

The Briançonnais fossil "marginal plateau" in the Western Alps: tectono-sedimentary evolution, restoration

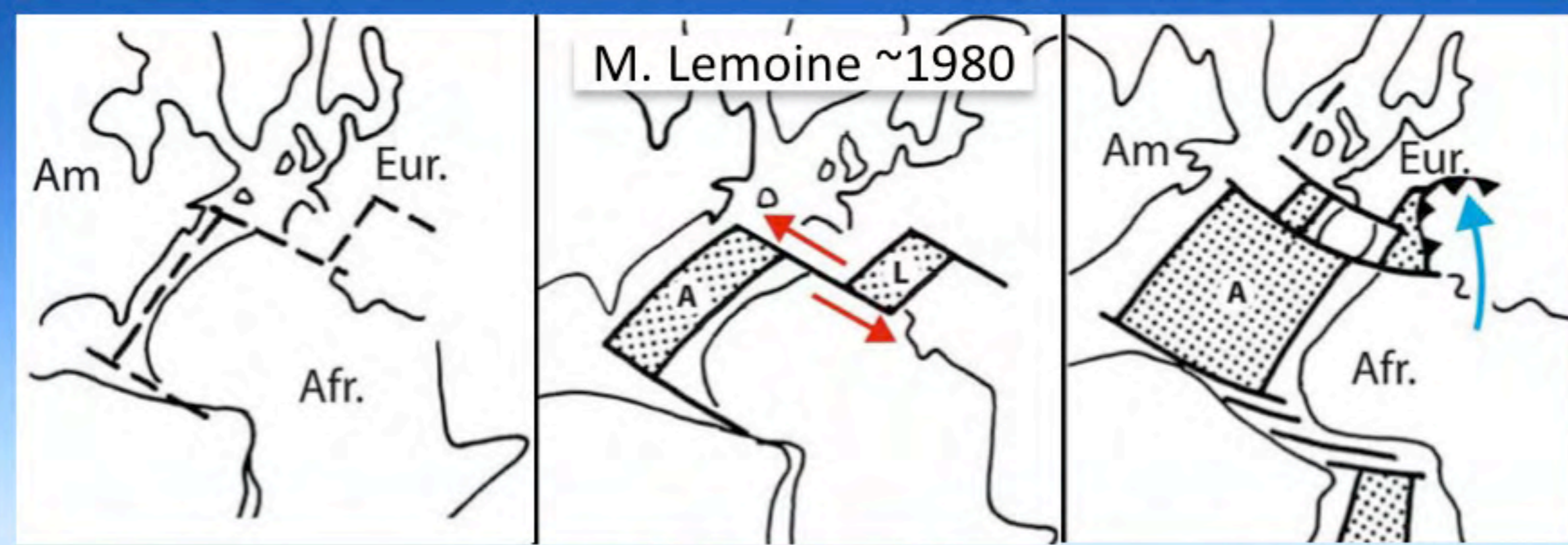
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Geodynamic sketch

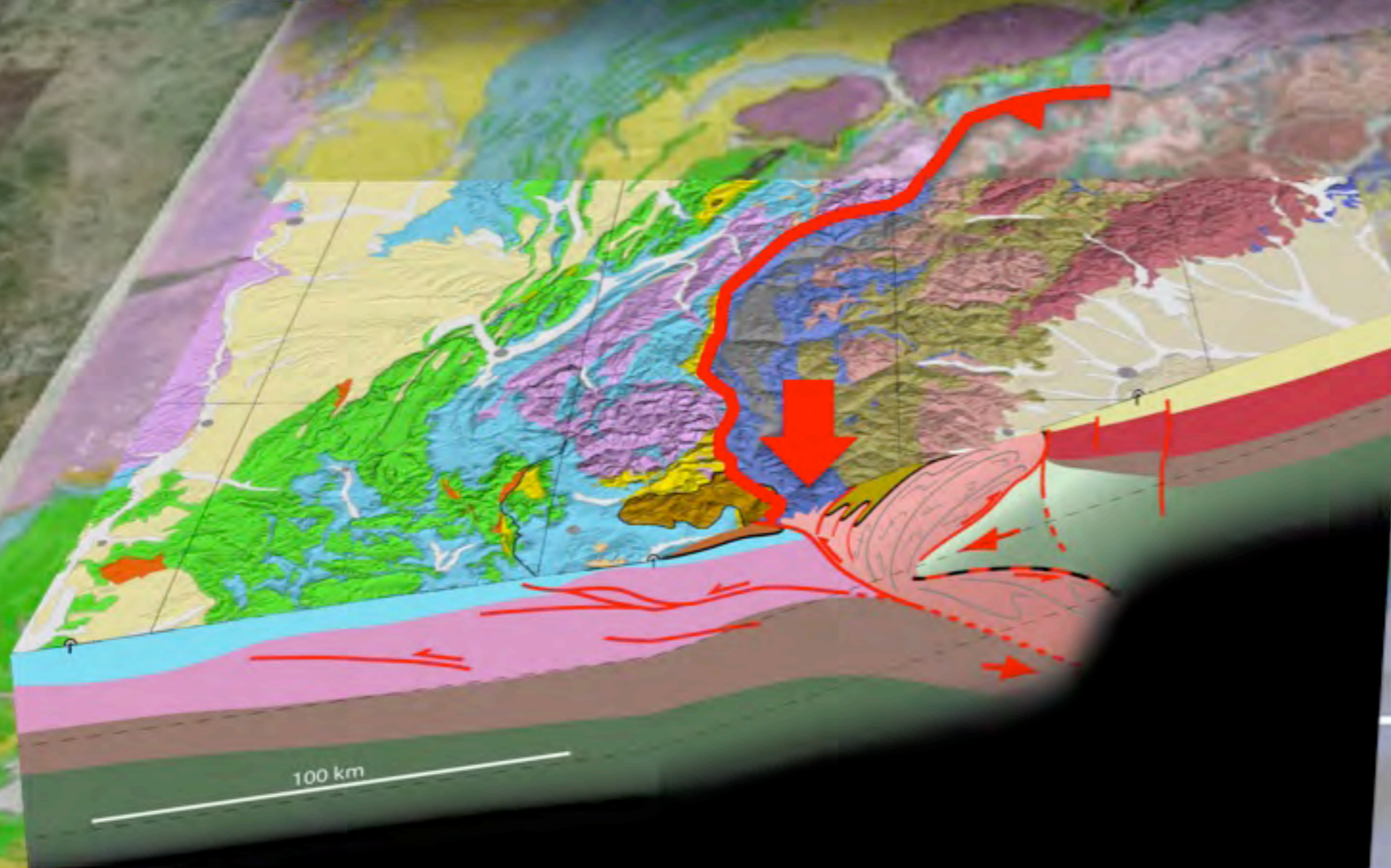
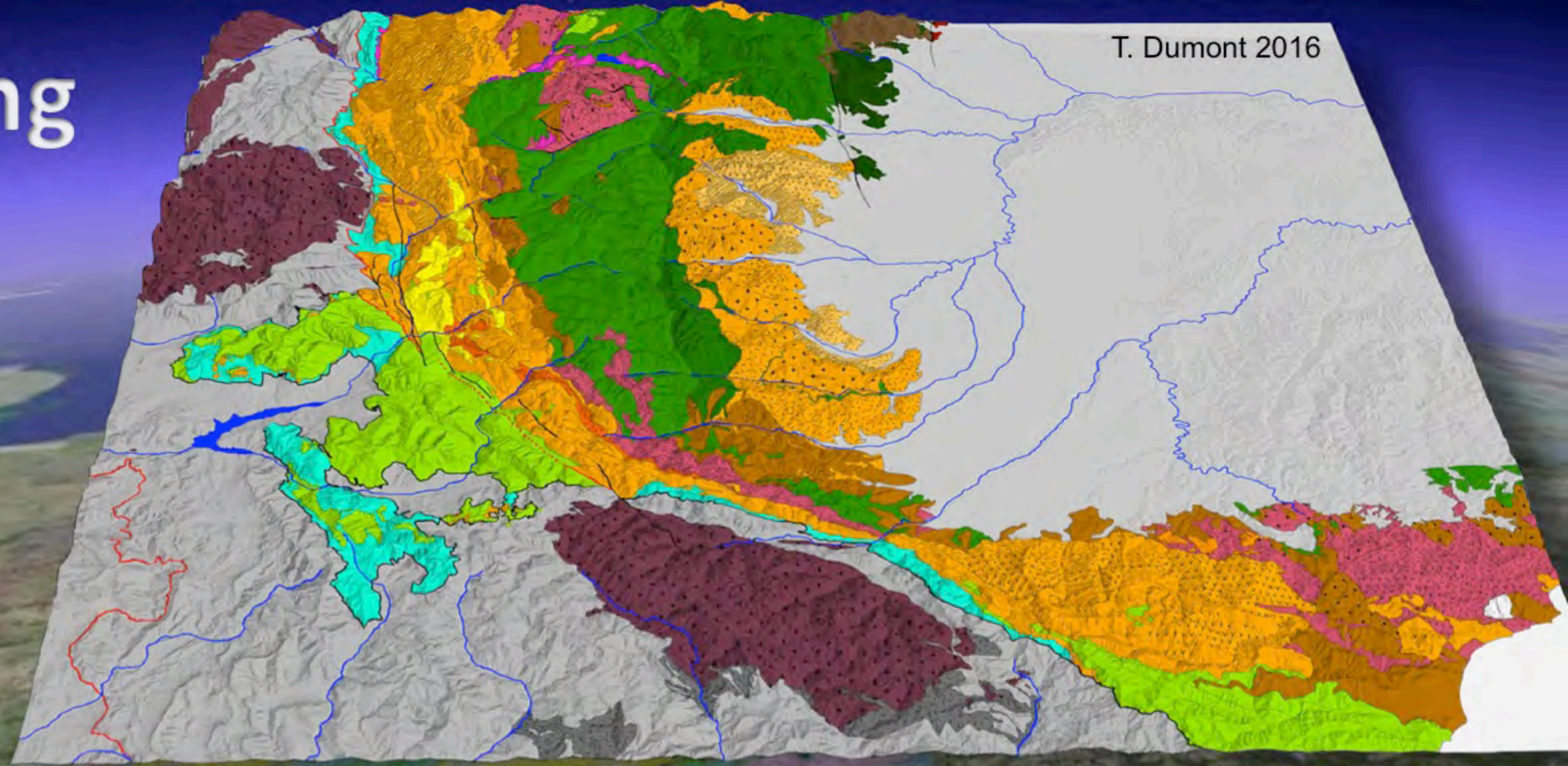


- Alpine collision
- Convergence, subduction
- Passive margin, drifting?
- Jurassic rifting
- Triassic subsidence
- Late Hercynian setting

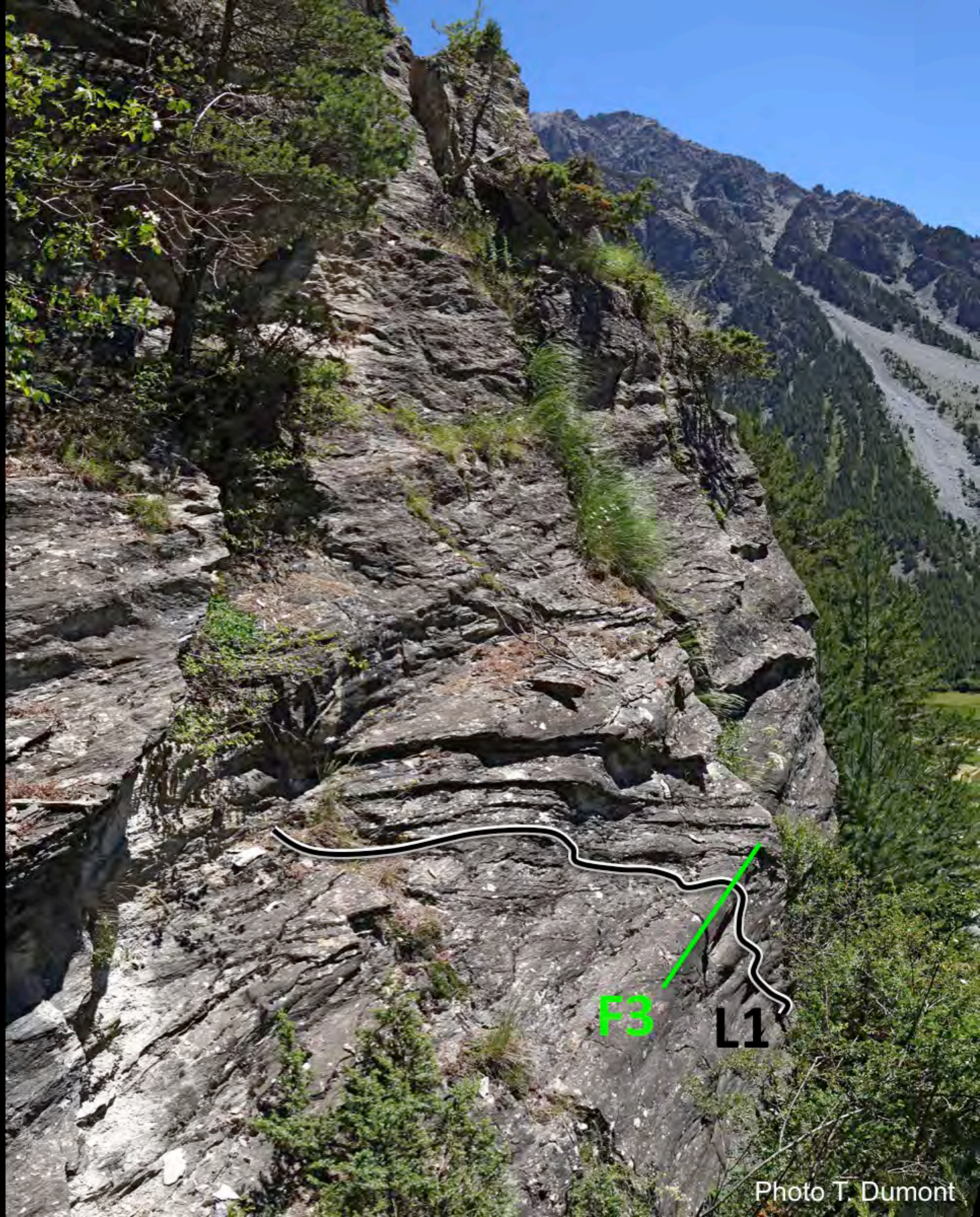
TERTIARY	PALEOGENE	NEOGENE	PLIOCENE	PLIOCENE
				PLIOCENE
				MISSISSIPPIAN
				TERTIARY
				SEMIAN
				LANGHIAN
				BURDIGALIAN
				ACQUEDUCAN
				CHATTIAN
				RUPELIAN
				PRABONIAN
				BARTONIAN
				LUTETIAN
				YPRESIAN
				SELANDIAN
				DANIAN
				MAASTRICHTIAN
				CAMPANIAN
				SANTONIAN
				CONIACIAN
				TURONIAN
				CENOMANIAN
				ALBIAN
				APTIAN
				BARREMIAN
				HAUTERIVIAN
				VALANGINIAN
				BERRIASIAN
				TITHONIAN
				KIMMERIDGIAN
				OXFORDIAN
				CALLOVIAN
				BATHONIAN
				BAJOCCIAN
				ALENIAN
				TOARCIC
				PLIENSCHACHIAN
				SINEMURIAN
				HETTANGIAN
				NORIAN
				CARNIAN
				LADINIAN
				ANISIAN
				OLENOKIAN
				CHANGSHIHOAN
				WUCHIAPINGIAN
				CAPTANIAN
				WUZHIAN
				BOGIAN
				KUNGURIAN
				ARTINSKIAN
				SARKARIAN
				ASSELIAN
				OSCHIAN
				KASIMOVIAN
				MOSCOVIAN
				BASHKIRIAN
				SERPUKHOVIAN
				VISEAN
				TOURNAISIAN

