under a clear blue sky. The foreground shows a valley with some buildings and smokestacks. The middle ground features several dark, forested mountain peaks. In the background, snow-capped mountain ranges are visible against the horizon.



sezione 1 M.Bernadia-Val Resia-Val Canale



La Bernadia



Pieghe del Monte Zuogna



epic
e mec
focali
terren



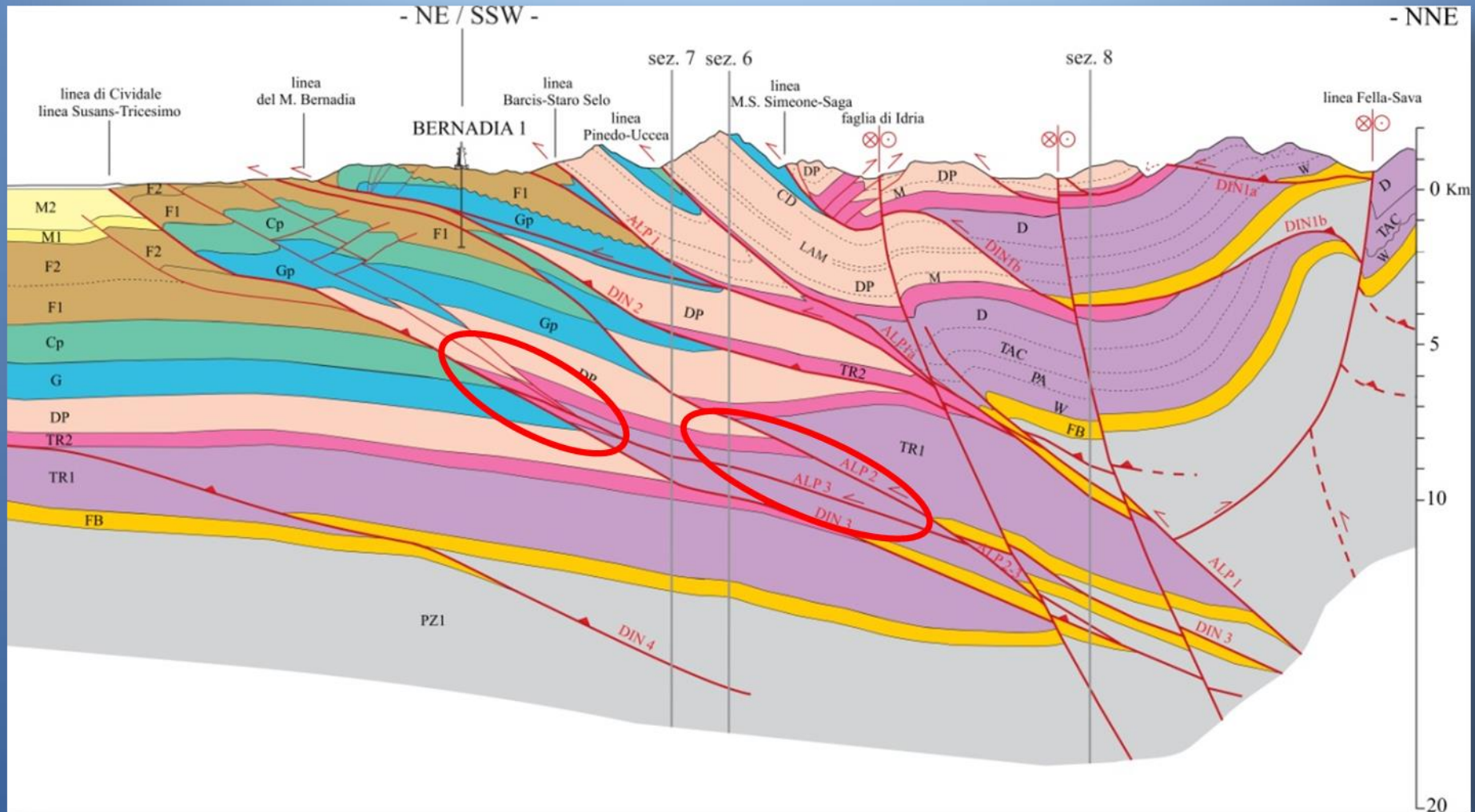
46.33 46.29

SIS

Tagliame

0 5 km

ubicazione dei terremoti in profondità





GRAZIE PER L'ATTENZIONE