



Photo: P. Baumgart



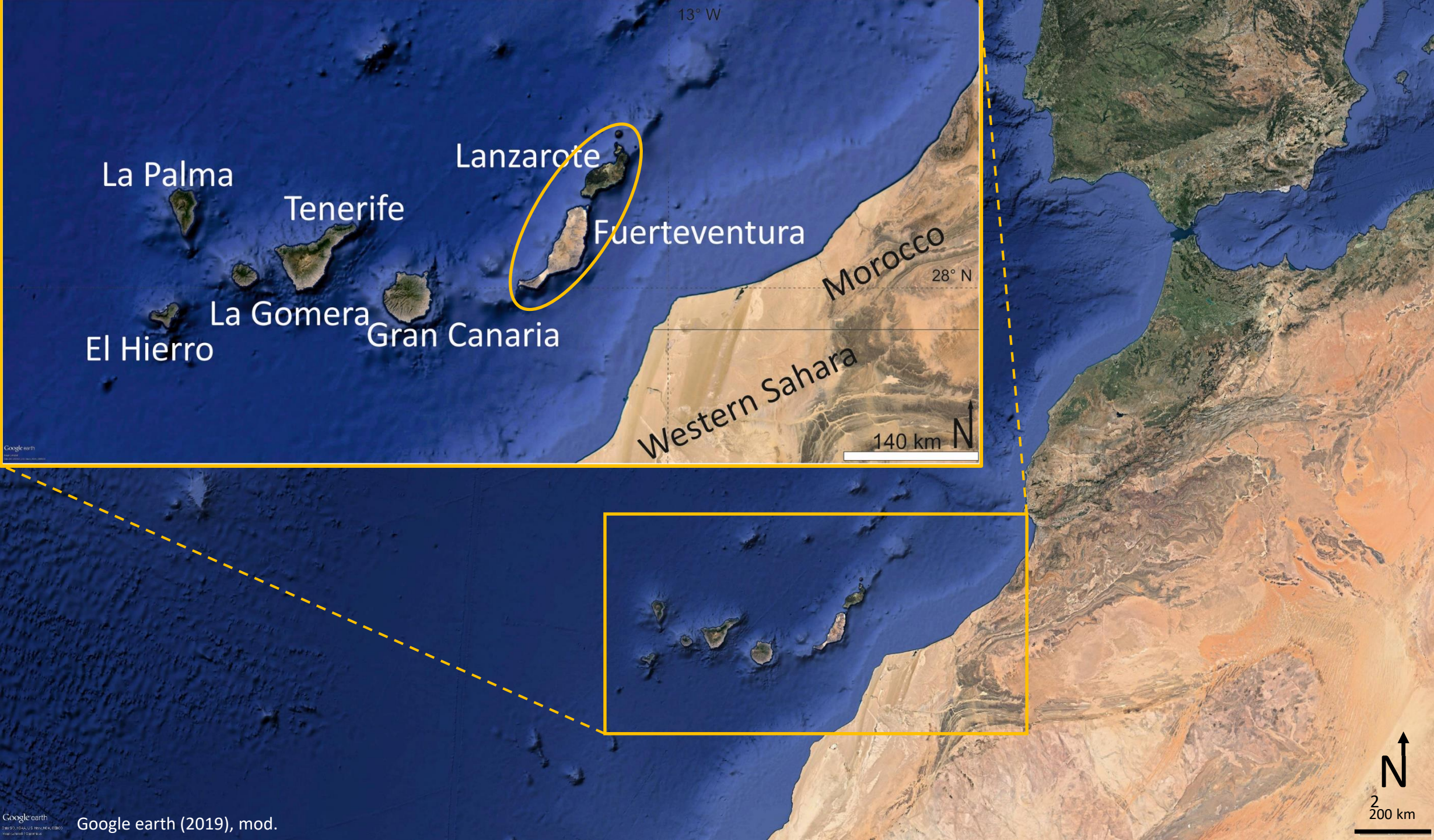
Vienna, 8th of May 2020

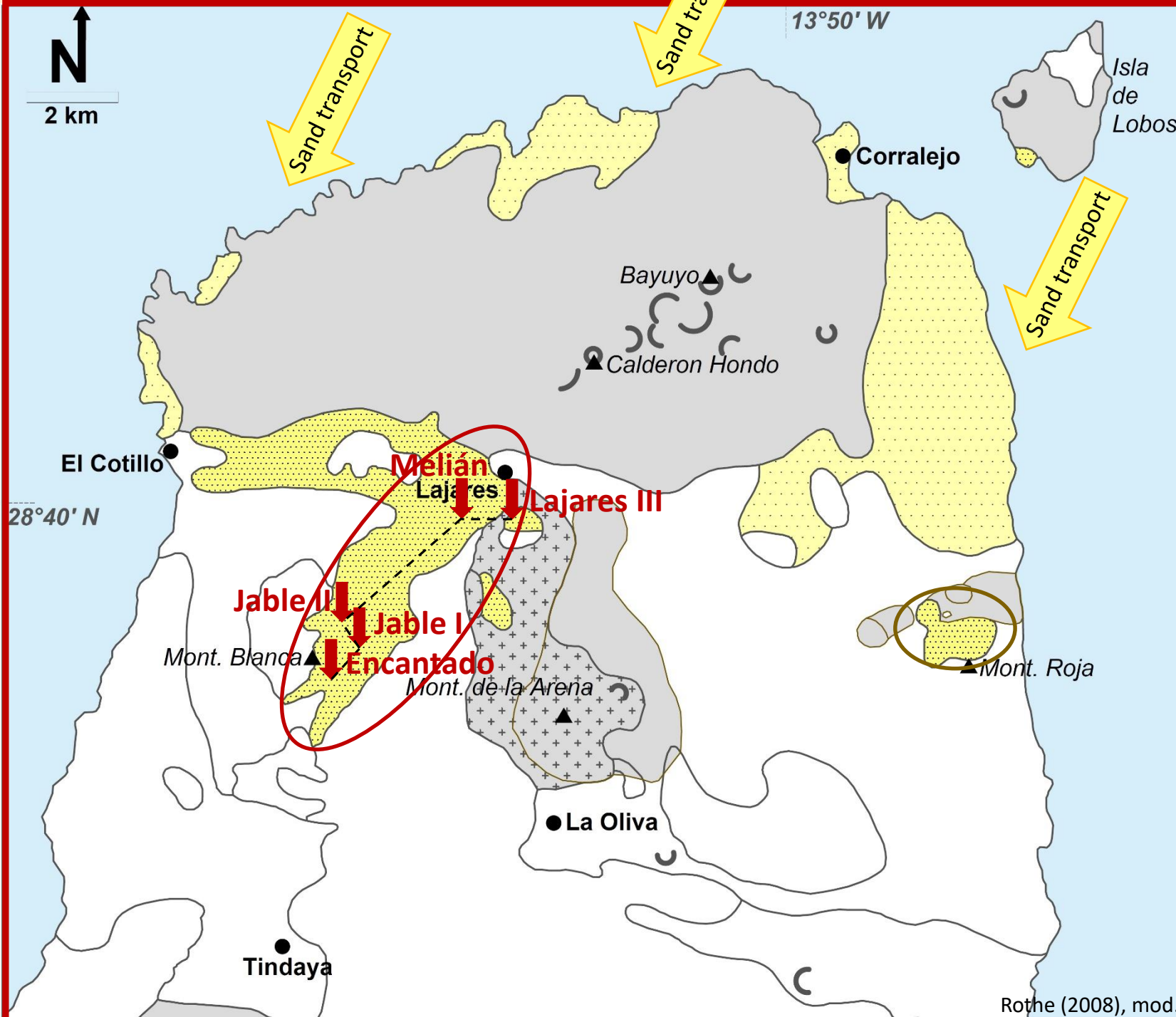
The interpretability of Quaternary palaeo dune fields (Eastern Canary Islands)

Christopher-B. Roettig¹, Thomas Kolb², Christoph Schmidt^{3,4}, Michael Zech¹, Ludwig Zöller⁴ and Dominik Faust¹

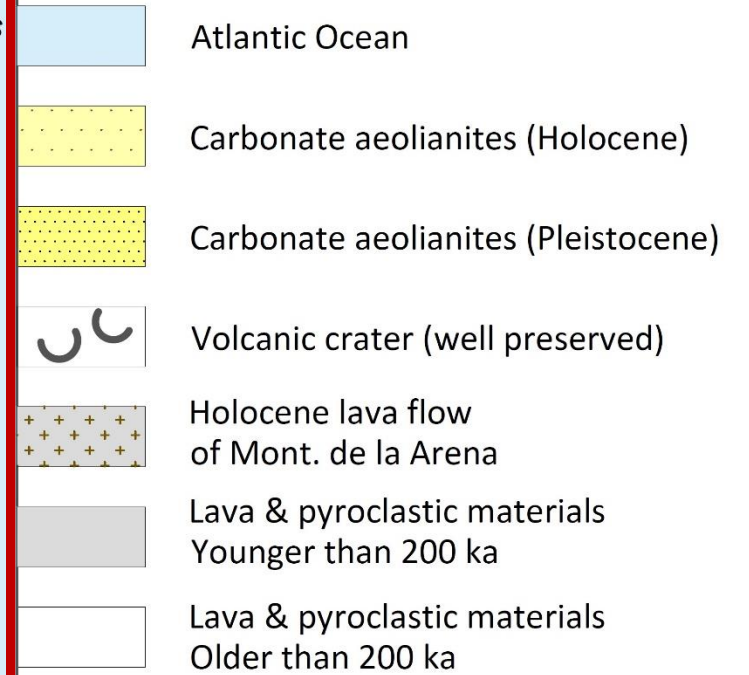
¹ TU Dresden, ² University of Giessen, ³ University of Lausanne, ⁴ University of Bayreuth