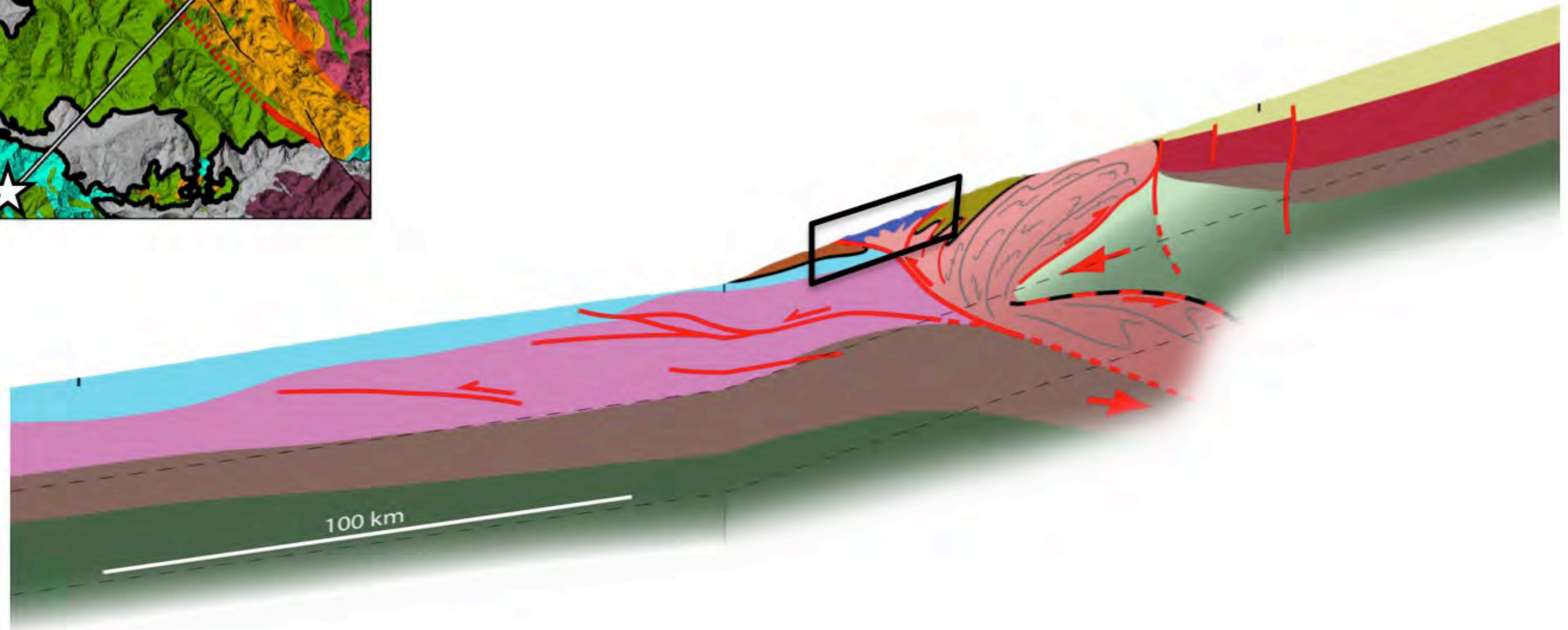
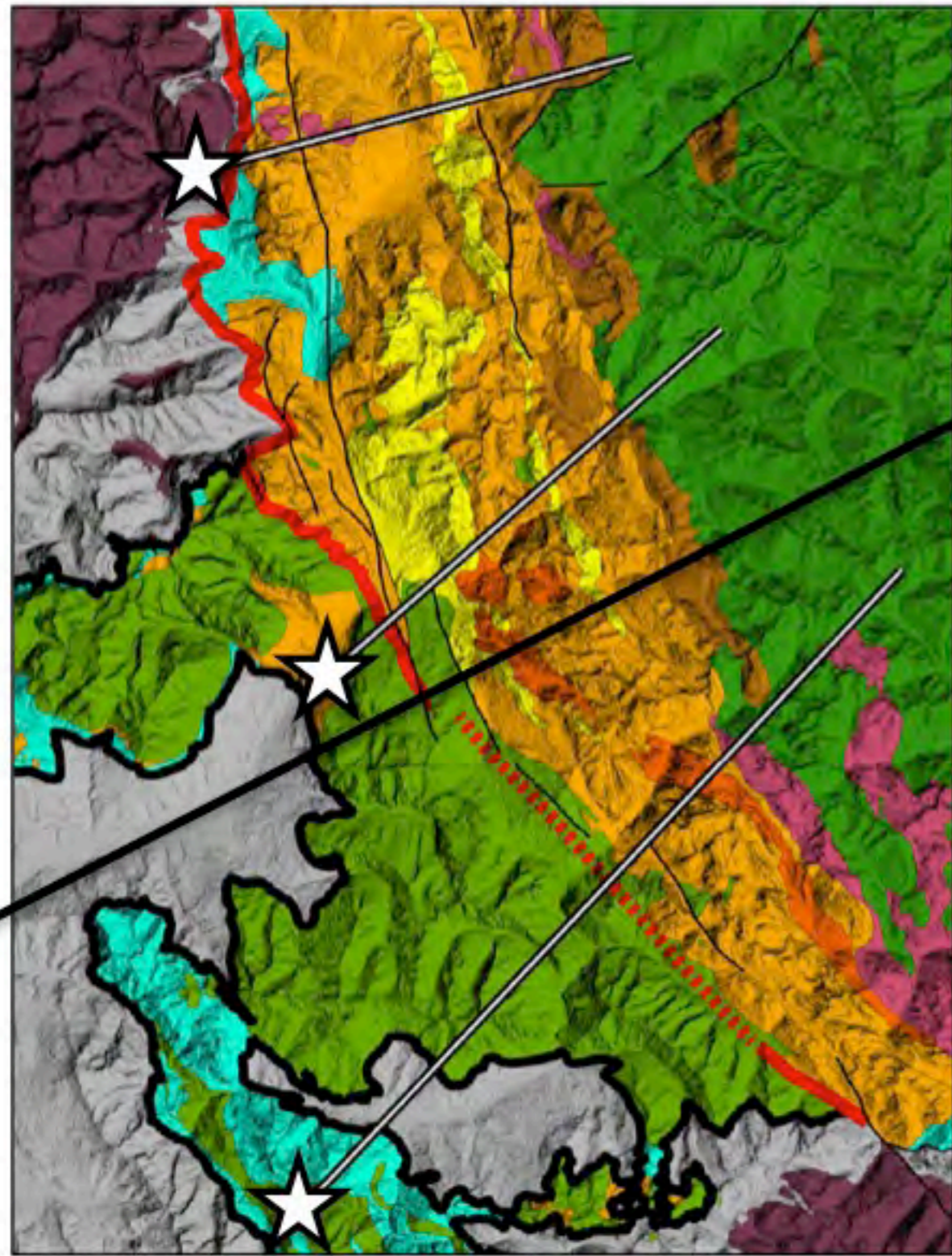
Alpine setting

