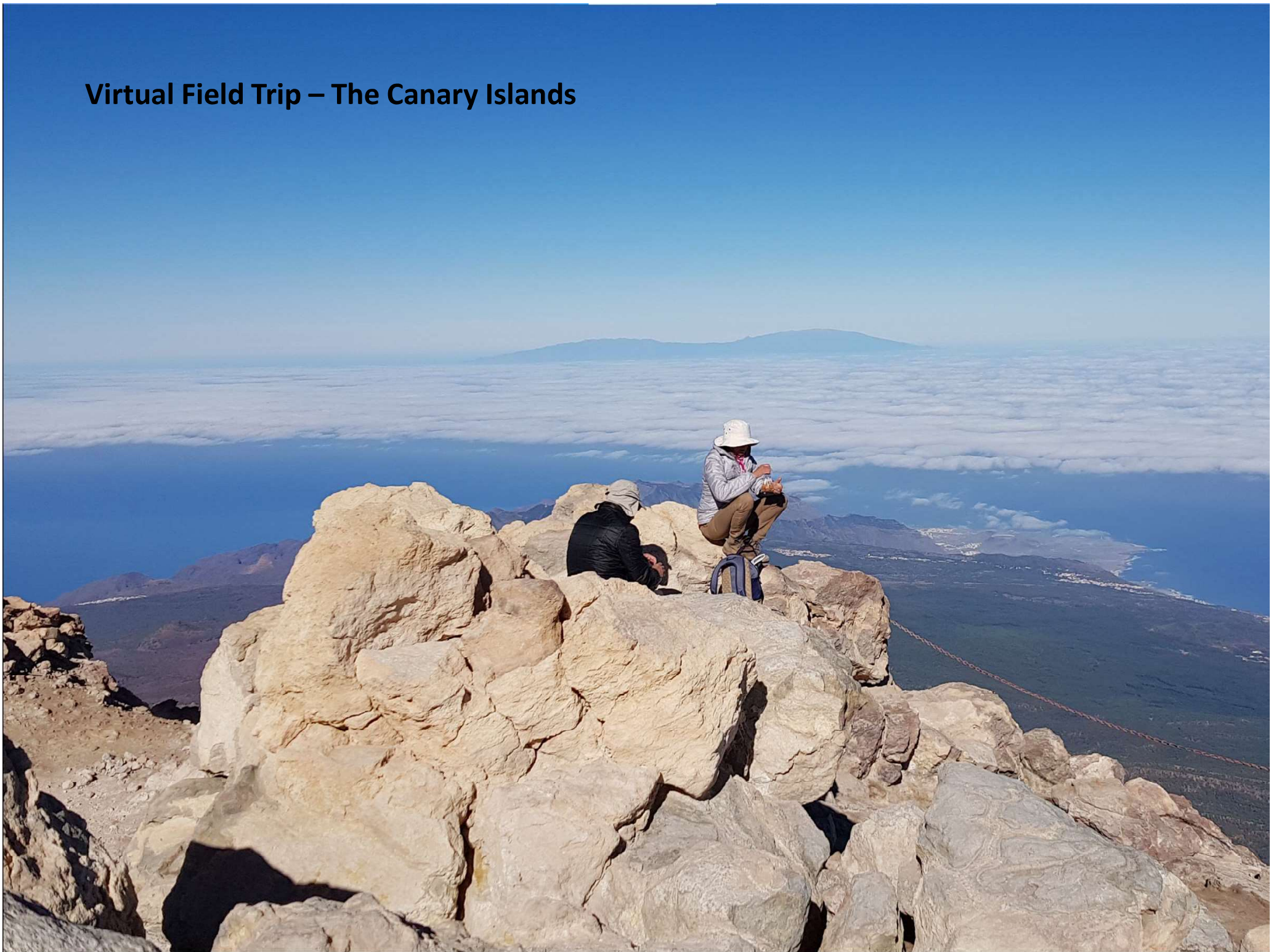


Virtual Field Trip – The Canary Islands



Location

475 km

La Palma

Tenerife

La Gomera

El Hierro

Gran Canaria

Lanzarote

Fuerteventura

98 km

Gibraltar

Fes

Meknes

Marrakech

Seville

Málaga

Tindouf

Laayoune

Maspalomas

Las Palmas de Gran Canaria

Puerto de la Cruz

Santa Cruz de Tenerife





La Graciosa
2 Ma

This is an aerial photograph of a coastal landscape. In the foreground, there is a dark, brown, textured ground surface. The middle ground features a large body of blue water. On the left side of the water, there is a small, elongated island with a light-colored, sandy or rocky surface. To the right of this island, there is a larger, more complex landmass with a dark, rugged, and mountainous terrain. The sky is a clear, pale blue. The entire image is framed by a thin black border.

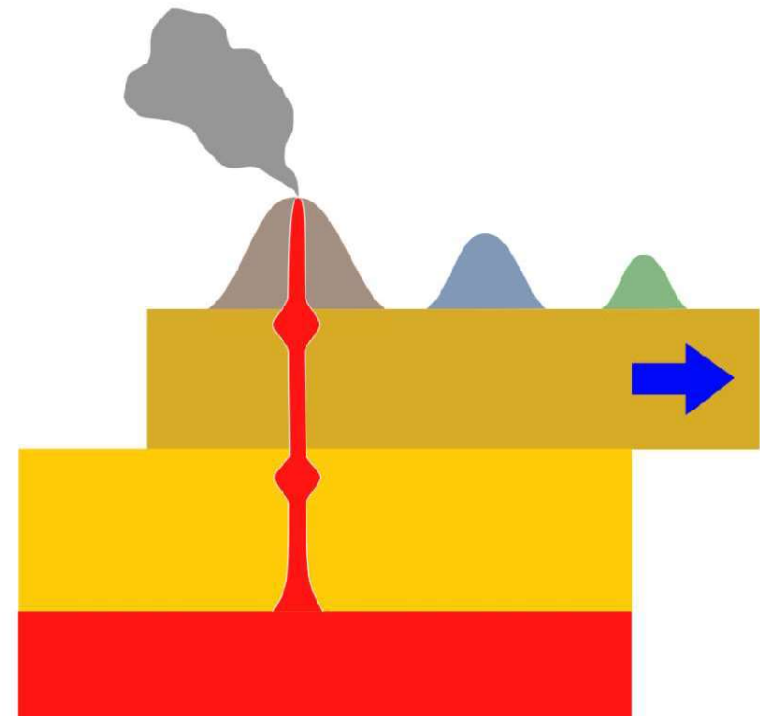
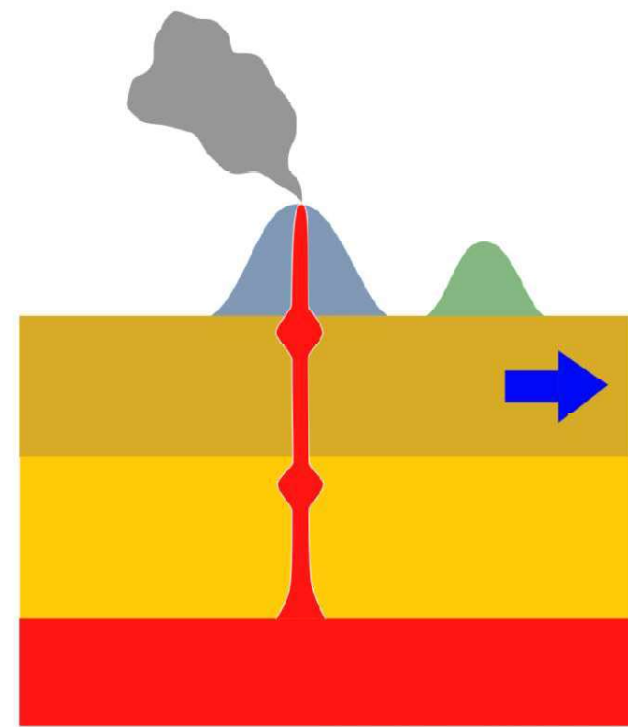
Famara massif
6 Ma