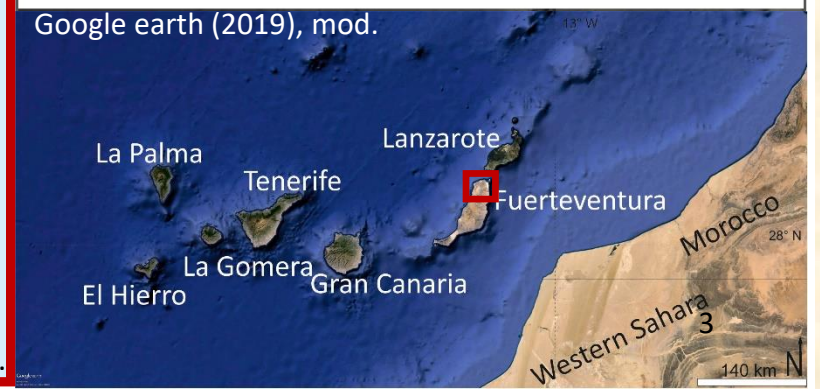




Northern part of Fuerteventura

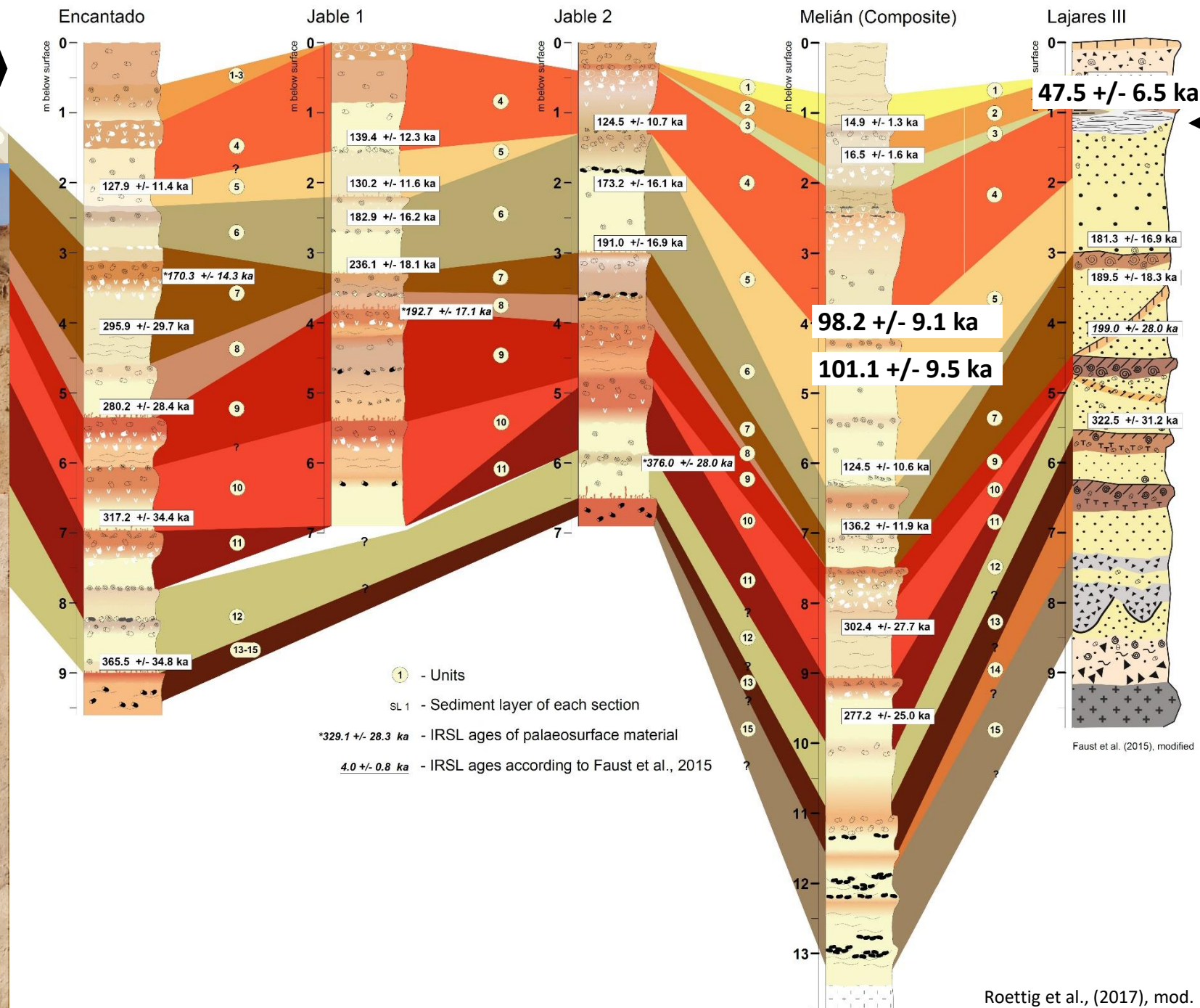


Jable I Section



Correlation of palaeo dune sequences on Fuerteventura

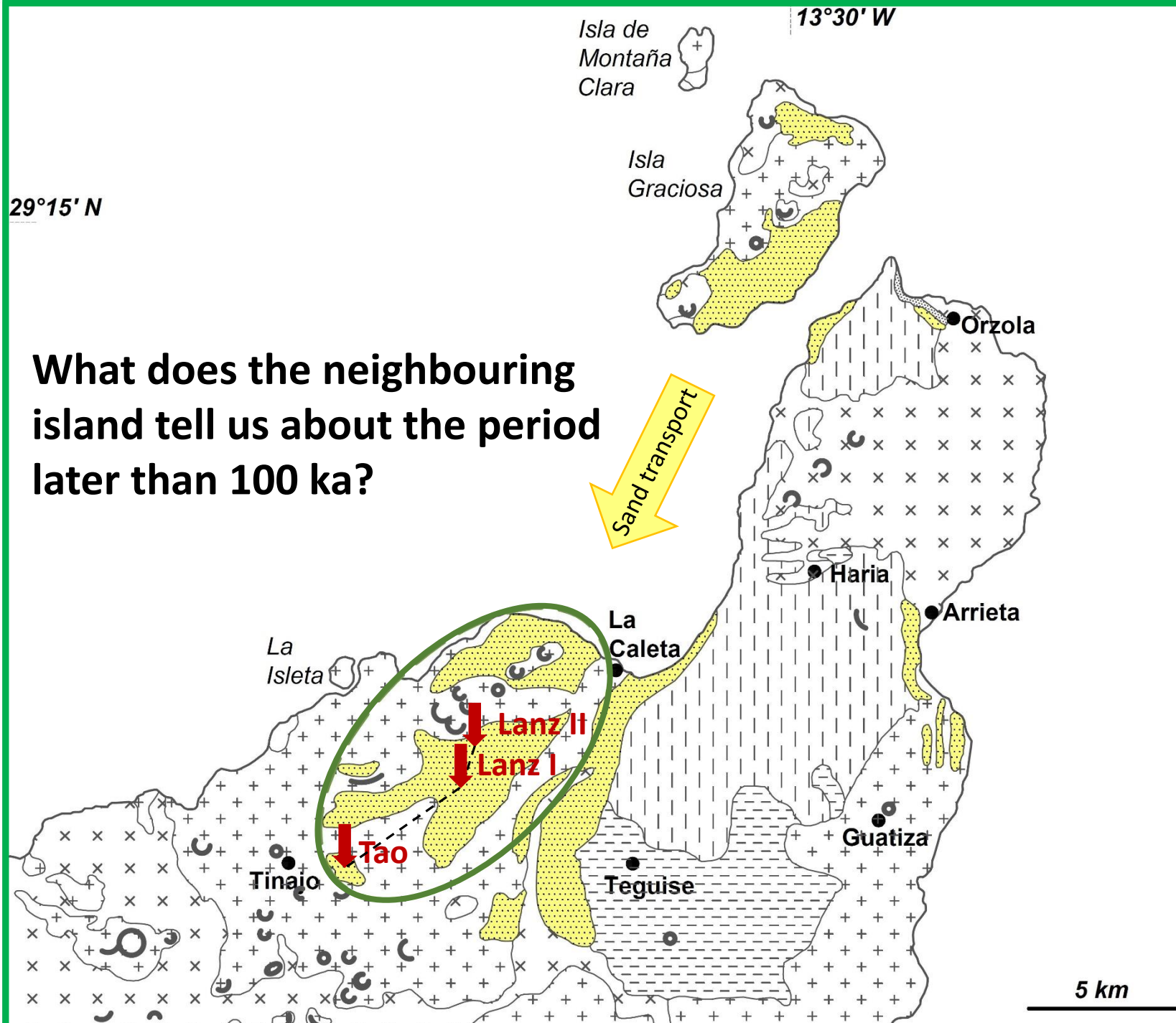
...sequences of
different dune
generations
(dominated by
carbonate sands
originating from the
shallow shelf) with
intercalated
palaeosurfaces
(dominated by
deposits of Saharan
dust)



Unit 4 is characterised
by the formation of a
huge crust of
calcium carbonate
(100 – 50 ka)



...often interpreted
in terms of climatic
changes and a
corresponding
„geomorphological
crisis“



What does the neighbouring island tell us about the period later than 100 ka?