T. Dumont 2016

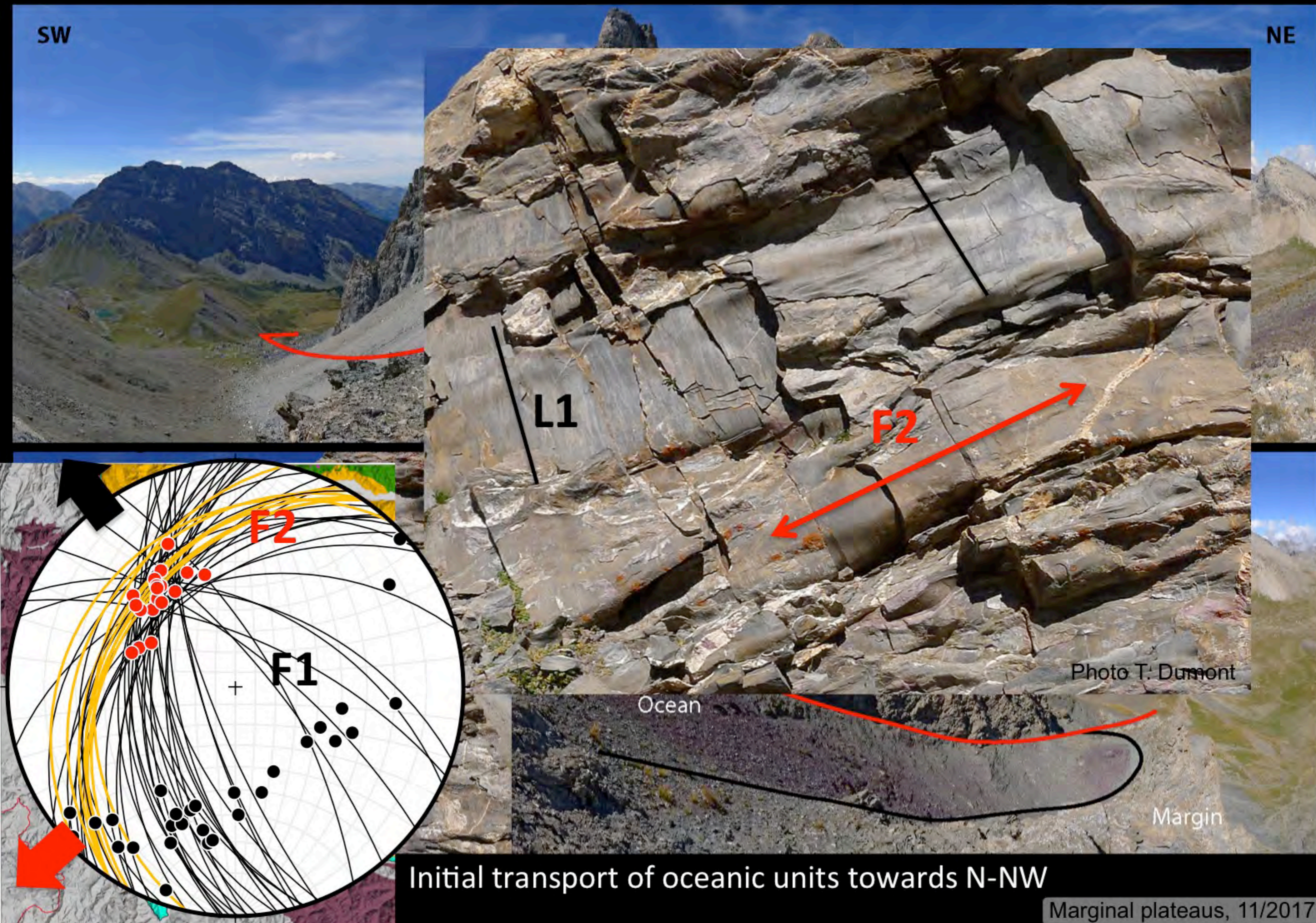


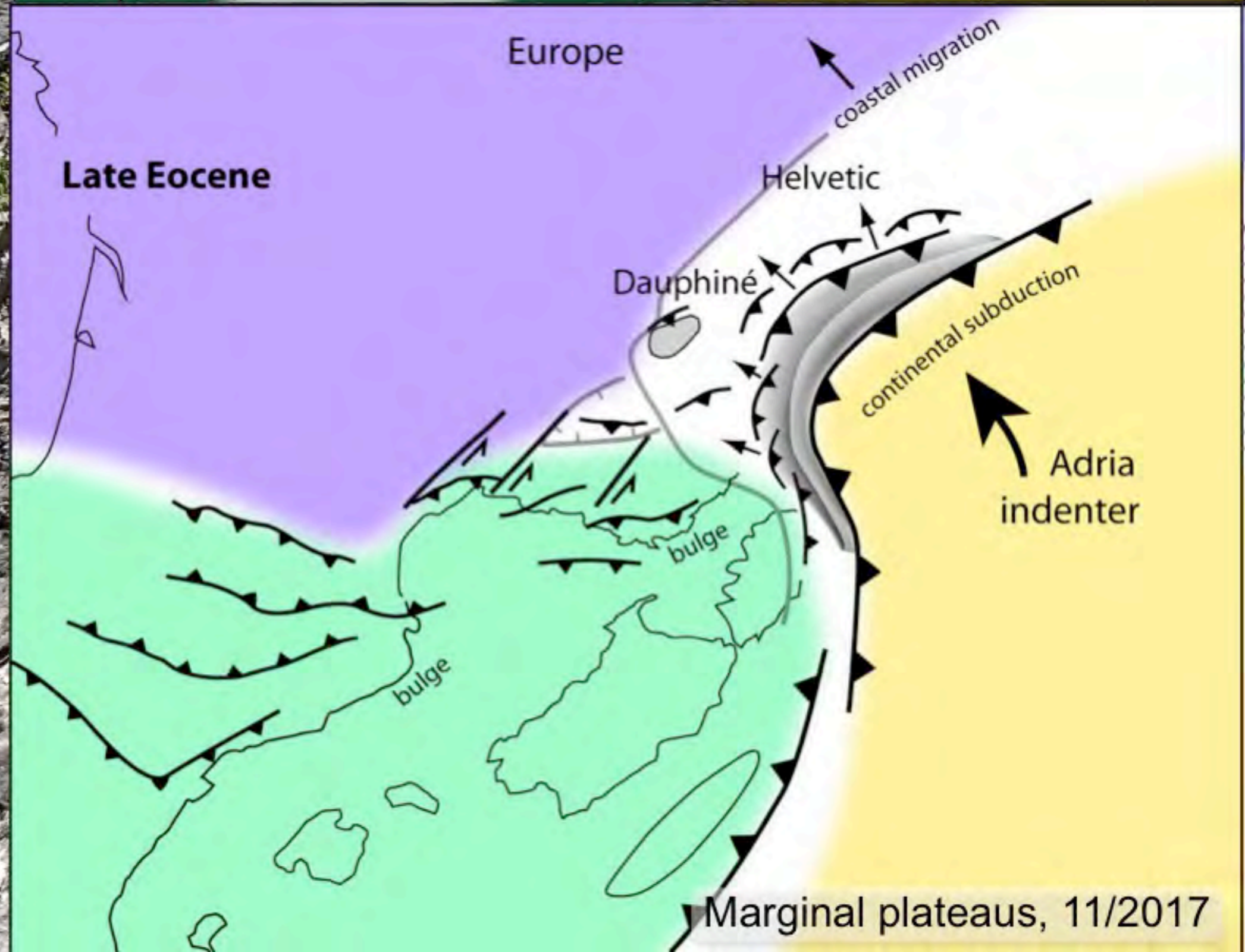
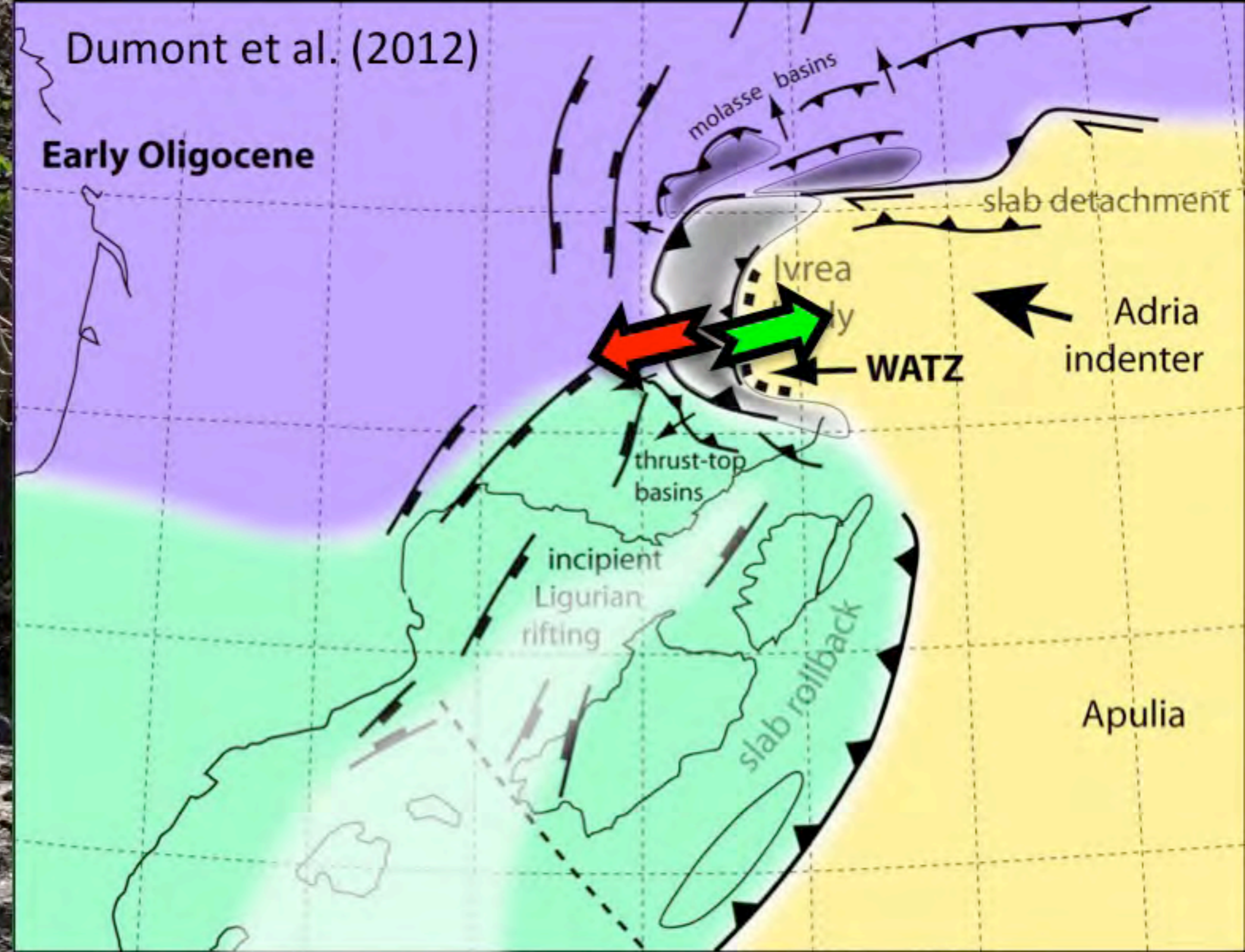
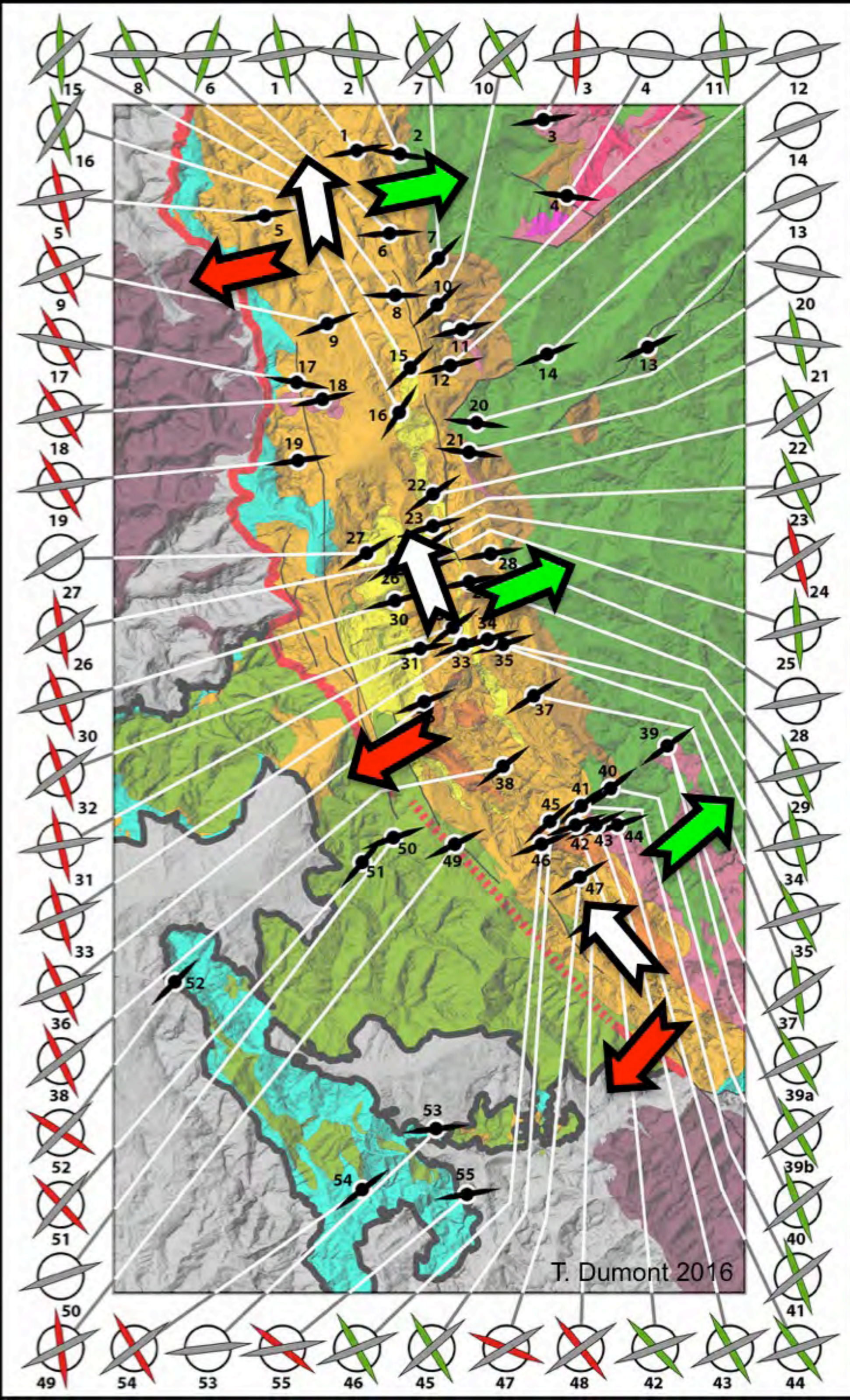
Alpine deformation, restoration