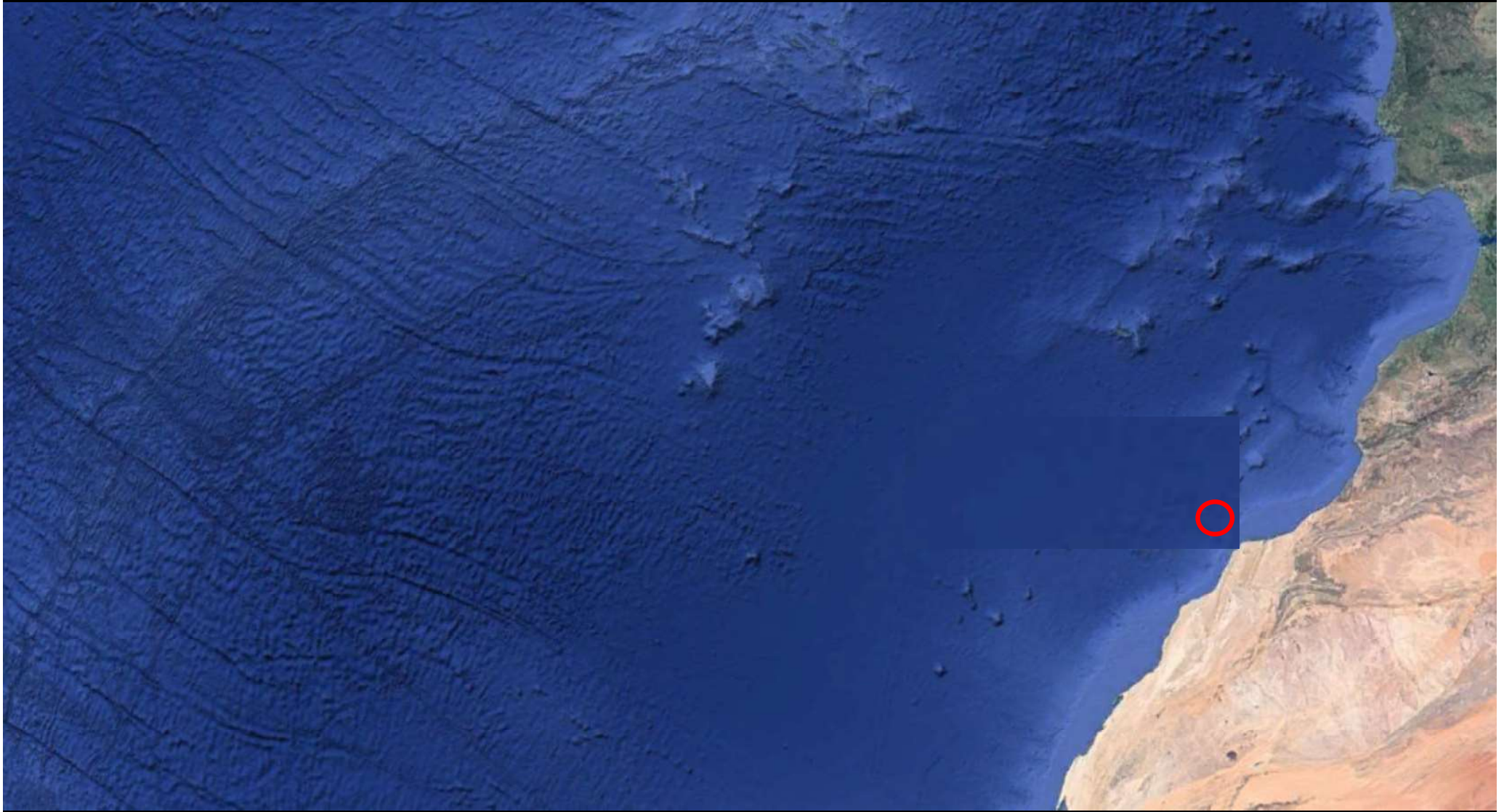


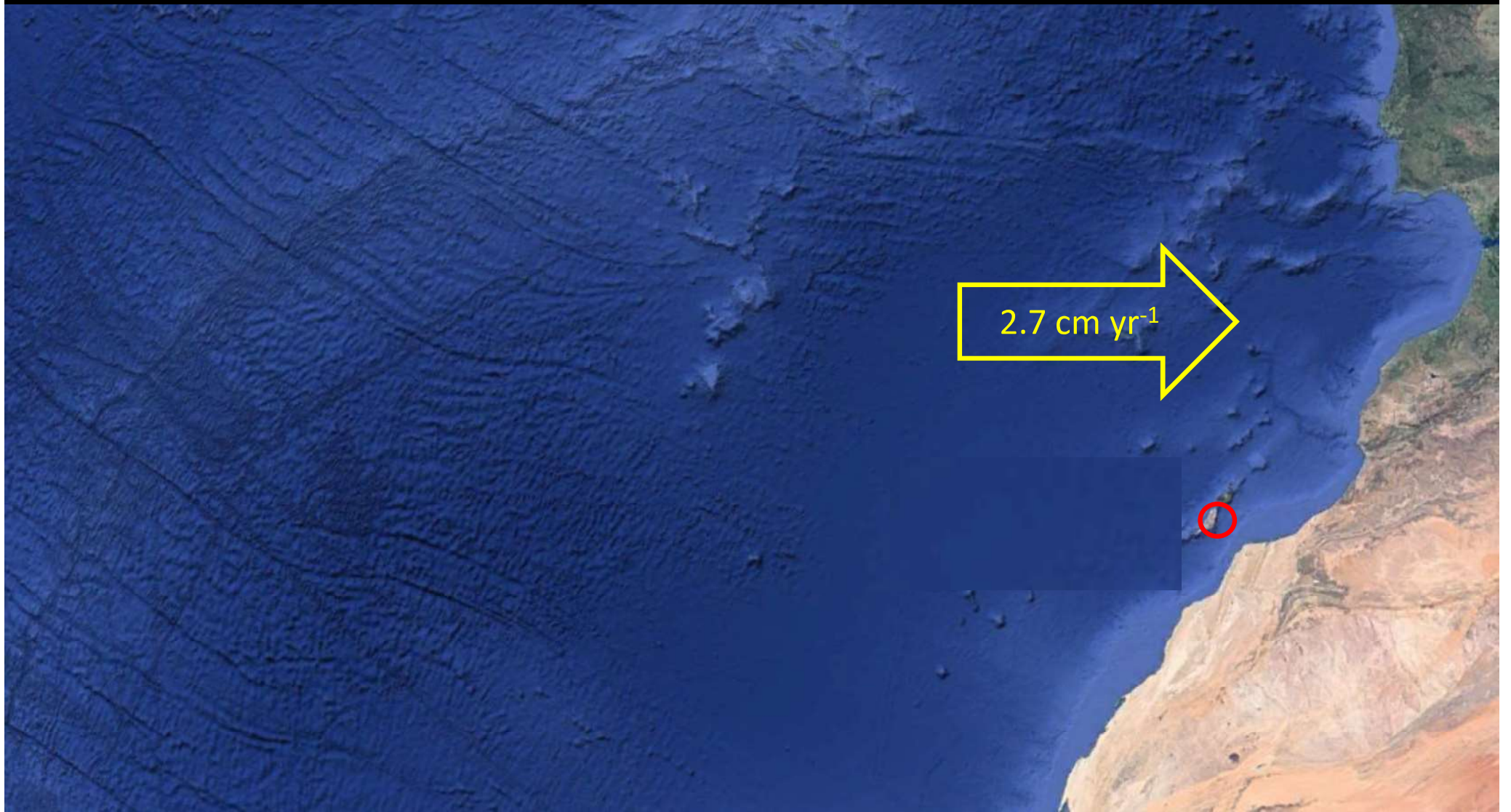
Formation

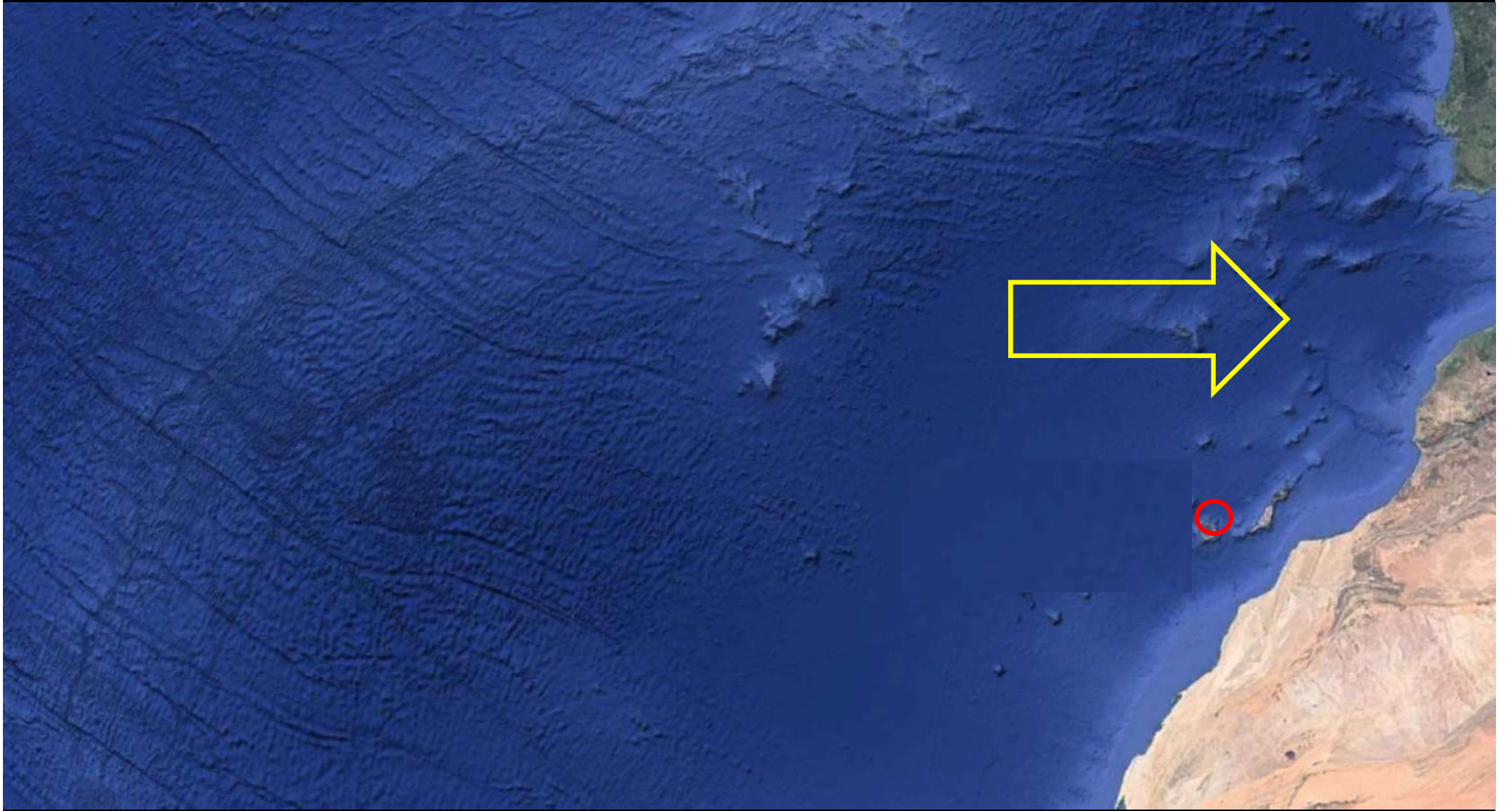
Ocean hot spot volcanism

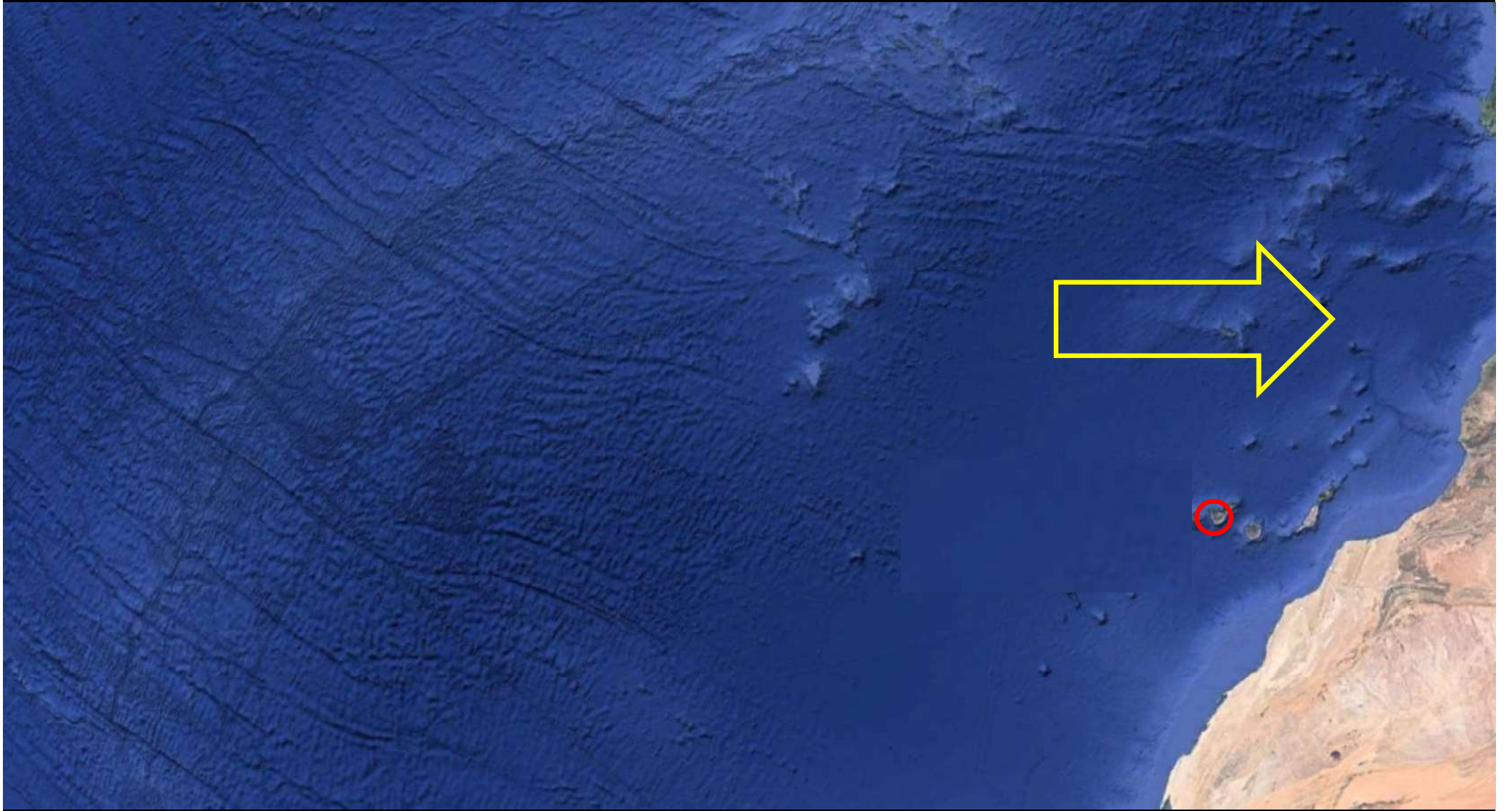
- Convection within the mantle
- Hot plumes rise, creating a “hot spot” at the lithosphere
- Molten material (lava) breaks through the crust and erupts as a volcano