Northern part of Lanzarote

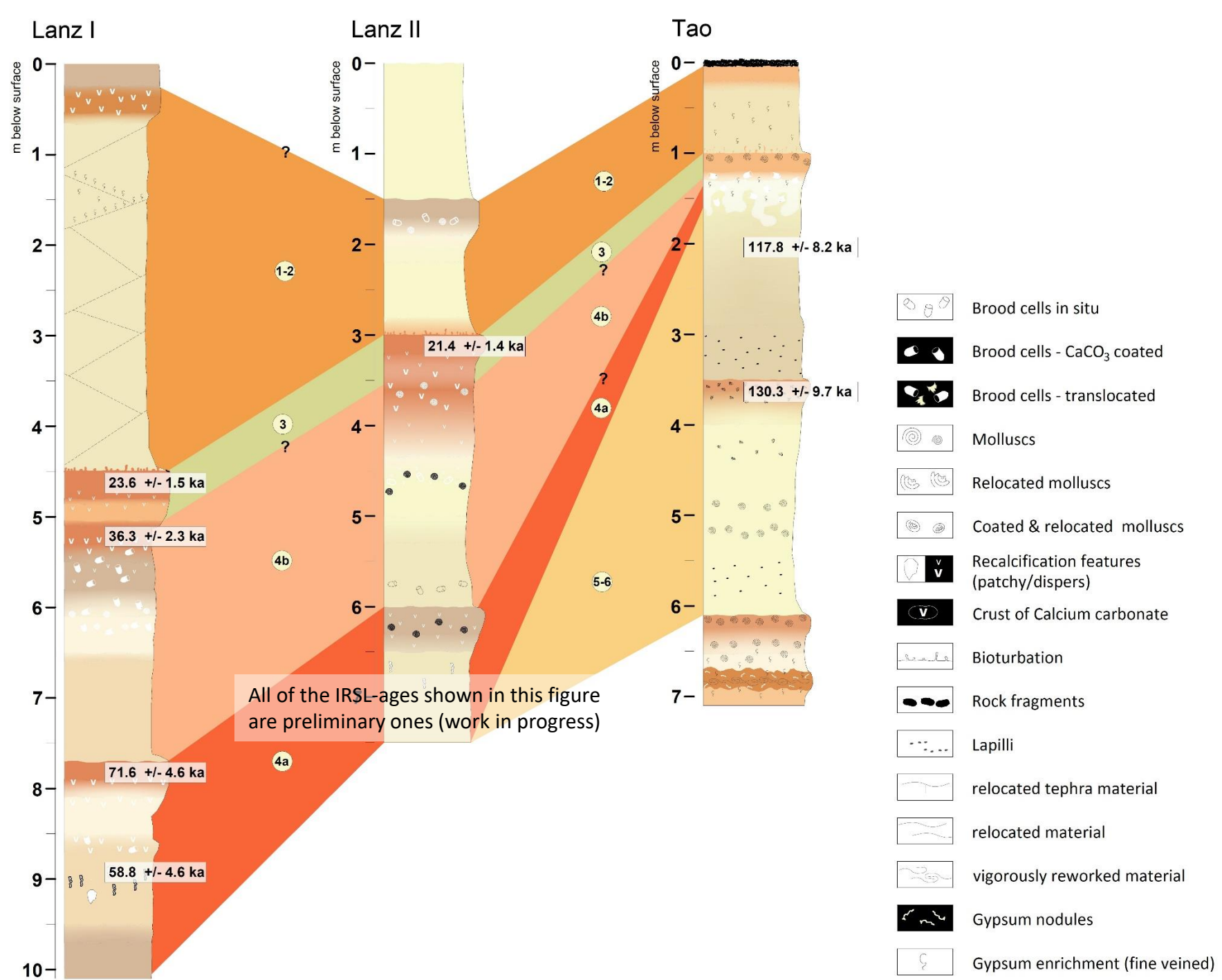
- Volcanic crater (well preserved)
- Carbonate eolianites (Quaternary)
- Holocene
Lava & pyroclastic materials
- Late Pleistocene
Lava & pyroclastic materials
- Plio-/Pleistocene
Lava & pyroclastic materials
- Miocene
Carbonate eolianites
- Miocene
Lava & pyroclastic materials

Lanz I Section



Correlation of palaeo dune sequences on Lanzarote

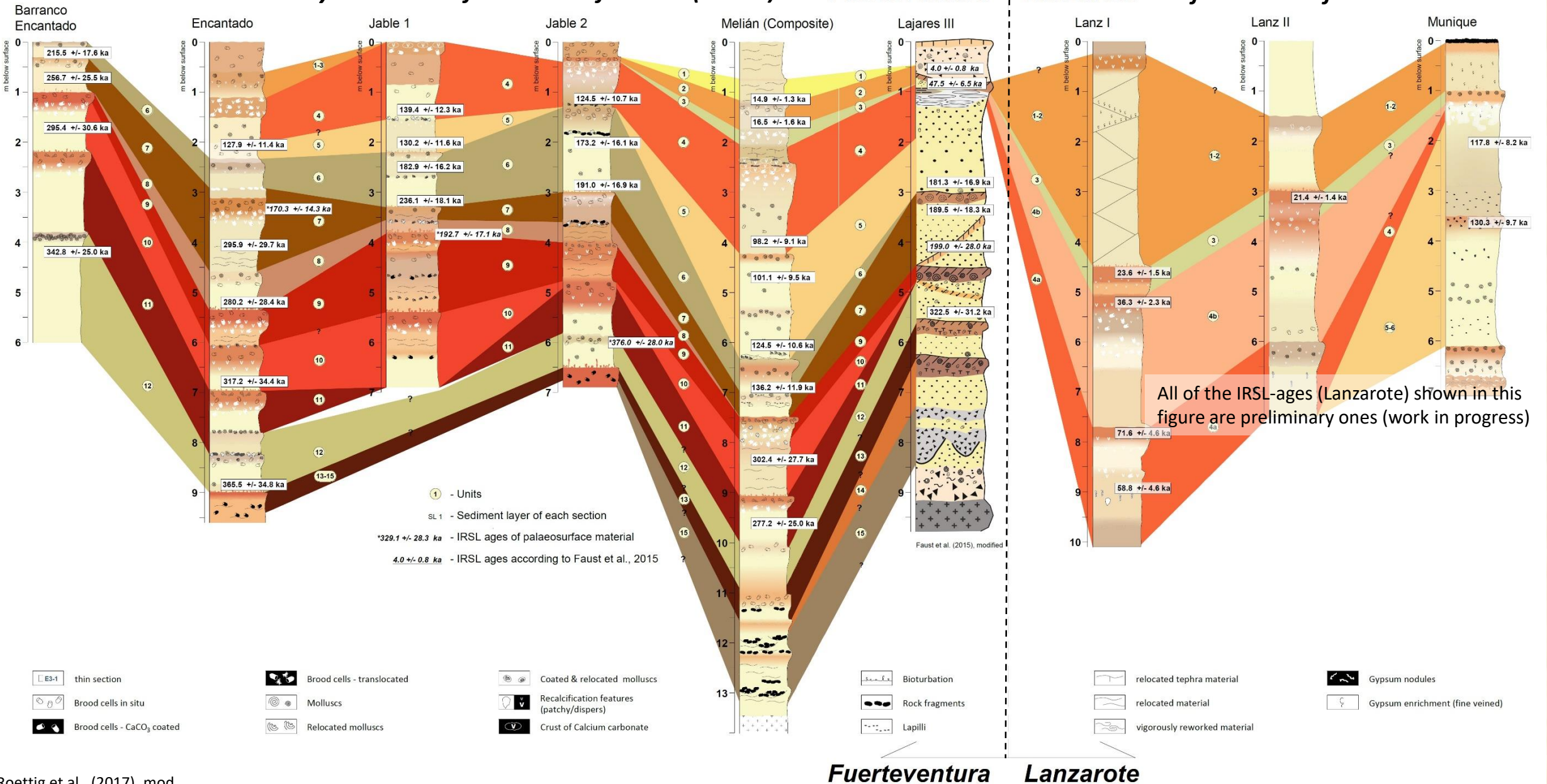
In contrast to the formation of a crust on Fuerteventura (100 – 50 ka), on Lanzarote we observe ongoing deposition of carbonate sands with intercalated palaeosurfaces (dominated by deposits of Saharan dust)



widely distributed formation of a crust (Unit 4)