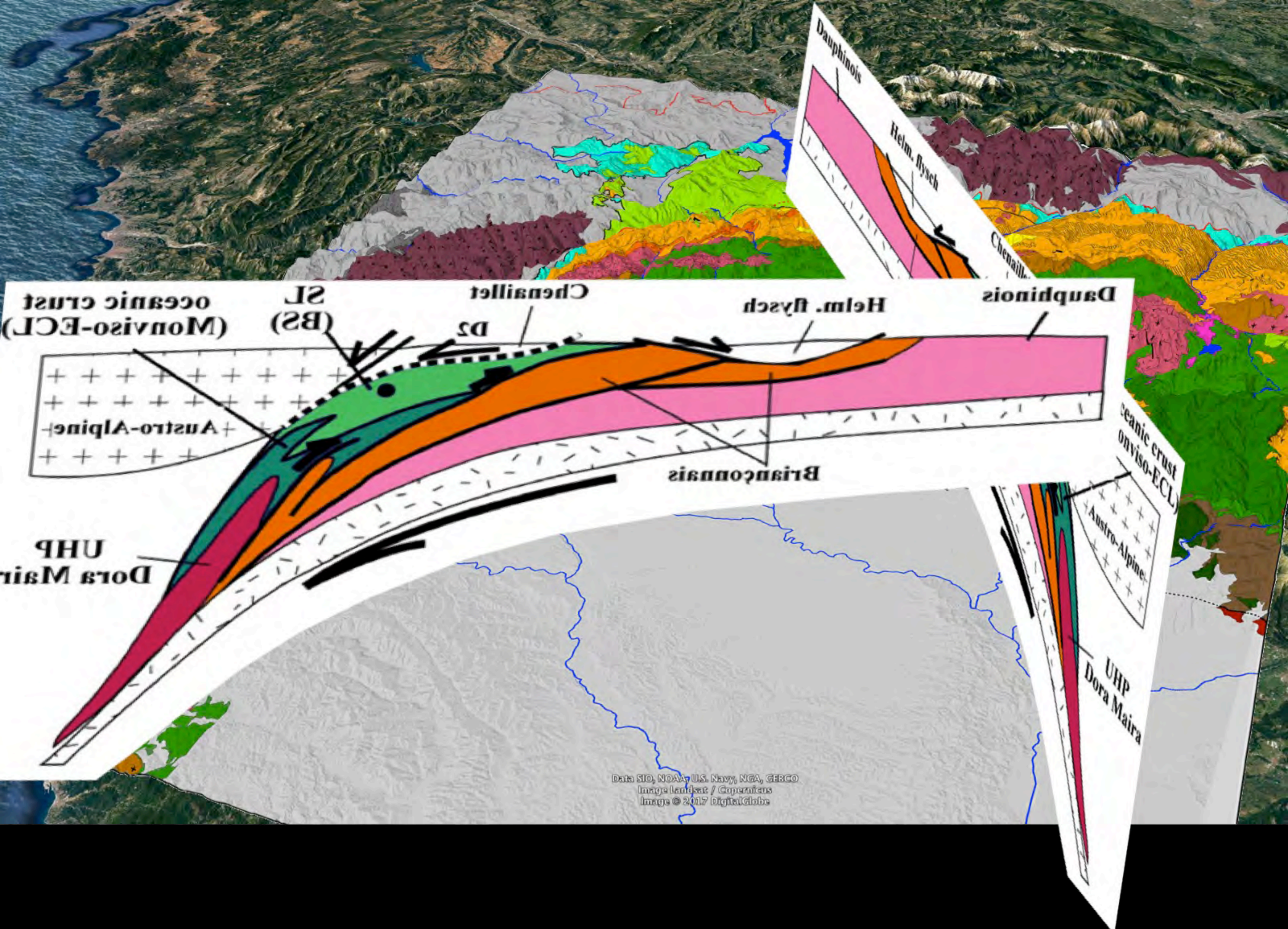




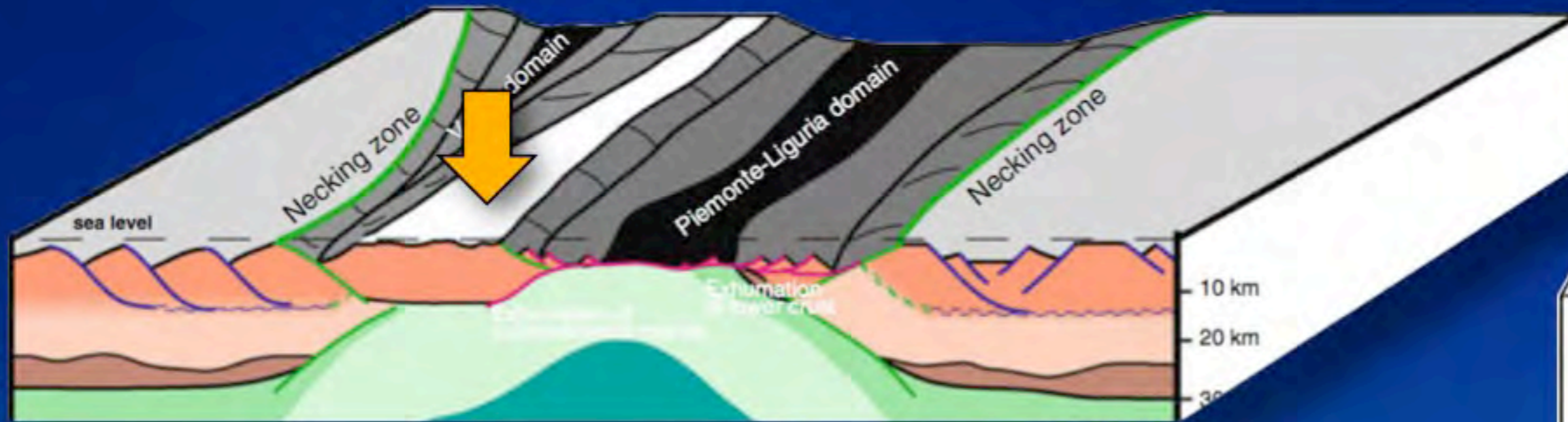
Change in tectonic transport directions



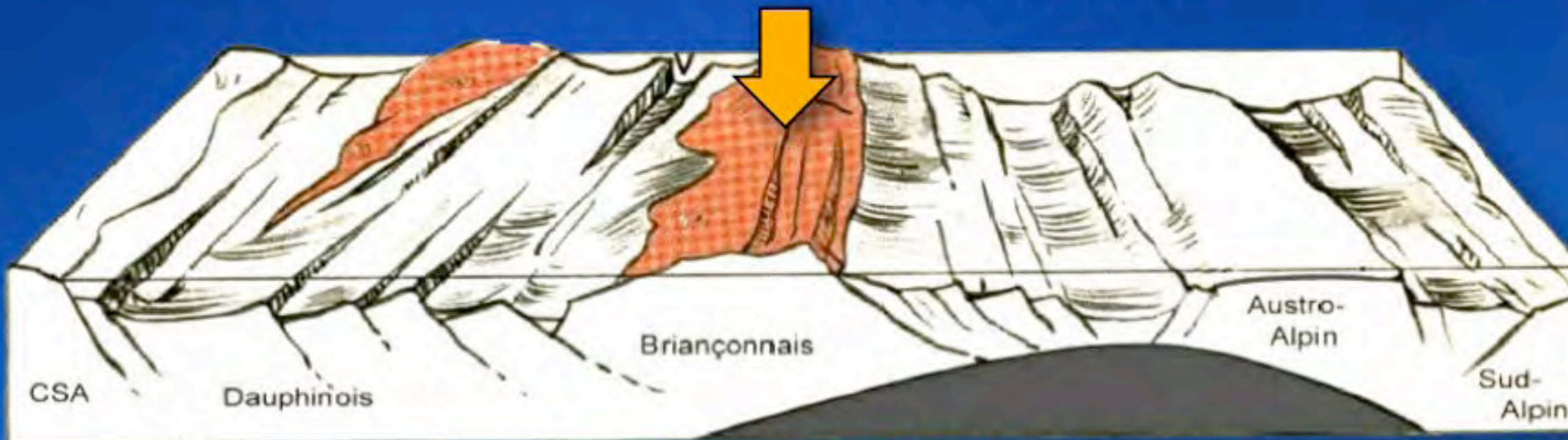




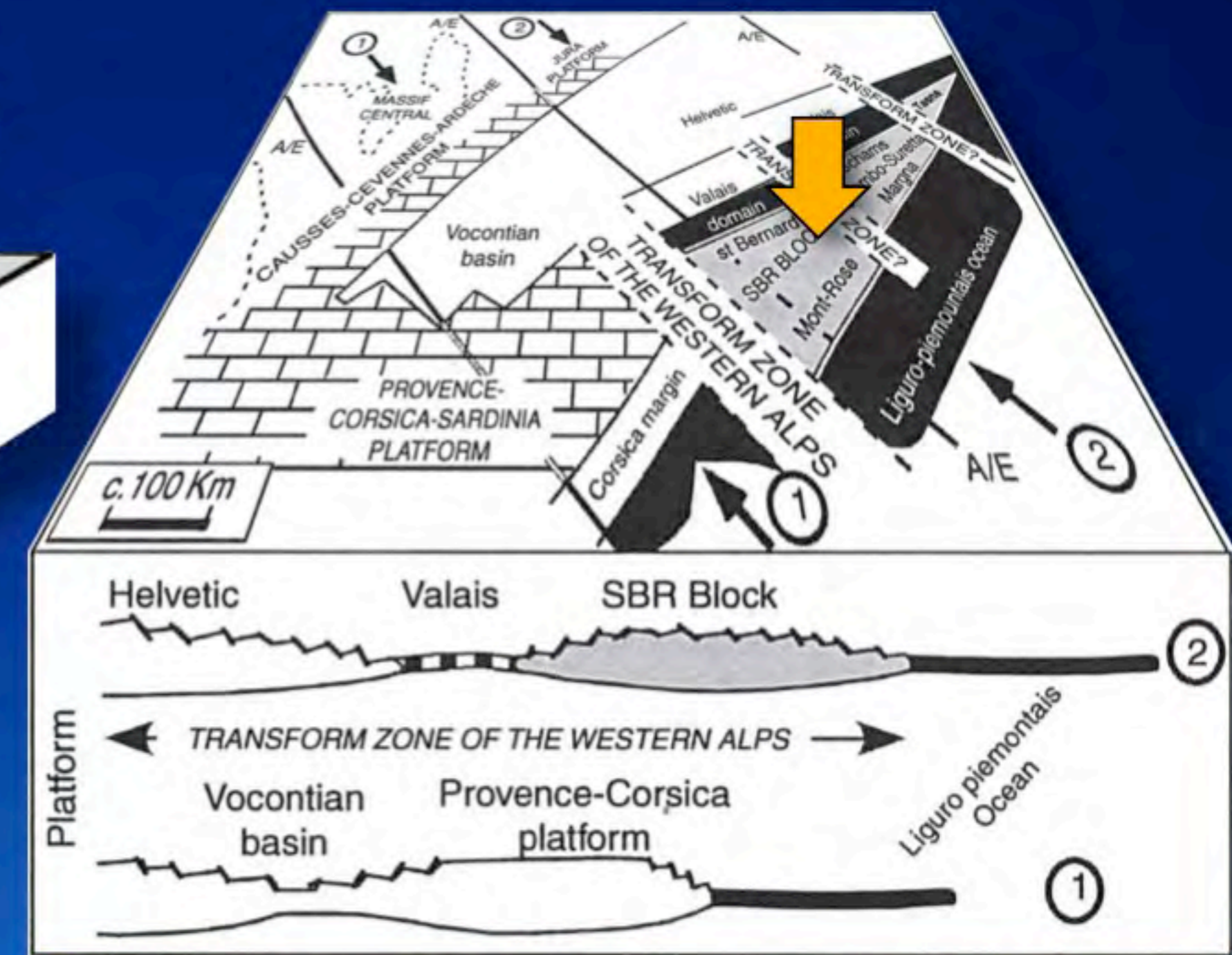
The Briançonnais domain



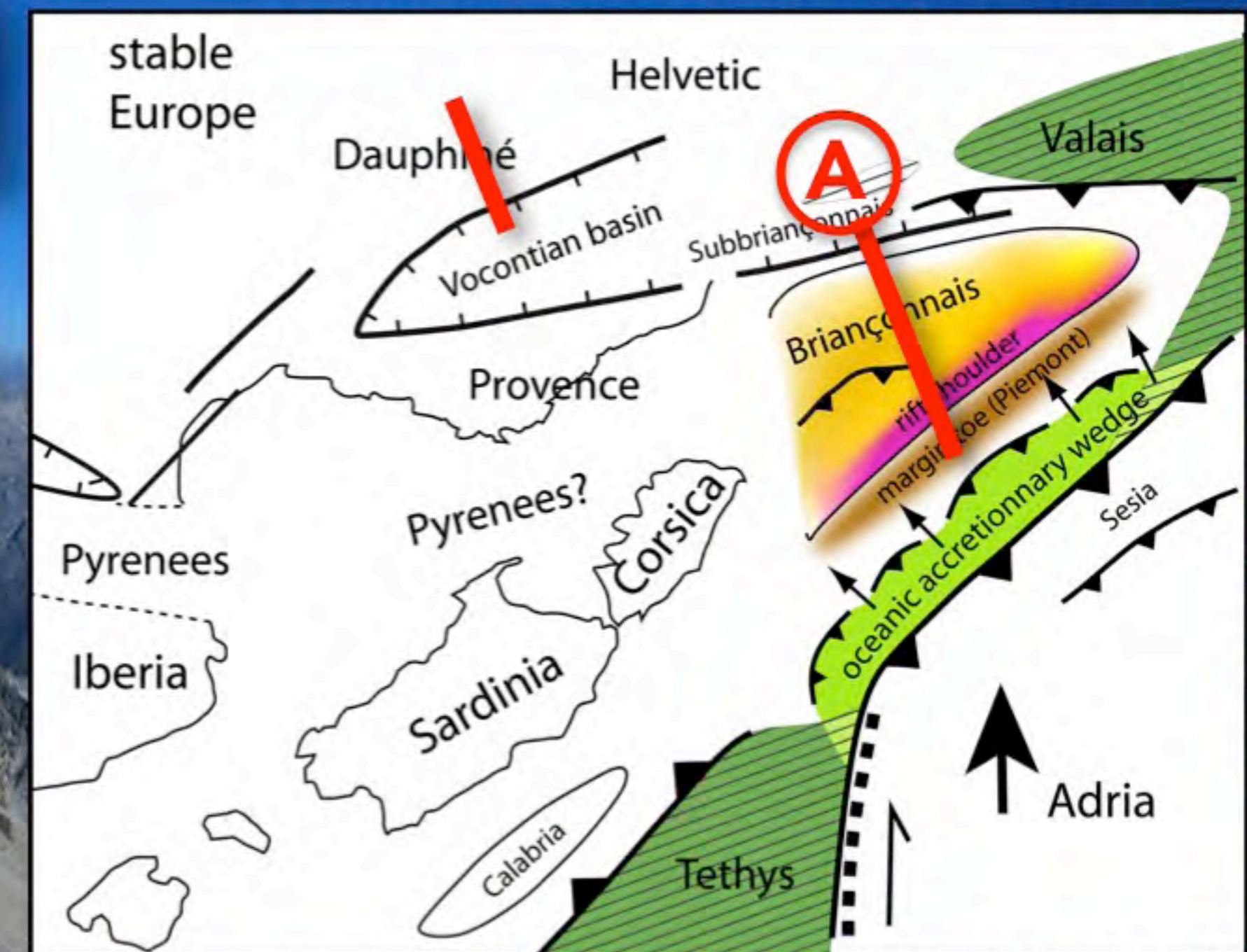
Mohn et al., 2010



<http://christian.nicollet.free.fr>



Lemoine / de Graciansky et al., 2011



Dumont et al., 2012

unique rocks, landscapes, relief



Stratigraphy: different from proximal margin