- Hot spot is static, crust moves (plate tectonics)
- Over time, old volcanos die out and new ones form, creating a chain of islands on a fixed track

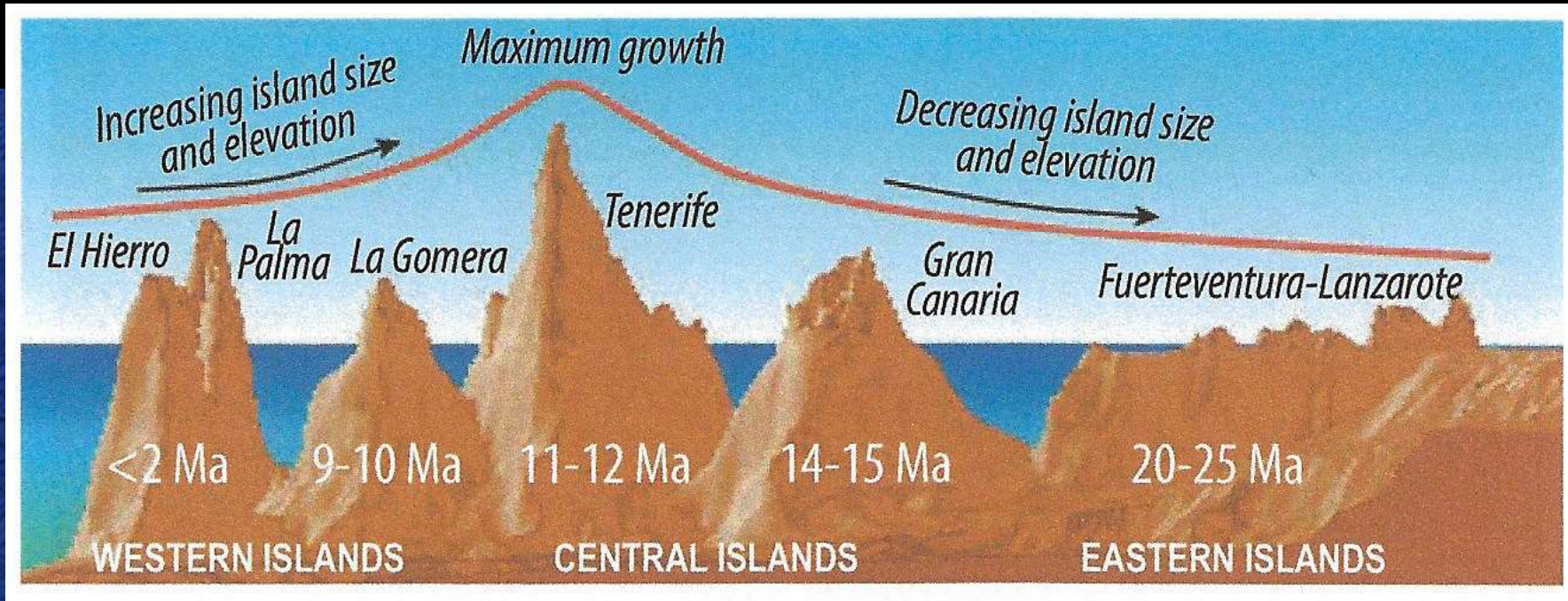












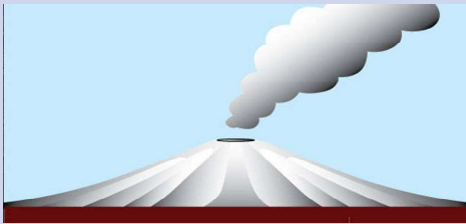
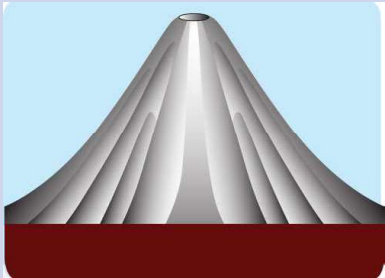
Canaries