Fuerteventura

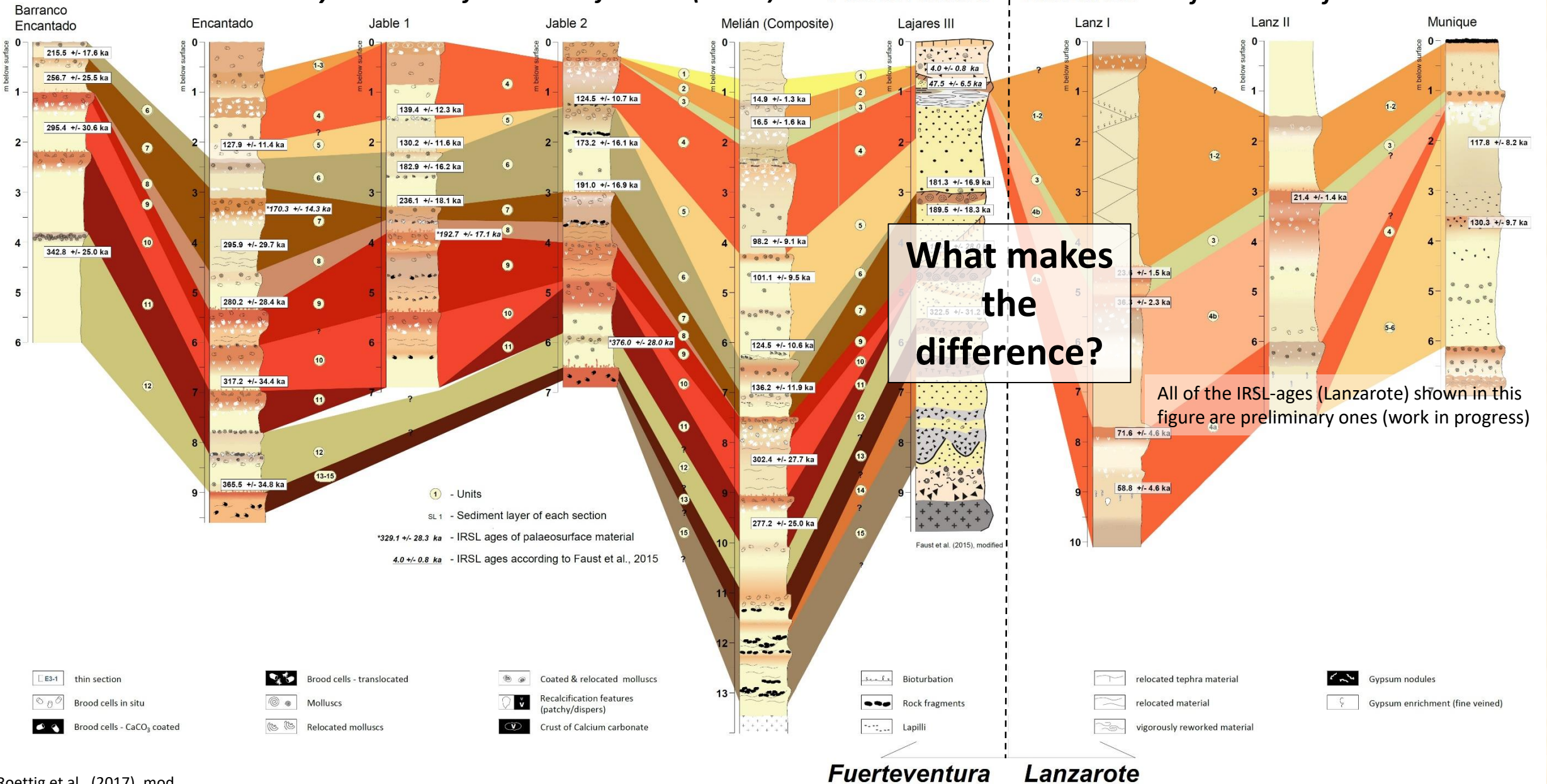
Lanzarote no formation of a crust



widely distributed formation of a crust (Unit 4)

Fuerteventura

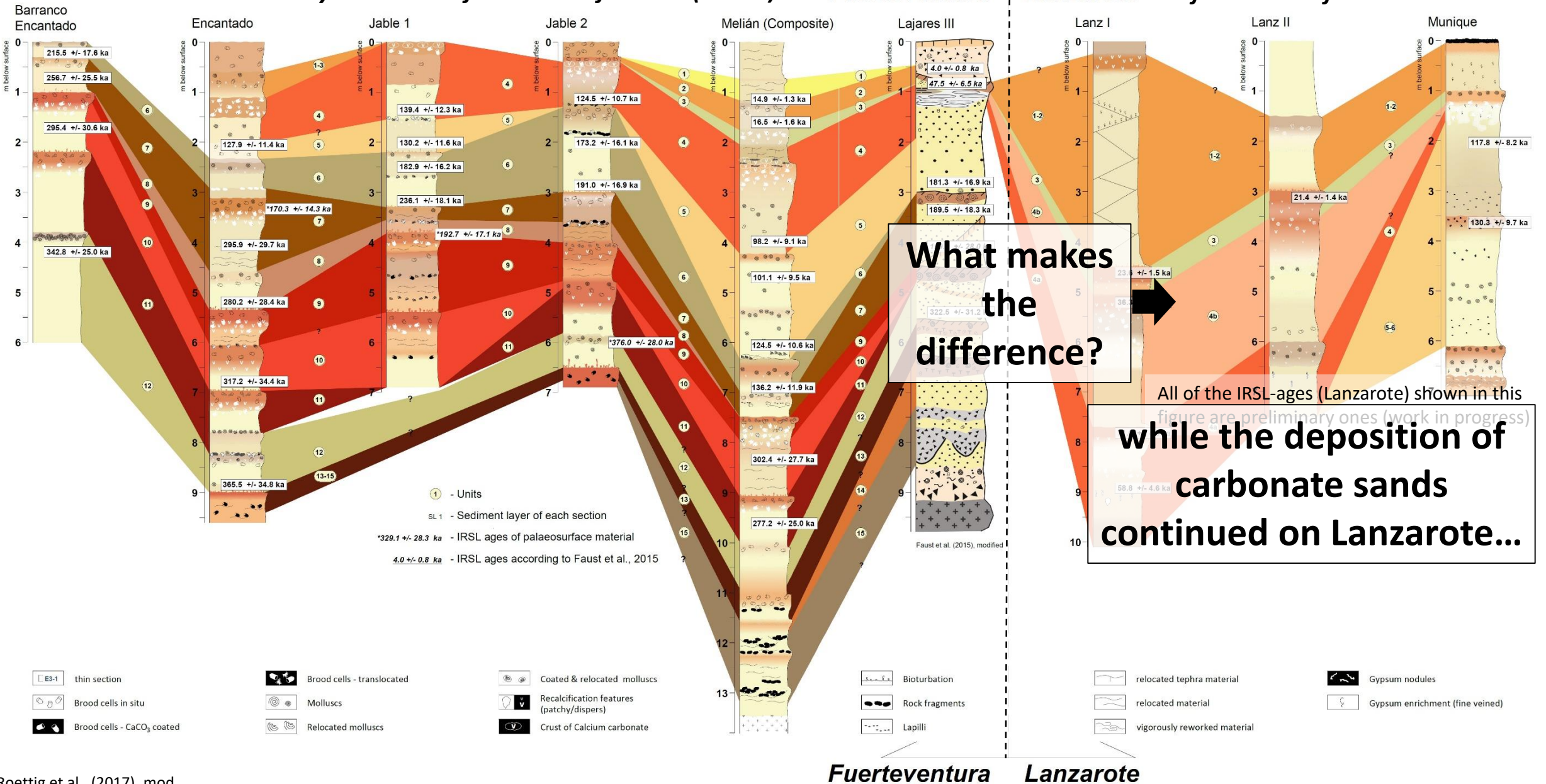
Lanzarote no formation of a crust



widely distributed formation of a crust (Unit 4)