Photo T. Dumont

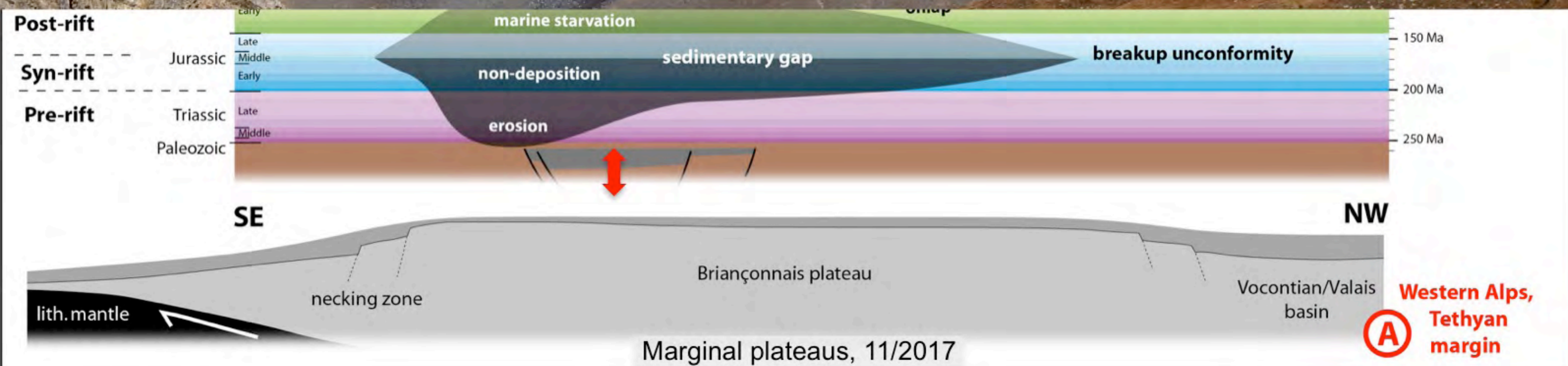




Photo T. Dumont

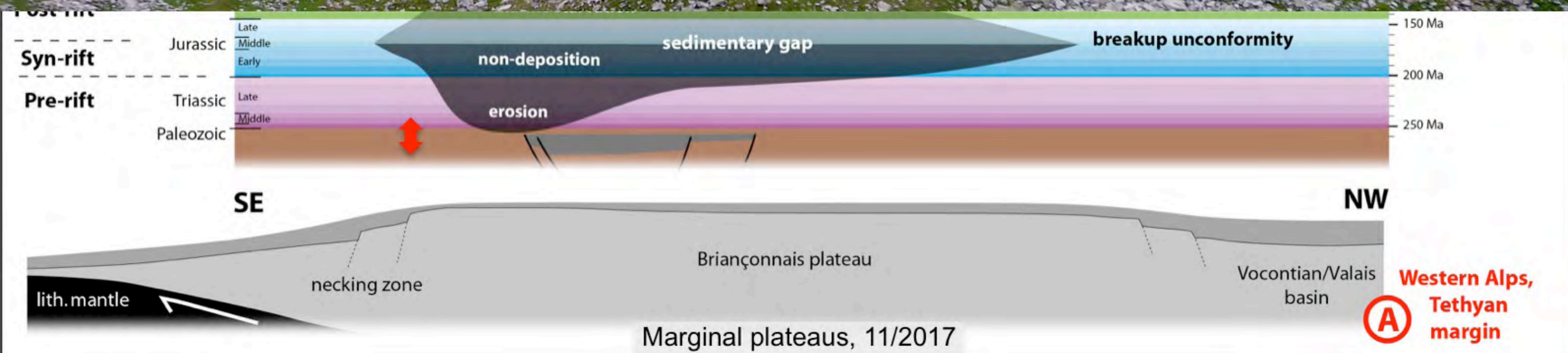




Photo T. Dumont

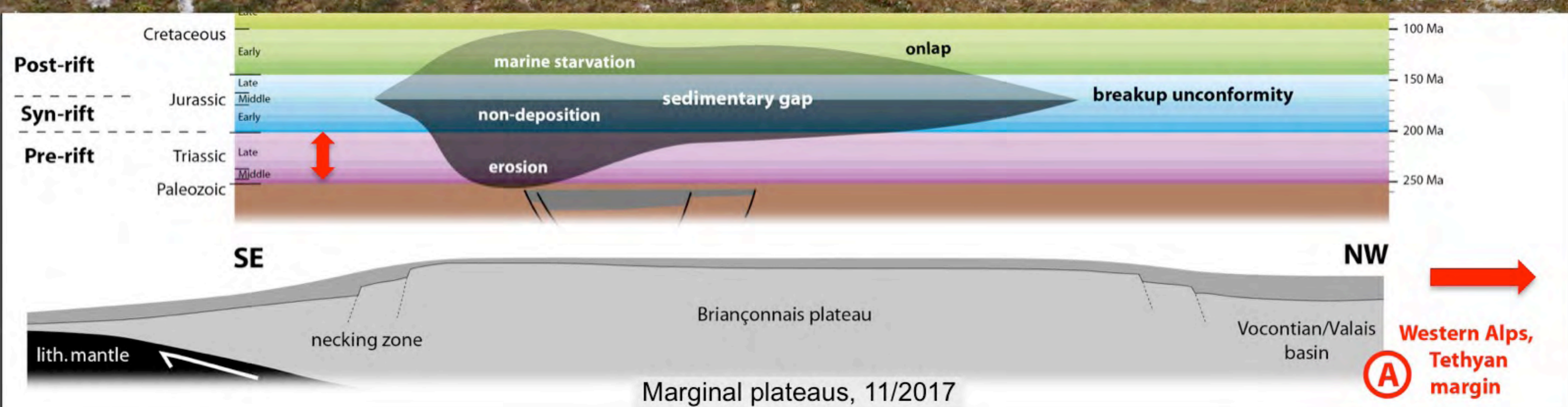




Photo T. Dumont

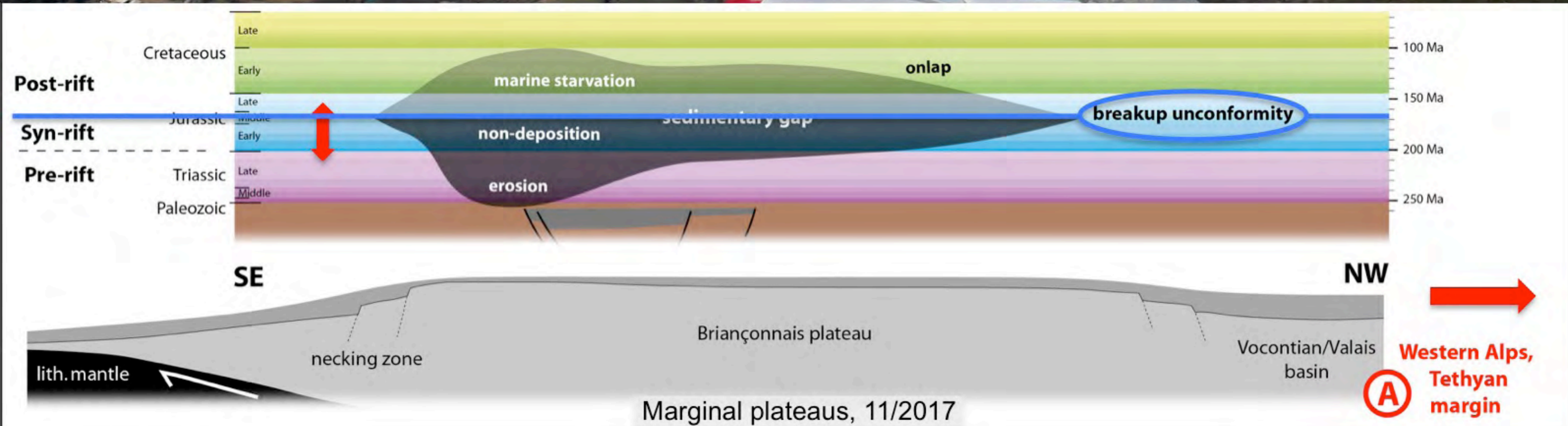




Photo T. Dumont

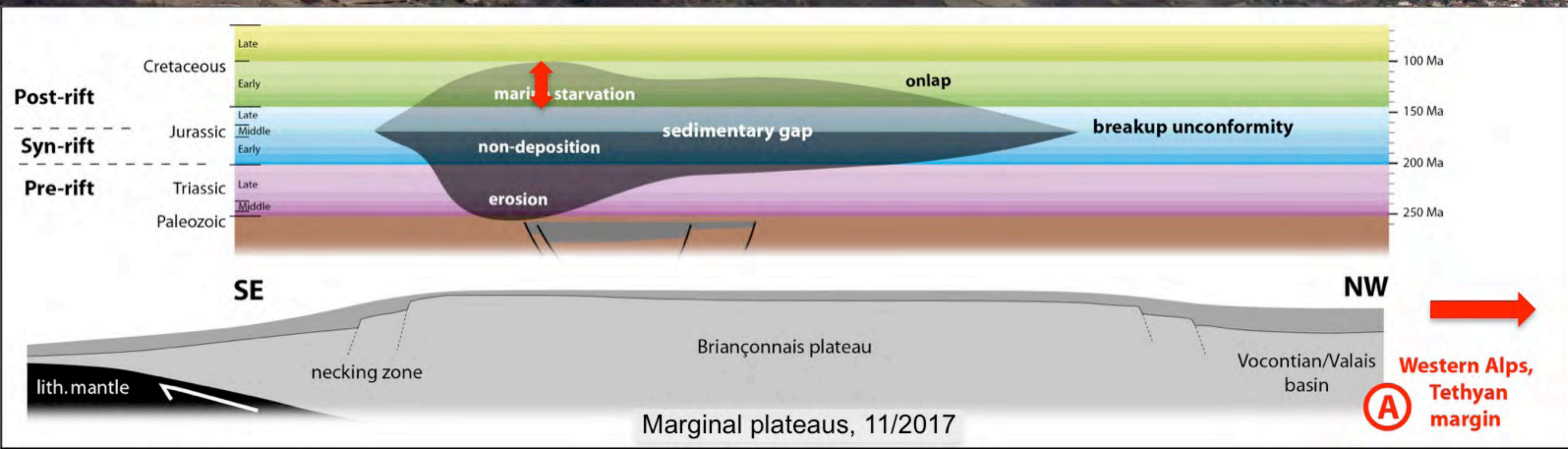
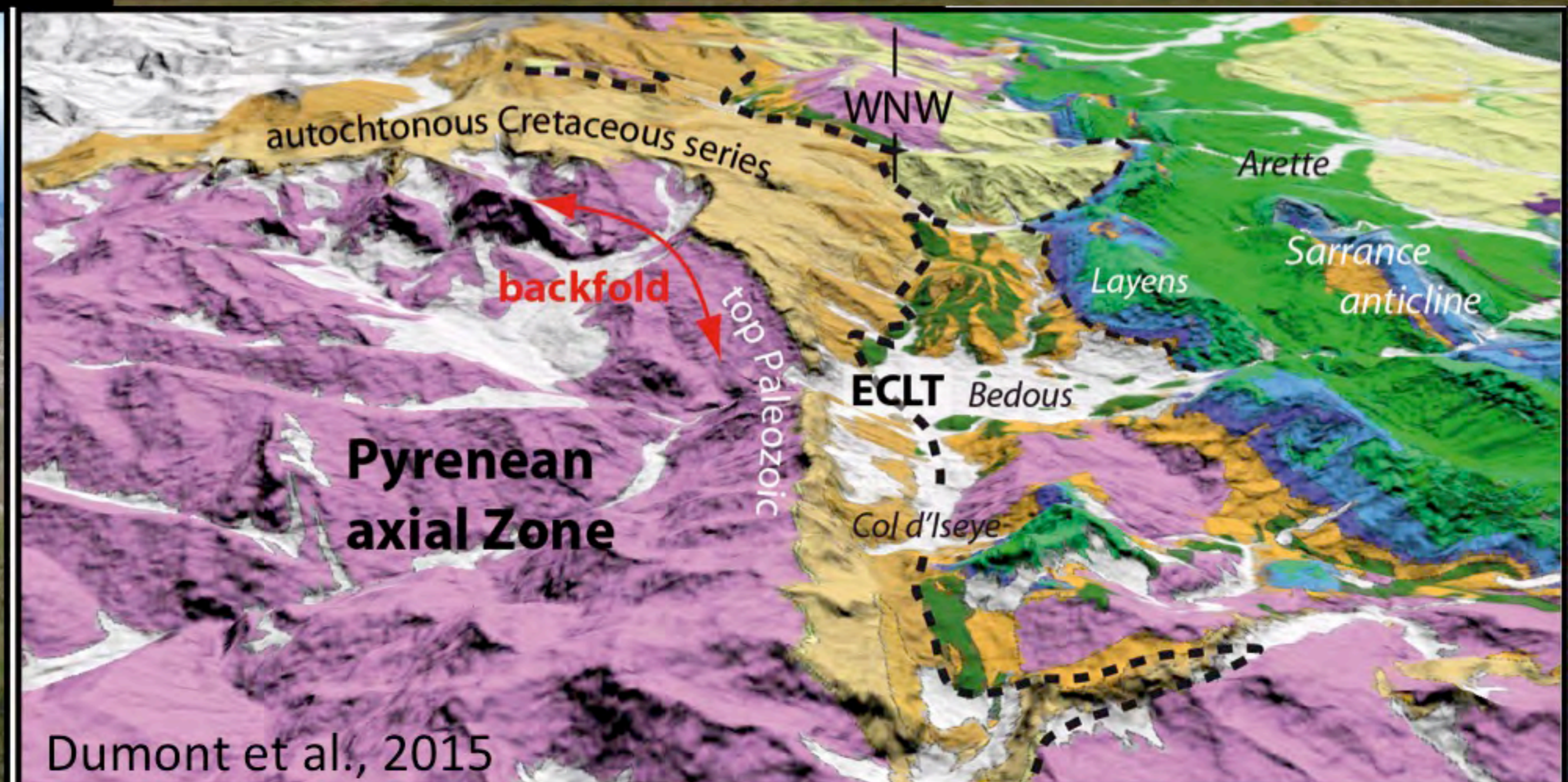
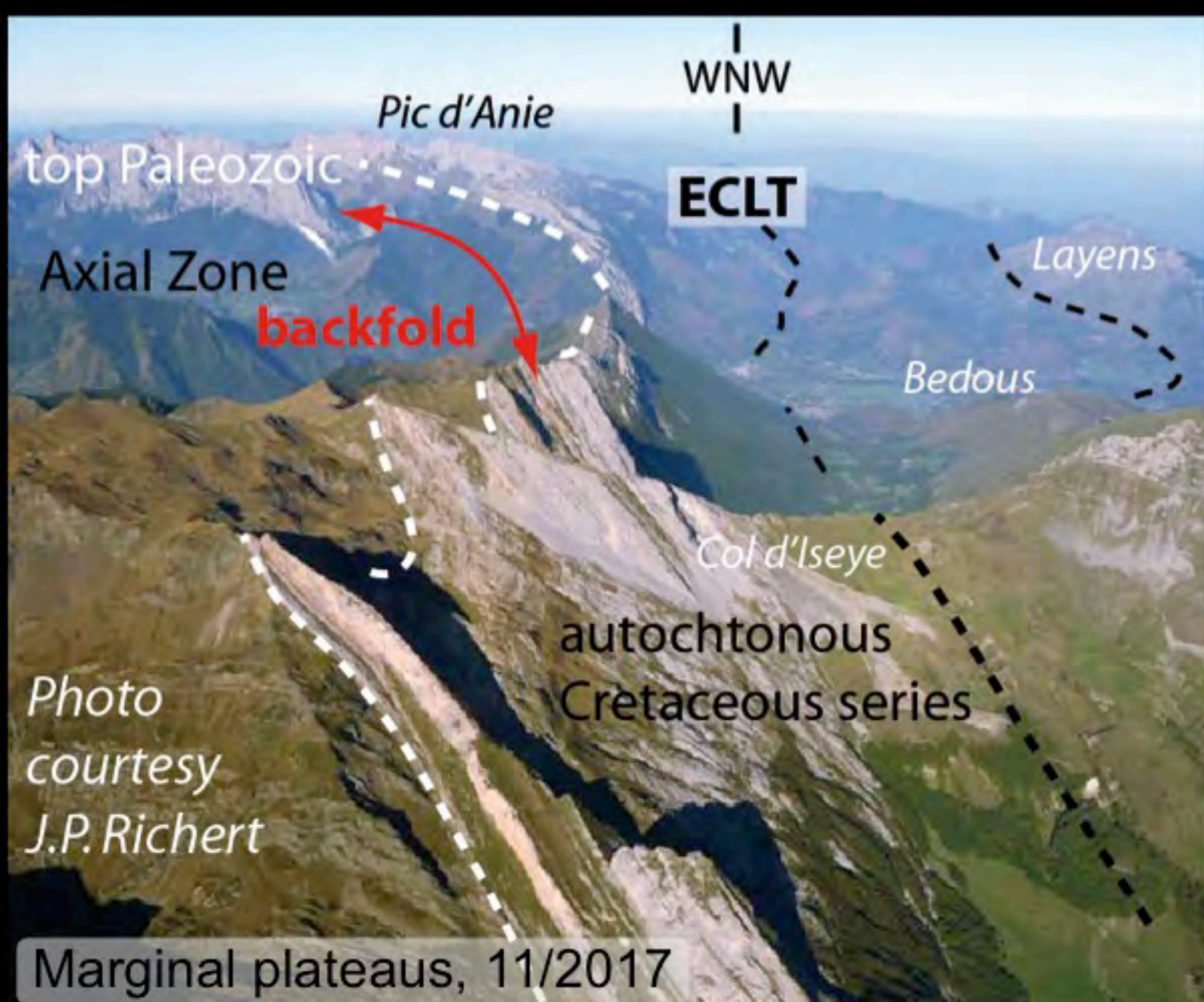


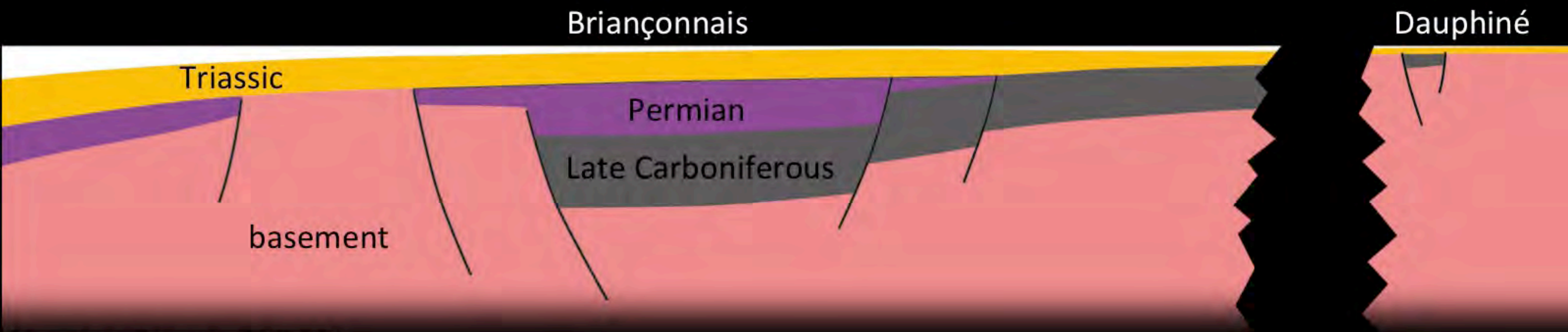
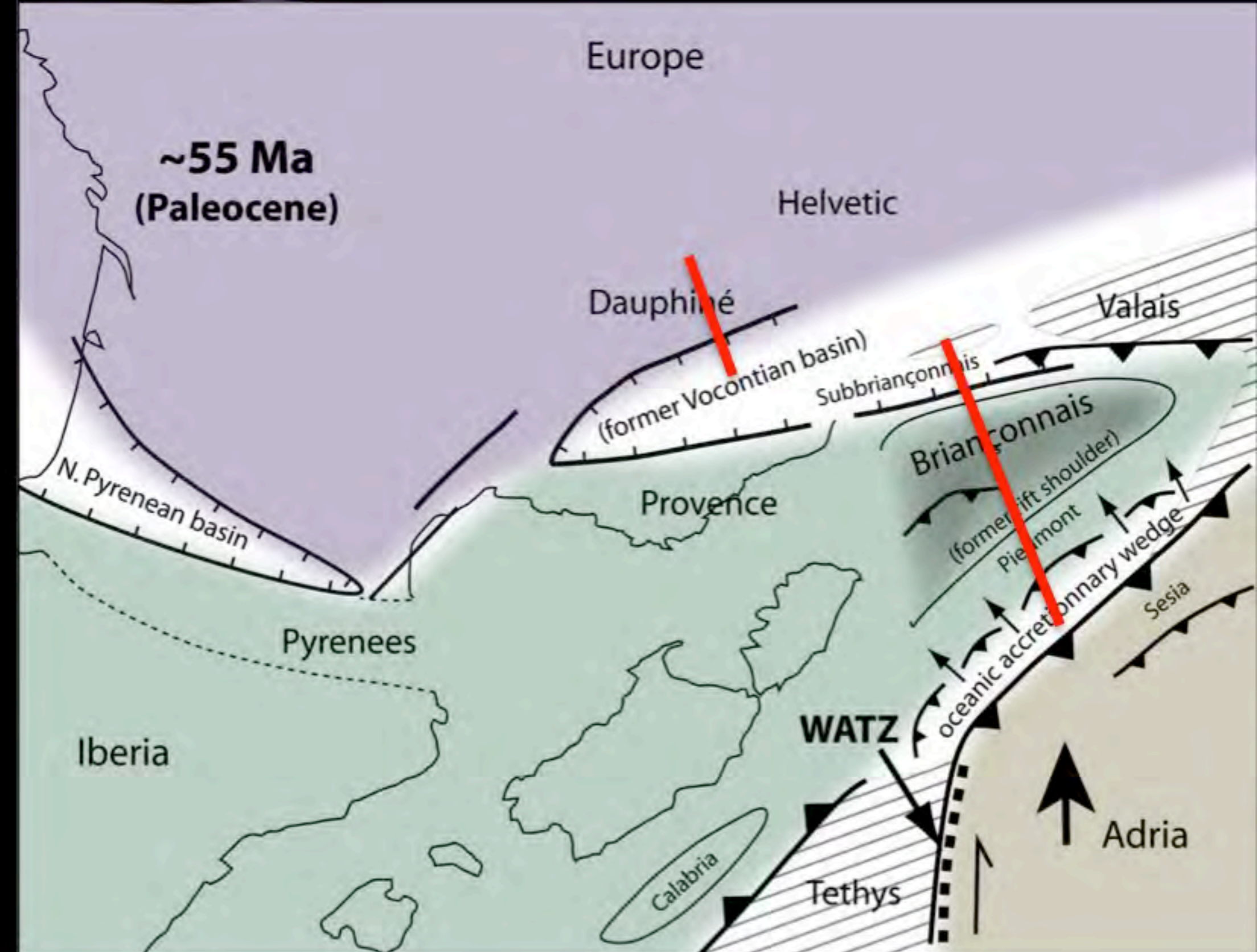