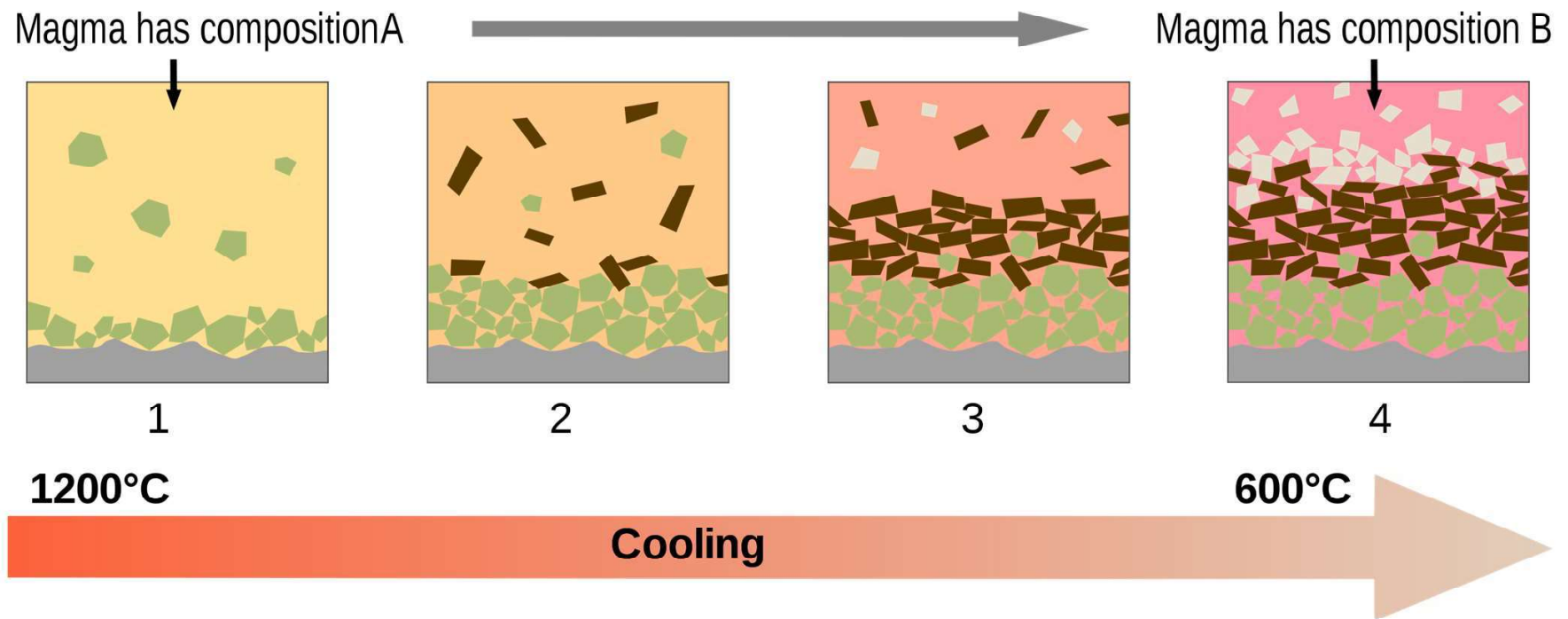
Hawaii

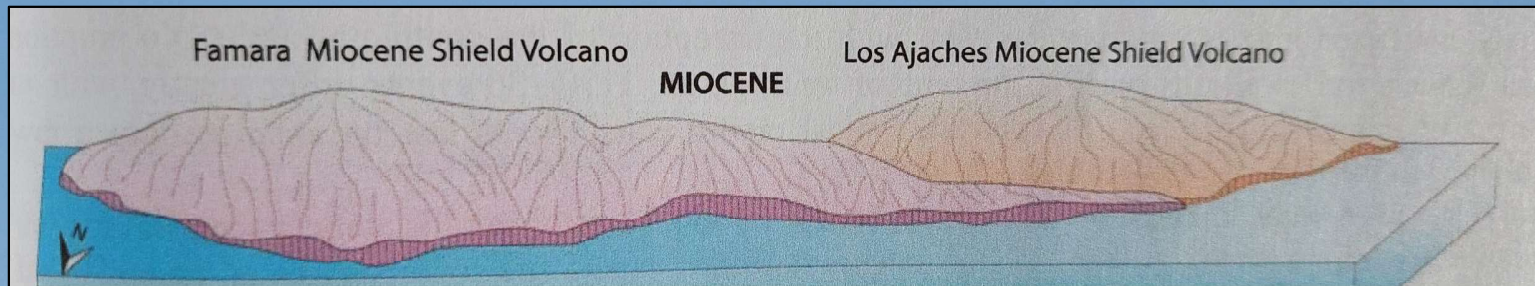


Simplified island life cycle

stage	main activity	morphology	
1. shield building	eruption of mafic/alkali lavas low silica (<52%) low viscosity (ketchup) flow and spread out Basalt is the typical rock type	shield volcano	
2. quiescent	subsidence rifting	landslides	
3. re-activation	eruption of felsic/acid lavas high silica (>65%) high viscosity, stiff build up rather than flow out Rhyolite is typical.	stratovolcano	
4. old age	subsidence erosion	seamount	

Fractional crystallisation







lava

tephra

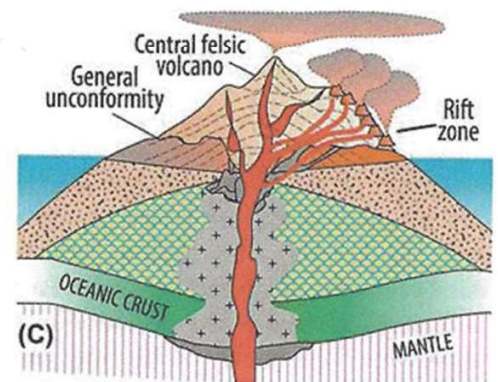
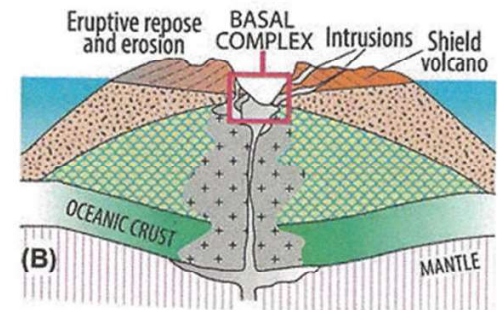
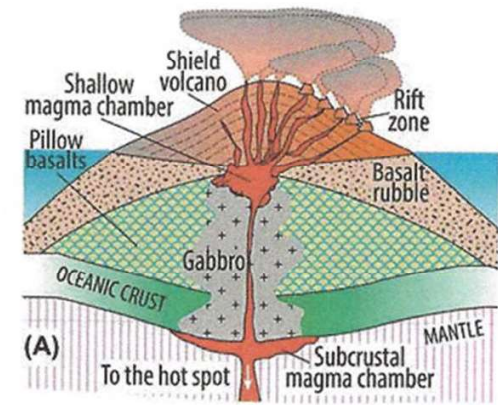
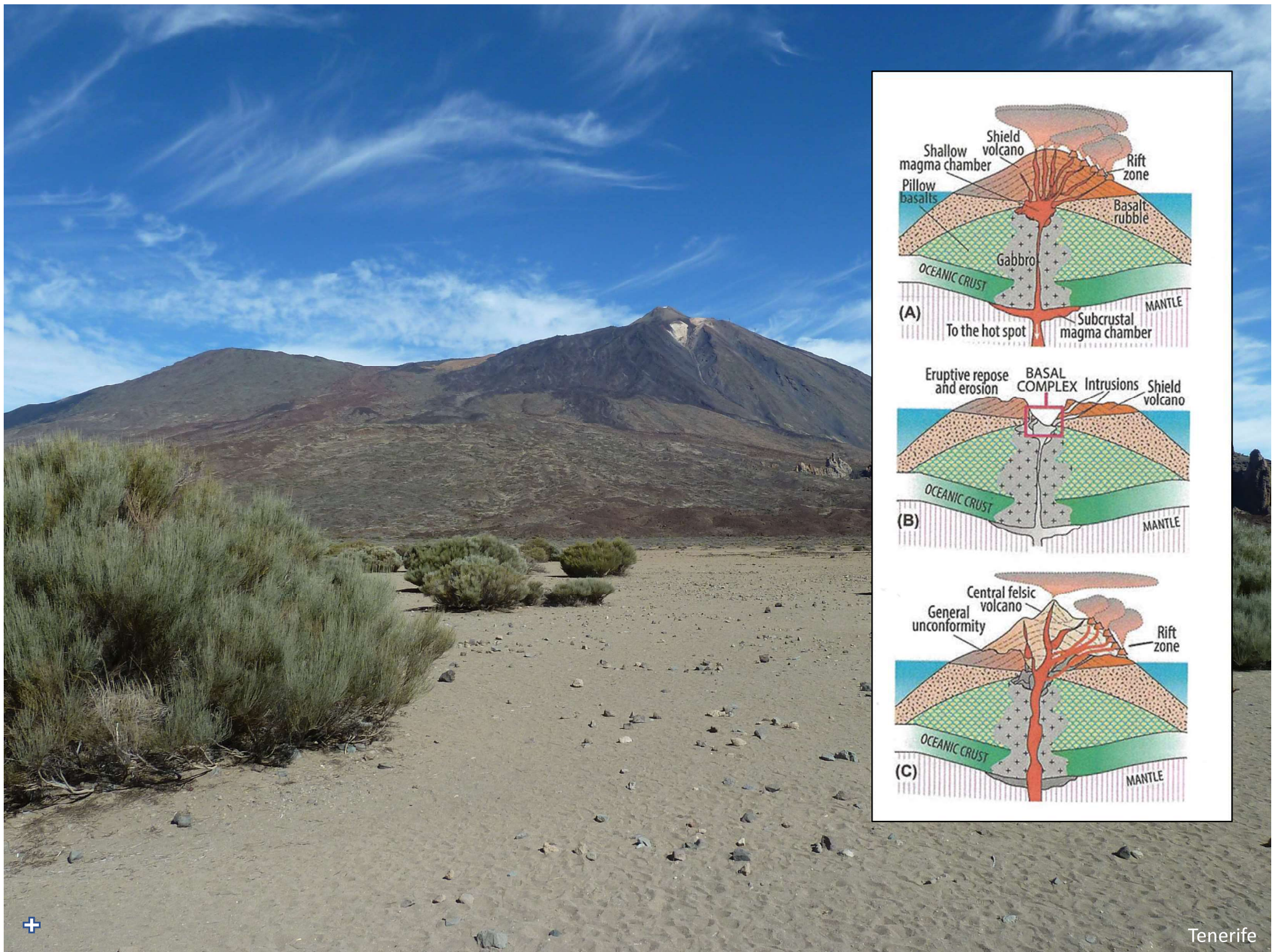
ash <2mm dia
lapilli 2-64 mm dia
bombs >64 mm dia