Fuerteventura

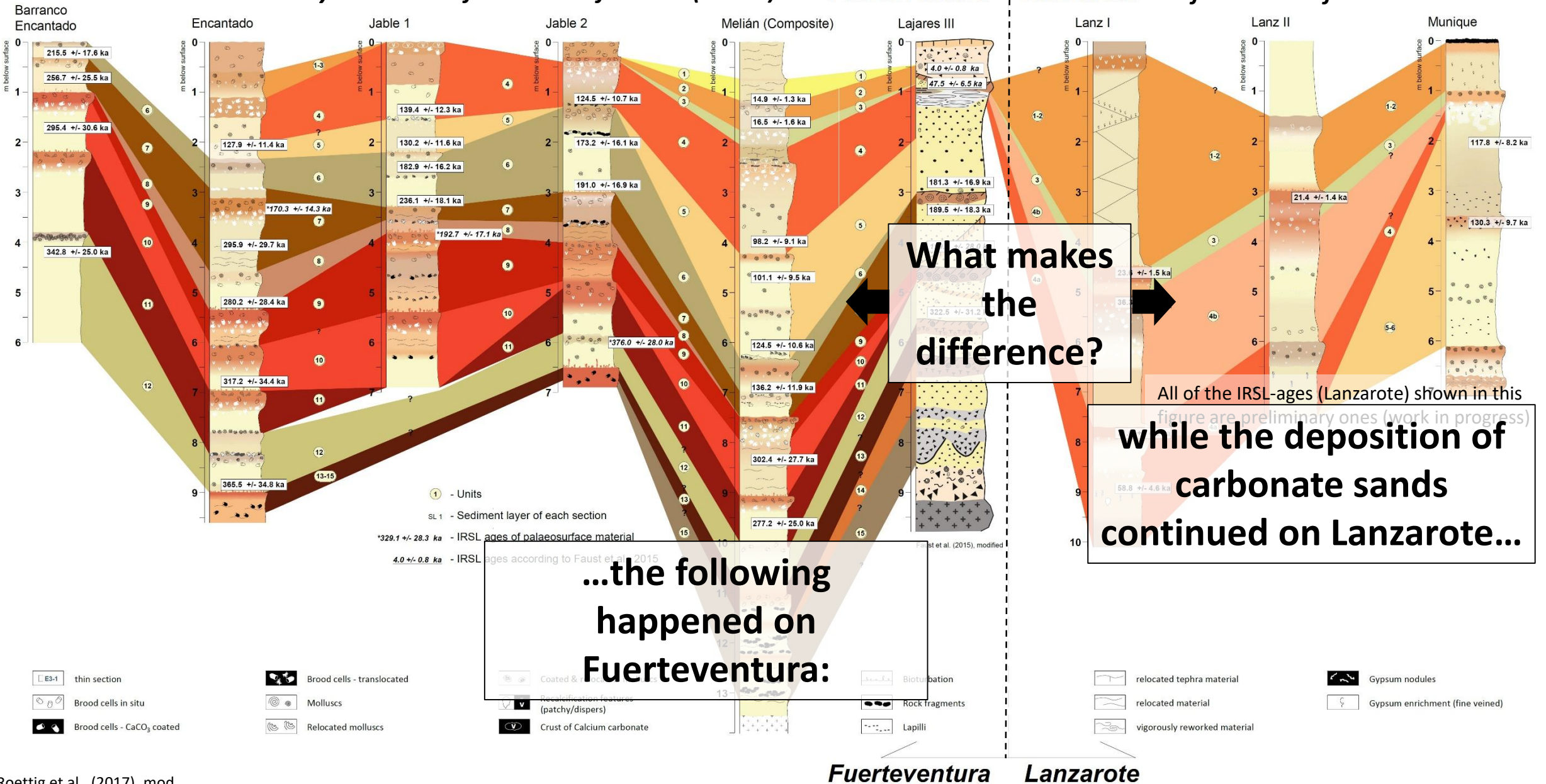
Lanzarote no formation of a crust

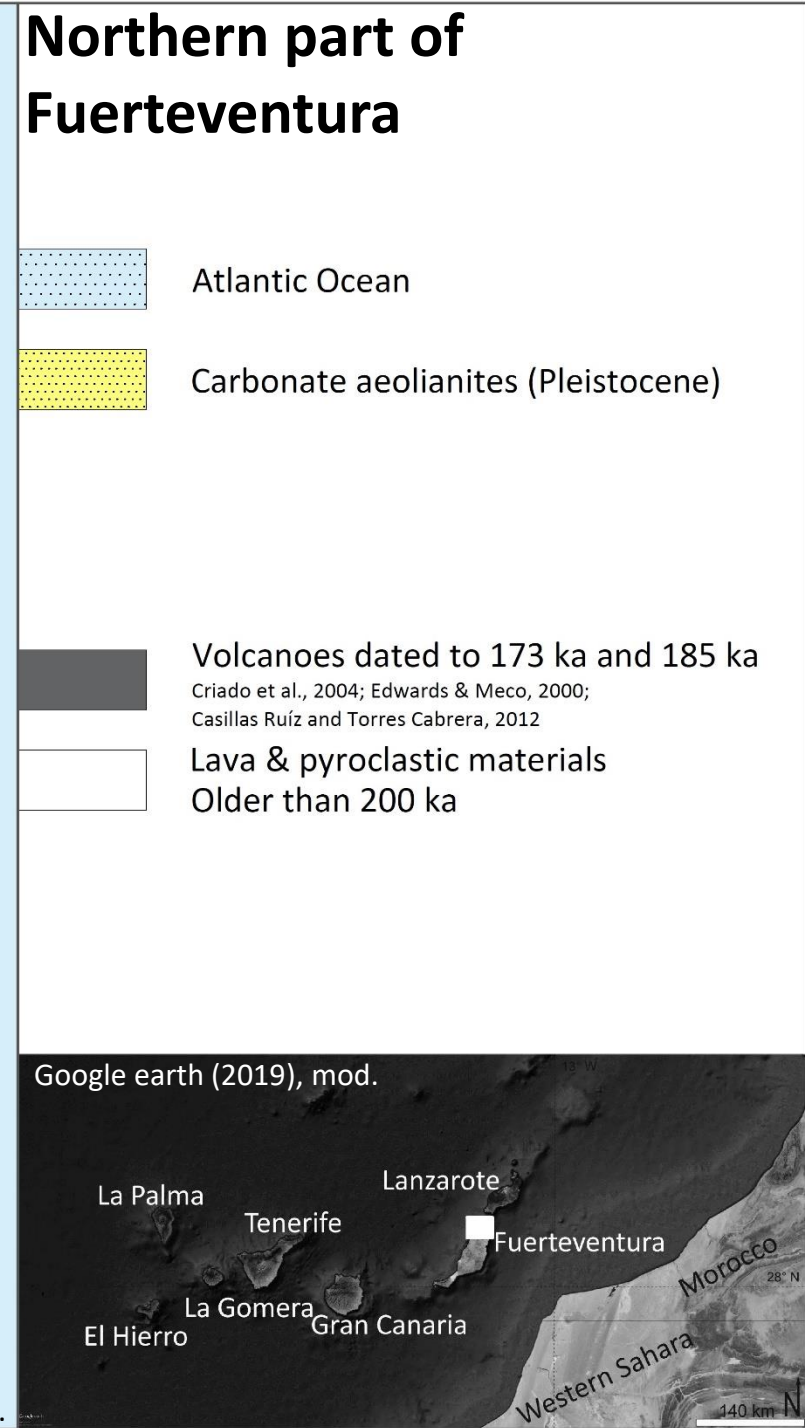
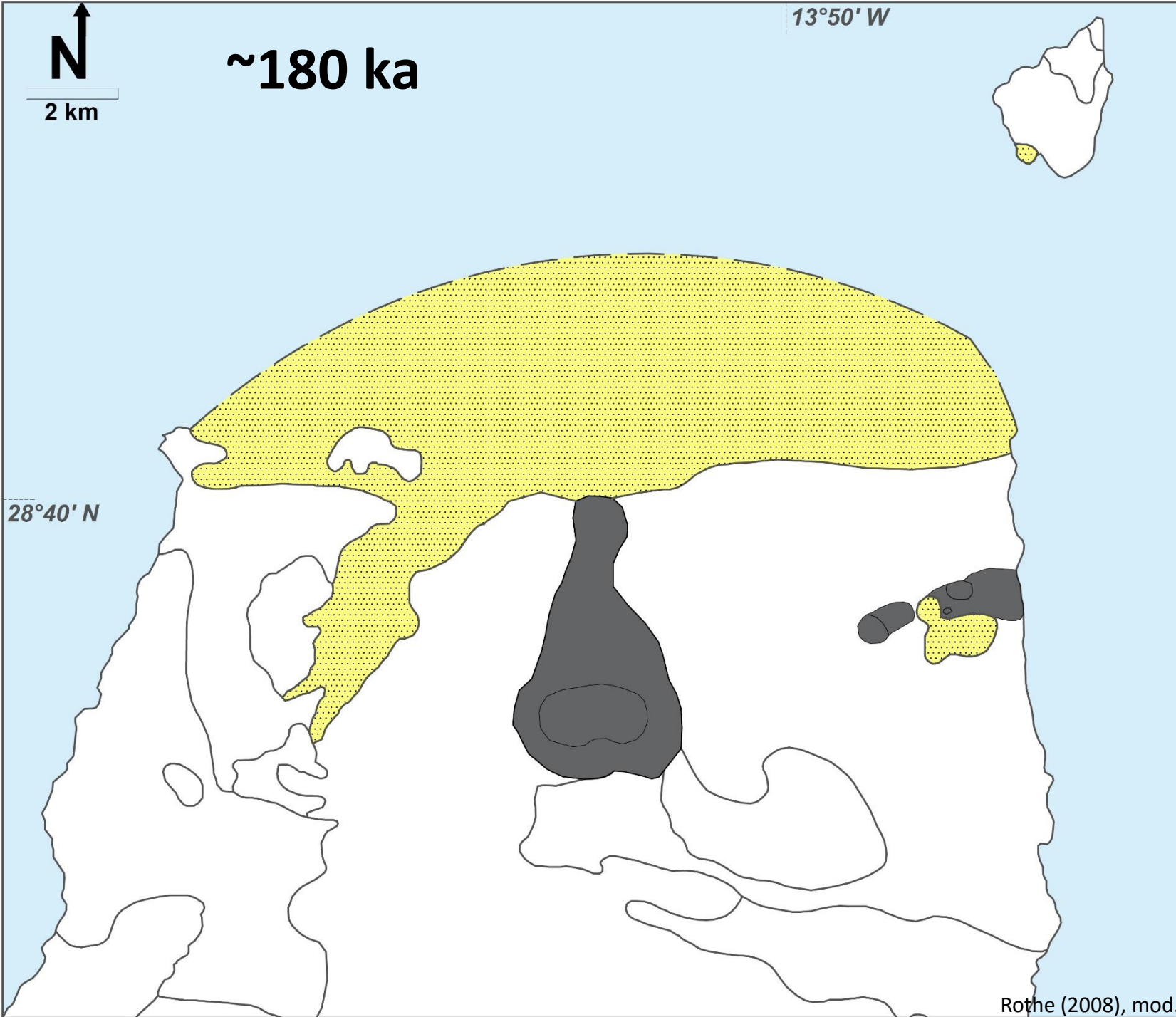