Photo T. Dumont

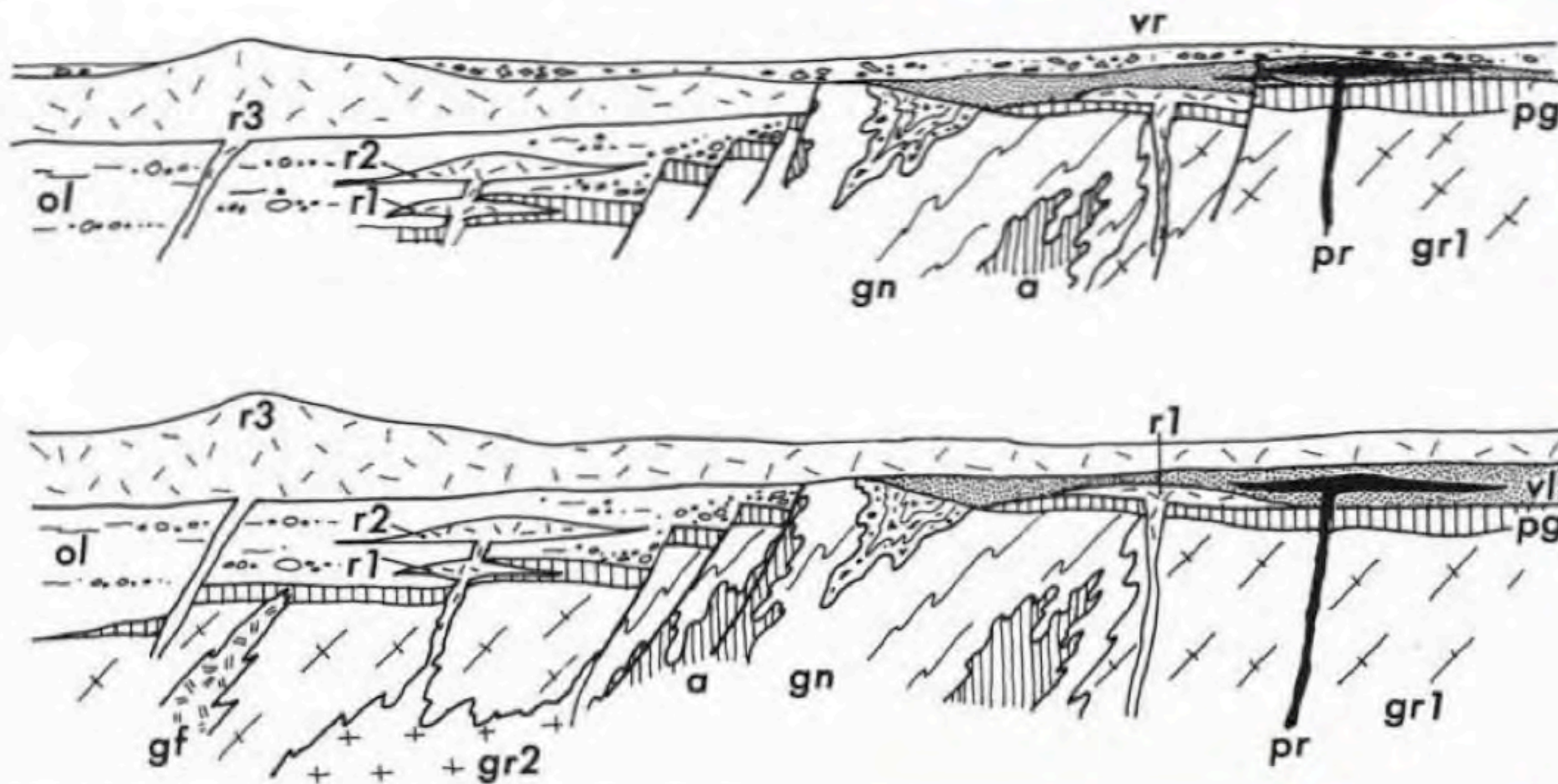


Dumont et al., 2015

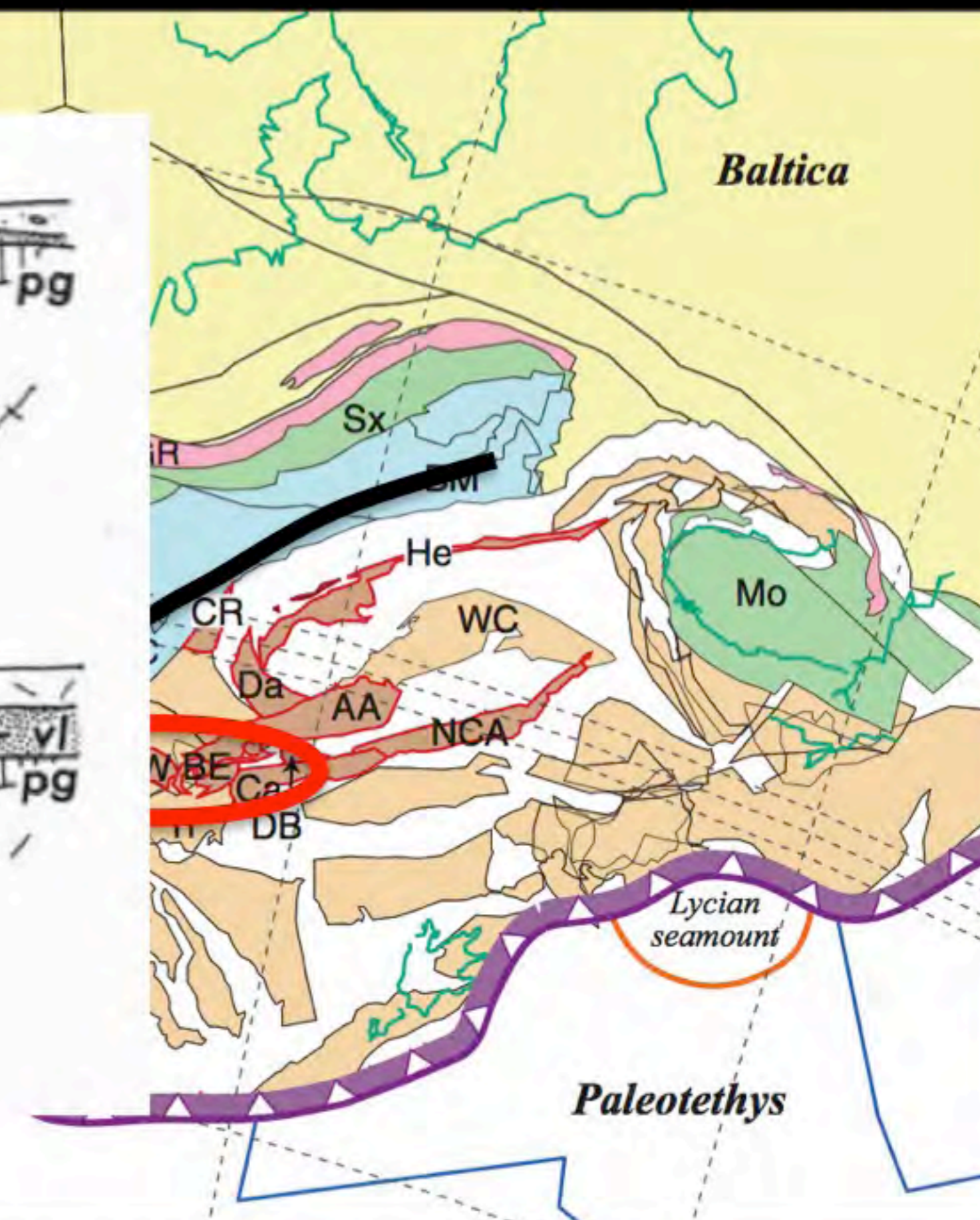
Sedimentary record, subsidence/uplift



pre-rift setting



Ligurian Briançonnais
(Cortesogno et al., 2011)



Late Paleozoic setting, von Raumer et al. (2012)

Briançonnais

Dauphiné

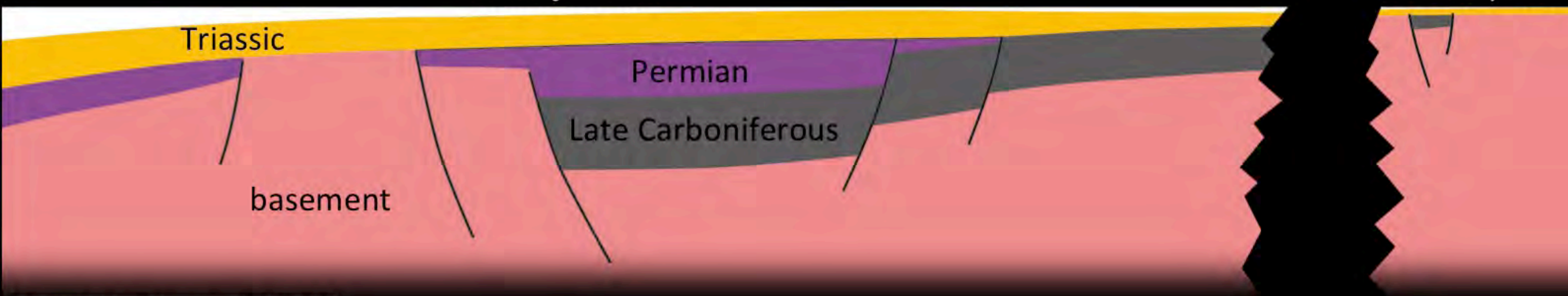
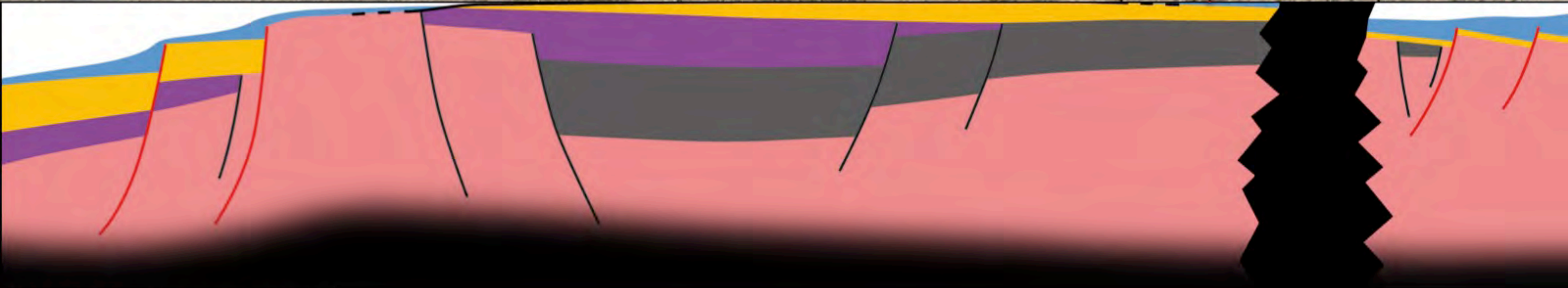
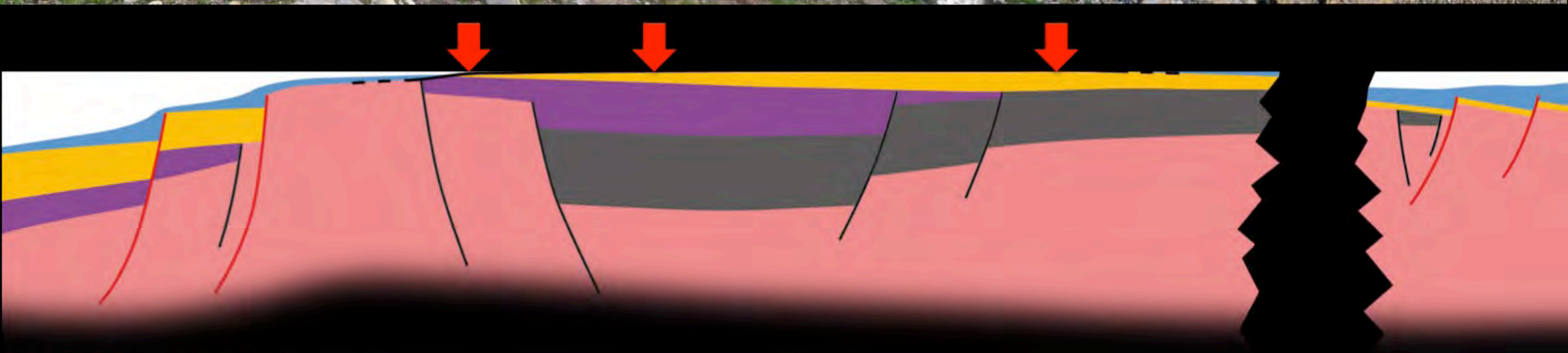




Photo T. Dumont



enhanced erosion, rift shoulder uplift?

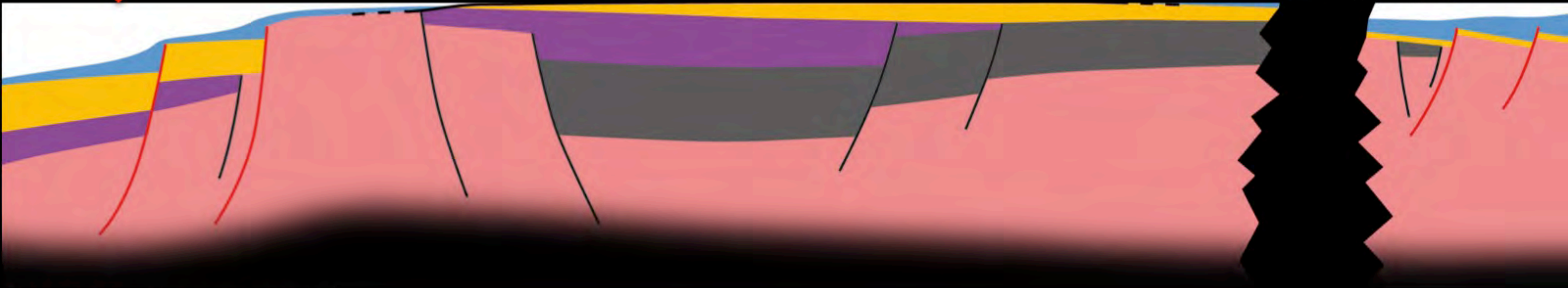


rift center, necking zone?