dykes

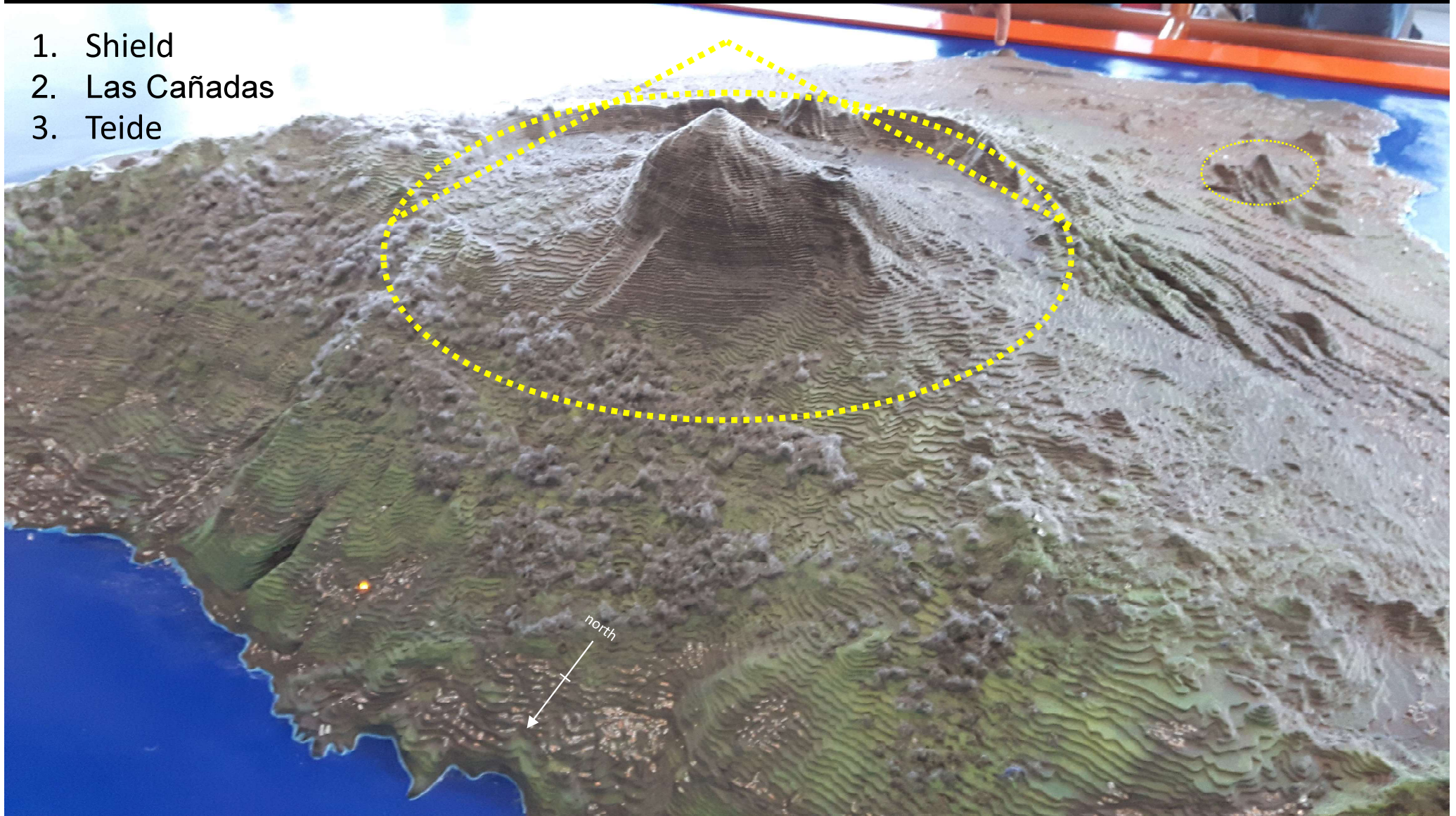
lava

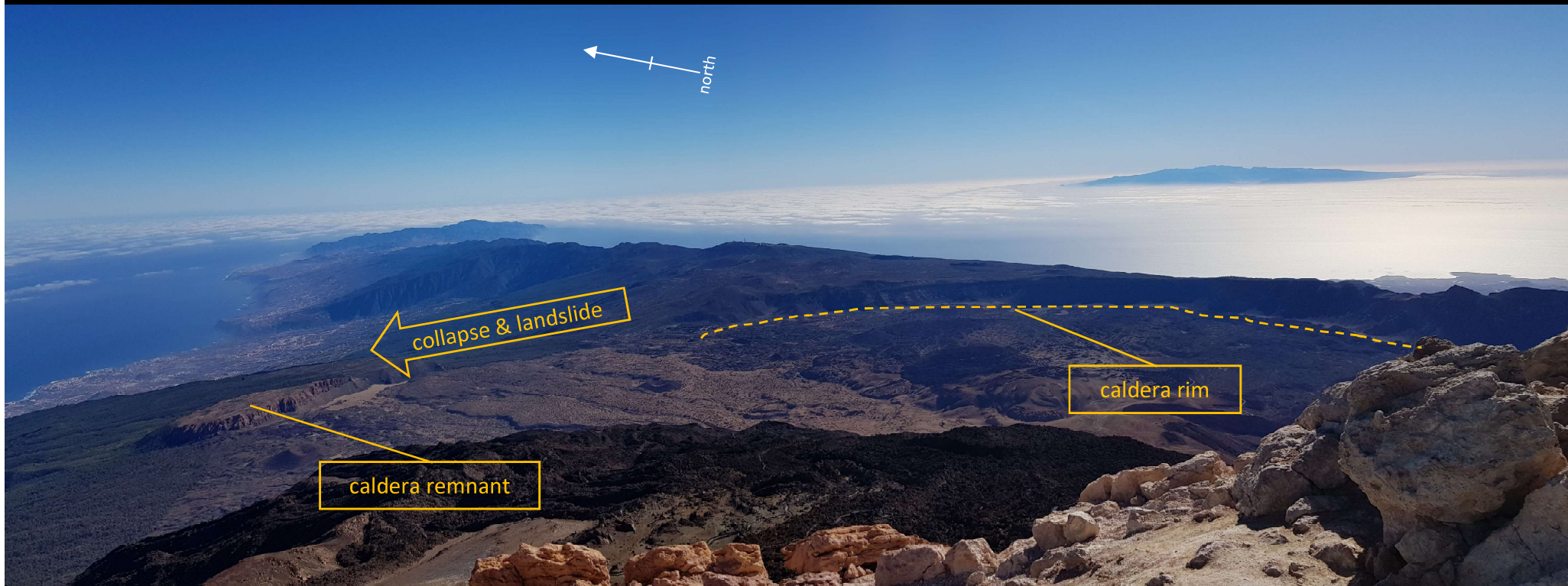






1. Shield
2. Las Cañadas
3. Teide





1.

fracturas
fractures

It's not a true caldera...