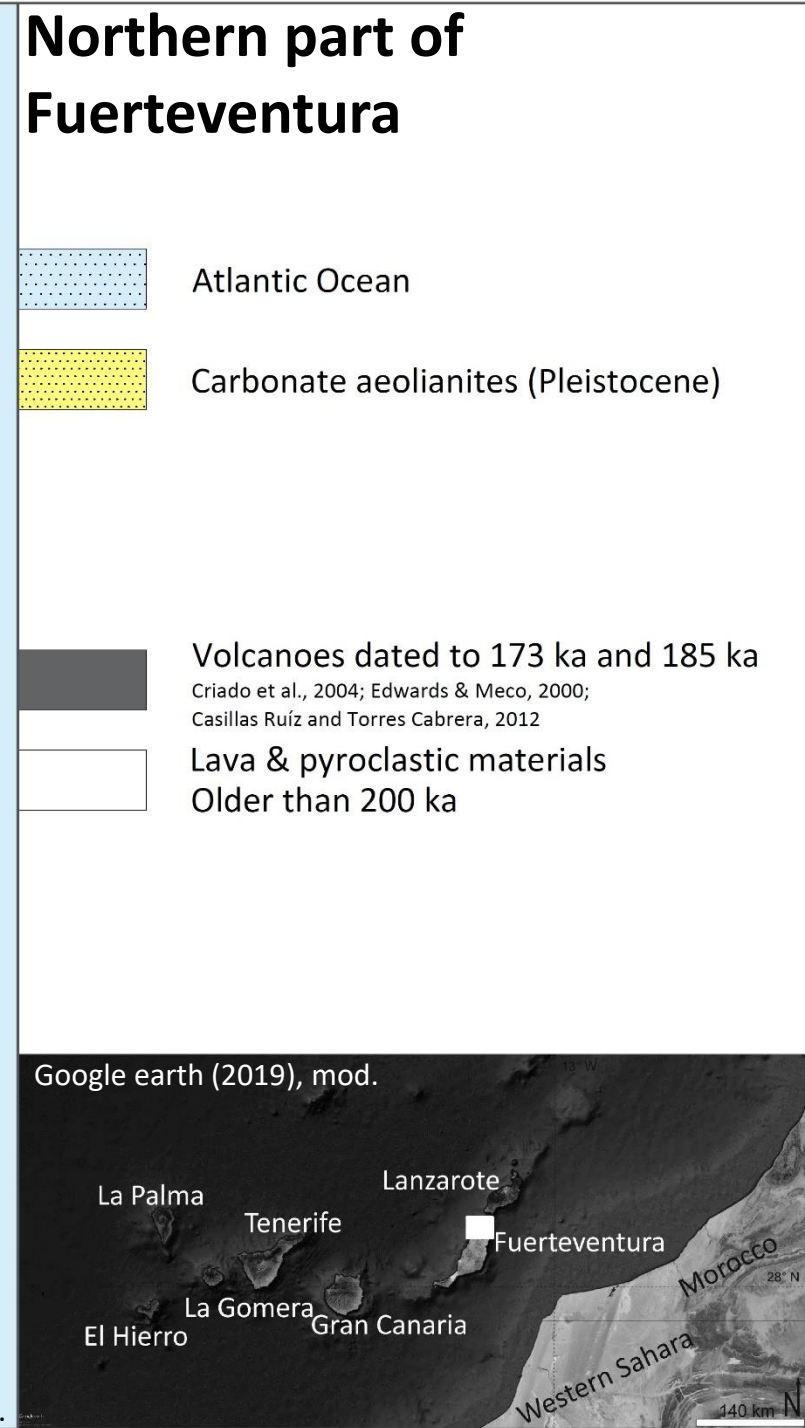
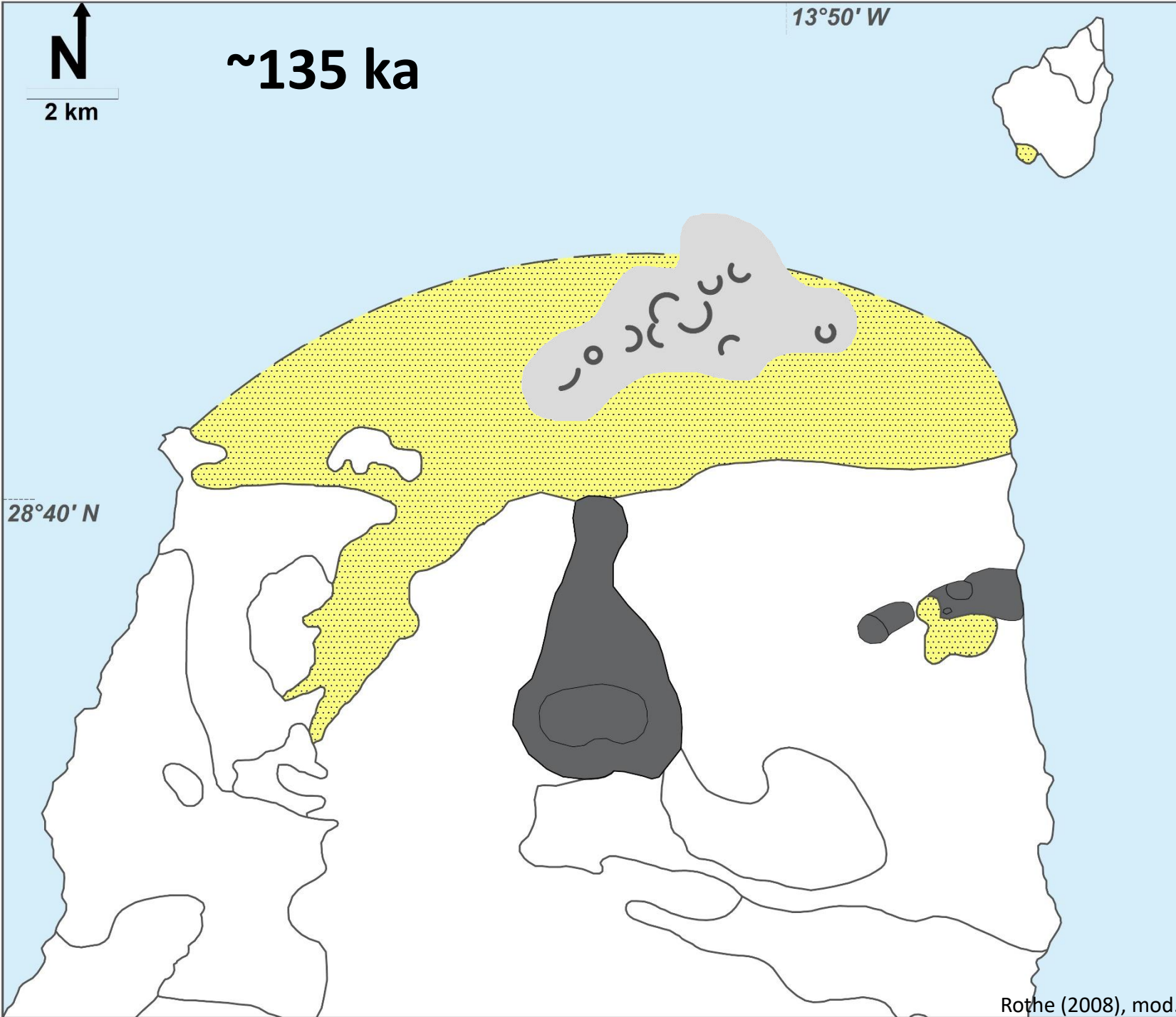
widely distributed formation of a crust (Unit 4)