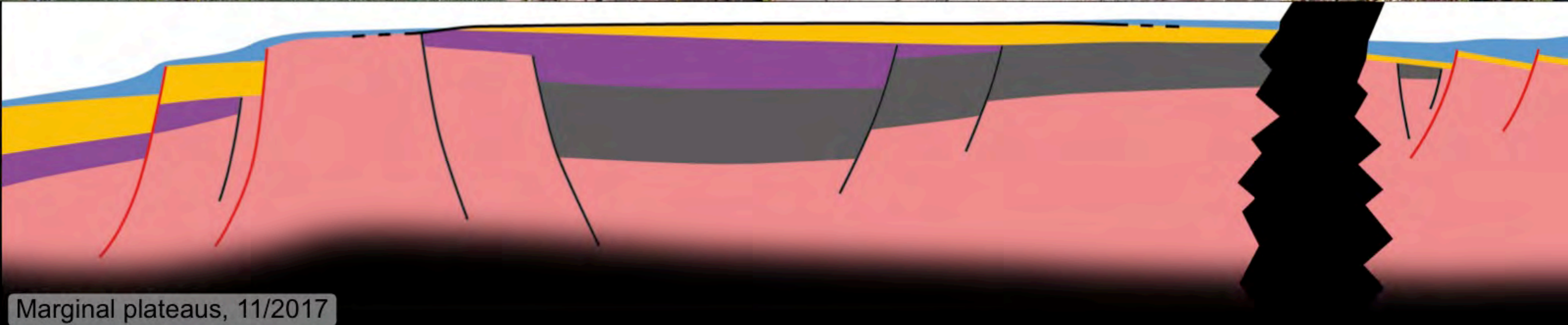
Photo T. Dumont

Syn-rift turbidites



Marginal plateaus, 11/2017

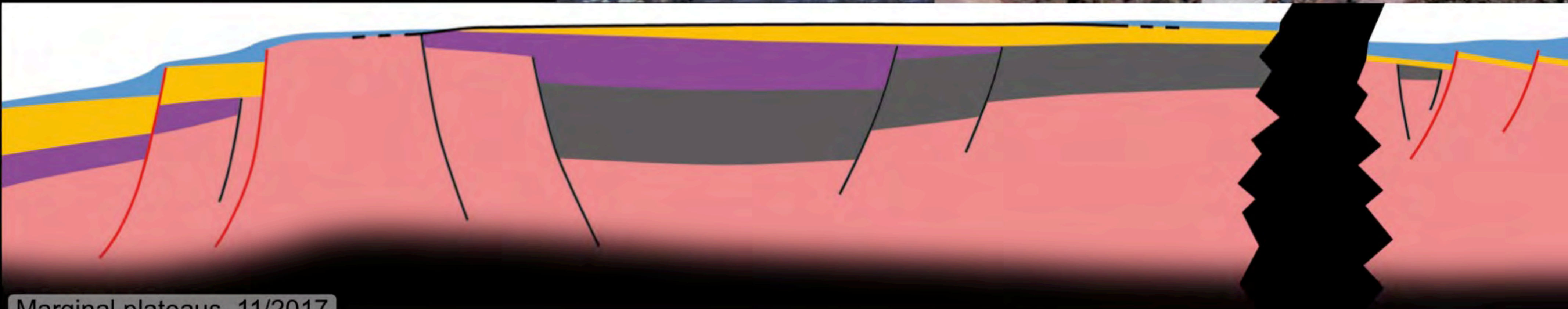
post-rift drowning, breakup unconformity



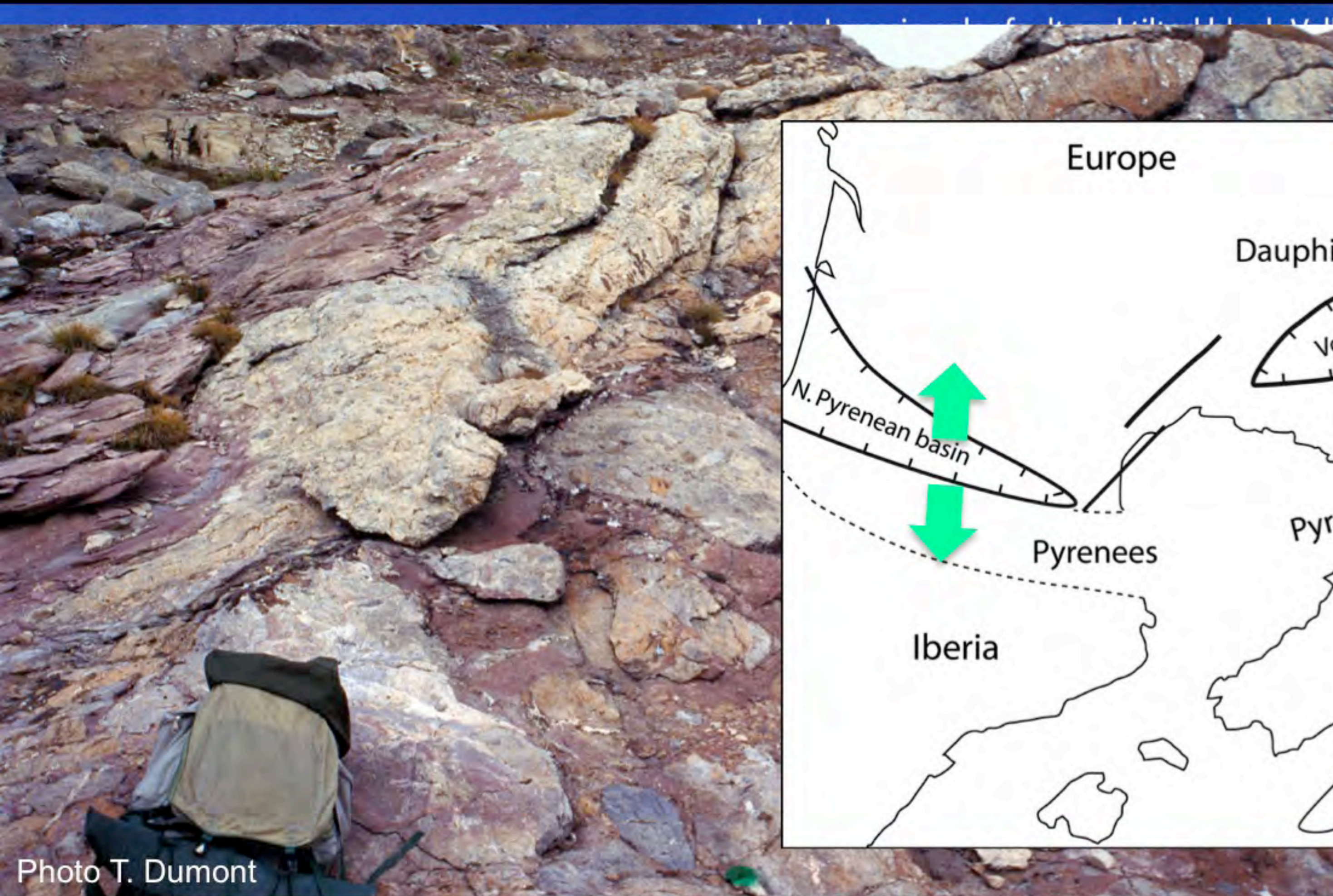
rugged basin floor, starved sedimentation



Photo T. Dumont



superposed rift events?



on Laugier (view from "crête des Couniets").
A "post-rift" extensional structure...

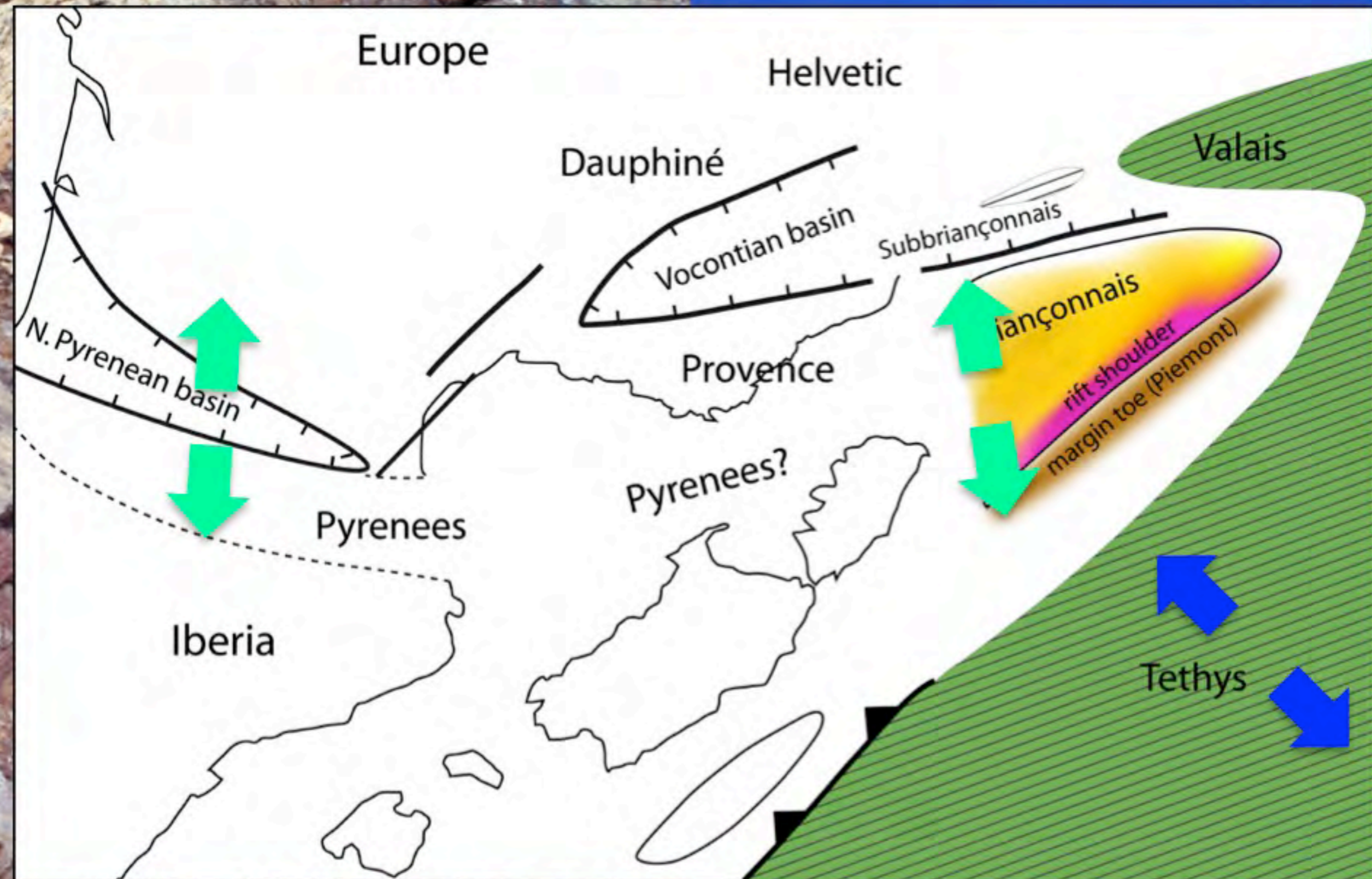
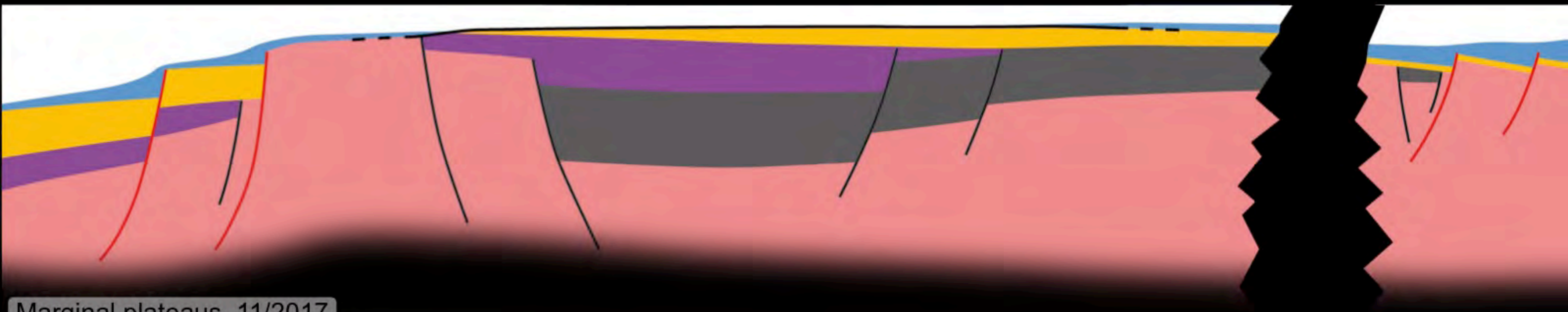