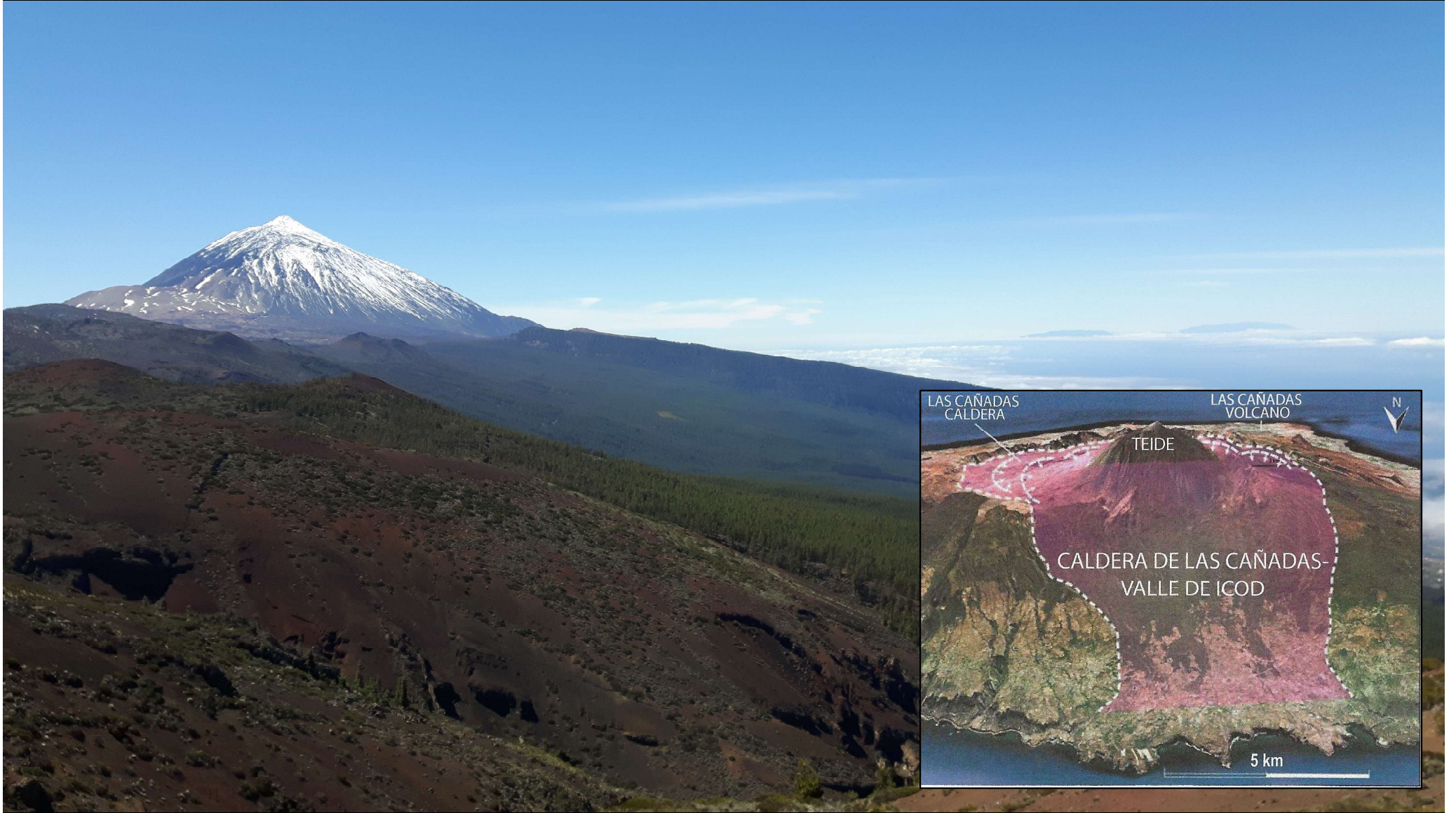
mar



de
as
as

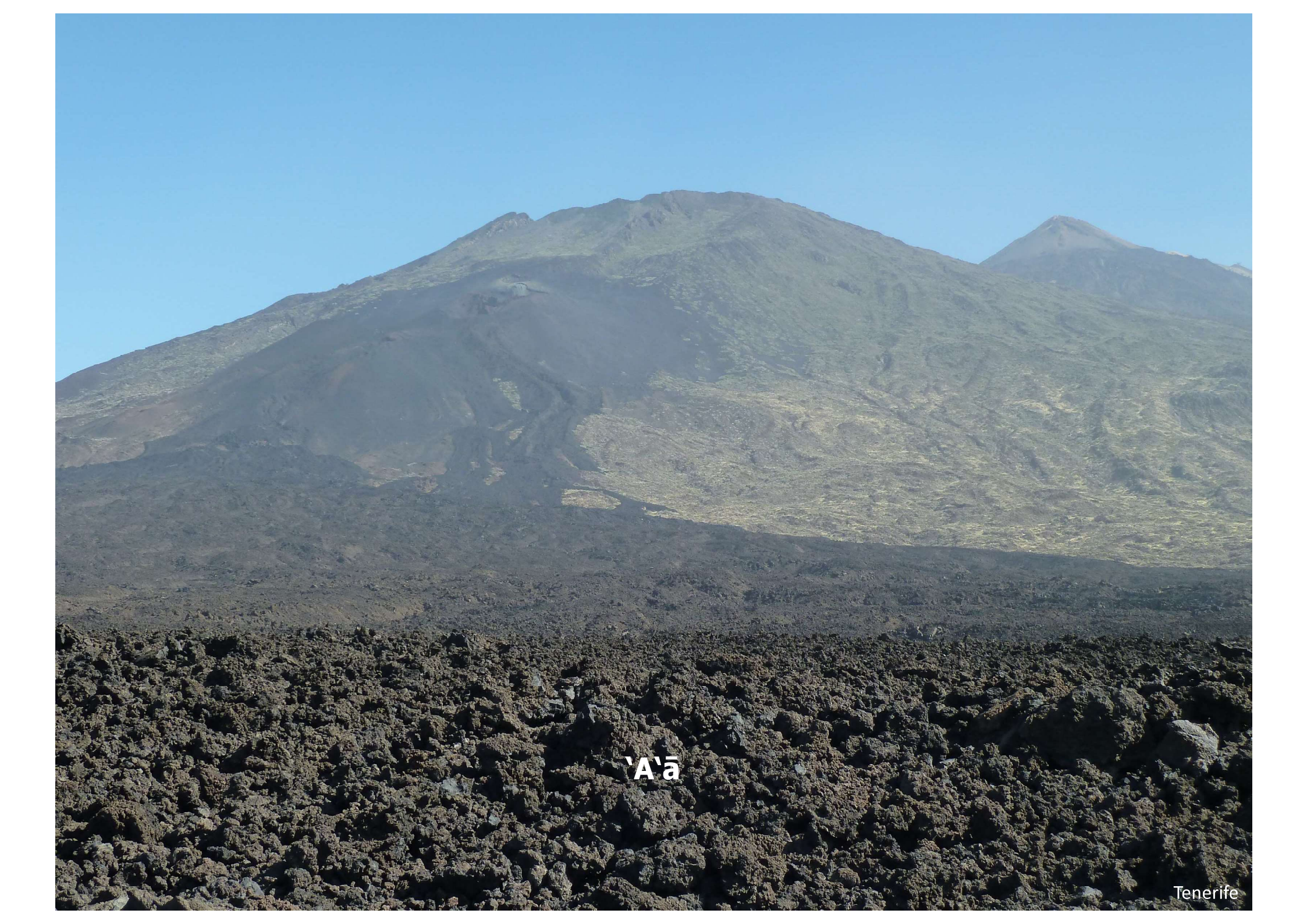












'A'ā

A photograph of a Pāhoehoe lava flow, characterized by its highly textured, ropy surface. The lava flow is dark brown and black, with some lighter, yellowish-brown areas where the surface is more eroded or where small plants are growing. The flow is situated on a volcanic landscape with other lava fields and distant mountains visible in the background. The sky is clear and blue.