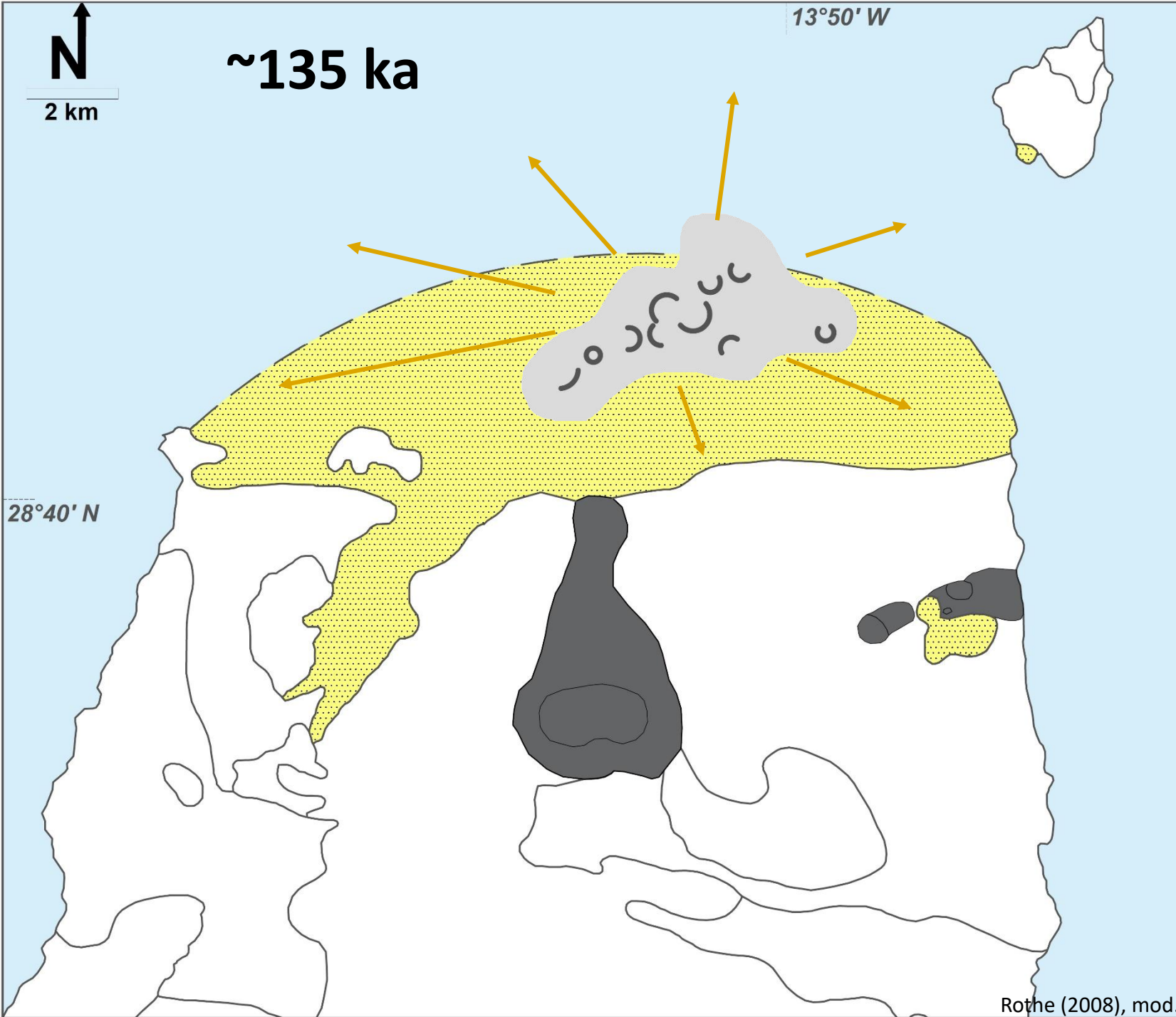
Fuerteventura

Lanzarote no formation of a crust

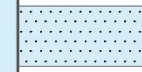




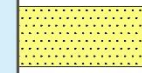




Northern part of Fuerteventura



Atlantic Ocean



Carbonate aeolianites (Pleistocene)



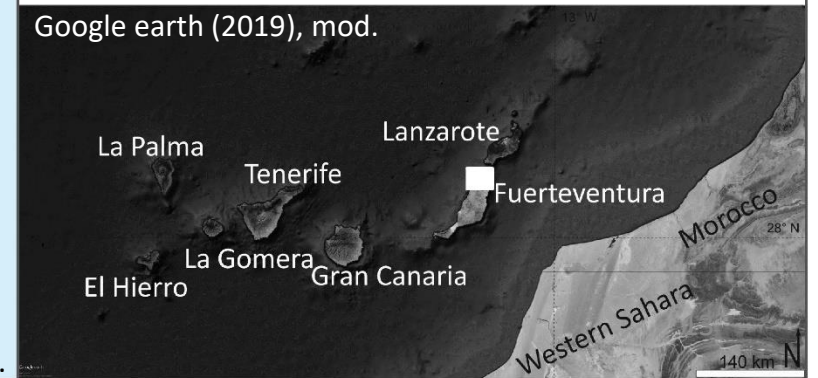
Volcanoes dated to 173 ka and 185 ka

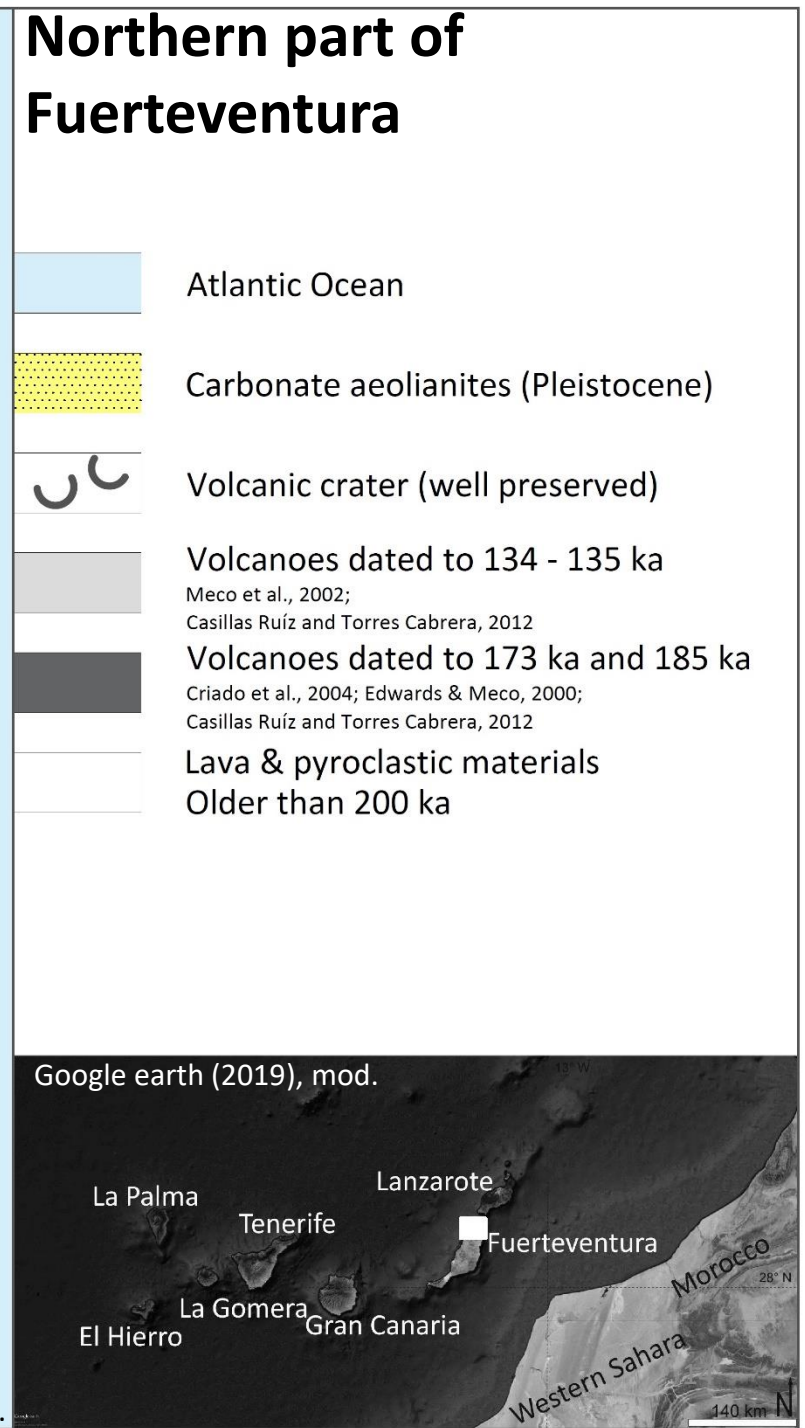
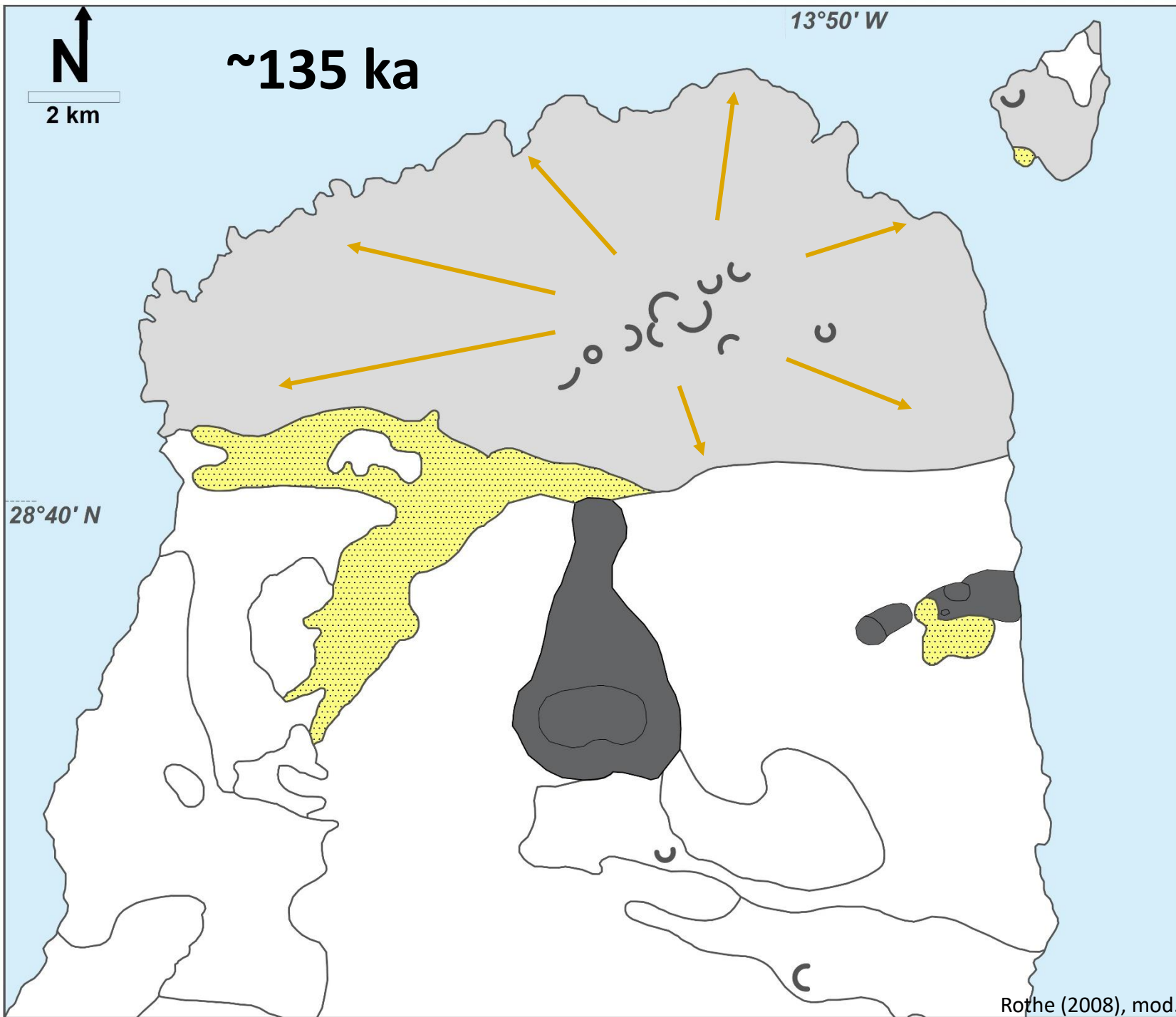
Criado et al., 2004; Edwards & Meco, 2000;
Casillas Ruíz and Torres Cabrera, 2012