Photo T. Dumont



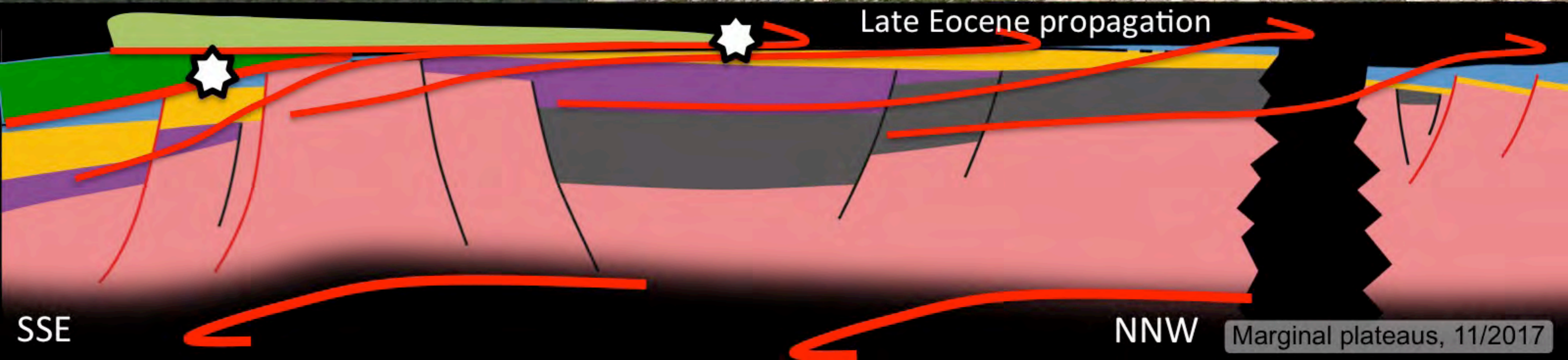


Middle Eocene (3) to Late Eocene (2) to Early Eocene (1) to present

Alpine inversion



Photo T. Dumont



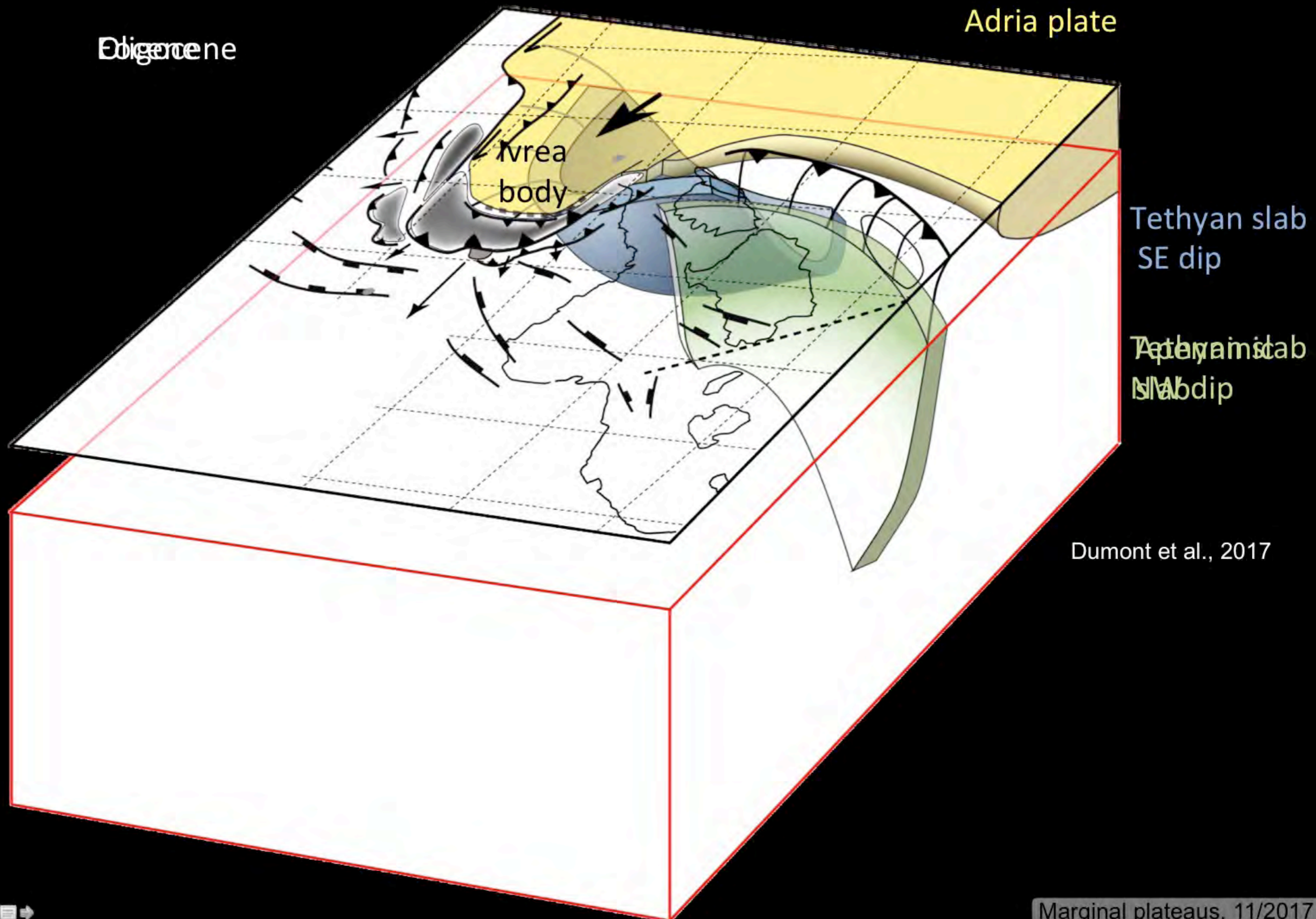
Late Eocene propagation

SSE

NNW

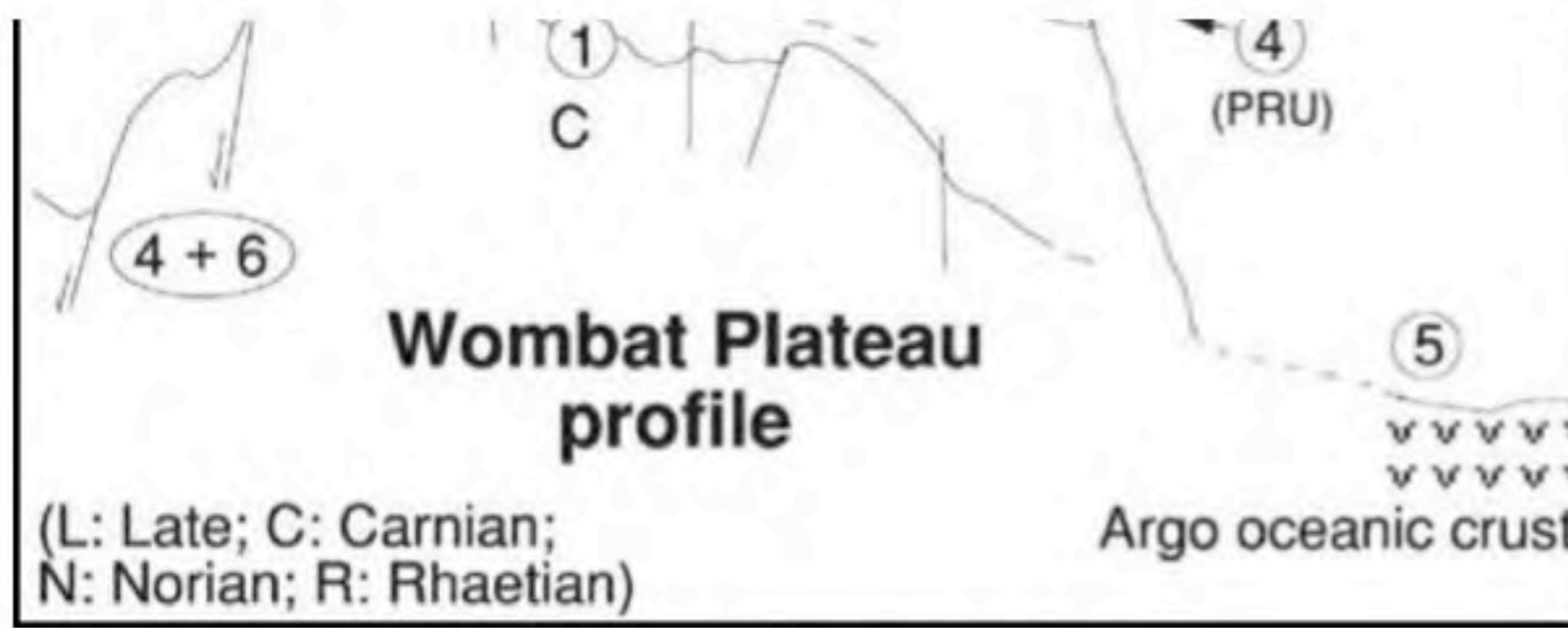
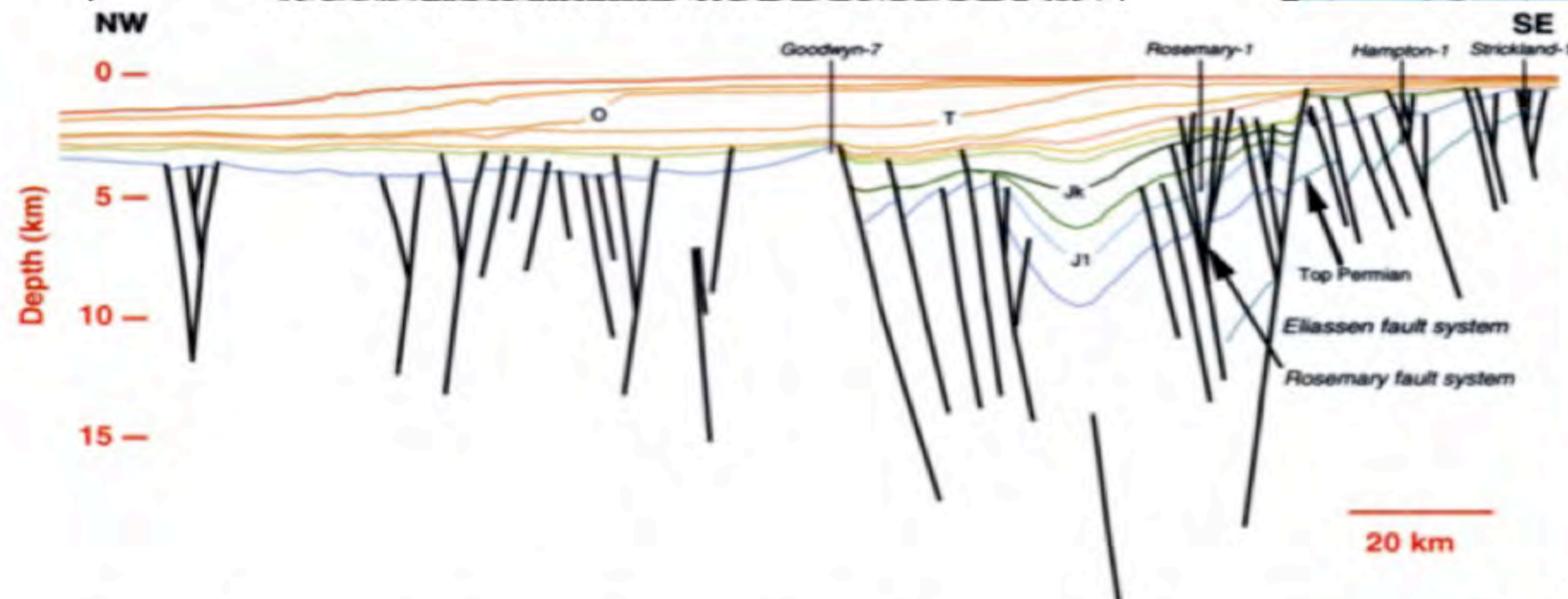
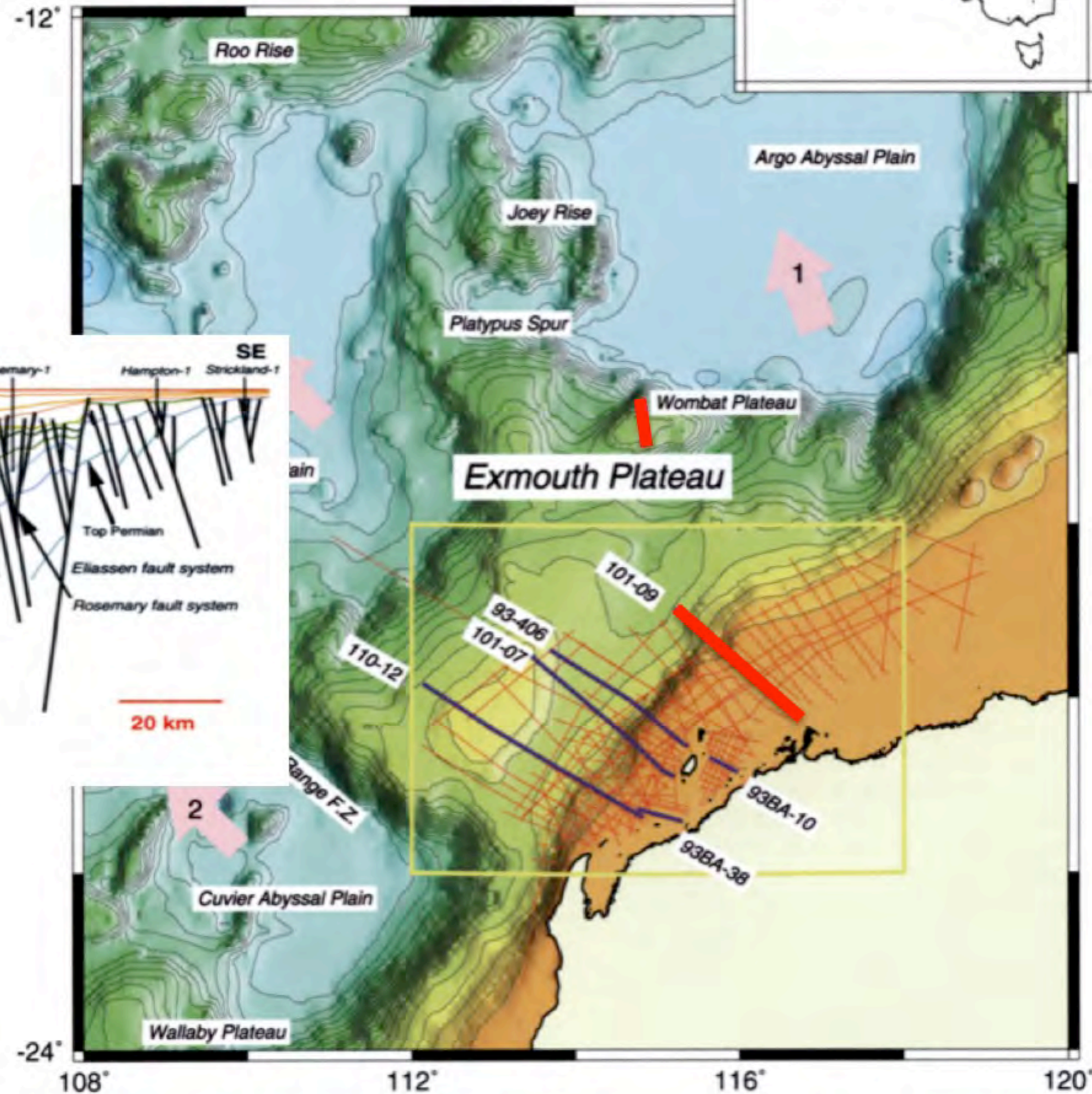
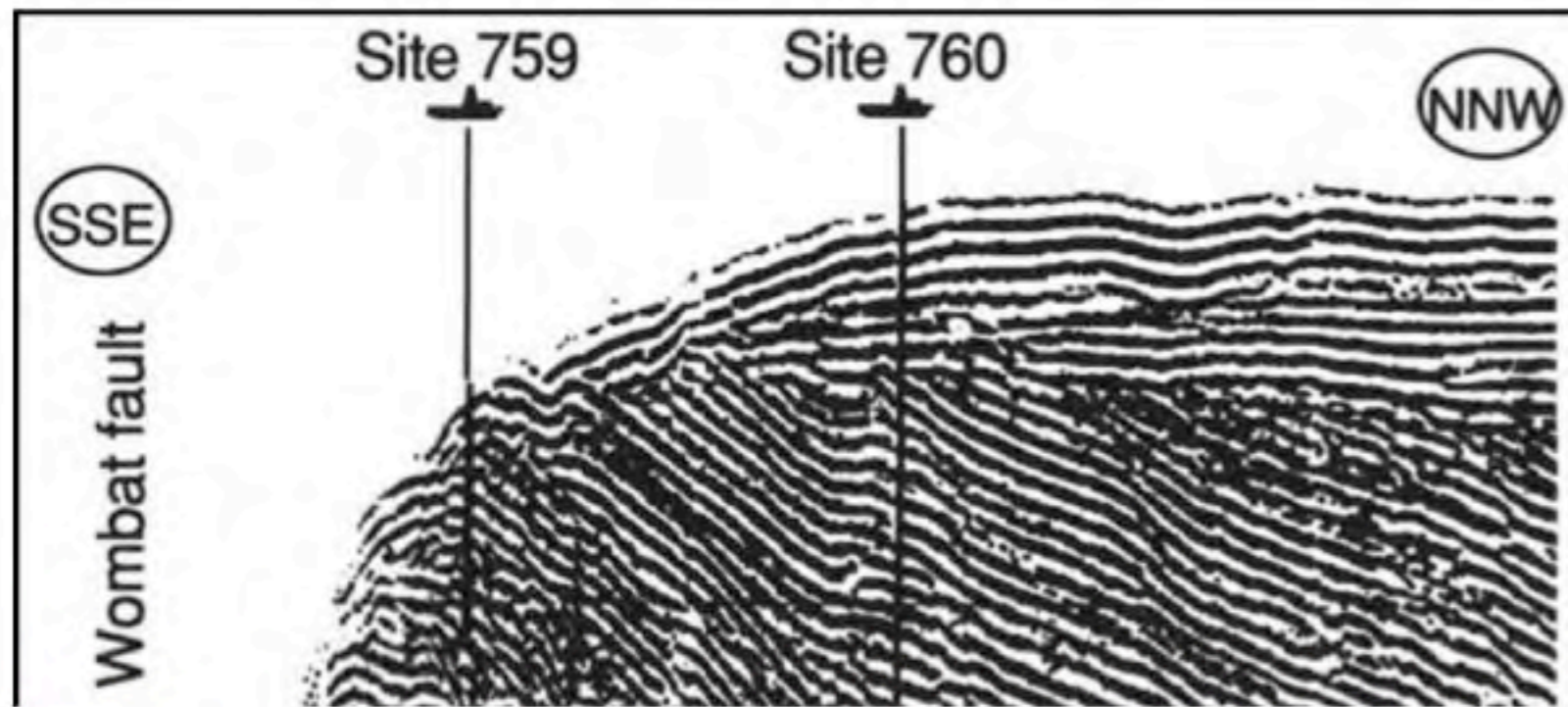
Marginal plateaus, 11/2017

Lithospheric structure



Analogue?

Karner & Driscoll, 1999



ODP leg 122, Dumont, 1992



Concluding remarks, "marginal plateau" requirements?

Continental crust, no chance for SDR

Transform margin?

2 rifts? may be

Syn-rift uplift, kilometeric amplitude. Other examples?

Hyper-extension?