Pāhoehoe

Tenerife

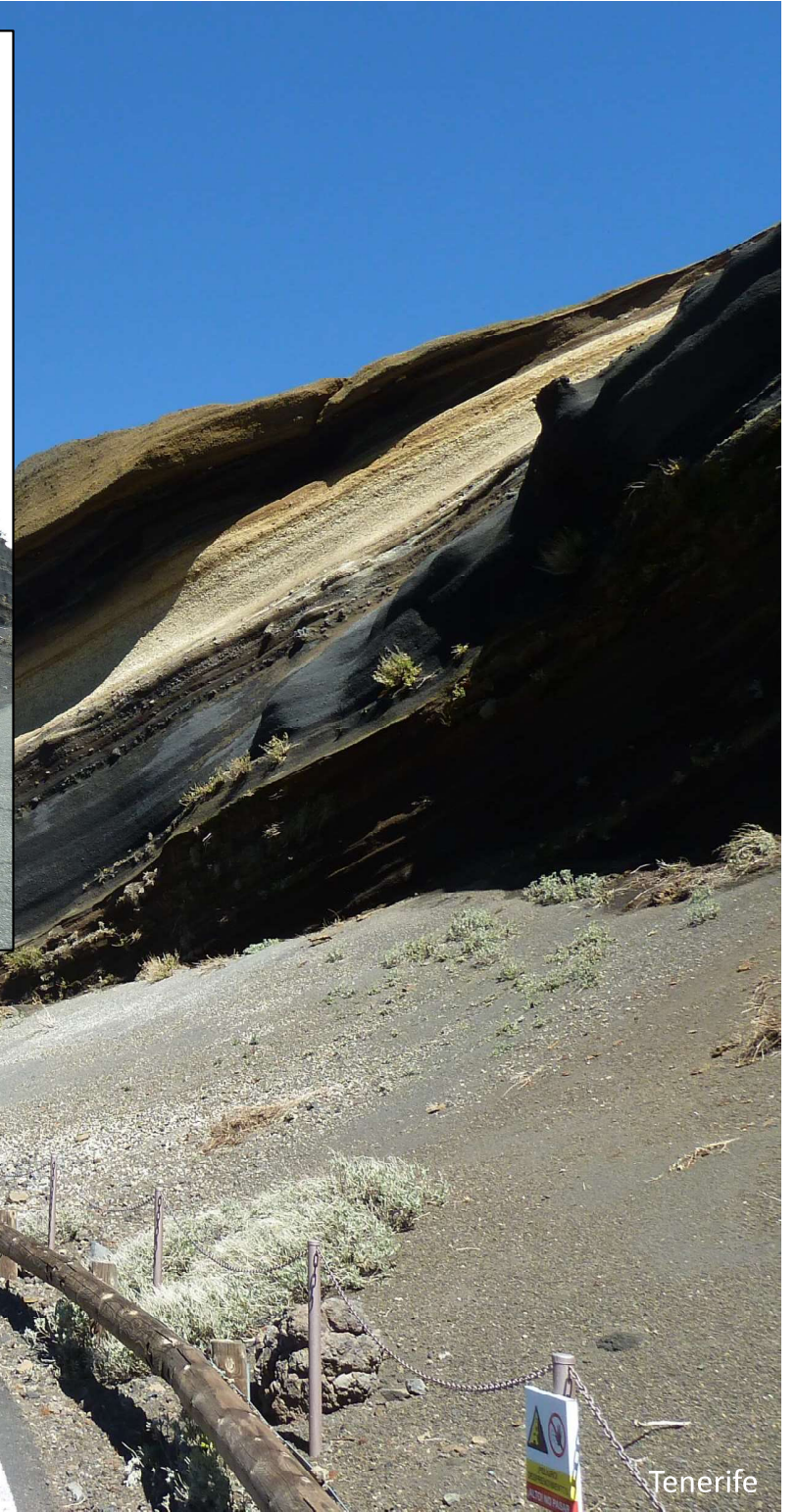


Scoria





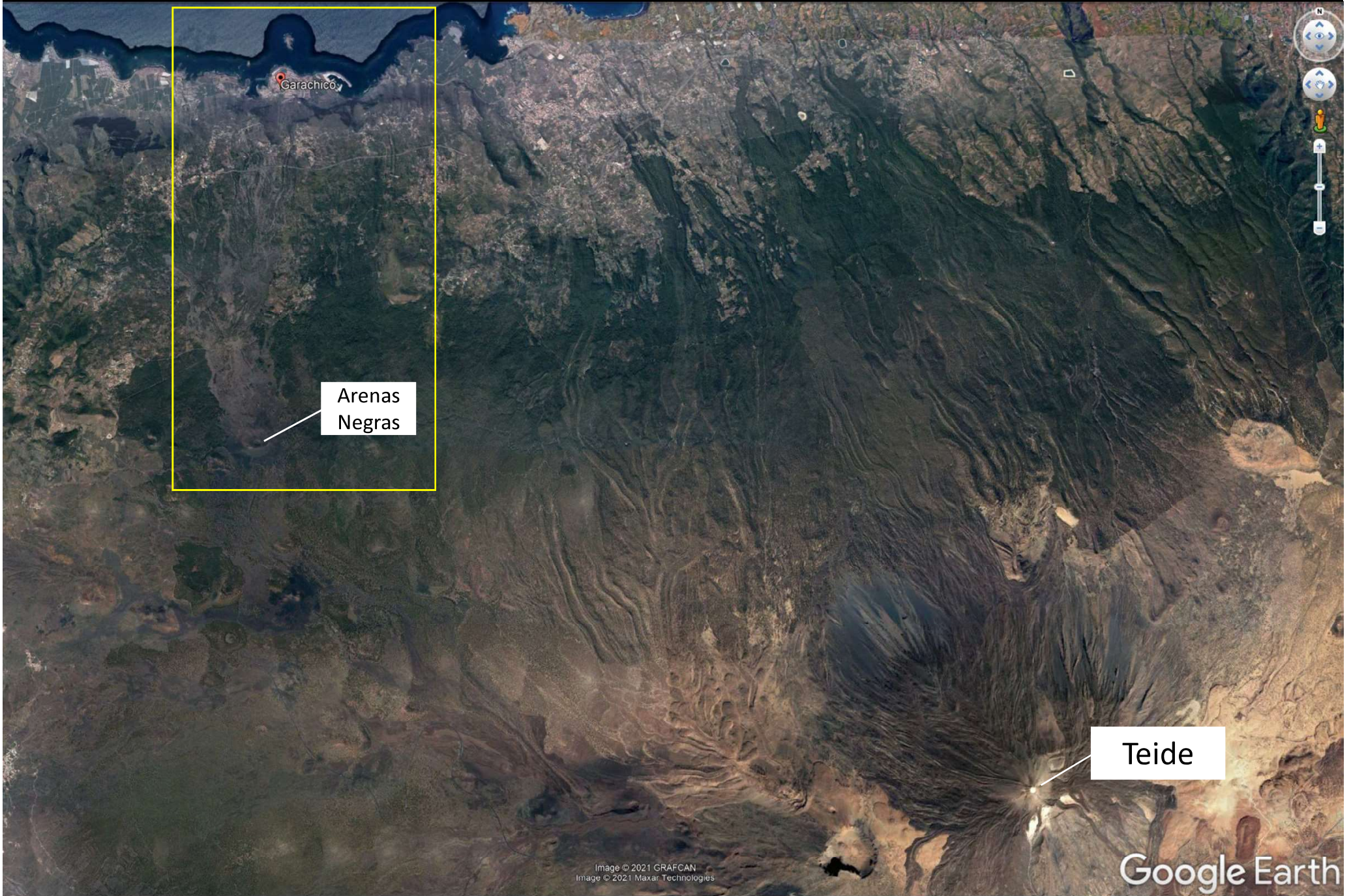
Gran Canaria



Tenerife







Teide

Arenas
Negras

Garachico

Image © 2021 GRAFCAN
Image © 2021 Maxar Technologies

Google Earth





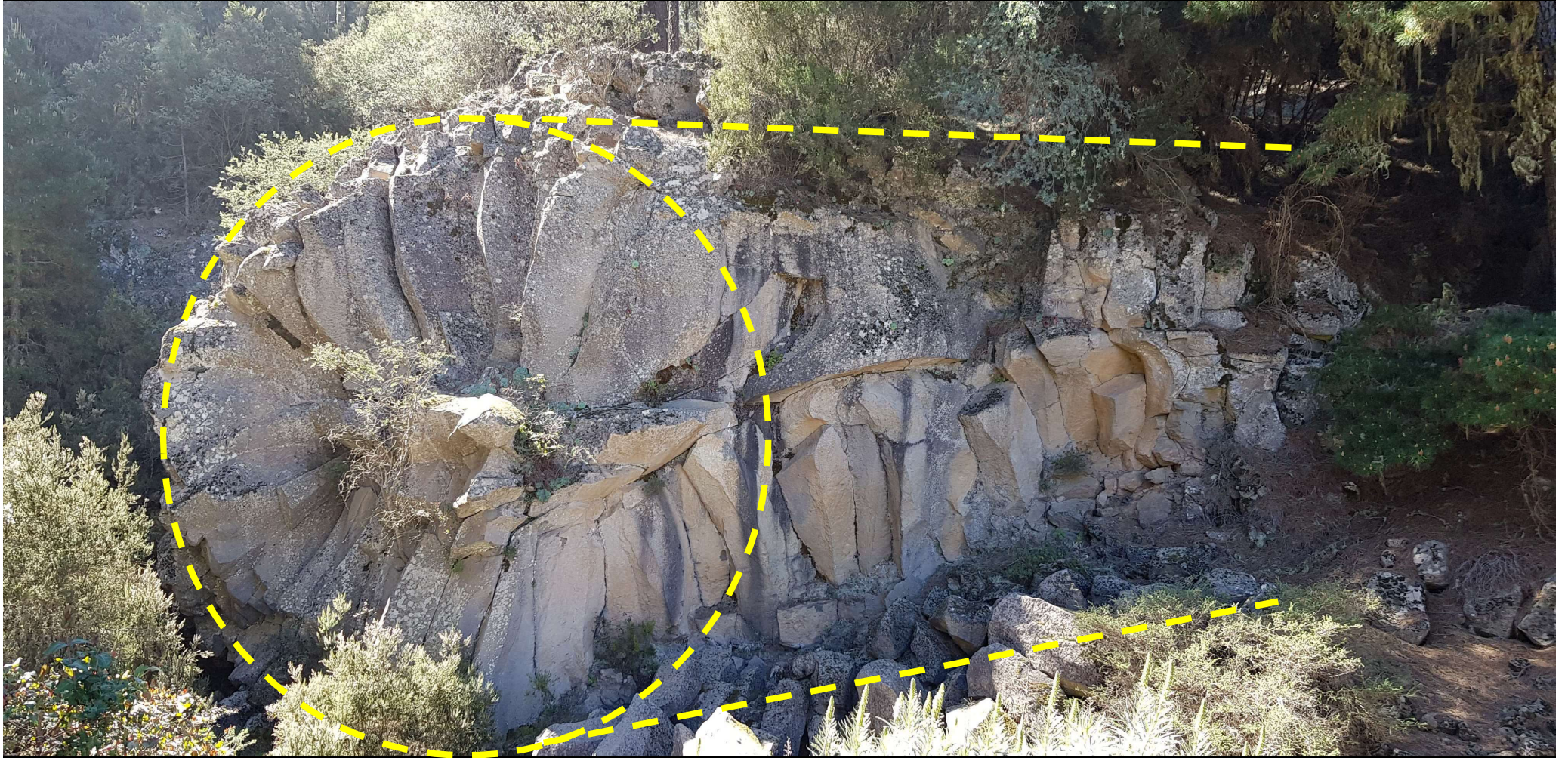














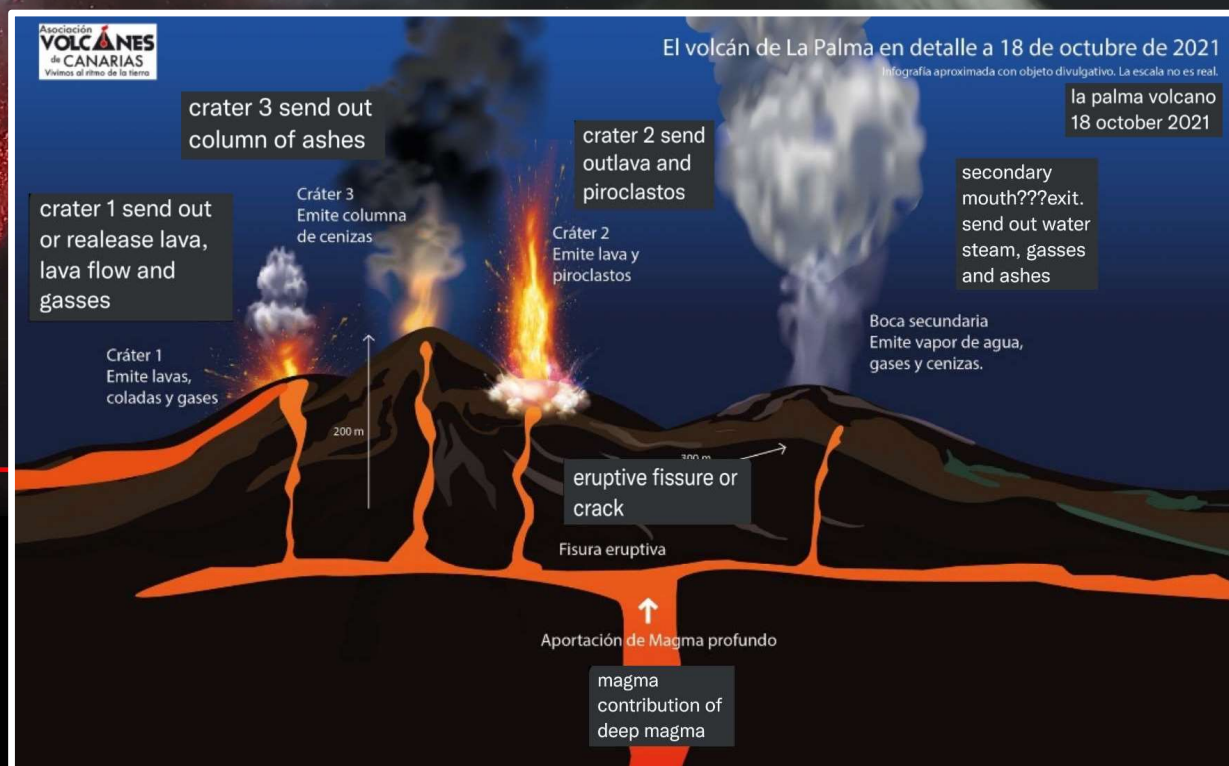
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MINISTERIO
DE CIENCIA
E INNOVACIÓN