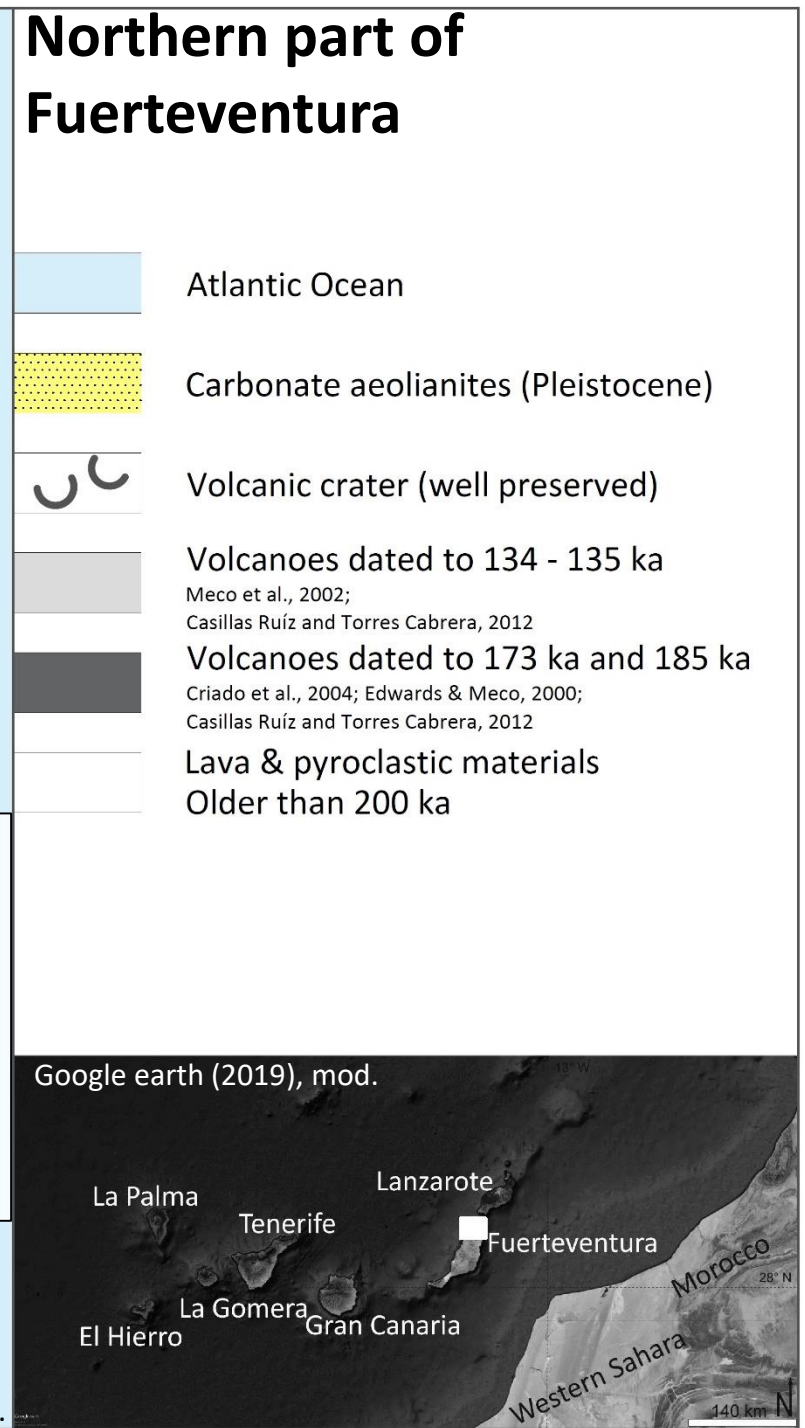
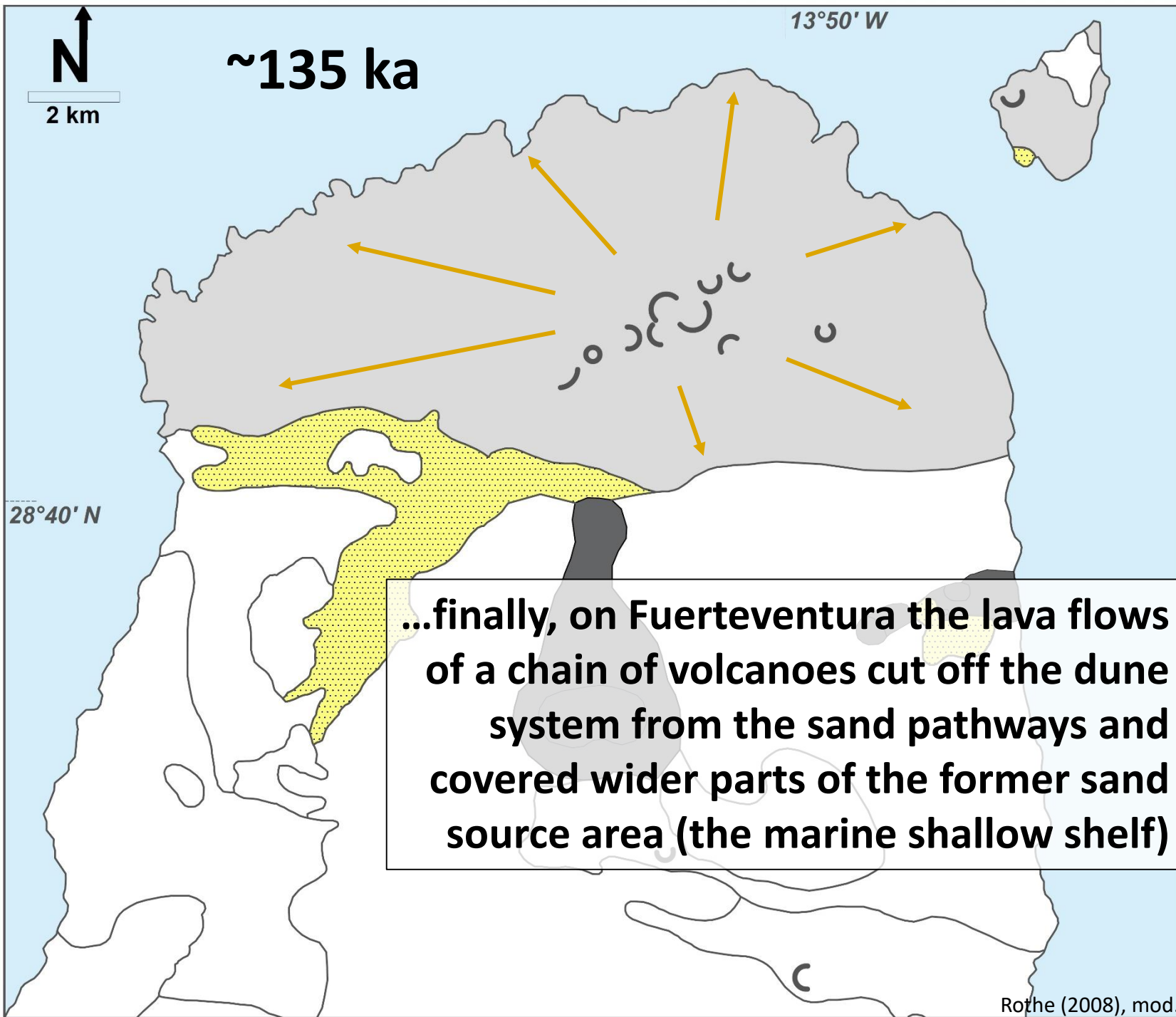


Lava & pyroclastic materials
Older than 200 ka

Google earth (2019), mod.







widely distributed formation of a crust (Unit 4)

Fuerteventura

Lanzarote no formation of a crust