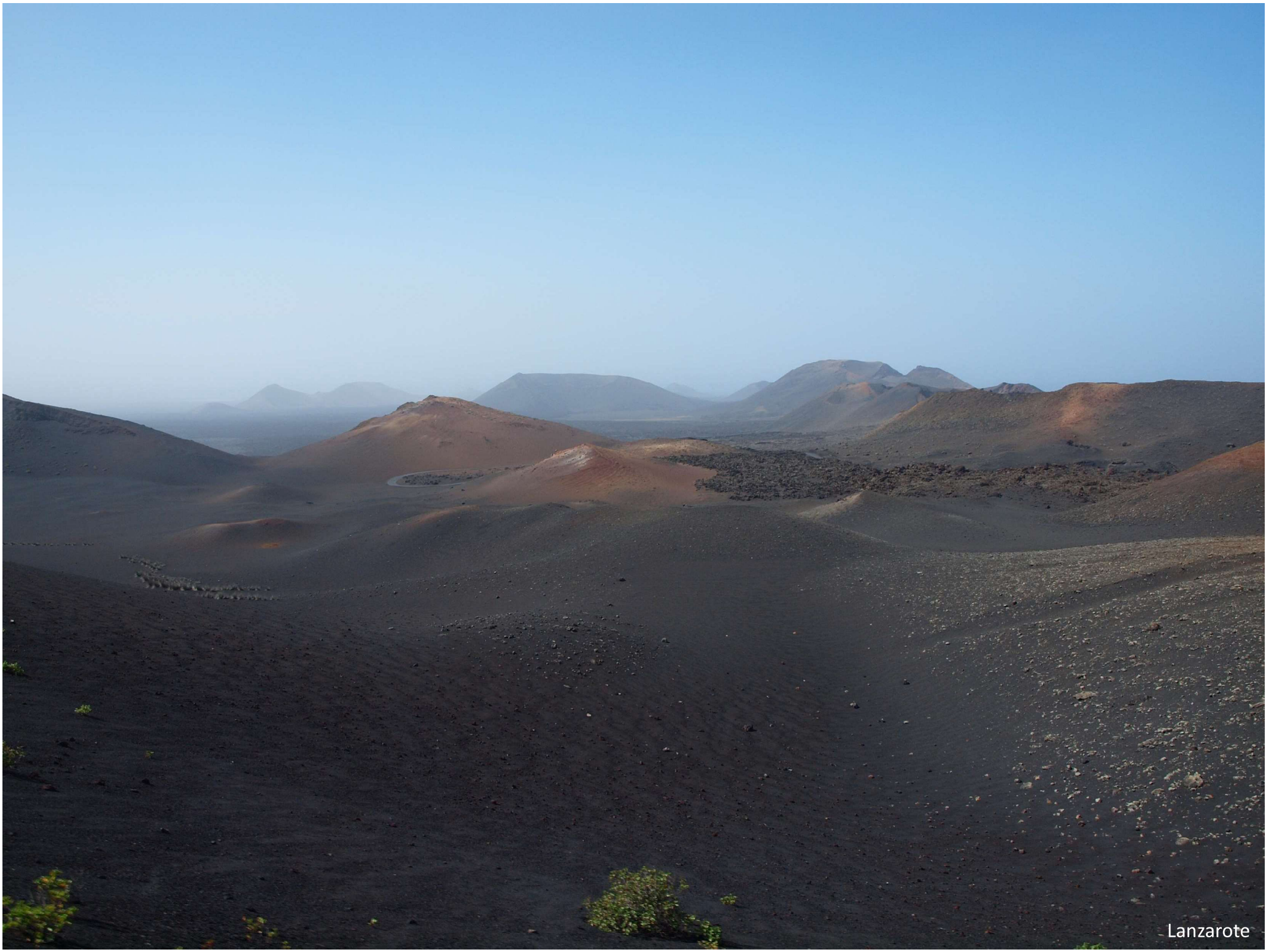
CSIC
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

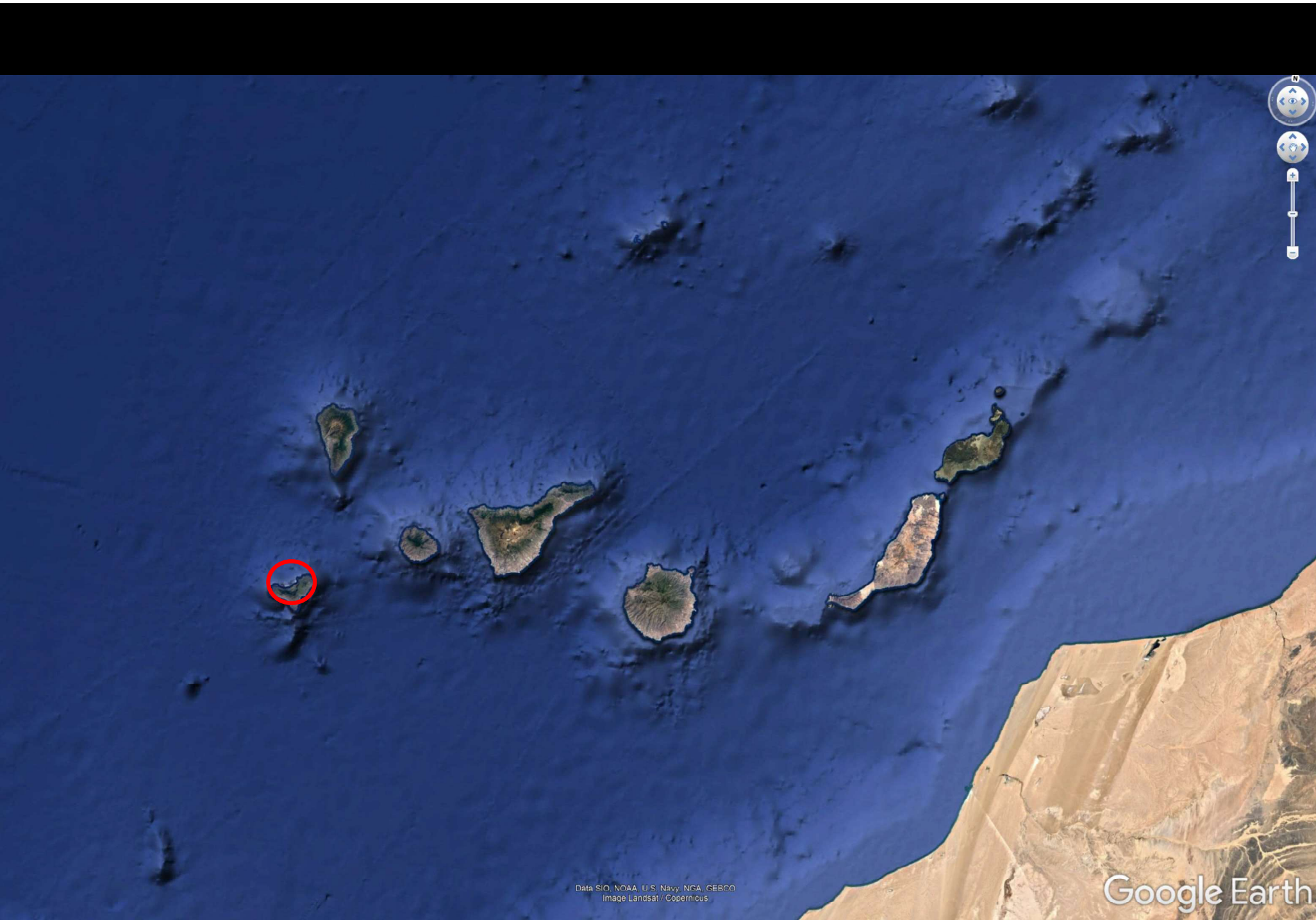
Instituto Geológico
y Minero de España



1:47 / 2:40

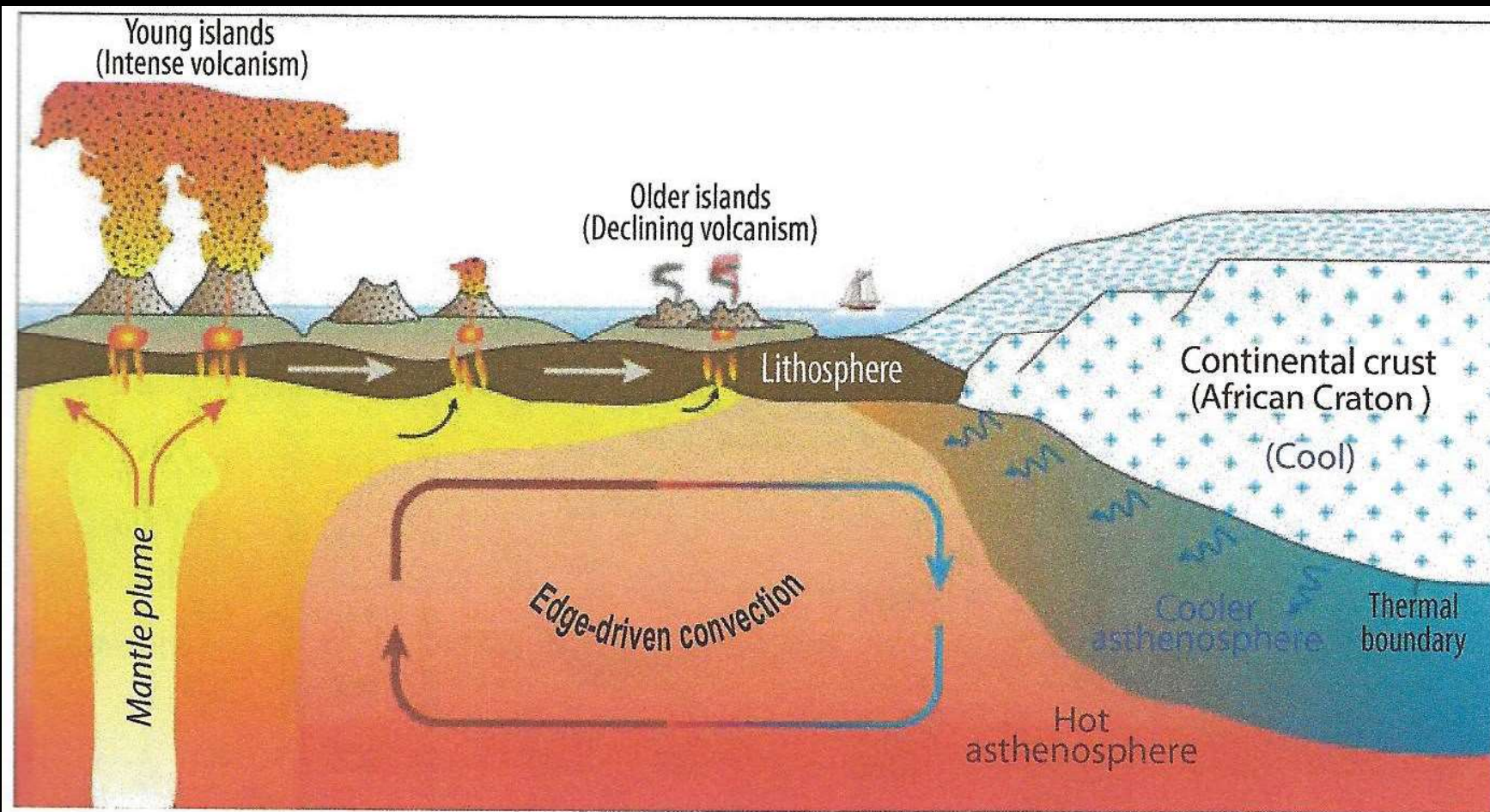






Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus

Google Earth





Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Google Earth

